



**IMPROVEMENT STANDARDS
OCTOBER 2006**

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CONTACT INFORMATION

Questions concerning road construction and storm drainage design (Chapters 1 through 10, Appendices I through V, VIII and IX, copies of standards printed or on CD):

Butte County Public Works, Land Development Division, 7 County Center Drive, Oroville, CA 95965 Telephone: (530) 538-7266, Fax (530) 538-7171
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Questions concerning sewage disposal or water supply (Chapters 11 and 12, Appendices VI and VII):

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Questions concerning fire protection (Chapter 13):

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Questions concerning land use, zoning or general plan:

Department of Development Services, Planning Division, 7 County Center Drive, Oroville, CA 95965 Telephone (530) 538-7601, Fax (530) 538-7785
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Questions concerning building:

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PURSUANT TO CHAPTER 20 OF THE BUTTE COUNTY CODE**

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**IMPROVEMENT STANDARDS FOR
SUBDIVISIONS, PARCEL MAPS AND SITE IMPROVEMENTS
PURSUANT TO CHAPTER 20 OF THE BUTTE COUNTY CODE**

1.0 PURPOSE:

1.01 It is the purpose of these Improvement Standards to provide minimum standards to be applied to all site improvements, private and public works, as well as improvements to be installed within existing rights-of-way and easements. This is necessary in order to provide for coordinated development of required facilities to be used by and for the protection of the public. These standards shall apply to and regulate the design and preparation of plans for construction of streets, highways, alleys, drainage, sewerage, street lighting, water supply facilities, fire protection and related public improvements. (10-24-06 Res 06-149)

1.02 It is recognized that it is not humanly possible to anticipate all situations that may arise or to prescribe standards applicable to every situation. Therefore, any items or situation not included in these Improvement Standards shall be designed in accordance with accepted engineering practice, the Standard Specifications of the State of California Department of Transportation, and as specified by the Director of Public Works.

2.0 DEFINITIONS

2.01 In these Improvement Standards, the intent and meaning of the terms that are used shall be as defined in State Standard Specifications, and as herein specifically noted.

2.01-I Consulting Engineer - Any person or persons, firms, partnership or corporation legally authorized to practice civil, mechanical or electrical engineering in the State of California who prepares or submits improvement plans and specifications to the Department of Public Works of Butte County for approval.

2.01-2 Contractor - Shall mean any person or persons, firm, partnership, corporation, or combination thereof, licensed to perform the type of work involved, who has entered into a contract with any person, corporation, company, special district, of

the County of Butte as party or parties of the second part, or his or their legal representative, for the construction of any improvement or portions of any improvement within the County of Butte.

- 2.01-3 County - Shall mean County of Butte including special districts administered by County Board of Supervisors.
- 2.01-4 Department of Public Works - Shall mean the Department of Public Works of Butte County.
- 2.01-5 Developer - Shall mean any person or persons, firm, partnership, corporation, or combination thereof, financially responsible for the work involved.
- 2.01-6 Development - Shall mean single properties as well as subdivision improvement.
- 2.01-7 Director - Shall mean the Director of Public Works of Butte County acting either directly or through the Chiefs of the appropriate Divisions of the Department of Public Works of their authorized representatives. Director shall also mean the District Engineer where special districts are involved.
- 2.01-8 Engineer - Meaning shall be identical to the definition of Director as herein defined.
- 2.01-9 Laboratory - Shall mean any testing agency or testing firm, which has been approved by the Department of Public Works.
- 2.01-10 Site Improvement - Shall mean required improvements other than subdivisions.
- 2.01-11 Standard Specifications - Shall mean the last issued volume of the State of California Standard Specifications as issued by the Business and Transportation Agency, Department of Transportation, State of California.
- 2.01-12 State - As used in the State Specifications, shall mean Butte County.
- 2.01-13 State Standard Drawings - Shall mean the Standard Drawings and plans of the State of California, Business and Transportation Agency, Department of Transportation.
- 2.01-14 Zoning Classifications - Shall mean those zones established by and as listed in the Butte County Zoning Code.

3.00 GENERAL REQUIREMENTS:

- 3.01 Complete plans and specifications for all proposed streets, drainage facilities, sewerage, street lighting, water distribution systems, fire protection systems, industrial developments, subdivisions, and site improvements, including any

necessary dedications and easements shall be submitted to the Department of Public Works for approval and this approval must be substantiated by the signature of the Director prior to the beginning of construction of any such improvements. The Director or his representative shall order the Contractor to cease work on any project if said Contractor does not have properly approved plans in his possession. An encroachment permit, issued by the Department of Public Works, must be obtained by the Contractor prior to performing any work within the County right-of-way, easements, or drainage facilities. The Contractor shall be bonded as required, provide a certificate of insurance naming the County additionally insured, and meet the requirements of the County Code. All plans and specifications for improvements, which are to be accepted for maintenance by the County, shall be prepared by a Consulting Engineer of the appropriate branch of engineering covering the work submitted. (10-24-06 Res 06-149)

3.02 The Standard Specifications shall be made a part of contract documents by note of reference, which shall appear in the Special Provisions and in the General Notes of the plans. The not of reference shall be as follows:

"The Standard Specifications are part of the contract documents of this project and all materials and construction shall be in strict conformance with said Standard Specifications or as authorized by these plans."

3.03 Two sets of plans, complete and in accordance with these Improvement Standards and the Standard Specifications, shall be submitted along with any required specifications, computations, test data, and other material requested by the Director, to the Department of Public Works for approval. Plan checking and inspection fees shall be paid prior to approval of plans. Should the development not be carried to completion any portion of the required deposit over and above the accumulated costs expended by the Department on the development will be refunded to the Developer. Should there be required alterations or revisions to the plans as submitted, the Director will return one copy with the required corrections marked or indicated thereon. If the plans submitted are not prepared in accordance with these Improvement Standards and the Standard Specifications or not in keeping with the standards of the profession, the Director may return them unmarked and unapproved. No plans will be approved nor construction authorized until such time as the Director signifies his approval as previously prescribed for the original plans. At such time as

the Consulting Engineer preparing the plans has made the necessary revisions and the plan check and inspection fees have been paid, the Director will sign the tracings in the space provided after the Consulting Engineer has signed them. The Consulting Engineer shall deliver the necessary sets of prints from the approved tracings to the Director.

3.03-1 Should changes become necessary during construction, the Consulting Engineer must obtain the consent of the Director and resubmit the plan sheets that are applicable. Necessary changes shall be clearly shown and dated on the plans. Minor changes, which do not affect the basic design or contract may be made upon the authorization of the Director but said changes must be shown on "as-built" plans when the contract is completed.

3.03-2 Excepted from approval are any features of the plans that are contrary to or conflict with or do not conform to any California State Law, Butte County Code or resolution or generally accepted good engineering practice, in keeping with the standards of the profession; even though such errors, omissions or conflict may have been overlooked in the Department of Public Works review of the plans.

3.03-3 If the developer elects to have a registered civil engineer or licensed land surveyor other than the engineer that prepared the plans provide the construction staking, he shall provide the Director in writing with the name of the individual or firm one week prior to the staking of the project for construction. The Developer shall then be responsible for providing professional engineering service for any plan changes which may be required during the construction phase and for the preparation of revised plans for changes if necessary and "as-built" plans upon completion of the construction.

3.03-3.1 Construction Staking

A. Scope - It is the intent of this section to define the responsibilities of the Contractor regarding the use, maintenance, and replacement of construction stakes.

The Developer's engineer will furnish the stakes and reference points for the improvements relative to the work and restaking as required by the County as listed in paragraph C of this section.

B. Control Stakes - Control and reference stakes for all construction work shall be conspicuously flagged. The contractor shall be responsible for

the preservation and perpetuation of these points, marks, and stakes. If the removal of a control point, mark, or stake is required by the construction operations, the Contractor shall notify the Developer's engineer at least two (2) working days in advance of such operations. After such advance notice, the Developer's Engineer will perpetuate and remove said control point.

C. Required Staking - The Developer's engineers will furnish the following stakes and reference marks.

1. Street Grading

- a. One set of slope stakes will be set at a maximum of fifty (50) foot intervals. Reference stakes will be set at an appropriate offset from the top of cut or toe of fill. The top of cut or toe of fill will not be staked. The reference stake will indicate the offset to the top of cut or toe of fill and indicate the cut or fill from the reference stakes will indicate the cuts or fills and distances from the top of cut or toe of fill to the subgrade hinge point and centerline subgrade elevation.
- b. At street intersections the radius points for pavement rounding will be staked. The elevation of the top of the stake will be established and marked on the witness lath.

2. Clearing

When slope stakes are not required the following clearing stakes will be set:

On streets and roads, lath marked "CLEAR" will be set at 50' intervals at the clearing limits. The lath will be oriented so the marking faces the centerline of the road or street.

3. Sewer

Sewer trunk lines will be staked on an appropriate offset from sewer centerline at fifty (50) foot intervals on tangents and twenty-five (25) foot intervals on horizontal and vertical curves. All manholes and curve points will be staked on an appropriate offset from the sewer centerline. These stakes will indicate the cut to the flow line of the sewer pipe. When a flow line grade is indicated on the plans for a

sewer service, a cut to the flow line at the end of the service will be marked on the offset stake or witness lath thereto.

4. Water

The centerline of water mains shall be staked at 100' intervals on tangents and 25' on curves for horizontal alignment only. Hydrants will be marked by an offset stake. Front lot corners will be staked at an appropriate offset along the lot lines and it will be the responsibility of the Contractor to locate water services as shown on the plans relative to said offset front lot corners.

5. Curb and Gutter

Stakes for curb and gutter will be set no more than 5' from the proposed work and maximum of 25' intervals. Subgrade, string line and forms shall be checked by the inspector prior to placing curb and gutter.

6. Cross Culverts

The ends of all cross culverts will be staked by an offset stake set on the prolongation of the centerline of the culvert. These offset stakes will be marked with a cut of fill to the flow line at the ends of the culverts. The final length of cross culverts is to be determined in the field at the time of staking.

7. Underground Storm Drains

Underground storm drains will be staked in the same general manner as sewer trunk lines.

8. Drain Channels

The centerline of drain channels will be marked with lath at 50' intervals for horizontal alignment only. When vertical alignment is noted on the plans, offset grade stakes will be set at 50' intervals.

9. Blue Tops

One set of blue tops will be set on centerline at finished subgrade at 50' intervals on tangent and 25' intervals on vertical curves by the Developer's engineer. An additional set of blue tops will be set on hinge points at finished subgrade at 50' intervals on tangents and 25' on vertical curves by the Contractor and checked by the Developer's

engineer. Any realignment or adjustments of blue tops on hinge points will be reset and rechecked as necessary. The Developer will be responsible for staking base rock grade from the finished subgrade once the subgrade has been accepted by the Engineer. Method of staking to be approved by the Engineer.

10. Additional Stakes

Any additional stakes required by the County will be set at the Developer's expense.

11. Lines and Grades

At all points along any grade line shown on the drawings between the points at which the grade elevations are given, the grades shall conform to a straight line except that grading through a vertical curve shall conform to a smooth curvilinear alignment. Three consecutive points shown on the same rate of slope must be used in common in order to detect any variation from a straight grade and, in case any such discrepancy exists, it must be reported to the Owner and Engineer. If such a discrepancy is not reported to the Owner and Engineer, the contractor shall be responsible for any error in the finished work.

The Contractor shall preserve all stakes and points set for lines, grades, or measurements of the work in their proper places until authorized to remove them by the Developer and Engineer. All expenses incurred in replacing stakes that have been removed without proper authority shall be paid by the Contractor.

- D. Checking Service - Should occasion arise where the validity of a stake is questionable, either as to its location or the offset marked thereon, or as to the elevation of cut or fill marked thereon, the Contractor shall notify the Engineer and Developer's engineer, who will check the stake or stakes in question. It shall be the Contractor's responsibility to examine the stakes before commencing operations. Any stakes found to be in error will be reset. The Contractor shall not be responsible for any error in the finished work resulting from any questionable or erroneous stakes not reported to the Engineer or Developer's engineer. (10-24-06 Res 06-

- 3.04 All utilities are to be shown on the plans. In addition, the Consulting Engineer shall contract the utilities involved early in the planning stage and submit to the utility companies involved, prints of the approved plans. This is necessary for the utilities to properly plan their relocation projects and needed additional facilities. The Consulting Engineer shall notify the Director, by letter, when and which utility companies have been so notified. The utility companies shall submit plans for their proposed work to the Department of Public Works for approval prior to start of work.
- 3.05 Additional copies of improvement plans may be requested by the Director at his discretion, and these shall be furnished the County without cost.
- 3.06 "On-site" drainage plans for commercial developments and planned unit development shall conform to the standards contained herein, and shall be submitted to the County for approval.
- 3.07 The Consulting Engineer early in the planning stage of subdivisions and site improvements, shall obtain the approval of other agencies when their facilities are involved.

4.0 STANDARD SHEETS AND SCALES:

- 4.01 All improvement plans shall be prepared on plan and profile sheets 22" or 24" X 36". F.A.S. sheets, Plate "A" plan and profile paper, or special consulting engineer's sheets which have been accepted by the County. Scales: Horizontal 1" = 20', 40' or 50'; Vertical 1", = 2', 4', or 5', but only the scale, horizontal or vertical for which the sheet was intended. Design cross-sections plotted on 1" = 5' scale, taken on maximum 50' intervals shall be submitted with preliminary improvement plans.
- 4.02 Storm drainage, sanitary sewer and water plans may be shown on the street plans or separately as indicated above. Street lighting shall be shown separately. Street lighting plans shall be drawn to a scale of 1" equals 100' with individual lot dimensions and street dimensions shown. Where wells are included as a part of the water system, the layout of the well site shall be drawn to a scale no smaller than 1" equals 5' with the layout covering an area at least 50' in all directions from the well location. Location of all utilities shall be shown on the as-built plans.

5.0 PLAN DETAILS

- 5.01 All plans, approved by the County shall be prepared in a manner that will produce legible prints. All line work must be clear, sharp and heavy. Letters and numerals must be 1/8" minimum height, well formed and sharp. Numerals showing profile elevations shall not be bisected by station grid lines.
- 5.02 The following details are to be shown on plans submitted for approval. This does not in any way exempt the Consulting Engineer preparing plans from the responsibility of preparing neat, accurate and comprehensive plans in keeping with the standards of the provision.
- 5.02-1 Title Sheet - On subdivision or improvement plans exceeding three sheets in the set, a title sheet shall be prepared showing the entire subdivision or project complete with subdivision or assessment district limits, city limits, street names, section lines, grant lines and corners, and the location within the County. (Minimum scale 2" - 1 mile). The title sheet shall also include an index of the sheets; the Consulting Engineer's name, license number and signature; the date and scale of the drawing; north arrow and the block for the necessary approval of the Director and other officials, and the receipt of fees. A sample of the County approval block may be obtained from the Department of Public Works. All sheets shall be 24" X 36".
- 5.02-2 The layout sheet (Sheet 2) shall contain thereon the entire subdivision unit on one sheet in skeleton form showing drainage features and sewer and water lines. Drainage pipe shall be indicated by double dash lines, sewer by single heavy lines and water by heavy dotted single lines. Appurtenances such as manholes, valves, and drop inlets shall be shown in their proper location. The scale of the subdivision shall be 1" = 100', or if the subdivision is too large to place on one sheet, a scale of 1" = 200' may be allowed. An index of the plan and profile sheets shall be shown on the layout sheet.
- 5.02-3 Title Blocks - Each sheet within the set of drawings shall show the sheet title, number, date, scale, and the Consulting Engineer's name, signature and license number; the name of the County maintenance water agency or sanitation district, and the name of the subdivision or assessment district. Samples may be obtained from the Department of Public Works
- 5.02-4 Right of Way - Right-of-way lines, the boundaries of lots fronting on the street,

drainage easements, utility easements, planting easements, section lines and comers, land grant lines, and temporary construction easements both existing and proposed shall be shown on the plans. All right-of-way and easement lines shall be properly dimensioned.

5.02-5 Topography - All pertinent topographic features shall be shown such as street lines, curbs, sidewalks, shoulders, location and size of storm and sanitary sewer lines, high water and frequent inundation levels, water lines, gas lines, telephone conduits, other underground utilities, existing structures, houses, trees (4" and larger) and other foliage, traffic signals, street lights, pull-boxes, underground electrical conduits, drainage ditches, utility poles, fire hydrants, retaining walls, masonry structures, and all other features of the area which may affect the design requirements for the area. Any tree which falls within the existing or proposed right of way or easement must be shown on the cross section when requested by the Director. Permission to remove any tree not required to be removed by construction in the rights of way or easements must be obtained from the Director.

5.02-6 Contours and Elevations - Existing contours or supporting elevations shall be shown on all plans submitted for subdivision, commercial improvements, or planned unit developments. The Drainage Study and Contour Sheet, if required, shall contain thereon contours of the subdivision unit and the immediate vicinity sufficient to indicate the perimeter of areas to be drained by each structure; calculations supporting the design of drainage studies shall be submitted with the drainage sheet. Scale of map shall be of sufficient size to clearly show the drainage features and the location of major structures, but no smaller than 1" = 500'.

5.02-7 Profiles - The plans shall as necessary show the profile of all existing roadway centerlines, existing edges of pavement, existing curb and gutter flow lines, drainage ditches, storm and sanitary sewer. All profiles of proposed improvements shall state centerline elevations at fifty (50) foot intervals and rate of grades¹ vertical curves and other vertical alignment data. When curb and gutters are designed for existing County roads, elevations must be shown at the outside edge of the traveled way, or if road has full paved section, must also be shown 2' from proposed lip of gutter. Elevations of any warped surfaces shall be set at twenty-five (25) foot intervals. All profiles must be coordinated with

County stationing if available. The Consulting Engineer shall contact the County for such stationing. When required by Director, the Consulting Engineer shall provide centerline profile and cross-section information beyond the limits of the proposed development to facilitate setting proper vertical alignment within the proposed improvement limits.

5.02-8 Stationing and Orientation - The stationing on plan and profile shall read from left to right. Plans shall be so arranged that the north arrow points toward the top or upper 180 degrees, insofar as practical.

5.02-9 Bench Marks - The benchmarks and datum shall be clearly pointed out on the plans both as to location, description and elevations. The datum shall be U.S.G.S. or U.S.C. & G.S. if available. Consulting Engineers shall contact the County for location and elevation of the nearest official benchmark.

5.02-10 The Director may require that the boundary of the proposed development be tied into the California Coordinate System if monumented coordinate points are available within a reasonable distance of said improvements as determined by the Director.

5.02-11 Typical Sections - A typical section for each type of facility within the improvement, setting out the structural features shall be a part of the plans.

5.02-12 Cross Sections - Cross sections shall be included with the plans. When, in limited areas, unusual topographic features or special conditions occur that would affect the work, individual cross-sections may be shown on the pertinent plan sheet.

5.02-13 Special Notes - Special notes shall be clearly indicated and it shall be conspicuously noted on the plans that all construction work and installation shall conform to the State Standard Specifications, the Butte County Subdivision Ordinance and design standards and that all work is subject to the approval of the Director. Notes shall contain a statement that the contractor shall verify the existence and location of all utilities.

6.0 INSPECTION DURING CONSTRUCTION

6.01 Any improvement, other than "rough grading" constructed to County requirements which is intended for future County maintenance responsibility, must be inspected during construction by the Director. Each phase of construction must be inspected and approved prior to proceeding to subsequent phases.

6.02 Any improvements constructed without inspection as provided above or constructed contrary to the orders or instructions of the Director will be deemed as not complying with County requirements and will not be accepted by Butte County for maintenance purposes. The Consulting Engineer shall notify the Director when the Contractor first calls for grades or staking.

6.03 For purposes of the inspection requirement above, embankments over 2' in height constructed in dedicated street right-of-ways are not considered "rough grading". Said "rough grading" in any location shall comply with County requirements regarding either the diversion or blockage of natural drainage.

6.04 The County will inspect the work for ultimate compliance with the specifications and will not be responsible for the conduct of the work itself or the manner in which it is performed.

7.0 FINAL INSPECTION:

7.01 Upon completion of any improvements which are constructed under and in conformance with these Improvement Standards and prior to requesting a final inspection, the area shall be thoroughly cleaned of all rubbish, excess material, and all portions of the work shall be left in a neat and orderly condition satisfactory to the Director.

7.02 Within ten (10) days after receiving the request for final inspection, the Director shall inspect the work. The Contractor, Consulting Engineer, and Developer, will be notified in writing as to any particular defects or deficiencies to be remedied. The Contractor shall proceed to correct any such defects or deficiencies at the earliest possible date. At such time as the work has been completed, a second inspection shall be made by the Director to determine if the previously mentioned defects have been repaired, altered, and completed in accordance with these Improvement Standards. At such time as the Director approves the work and accepts the work for Butte County, the Contractor, Consulting Engineer and Developer will be notified in writing as to the date of final approval and acceptance by the Department of Public Works, as authorized by the Board of Supervisors.

On assessment districts and projects where Butte County participates on the costs thereof, quantities will be measured in the presence of the Director, Consulting Engineer, and Contractor, and witnessed accordingly.

8.0 AS-BUILT PLAN:

8.01 One complete set of reproducible plans, as prescribed by the Director, shall be submitted to the Department of Public Works at such time as all corrections or additions requested by the Department of Public Works are complete and approved, and prior to issuance of plans for bidding purposes. These plans are to be retained and utilized by the Department of Public Works for preparing the "as-built" plans. Attention is directed to Sections 3.03 and 3.04 of these Standards limiting the alteration of approved plans.

8.02 The Consulting Engineer shall keep an accurate record of all approved deviations from the plans. These are to be utilized with the Inspector's plans for preparing a complete and accurate set of "as-built" tracings for the permanent records of the County.

9.0 STREETS AND HIGHWAYS

9.01 Street types:

9.01-1 RS-1 Commercial and Industrial Subdivision Streets

9.01-2 RS-2 All Urban Land Division Type Roads - Urban development with urban areas designated in Appendix I.

RS-2A Arterials and major collectors

RS-2B Minor collectors and local access roads.

RS-2C Short Cul-de-sac street (less than 500', no onstreet parking) may only be used with approval of the Director. (10-24-06 Res 06-149)

9.01-3 RS-3 Rural Subdivision Type Roads - Non-urban development outside of mountain recreation area designated on Appendix I. For lots greater than 2 acres in gross area delete curb and gutter from each roadway typical section. For lots less than 0.5 acre in net area add sidewalk to curb and gutter shown on each typical section.

RS-3A Arterials and major collectors.

RS-3B Minor collectors and local access roads.

RS-3C Short Cul-de-sac Street (less than 500', no onstreet parking) may only be used with approval of the Director. (10-24-06 Res 06-149)

- 9.01-4 RS-4 Rural Subdivisions within Mountain Recreation Area Type Roads. Non-urban development northerly of mountain recreation line designated in Appendix I.
- RS-4A Existing Publicly Maintained Roads
- RS-4B Interior Subdivision Streets
- RS-4C Short cul-de-sac street (less than 500', no onstreet parking) may only be used with approval of the Director. (10-24-06 Res 06-149)
- 9.01-5 RS-5 Frontage Roads - A street which serves as a frontage with or without curb, gutter, and sidewalk.
- 9.01-6 RS-6 Mountain Recreational Subdivision Private Road Improvement.
- 9.01-7 RS-7 Rural Subdivision Private Road Improvement, five acre minimum lot size.
- 9.01-8 RS-8LD Non-urban Land Division Roads.
- RS-8-LDI Parcels greater than 40 acres.
- RS-8-LDII Parcels 5 to 40 acres. Add single chip seal if more than 4 parcels are being created.
- RS-8-LDIII Parcels 2 to 5 acres.
- RS-8-LDIV Parcels less than 2 acres.
- 9.01-9 RS-9-LD Urban Land Division Roads.
- RS-9-LDI Private roads parcels greater than 1 acre.
- RS-9-LDII Private roads parcels 1 acre or less in gross area.
- RS-9-LDIII Private Minor Cul-de-sac Road.
- 9.01-10 Chapman/Mulberry Neighborhood Streets (Added Res. 00-13)
- CM-1 NORTHEAST END JACKSON ST. (WISCONSIN ST. TO END)
- CM-2 DAVIS ST., MARTIN ST., MADISON ST., WISCONSIN ST., COLORADO ST., 19th ST., CALIFORNIA ST., JACKSON ST., "B" ST.,
- MULBERRY ST., LAUREL ST., FETTER ST.
- CM-3 EAST TENTH ST., LINDEN ST., WILLOW ST., BARTLETT ST., GULL ST., OHIO ST., ELM ST., 21st. ST., 22nd. ST., 23rd. ST.
- CM-4 HUMBOLDT AVE.
- CM-5 "C" ST., 16th ST.

CM-6 BRUCE ST.

CM-7 VIRGINIA ST., CLEVELAND ST.

CM-8 BOUCHER AVE.

9.01-11 Chico Vecino Road Improvements

CV-1 RECOMMENDED TYPICAL STREET SECTION

CV-2 EXHIBIT "C" – TYPICAL STREET WIDTHS

9.01-12 North Chico Specific Plan

NCSP-1 ARTERIAL TYPE A-II

NCSP-2 ARTERIAL TYPE A-III

NCSP-3 ARTERIAL TYPE A-IV

NCSP-4 COLLECTOR TYPE C-I

NCSP-5 COLLECTOR TYPE C-II

NCSP-6 LOCAL TYPE L-I

NCSP-7 LOCAL TYPE L-II

NCSP-8 LOCAL TYPE L-III

NCSP-9 LOCAL TYPE L-IV

NCSP-10 LOCAL TYPE L-V

NCSP-11 LOCAL TYPE L-VI

NCSP-12 LOCAL TYPE L-VII

9.02 Profiles:

9.02-1 The following standards for the design of profiles for proposed improvement shall govern the preparation of plans for such improvements.

9.02-2 Minimum Grades and Cross Slopes:

- a. Minimum grade on new streets should be 0.30%.
- b. Minimum grade of gutter section constructed on existing street shall be 0.20%.
- c. Standard cross slope on new streets shall be 2.0%.
- d. Minimum cross slope on widening shall be 1.5%.
- e. Maximum cross slope on widening shall be 3.0%.
- f. When two streets intersect, the minor street shall not have a grade greater than 7.0% for a minimum distance of 40' measured from the curb line of the intersecting street, except in unusually rough terrain, as determined by the Director. The centerline of the lesser intersecting

street shall meet the crown slope at the projected lip of gutter. Crown slope may be reduced to 1.0% within the intersection if necessary.

- g. The roadway minimum vertical curve length allowable at the intersection of two grades shall be 50 feet, however, vertical curves may be omitted where the algebraic difference in grades does not exceed 2.0% or 0.4% on crest vertical curves.
- h. Roads in foothill areas below the 2,500' level shall have a desirable maximum grade of 10%. Steeper grades may be authorized if justified and approved by the Director. Roads in excess of 15% shall be paved.
- i. Roads in mountain areas above 2,500' shall have a desirable maximum grade of 15%. Steeper grades may be authorized if justified and approved by the Director. Decision of the Department of Public Works concerning grades in excess of 15% shall be based upon local snow and freezing conditions, location of road in relation to winter, sunshine, and other considerations. Roads in excess of 15% shall be paved.

9.02-3 Sight Distances:

- a. Major roads shall be based upon a design speed of thirty-five (35) miles per hour, except that major through roads must meet requirements of the Director of Public Works.
- b. Access, minor, and cul-de-sac roads shall be based upon a design speed of twenty-five (25) miles per hour.
- c. One-way loop roads shall be based upon a design speed of twenty (20) miles per hour.
- d. Roads with grades in excess of 5% intersecting highways or major roads shall have a minimum of 30' "storage" area from the edge of pavement of the primary road.

9.03 Geometric and Structural Sections:

9.03-1 The following standards for the design of geometric and structural sections for proposed improvements shall govern the preparation of plans for such improvements. The RS-2 Standards apply to all divisions of land within the defined urban areas. (10-24-06 Res 06-149)

9.03-2 Cross gutters will be allowed only with the specific approval of the Director.

9.03-3 The curve data for all centerline curves shall be computed and shown on the

plans. Where unusually difficult alignment problems exist less than minimum curve radii may be allowed when approved the Director. Property line radius at curb returns for intersecting streets shall be 20' or sufficient to allow for construction of a standard pedestrian ramp.

9.03-4 The property line radius for cul-de-sacs shall be 50' unless otherwise specified by the Director. A curve of twenty (20) foot radius shall connect the tangent and the 50' radius curve. See Standard Drawing Nos. S-14, S-15 and S-15A.

9.03-5 Slope Banks: Fill slopes shall be 1-1/2:1 or flatter (3:1 or flatter behind sidewalk) and cut slopes shall be 1:1 or flatter depending upon the material encountered. This may be modified when engineering studies indicate the need for flatter slopes or when stable slopes can be maintained on a steeper grade. Slope rounding shall be provided where required by the Director of Public Works.

9.03-6 Clearing Right of Way. All trees and brush shall be removed from the road right of way to a distance of 7' from the edge of the paved surface of the roadway regardless of the width of the paved section and shall be cleared a minimum of 3' outside of any cut or fill slope, whichever of the above is wider. At the intersection, clearing may be required to the property line for a distance of 100' from the centerline of the intersection should it be found necessary to provide safe sight distance for approaching traffic.

9.03-7 Driveways: In hilly or mountainous areas where sidehill cuts and fills make access to lots unfeasible or costly to the lot purchaser or where damage may occur to public right of way in future driveway construction, driveways shall be "roughed out" into each lot at the time of grading the right of way and the excess material disposed of in a satisfactory manner.

9.03-8 Access Roads: All roads to be accepted for dedication and maintenance by the Board of Supervisors of the County of Butte shall be paved. Roads and proposed access roads not accepted by said Board shall be paved to the property line.

9.03-9 Minimum allowable thickness of roadbed section shall be as noted on the appropriate standard.

9.03-10 In those areas considered by the Director as being critical soil condition areas, it will be required that the pavement be designed on the basis of resistance factor "R" as determined in accordance with State of California, Department of Transportation, California R-value determination or other approved method.

- 9.03-11 The thickness of various structural components will be determined by the tables, charts, formulas and procedures, contained in the State Design Manual or as directed by the Director.
- 9.03-12 Traffic index will be in accordance with those shown for particular geometric and structural designs set forth in these standards or as required by the Director.
- 9.03-13 Edge of Pavement Protection: when paving partial construction of the ultimate street development, the edges of the current pavement are to be protected by use of 2" X 6" redwood headers, construction grade, or by placing a minimum of one foot of aggregate base material beyond the edge of pavement to the grade and depth of the pavement.
- 9.03-14 The Developer shall as a minimum be responsible for paving to the street centerline, unless the existing paved section meets the approximate current standard, and the centerline grade and alignment are satisfactory. The Developer shall construct beyond the centerline in any areas where the design centerline deviates from the existing. Where new paving meets the existing paving, the Developer shall overlay any low areas to maintain a uniform cross slope.
- 9.03-15 All private roads shall be capable of supporting a minimum load of 40,000 pounds.

9.04 Survey Monuments; Subdivision:

9.04 Survey Monuments; Subdivisions:

9.04-1 The authorized surveyor shall place survey monuments of the type and at the locations indicated below.

9.04-1.01 Survey monuments shall be placed at all rear Lot corners and angle points in the sidelines of Lots. These survey monuments shall, at a minimum, consist of $\frac{3}{4}$ " metal pipes 18" long, $\frac{1}{2}$ " (#4) rebar 18" long, or where the corner position falls in impervious material a $\frac{1}{2}$ " (#4) rebar 6" long driven into a drilled hole in the impervious material or a nail and tag set in the impervious material. Each monument set shall bear an I.D. tag that is stamped with the license number of the authorized surveyor setting the monument. If there are improvements at the corner location a witness corner may be set in place of the monument required by this section. At a

minimum the witness corner shall consist of a monument as described in this section.

9.04-1.02 Survey monuments shall be set at the front Lot corner positions when there is no concrete curb and gutter. In private street subdivisions the Lot corner will be set at the intersection of the street right-of-way line and the property line unless there is concrete curb and gutter. These monuments shall meet the minimum requirements of the monuments listed in Section 9.04-1.01 above. If there are improvements at the corner location a witness corner may be set in place of the monument required by this section. At a minimum the witness corner shall consist of a monument as described in this section.

9.04-1.03 When there is a concrete curb and gutter the surveyor may set a metal tag stamped with the surveyor's license number at the intersection of a projection of the property line and the top of curb line in lieu of a monument at the actual property corner. Said tags shall be secured with nails set in the top of the curb.

9.04-1.04 No monuments are required along the street sidelines except at the front Lot corner positions as described above.

9.04-1.05 Survey monuments shall be set at all corners of the subdivision boundary except where a durable monument already exists. New or replacement boundary survey monuments shall, at a minimum, consist of 1-1/4" metal pipes 24" in length with a metal tag firmly attached bearing the authorized surveyor's license number or said license number shall be stamped on the pipe. Those boundary corners that fall within the street right-of-way may be monumented with a street centerline monument as described in 9.04-1.06 below or witnessed by placing a monument, as described in this section (9.04-1.05), at the intersection of the boundary line and the street right-of-way line on one or both sides of the right-of-way as the situation warrants. If there are improvements at the corner location a witness corner may be set in place of the monument required by this section. Where the corners of the subdivision boundary fall on impervious material other than the street material the monument shall, at a minimum, consist of monuments as described in Section 9.04-1.01 for impervious materials. At

a minimum the witness corner shall consist of a monument as described in this section.

9.04-1.06 A minimum of two (2) street centerline monuments shall be set for each 15 Lots or portion there-of, unless the subdivision contains arterials or major collector streets. These street centerline monuments may be set at any of the following locations: street centerline intersections, beginning of curves, ending of curves, on tangent sections of the centerline or an angle point in the boundary that falls on the centerline of a street. There shall be line-of-sight visibility between each set of two monuments. These street centerline monuments shall be County Standard S-11 street survey monuments. On arterials and major collector streets a minimum of two (2) monuments will be set on the right-of-way for each centerline monument that would be required if the street were not an arterial or major collector street. These monuments will be placed at beginning of curves, ending of curves or on tangent sections of the right-of-way. There shall be line-of-site visibility between each set of two sideline monuments. These side line monuments shall consist of 1-1/4" metal pipe 24" in length set in concrete with a metal tag firmly attached bearing the surveyor's license number or said license number shall be stamped on the pipe. Where these side line monuments fall on impervious material other than the street material the monument shall, at a minimum, consist of monuments as described in Section 9.04-1.01 for impervious materials.

9.04-1.07 Survey monuments shall be placed at all section and one-quarter section corners that are located on the boundary lines, Lot lines or street centerlines of the project except those that are currently monumented with a durable monument. These survey monuments shall, at a minimum, consist of a 2" metal pipe 24" in length or a metal rod 24" in length with a 2" diameter metal cap set in concrete with a metal tag firmly attached bearing the surveyor's license number or said license number shall be stamped on the monument. In addition the monument shall be stamped with the appropriate information identifying the corner, section, township, range, meridian, and date set. If the section or one-quarter section corner falls in the street pavement it may be witnessed by placing a witness

monument consisting of a 2” metal pipe 24” in length or a metal rod 24” in length with a 2” diameter metal cap stamped W. C. along with the identifying information listed above or it may be monumented by placing a street centerline monument as described in 9.04-1.06 at the corner location. The brass marker placed in the centerline monument shall contain all the information required by this section. Disk size shall be of an appropriate dimension so it can contain this information. If the corner position falls in impervious material a brass disk may be set in a drilled hole in the impervious material or a rebar with a metal disc attached may be set in a hole drilled into the impervious material. In all cases the disk will be stamped with the information required by this section. If there are improvements at the corner location a witness corner may be set in place of the monument required by this section. At a minimum the witness corner shall consist of a monument as described in this section.

9.04-1.08 Upon request from the surveyor, the Director may approve deviations from these monument requirements where he/she deems it appropriate to do so. In every case there shall be sufficient monuments placed so the Lot lines and boundary lines can be retraced and located without the need for traversing between street centerline monuments and the exterior boundary monuments.

9.04-1.09 Nothing in this ordinance shall prevent the authorized surveyor from setting any additional monuments at any location he/she determines are appropriate. (10-24-06 Res 06-149)

9.05 Testing of Materials:

9.05-1 Testing of materials to be utilized in work performed under these Standards shall be performed in accordance with the methods of the Laboratory of the California Division of Highways. Signed copies of the test results as required shall be submitted to the Director. Test results shall show clearly the name of the individual and the firm performing the tests, as well as the name of the project, the date of sampling, and the date of testing.

9.05-2 The tests indicated in the Standard Specifications will be required. In large developments or those developments presenting special problems, a more comprehensive and extensive testing program may be required. Such conditions

will be evaluated and an appropriate testing program prescribed on an individual basis.

9.06 Right of Way:

9.06-1 Minimum right-of-way widths shall be as set out in these Standards for the type of street under consideration or as determined by the Director. In no instance, without specific approval of the Director, shall a street have a right-of-way width, which is less than the street of which it is a continuation. Right-of-way requirements for widening at intersections shall be as approved by the Director.

9.07 Signing and Barricades:

9.07-1 Street Names - All roads and streets within an improvement shall be named by the owner or subdivider subject to approval of the Director. No duplication of names already in use or previously proposed will be permitted. Sound alike names or names with more than thirteen (13) characters are not acceptable. Street name signs shall be furnished and erected by the County, after payment of appropriate fees. Street name signs shall conform to requirements of these Standards. Street names and street name sign locations shall appear on plans submitted for approval.

9.07-2 Permanent Barricades - Where improvement only covers a portion of the ultimate improvement and where an improved street is proposed to be extended in the future, the improvements shall include a permanent-type barricade at the end of such a street to extend completely across the right of way to serve as a warning to the public. The barricade shall be constructed, erected, painted, and signed in accordance with the Standard Specifications, Standard Drawing No. S-30 and S-30A. When necessary, barricades may be lengthened by making the 2" X 8" plank continuous with splicing at the posts. Gates may be required where streets stub into public park areas or ingress and egress must be provided.

9.08 Chapman/Mulberry Neighborhood Area:

As stipulated in the General Plan, the residents of the Chapman/Mulberry Neighborhood area have expressed an interest in maintaining street standards that are less urban than would otherwise be applied to the area. Accordingly, special street standards have been created that are applicable specifically to the streets within the Neighborhood area, as depicted in Appendix II of this document.

While these special street standards deviate from the standards generally applied

to urban areas, the County has determined that these standards will provide for safe and efficient circulation and are appropriate in order to preserve the unique characteristics of the Chapman/Mulberry Neighborhoods. Street trees are required to be planted along C Street (CM-5), Bruce Street (CM-6), Virginia Street (CM-7) and Cleveland Street (CM-7).

The type of tree shall be selected from the following list:

<u>Scientific Name</u>	<u>Common Name</u>
Vitex agnus-castus	Chaste Tree
Pistachia Chinensis	Pistache
Pyrus calleryana ‘Aristocrat’	Ornamental Pear
Ginko biloba ‘Princeton Sentry’	(Columnar) Ginko
Plataus acerifolia ‘Yarwood’	Sycamore
Acer buergerianum	Trident Maple
Koelreuteria paniculata	Golden Rain Tree
Nyssa sylvatica ‘Black Tupelo’	Sour Gum
Ginko biloba ‘Autumn Gold’	Ginko
Tilia tomentosa ‘Serling Silver’	Silver Linden
Zelkova serrata ‘Green Vase’	(Won Styer Award)
Celtis sinensis	Chinese Hackberry
Quercus ilex	Holly Oak

(Added Res. 00-13)

10.0 STORM DRAINAGE:

10.01 These Standards are to serve only as a guideline to drainage design and indicate the type of design acceptable to the County Department of Public Works. Variations in type of design, such as the utilization of actual runoff records, may be acceptable for usage . . . but their use must be approved by the Department of Public Works prior to the design stage.

10.01-1 General - The project shall be protected from inundation, flood hazard, sheet

overflow and ponding of local storm water, springs and other surface waters. The design of improvements shall be such that water accumulating within the project will be carried away from the project without injury to any adjacent improvements, residential sites, or residences to be installed on sites within the project, or to adjoining areas. The drainage plans shall specify how drainage waters shall be detained on site and or conveyed to the nearest natural or publicly maintained drainage channel or facility and shall provide that there shall be no increase in the peak flow runoff to said channel or facility. Water accumulating within the project, shall be carried to storm drainage facilities or to a natural water course by closed conduit or as allowed under Section 10.07-1, to meet the design standards herein set forth. Drainage design within the project shall accommodate anticipated future development within the drainage area. Any off-site drainage facilities required to carry storm water from the proposed project to a defined channel or existing conduit shall be made adequate for the ultimate stage of development in the drainage area. The diversion of natural drainage will be allowed only within the limits of the proposed improvement. All natural drainage must enter and leave the improved area at its original horizontal and vertical alignment unless an agreement, approved by the Director, has been executed with the adjoining property owners. (10-24-06 Res 06-149)

10.02 Classification of Storm Drains: Modification may be required by special conditions to the following classifications. Any modification of classifications will be resolved on an individual basis by the Director.

10.02-1 Lateral - Drainage conduits receiving runoff from areas less than 30 acres.

10.02-2 Collector - Drainage conduits receiving runoff from areas of more than 30 but less than 100 acres.

10.02-3 Trunk - Drainage conduits receiving runoff from areas of 100 acres or more.

10.02-4 Cross Culverts - Drainage culverts transporting runoff across roadways.

10.02-5 Driveway Culverts - Drainage culverts transporting runoff across driveways.

10.02-6 On-site drainage facilities shall mean all surface drains and underground drainage pipe within the development that does not take underground or concentrated surface drainage waters from the adjoining properties.

10.03 Alignment: The location of storm drainage pipelines in new streets shall be under the curb and gutter. Pipes placed under curb and gutter shall have minimum clearance of

three inches between bottom of gutter section and top of pipe. All new pipes and channels shall be placed a minimum of 100' from existing water wells.

10.03-1 Lines are to be as near parallel with the centerline of streets as possible.

10.03-2 Avoid meandering and unnecessary angular changes.

10.03-3 Angular changes shall not exceed 90 degrees.

10.03-4 Open ditches, lined channels, swales and flood plain areas shall be maintained as nearly as possible in their existing alignment. When an open ditch, other than a roadside ditch, is to be constructed parallel to an existing roadway the ditch shall be constructed outside the proposed right of way of the ultimate street development.

10.03-5 The vertical alignment shall be so designed to preclude any ponding within the drainage system.

10.04 Easement:

10.04-1 Drainage conduits and channels when not located in a public street, road or alley, or within an existing public drainage easement, must be located in a recorded or dedicated public easement over private property. Necessary dedication for construction on private property must be completed before the improvement plans will be approved for construction. Where a minor improvement of a drainage channel falls on adjacent property, such as daylighting a ditch profile, a right of entry must be obtained from the adjacent property owners for such construction, and a copy of the right of entry from the adjacent owners shall be submitted to the Director prior to approval of the improvements plans. Easements shall be on forms supplied by the Engineer.

10.04-2 Easements for closed conduits shall meet the following requirements:

10.04-2.01 Minimum width of 12' with the centerline of the pipe at quarter point; pipe may reverse sides at angle points.

10.04-2.02 Provide access and working space rights.

10.04-2.03 For pipes exceeding 24" in diameter or trenches exceeding 5' in depth, the easement shall have additional width to provide ample working space as required by the Director.

10.04-3 Easements for open channels shall have sufficient width to contain the open channel with side slopes, fencing where required, and a 15' service road when required by the Director. Suitable ramps must be provided for access to the

bottom when required.

10.04-4 Easements shall be provided for all ditches, culverts, and conduit systems whether constructed as newly built improvements or as rebuilt improvements and shall adequately meet the minimum width specified above.

10.04-5 For existing drainage facilities - Easements shall be provided for all existing drainage facilities within the boundaries of and/or affected by any land areas to be improved. Also, these existing facilities shall be reworked to conform with the County Standards in effect at the time of the overall improvement where such conformance is required.

10.04-6 Extent - All drainage easements shall extend from the point at which a flow is concentrated to the point where such flow is converted into sheet flow, or to the point of confluence with a natural drainage course.

10.04-7 For natural drainage courses - All natural drainage courses within the boundaries of an area to be improved shall be provided with drainage easements extending the full length of the drainage courses within the improved area with the individual width being determined as the limit of the 100 year flood plain. A natural drainage course is defined as a drainage course having specific sides and bottom, but one, which will not necessarily have year around flow.

10.04-8 For drainage diverted into swales - All natural depressions through which drainage travels but not having well defined sides and bottom cannot be considered as natural drainage courses and thus shall be provided with easements adequate enough in width to provide for both flow and maintenance. If the waters collected in such swales are not terminated into natural drainage courses within the boundaries of the improvement area, they shall be carried offsite to the point of confluence of the swale with the natural drainage course; adequate drainage easements or drainage release letters from the affected downstream property owner(s) being requisite.

10.04-9 For offsite drainage and facilities - All concentrated drainage leaving the boundaries of the area to be approved in other than natural drainage courses will require either specific easements or drainage release letters from the property owners of the lands from the point at which the drainage leaves the limits of the improvement area to the point at which it is deposited in a natural water course. The required easements must include adequate provision for all of the drainage

structures to be used in the offsite drainage (i.e., culverts, ditches, dissipaters, etc.)

10.05 Drainage Design: Drainage calculations and a drainage map shall be submitted with the improvement plans. The following information shall be shown:

10.05-1 Offsite drainage in natural water courses - If the runoff in any natural water course which collects runoff from an improved area is increased appreciably by the designed improvements, any existing drainage structure offsite and downstream shall be checked to see that its capacity can safely pass the increased runoff as calculated at the inlet of the downstream structure. If the existing capacity should prove to be inadequate, the structure shall be removed and replaced by one meeting the County standards. Any and all additional easement acquisitions necessitated by the rebuilding or relocation of an offsite structure pursuant to this section shall be the full responsibility of the developer.

10.05-2 Watershed map - A drainage map shall be submitted with each set of improvement plans and shall reflect the following criteria:

- a. Must be of adequate scale and reasonably accurate with contour lines clearly shown and referenced.
- b. All individual watershed areas are to be clearly defined by shading with colored pencil and the areas specified in acres.
- c. Travel paths must be shown where concentrated flows exist. (If sheet flow so specify.)
- d. Times of concentration for each structure, pipe or ditch.
- e. The quantity of water arriving at each structure, pipe or ditch from a 10-year and a 100-year frequency storm.
- f. The size of pipe or type of ditch proposed length and gradient. Item H not needed when design is based on hydraulic grade line inside pipe
- g. Invert elevations for each pipe and structure.
- h. Hydraulic grade line elevations and hydraulic gradient.
- i. Channel dimensions and water surface profile computations.
- j. Downstream conditions which may affect upstream flow.

10.05-3 Drainage Calculations - One set of drainage calculations shall be submitted with each set of improvement plans. The calculations shall reflect the following criteria:

10.05-3.01 Use current National Oceanic and Atmospheric Administration (NOAA) point precipitation frequency estimates from online website mapping tool at https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=pa to determine rainfall intensity in inches per hour for a 10-year and a 100-year frequency storm. Utilize precipitation data from 5-minutes through 24-hours in hydrology calculations. Provide documentation of the project site location and NOAA data used in calculations. Documentation shall be a digital or hardcopy printout of the website information. In the event the NOAA Website is not accessible, use Tables D-1A through D-1N

10.05-3.02 To find the coefficient of runoff "C" - use table and assume ultimate development for the entire watershed area (Chart D-5).

10.05-3.03 Watershed areas - Use the areas in acres from the drainage map.

10.05-3.04 To find Q10 and Q100 - Use the rational method for determining quantities for the 10-year and 100-year frequency storms.
($Q = C I A$.)

10.05-3.05 For cross culverts - Calculations shall show the pipe size required to pass the 10-year storm with no head at the top of the pipe at the culvert entrance and the 100-year storm using available head at the culvert entrance. Use Chart D-4 to determine the pipe size required to satisfy the no-head condition. Check this pipe size for compliance with the Q100, available head, and criteria by using the appropriate Chart D-6 or D-7. If the pipe size selected satisfies the Q10 criteria, but not the Q100, a larger pipe must be used. In no case shall the pipe be smaller than 18" diameter or equivalent. (Minimum driveway culvert size shall be 12" diameter or equivalent).

10.05-3.06 For open ditches - The calculations shall include checks on each ditch at critical points using Mannings Formula for open channel flow solving for depth of flow. The "Handbook of Hydraulics" by King, may be used to assist in these calculations. See Section 10.05-4 for "n" values of existing streams and improved ditches and channels. For ditches having a depth of flow of one foot or over, a freeboard of 0.5' shall be provided or the ditches shall be deep enough to contain the Q100 flow with no freeboard. Freeboard for ditches having a depth of flow of under one foot shall be considered on individual basis. Roadside ditches and gutters may not inundate more than 1/3 of the traveled way during the 100-year frequency storm.

10.05-3.07 Closed conduit storm drains - Calculations shall be based on the pipe flowing full. The system may be allowed to operate under pressure provided the hydraulic gradient is 0.50 feet or more below the elevation of

any surface inlet or manhole cover. Proper allowances must be made for energy losses at bends, junctions and transitions. These losses are to be shown in the calculations. The minimum velocity in closed conduits shall be 2' per second and the minimum pipe size allowable is 15" or equivalent.

10.05-4 Hydraulic Design Criteria:

10.05-4.01 In order to provide a uniform drainage system in the County of Butte, the following criteria will be followed in all hydraulic computations unless specific approval otherwise is given in writing by the Director.

10.05-4.02 Flow computations - All hydraulic computations shall be in accordance with the following:

10.05-4.02A Mannings Formula shall be used to compute capacities of all open and closed conduits and all cross culverts which will become a part of the closed conduit system.

10.05-4.02B The formula $H_i = H_e + H_o + H_f$ shall be used to compute the capacity of all cross culverts that are not to become a part of the closed conduit system. Cross culverts shall be sized to utilize upstream and downstream channel velocities. The constants $K_e = 0.25$ and $K_o = 0.75$ shall be used for concrete pipe and box culverts. For corrugated pipes $K_e = 0.50$ and $K_o = 0.1$ shall be used.

H_i = Head Loss

H_f = Friction Head Loss

H_e = Entrance Head Loss

K_e = Entrance Head Loss Coef.

H_o = Outlet Head Loss

K_o = Outlet Head Loss Coef.

10.05-4.02C The “n” values to be used in Mannings Formula shall conform to the following:

Precast Concrete Pipe	0.013
Concrete Cast-in-place	0.013
Vitrified Clay Pipe	0.011
Asbestos Cement	0.011
H.D.P.E. Type “S”	0.011
Corrugated Metal Pipe (C.M.P.)	
Plain Unlined	0.025
Corrugated Metal Pipe (C.M.P.)	
3” x 1” Corrugation	0.025

Multi-Plate Arch Pipes	0.031
Ribbed Metal Pipe	0.013
Open Channel Fully Lined (Air Blown Mortar)	0.015
Earth Channel	0.030
Grass	0.035
Riprap and Grouted Riprap	0.040
Open Channel with Lined Bottom, Clean Sides	0.020

Natural Stream Channels (Surface width at flood stage less than 100') as follows:

Fairly regular section:

- | | | |
|----|---|------------------|
| a. | Some grass and weeds, little or no brush. | 0.030--0.035 |
| b. | Dense growth of weeds, depth of flow materially greater than weed height | 0.035--0.05 |
| c. | Some weeds, light brush on banks | 0.035--0.05 |
| d. | Some weeds, heavy brush on banks | 0.05----0.07 |
| e. | Some weeds, dense willows on banks | 0.06---
-0.08 |
| f. | For trees within channel, with branches submerged at high stage, increase all above values by | 0.01----0.02 |

Irregular sections, with pools, slight channel meander:

Increase values given above about 0.01----0.02

Mountain streams, no vegetation in channel, banks unusually steep, trees and brush along banks submerged at high stage:

- | | | |
|----|--|------------------|
| a. | Bottom of gravel, cobbles and few boulders | 0.04----0.05 |
| b. | Bottom of cobbles, with large boulders | 0.05---
-0.07 |

The "n" value for unimproved or partially improved channels shall be determined by the Consulting Engineer and then approved. by the Director. (AMENDED, RES. 84-183)

10.05-5 Closed conduit storm drains: Capacity - Special provisions shall be made within the drainage system to insure that the inlet invert elevation and the capacity of the

drainage system is such that it may be extended to serve the entire drainage basin at the time of ultimate development. This is to include the entire upstream portion and the portion of the basin outside the development, regardless of existing conditions.

10.05-5.01 Closed conduits shall be of either, cast-in-place concrete pipe, precast reinforced concrete pipe, non-reinforced concrete pipe, asbestos cement pipe, vitrified clay pipe, ribbed aluminum pipe, or high density polyethylene (HDPE), as defined in the Standard Specifications. The specific type of pipe or alternate pipes to be used in the development shall be shown on the plans. Any type the developer proposes to use not shown on the approved plans shall be submitted to the Director for approval. (10-24-06 Res 06-149)

10.05-5.02 Minimum pipe diameter allowable on any storm drain shall be 12 inches for on-site developments.

10.05-5.03 Minimum velocity in closed conduits shall be 2 f.p.s. when flowing 0.8 full.

10.05-5.04 Cover requirements are shown on Standard Drawings. At locations where the standard minimum cover requirements cannot feasibly be obtained, the conduit will be either encased or provided with a concrete cover or another method of pipe protection as specified by the Director.

10.05-5.05 Hydraulic Grade Line - Hydraulic grade line shall be a minimum of 0.50' below the elevation of inlet grates and manhole covers of all structures of the upstream system. Hydraulic grade line at the intake must enter the conduit at the property line. Hydraulic grade line shall be shown on the plans for all open channel systems and shall be shown on pipe systems when the hydraulic grade line is above the top of the pipe for Q100.

10.05-6 Open Channels

Shall consist of concrete-lined channels, lined bottom channels, or earth channels. Whenever roadside ditch grades exceed 6 percent, ditches shall be lined, lining shall extend downstream to nearest X-culvert or drainage swale. When slope exceeds 6 percent, and you have zero water in ditch, begin lining 300' downstream from top of slope.

10.05-6.01 Minimum Velocity:

- a. Unlined channels 2 f.p.s.
- b. Lined channels 2 f.p.s.
- c. Paved invert channels 2 f.p.s.

10.05-6.02 Maximum Velocity:

- a. Earth channels 6 f.p.s.
- b. Lined channels 10 f.p.s.
- c. Paved invert channels 8 f.p.s.

10.05-6.03 For all channels with earth sides, freeboard of at least one and one-half feet (1.5') shall be provided at design capacity for a 10-year storm. For lined channels, freeboard of at least 0.5 foot of lining shall be provided at design capacity for a 10-year storm.

10.05-6.04 Existing Channels

All abrupt changes in alignment or profile and all underbrush and debris which seriously restricts the flow in existing channels shall be regraded and improved. Such work shall be shown on the improvement plans.

10.06 Drainage Structures:

10.06-1 Manholes:

10.06-1.01 Standard precast concrete or cast-in-place type manholes shall be used where required. When cases arise where special manholes or junction boxes are required, the design must be approved by the Director. In no case will junction boxes or manholes be allowed which are smaller than 24" inside dimensions.

10.06-1.02 Manholes shall be located at junction points, changes in gradient and changes in conduit size. On curved pipes with radii of 200' to 400', manholes shall be placed at the B. C. and E. C. of the curve and on 300' maximum intervals along the curve. On curves with radii exceeding 400', manholes shall be placed at the B. C. and E. C. of the curve, and on 400' maximum intervals along curve for pipes 36" and less in diameter and 500' maximum intervals along the curve for pipes greater than 36" in diameter. Manhole spacing on curves with radii less than 200' will be determined on an individual basis.

10.06-1.03 Spacing of manholes, junction boxes or inlets of such size as to be enterable for maintenance shall not exceed 400' for drains 24" and smaller

in diameter and 500' for pipes greater than 24" in diameter, except under special approved conditions. The spacing of manholes shall be nearly equal wherever possible.

10.06-1.04 All manholes and junction boxes other than inlets shall have standard manhole covers, as shown in Standard Drawing No. S-24. Manholes will not be allowed in gutter flow line except as approved by the Director.

10.06-1.05 Manholes or junction boxes will not be required for a reach of pipe less than 100' in length, with an inlet or other structure, that is to be connected to a 30" or larger diameter pipe.

10.06-2 Inlets:

10.06-2.01 Gutter inlets shall be in accordance with those types shown in the Standard Drawings or other approved special inlets.

10.06-2.02 Inlets shall be placed so that the length of flow in the gutter does not exceed 600'. The depth of flow in the gutter shall not exceed 0.35' as determined by the runoff flow used to check the depth and shall include any flow that bypasses upstream grates. The outfall pipe shall accommodate the design runoff taking into consideration bypass flow from upstream inlets.

10.06-2.03 Inlets shall be marked with an appropriate S-40 style marker to provide public notification of the need to protect water quality. (10-24-06 Res 06-149)

10.06-3 Junction Boxes:

10.06-3.01 Junction boxes shall be constructed of reinforced concrete or fabricated from reinforced concrete pipe sections where size limitations permit.

10.06-3.02 Minimum wall thickness for reinforced concrete junction boxes shall be 6".

10.06-3.03 The inside dimension of junction boxes shall be such as to provide a minimum of 3" clearance on the outside diameter of the largest pipe in each face. All junction boxes shall be rectangular in shape unless otherwise approved by the Director. Junction boxes deeper than 4' shall have a minimum dimension of 48".

10.06-4 Headwalls, Wingwalls, Endwalls, Trash Racks and Railings:

10.06-4.01 All headwalls, wingwalls, and endwalls shall be considered individually

and shall be, in general, designed in accordance with the Standards and Specifications of the California Department of Transportation or requirements of Butte County Department of Public Works.

10.06-4.02 Trash racks will be provided where, in the opinion of the Director, they are necessary to prevent clogging of culverts and storm drains and eliminate hazards. The trash racks shall conform to the requirements of the Director. Temporary trash racks will be allowed where pipe will be extended in the near future.

10.06-4.03 On cross culvert drains, flared-end sections shall be used where required by the Director.

10.06-4.04 Metal beam guardrail may be required by the Director at culverts, headwalls and box culverts and on steep side slopes. When so required, the railing shall be installed in accordance with the requirements of the State of California, Department of Transportation standard plans and specifications.

10.06-5 Drainage Pumps:

10.06-5.01 The use of drainage pumps shall be avoided whenever possible, and used only with the specific approval of the Director.

10.06-5.02 If the use of drainage pumps is permitted, the drainage system shall be so designed as to provide for gravity outfall during the summer months and other periods of low water stages. If a low stage gravity outfall is impossible or impractical, an alternate pump of smaller capacity for low stage flow may be used provided specific approval is granted by the Director.

10.06-5.03 Pumping installations shall be designed to accommodate a design storm as specified by the Director. When a station contains gravity discharge, pumping capacity must be equal to the design inflow. When the station does not have a gravity discharge, pumping units must be designed to furnish 100% capacity with any one pump out (two-pump system). Any deviation from this criteria must receive the specific approval of the Director.

10.06-5.04 Pumping stations shall be designed so that gravity flow does not pass through the pump pit

- 10.06-5.05 No motor overload condition shall exist at any sump or flow condition. This does not preclude high sump design if low sump condition does not create an overload.
- 10.06-5.06 Each pumping installation shall receive separate approval for each of the following items: electrical system, piping system, housing installation and other miscellaneous design features.
- 10.06-5.07 The electrical system for drainage pumps shall conform to the Standard Drawings and electrical codes.
- 10.06-5.08 Adequate access shall be provided for cleaning the pump sump.
- 10.06-5.09 Trash racks shall be provided upstream from the pumping plant. Provisions shall be made for easy cleaning of the trash racks.
- 10.06-5.10 Hatch covers, where used, shall be of raised pattern aluminum floor plate, or other approved lightweight cover. Dissimilar metals shall be insulated from each other when necessary.
- 10.06-5.11 Ladder rungs, where used, shall be of a non-slip variety.
- 10.06-5.12 All drainage pumping plant and/or detention pond sites shall be fenced with 6' chain link fence with extension arms and three strands barbed wire, or approved alternative with approval of the Director of Public Works.

10.06-6 Temporary Drainage Diversions:

- 10.06-6.01 Temporary drainage diversions, such as dams and pipe plugs, shall be located and constructed in such a fashion as to permit their removal during adverse weather.
- 10.06-6.02 Locations and removal procedures for temporary drainage installations shall be approved by the Director, and these installations shall be removed when necessary to prevent damage to adjoining property.

10.06-7 Conductor Pipe:

- 10.06-7.01 Pipe used as a conductor pipe under a highway or railroad shall be either welded steel, corrugated metal, ribbed metal, or reinforced concrete. The Director may specify which type shall be used in any instance. The protective lining and coating, if any, shall be as shown on the plans or specified in the Special Provisions.
- 10.06-7.02 Welded steel pipe shall conform to the Standard Specifications.
- 10.06-7.03 Corrugated metal pipe shall conform to the Standard Specifications. Band

couplers shall be of the same metal as the pipe.

10.06-7.04 Reinforced concrete pipe shall conform to the Standard Specifications.

10.06-7.05 When metal conductor pipe is to be installed by boring and jacking, the material shall be No. 10 gauge or thicker. The sections of pipe shall be especially prepared for making field joints by riveting or bolting. If the joints are bolted, the bolts shall be 3/8" diameter and galvanized. Rivets shall be of the same material as the base metal used for the corrugated sheets and shall be galvanized or sherardized.

10.07 Channels and Outfalls:

10.07-1 Open Channels:

10.07-1.01 Drainage may be conducted through an improvement in open channels under the following criteria and if approved by the Director:

- a. The quantity of flow is such that it will exceed the capacity of a 72" pipe.
- b. The outfall point is such an elevation that minimum cover cannot be obtained over the pipe.

10.07-1.02 All channels to be fully lined shall be lined to an elevation of 0.5' above the 10-year design water line. Where the channel is to be constructed using Portland cement concrete or air blown mortar the side slope shall not exceed 1:1. Where the channel is to be unlined or protected with grouted or ungrouted rock the side slope shall not exceed 1-1/2:1.

10.07-1.03 In unlined channels, and channels with lined bottoms only, all underbrush and debris shall be removed from the channel cross-section with the exception of certain trees which may be utilized to retain the ecology of the area. All such trees shall be shown on the plans and those to be left in place so designated. All abrupt changes in the alignment or profile of the natural channel, which seriously restricts flow, shall be improved and regraded.

10.07-1.04 For all channels, either realigned or natural, the following items shall be shown on improvement plans in addition to information heretofore required.

- a. Typical section and cross sections.
- b. Profile of the existing channel and top of bank profile for a

minimum of 1,000' each side of the development in order to establish an average profile grade through the development.

10.07-2 Interceptor Ditches:

Interceptor ditches shall be placed at the top of the cut where deemed necessary by the Director to prevent erosion of the channel bank.

10.07-3 Upstream and Downstream Profiles:

10.07-3.01 All drainage outfalls shall be shown both in plan and profile on the improvement plans for a distance of 1,000 feet, or until a definite "daylight" condition is established. All drainage ditches upstream of the improvement shall be shown on plan and profile for a distance of at least 500'. The profiles shall include ditch flow line and top of bank elevations.

10.07-3.02 When improvements have more than one unit the drainage outfall shall be shown as extending to the property boundary and beyond if required, although it may not be constructed with the current unit development. All temporary outfalls shall be shown both in plan and profile on the improvement plans.

10.08 Cross Culverts:

10.08-1 Cross culverts may be of reinforced concrete culvert pipe or corrugated metal pipe meeting the requirements of the Standard Specifications.

10.08-1.01 Cross culvert size shall be determined on the basis of runoff determined in accordance with these Standards. A 10-year storm with no head on the inlets shall be used.

10.08-1.02 Cross culverts shall be checked on the basis of the runoff, plus 25% to determine that no serious damage will be incurred due to ponding as a result of the higher design storm.

10.08-1.03 Cross culvert profile will be determined by an examination of the overall profile of the channel for a minimum distance of 500 feet each side of the installation.

10.08-1.04 Reinforced Concrete Box Culverts and Structural Plate Arch Culverts. When specified by the Director, reinforced concrete box culverts or structural plate arch culverts shall be installed. All materials, design, and construction shall conform to the requirements of the State Specifications, State Standard Drawings, County Specifications and County Standard

Drawings.

10.09 Fencing:

10.09-1 Improved channels in residential areas exceeding 3' in depth and with side slopes steeper than 3:1 shall be fenced with a 6' chain link fence. Fence may not be required when an agreement to delete the fencing is obtained from the adjacent property owners. In all other areas, fencing shall be placed only upon the recommendation of the Director.

10.09-2 Drive gates shall be minimum 12' and walk gates shall be provided complete with master keyed locks and keys at such locations as specified by the Director.

10.09-3 The fence shall be located six inches within the required drainage easement lines and their locations shall be shown on the construction plans.

10.10 Temporary Storm Drainage Trenches:

Temporary trenches will be permitted only where it is not possible to connect to an existing permanent drainage system, or it is not feasible to construct a permanent storm drainage system from the land being developed to a natural drainage course.

10.10-1 Percolation tests shall be conducted in accordance with Environmental Health Department procedures. Tests shall be taken at the proposed depth of the drainage trench(es) at enough locations to verify the drainage capacity of the soil. Percolation rate shall be converted from minutes/inch to cubic feet per second/square foot.

10.10-2 The trench(es) shall be designed to contain a one in ten year frequency storm.

10.10-3 The bottom of the trenches shall be at least 5' above any water table and there shall be at least 5' of percable soil below the bottom of the trench.

10.10-4 Use rational formula, $Q=CIA$, to determine inflow into trench(es).

Values for C & I to be determined from standards D-1, D-2, D-3, and D-5 as shown in the IMPROVEMENT STANDARDS FOR SUBDIVISIONS, PARCEL MAPS AND SITE IMPROVEMENTS PURSUANT TO CHAPTER 20 OF THE BUTTE COUNTY CODE. (Appendix IV)

10.10-5 Use 1/3 of the trench volume as void area in computing amount of storm water storage available in trench(es). Rock size in trench(es) shall be from 1/2" to 4" in size.

10.10-6 Use 50% of the trench bottom area and 1/2 of the depth of the trench side walls and end walls in determining the area available for percolation out of the

trench(es).

10.10-7 Where more than one trench is utilized, there shall be a minimum separation of 4' between trench walls.

10.11 Storm Drainage Facilities Environmental Health Setbacks

Storm drainage facilities transport water flows that may impact satisfactory performance of nearby sewage leach field percolation and additionally transport contaminants that may impact the quality of well water. To minimize those impacts, environmental setbacks are specified below. Exceptions to the specified setbacks may be authorized by the Department of Public Health, Division of Environmental Health. Exceptions shall be based upon an engineered proposal reviewed and accepted by Environmental Health following consultation with the Regional Water Quality Control Board, Central Valley Region.

Environmental Health Setback Separations in feet

<u>Facility Type</u>	<u>Sewage Leachfields</u>	<u>Water Wells</u>
Detention facilities without percolation (metering) ¹ .	25	25
Retention/detention (on-site disposal) facilities with percolation		
1) Covered leach trench	10	100 ²
2) Open basin or trench		
a) =/< 1 acre ft./day capacity ³ .	25	100 ²
b) > 1 acre ft./day capacity ³ .	50	100 ²

1. Slower than 120 minutes/inch percolation
2. Reference – Chapter 23B, Code of Butte County
3. Capacity = total volume of water flowing into basin or trench in a 24 hour period.

10.12 Storm Drainage Detention/Retention Ponds

10.12-1. Storm drainage detention/retention ponds shall be designed with a minimum of 1.5 feet of freeboard for the 10-year event and full containment of the 100-year event.

10.12-2 Any overflow weirs or spillways shall be constructed on native ground and provide appropriate erosion control. Overflow weirs or spillways are not allowed on fill material.

10.12-3 A minimum 12' wide equipment access road shall be provided within the pond for maintenance of structures, bottom and sides of the pond. Appropriate turn around areas shall be provided. (10-24-06 Res 06-149)

11.0 **SEWAGE DISPOSAL:**

11.01 Subdivisions:

11.01-1 Public or Community Sewer Systems. When a subdivision is located within a reasonable distance of an existing, operating, and available public or community sewage system, and it is practical and feasible to sewer the proposed subdivision

by connecting to said system, the subdivider shall be required to sewer the proposed subdivision to said system. Sewer mains, lift stations and other related facilities located within the subdivision and/or necessary to connect said subdivision to the public or community system shall be designed and installed in accordance with the standards of the governing board of the public or community sewer system. All such facilities shall be operated and maintained by the public or community sewer entity unless a separate public entity is established for that purpose. No final map shall be approved until the required facilities are installed and accepted by the public entity or until the public entity advises the Board of Supervisors in writing it holds a bond adequate to insure the installation of required facilities.

11.01-2 If it is not practicable and feasible to sewer a subdivision by connecting to an existing public or community sewer system, or if such system is unable to provide the subdivision with sewer service, the subdivider may provide for sewer service by the development of a community sewer system with treatment and disposal facilities. When a subdivider proposes to develop such a community sewer system, he must:

- a. Provide for the establishment of a public entity empowered and adequate to maintain and operate the system.
- b. Obtain discharge requirements from the Regional Water Quality Control Board.

11.01-3 Sewer mains within a subdivision to be sewered by connecting to a public or community sewer system shall be a minimum of six inches in diameter and shall be of either vitrified clay, cast iron, or other material approved by the Director of Public Works. The joints may be either bell and spigot or an approved rubber seal type packing. Placing of sewer pipe, including excavation and backfill shall be in accordance with Appendix IV. Manholes shall be spaced no farther apart than 350 feet. Manholes shall be a minimum of 48" in diameter and shall be of precast concrete and built in accordance with Appendix III of this resolution. All service laterals shall comply with the Uniform Plumbing Code, latest edition, and shall have a minimum slope of one-eighth inch per foot to the trunk sewer. Sewer clean out "Y" laterals and other appurtenances shall be as shown in Appendix III.

11.01-4 Complete plans and specifications including design criteria prepared by a

registered civil engineer shall be submitted to the Department of Public Works and the Department of Public Health for approval prior to connection to, or construction or installation of sewers, sewage distribution, disposal and treatment facilities in a subdivision. All connections to, construction or installation of such facilities shall be in accordance with such approved plans and specifications.

11.01-5 Individual Sewage Disposal Systems

- a. If public or community sewer service is not provided pursuant to subparagraph 11.01-1 above, individual sewage disposal systems may be permitted, provided that the proposed subdivision meets the minimum criteria set forth in Appendix VII.
- b. When individual sewage disposal systems are proposed, the subdivider shall have percolation tests and soil depth studies made under the direction of a registered civil engineer, licensed land surveyor or registered Environmental Health Specialist and shall submit test data to the County Department of Public Health in the form prescribed by said department. The type and number of such tests made shall be as directed by the said department. In areas where soil conditions vary widely, such as the mountain and foothill areas, tests may be required on each and every proposed lot.

11.01-6 Minimum lot areas shall be established based on percolation tests, topography and soil depth as set forth in Appendix VII.

11.01-7 Subdividers may be required to establish a public entity, or annex to an existing public entity, which has the authority to plan, finance, construct, and maintain a sewage system and sewage treatment facilities. Said public entity shall also have the authority to plan, finance, construct and operate any facilities necessary for the disposal of waste pumped from any individual sewage systems in the proposed subdivision and to conduct monitoring and surveillance programs required for water quality control purposes. Establishment of, or annexation to, such a public entity may be required to protect the public health, safety and welfare. Reasons justifying such a requirement include, but are not limited to, the following: to prevent water pollution or water quality degradation, to prevent the creation of health hazards or nuisance conditions or to prevent or mitigate other adverse environmental effects which could result from the use of individual sewage

disposal systems. In evaluating such possible environmental effects which could result from the use of individual sewage disposal systems, consideration may be given to the cumulative effect of the use of individual sewage disposal systems within the proposed subdivision and in other subdivisions, land divisions, developments or projects within the same drainage basin.

11.01-8 Land Divisions:

- a. Public or Community Sewer Systems. When a land division is located within a reasonable distance of an existing, operating, and available public or community sewage system, the land divider shall be required to request annexation to that system. In such cases annexation to an existing public entity may be required in the same manner as specified above in subparagraph 11.01 in subsection 11.01-4.
- b. Individual Sewage Disposal Systems. When connection to an existing public or community sewerage system is not practical and feasible or if the system is unable to provide the land division with sewer service, individual sewage disposal systems may be permitted, provided the minimum requirements established above in subparagraph 11.01, subsections 11.01-5, 11.01-6, and 11.01-7 for subdivisions are met.

12.0 WATER SUPPLY:

12.01 Subdivision: (five or more lots, planned development lots or condominium units)

12.01-1 The subdivider shall state in a letter accompanying the tentative map the proposed method of water supply for subdivisions. Individual wells shall not be acceptable as a method of water supply for any subdivision in excess of ten (10) lots located within 700' of an existing public water system whose service area includes or can include the subdivision.

12.01-2 The distribution system for any community water system developed to serve a subdivision within an urban area and within 1,000' of an existing public water system shall be designed and installed according to good engineering practice and to standards not less than those of the existing water system and the California State Safe Drinking Water Act.

12.01-3 Where the water supply is proposed by the extension of service from an existing water system, the subdivider shall, prior to the filing of the final map, furnish the Health Department a statement from the water purveyor stating that the purveyor is willing and able to supply water to the subdivision, along with any conditions or prerequisites the water purveyor may have.

12.01-4 Should the subdivider propose individual wells, at least one test well for each twenty acres shall be developed by the subdivider and tested for quality and quantity. Where topography, geological conditions, or little information from existing wells is available, additional test wells may be required by the Health Department. A test well may be required on each and every lot. Test wells shall be pumped in a manner satisfactory to the Health Department and shall produce a minimum of five (5) gallons per minute if tested during the period from January 1 through June 30 or a minimum of three (3) gallons per minute if tested during the period from July 1 through December 31. The provision may be waived by the Health Officer if sufficient well information has been developed in the area to assure adequate potable water. A statement to the Health Department by a licensed well driller and a report by a recognized engineering geologist or hydrologist may be required in this case. The Health Department may require confirmatory wells. Neither a waiver of the requirements, the acceptance of data or statement submitted nor the approval of the map by the County of Butte in reliance upon such waiver, data or statements shall be, nor be construed to be, a guarantee by the County of Butte that suitable domestic water in sufficient quantity is available to the parcels created by the subdivision.

12.01-5 Should the subdivider propose to develop a water system for the subdivision, he shall:

- a. Provide a legal entity adequate to construct, maintain, and operate the system.
- b. Submit complete plans and specifications including design criteria prepared by a registered civil engineer to the Health Department and the Department of Public Works for approval. Wells shall be designed and installed as per Appendix VI and Chapter 23B, Code of Butte County. All water systems with surface sources shall be provided with treatment satisfactory to the Department of Public

Health in accordance with the California State Safe Drinking Water Act.

- c. Where a spring is to be used for the water supply system, a registered water geologist or engineer shall state the yield in gallons per minute during the dry season. The Health Department may require a spring to be treated as a surface source.
- d. Provide minimum source capacity and storage as required by Appendix VI and the California State Safe Drinking Water Act.
- e. Provide safe, potable water meeting the chemical and bacteriological standards of the California State Safe Drinking Water Act. No surface water shall be considered potable without adequate disinfection, filtration and additional treatment as may be required.
- f. Provide all information required by the California State Safe Drinking Water Act, Health and Safety Code, Section 4010-4039.5 of the State of California.

12.01-6 Existing wells which are to be abandoned in a subdivision shall be destroyed under permit in accordance with Chapter 23B, Code of Butte County.

12.02 Subdivisions (Four or less lots, planned development lots or condominium units)

12.02-1 Where the average resulting parcel size is forty (40) acres or more, no information on the availability of domestic water is required.

12.02-2 Where any resulting parcel is less than forty (40) acres, or less than a quarter-quarter section, but not less than twenty (20) acres, a division shall be approved only if one of the following requirements is met;

- 1. The developer shows that water in sufficient quantity and acceptable for domestic purposes is available. Tests may be required by the County Health Department to determine the suitability of water for domestic purposes. The availability of water shall be shown by one of the following methods:

- a. By drilling at least one well within the division at a location approved by the County Health Department which will produce a flow of not less than five (5) gallons per minute if tested during the period from January 1 through June 30 or not less than three (3) gallons per minute if tested during the period from July 1

through December 31. The well log and/or an approved pump test certifying to the flows shall be reviewed by the County Health Department before filing of the final map.

b. By providing evidence from a registered engineer or geologist that a spring exists on each such proposed parcel that will produce the quantities specified in subsection (1) above. Such statement shall be submitted to the County Health Department prior to filing of the final map.

c. Where the water supply to the parcels created by the land division is proposed to be furnished by the extension of service from an existing water system, by furnishing a statement from the water purveyor stating that the purveyor is willing and able to supply water to the land division. Such statement shall be submitted to the County Health Department prior to filing of the final map. The requirements of subsections (a) and (b) above may be waived by the of the County Health Officer in cases where past experience has shown that potable water is available in the area of the proposed land division. Neither the waiver of the requirements of subsections (a) or (b), the acceptance of data or statements submitted pursuant to subsections (a), (b) or (c) nor the approval of the map by the County of Butte in reliance upon such waiver, data or statements shall be, nor be construed to be, a guarantee by the County of Butte that suitable domestic water in sufficient quantity is available to the parcels created by the land division.

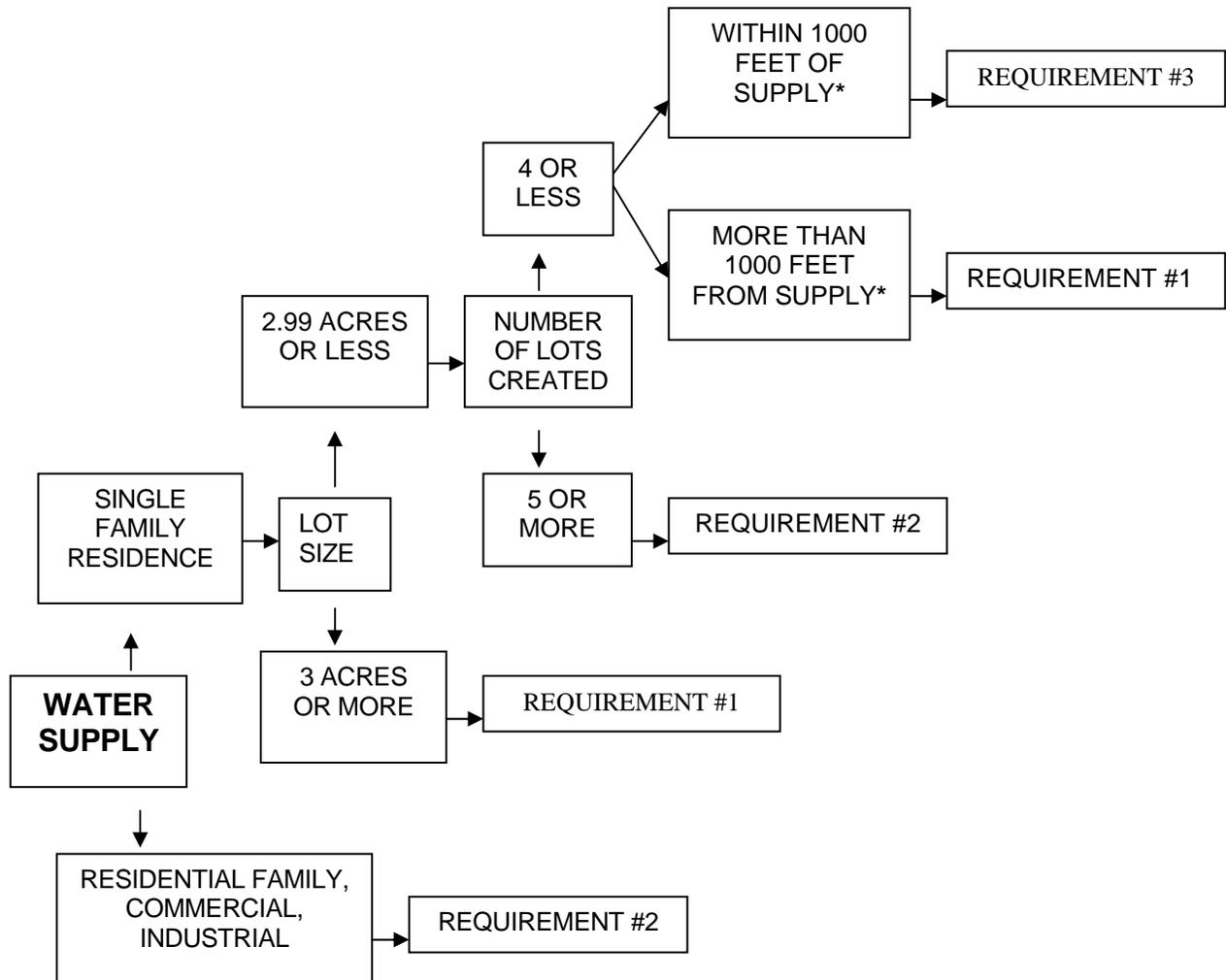
2. A note is placed on the final map as follows: "WATER: There is no evidence that domestic water is available."

Where any resulting parcel is less than twenty (20) acres and an individual water supply system is proposed, the division shall not be approved unless the developer shows that water in sufficient quantity and acceptable for domestic purposes is available in accordance with Section 12.02-2 (1) above.

13.0 FIRE STANDARDS

13.01 Application

The type and size of the project dictates the fire department requirements for water. The following matrix will lead the planner/interested party to the specific requirement:



* A pressurized water system is defined as any public, mutual locally formed or private water service jurisdiction having water capable of adequately supplying fire hydrants.

13.01-1 Requirement Class 1

Except for those areas designated as “high and very high” hazards on the hazard severity index map, a pressurized water supply for fire protection will not be required. The developer will install an automatic fire sprinkler system in all new residential structures in accordance with the National Fire Protection Association standard for the installation of sprinkler systems in one and two family dwellings and mobile homes, NFPA Standard 13D.

(Res 04-271, 12-14-2004)

Subdivisions in those areas designated as “high and very high” hazards on the fire hazard severity index where the lot size is less than 10 acres will require a pressurized community water system.

13.01-2 Requirement Class 2

A pressurized community water system is required. See the general requirement section for the hydrant spacing, hydrant size and fire flow requirements. The specific location of the fire hydrants will be made by the fire department in consultation with the developer.

13.01-3 Requirement Class 3

Pressurized water for fire protection is available within 1,000 feet of the created parcels. In lieu of bearing the cost of installing a fire hydrant(s), the developer may pay into the fire department hydrant fund. The amount paid is based on the length of the street frontage of the created parcels. The amount paid is established at \$1.72 per frontage foot.

13.02 Timing and Financial Responsibility:

These requirements must be met prior to construction of any building on the created parcels. The condition need not be met prior to the filing of the final map. If this is the case, the developer must show proof of a performance bond or other financial arrangement to cover the cost of these requirements.

13.03 General Requirements

13.03-1 Fire flow requirements for other than recreational vehicle or mobile home parks:

<u>Land Use</u>	<u>With No Mitigation</u>	<u>With Sprinklers In All Structures In Development</u>	<u>Hydrant Size ^{1/}</u>	<u>Hydrant Spacing (H to H)</u>
	<u>Minimum Flow GPM</u>			
A. Lot density of one or less single-family residential unit per acre.	1000	500	6"	800'
B. Lot density of two or more single-family residential units per acre.	1000	500	6"	500'
C. Duplex residential units, neighborhood business of one story.	1,750	1,500 (min)	6"	500'
D. Multiple residential (condominiums), one and two stories; light commercial or light industrial.	2,000	1,500(min)	6"	300'
F. Multiple residential (condominiums), three stories or higher; heavy commercial or heavy industrial.	2,500	1,500(min)	6"	300'

1/ Local water agency requirements for hydrants may be more restrictive.

13.03-2 Fire flow requirements for recreational vehicle or mobile home parks. Recreational vehicle and mobile home parks shall be provided with a utility system capable of adequately producing and delivering water for fire demand requirements.

The combined capacities of all water source facilities at periods of maximum duration of the fire flow indicated in the following chart:

Spaces	Minimum Fire Flow Requirements (GPM)	Hydrant Spacing (Feet)	Type of Development
To 15	100	800	Mobile Home Park
To 75	250	800	Mobile Home Park
To 150	300	500	Mobile Home Park
To 250	400	500	Mobile Home Park
Over 250	500	500	Mobile Home Park
Under 100	100	800	Recreational Vehicle
Over 100	200	800	Recreational Vehicle

13.03-3 General Requirements that apply to any hydrant system.

- A. Duration. The minimum fire flow requirements detailed above shall be sustained for a period of at least two hours. Minimum fire flow requirements are in addition to the area average daily demand.
- B. Pressure. The water supply system shall be designed to maintain normal operating pressures of not less than 20 p.s.i.g. nor more than 125 p.s.i.g. at the service connection, except that during periods of hourly maximum demand, the pressure at the time of peak seasonal loads may be not less than 15 p.s.i.g.
- C. Main Size. The distribution system shall be of adequate size and so designed in conjunction with related facilities to maintain the minimum fire flow and pressure required. In no event, however, should the minimum pipe size for new mains be less than six inches in diameter.
- D. Spacing. In no case shall fire hydrant spacing be more than 800 feet from hydrant to hydrant.
- E. Location. Fire hydrants shall be attached to the distribution system at locations designated by the responsible fire protection agency.
- F. Materials and Hydrants. Six-inch fire hydrants in single family residential areas shall be A.W.W.A. approved with one 4 ½” and one 2 ½” NST connection. Six-inch fire hydrants in all other areas shall be A.W.W.A. approved with one 4 ½” and two 2 ½” NST connections. Each hydrant gate valve shall be supplied with an 8” valve box with metal cover, set to finish grade, installed to allow operation of gate valve. All hydrants, valves, fittings, pipe and installation shall be approved by the responsible fire protection agency.

- G. Construction. Fire hydrants shall be installed in accordance with Butte County Public Works Standards S-27 and the local water agency.
- H. Shut-Off valves. The distribution system shall be equipped with a sufficient number valves so located that no single case of accident, breakage or repair to hydrants or distribution will necessitate the shut down of pipe length greater than 1,300 feet.
- I. Power Backup. All electrical equipment used in the fire protection water system shall have an approved back-up power supply with a cut off switch for the electric power company.

13.03-4 Electric Gates

All electric operated gates used to control access shall be equipped with an emergency vehicle strobe detector to open the gate unless approved by the Butte County Fire Department.

13.03-5 Private Water Systems

- A. Use of a private water system for fire protection purposes will require one of the following acceptable entities to maintain the system:
 - 1. Formation of a Mutual Water Company
 - 2. Formation of a new County Service area
 - 3. Annexation to an existing County Service Area with the same level of service
 - 4. Establishment of an other entity as approved by the Butte County Fire Department
- B. All new water systems must be constructed to the same standards as the nearest local water purveyor (Mutual Water Company or Public Utility such as Cal-Water, OWID, TID, etc.) to allow for possible future annexation and connection of mains.
- C. It is the goal of the fire department that adjacent water systems be inter-connected to insure redundancy and reliability, as much as possible.
- D. After acceptance by the County, all facilities inside a County Service Area will become the property of the County.

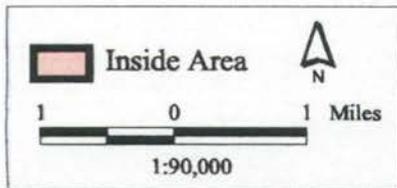
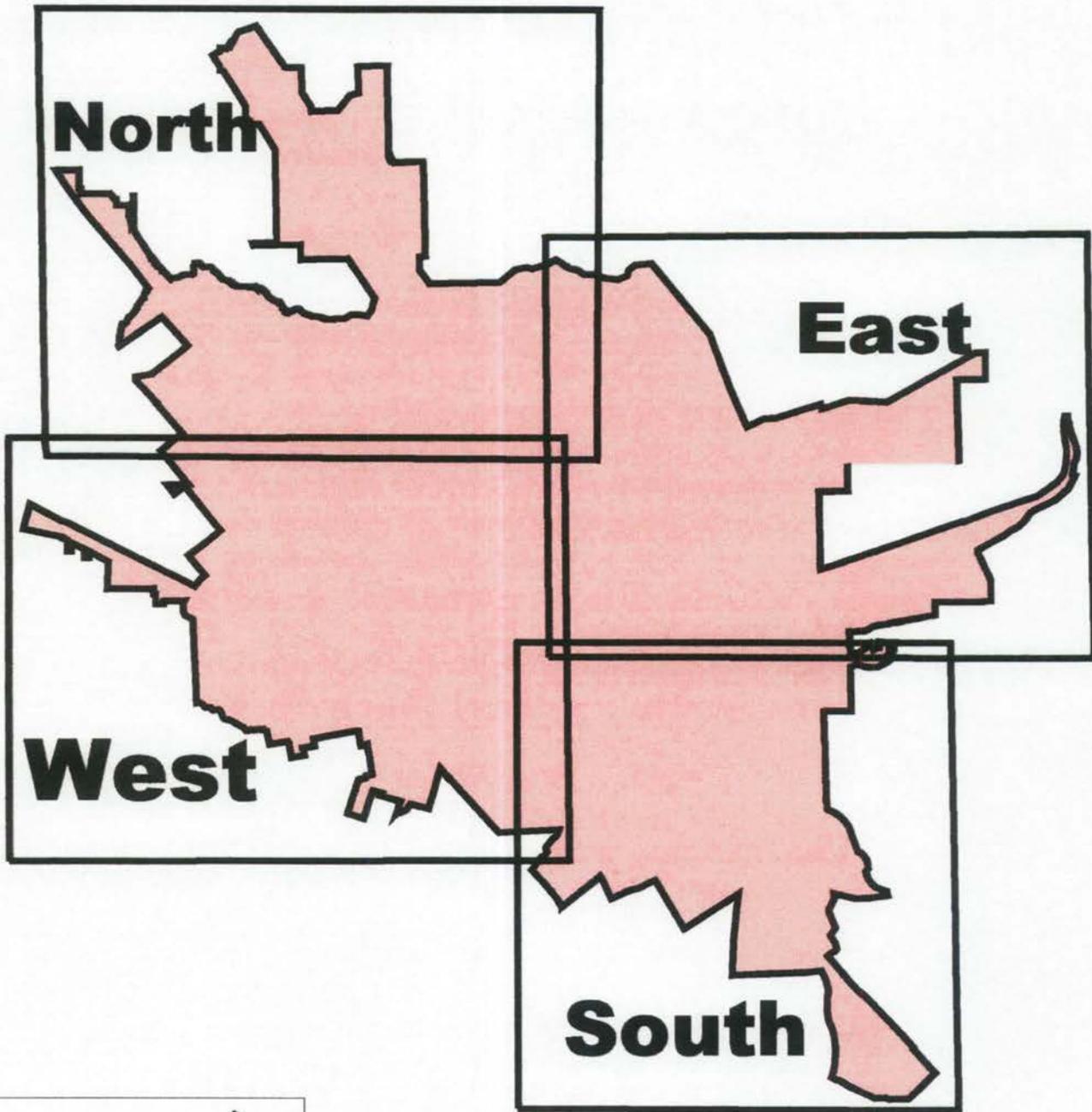
13.03-6 Signs

All street signs installed in the State Responsibility Area (SRA) will be in accordance with Standards S-12 and S-13.

APPENDIX I

URBAN AREA MAPS OR SPECIAL AREA MAPS

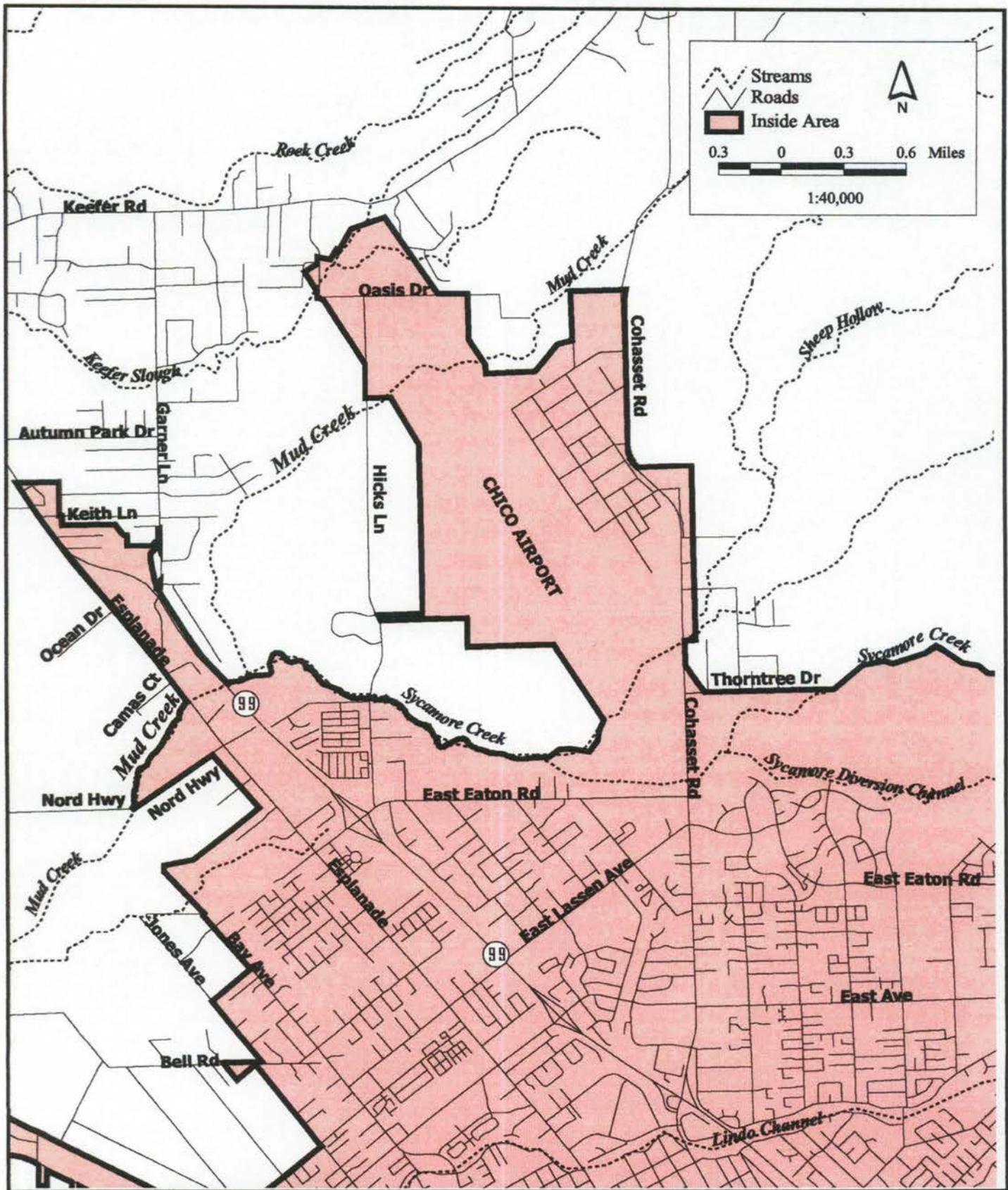
Chico Urban Area	1
North Quadrant	1A
East Quadrant	1B
South Quadrant	1C
West Quadrant	1D
Chapman Mulberry Area	2
Chico Vecino Drainage Area	3
Chico Vecino Road Improvements	4
North Chico Specific Plan	5
Durham Urban Area	6
Gridley Urban Area	7
Oroville Urban Area	8
Paradise Urban Area	9
Mountain Recreational Area	10
California Department of Forestry – State Responsibility Area (SRA)	11
California Department of Forestry – High and Very High Fire Areas	12



MAPS BY
BUTTE COUNTY
DEVELOPMENT SERVICES DEPARTMENT
GEOGRAPHIC INFORMATION SYSTEM
DATE PRINTED: MAY 5, 2002

DEPARTMENT OF PUBLIC WORKS
CHICO URBAN AREA

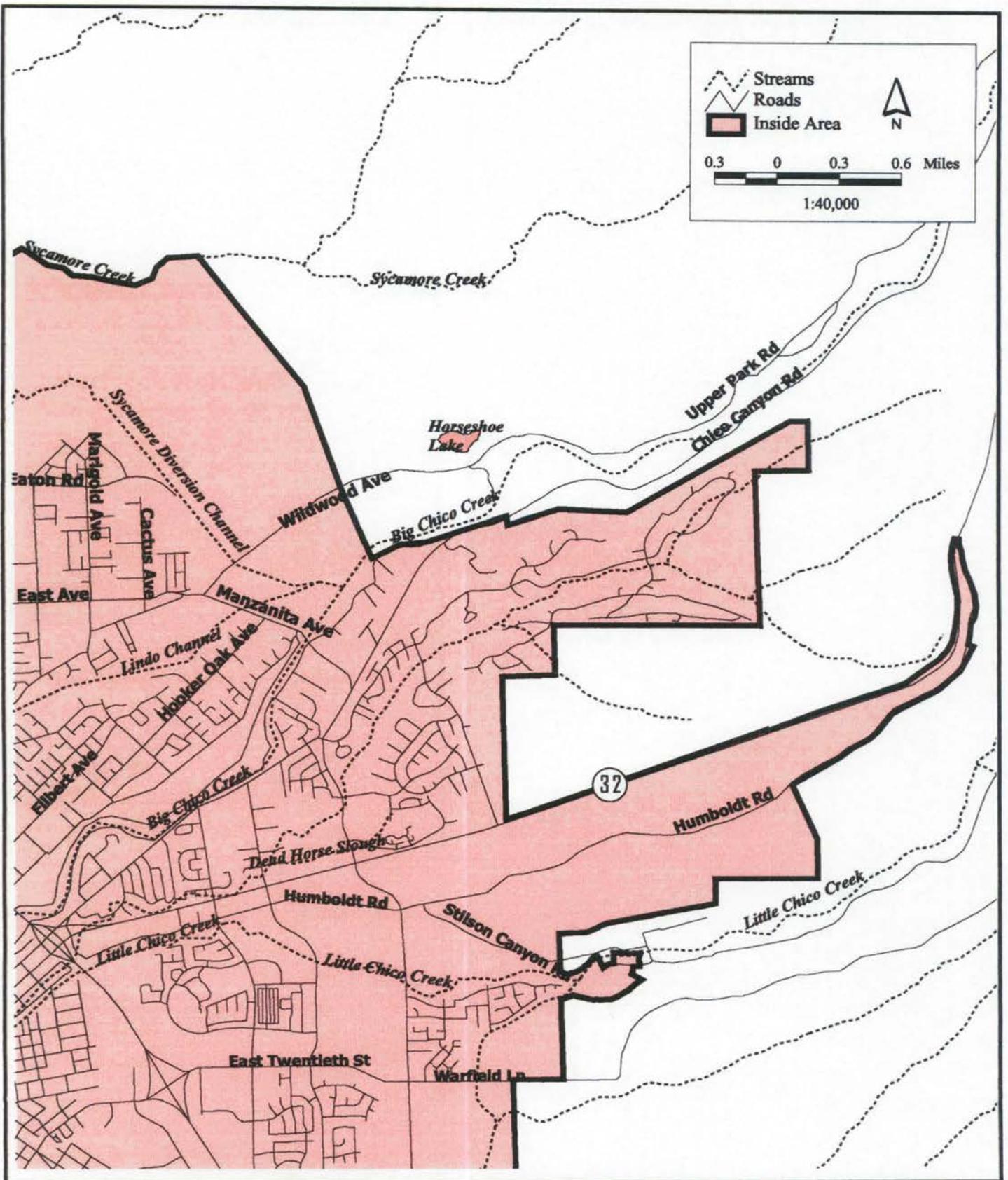




MAPS BY
 BUTTE COUNTY
 DEVELOPMENT SERVICES DEPARTMENT
 GEOGRAPHIC INFORMATION SYSTEM
 DATE PRINTED: MAY 5, 2002

**DEPARTMENT OF PUBLIC WORKS
 CHICO URBAN AREA
 NORTH QUADRANT**

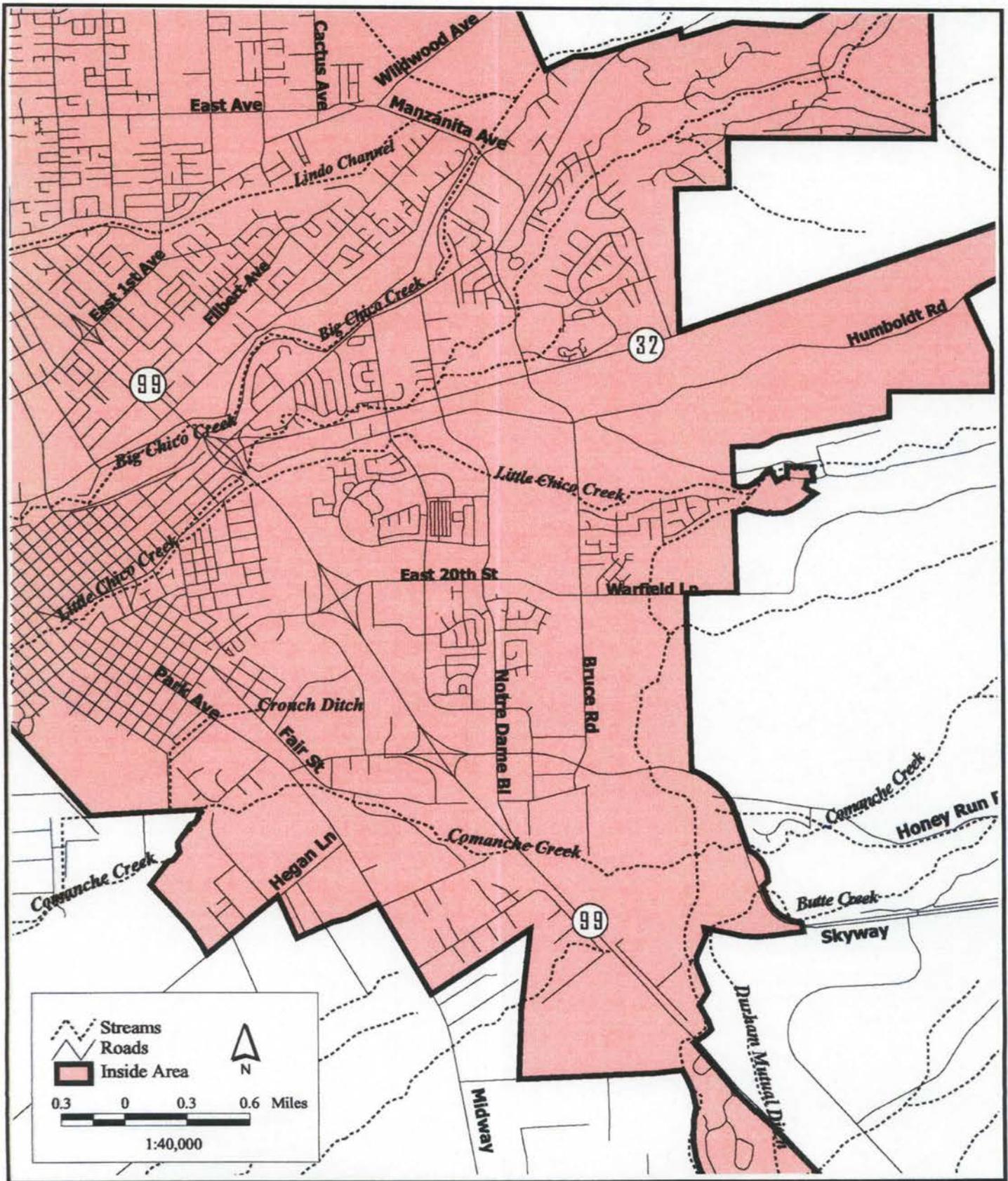




MAPS BY
 BUTTE COUNTY
 DEVELOPMENT SERVICES DEPARTMENT
 GEOGRAPHIC INFORMATION SYSTEM
 DATE PRINTED: MAY 5, 2002

**DEPARTMENT OF PUBLIC WORKS
 CHICO URBAN AREA
 EAST QUADRANT**

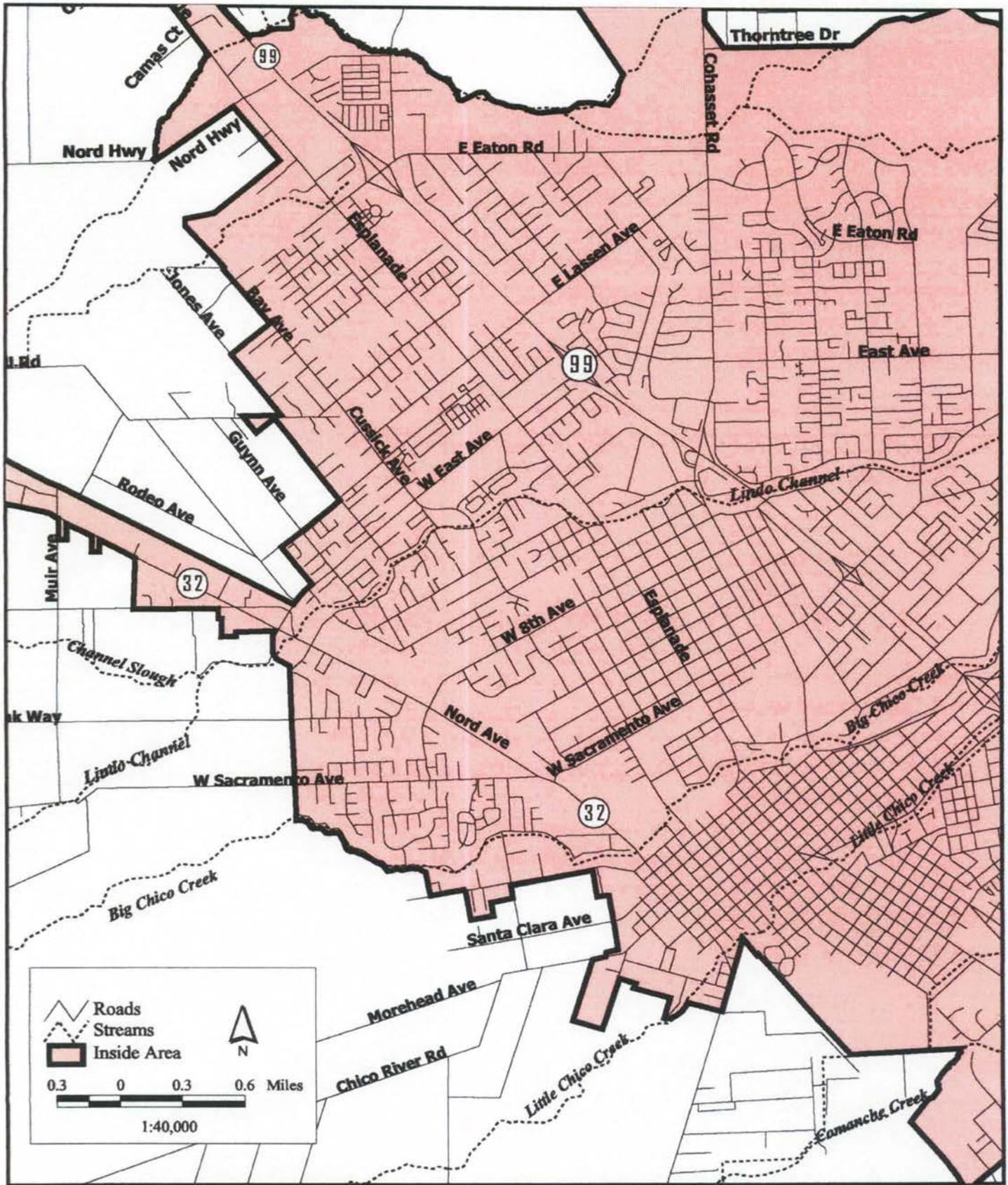




MAPS BY
 BUTTE COUNTY
 DEVELOPMENT SERVICES DEPARTMENT
 GEOGRAPHIC INFORMATION SYSTEM
 DATE PRINTED: MAY 5, 2002

**DEPARTMENT OF PUBLIC WORKS
 CHICO URBAN AREA
 SOUTH QUADRANT**

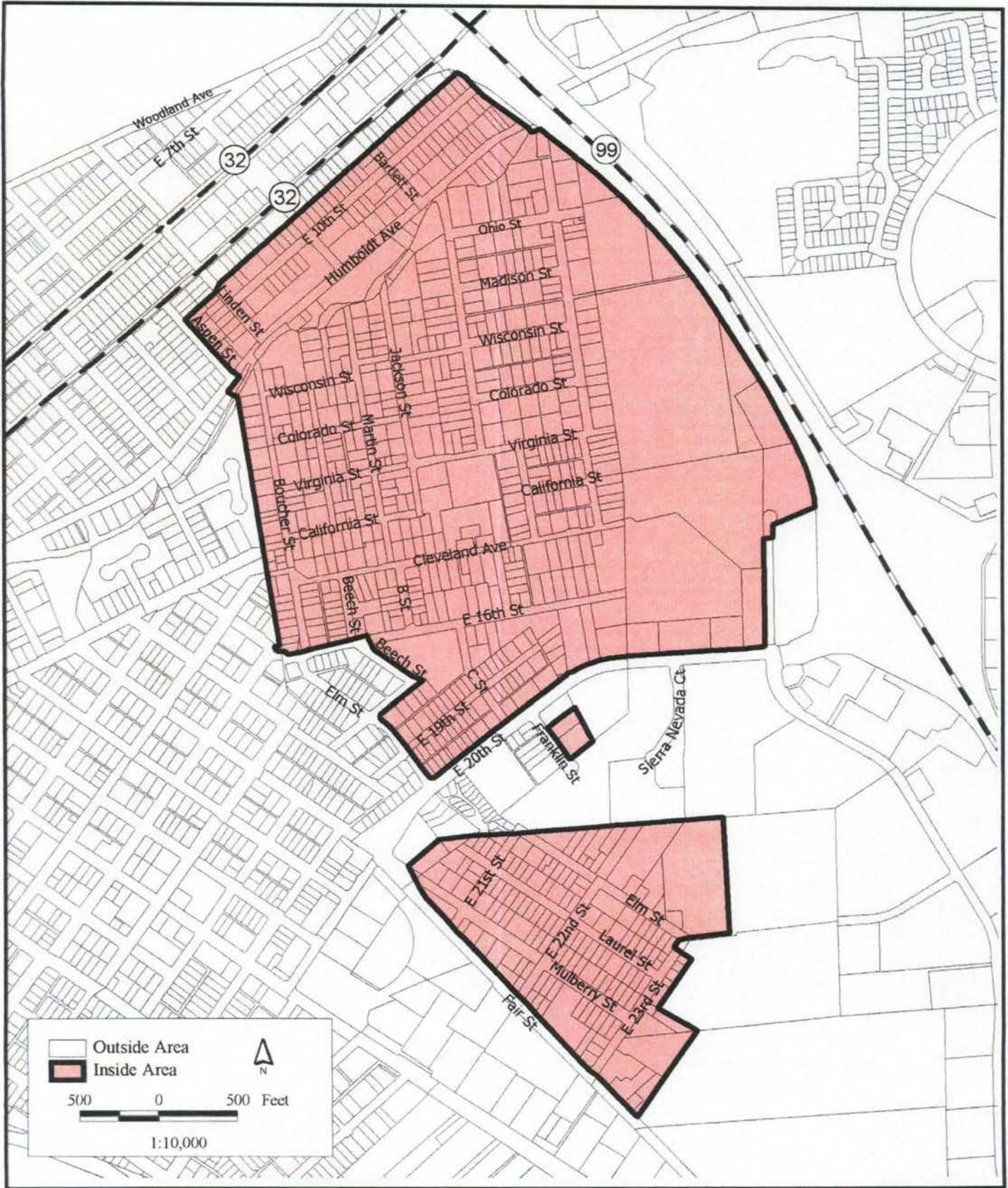




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 DATE PRINTED: MAY 5, 2002

**DEPARTMENT OF PUBLIC WORKS
 CHICO URBAN AREA
 WEST QUADRANT**

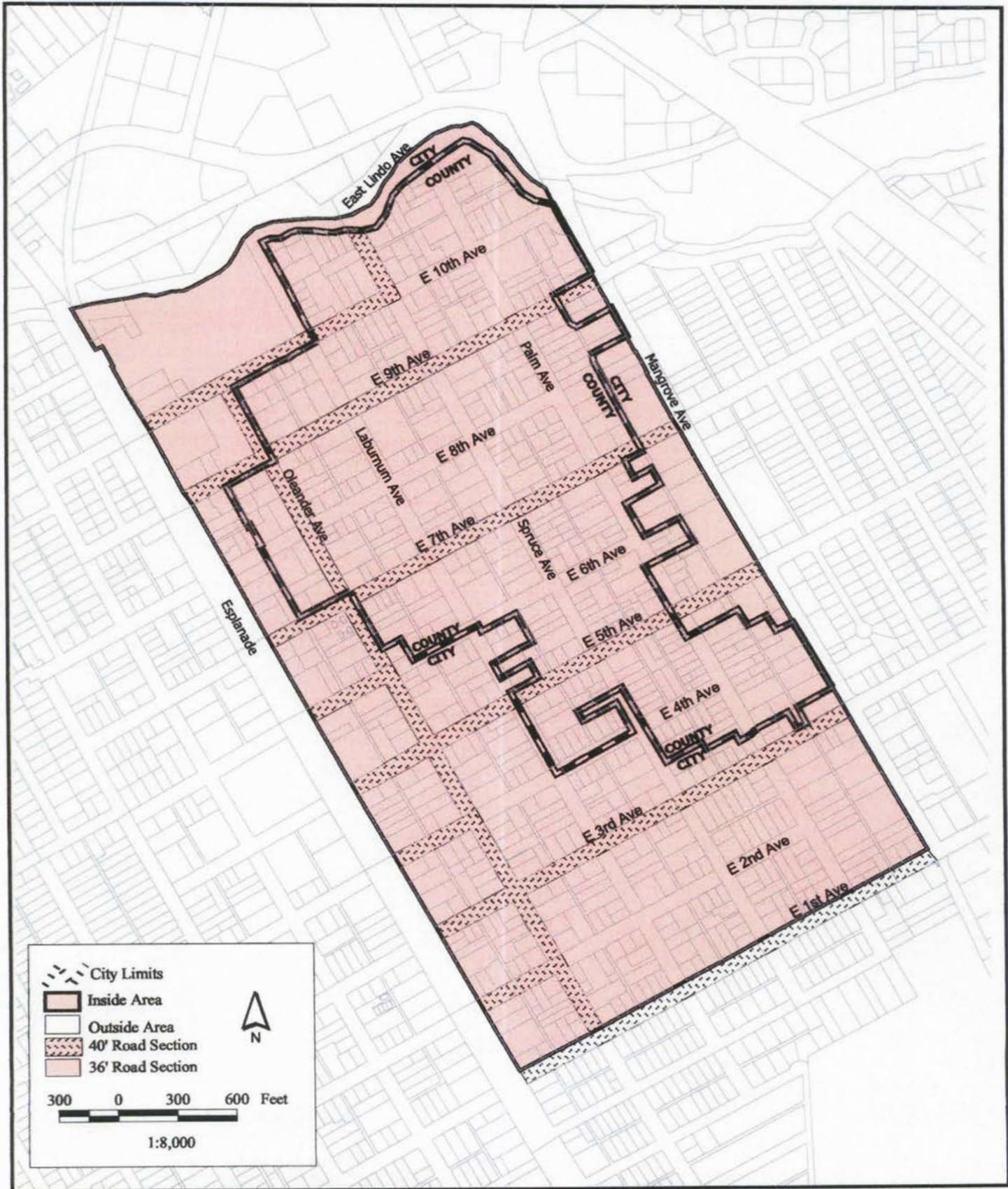




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 GEOGRAPHIC INFORMATION SYSTEM
 DATE PRINTED: MAY 5, 2002

**DEPARTMENT OF PUBLIC WORKS
 CHAPMAN/MULBERRY IMPROVEMENTS
 MASTER PLAN**





City Limits
 Inside Area
 Outside Area
 40' Road Section
 36' Road Section

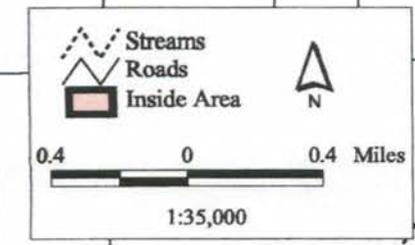
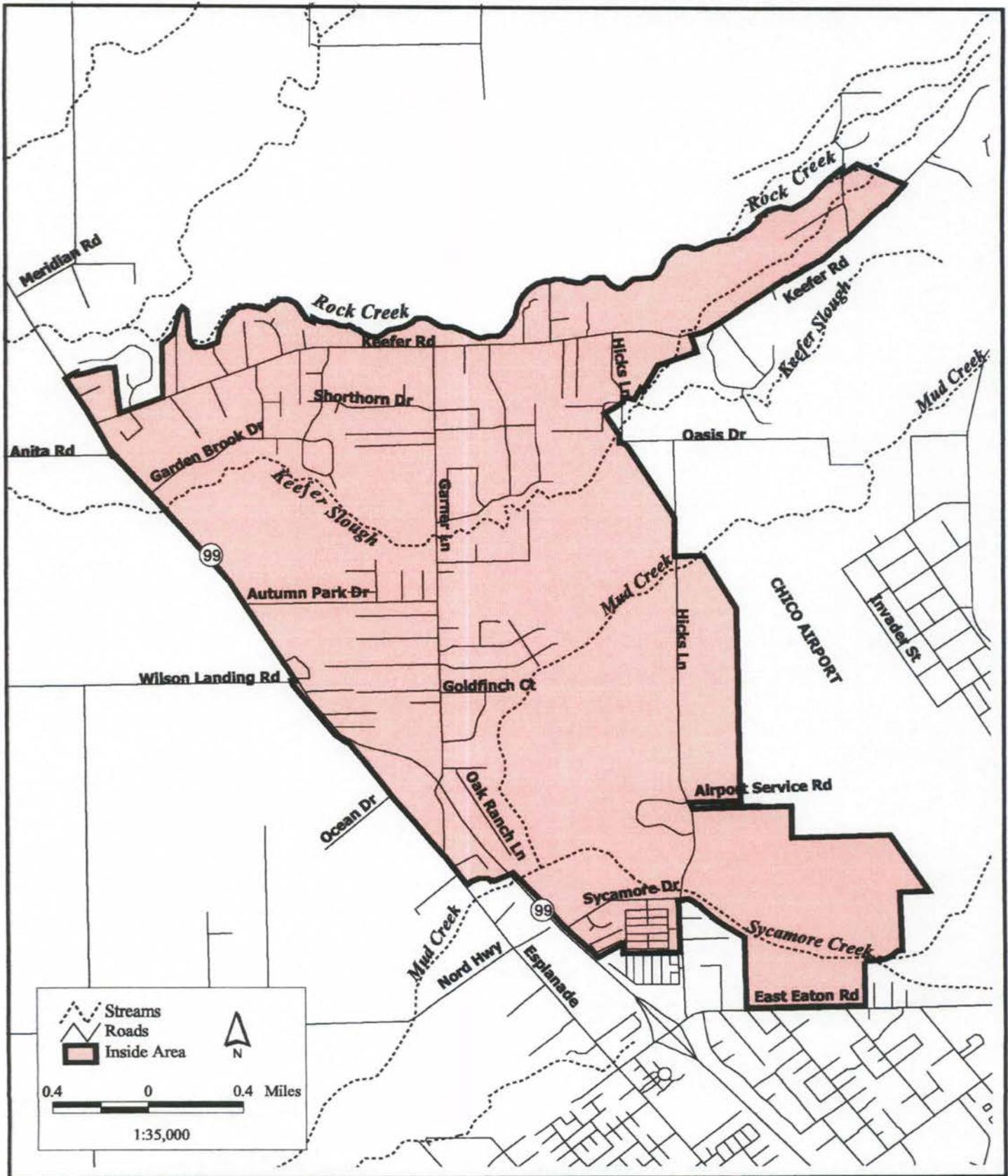
N

300 0 300 600 Feet
 1:8,000

MAPS BY
 BUTTE COUNTY
 DEVELOPMENT SERVICES DEPARTMENT
 GEOGRAPHIC INFORMATION SYSTEM
 DATE PRINTED: MAY 5, 2002

DEPARTMENT OF PUBLIC WORKS
 CHICO VECINO ROAD IMPROVEMENTS
 MASTER PLAN

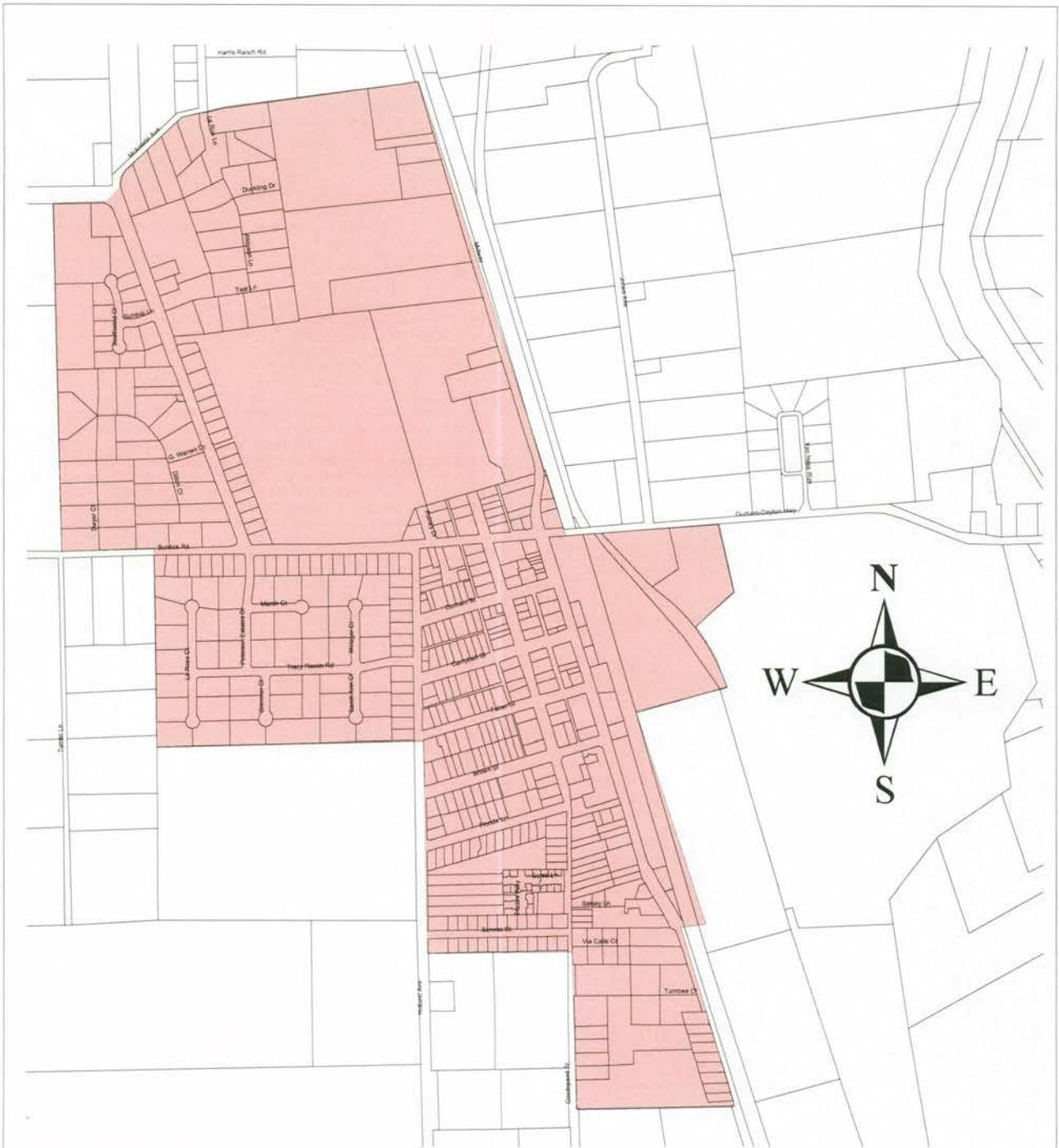




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 DATE PRINTED: MAY 5, 2002

**DEPARTMENT OF PUBLIC WORKS
 NORTH CHICO SPECIFIC PLAN AREA**





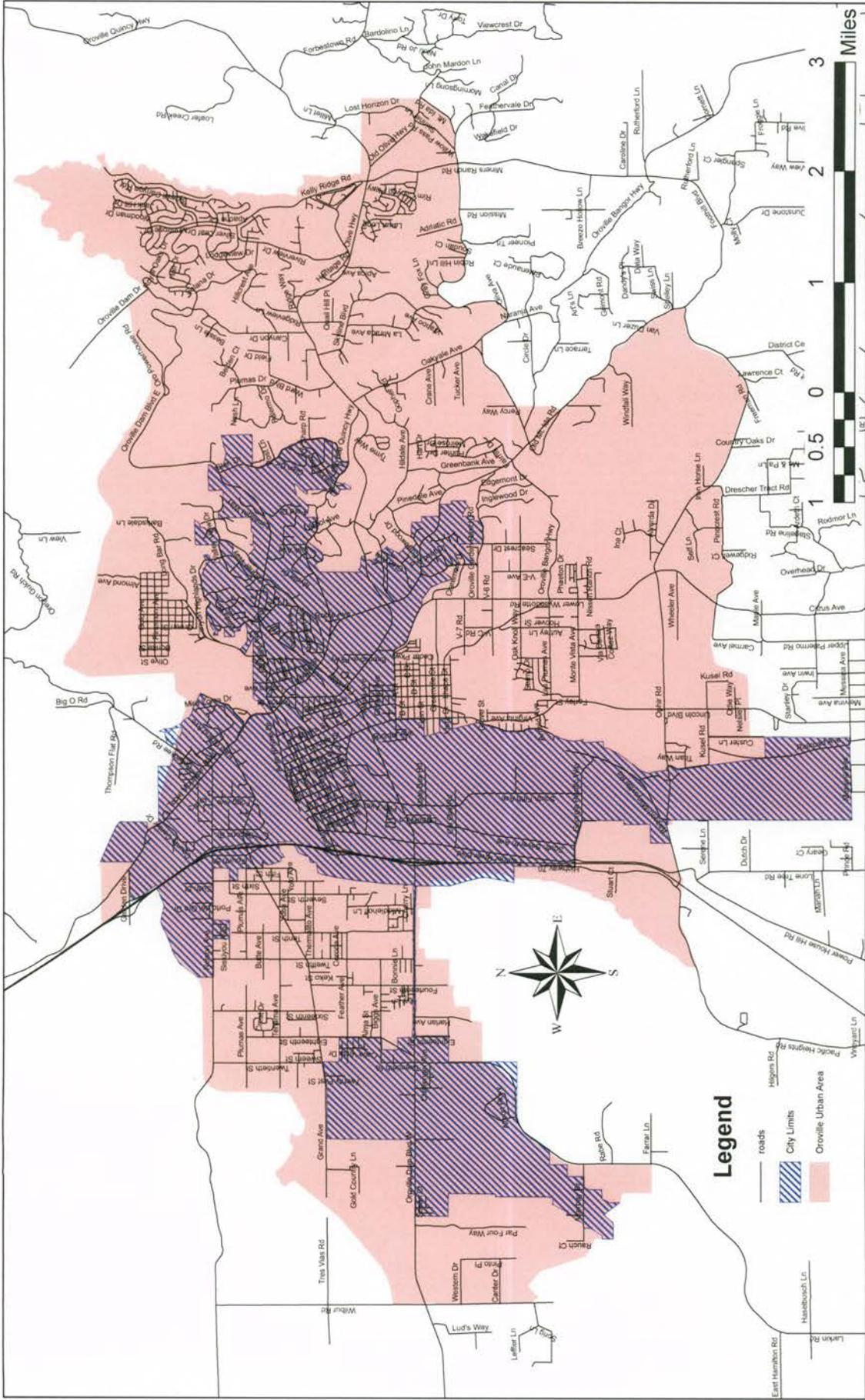
Legend

 Durham Urban Area

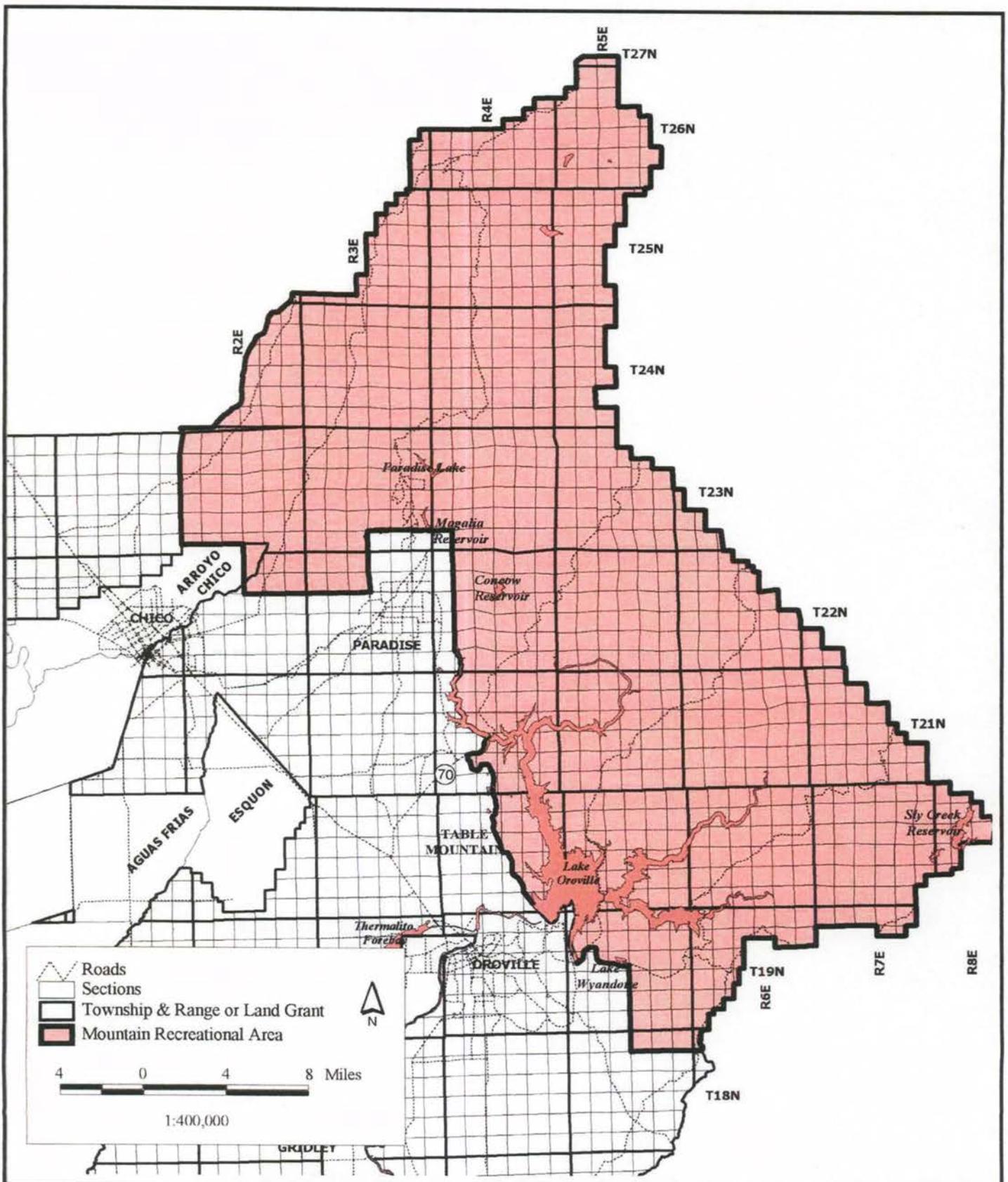
0.0 0.05 0.1 0.2 0.3 Miles



**Department of Public Works
Durham Urban Area**



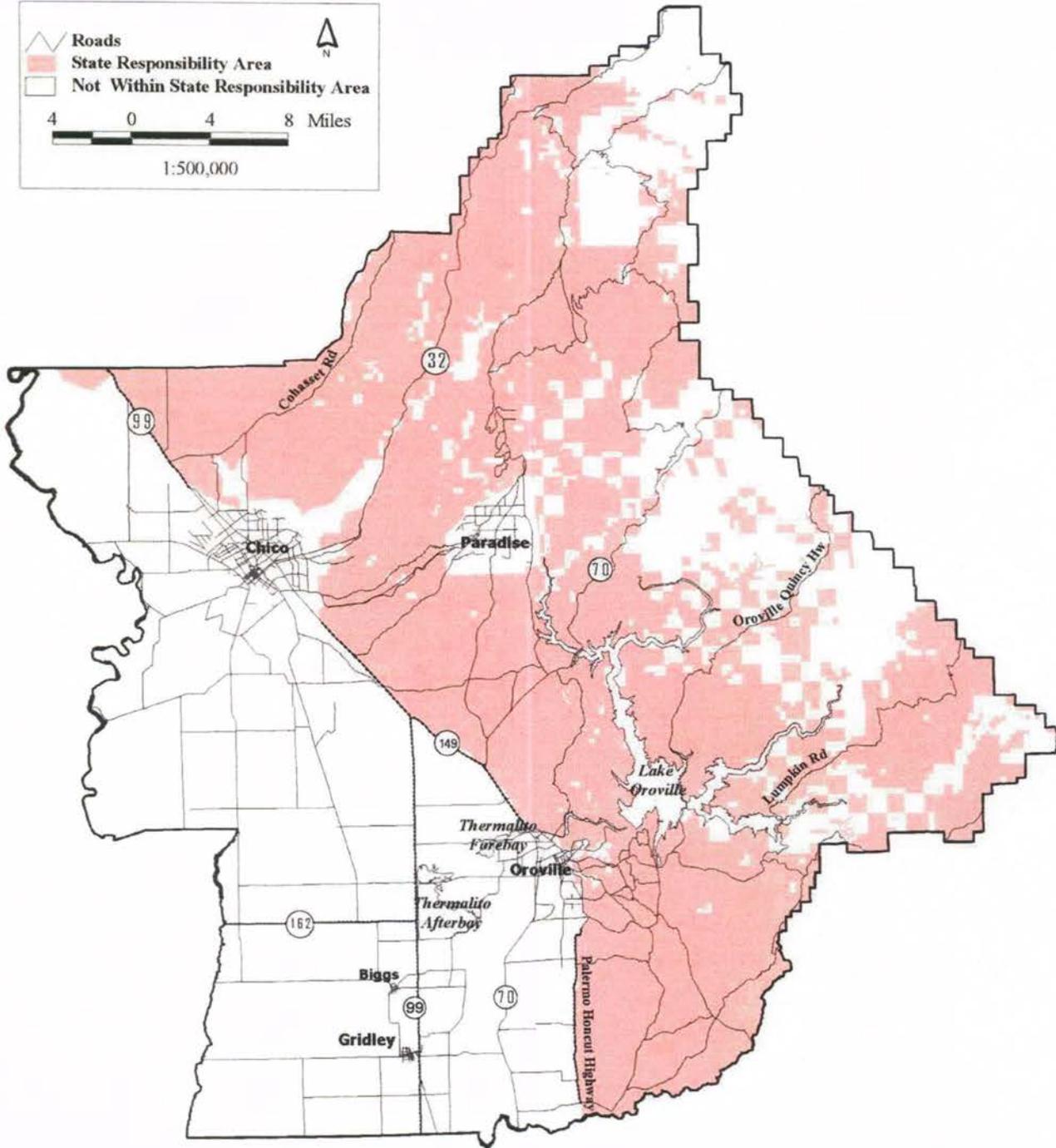
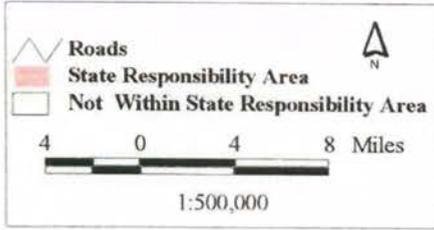
Department of Public Works Oroville Urban Area



MAPS BY
 BUTTE COUNTY
 DEVELOPMENT SERVICES DEPARTMENT
 GEOGRAPHIC INFORMATION SYSTEM
 DATE PRINTED: MAY 5, 2002

DEPARTMENT OF PUBLIC WORKS
 MOUNTAIN RECREATIONAL AREA

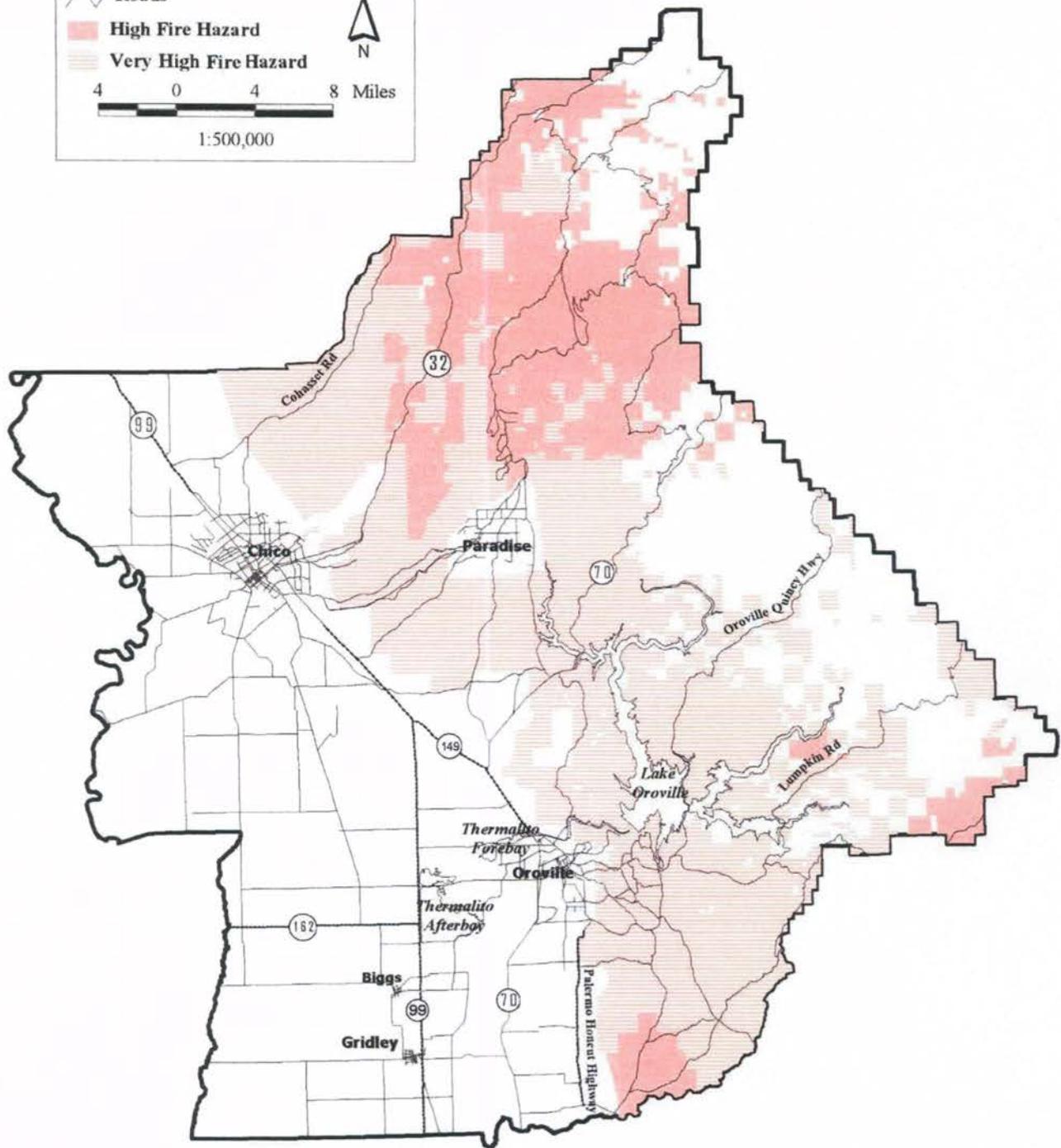
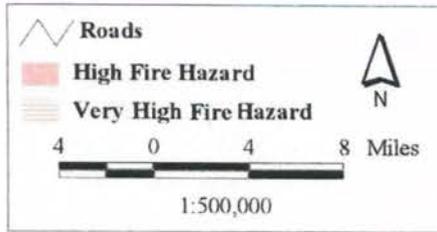




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 DATE PRINTED: MAY 5, 2002

DEPARTMENT OF PUBLIC WORKS
 CALIFORNIA DEPARTMENT OF FORESTRY
 STATE RESPONSIBILITY AREA





MAPS BY
 BUTTE COUNTY
 DEVELOPMENT SERVICES DEPARTMENT
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 DATE PRINTED: MAY 5, 2002

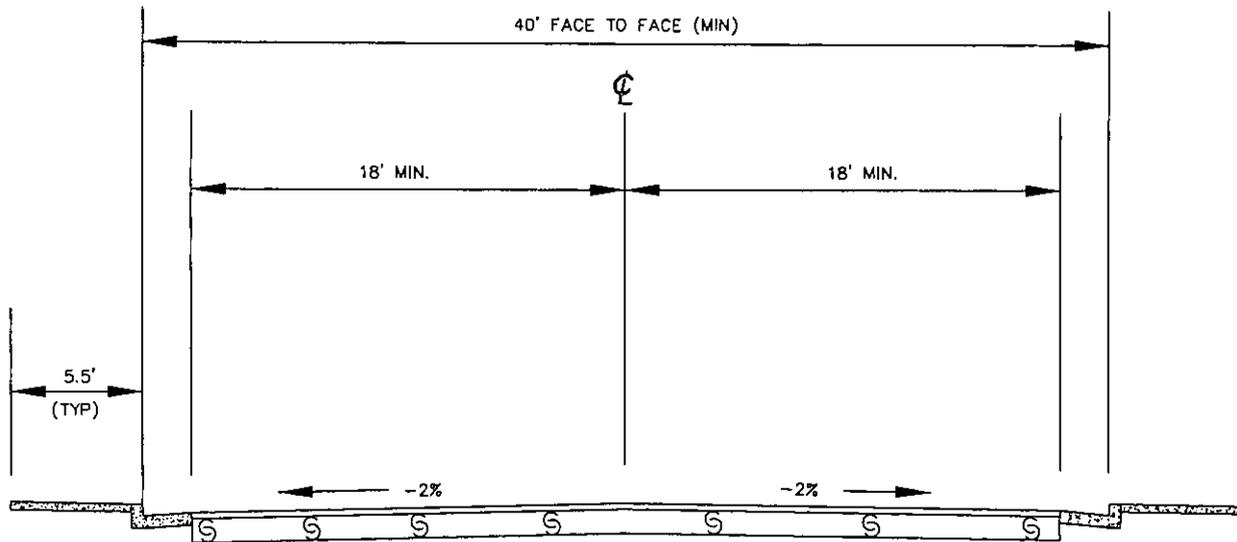
DEPARTMENT OF PUBLIC WORKS
 CALIFORNIA DEPARTMENT OF FORESTRY
 FIRE HAZARD AREAS



APPENDIX II

SUBDIVISION ROAD STANDARDS

Typical Section for Commercial and Industrial Subdivisions		RS-1
Typical Road Sections for All Urban Land Divisions		RS-2
Typical Road Sections for Rural Subdivisions		RS-3
Typical Road Sections for Subdivisions within Mountain Recreation Area		RS-4
Typical Section for Frontage Roads		RS-5
Typical Section for Mountain Recreation Subdivision		
Private Road Improvement		RS-6
Typical Section for Rural Subdivision		
Private Road Improvement		RS-7
Typical Sections for Non-Urban Area Land Divisions		RS-8-LD (I to IV)
Typical Sections for Chapman/Mulberry Neighborhood Plan		
Northeast End Jackson Street (Wisconsin Street to End)		CM-1
Typical Sections for Chapman/Mulberry Neighborhood Plan		
Davis Street, Martin Street, Madison Street, Wisconsin Street, Colorado Street, California Street, Jackson Street, “B” Street, Mulberry Street, Laurel Street, Fetter Street		CM-2
Typical Sections for Chapman/Mulberry Neighborhood Plan		
East Tenth Street, Linden Street, Willow Street, Bartlett Street, Guill Street, Ohio Street, Elm Street, 21 st Street, 22 nd Street, 23rd Street		CM-3
Typical Sections for Chapman/Mulberry Neighborhood Plan		
Humboldt Avenue		CM-4
Typical Sections for Chapman/Mulberry Neighborhood Plan		
“C” Street, 16 th Street		CM-5
Typical Sections for Chapman/Mulberry Neighborhood Plan		
Bruce Street		CM-6
Typical Sections for Chapman/Mulberry Neighborhood Plan		
Virginia Street, Cleveland Street		CM-7
Typical Sections for Chapman/Mulberry Neighborhood Plan		
Boucher Avenue		CM-8
Arterial Type A-II	Hicks Lane – Eaton to Village Core	NCSP-1
Arterial Type A-III	New Arterial – Hicks Lane to Mud Creek	NCSP-2
Arterial Type A-IV	New Arterial – Mud Creek to Highway 99	
	Keefer Road – Hicks Lane to Highway 99	
	Hicks Lane – Eaton Road to Caballo Way	
	Garner Lane – Keefer Road to Highway 99	NCSP-3
Collector Type C-1	Village Core Collector	NCSP-4
Collector Type C-II	Hicks Lane – Keefer Road to Mud Creek	NCSP-5
Local Type L-I	Local Streets in M-1 & M-2 Zones	NCSP-6
Local Type L-II	Local Streets in R-1, R-2 & R-3 Zones	NCSP-7
Local Type L-III	Local Streets in SR-1 & SR-3 Zones	NCSP-8
Local Type L-IV	Cul-de-sac Streets in R-1, R-2 & R-3 Zones	NCSP-9
Local Type L-V	Cul-de-sac & Local Streets in SR-1 & SR-3 Zones	NCSP-10
Local Type L-VI	One Way Loop Street	NCSP-11
Local Type L-VII	Alleys in R-1 & R-2 Zones	NCSP-12



MINIMUM STRUCTURAL SECTION

FOG SEAL COAT
 5" ASPHALT CONCRETE (TYPE B, ¾" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 14" CLASS 2 AGGREGATE BASE (¾" MAX., GRAD.)

TI=7.5 MIN.

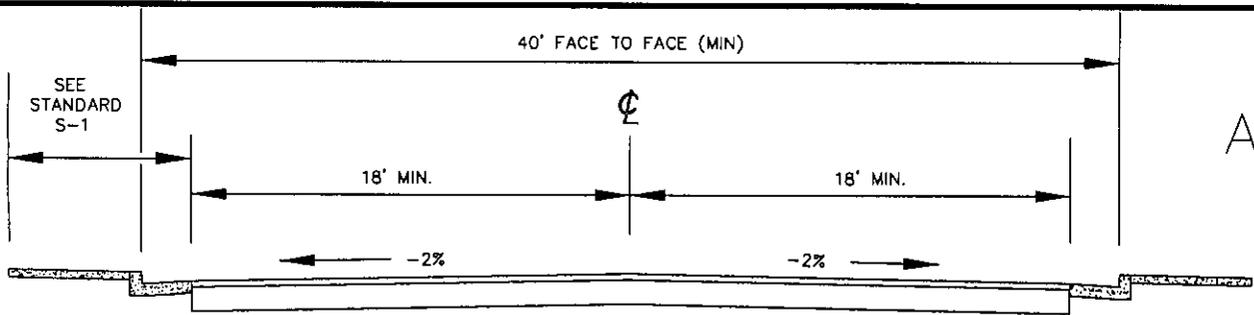
NOTE: 60' MINIMUM R/W WIDTH

- (1) WIDTH OF RIGHT OF WAY AND PAVEMENT TO BE DETERMINED BY CONSULTATION WITH THE DEPARTMENT OF PUBLIC WORKS, WITH PROPER CONSIDERATION GIVEN TO THE MASTER PLAN AND OTHER PLANNING CONSIDERATION.
- (2) STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.
- (3) SIDEWALKS AS REQUIRED BY THE DEPARTMENT OF PUBLIC WORKS. IN INDUSTRIAL AREAS REQUIRED IN COMMERCIAL AREAS.
- (4) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK" OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS
- (5) THE TOP 6" OF SUBGRADE SHALL BE COMPACTED TO 95% R.C.

TYPICAL SECTION FOR
 COMMERCIAL AND INDUSTRIAL SUBDIVISIONS
 COUNTY STANDARD NO.
 RS-1
 N.T.S.



RES 06-149 10/24/06



CONSTRUCT VERTICAL CURB ON ALL STREETS
ROLLED CURB IN SOME CASES AT THE DISCRETION
OF THE DEPARTMENT OF PUBLIC WORKS.

MINIMUM STRUCTURAL SECTION

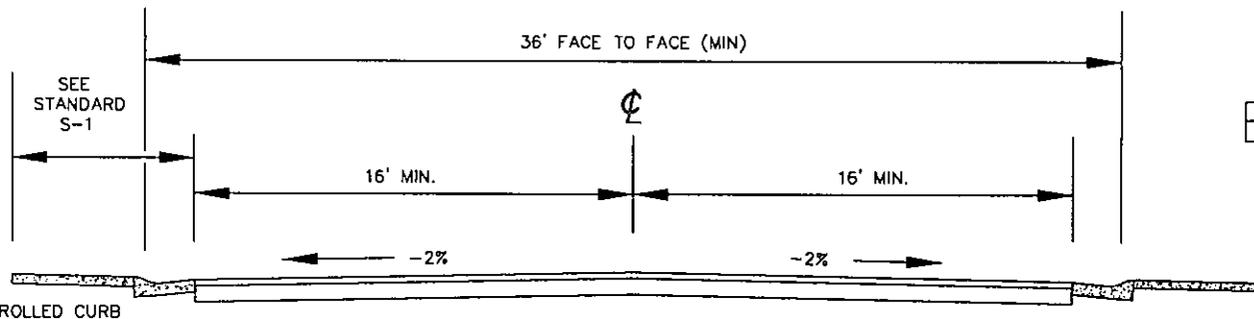
Ti=4.5 MIN.

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE
ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF
STRUCTURAL SECTION SHALL BE IN ACCORDANCE
WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS.
TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

FOG SEAL.
5" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
LIQUID ASPHALT, (PRIME COAT)
14" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

ARTERIALS & MAJOR COLLECTORS

NOTE: 60' MINIMUM R/W WIDTH



STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE
ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF
STRUCTURAL SECTION SHALL BE IN ACCORDANCE
WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS.
TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

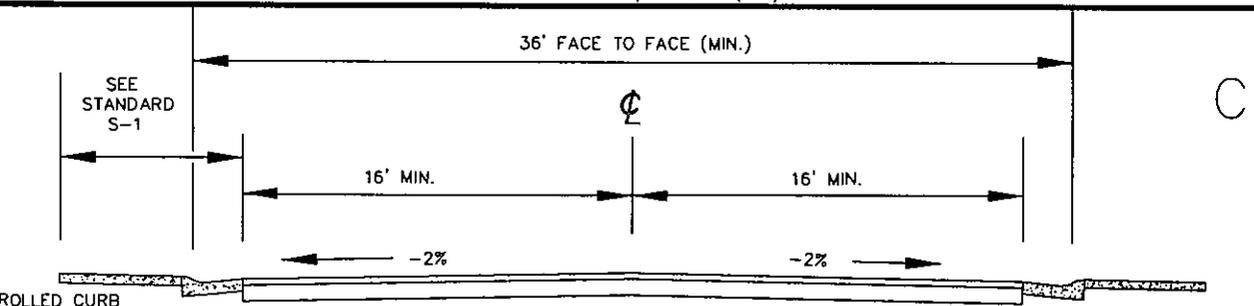
MINIMUM STRUCTURAL SECTION

Ti=4.0 MIN.

FOG SEAL.
3" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
LIQUID ASPHALT, (PRIME COAT)
12" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

MINOR COLLECTORS & LOCAL ACCESS

NOTE: 60' MINIMUM R/W WIDTH (MIN)



GENERAL EARTHWORK NOTE: (FOR SECTIONS A,B & C)

- (1) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK"
OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS
- (2) THE TOP 6" OF SUBGRADE SHALL
BE COMPACTED TO 95% R.C.

MINIMUM STRUCTURAL SECTION

Ti=3.5 MIN.

FOG SEAL.
3" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
LIQUID ASPHALT, (PRIME COAT)
12" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

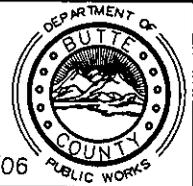
STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE
ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF
STRUCTURAL SECTION SHALL BE IN ACCORDANCE
WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS.
TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

SHORT CUL-DE-SAC ROAD (< 500' LENGTH NO ONSTREET PARKING)

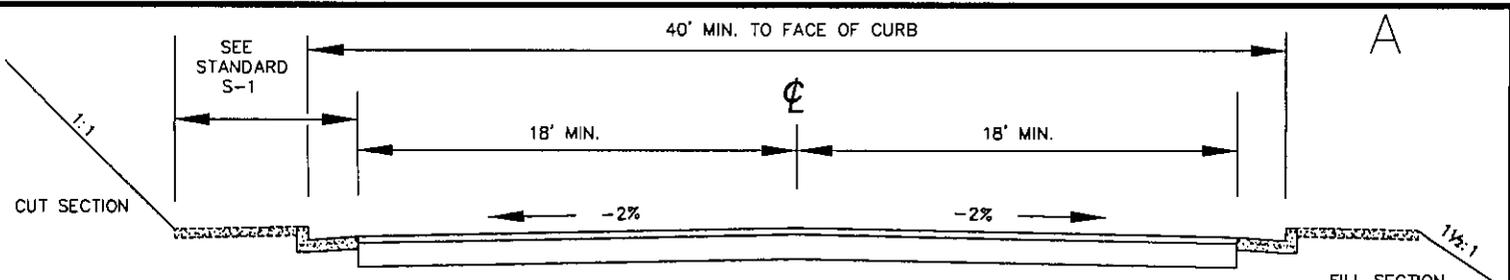
NOTE: 50' MINIMUM R/W WIDTH

TYPICAL ROAD SECTIONS FOR ALL URBAN AREA LAND DIVISIONS COUNTY STANDARD NO.

RS-2
N.T.S.



RES 06-149 10/24/06



CONSTRUCT VERTICAL CURB AND GUTTER ON ALL STREETS.
 ROLLED CURB IN SOME CASES AT THE DISCRETION
 OF THE DEPARTMENT OF PUBLIC WORKS.

STRUCTURAL SECTION COMPONENTS AS SHOWN
 ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF
 STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE
 WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS.
 TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

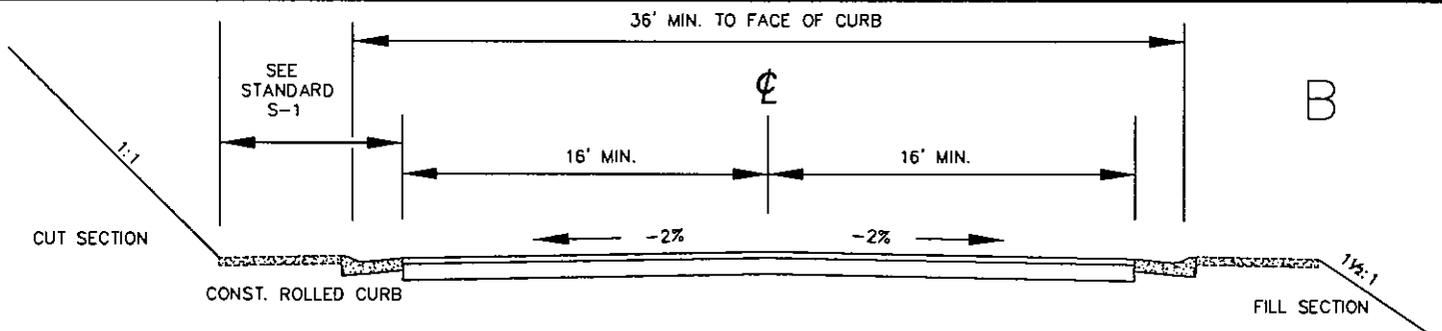
TI=4.5 MIN.

MINIMUM STRUCTURAL SECTION

FOG SEAL.
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 LIQUID ASPHALT, (PRIME COAT)
 14" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

NOTE: 60' MINIMUM R/W WIDTH

ARTERIALS & MAJOR COLLECTORS



MINIMUM STRUCTURAL SECTION

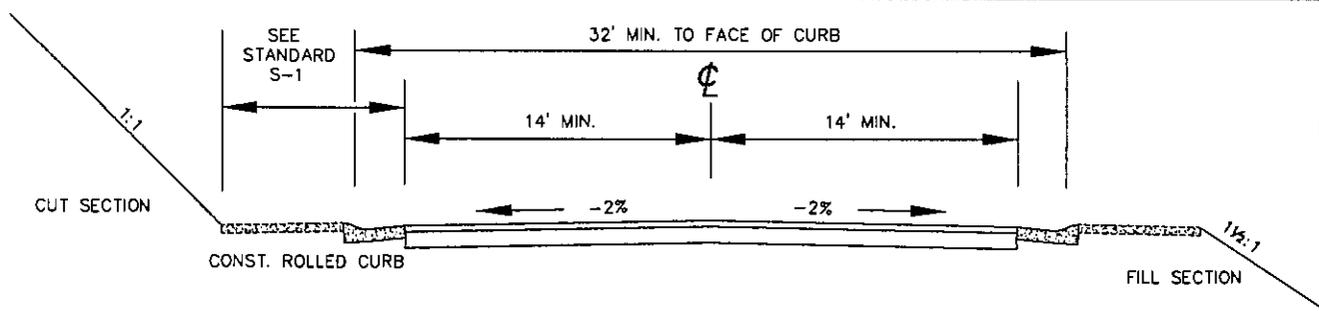
FOG SEAL.
 3" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 12" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

STRUCTURAL SECTION COMPONENTS AS SHOWN
 ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF
 STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE
 WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS.
 TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

TI=4.0 MIN.

NOTE: 60' MINIMUM R/W WIDTH

MINOR COLLECTORS & LOCAL ACCESS



MINIMUM STRUCTURAL SECTION

FOG SEAL.
 3" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 12" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

NOTE: 60' MINIMUM R/W WIDTH

STRUCTURAL SECTION COMPONENTS AS SHOWN
 ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF
 STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE
 WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS.
 TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

TI=3.5 MIN.

GENERAL NOTES: (FOR SECTIONS A,B & C)

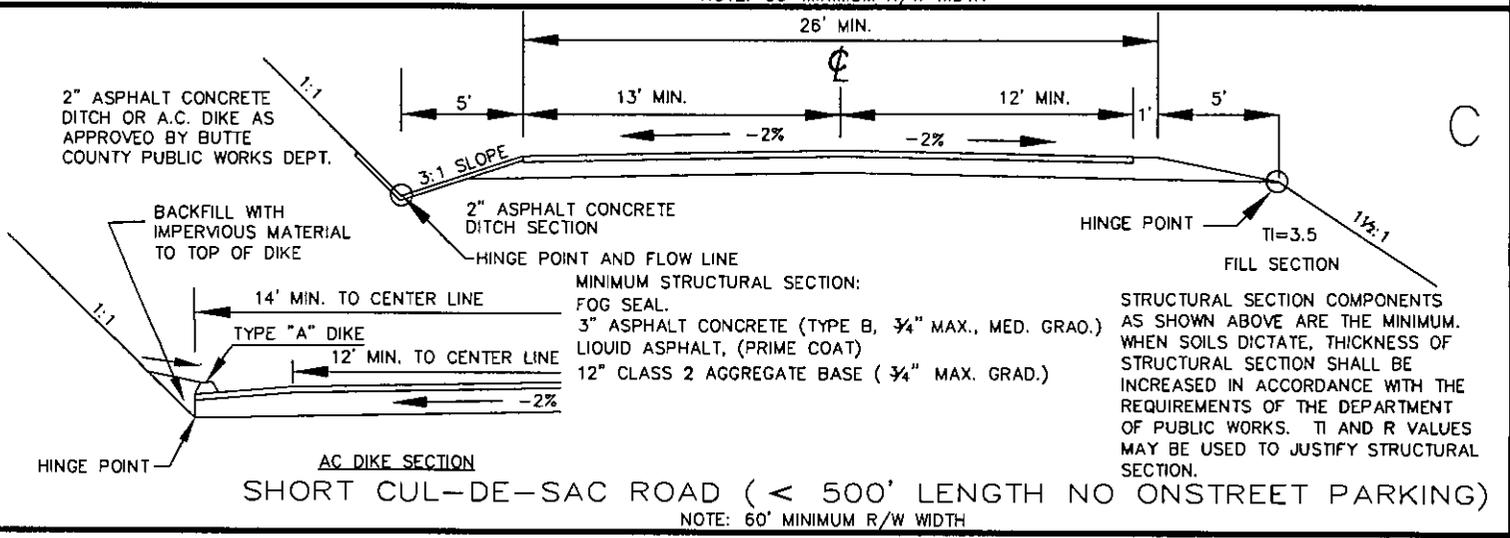
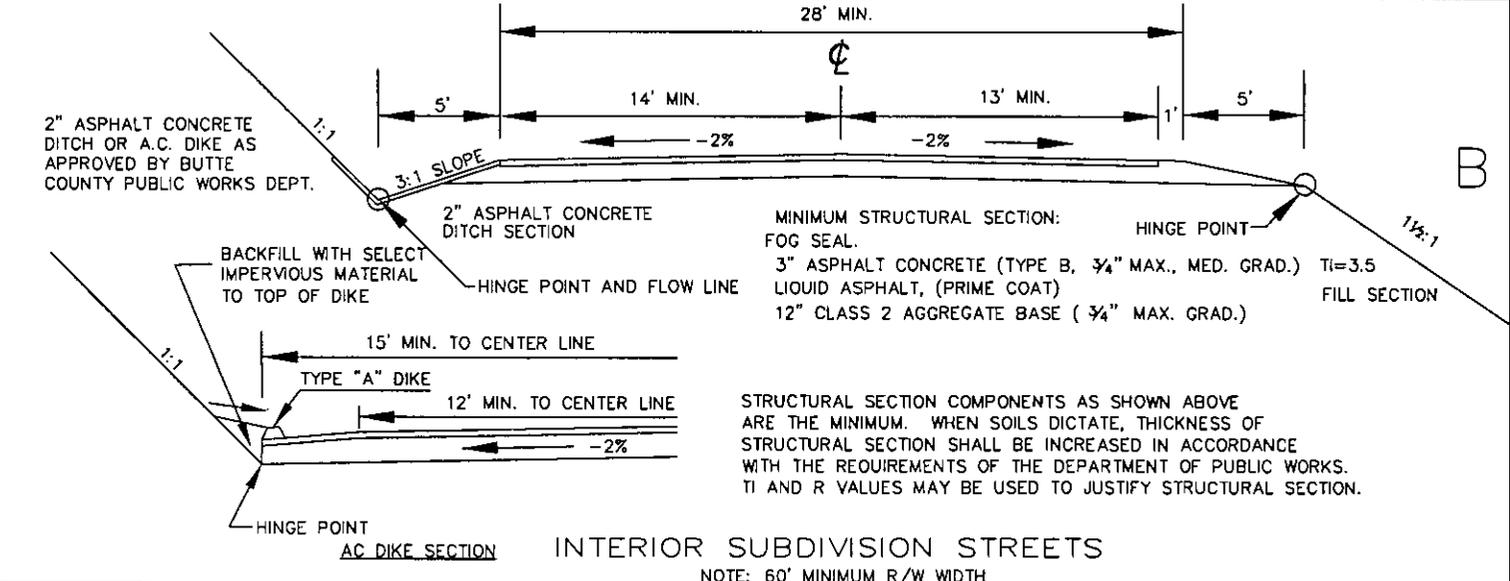
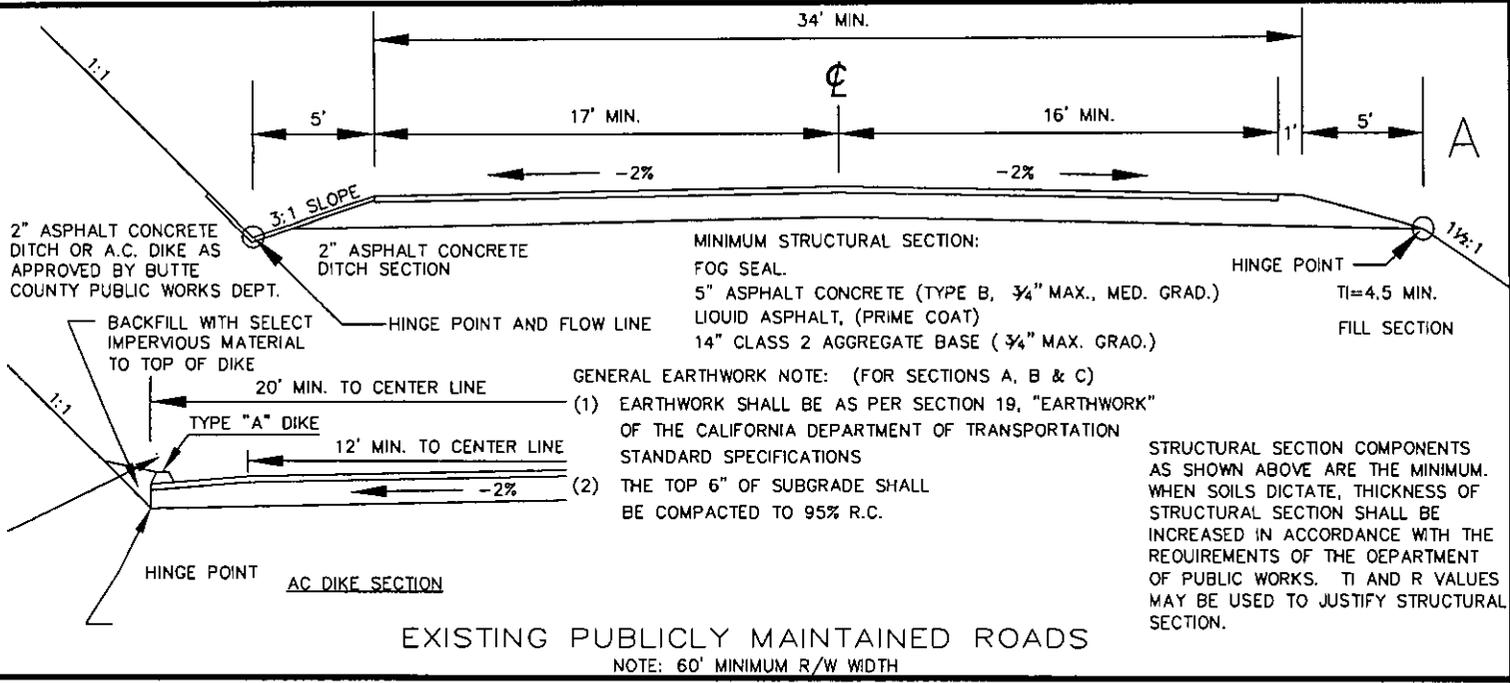
- (1) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK" OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS
- (2) THE TOP 6" OF SUBGRADE SHALL BE COMPACTED TO 95% R.C.
- (3) FOR LOTS GREATER THAN 2 ACRES IN GROSS AREA OLETE CURB & GUTTER. FOR LOTS LESS THAN 0.5 ACRE IN NET AREA ADD SIDEWALK TO CURB & GUTTER.

SHORT CUL-DE-SAC ROAD (< 500' LENGTH NO ONSTREET PARKING)

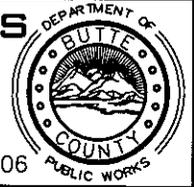
**TYPICAL ROAD SECTIONS FOR
 RURAL SUBDIVISIONS
 COUNTY STANDARD NO.
 RS-3
 N.T.S.**

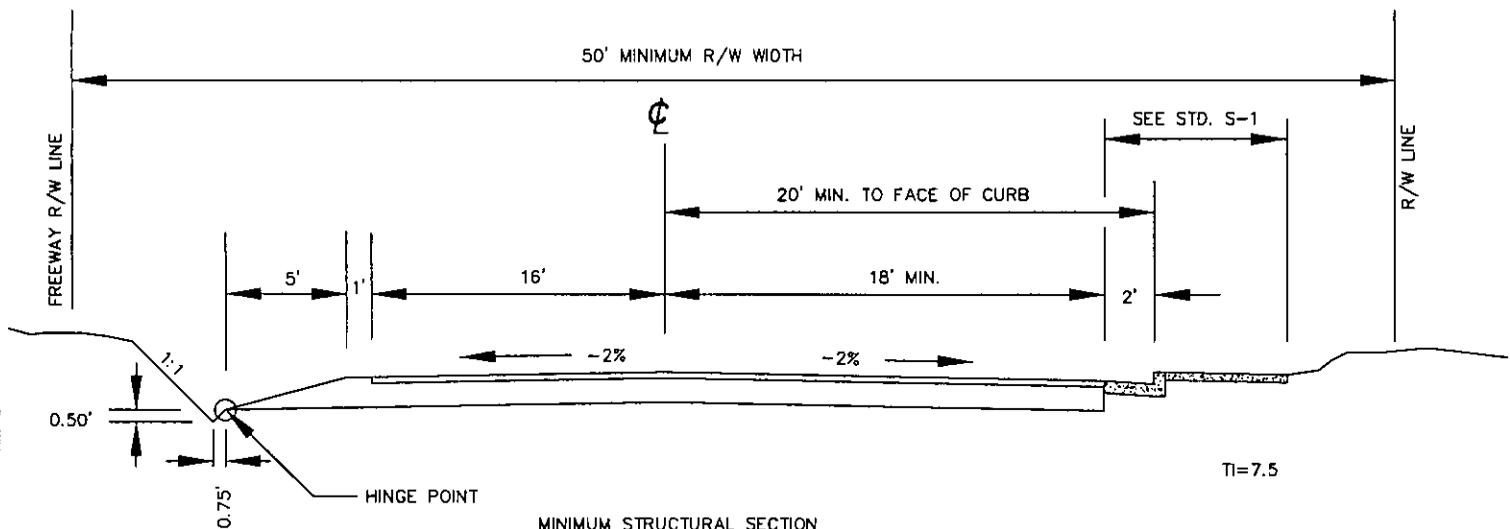


RES 06-149 10/24/06



**TYPICAL ROAD SECTIONS FOR SUBDIVISIONS
WITHIN MOUNTAIN RECREATIONAL AREA
COUNTY STANDARD NO.
RS-4
N.T.S.**





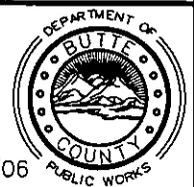
MINIMUM STRUCTURAL SECTION
 FOG SEAL COAT
 5" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 14" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAO.)

DITCH SECTION
 NOTE: 60' MINIMUM R/W WIDTH

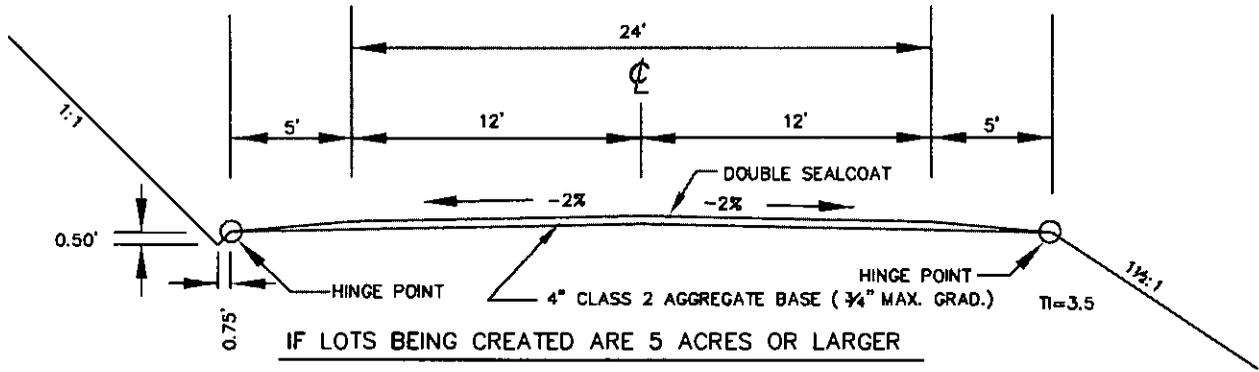
- NOTES:
- (1) CONSTRUCTION REQUIREMENTS VARY WITH LOCATION OF SUBDIVISION.
 - (2) PARKING ON CURB SIDE ONLY.
 - (3) SIDEWALK TO BE PLACED AS DETERMINED BY THE DIRECTOR OF PUBLIC WORKS.

- GENERAL EARTHWORK NOTE:
- (4) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK" OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS
 - (5) THE TOP 6" OF SUBGRADE SHALL BE COMPACTED TO 95% R.C.

**TYPICAL SECTION FOR
 FRONTAGE ROADS
 COUNTY STANDARD NO.
 RS-5
 N.T.S.**



RES 06-149 10/24/06



IF LOTS BEING CREATED ARE 5 ACRES OR LARGER

1. 15% MAXIMUM CENTERLINE GRADE.
2. DEVELOPERS ENGINEER SHALL CERTIFY THAT ADEQUATE DRAINAGE FACILITIES HAVE BEEN PROVIDED AND INSTALLED.
3. THE FOLLOWING NOTE SHALL BE PLACED ON THE FINAL SUBDIVISION MAP: "THE ROADS IN THIS SUBDIVISION WERE NOT DESIGNED OR CONSTRUCTED TO COMPLY WITH STANDARDS FOR ROADS TO BE ACCEPTED BY THE COUNTY FOR MAINTENANCE".

IF LOTS BEING CREATED ARE LESS THAN 5 ACRES

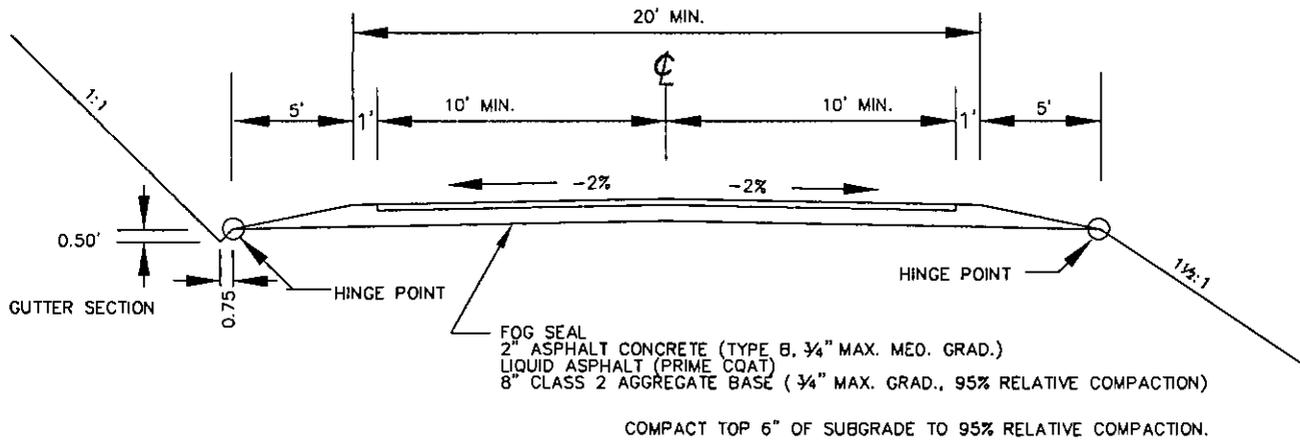
1. 15% MAXIMUM CENTERLINE GRADE.
2. ENGINEERED CONSTRUCTION PLANS, SHOWING HORIZONTAL AND VERTICAL ALIGNMENT, DRAINAGE STRUCTURES WITH SUPPORTING CALCULATIONS ARE REQUIRED.
3. PLAN CHECKING FEES AND CONSTRUCTION INSPECTION IS REQUIRED.
4. THE FOLLOWING NOTE SHALL BE PLACED ON THE FINAL SUBDIVISION MAP: "THE ROADS IN THIS SUBDIVISION WERE NOT DESIGNED OR CONSTRUCTED TO COMPLY WITH STANDARDS FOR ROADS TO BE ACCEPTED BY THE COUNTY FOR MAINTENANCE".

DOUBLE SEAL COAT:

ONE APPLICATION OF SC-250 PENETRATION TREATMENT
 FIRST COAT:
 ONE APPLICATION OF ASPHALT EMULSION CRS-2
 ONE APPLICATION OF SCREENINGS 3/8" X NO. 6
 SECOND COAT:
 SAME AS FIRST COAT
 PENETRATION TREATMENT, EMULSION AND SCREENINGS SHALL BE APPLIED
 IN ACCORDANCE WITH STATE STANDARD SPECIFICATIONS

TYPICAL SECTION FOR
 MOUNTAIN RECREATION SUBDIVISION PRIVATE ROAD IMPROVEMENT
 COUNTY STANDARD NO.
 RS-6
 N.T.S.





LOTS BEING CREATED ARE 5 ACRES OR LARGER

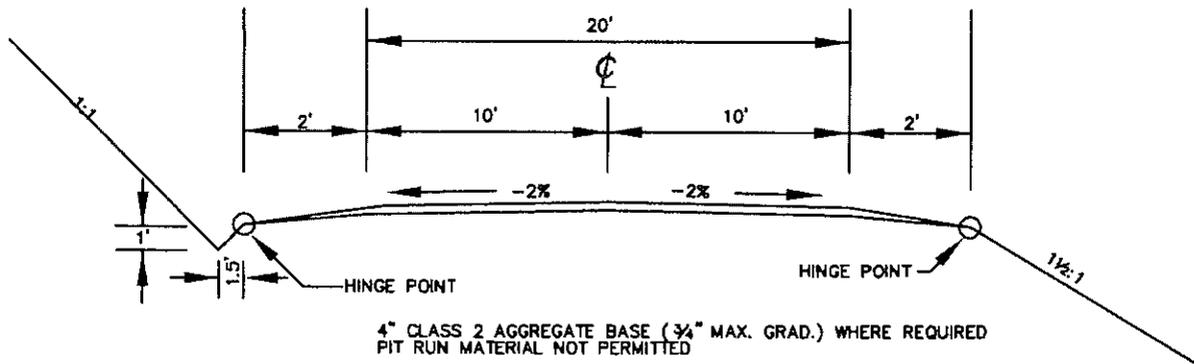
1. 15% MAXIMUM CENTERLINE GRADE.
2. DEVELOPER'S ENGINEER SHALL CERTIFY THAT ADEQUATE DRAINAGE FACILITIES HAVE BEEN PROVIDED AND INSTALLED.
3. THE FOLLOWING NOTE SHALL BE PLACED ON THE FINAL SUBDIVISION MAP:
 "THE ROADS IN THIS SUBDIVISION WERE NOT DESIGNED OR CONSTRUCTED TO COMPLY WITH STANDARDS FOR ROADS TO BE ACCEPTED BY THE COUNTY FOR MAINTENANCE".

**TYPICAL SECTION FOR RURAL
 SUBDIVISION PRIVATE ROAD IMPROVEMENT
 COUNTY STANDARD NO.**

**RS-7
 N.T.S.**

RES 06-149 10/24/06

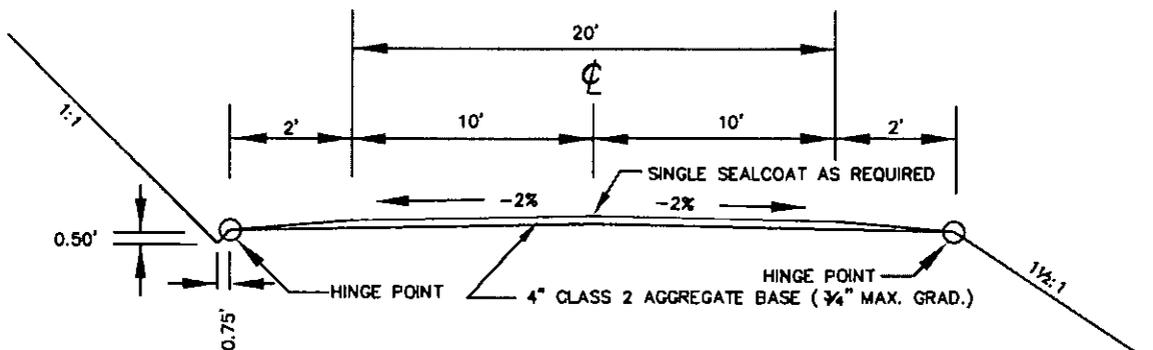




4" CLASS 2 AGGREGATE BASE ($\frac{3}{4}$ " MAX. GRAD.) WHERE REQUIRED
PIT RUN MATERIAL NOT PERMITTED

40 ACRES OR LARGER
RS-8-LDI

NOTE: NOT COUNTY STANDARD FOR MAINTENANCE



5 ACRES TO LESS THAN 40 ACRES - 4 OR FEWER PARCELS

20 ACRES TO LESS THAN 40 ACRES - MORE THAN 4 PARCELS
ADD SINGLE SEAL COAT

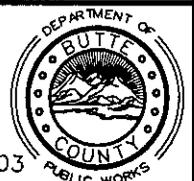
SINGLE SEAL COAT:

ONE APPLICATION OF SC-250 PENETRATION TREATMENT
ONE APPLICATION OF ASPHALT EMULSION CRS-2
ONE APPLICATION OF SCREENINGS $\frac{3}{8}$ " X NO. 6
PENETRATION TREATMENT, EMULSION AND SCREENINGS SHALL BE APPLIED
AT A RATE IN ACCORDANCE WITH STATE STANDARD SPECIFICATIONS

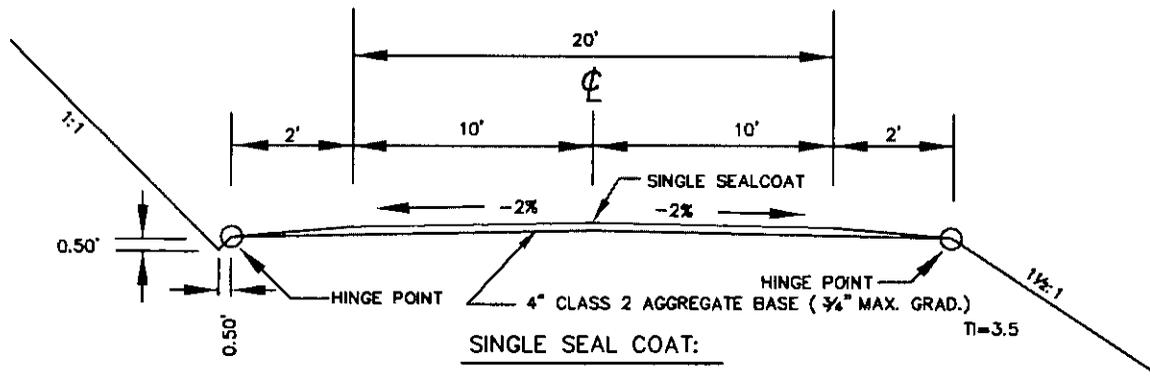
RS-8-LDII

NOTE: NOT COUNTY STANDARD FOR MAINTENANCE

TYPICAL SECTIONS FOR
NON-URBAN AREA LAND DIVISIONS
COUNTY STANDARD NO.
RS-8-LD
N.T.S.



REVISED 01/28/2003

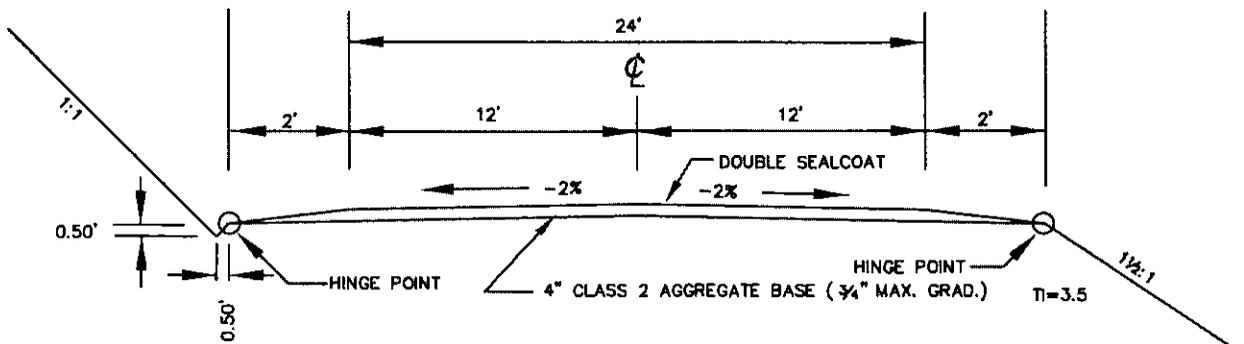


SINGLE SEAL COAT:
 ONE APPLICATION OF SC-250 PENETRATION TREATMENT
 ONE APPLICATION OF ASPHALTIC EMULSION CRS-2
 ONE APPLICATION OF SCREENINGS 3/8" X NO. 6
 PENETRATION TREATMENT, EMULSION AND SCREENINGS SHALL BE APPLIED
 AT A RATE IN ACCORDANCE WITH STATE STANDARD SPECIFICATIONS

2 ACRES TO LESS THAN 5 ACRES - 4 OR FEWER PARCELS

RS-8-LDIII

NOTE: NOT COUNTY STANDARD FOR MAINTENANCE



DOUBLE SEAL COAT:

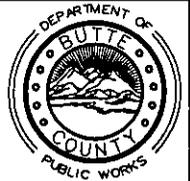
ONE APPLICATION OF SC-250 PENETRATION TREATMENT
 FIRST COAT:
 ONE APPLICATION OF ASPHALT EMULSION CRS-2
 ONE APPLICATION OF SCREENINGS 3/8" X NO. 6
 SECOND COAT:
 SAME AS FIRST COAT
 PENETRATION TREATMENT, EMULSION AND SCREENINGS SHALL BE APPLIED
 AT A RATE IN ACCORDANCE WITH STATE STANDARD SPECIFICATIONS

LESS THAN 2 ACRES - 4 OR FEWER PARCELS

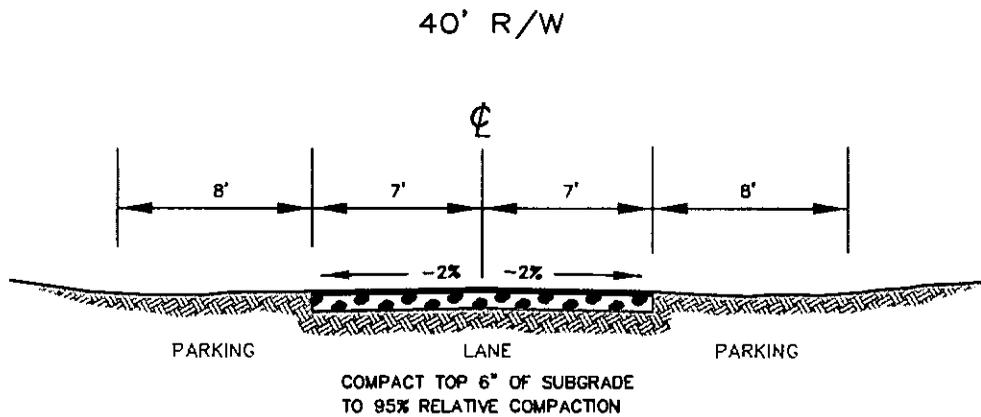
RS-8-LDIV

NOTE: NOT COUNTY STANDARD FOR MAINTENANCE

TYPICAL SECTIONS FOR
 NON-URBAN AREA LAND DIVISIONS
 COUNTY STANDARD NO.
 RS-8-LD
 N.T.S.



CM-1



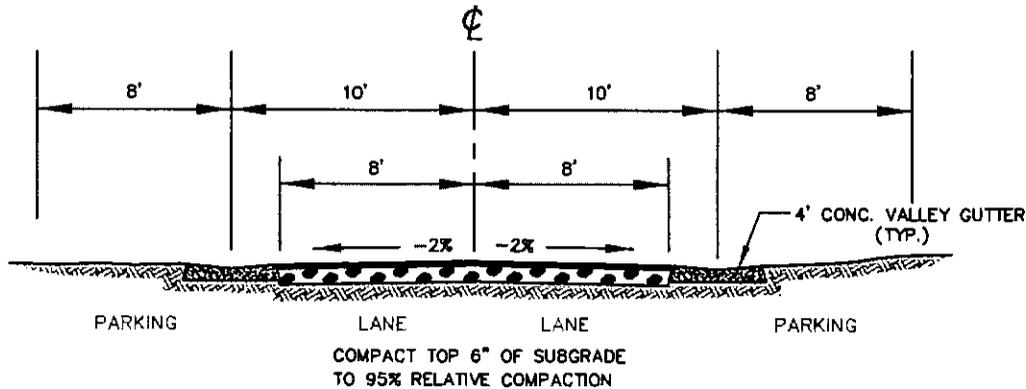
MINIMUM STRUCTURAL SECTION
 FOG SEAL
 2" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 8" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

NORTHEAST END JACKSON ST. (WISCONSIN ST. TO END)

NOTE: THE ROAD RIGHT-OF-WAY WIDTHS AS INDICATED ABOVE ARE EXISTING AND WILL NOT BE INCREASED.

CM-2



(XX') = R/W MINIMUM STRUCTURAL SECTION
 FOG SEAL
 2" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 8" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

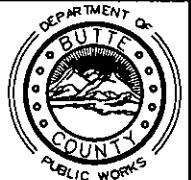
STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

(40')	(40')	(60')	(40')	(40')	(50')
DAVIS ST. ,	MARTIN ST. ,	MADISON ST. ,	WISCONSIN ST. ,	COLORADO ST.	
(40')	(40')	(50')	(80')	(60')	(50')
CALIFORNIA ST. ,	JACKSON ST. ,	"B" ST. ,	MULBERRY ST. ,	LAUREL ST. ,	

NOTE: THE ROAD RIGHT-OF-WAY WIDTHS AS INDICATED ABOVE ARE EXISTING AND WILL NOT BE INCREASED.

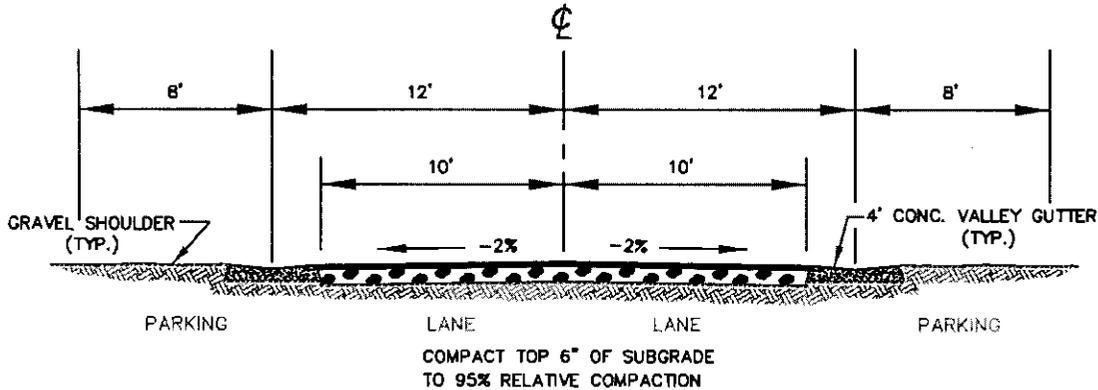
TYPICAL SECTIONS FOR
 CHAPMAN/MULBERRY NEIGHBORHOOD PLAN

CM-1 & CM-2
 N.T.S.



CM-3

ALL 60' R/W



MINIMUM STRUCTURAL SECTION

- FOG SEAL.
- 2" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
- LIQUID ASPHALT, (PRIME COAT)
- 8" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

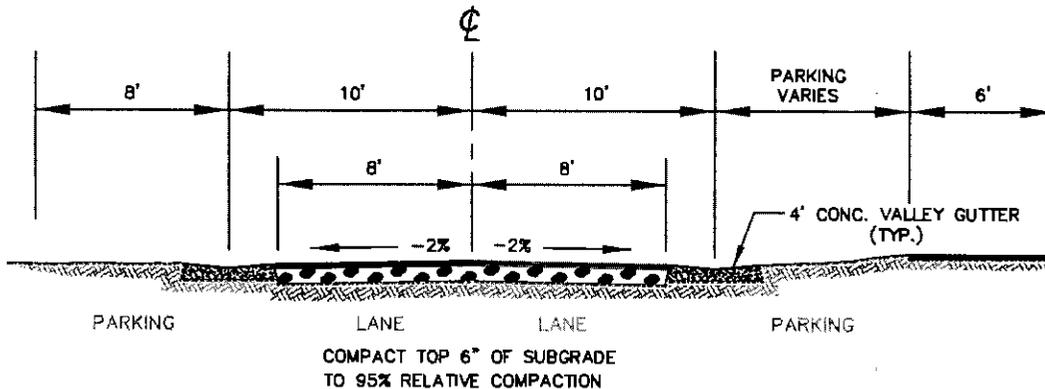
STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

EAST TENTH ST. , LINDEN ST. , WILLOW ST. , BARTLETT ST.
 GULL ST. , OHIO ST. , ELM ST. , 21st ST. , 22nd ST. , 23rd ST.

NOTE: THE ROAD RIGHT-OF-WAY WIDTHS AS INDICATED ABOVE ARE EXISTING AND WILL NOT BE INCREASED.

CM-4

R/W VARIES



MINIMUM STRUCTURAL SECTION

- FOG SEAL
- 2" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
- LIQUID ASPHALT, (PRIME COAT)
- 8" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

HUMBOLDT AVE.

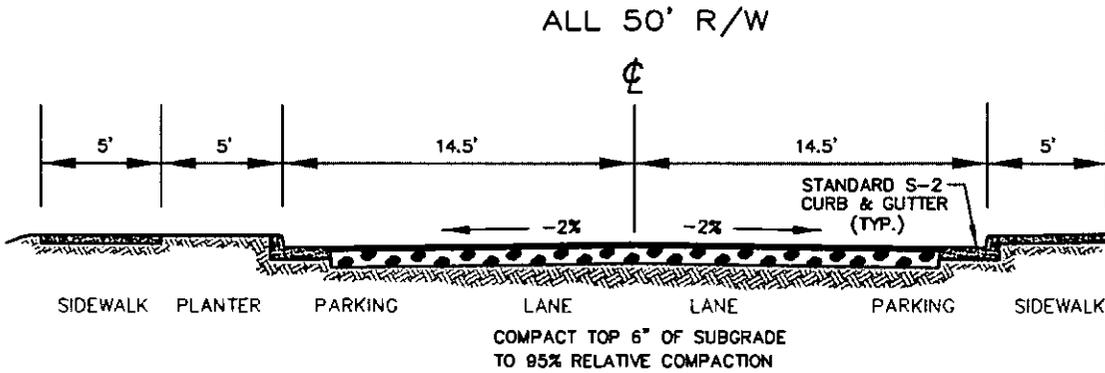
NOTE: THE ROAD RIGHT-OF-WAY VARIES

TYPICAL SECTIONS FOR
 CHAPMAN/MULBERRY NEIGHBORHOOD PLAN

CM-3 & CM-4
 N.T.S.



CM-5



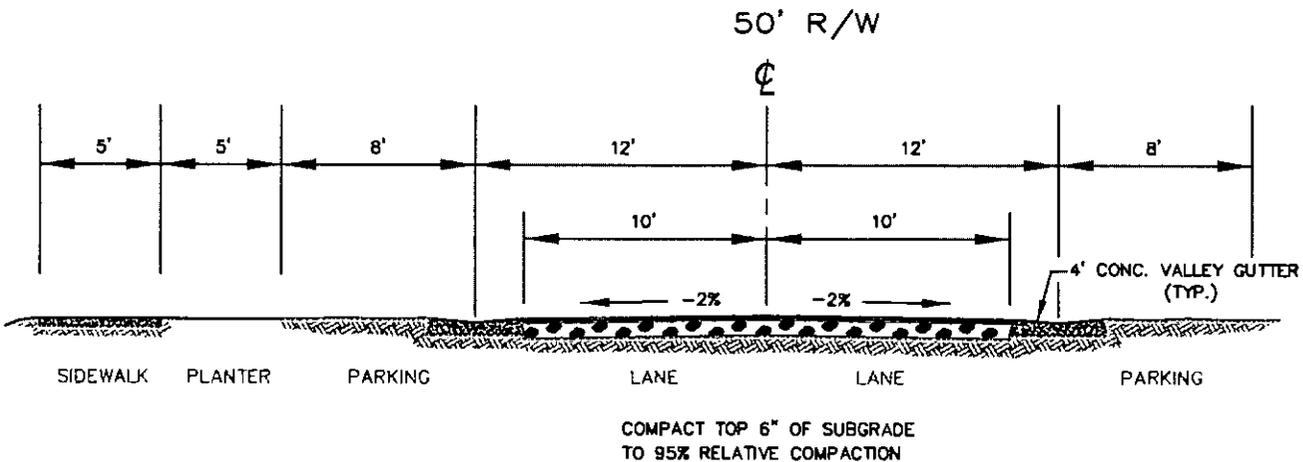
MINIMUM STRUCTURAL SECTION
 FOG SEAL.
 2" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 8" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

"C" ST. , 16th ST.

NOTE: THE ROAD RIGHT-OF-WAY WIDTHS AS INDICATED ABOVE ARE EXISTING AND WILL NOT BE INCREASED.

CM-6



MINIMUM STRUCTURAL SECTION
 FOG SEAL.
 2" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 8" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

BRUCE ST.

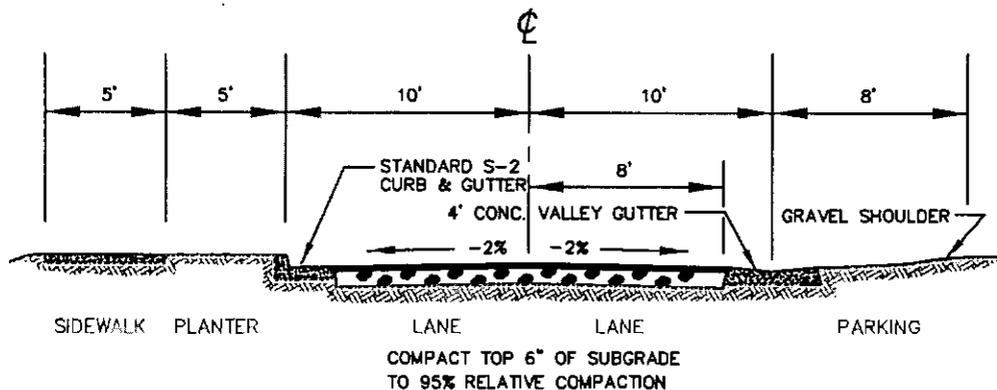
NOTE: THE ROAD RIGHT-OF-WAY WIDTHS AS INDICATED ABOVE ARE EXISTING AND WILL NOT BE INCREASED.

TYPICAL SECTIONS FOR
 CHAPMAN/MULBERRY NEIGHBORHOOD PLAN

CM-5 & CM-6
 N.T.S.



CM-7



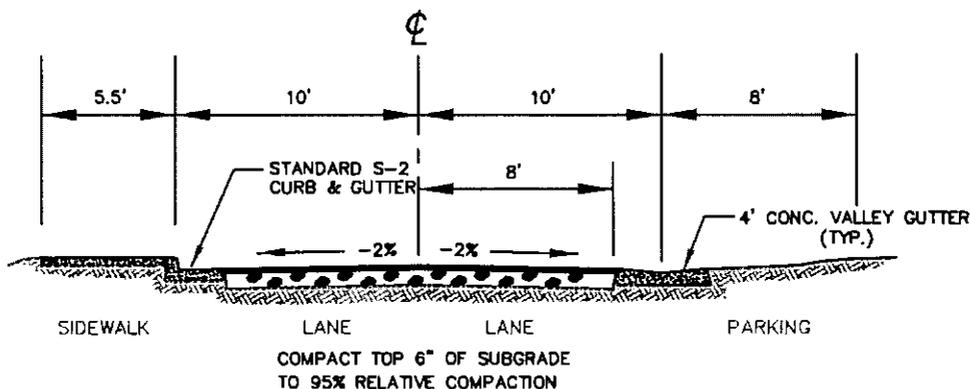
MINIMUM STRUCTURAL SECTION
 FOG SEAL.
 (XX') = R/W 1/2" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 8" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE
 ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF
 STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE
 WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS.
 TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

(40') VIRGINIA ST. , (33') CLEVELAND ST.

NOTE: THE ROAD RIGHT-OF-WAY VARIES.

CM-8



MINIMUM STRUCTURAL SECTION
 FOG SEAL.
 2" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 8" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

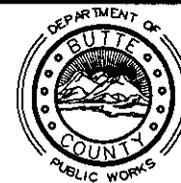
STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE
 ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF
 STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE
 WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS.
 TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

BOUCHER AVE.

NOTE: THE ROAD RIGHT-OF-WAY VARIES.

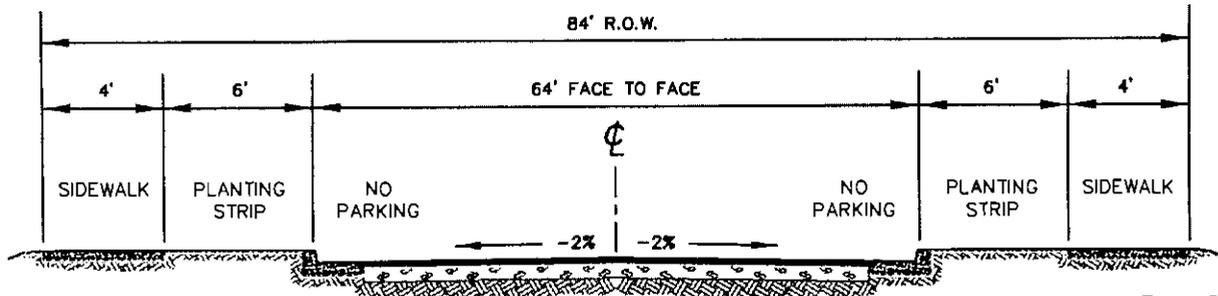
TYPICAL SECTIONS FOR CHAPMAN/MULBERRY NEIGHBORHOOD PLAN

CM-7 & CM-8
 N.T.S.



NCSP-1

ARTERIAL TYPE A-II



TI = 4.5 MIN.

CONSTRUCT VERTICAL CURB ON ALL STREETS, ROLLED CURB IN SOME CASES AT THE DISCRETION OF THE DEPARTMENT OF PUBLIC WORKS.

COMPACT TOP 6" OF SUBGRADE TO 95% RELATIVE COMPACTION

MINIMUM STRUCTURAL SECTION

FOG SEAL.
 3" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 12" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

STRUCTURAL SECTION AND DESIGN DETAIL PER DPW STANDARD NO. RS-2(A)

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

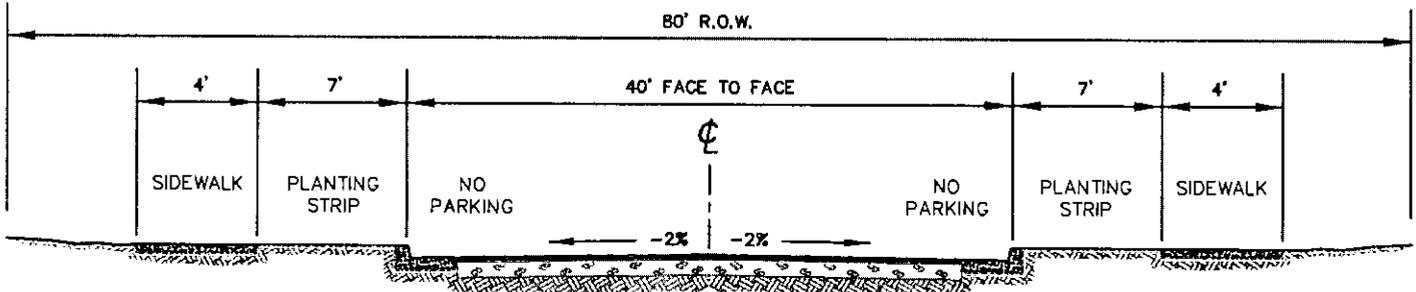
GENERAL EARTHWORK NOTE:

- (1) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK" OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. MIN. SE = 30
- (2) ONLY THE TOP 6" OF SUBGRADE WITHIN EXCAVATION AREAS SHALL BE COMPACTED TO 95% R.C.

4-LANE ARTERIAL
 HICKS LANE REALIGNMENT & WIDENING FROM EATON TO VILLAGE CORE

NCSP-2

ARTERIAL TYPE A-III



TI = 4.5 MIN.

CONSTRUCT VERTICAL CURB ON ALL STREETS, ROLLED CURB IN SOME CASES AT THE DISCRETION OF THE DEPARTMENT OF PUBLIC WORKS.

COMPACT TOP 6" OF SUBGRADE TO 95% RELATIVE COMPACTION

MINIMUM STRUCTURAL SECTION

FOG SEAL.
 3" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 12" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

STRUCTURAL SECTION AND DESIGN DETAIL PER DPW STANDARD NO. RS-2(A)

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

GENERAL EARTHWORK NOTE:

- (1) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK" OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. MIN. SE = 30
- (2) ONLY THE TOP 6" OF SUBGRADE WITHIN EXCAVATION AREAS SHALL BE COMPACTED TO 95% R.C.

NEW ARTERIAL AT VILLAGE CORE BETWEEN HICKS LANE WESTERLY TO MUD CREEK

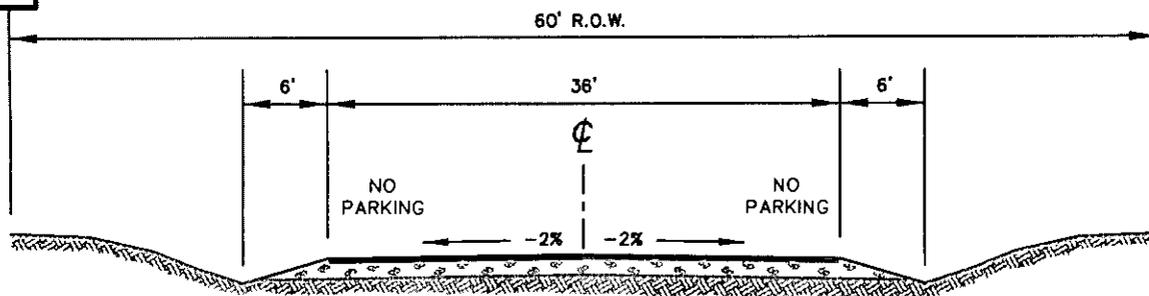
STREET CROSS SECTIONS
 NORTH CHICO SPECIFIC PLAN

NCSP-1 & NCSP-2
 N.T.S.



NCSP-3

ARTERIAL TYPE A-IV



CL. 2 BIKE LANES WHERE SHOWN ON FIGURE 4-2 N.C.S.P.

COMPACT TOP 6" OF SUBGRADE TO 95% RELATIVE COMPACTION

T_I = 7.5 MIN.

CL. 1 BIKE PATHS IN ADJACENT DRAINAGE R.O.W. WHERE SHOWN ON FIGURE 4-2 N.C.S.P.

NOTE: 60' MINIMUM R/W/ WIDTH

- (1) WIDTH OF RIGHT OF WAY AND PAVEMENT TO BE DETERMINED BY CONSULTATION WITH THE DEPARTMENT OF PUBLIC WORKS, WITH PROPER CONSIDERATION GIVEN TO THE MASTER PLAN AND OTHER PLANNING CONSIDERATION.
- (2) STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. T_I AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.
- (3) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK" OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. MIN. SE = 30
- (4) ONLY THE TOP 6" OF SUBGRADE WITHIN EXCAVATION AREAS SHALL BE COMPACTED TO 95% R.C.

MINIMUM STRUCTURAL SECTION

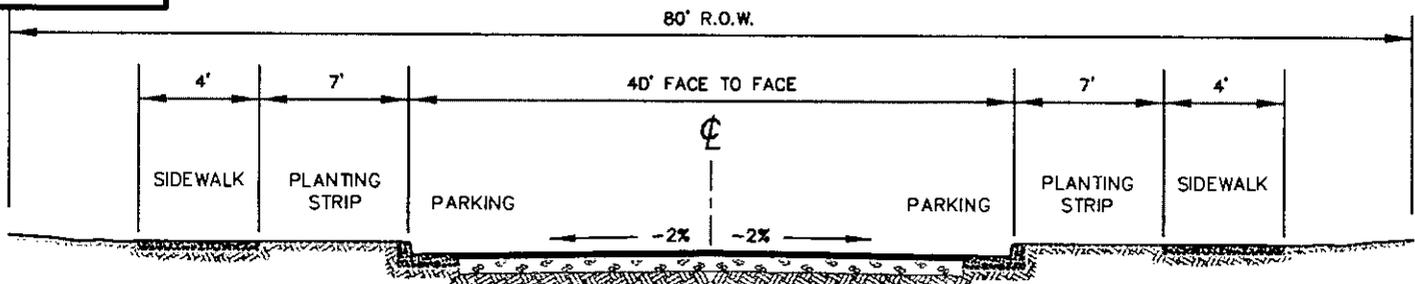
FOG SEAL
 3" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 12" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

STRUCTURAL SECTION AND DESIGN DETAIL PER DPW STANDARD NO. RS-1

NEW ARTERIAL BETWEEN MUD CREEK AND SR 99; KEEFER BETWEEN HICKS LANE AND SR 99; HICKS LANE BETWEEN EATON ROAD AND CABALLO WAY; GARNER LANE BETWEEN KEEFER AND SR 99

NCSP-4

COLLECTOR TYPE C-1



CONSTRUCT VERTICAL CURB ON ALL STREETS, ROLLED CURB IN SOME CASES AT THE DISCRETION OF THE DEPARTMENT OF PUBLIC WORKS.

STRUCTURAL SECTION AND DESIGN DETAIL PER DPW STANDARD NO. RS-2(A)

COMPACT TOP 6" OF SUBGRADE TO 95% RELATIVE COMPACTION

MINIMUM STRUCTURAL SECTION

T_I = 4.5 MIN.

FOG SEAL
 3" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 12" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

GENERAL EARTHWORK NOTE:

- (1) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK" OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. MIN. SE = 30
- (2) ONLY THE TOP 6" OF SUBGRADE WITHIN EXCAVATION AREAS SHALL BE COMPACTED TO 95% R.C.

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. T_I AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

VILLAGE CORE LOOP ROAD AND CONNECTING STREETS TO HICKS LANE;
 NEW CONNECTING ROAD BETWEEN HICKS AND NEW ARTERIAL;
 HICKS LANE BETWEEN CABALLO WAY AND MUD CREEK; SYCAMORE LANE.

STREET CROSS SECTIONS
 NORTH CHICO SPECIFIC PLAN

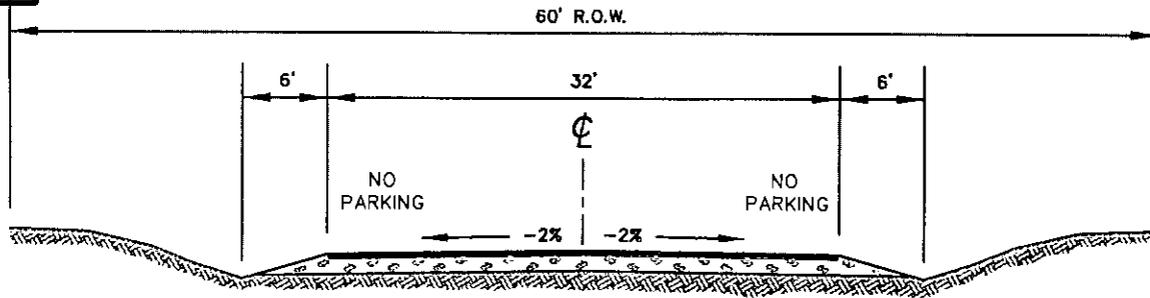
NCSP-3 & NCSP-4
 N.T.S.

REVISED 01/28/2003



NCSP-5

COLLECTOR TYPE C-II



T₁ = 4.5 MIN.

GENERAL EARTHWORK NOTE:

- (1) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK" OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. MIN. SE = 30
- (2) ONLY THE TOP 6" OF SUBGRADE WITHIN EXCAVATION AREAS SHALL BE COMPACTED TO 95% R.C.

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. T₁ AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

CL. 2 BIKE LANES WHERE SHOWN ON FIGURE 4-2 COMPACT TOP 6" OF SUBGRADE TO 95% RELATIVE COMPACTION

MINIMUM STRUCTURAL SECTION

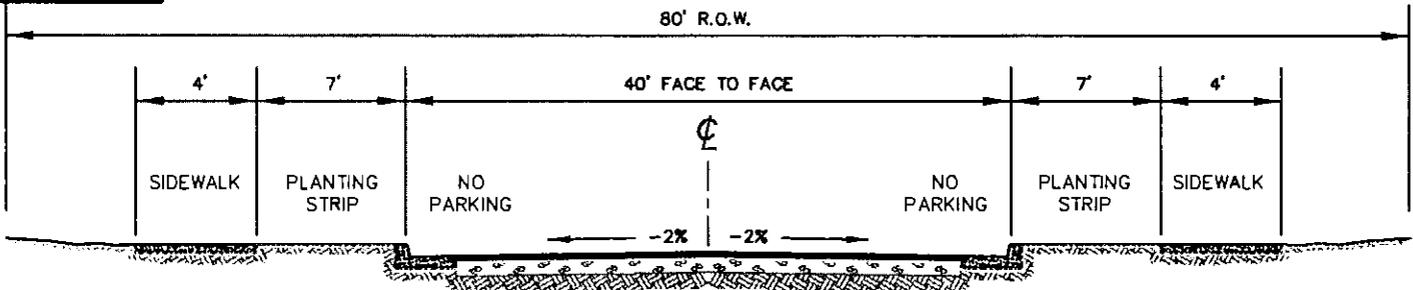
FOG SEAL.
 3" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 12" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

STRUCTURAL SECTION AND DESIGN DETAIL PER DPW STANDARD NO. RS-3(A)

HICKS LANE BETWEEN KEEFER ROAD AND MUD CREEK

NCSP-6

LOCAL TYPE L-I



T₁ = 7.5 MIN.

CONSTRUCT VERTICAL CURB ON ALL STREETS, ROLLED CURB IN SOME CASES AT THE DISCRETION OF THE DEPARTMENT OF PUBLIC WORKS.

COMPACT TOP 6" OF SUBGRADE TO 95% RELATIVE COMPACTION

MINIMUM STRUCTURAL SECTION

FOG SEAL.
 3" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 12" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

STRUCTURAL SECTION AND DESIGN DETAIL PER DPW STANDARD NO. RS-1

NOTE: 60' MINIMUM R/W/ WIDTH

- (1) WIDTH OF RIGHT OF WAY AND PAVEMENT TO BE DETERMINED BY CONSULTATION WITH THE DEPARTMENT OF PUBLIC WORKS, WITH PROPER CONSIDERATION GIVEN TO THE MASTER PLAN AND OTHER PLANNING CONSIDERATION.
- (2) STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. T₁ AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.
- (3) SIDEWALKS AS REQUIRED BY THE DEPARTMENT OF PUBLIC WORKS. IN INDUSTRIAL AREAS, REQUIRED IN COMMERCIAL AREAS.
- (4) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK" OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. MIN. SE = 30
- (5) ONLY THE TOP 6" OF SUBGRADE WITHIN EXCAVATION AREAS SHALL BE COMPACTED TO 95% R.C.

ALL LOCAL STREETS IN M-1 (LIGHT INDUSTRIAL) AND M-2 (HEAVY INDUSTRIAL ZONES)

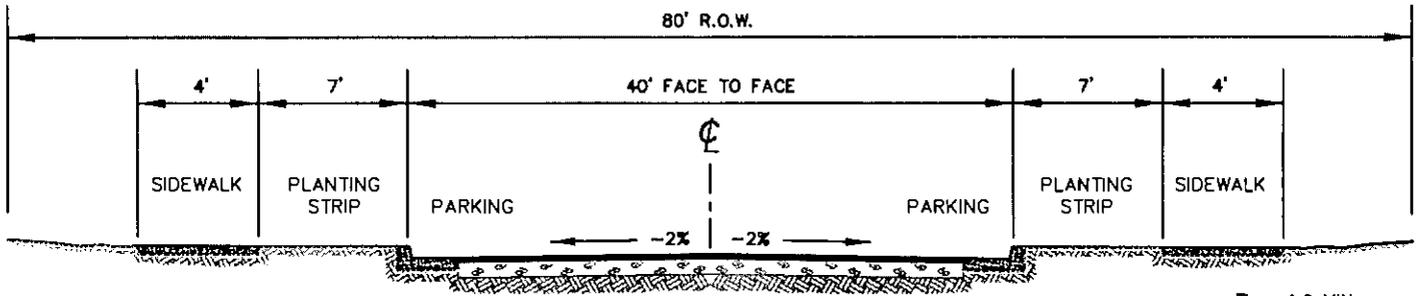
STREET CROSS SECTIONS
 NORTH CHICO SPECIFIC PLAN

NCSP-5 & NCSP-6
 N.T.S.



NCSP-7

LOCAL TYPE L-II



CONSTRUCT VERTICAL CURB ON ALL STREETS, ROLLED CURB IN SOME CASES AT THE DISCRETION OF THE DEPARTMENT OF PUBLIC WORKS.

COMPACT TOP 6" OF SUBGRADE TO 95% RELATIVE COMPACTION

MINIMUM STRUCTURAL SECTION

- FOG SEAL
- 2" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
- LIQUID ASPHALT, (PRIME COAT)
- 8" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

STRUCTURAL SECTION AND DESIGN DETAIL PER DPW STANDARD NO. RS-2(B)

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

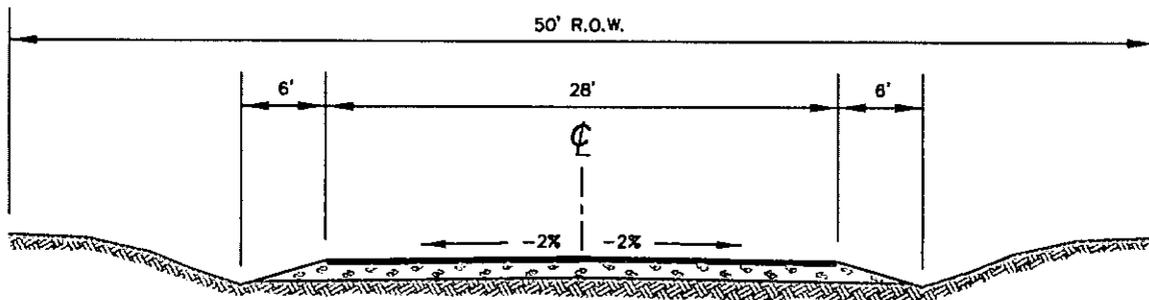
GENERAL EARTHWORK NOTE:

- (1) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK" OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. MIN. SE = 30
- (2) ONLY THE TOP 6" OF SUBGRADE WITHIN EXCAVATION AREAS SHALL BE COMPACTED TO 95% R.C.

ALL LOCAL STREETS IN R-1, R-2 AND R-3 ZONES UNLESS OTHERWISE DESCRIBED.

NCSP-8

LOCAL TYPE L-III



COMPACT TOP 6" OF SUBGRADE TO 95% RELATIVE COMPACTION

STRUCTURAL SECTION AND DESIGN DETAIL PER DPW STANDARD NO. RS-2(C)

GENERAL EARTHWORK NOTE:

- (1) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK" OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. MIN. SE = 30
- (2) ONLY THE TOP 6" OF SUBGRADE WITHIN EXCAVATION AREAS SHALL BE COMPACTED TO 95% R.C.

MINIMUM STRUCTURAL SECTION

- FOG SEAL
- 2" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
- LIQUID ASPHALT, (PRIME COAT)
- 8" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

ALL LOCAL STREETS IN SR-3 AND SR-1 ZONES UNLESS OTHERWISE DESCRIBED.

STREET CROSS SECTIONS NORTH CHICO SPECIFIC PLAN

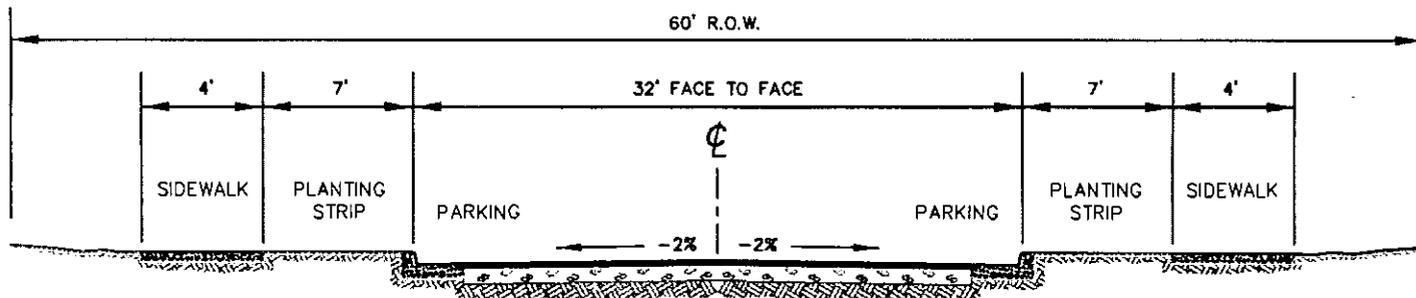
NCSP-7 & NCSP-8
N.T.S.



NCSP-9

LOCAL TYPE L-IV

60' R.O.W.



T_I = 4.0 MIN.

CONSTRUCT VERTICAL CURB ON ALL STREETS, ROLLED CURB IN SOME CASES AT THE DISCRETION OF THE DEPARTMENT OF PUBLIC WORKS.

COMPACT TOP 6" OF SUBGRADE TO 95% RELATIVE COMPACTION

MINIMUM STRUCTURAL SECTION

FOG SEAL
 2" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 8" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

STRUCTURAL SECTION AND DESIGN DETAIL PER DPW STANDARD NO. RS-2(B)

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. T_I AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

GENERAL EARTHWORK NOTE:

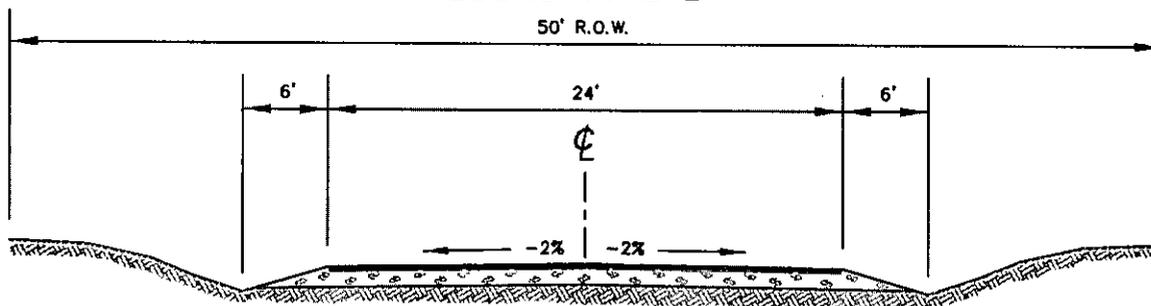
- (1) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK" OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. MIN. SE = 30
- (2) ONLY THE TOP 6" OF SUBGRADE WITHIN EXCAVATION AREAS SHALL BE COMPACTED TO 95% R.C.

ALL CUL-DE-SAC STREETS IN R-1, R-2 AND R-3 ZONES.

NCSP-10

LOCAL TYPE L-V

50' R.O.W.



T_I = 3.5 MIN.

COMPACT TOP 6" OF SUBGRADE TO 95% RELATIVE COMPACTION

STRUCTURAL SECTION AND DESIGN DETAIL PER DPW STANDARD NO. RS-3(C)

MINIMUM STRUCTURAL SECTION

FOG SEAL
 2" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
 LIQUID ASPHALT, (PRIME COAT)
 8" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

GENERAL EARTHWORK NOTE:

- (1) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK" OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. MIN. SE = 30
- (2) ONLY THE TOP 8" OF SUBGRADE WITHIN EXCAVATION AREAS SHALL BE COMPACTED TO 95% R.C.

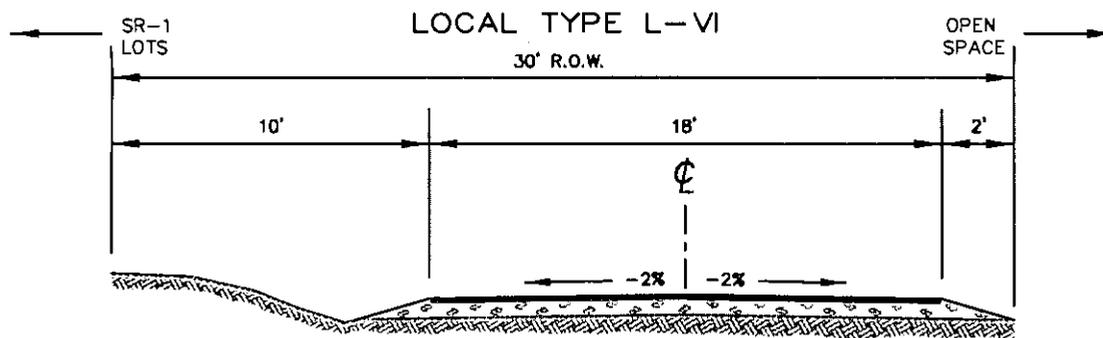
STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. T_I AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

CUL-DE-SAC STREETS AND LOCAL STREETS IN SR-1 AND SR-3 ZONES SERVING FEWER THAN 12 LOTS.

STREET CROSS SECTIONS
 NORTH CHICO SPECIFIC PLAN

NCSP-9 & NCSP-10
 N.T.S.





TI = 3.5 MIN.

COMPACT TOP 6" OF SUBGRADE TO 95% RELATIVE COMPACTION

STRUCTURAL SECTION AND DESIGN DETAIL PER DPW STANDARD NO. RS-3(C)

MINIMUM STRUCTURAL SECTION

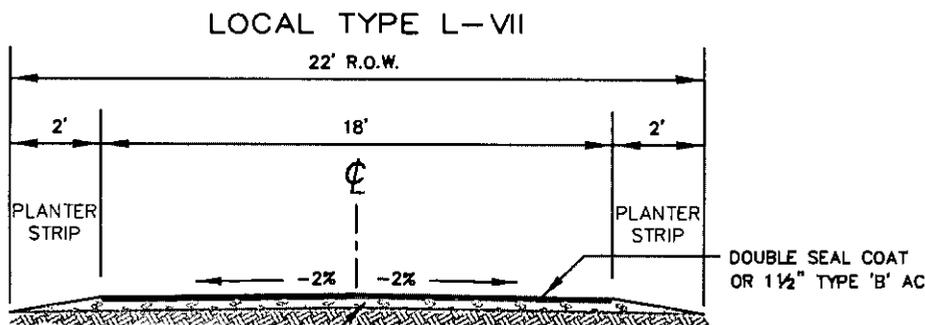
FOG SEAL.
2" ASPHALT CONCRETE (TYPE B, 3/4" MAX., MED. GRAD.)
LIQUID ASPHALT, (PRIME COAT)
8" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

GENERAL EARTHWORK NOTE:

- (1) EARTHWORK SHALL BE AS PER SECTION 19, "EARTHWORK" OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. MIN. SE = 30
- (2) ONLY THE TOP 6" OF SUBGRADE WITHIN EXCAVATION AREAS SHALL BE COMPACTED TO 95% R.C.

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

ONE-WAY LOOP STREET



TI = 3.5 MIN.

6" CLASS 2 AGGREGATE BASE (3/4" MAX. GRAD.)

COMPACT TOP 6" OF SUBGRADE TO 95% RELATIVE COMPACTION

STRUCTURAL SECTION COMPONENTS AS SHOWN ABOVE ARE THE MINIMUM. WHEN SOILS DICTATE, THICKNESS OF STRUCTURAL SECTION SHALL BE INCREASED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS. TI AND R VALUES MAY BE USED TO JUSTIFY STRUCTURAL SECTION.

STRUCTURAL SECTION AND DESIGN DETAIL PER DPW STANDARD NO. RS-LD(1)

DOUBLE SEAL COAT:

ONE APPLICATION OF MC-250 PENETRATION TREATMENT
FIRST COAT:
ONE APPLICATION OF ASPHALT EMULSION CRS-2
ONE APPLICATION OF SCREENINGS 5/16" X NO. 8
SECOND COAT:
SAME AS FIRST COAT
PENETRATION TREATMENT, EMULSION AND SCREENINGS SHALL BE APPLIED IN ACCORDANCE WITH STATE STANDARD SPECIFICATIONS

ALLEYS IN R-1 AND R-2 ZONES

STREET CROSS SECTIONS
NORTH CHICO SPECIFIC PLAN

NCSP-11 & NCSP-12
N.T.S.

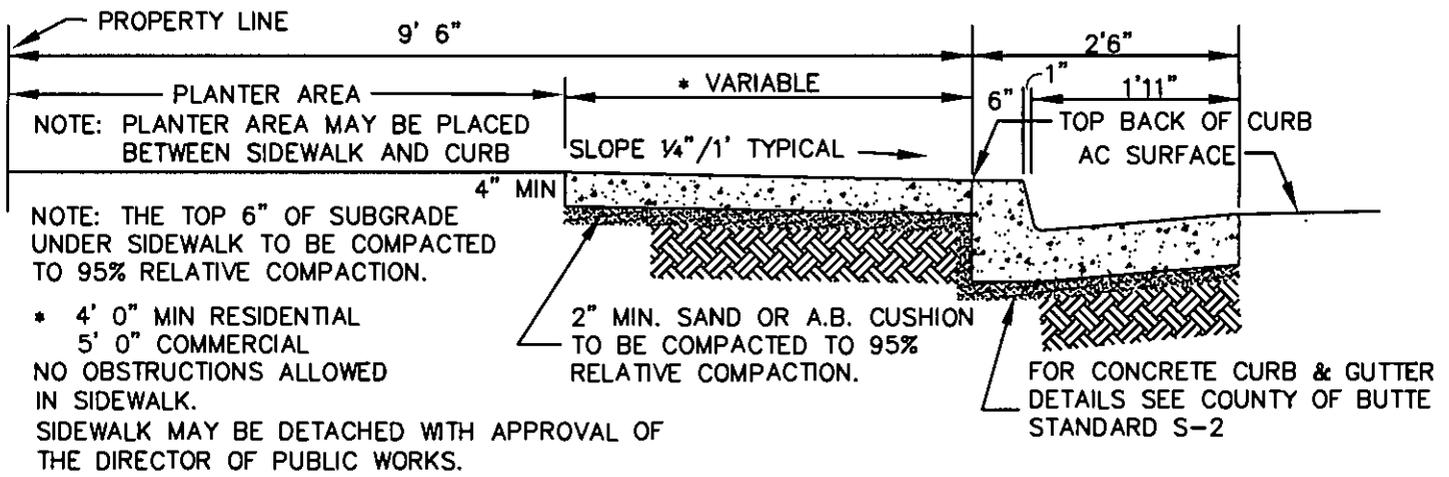


APPENDIX III

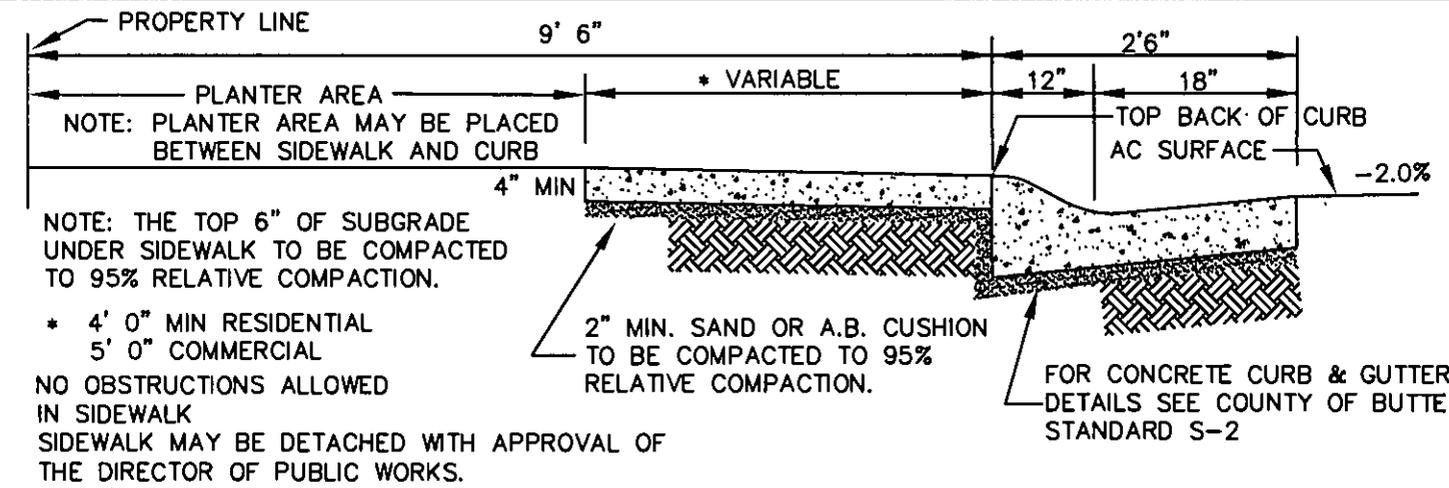
STANDARD DETAILS

Typical Sections for: Vertical & Rolled Curb, Gutter and Sidewalk	S-1
Typical Sections for Concrete: Vertical and Rolled Curb and Gutter	S-2
Concrete Residential Driveway Approach	S-3
Concrete Commercial Driveway Approach	S-3A
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Standard Cross Gutter	S-4
Concrete Pedestrian Ramp Type A	S-5
Detectable Warning Surface	S-5A
Concrete Pedestrian Ramp Type B	S-6
Typical Headwall Structural Details	S-7
Type Go Drainage Inlet and Details	S-8
Modified Type Go Drainage Inlet – Side Opening	S-8A
Modified Type Go Drainage Inlet and Details – Checker Plate	S-8B
Type Go Drainage Inlet and Details – No Curb	S-8C
Type “C” Inlet	S-9
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Street Survey Monument	S-11
Standard Survey Control Monument	S-11A
County Road Sign	S-12
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Street and Stop Sign Post Details – County Right of Way	S-13
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Arterial Public Road Intersection	S-18
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Approved Methods of Laying Pipe	S-21
Typical Method for Setting Appurtenances	S-22
Standard Flushing Hole C.I. Frame and Cover	S-23
Standard Manhole Frame and Cover Details	S-24
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Private Driveway Behind Asphalt Dike Section	S-31B
Cast-in-Place Concrete Pipe in Road or Street Right of Way	S-32
Drainage Ditch Pipe Outlet Details	S-33

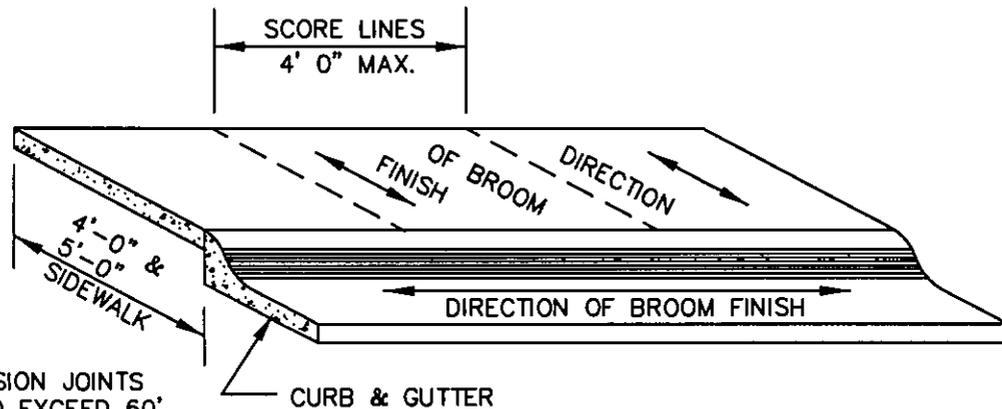
Sacked Concrete Slope Protection with Storm Drain Installation into Channels	S-34
Utility Trench Details	S-35
Fences, Walls and Hedges – Cornet Lot	S-36
Fences, Walls and Hedges – Interior Lot	S-37
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Building Free Turn Around Area (Hammer Head T)	S-42
12' Speed Hump	S-43
Speed Table	S-44



SECTION THROUGH STANDARD VERTICAL CONCRETE CURB, GUTTER & SIDEWALK



SECTION THROUGH STANDARD CONCRETE ROLLED CURB, GUTTER & SIDEWALK



NOTE: EXPANSION JOINTS NOT TO EXCEED 60' FEET APART.

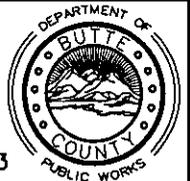
ALL CURB, GUTTER & SIDEWALK SHALL HAVE A LIGHT BROOM FINISH.

SIDEWALK SCORE LINES DETAIL

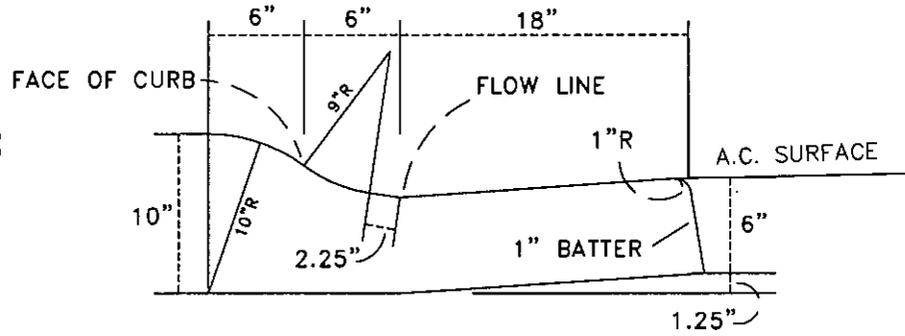
VERTICAL & TYPICAL SECTIONS FOR:
ROLLED CURB, GUTTER & SIDEWALK
COUNTY STANDARD NO.

S-1
N.T.S.

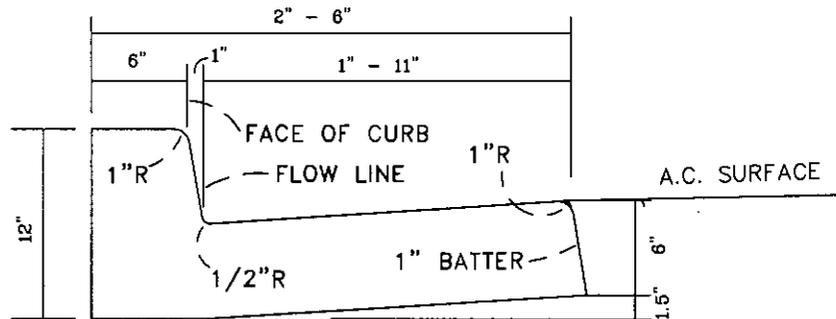
REVISED 01/28/03



SECTION ROLLED CURB & GUTTER

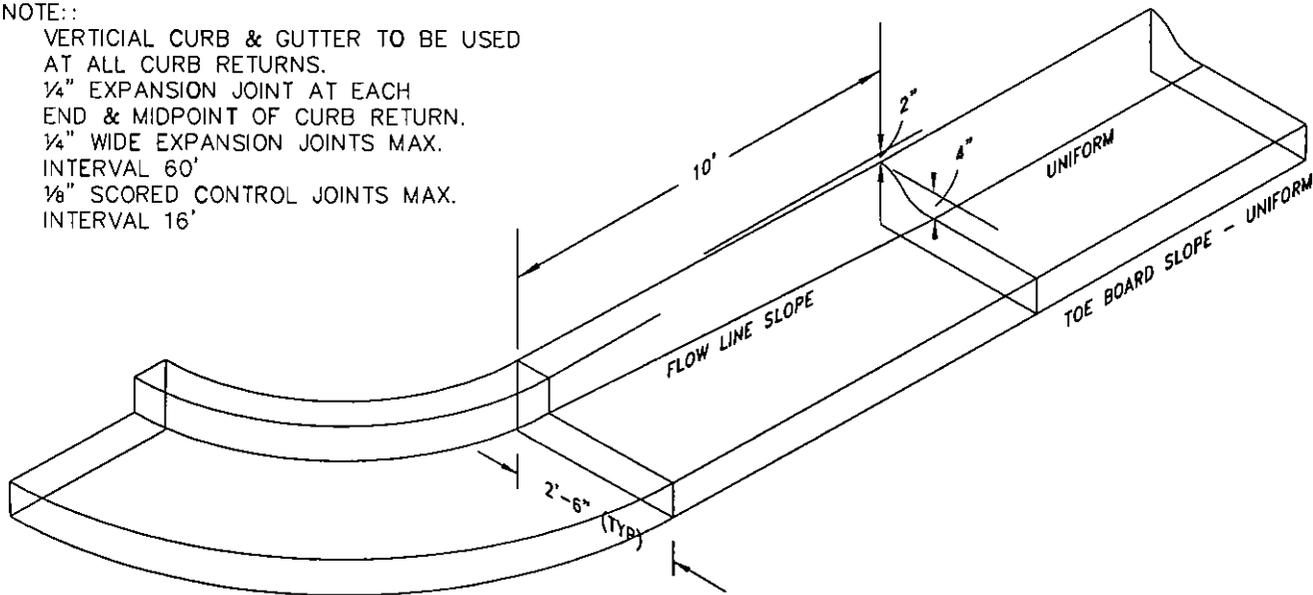


SECTION VERTICAL CURB & GUTTER



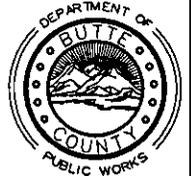
NOTE:

- VERTICAL CURB & GUTTER TO BE USED AT ALL CURB RETURNS.
- 1/4" EXPANSION JOINT AT EACH END & MIDPOINT OF CURB RETURN.
- 1/4" WIDE EXPANSION JOINTS MAX.
- INTERVAL 60'
- 1/8" SCORED CONTROL JOINTS MAX.
- INTERVAL 16'

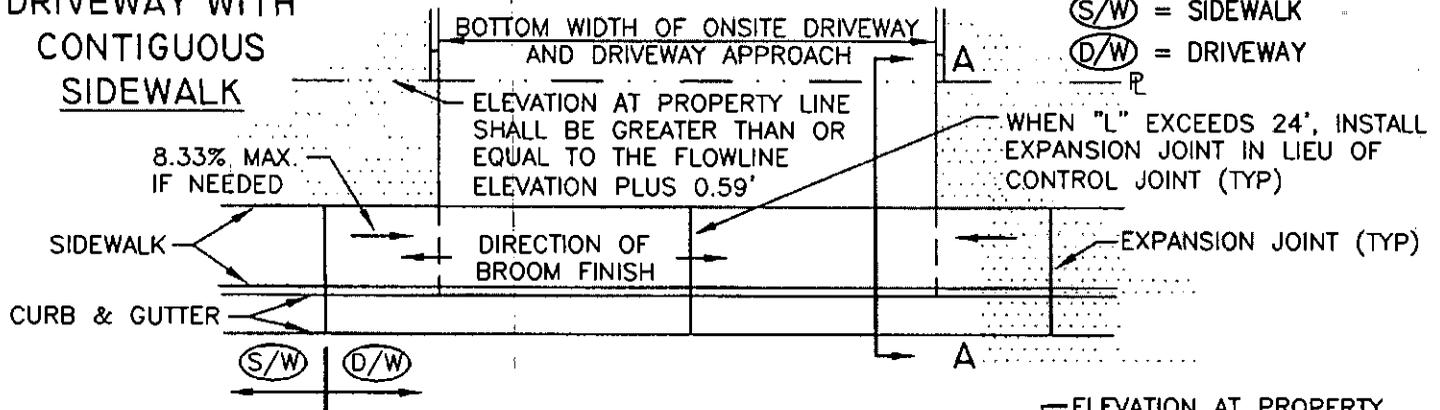


DETAILS OF TRANSITION
FROM ROLLED CURB & GUTTER
TO VERTICAL CURB & GUTTER

TYPICAL STANDARDS FOR CONCRETE:
VERTICAL AND ROLLED CURB & GUTTER
COUNTY STANDARD NO.
S-2
N.T.S.



**DRIVEWAY WITH
CONTIGUOUS
SIDEWALK**

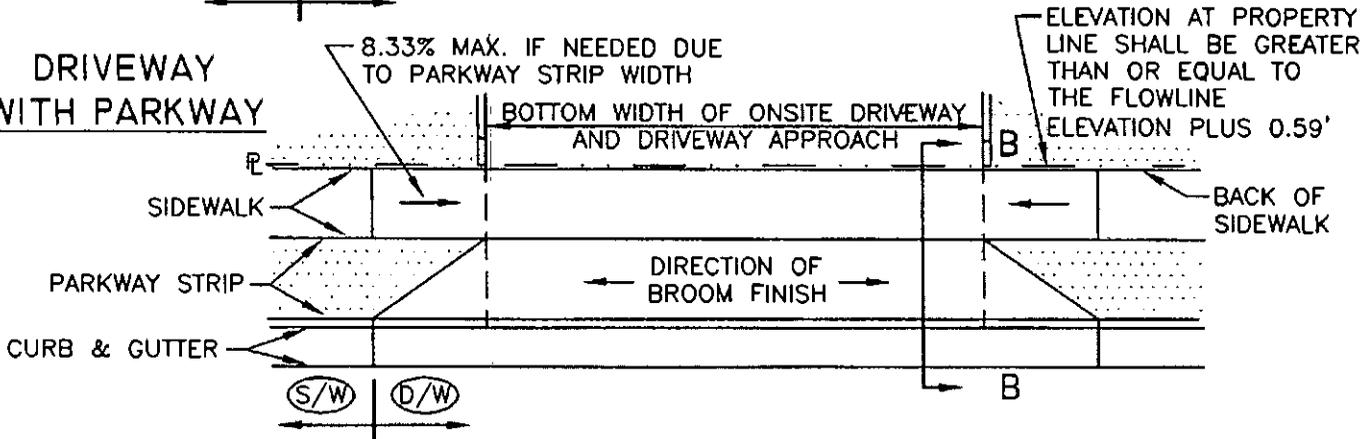


QUANTITY PAYMENT LIMITS:

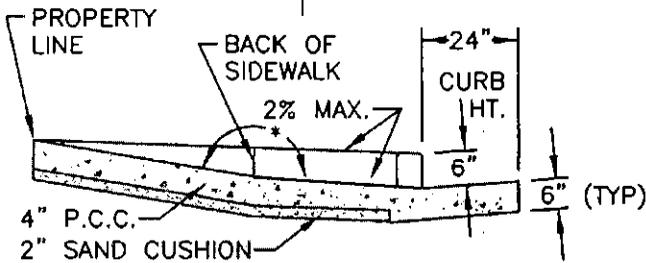
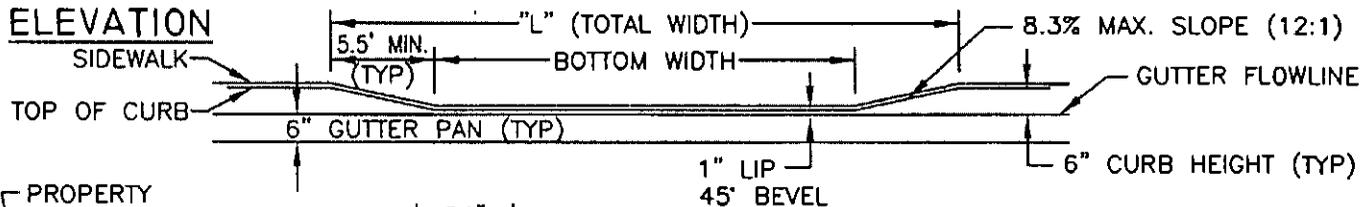
(S/W) = SIDEWALK

(D/W) = DRIVEWAY

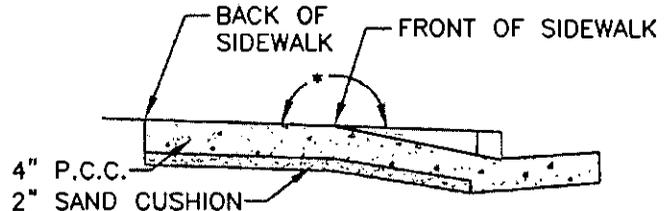
**DRIVEWAY
WITH PARKWAY**



ELEVATION



SECTION A-A



SECTION B-B

* MAX. ALGEBRAIC DIFFERENCE OF 17.5%

NOTES:

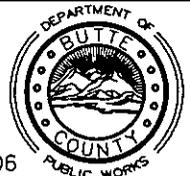
1. STANDARD S-5 SHALL BE USED FOR RESIDENTIAL DEVELOPMENTS WITH 8 OR LESS ONSITE PARKING SPACES.
2. MIN. BOTTOM WIDTH AT FACE OF CURB:

A) SINGLE SPACE AND TANDEM PARKING - 16'	C) ONE WAY - 14' MINIMUM, 18' MAXIMUM
B) TWO SPACES (SIDE BY SIDE) - 18'	D) TWO WAY - 24' MINIMUM, 30' MAXIMUM
3. WHERE CURB HEIGHT IS GREATER THAN 6" AND/OR DISTANCE BETWEEN FACE OF CURB AND FRONT OF SIDEWALK IS LESS THAN 4'6", THE SIDEWALK SHALL BE DEPRESSED TO MAINTAIN MAXIMUM SLOPES.
4. STANDARD S-5 IS NOT REQUIRED IN CONJUNCTION WITH ROLLED CURB AND GUTTER.

STANDARD FOR:
CONCRETE RESIDENTIAL DRIVEWAY APPROACH
COUNTY STANDARD NO.

S-3
N.T.S.

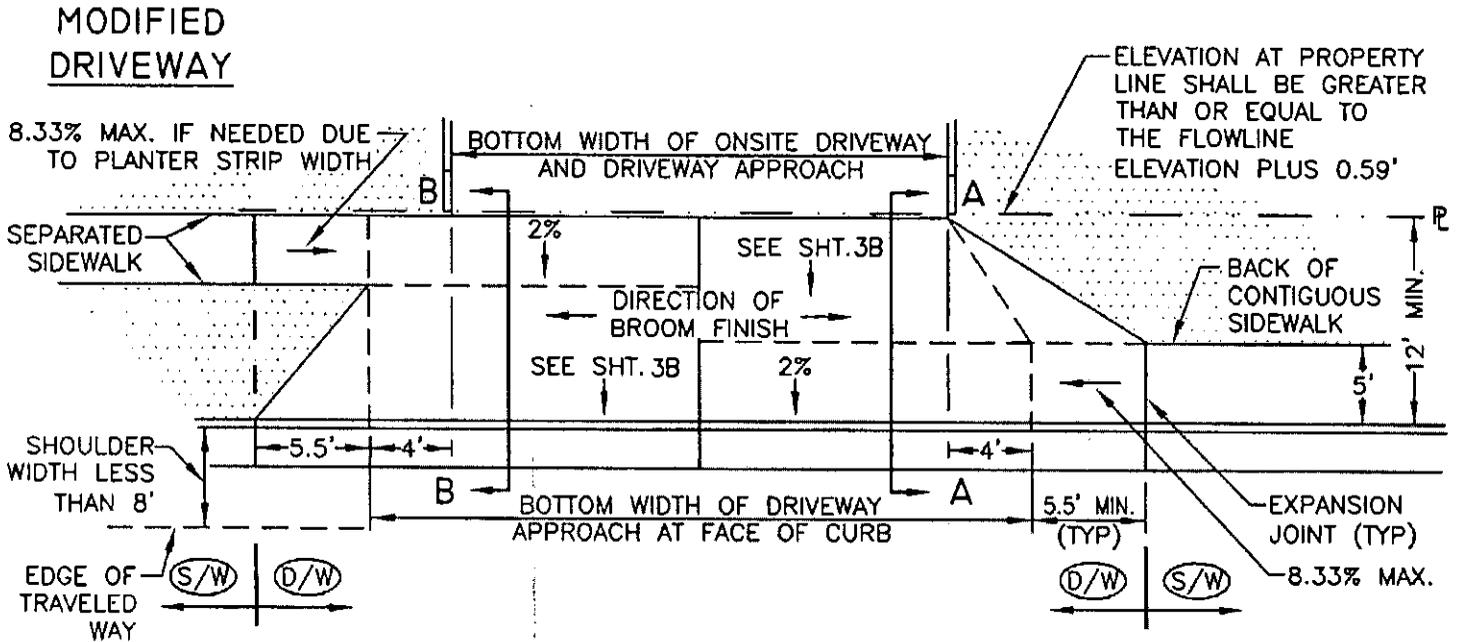
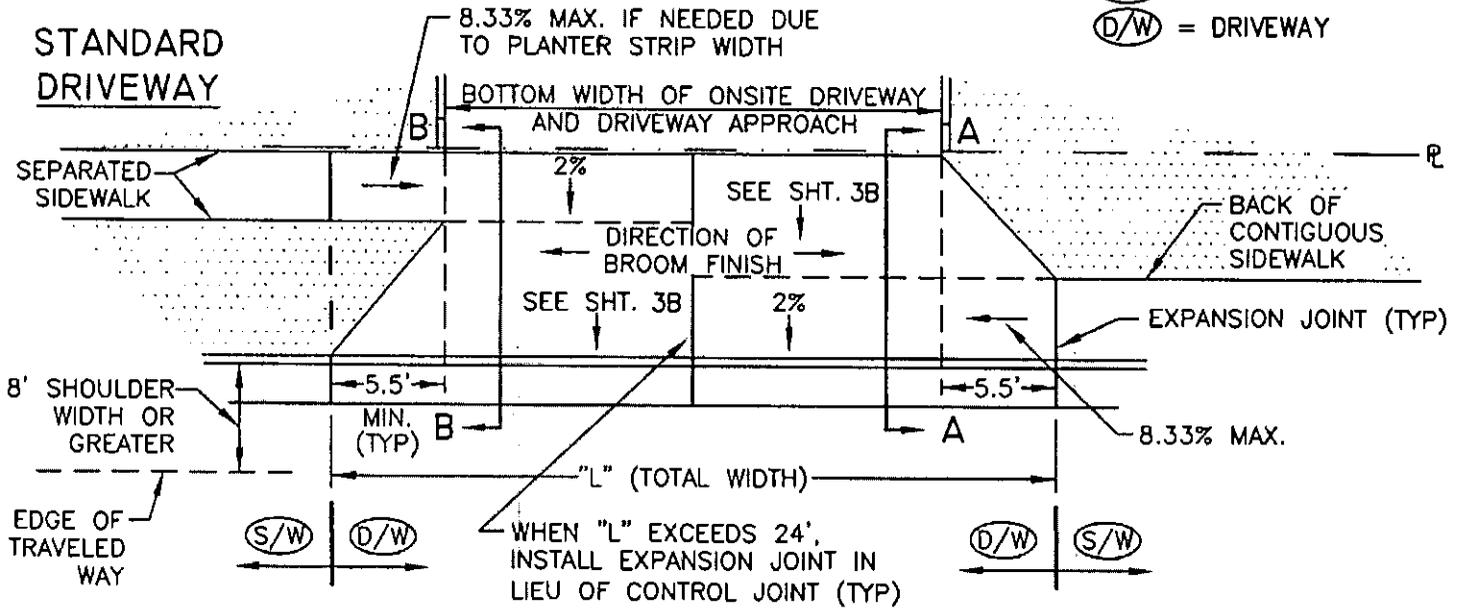
RES 06-149 10/24/06



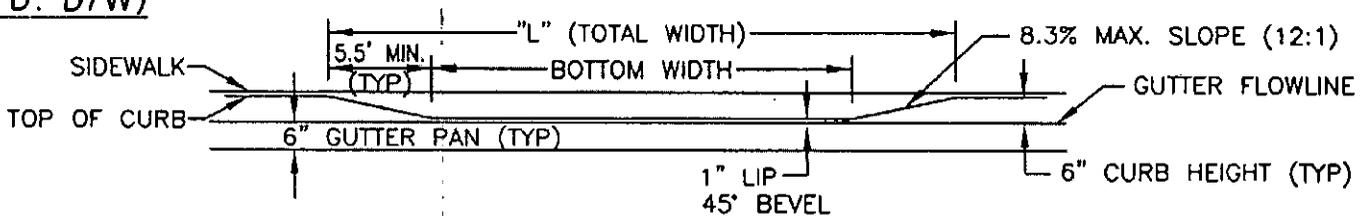
QUANTITY PAYMENT LIMITS:

(S/W) = SIDEWALK

(D/W) = DRIVEWAY

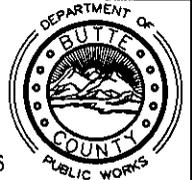


ELEVATION (STD. D/W)

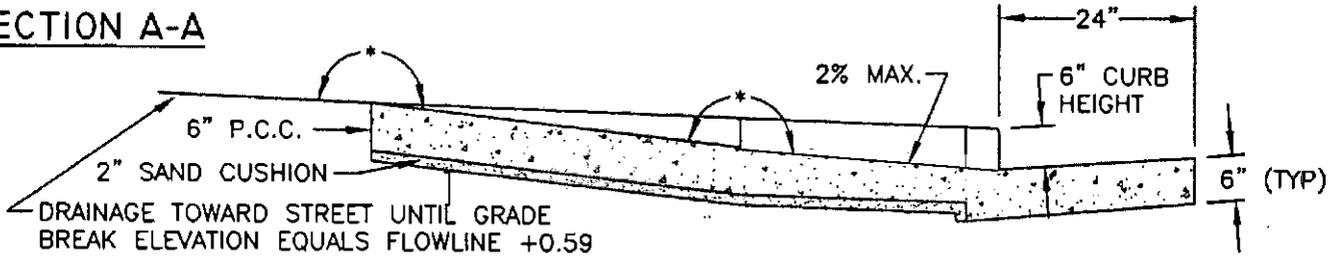


STANDARD FOR:
 CONCRETE COMMERCIAL DRIVEWAY APPROACH
 COUNTY STANDARD NO.
 S-3A
 N.T.S.

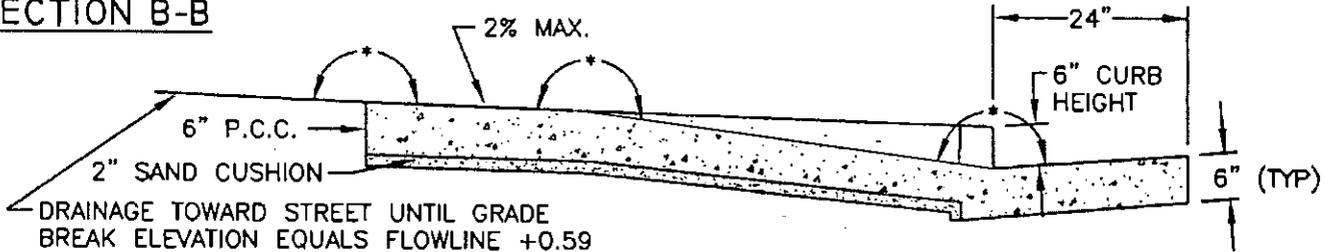
RES 06-149 10/24/06



SECTION A-A



SECTION B-B



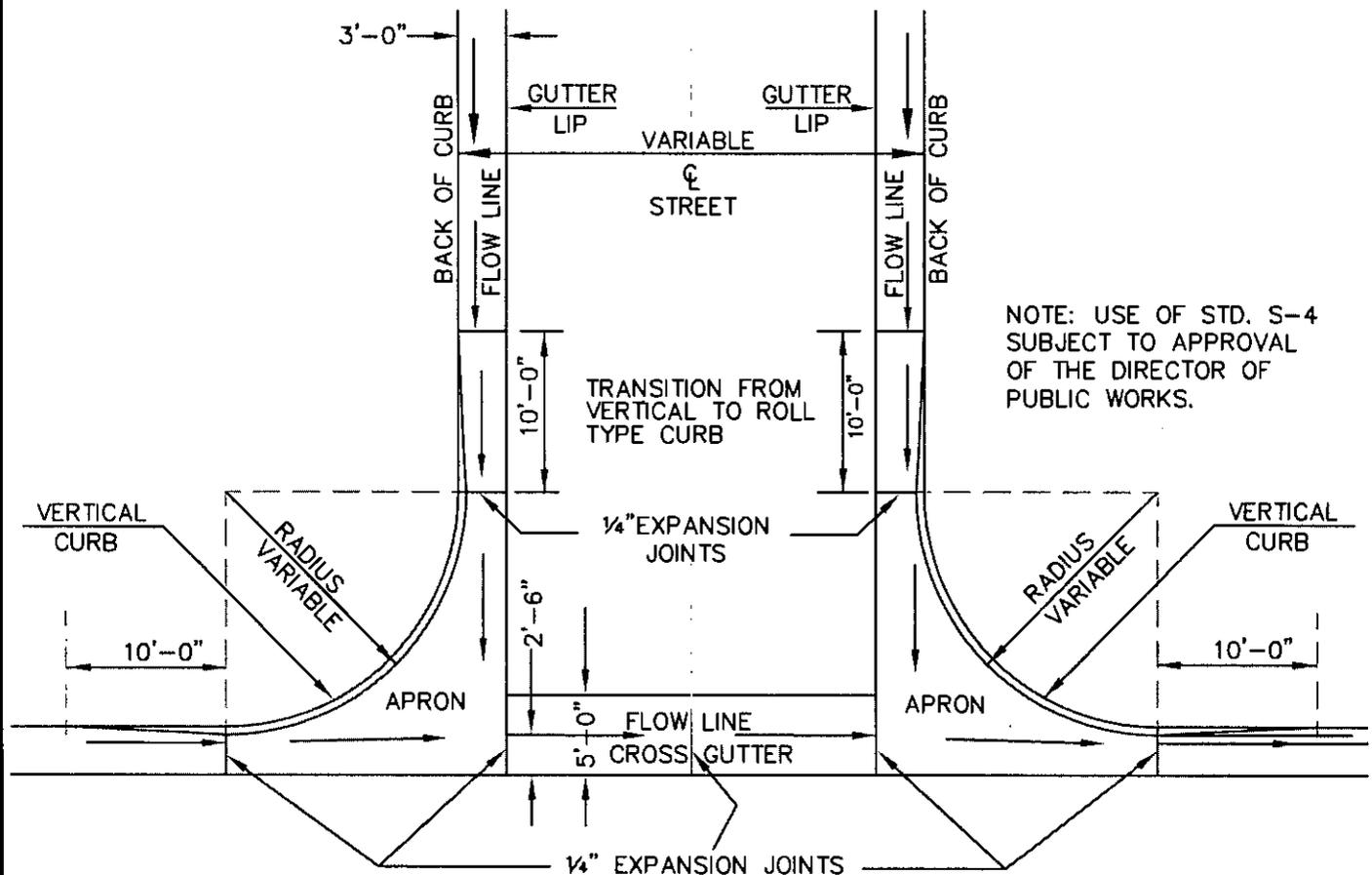
* MAX. ALGEBRAIC DIFFERENCE OF 17.5%

NOTES:

1. STANDARD S-3A SHALL BE USED FOR COMMERCIAL AND INDUSTRIAL DEVELOPMENTS, RESIDENTIAL DEVELOPMENTS WITH GREATER THAN 8 ONSITE PARKING SPACES AND PRIVATE STREET SUBDIVISIONS.
2. MODIFIED DRIVEWAY SHALL BE USED WHERE ROADWAY SHOULDER IS LESS THAN 8'.
3. BOTTOM WIDTH OF STANDARD DRIVEWAY AT FACE OF CURB:
 - A) ONE WAY - 16' MINIMUM, 24' MAXIMUM
 - B) TWO WAY - 24' MINIMUM, 30' MAXIMUM
4. BOTTOM WIDTH OF MODIFIED DRIVEWAY AT FACE OF CURB:
 - A) ONE WAY - 28' MINIMUM, 32' MAXIMUM
 - B) TWO WAY - 32' MINIMUM, 38' MAXIMUM

CROSS SECTIONS FOR:
CONCRETE COMMERCIAL DRIVEWAY APPROACH
COUNTY STANDARD NO.
S-3B
N.T.S.



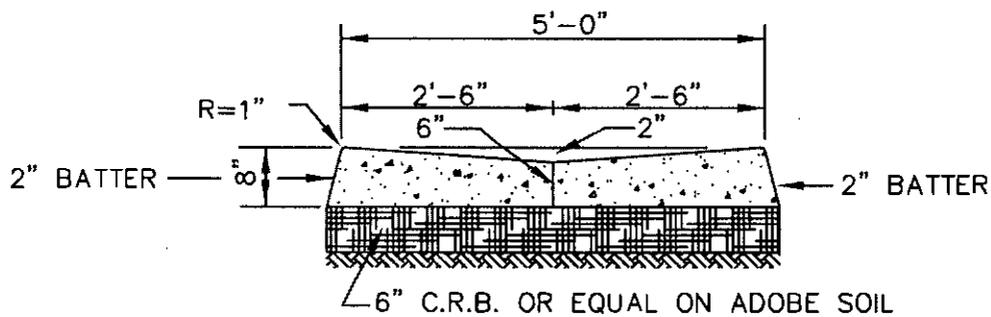


NOTE: USE OF STD. S-4
SUBJECT TO APPROVAL
OF THE DIRECTOR OF
PUBLIC WORKS.

ALL APRONS SHALL BE CLASS "1"
CONCRETE 6" THICK THROUGHOUT

NOTE: EXPANSION JOINTS SHALL BE PLACED
AT EACH END OF CROSS GUTTERS AND AT
MID-SPAN PERPENDICULAR TO THE
LONGITUDINAL AXIS, AND AT BOTH ENDS
OF ALL CURB RETURNS.

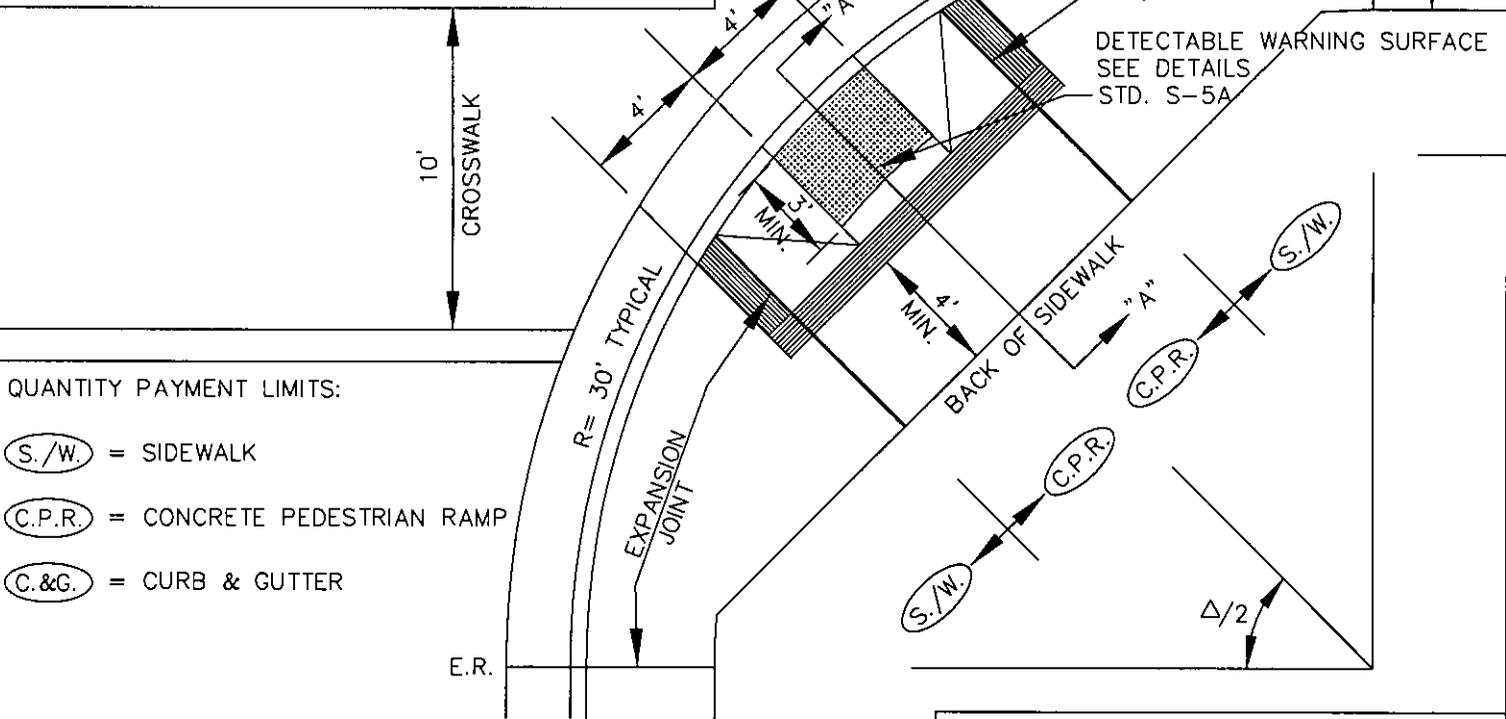
NOTE: VERTICAL FACE TYPE CURB
SHALL BE USED ON ALL STREETS
ANY PORTION OF WHICH, INTERSECTION
TO INTERSECTION, HAS A GRADE OF 3%
OR GREATER AND AT ALL CURB RETURNS
AT STREET INTERSECTIONS.



STANDARD FOR:
STANDARD CROSS GUTTER
COUNTY STANDARD NO.
S-4
N.T.S.



SIDE PERIMETER OF RAMP SHALL HAVE PARALLEL GROOVES 1/4" WIDE X 1/4" DEEP X 3/4" APART ON CENTER FOR A WIDTH OF 12". SEE GROOVING DETAIL.



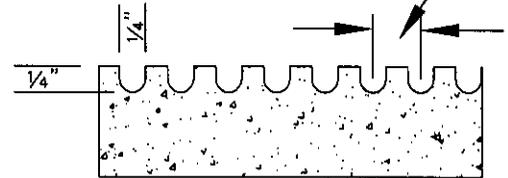
PLAN

QUANTITY PAYMENT LIMITS:

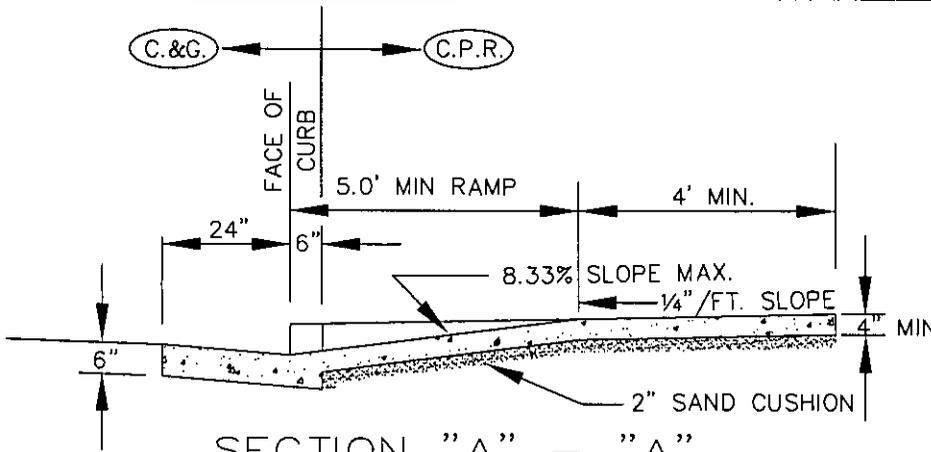
- (S./W.) = SIDEWALK
- (C.P.R.) = CONCRETE PEDESTRIAN RAMP
- (C.&G.) = CURB & GUTTER

NOTE: WHEN RAMP IS LOCATED IN CENTER OF CURB RETURN, IT SHALL BE GROOVED IN A HERRING BONE PATTERN WITH 1/4" GROOVES APPROXIMATELY 1 1/2" O.C. SEE GROOVING DETAIL. GROOVES SHOULD BE ALIGNED PARALLEL TO CROSSWALK STRIPES TO DIRECT BLIND PEDESTRIANS INTO APPROPRIATE CROSSWALK.

APPROX. 3/4" EXCEPT APPROX. 1 1/2" ON SLOPING PORTION OF RAMP



GROOVING DETAIL

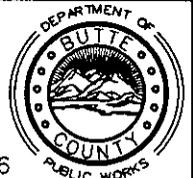


SECTION "A" - "A"

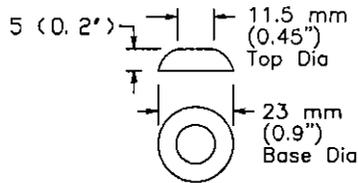
NOTE:
RAMP AND GUTTER POURED TOGETHER

USE THIS STANDARD WHERE SUFFICIENT RIGHT-OF-WAY IS AVAILABLE

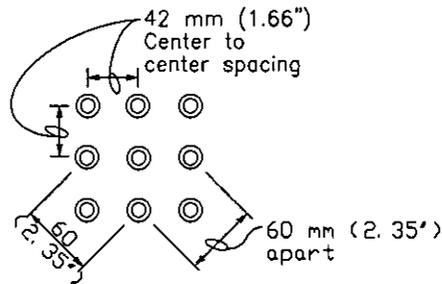
STANDARD FOR:
CONCRETE PEDESTRIAN RAMP TYPE A
COUNTY STANDARD NO.
S-5
N.T.S.



RES 06-149 10/24/06



RAISED TRUNCATED DOME



RAISED TRUNCATED DOME
PATTERN (IN-LINE)

NOTES:

1. Pedestrian ramps shall have a detectable warning surface that extends the full width and 914 mm (3'-0") depth of the ramp. Detectable Warning Surfaces shall conform to the details on this plan and the requirements in the Special Provisions.
2. The edge of the detectable warning surface nearest the street shall be between 150 mm (6") and 205 mm (8") from the gutter flowline.

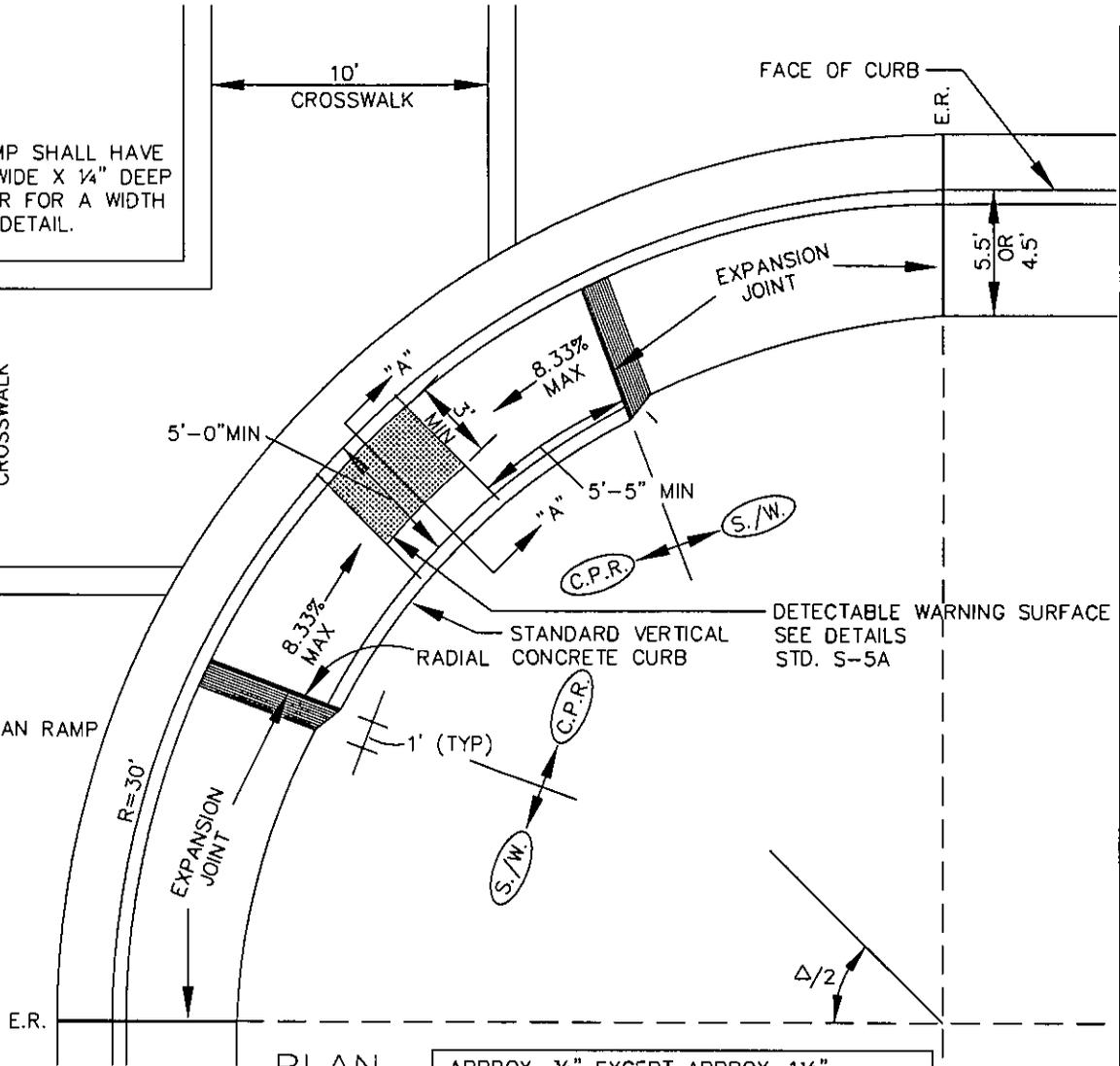
STANDARD FOR:
DETECTABLE WARNING SURFACE
COUNTY STANDARD NO.
S-5A
N.T.S.



SIDE PERIMETER OF RAMP SHALL HAVE PARALLEL GROVES $\frac{1}{4}$ " WIDE X $\frac{1}{4}$ " DEEP X $\frac{3}{4}$ " APART ON CENTER FOR A WIDTH OF 12". SEE GROOVING DETAIL.

QUANTITY PAYMENT LIMITS:

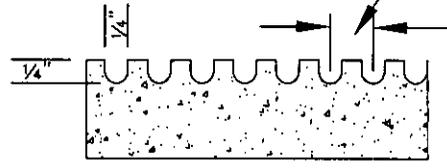
- (S./W.) = SIDEWALK
- (C.P.R.) = CONCRETE PEDESTRIAN RAMP
- (C.&G.) = CURB & GUTTER



PLAN

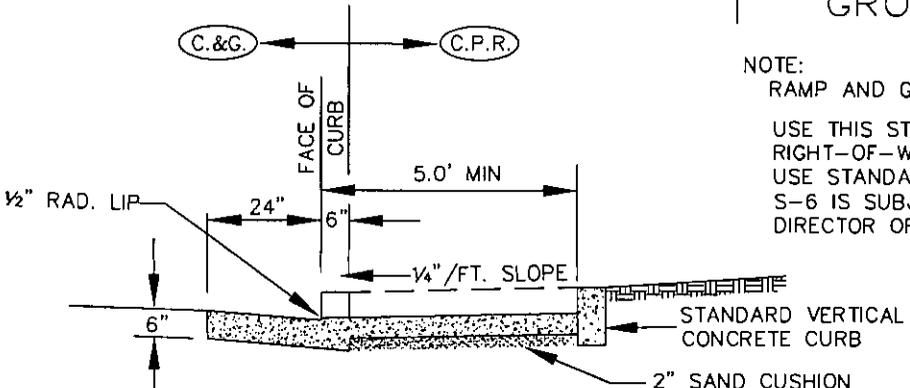
NOTE: WHEN RAMP IS LOCATED IN CENTER OF CURB RETURN, IT SHALL BE GROOVED IN A HERRING BONE PATTERN (SEE GROOVING DETAIL.) GROOVES SHOULD BE ALIGNED PARALLEL TO CROSSWALK STRIPES TO DIRECT BLIND PEDESTRIANS INTO APPROPRIATE CROSSWALK.

APPROX. $\frac{3}{4}$ " EXCEPT APPROX. $1\frac{1}{2}$ " ON SLOPING PORTION OF RAMP



GROOVING DETAIL

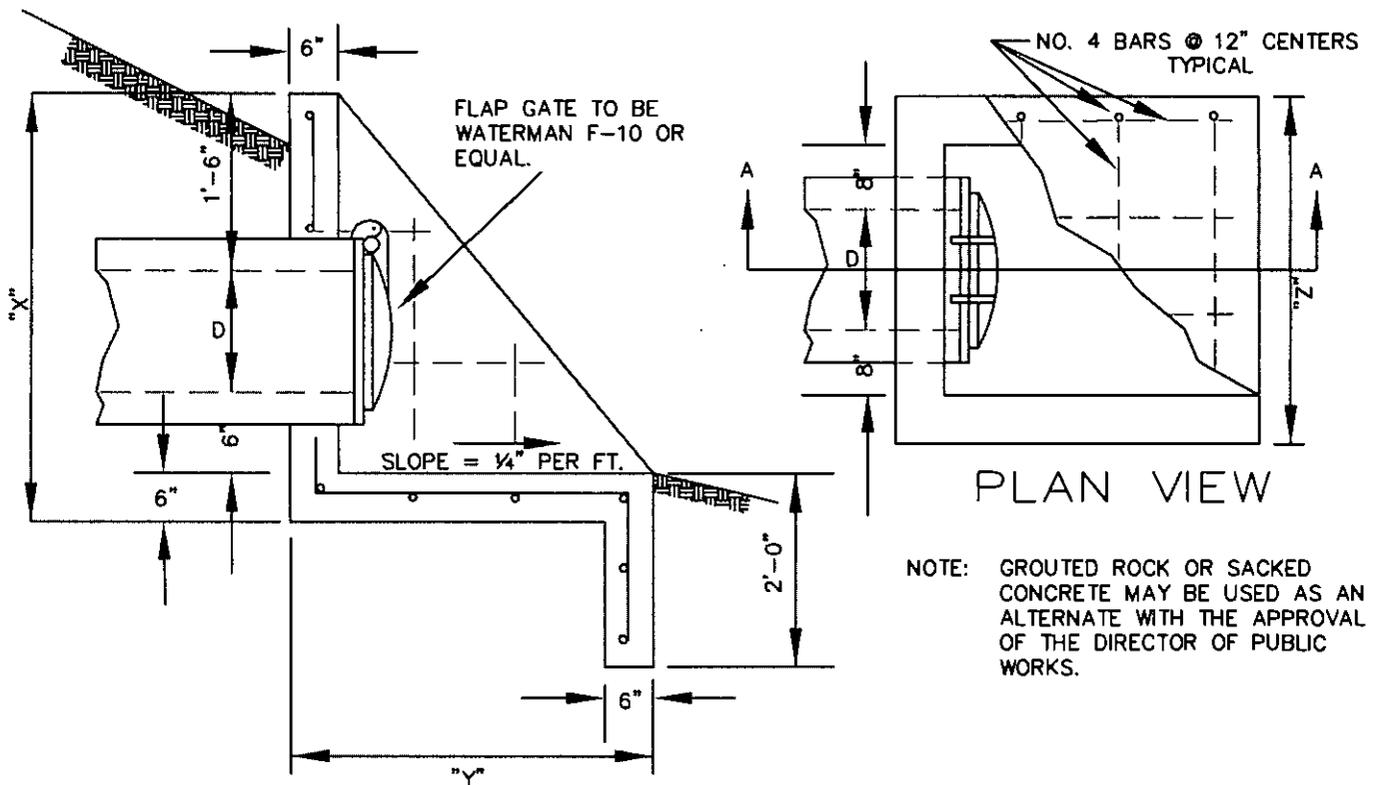
NOTE: RAMP AND GUTTER POURED TOGETHER USE THIS STANDARD WHERE SUFFICIENT RIGHT-OF-WAY IS NOT AVAILABLE TO USE STANDARD S-5. USE OF STANDARD S-6 IS SUBJECT TO APPROVAL BY THE DIRECTOR OF PUBLIC WORKS.



SECTION "A" - "A"

STANDARD FOR:
CONCRETE PEDESTRIAN RAMP TYPE B
COUNTY STANDARD NO.
S-6
N.T.S.





SECTION A-A

NOTE: GROUDED ROCK OR SACKED CONCRETE MAY BE USED AS AN ALTERNATE WITH THE APPROVAL OF THE DIRECTOR OF PUBLIC WORKS.

PIPE DIAMETER	HEADWALL WIDTH	VARIABLE DIMENSIONS					
		SLOPE = 1:1		SLOPE = 1.5:1		SLOPE = 2:1	
		"X"	"Y"	"X"	"Y"	"X"	"Y"
D	D+2'-4"	D+2'-6"	D+2'-6"	D+2'-6"	1.5(D+2'-6")	D+2'	2(D+2'-6")
8"	3'-0"	3'-2"	3'-2"	3'-2"	4'-9"	3'-2"	6'-4"
10"	3'-2"	3'-4"	3'-4"	3'-4"	5'-0"	3'-4"	6'-8"
12"	3'-4"	3'-6"	3'-6"	3'-6"	5'-3"	3'-6"	7'-0"
15"	3'-7"	3'-9"	3'-9"	3'-9"	5'-7½"	3'-9"	7'-6"
18"	3'-10"	4'-0"	4'-0"	4'-0"	6'-0"	4'-0"	8'-0"
21"	4'-1"	4'-3"	4'-3"	4'-3"	6'-4½"	4'-3"	8'-6"
24"	4'-4"	4'-6"	4'-6"	4'-6"	6'-9"	4'-6"	9'-0"
27"	4'-7"	4'-9"	4'-9"	4'-9"	7'-1½"	4'-9"	9'-6"
30"	4'-10"	5'-0"	5'-0"	5'-0"	7'-6"	5'-0"	10'-0"

NOTE: FOR ALL DETAILS NOT SHOWN SEE CALTRANS STANDARD D89 AND D90

STANDARD FOR:
 TYPICAL HEADWALL STRUCTURAL DETAILS
 COUNTY STANDARD NO.
 S-7
 N.T.S.

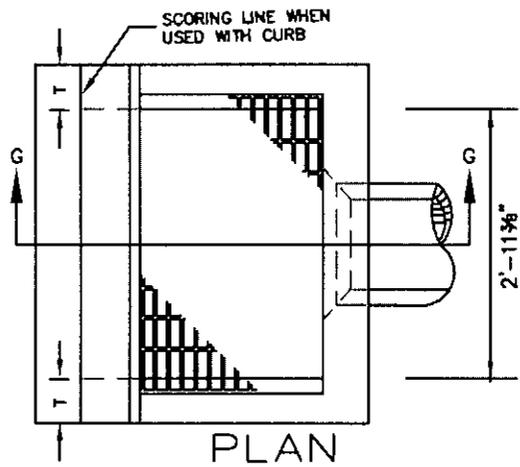
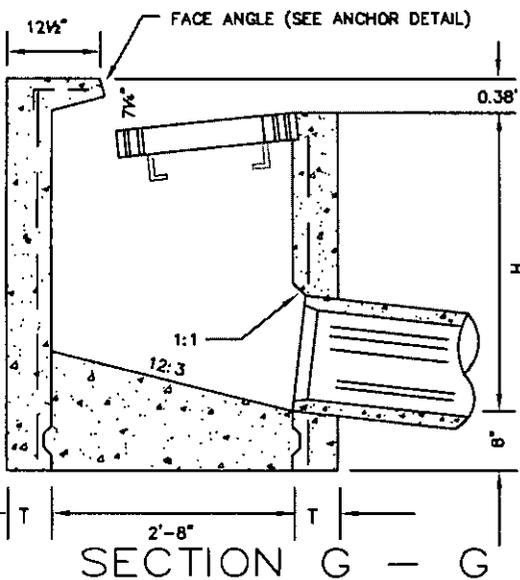


H	T
8'-0" OR LESS	6"
8'-1" TO 20'-0"	8"

TABLE A

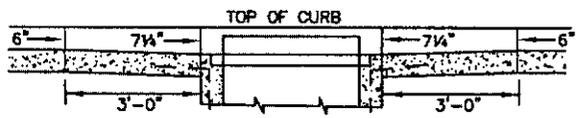
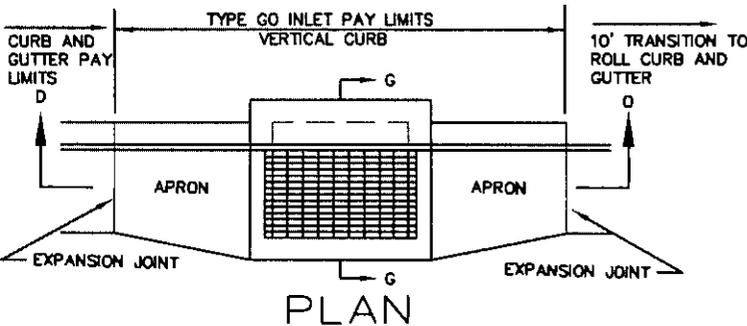
SLOPE NOTES	
D.I. GRADE	ROAD GR.
MATCH ROAD GRADE	0-4%
4%	4-8%
HOLD 4% GRADE CHANGE	8%-UP

NOTE: FOR WALL THICKNESS (T) SEE TABLE A

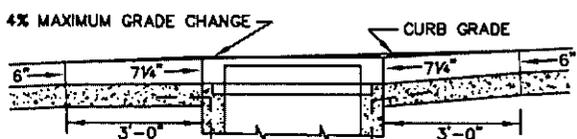


GENERAL NOTES

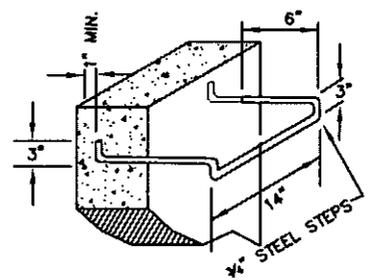
- "H" IS THE DIFFERENCE IN ELEVATION BETWEEN THE OUTLET PIPE FLOW LINE AND THE NORMAL GUTTER GRADE LINE UNDEPRESSED.
- WALL REINFORCING NOT REQUIRED WHEN "H" IS 4' OR LESS WALLS EXCEEDING THESE LIMITS SHALL BE REINFORCED WITH #4 BARS @ 18" +/- CENTERS PLACED 1 1/2" CLEAR TO INSIDE OF BOX UNLESS OTHERWISE SHOWN.
- STEPS - NONE REQUIRED WHERE "H" IS 3'-6" OR LESS. INSTALL ONE STEP 16" +/- ABOVE FLOOR WHEN "H" IS MORE THAN 5'-0", STEPS SHALL BE EVENLY SPACED AT 12" +/- INTERVALS FROM 16" +/- ABOVE FLOOR TO WITHIN 12" +/- OF THE TOP OF THE BOX. PLACE STEPS IN WALL WITHOUT PIPE OPENINGS.
- PIPE(S) CAN BE PLACED IN ANY WALL.
- ALL CONCRETE CLASS 1
- BASIN FLOORS SHALL HAVE WOOD TROWEL FINISH AND A MINIMUM SLOPE OF 12:3 FROM ALL DIRECTIONS TOWARD OUTLET PIPE.
- ALL HARDWARE SHALL BE GALVANIZED.
- WHEN USING STANDARD ROLLED CURB AND GUTTER, CONSTRUCT 10' TRANSITION TO VERTICAL CURB
- WHEN APRON IS REQUIRED WITH DRAINABLE-INLET EXTEND #4 SIDEWALL RE-BAR 12" INTO TAPERED GUTTER PAN.
- DELETE APRON IN NON CURB AND GUTTER AREAS.



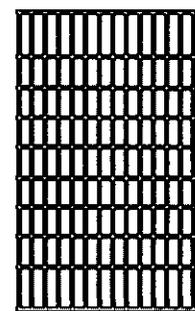
SECTION D - D



SLOPE SECTION

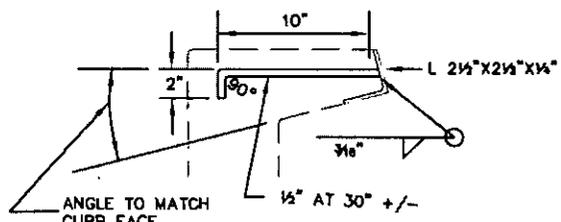


STEP DETAIL



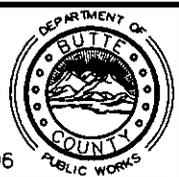
TYPE 24-13 GRATE

NOTE: FRAME AND GRATING SHALL CONFORM TO CAL-TRANS STANDARD PLANS D-77 OR EQUAL.

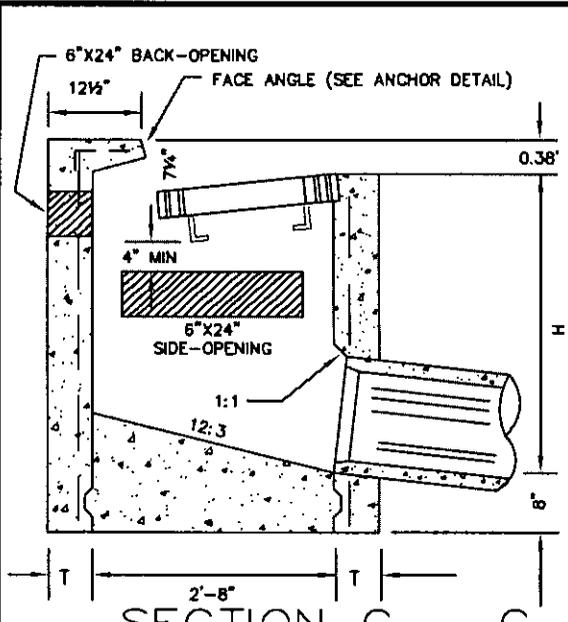


FACE ANGLE ANCHOR DETAIL

STANDARD DETAILS FOR:
 TYPE GO DRAINAGE INLET AND DETAILS
 COUNTY STANDARD NO. S-8
 N.T.S.



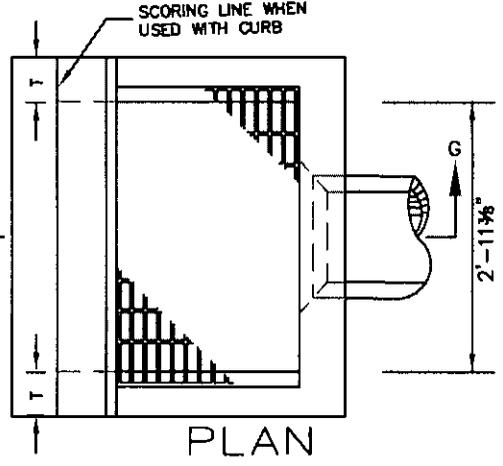
RES 06-149 10/24/06



NOTE: FOR WALL THICKNESS (T) SEE TABLE A

H	T
8'-0" OR LESS	6"
8'-1" TO 20'-0"	8"

TABLE A

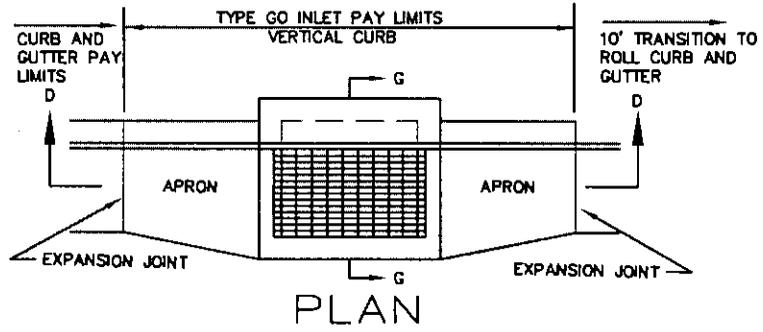


SLOPE NOTES	
D.I. GRADE	ROAD GR.
MATCH ROAD GRADE	0-4%
4%	4-8%
HOLD 4% GRADE CHANGE	8%-UP

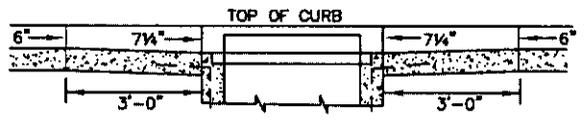
SECTION G - G

GENERAL NOTES

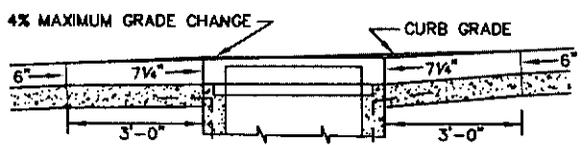
- "H" IS THE DIFFERENCE IN ELEVATION BETWEEN THE OUTLET PIPE FLOW LINE AND THE NORMAL GUTTER GRADE LINE UNDEPRESSED.
- WALL REINFORCING NOT REQUIRED WHEN "H" IS 4' OR LESS. WALLS EXCEEDING THESE LIMITS SHALL BE REINFORCED WITH #4 BARS @ 18" +/- CENTERS PLACED 1 1/2" CLEAR TO INSIDE OF BOX UNLESS OTHERWISE SHOWN.
- STEPS - NONE REQUIRED WHERE "H" IS 3'-6" OR LESS. INSTALL ONE STEP 16" +/- ABOVE FLOOR WHEN "H" IS MORE THAN 5'-D", STEPS SHALL BE EVENLY SPACED AT 12" +/- INTERVALS FROM 16" +/- ABOVE FLOOR TO WITHIN 12" +/- OF THE TOP OF THE BOX. PLACE STEPS IN WALL WITHOUT PIPE OPENINGS.
- PIPE(S) CAN BE PLACED IN ANY WALL.
- ALL CONCRETE CLASS 1
- BASIN FLOORS SHALL HAVE WOOD TROWEL FINISH AND A MINIMUM SLOPE OF 12:3 FROM ALL DIRECTIONS TOWARD OUTLET PIPE.
- ALL HARDWARE SHALL BE GALVANIZED.
- WHEN USING STANDARD ROLLED CURB AND GUTTER, CONSTRUCT A 10' TRANSITION TO VERTICAL CURB
- WHEN APRON IS REQUIRED WITH DRAINABLE-INLET EXTEND #4 SIDEWALL RE-BAR 12" INTO TAPERED GUTTER PAN.
- DELETE APRON IN NON CURB AND GUTTER AREAS.



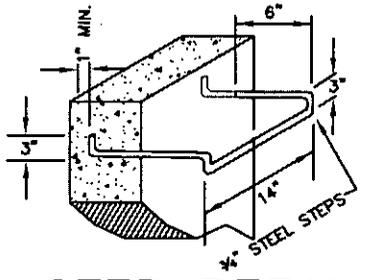
PLAN



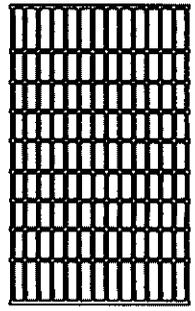
SECTION D - D



SLOPE SECTION

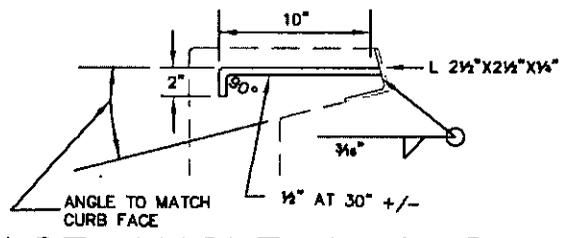


STEP DETAIL



TYPE 24-13 GRATE

NOTE: FRAME AND GRATING SHALL CONFORM TO CAL-TRANS STANDARD PLANS D-77 OR EQUAL

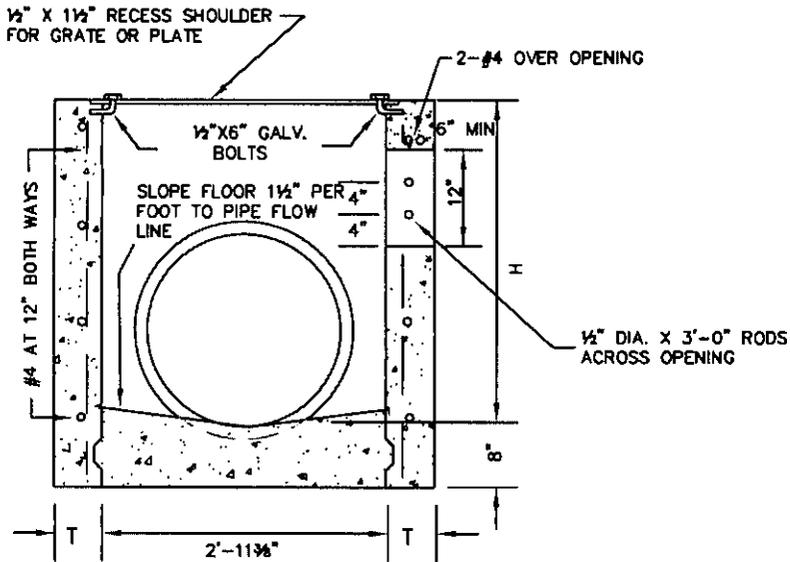


FACE ANGLE ANCHOR DETAIL

STANDARD DETAILS FOR:
 MODIFIED TYPE GO DRAINAGE INLET
 COUNTY STANDARD NO.
 S-8-A
 N.T.S.

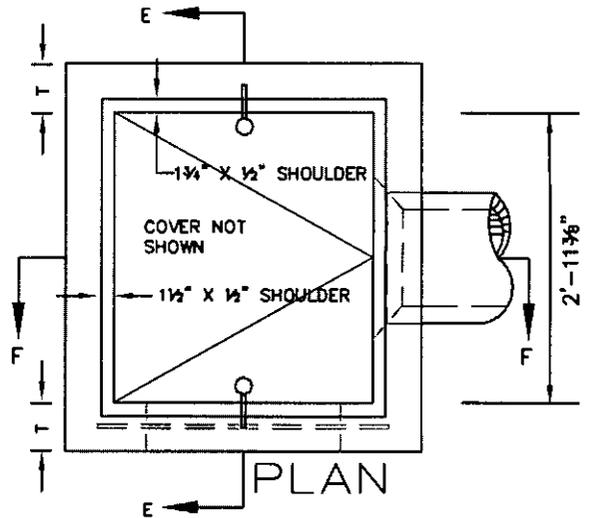


RES 06-149 10/24/06



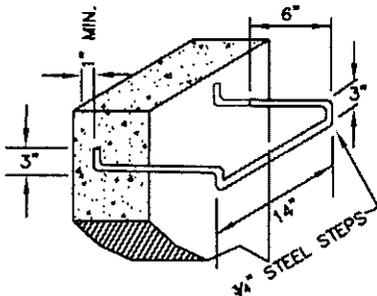
SECTION E - E

NOTE: FOR WALL THICKNESS (T)
SEE TABLE A



H	T
8'-0" OR LESS	6"
8'-1" TO 20'-0"	8"

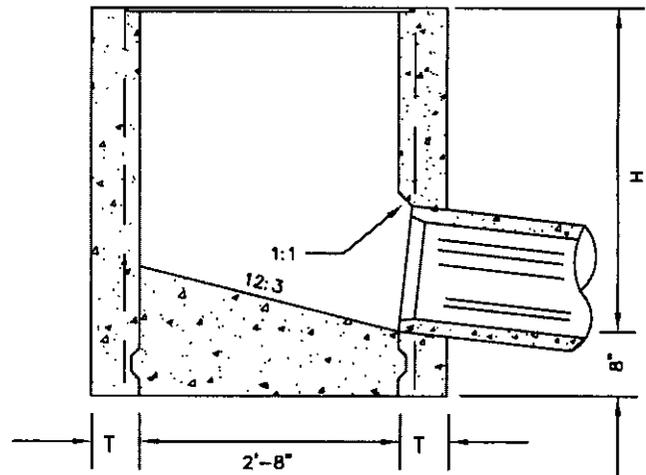
TABLE A



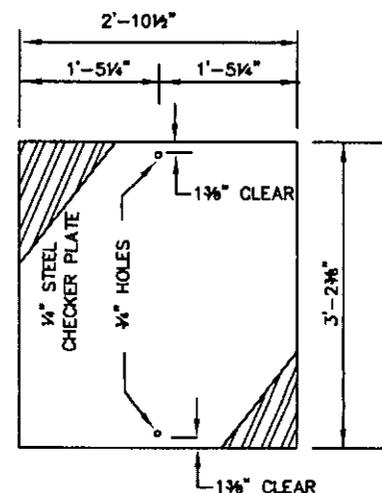
STEP DETAIL

GENERAL NOTES

1. WALL REINFORCING NOT REQUIRED WHEN "H" IS 4' OR LESS WALLS EXCEEDING THESE LIMITS SHALL BE REINFORCED WITH #4 BARS @ 18" +/- CENTERS PLACED 1 1/2" CLEAR TO INSIDE OF BOX UNLESS OTHERWISE SHOWN.
2. STEPS - NONE REQUIRED WHERE "H" IS 3'-6" OR LESS. INSTALL ONE STEP 16" +/- ABOVE FLOOR WHEN "H" IS MORE THAN 5'-0", STEPS SHALL BE EVENLY SPACED AT 12" +/- INTERVALS FROM 16" +/- ABOVE FLOOR TO WITHIN 12" +/- OF THE TOP OF THE BOX. PLACE STEPS IN WALL WITHOUT PIPE OPENINGS.
3. PIPE(S) CAN BE PLACED IN ANY WALL.
4. BASIN FLOORS SHALL HAVE WOOD TROWEL FINISH AND A MINIMUM SLOPE OF 12:3 FROM ALL DIRECTIONS TOWARD OUTLET PIPE.
5. ALL HARDWARE SHALL BE GALVANIZED.
6. TOP OF COVER AT SAME ELEVATION AS EDGE OF PAVEMENT
7. "H" IS THE DIFFERENCE IN ELEVATION BETWEEN THE OUTLET PIPE FLOW LINE AND THE TOP OF COVER.



SECTION F - F



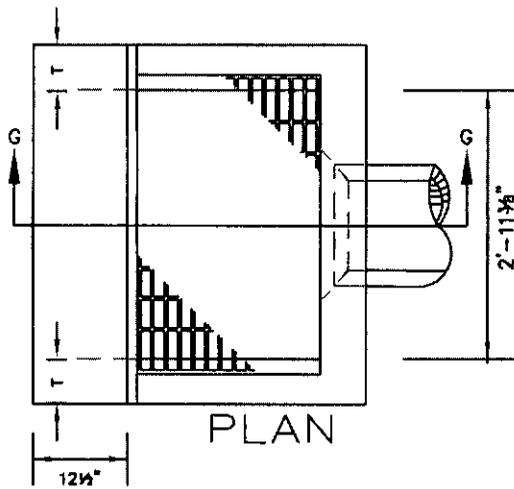
COVER PLAN

STANDARD DETAILS FOR:
MODIFIED TYPE GO DRAINAGE INLET AND DETAILS
COUNTY STANDARD NO.

S-8-B
N.T.S.



NOTE: FOR WALL THICKNESS (T)
SEE TABLE A



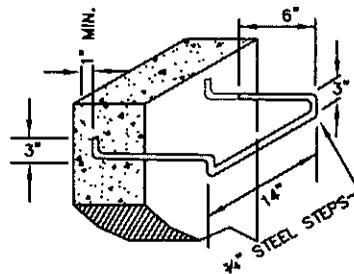
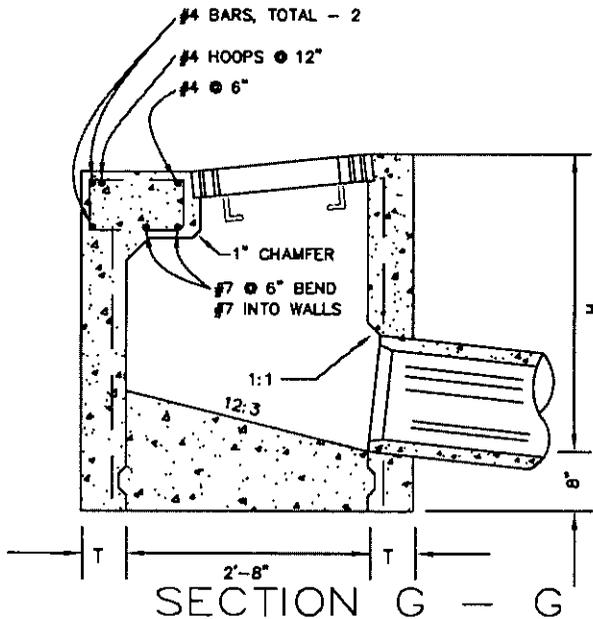
H	T
8'-0" OR LESS	6"
8'-1" TO 20'-0"	8"

TABLE A

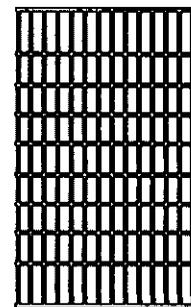
SLOPE NOTES	
D.I. GRADE	ROAD GR.
MATCH ROAD GRADE	0-4%
4%	4-8%
HOLD 4% GRADE CHANGE	8%-UP

GENERAL NOTES

- "H" IS THE DIFFERENCE IN ELEVATION BETWEEN THE OUTLET PIPE FLOW LINE AND THE NORMAL GUTTER GRADE LINE UNDEPRESSED.
- WALL REINFORCING NOT REQUIRED WHEN "H" IS 4' OR LESS WALLS EXCEEDING THESE LIMITS SHALL BE REINFORCED WITH #4 BARS @ 18" +/- CENTERS PLACED 1 1/2" CLEAR TO INSIDE OF BOX UNLESS OTHERWISE SHOWN.
- STEPS - NONE REQUIRED WHERE "H" IS 3'-6" OR LESS. INSTALL ONE STEP 16" +/- ABOVE FLOOR WHEN "H" IS MORE THAN 5'-0", STEPS SHALL BE EVENLY SPACED AT 12" +/- INTERVALS FROM 16" +/- ABOVE FLOOR TO WITHIN 12" +/- OF THE TOP OF THE BOX. PLACE STEPS IN WALL WITHOUT PIPE OPENINGS.
- PIPE(S) CAN BE PLACED IN ANY WALL.
- ALL CONCRETE CLASS 1
- BASIN FLOORS SHALL HAVE WOOD TROWEL FINISH AND A MINIMUM SLOPE OF 12:3 FROM ALL DIRECTIONS TOWARD OUTLET PIPE.
- ALL HARDWARE SHALL BE GALVANIZED.
- WHEN USING STANDARD ROLLED CURB AND GUTTER, CONSTRUCT 10' TRANSITION TO VERTICAL CURB
- WHEN APRON IS REQUIRED WITH DRAINABLE-INLET EXTEND #4 SIDEWALL RE-BAR 12" INTO TAPERED GUTTER PAN.
- DELETE APRON IN NON CURB AND GUTTER AREAS.



STEP DETAIL



TYPE 24-13 GRATE

NOTE: FRAME AND GRATING SHALL CONFORM TO
CAL-TRANS STANDARD PLANS D-77 OR EQUAL

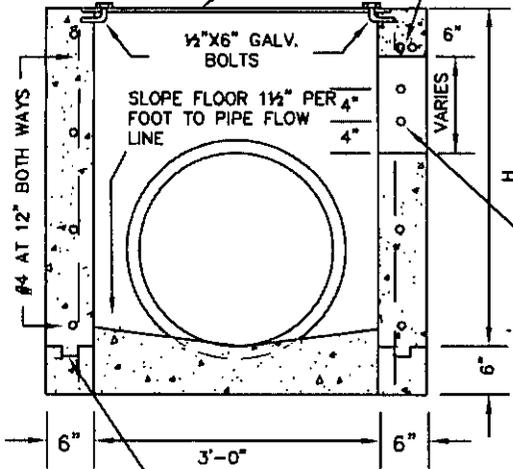
STANDARD DETAILS FOR:
TYPE GO DRAINAGE INLET AND DETAILS
COUNTY STANDARD NO.
S-8-C
N.T.S.



RES 06-149 10/24/06

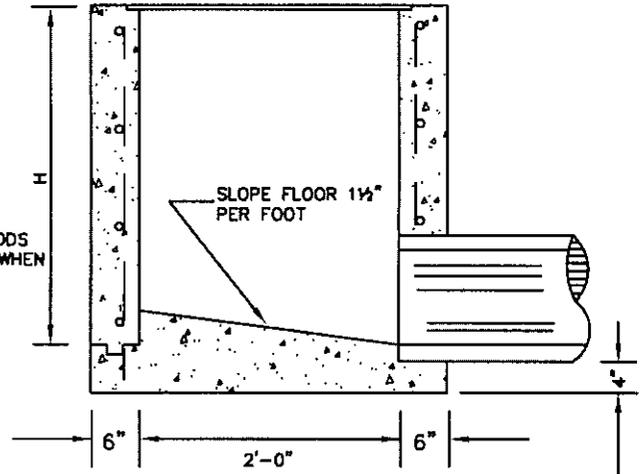
1/2" X 1 1/4" RECESS SHOULDER FOR GRATE OR PLATE

2-#4 OVER OPENING



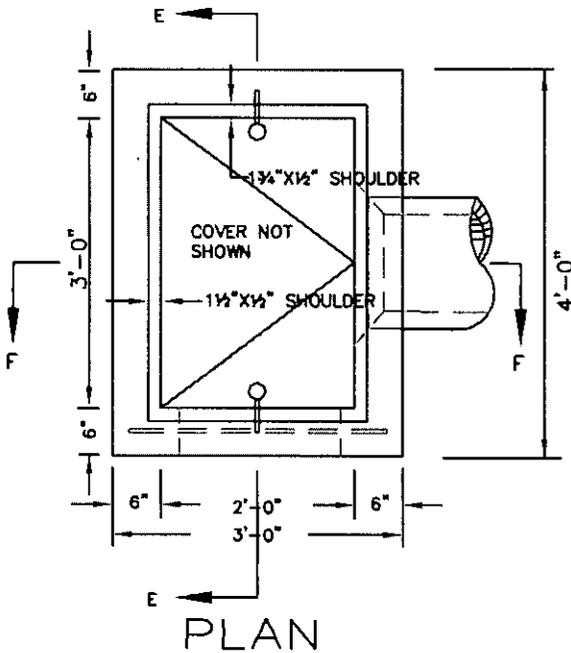
KEYED CONSTRUCTION JOINT OPTIONAL

SECTION E - E

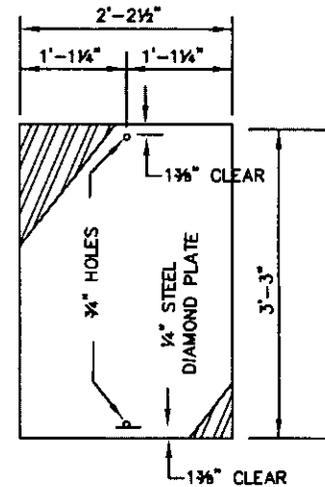


SECTION F - F

NOTE: FOR WALL THICKNESS (T) SEE TABLE A

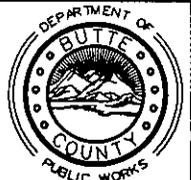


PLAN



COVER PLAN
(WT. 74 LBS)

STANDARD FOR:
TYPE "C" INLET
COUNTY STANDARD NO.
S-9
N.T.S.



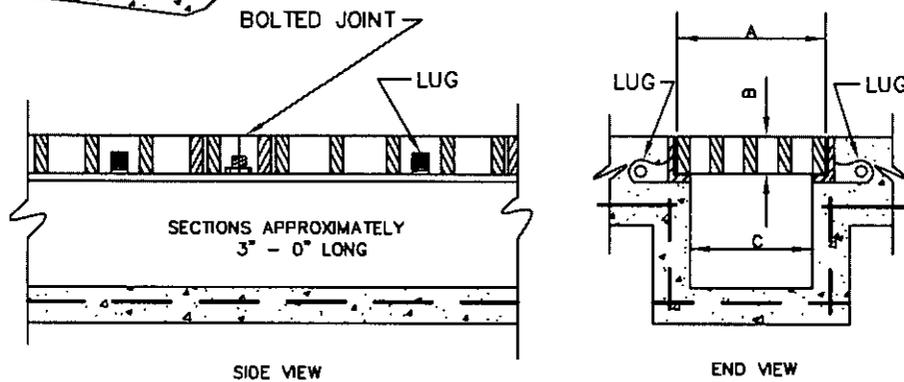
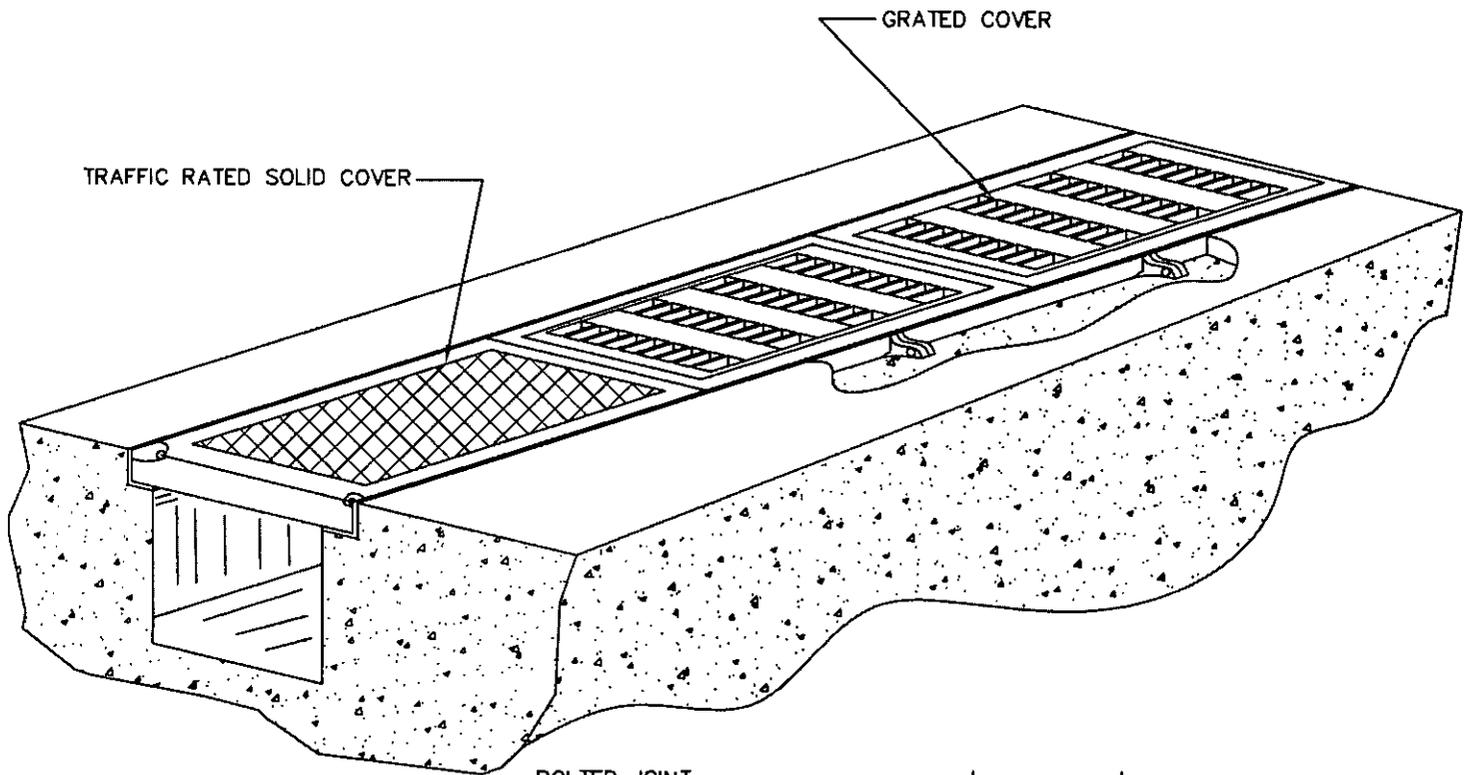


TABLE-----DIMENSIONS IN INCHES

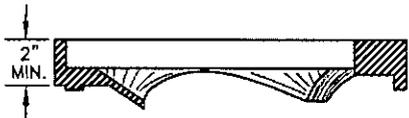
A	B	C
8	1 3/4	6
10	1 3/4	8
12	2	10
14	2	12

NOTES:
 TRENCH DETAILS AND SIZE OF FRAME,
 WITH GRATE OR COVER WILL BE
 SPECIFIED ON PLANS.
 SOUTH BAY FOUNDRY C 50 TRAFFIC
 BIKEPROOF OR EQUAL.

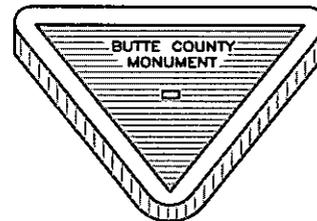
STANDARD FOR:
 CONC. TRENCH COVER FOR STREETS & SIDEWALKS
 COUNTY STANDARD NO.
 S-10
 N.T.S.



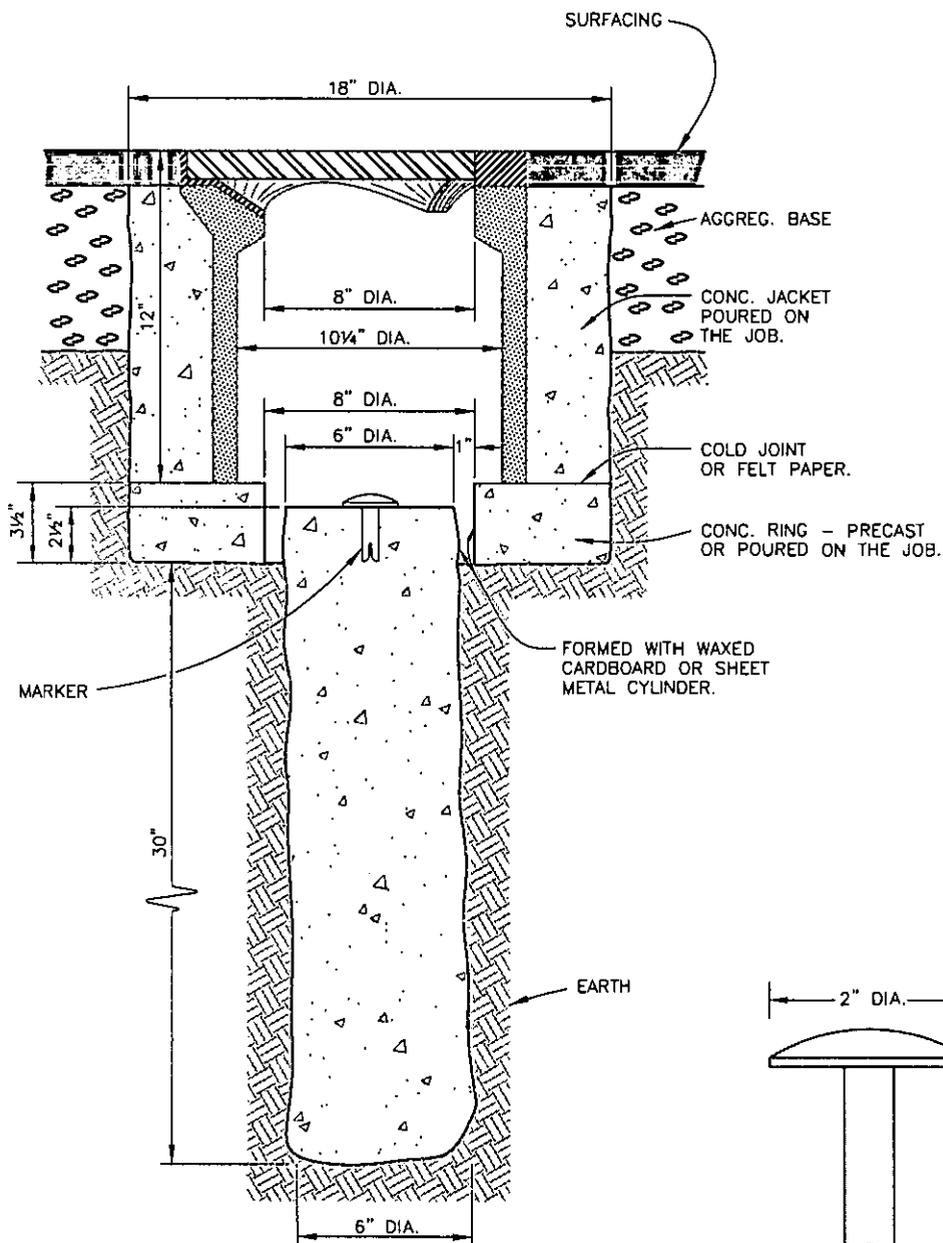
NOTE: WHEN RESURFACING ROAD
ADD RISER RING BETWEEN
EXISTING BOX & COVER
TO MEET NEW ROAD GRADE.



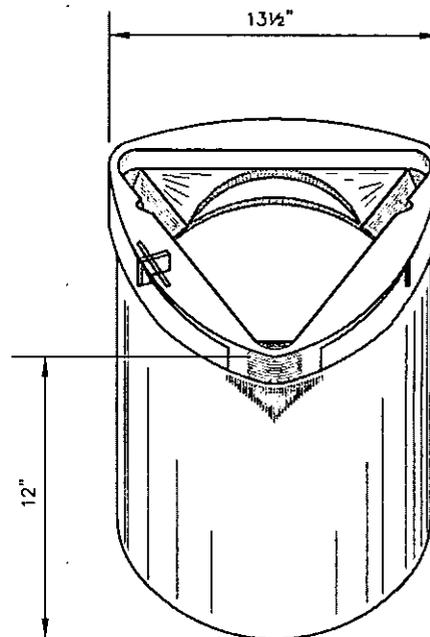
RISER RING



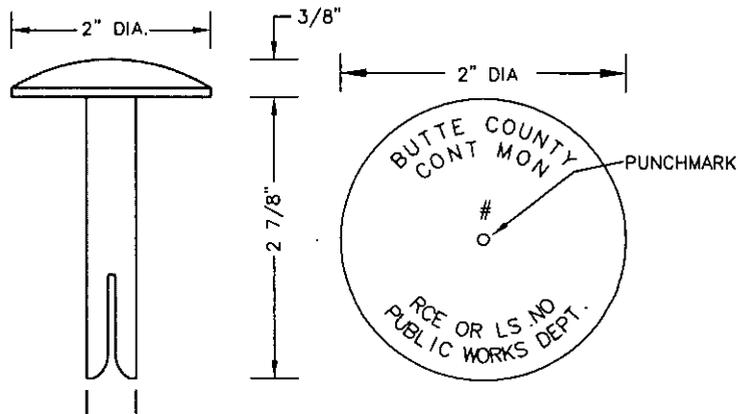
C.I. COVER



MONUMENT SECTION



MONUMENT

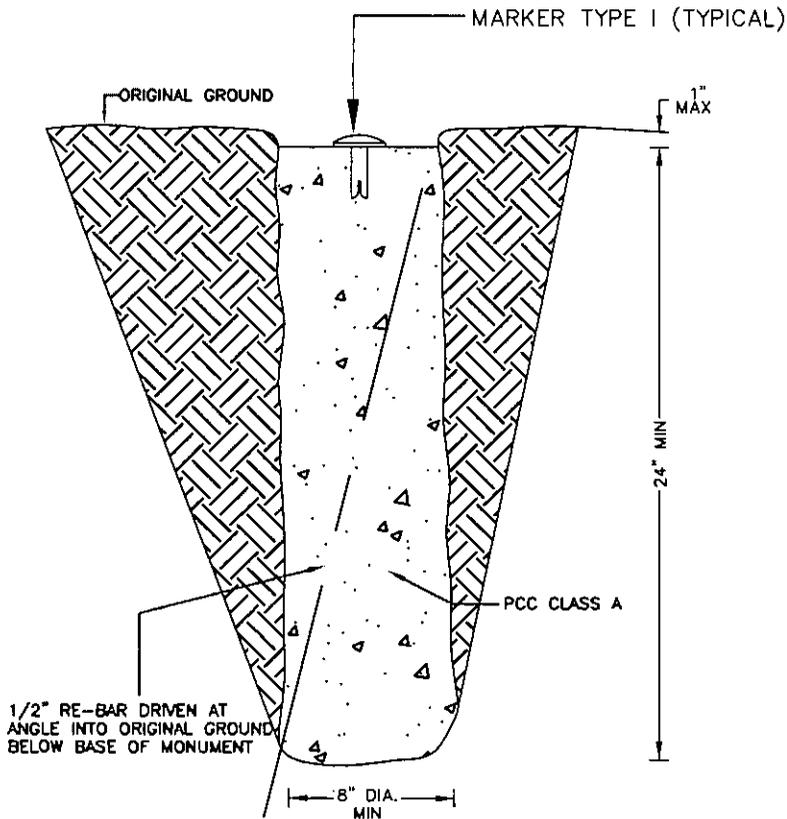


MARKER

NOTE: MONUMENT TO BE NO. 4TT
VALVE BOX W/C.I. FACE & COVER
FOR TRAFFIC USE. BROOKS
PRODUCTS INC. OR EQUAL.

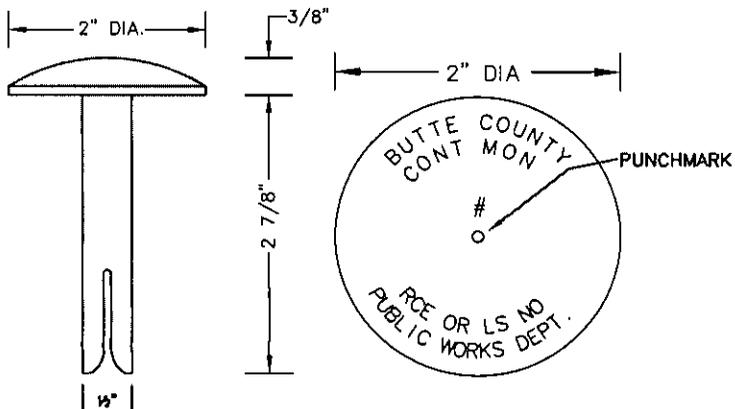
STANDARD FOR:
STREET SURVEY MONUMENT
COUNTY STANDARD NO.
S-11
N.T.S.



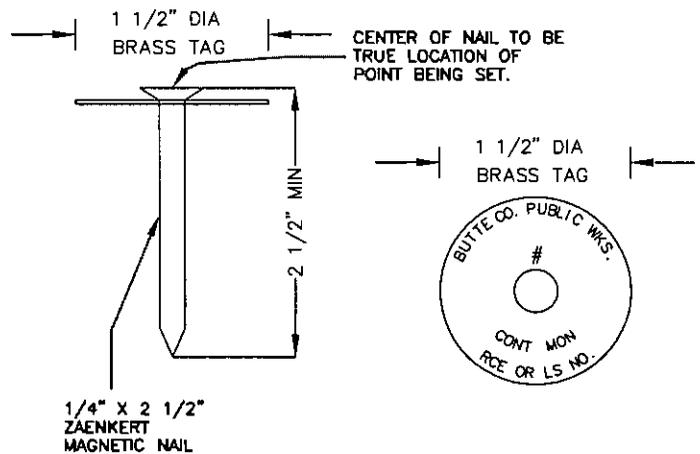


SURVEY CONTROL MONUMENT SECTION

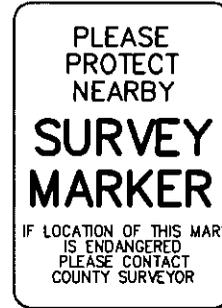
NOTE: BRASS MARKERS TYPE I AND TYPE II TO BE USED AS PRESCRIBED BY THE COUNTY SURVEYOR.



BRASS MARKER TYPE I



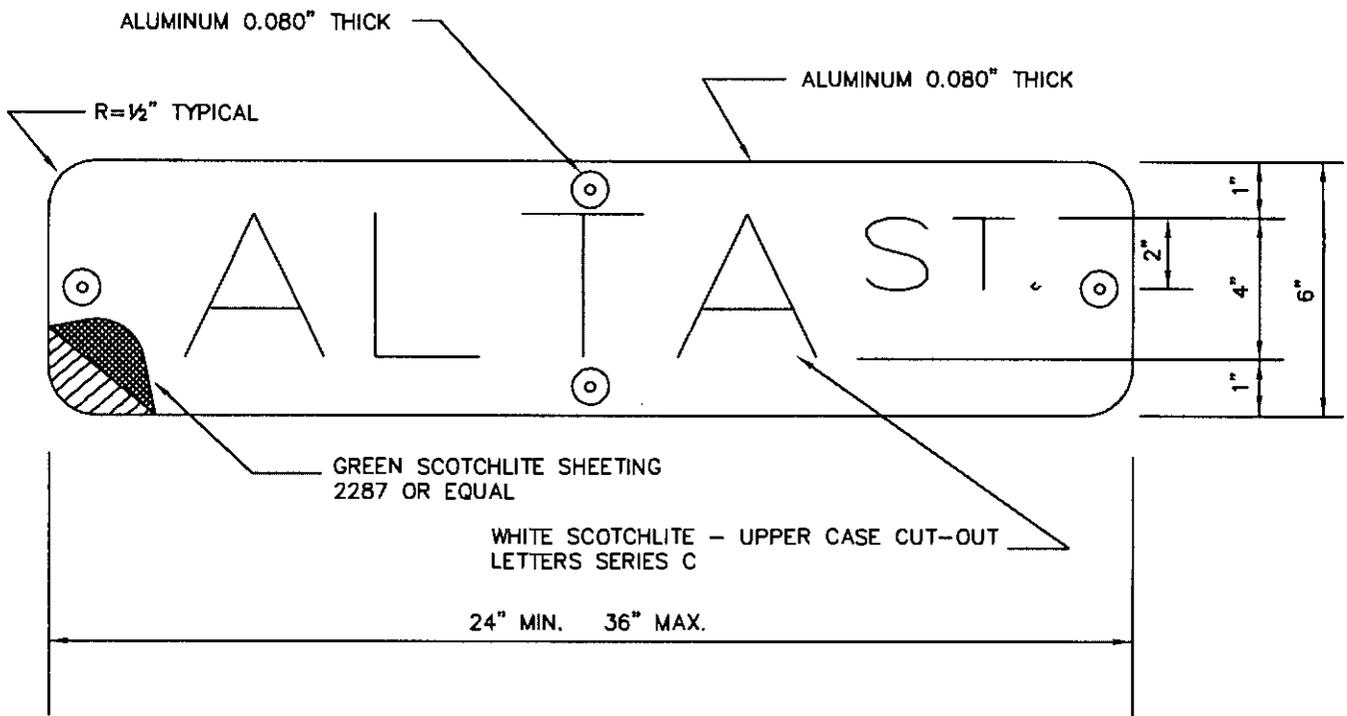
BRASS MARKER TYPE II



NOTE: PREFERRED SURVEY CONTROL MONUMENT LOCATION OUTSIDE OF EXISTING OR PROPOSED ROADWAY SECTION AND WITHIN THE EXISTING OR PROPOSED COUNTY RIGHT-OF-WAY. EXCEPTIONS MAY OCCUR. 5 1/2' T-POST WITH COUNTY SURVEY MONUMENT SIGN TO BE PLACED, FACING ROADWAY, WITHIN ONE FOOT OF MONUMENT AND SIGN MARKED WITH APPROPRIATE INFORMATION.

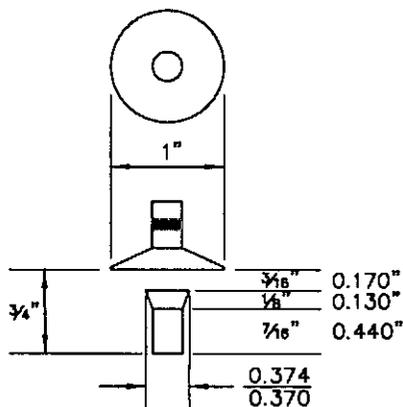
STANDARD FOR:
STANDARD SURVEY CONTROL MONUMENT
COUNTY STANDARD NO.
S-11A
N.T.S.





NOTES:

1. REFLECTIVE 4", 2" & 1" WHITE LETTERS ON GREEN REFLECTIVE BACKGROUND.
2. ALL PRIVATE STREET SIGNS MUST HAVE THE 1" LETTERS "PVT" IN THE UPPER RIGHT HAND CORNER ABOVE THE 2" ST., RD., AVE., LN. ETC.
3. SIGNS SHALL BE MOUNTED ON A TELES PAR BREAK-AWAY POST USING A HEAVY DUTY UNISTRUT ANCHOR.
4. ANCHOR TO BE CEMENTED IN THE GROUND LEAVING 2" OF THE ANCHOR ABOVE GROUND LEVEL TO EXPOSE THE RIVETS.
5. SIGN PLATES AVE TO BE ATTACHED TO THE TELES PAR BREAK-AWAY POST USING RIVETS.
6. ALL SIGNS INSTALLED IN THE STATE RESPONSIBILITY AREA (SRA) SHALL BE IN ACCORDANCE WITH THIS STANDARD.



MATERIAL: ALUMINUM

FINISH: PLAIN, ANODIZED OR PAINTED (SEE CALL-OUT)

GRIP RANGE: *0.140"-0.330" *(WHEN 0.010" FIBRE WASHER IS USED)

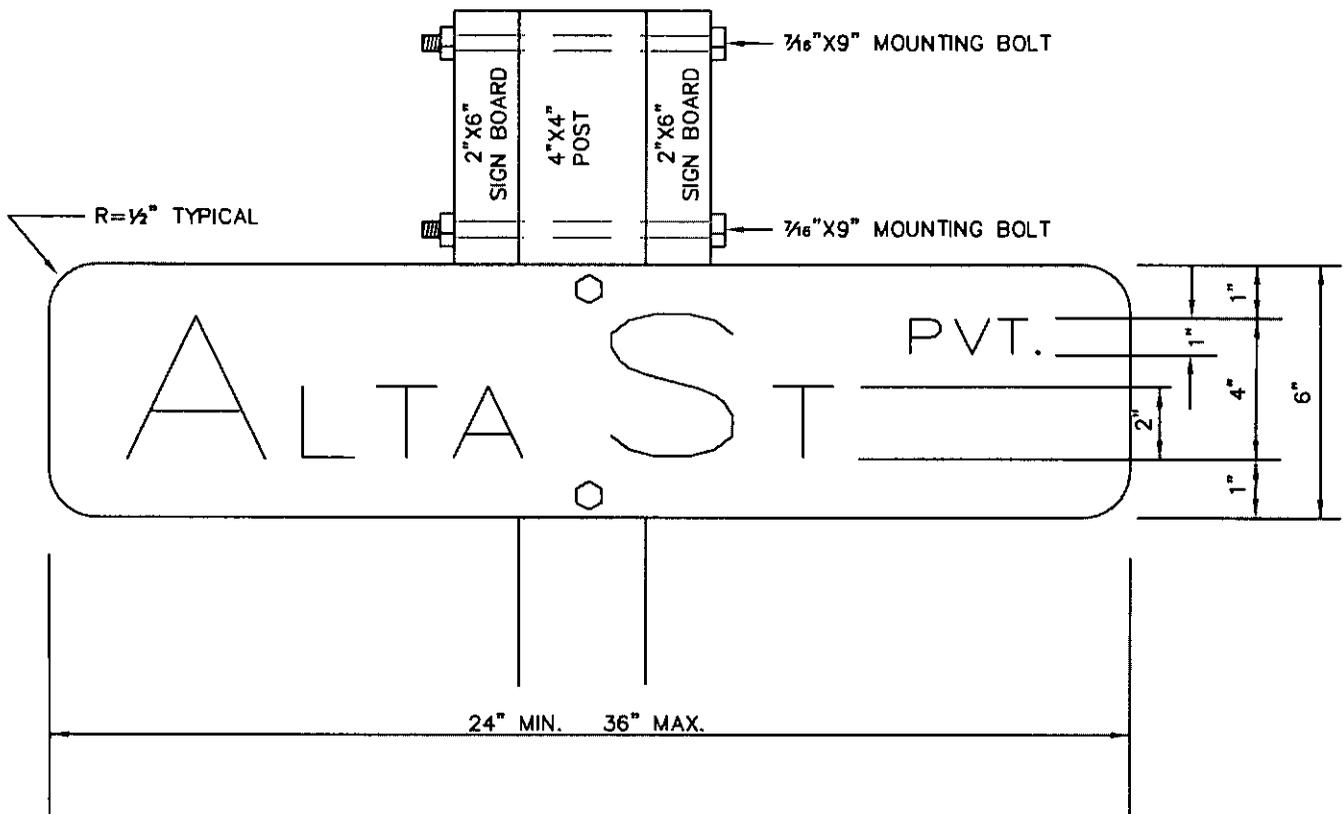
CALL OUT: VCR22I ()

A	(ANODIZED)
BE	(BLUE)
BK	(BLACK)
BN	(BROWN)
GN	(GREEN)
WE	(WHITE)
YW	(YELLOW)
RD	(RED)

JUMBO DRIVE RIVET
(DUAL PURPOSE)

STANDARD FOR:
COUNTY ROAD SIGN
COUNTY STANDARD NO.
S-12
N.T.S.



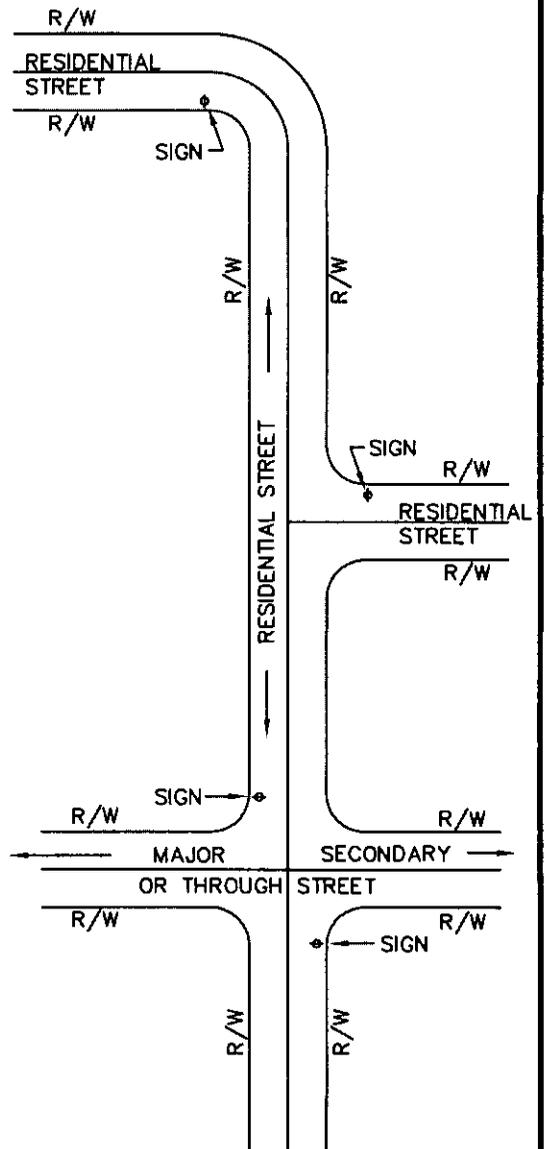
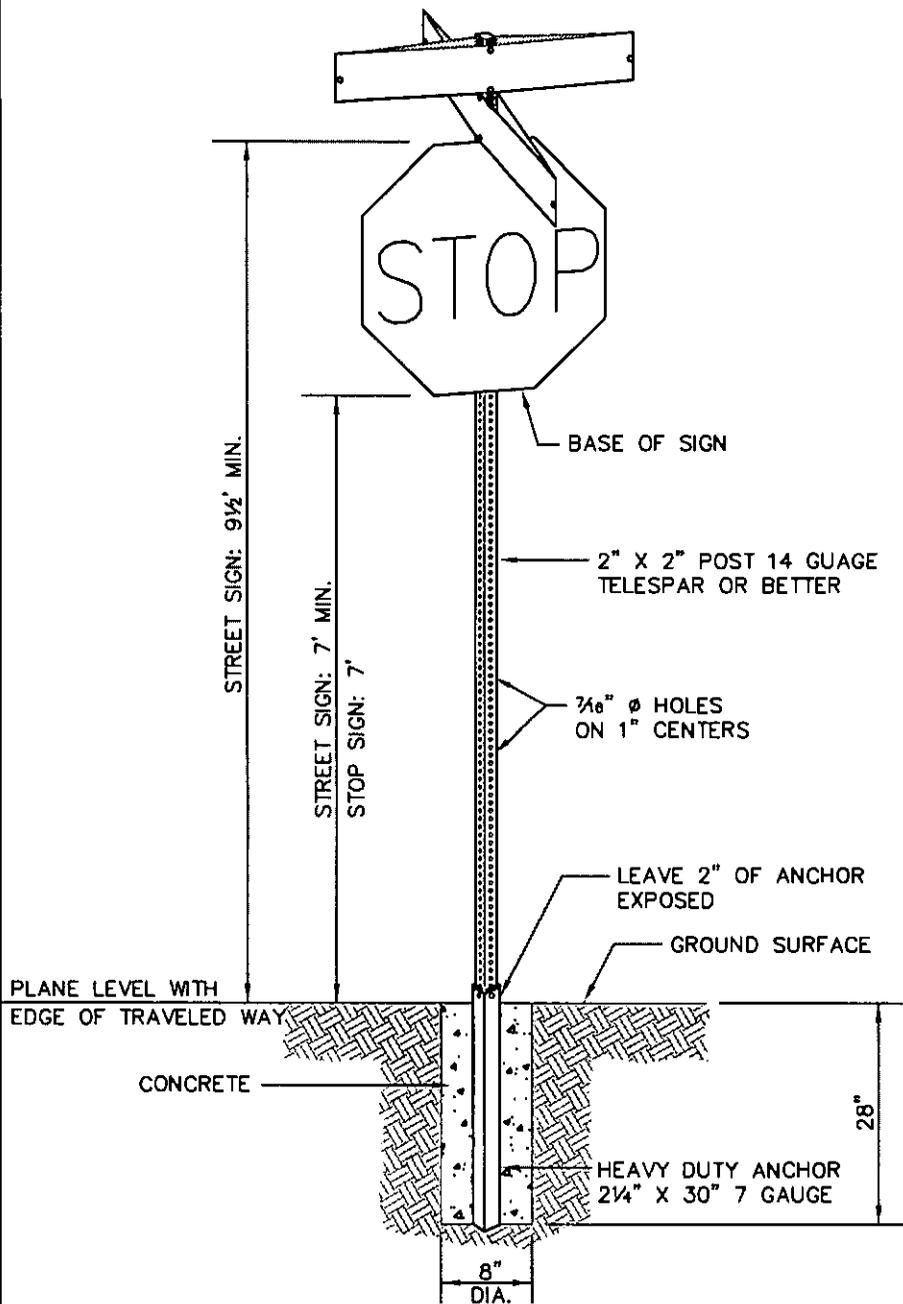


NOTES:

1. REFLECTIVE LETTERS IN CONTRASTING COLOR WITH BACKGROUND.
2. SIGNS SHALL BE READABLE ON BOTH SIDES.
3. SIGNS SHALL BE BOLTED TO A 4"x4" POST SET 3' IN GROUND A MINIMUM OF 5' FROM THE EDGE OF THE EXISTING TRAVELED WAY, THE BASE OF SIGN TO BE 7' ABOVE THE TRAVELED WAY.
4. SEE STANDARD POST DETAIL DRAWING S-13A.
5. CENTER LETTERS ON SIGN AND LEAVE 1/2" MIN. MARGIN ON BOTH ENDS.
6. SIGNS TO INDICATE BOTH ROAD NAMES AT INTERSECTION.
7. SIGNS AT INTERSECTIONS WITH PUBLIC ROADS SHALL BE INSTALLED TO STANDARDS S-12 AND S-13.
8. ALL SIGNS INSTALLED IN THE STATE RESPONSIBILITY AREA (SRA) SHALL BE IN ACCORDANCE WITH STANDARDS S-12 AND S-13

STANDARD FOR:
 PRIVATE ROAD SIGN
 COUNTY STANDARD NO.
 S-12A
 N.T.S.





SIGN POST INSTALLATION

SIGN LOCATION DIAGRAM

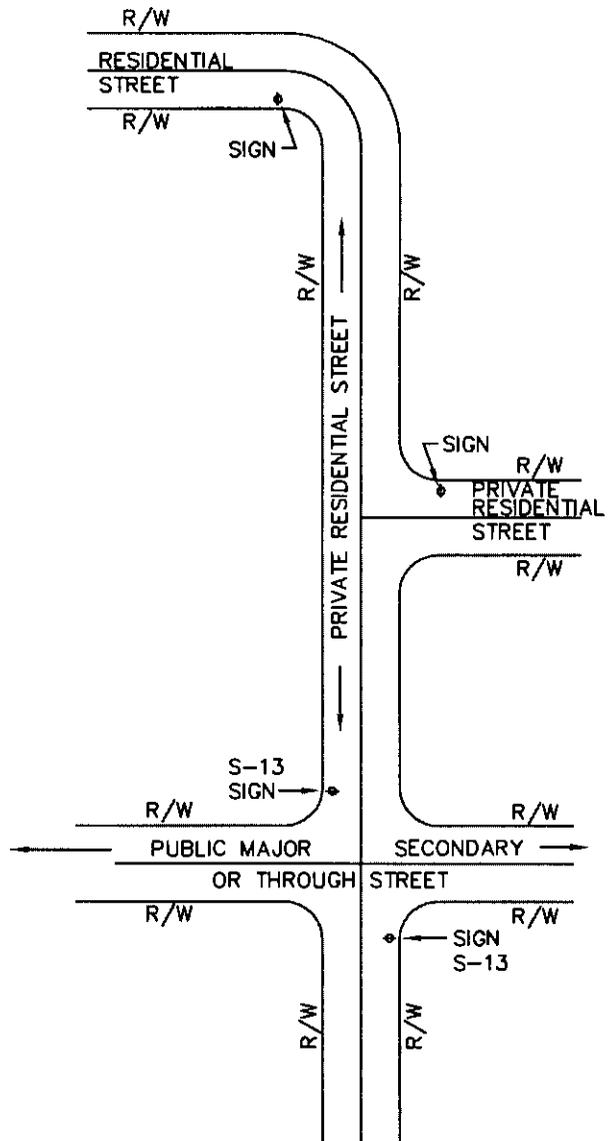
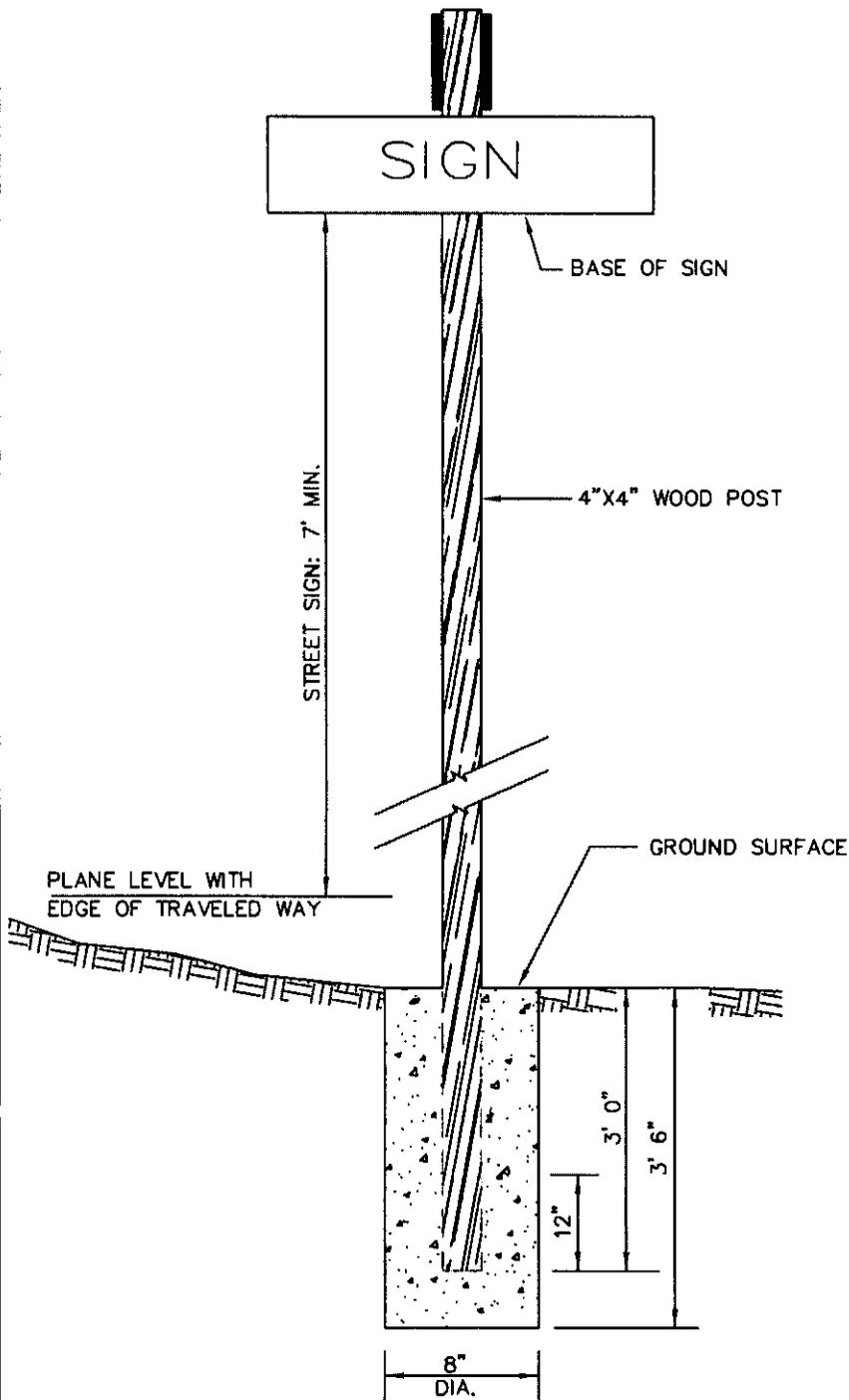
NOTES:

- WHERE STREET SIGNS AND STOP SIGNS ARE TO BE USED IN THE SAME LOCATION, THEY MAY BE MOUNTED ON THE SAME POST
- POSTS SHALL BE SET 5' MIN. OFF THE TRAVELED WAY, OR 5' FROM CURB OR FACE OF DIKE.
- BASE OF STREET SIGN SHALL BE 9½' MINIMUM ABOVE THE PLANE LEVEL WITH THE EDGE OF TRAVELED WAY.
- BASE OF STOP SIGN SHALL BE 7' ABOVE THE PLANE LEVEL WITH THE EDGE OF TRAVELED WAY.
- STREET SIGN POST AND STOP SIGN POST 5.5' MAX. FROM TRAVELED WAY.
- REFER TO STANDARD S-12 FOR SIGN DETAILS.
- ALL SIGNS INSTALLED IN THE STATE RESPONSIBILITY AREA (SRA) SHALL BE IN ACCORDANCE WITH THIS STANDARD AND STANDARD S-12

STANDARD FOR:
STREET AND STOP SIGN POST DETAILS
COUNTY STANDARD NO.

S-13
N.T.S.





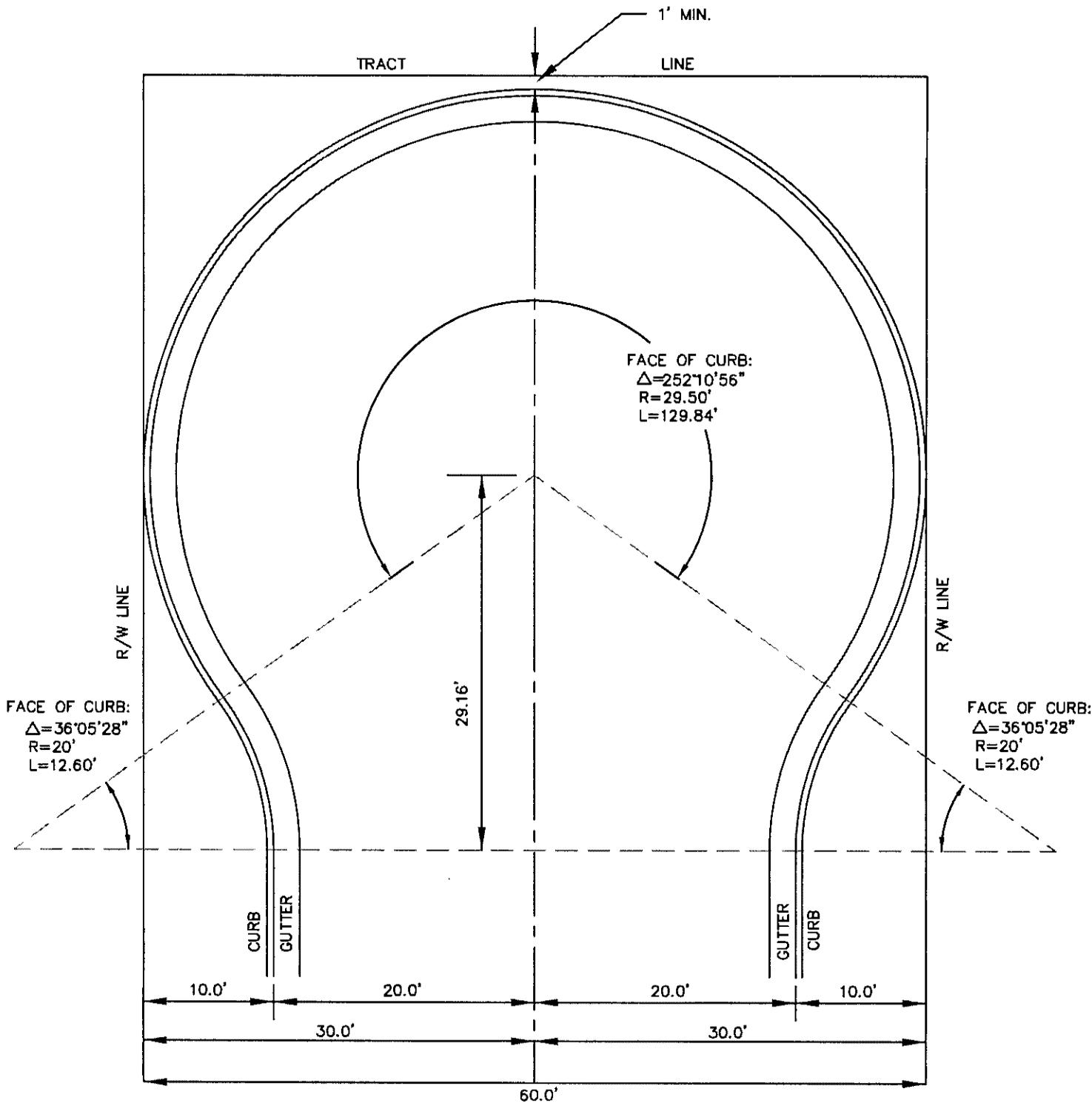
SIGN POST INSTALLATION SIGN LOCATION DIAGRAM

NOTES:

1. POSTS SHALL BE SET 5' MIN. TO 30' MAX. OFF THE TRAVELED WAY, OR 5' FROM CURB OR FACE OF DIKE.
2. BASE OF STREET SIGN SHALL BE 7' MINIMUM ABOVE THE PLANE LEVEL WITH THE EDGE OF TRAVELED WAY.
3. REFER TO STANDARD S-12A FOR SIGN DETAILS
4. SIGNS AT INTERSECTIONS WITH PUBLIC ROADS SHALL BE IN ACCORDANCE WITH STANDARDS S-12 AND S-13
5. ALL SIGNS INSTALLED IN THE STATE RESPONSIBILITY AREA (SRA) SHALL BE IN ACCORDANCE WITH STANDARDS S-12 AND S-13

STANDARD FOR:
PRIVATE STREET NAME SIGN POST DETAILS
COUNTY STANDARD NO.
S-13A
N.T.S.





FACE OF CURB:
 $\Delta=36^{\circ}05'28''$
 $R=20'$
 $L=12.60'$

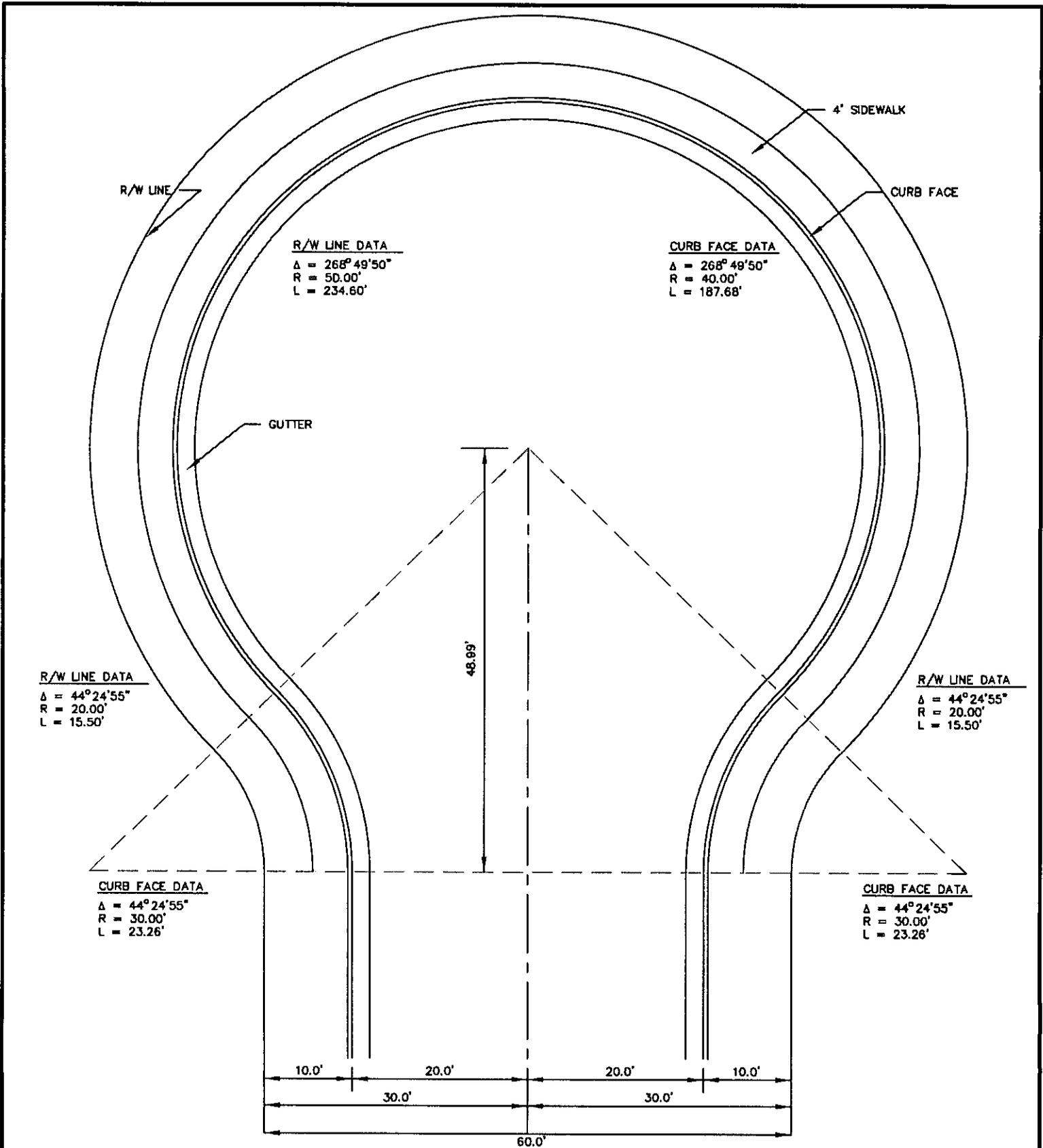
FACE OF CURB:
 $\Delta=252^{\circ}10'56''$
 $R=29.50'$
 $L=129.84'$

FACE OF CURB:
 $\Delta=36^{\circ}05'28''$
 $R=20'$
 $L=12.60'$

NOTE: ALL CURVE DATA IS TO FACE OF CURB.
 TOTAL CURB & GUTTER = 155.04'

STANDARD FOR:
 TEMPORARY CUL-DE-SAC
 COUNTY STANDARD NO.
 S-14
 N.T.S.

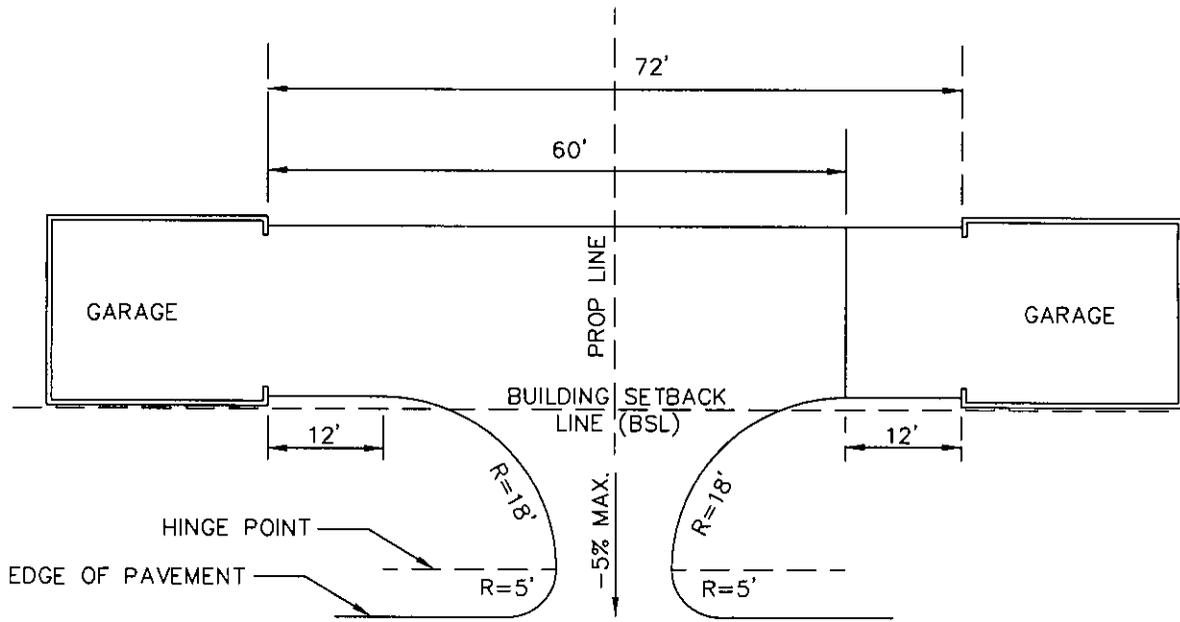




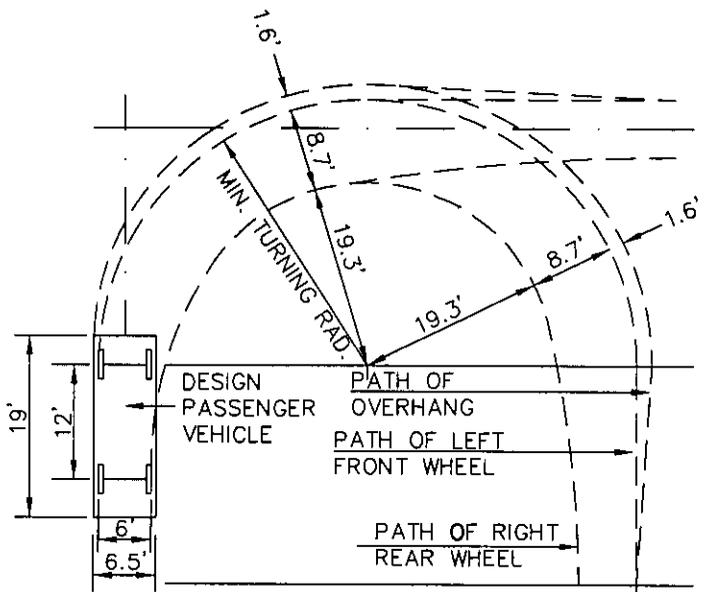
ITEM	QUANTITIES (4' SW)	QUANTITIES (5' SW)
VERTICAL CURB & GUTTER	234.20 LF	234.20 LF
SIDEWALK	242.05 LF	243.62 LF

STANDARD FOR:
 PERMANENT CUL-DE-SAC
 COUNTY STANDARD NO.
 S-15
 N.T.S.

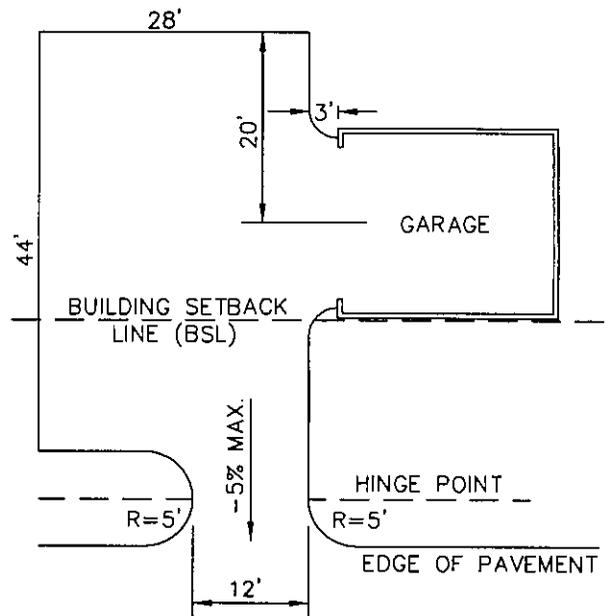




NOTE: PROPERTY LINE AT CENTER LINE OF DRIVEWAY ONLY WHEN BOTH OWNERS USE SAME DRIVEWAY



OTHER DRIVEWAY DESIGNS MAY BE APPROVED BASED ON THIS STANDARD

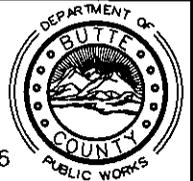


NOTE: THESE STANDARDS APPLY ONLY WHEN GARAGE AND TURNING AREA ARE NEAR ROAD GRADE & NEAR R/W.

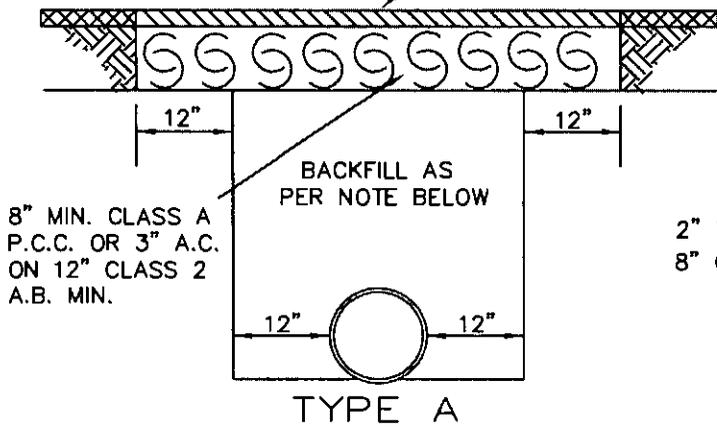
DRIVEWAYS FOR:
RURAL — HILLSIDE MOUNTAIN REC. AREAS
COUNTY STANDARD NO.

S-16
N.T.S.

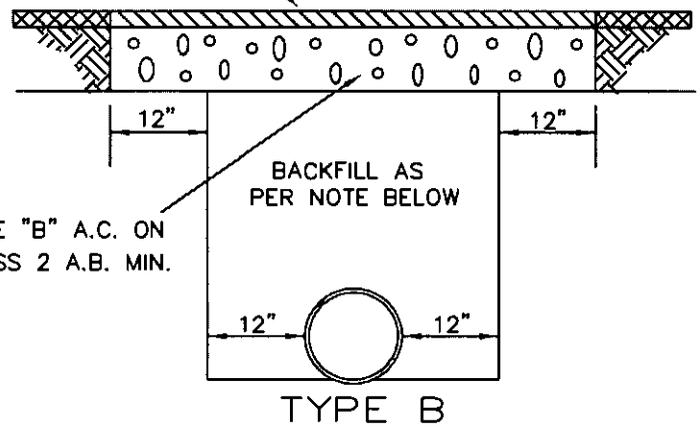
RES 06-149 10/24/06



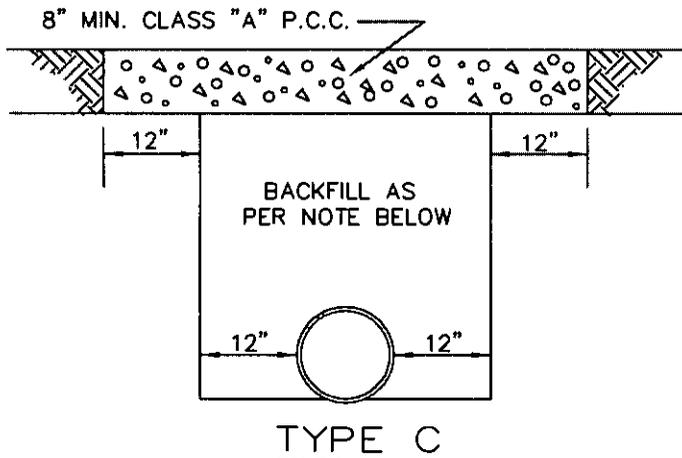
SEAL COAT - SEE NOTE BELOW



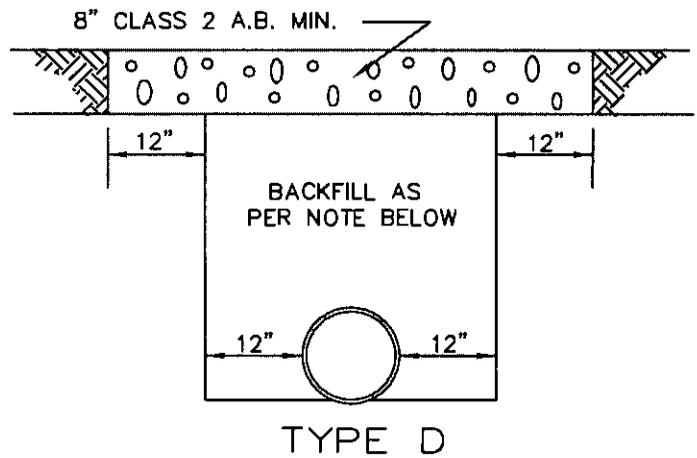
ASPHALT CONCRETE STREETS



ARMOR COAT OR SEAL COAT STREETS



PORTLAND CEMENT CONCRETE STREETS



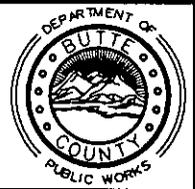
UNIMPROVED STREETS, ALLEYS OR EASEMENTS

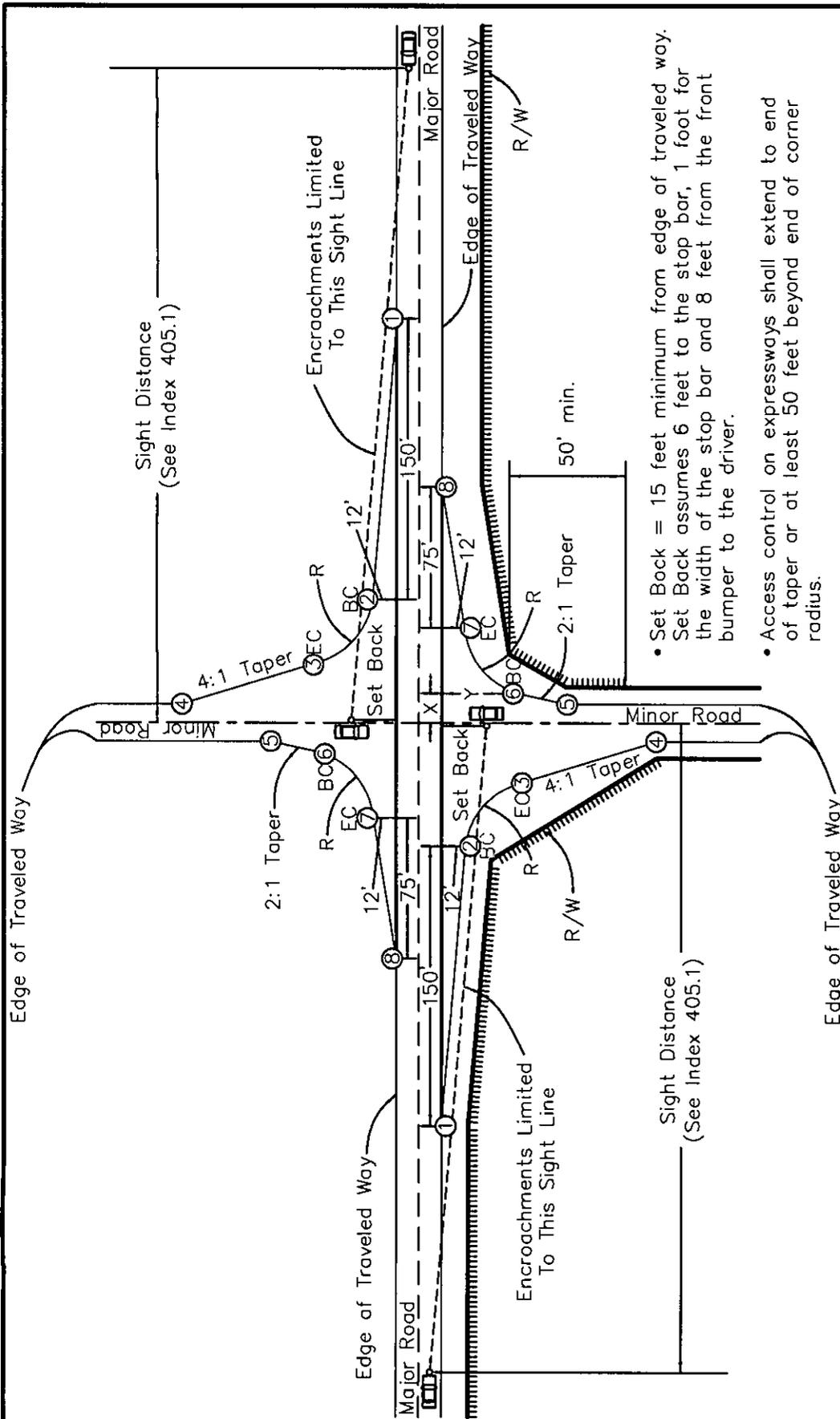
NOTES:

- 1 ALL WORK SHOWN ABOVE SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS
- 2 ALL EXCAVATION WITHIN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED IN ACCORDANCE WITH SECTION 19-3 OF THE STANDARD SPECIFICATIONS. MIN. SE = 30 , 95% REL COMPACTION FULL DEPTH.
- 3 AREA ADJACENT TO THE TRENCH SHALL BE LEFT IN A CONDITION EQUAL TO OR BETTER THAN THAT EXISTING PRIOR TO CONSTRUCTION.
- 4 SEAL COAT-BITUMINOUS BINDER SHALL BE COVERED WITH EITHER SAND OR SCREENINGS TO MATCH EXISTING SURFACE.
- 5 STRUCTURAL SECTION ELEMENTS MAY BE INCREASED WHERE REQUIRED BY THE DEPARTMENT OF PUBLIC WORKS DUE TO SOIL CONDITIONS AND TRAFFIC CONSIDERATIONS. THE REPLACEMENT STRUCTURAL SECTION SHALL EQUAL THE EXISTING STRUCTURAL SECTION AS A MINIMUM REQUIREMENT, EXCEPT THAT THE SECTION SHOWN ABOVE IS AN ABSOLUTE MINIMUM.
- 6 ASPHALT CONCRETE SHALL BE TYPE 'B', 3/4" MAXIMUM MEDIUM GRADING.
- 7 AGGREGATE BASE SHALL BE CLASS 2, 3/4" MAXIMUM GRADING.

TYPICAL DETAILS OF PAVEMENT
REPLACEMENT AND BACKFILL REQUIREMENTS
COUNTY STANDARD NO.

S-17
N.T.S.



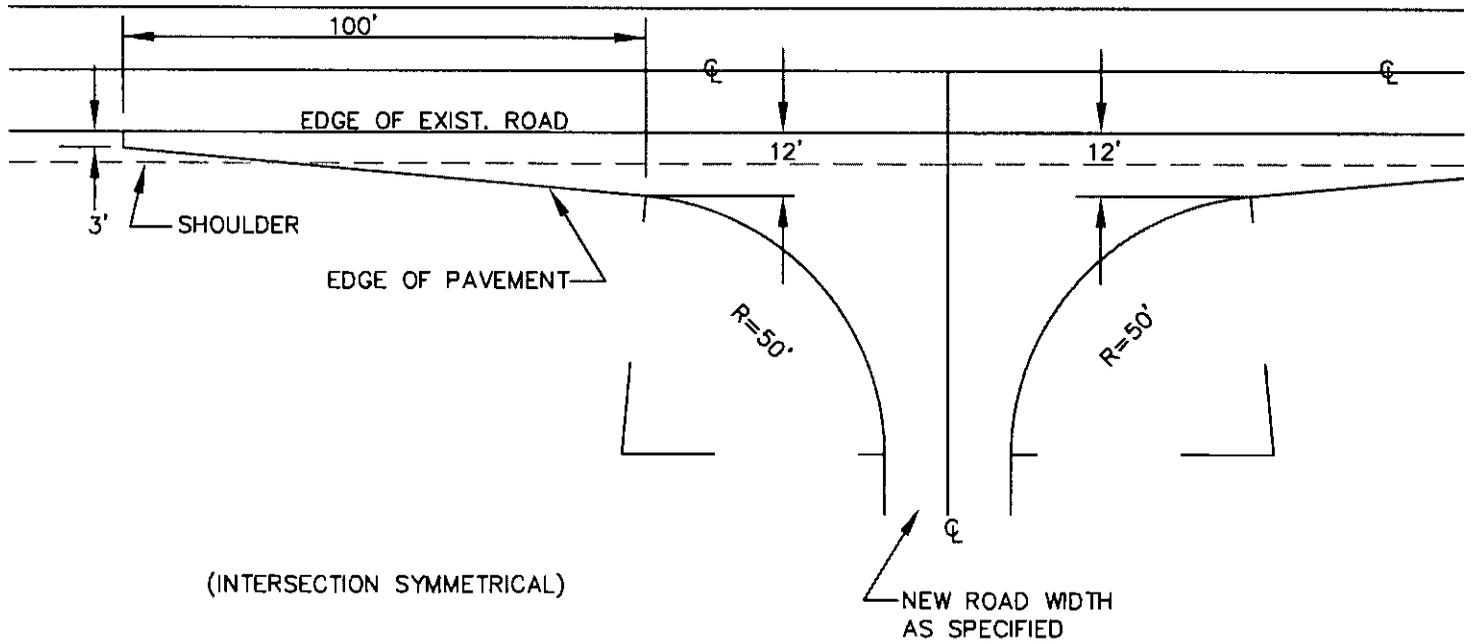


- Set Back = 15 feet minimum from edge of traveled way. Set Back assumes 6 feet to the stop bar, 1 foot for the width of the stop bar and 8 feet from the front bumper to the driver.
- Access control on expressways shall extend to end of taper or at least 50 feet beyond end of corner radius.

X - Distance measured from centerline of minor road along major road - FT.
 Y - Offset distance measured from edge of traveled way of major road to any given point - FT.

Radius of Curve	Pt ①		Pt ②		Pt ③		Pt ④		Pt ⑤		Pt ⑥		Pt ⑦		Pt ⑧	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
30'	204.20	0.0	54.20	12.0	27.49	34.63	12.0	96.58	12.0	40.66	18.23	28.21	40.32	12.0	115.32	0.0
40'	215.08	0.0	65.08	12.0	29.46	42.17	12.0	112.03	12.0	53.35	21.87	33.61	51.33	12.0	126.33	0.0
50'	226.09	0.0	76.09	12.0	31.57	49.71	12.0	127.98	12.0	75.63	30.31	39.01	67.13	12.0	142.13	0.0

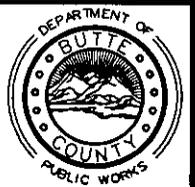


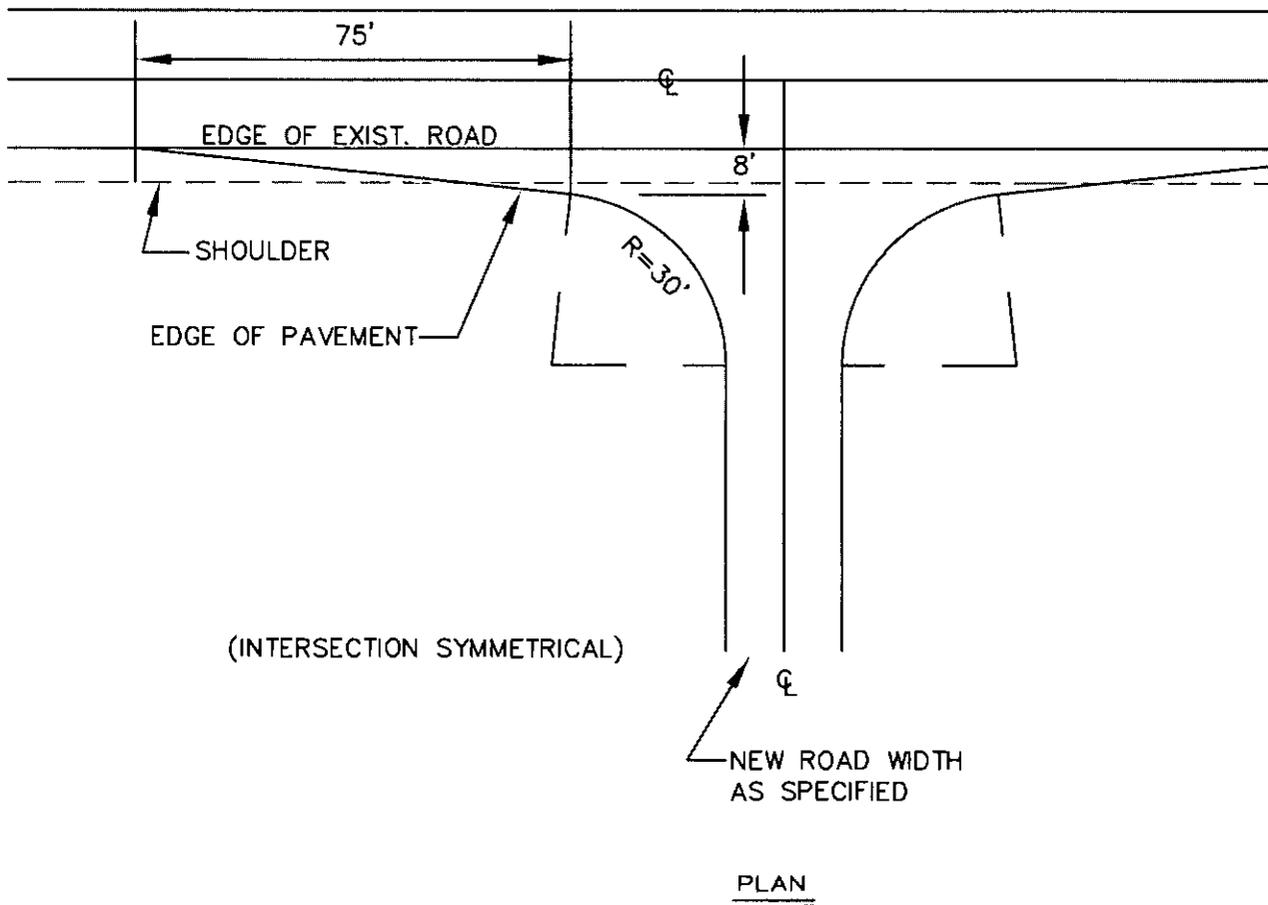


(INTERSECTION SYMMETRICAL)

PLAN

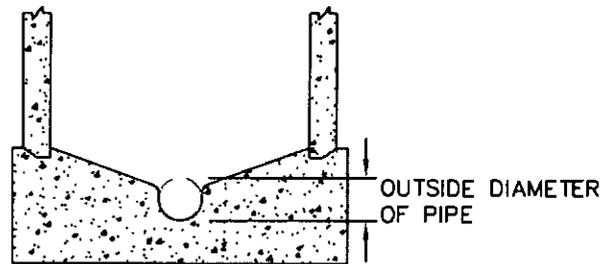
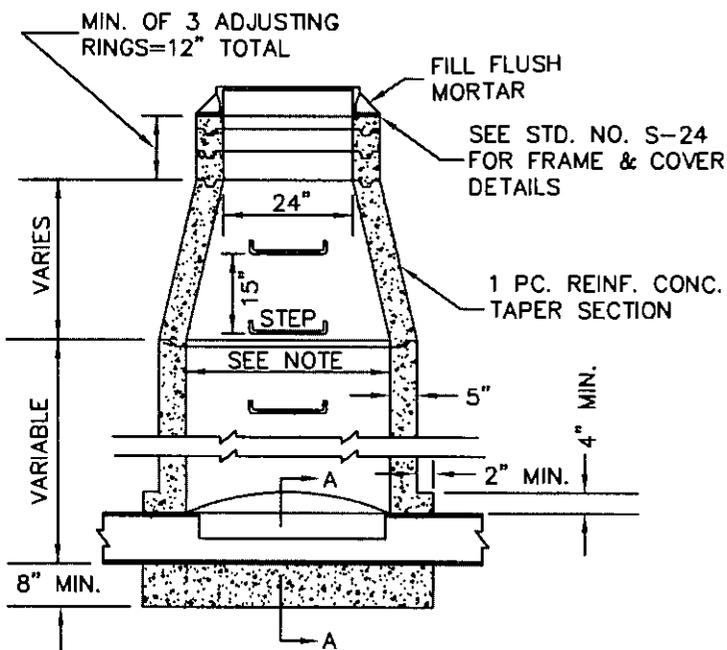
DEPARTMENT OF PUBLIC WORKS
 COLLECTOR PUBLIC ROAD CONNECTION
 COUNTY STANDARD NO.
 S-18A
 N.T.S.





DEPARTMENT OF PUBLIC WORKS
 LOCAL PUBLIC ROAD CONNECTION
 COUNTY STANDARD NO.
 S-18B
 N.T.S.

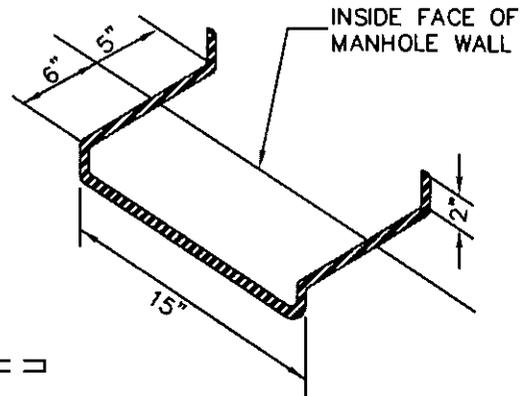
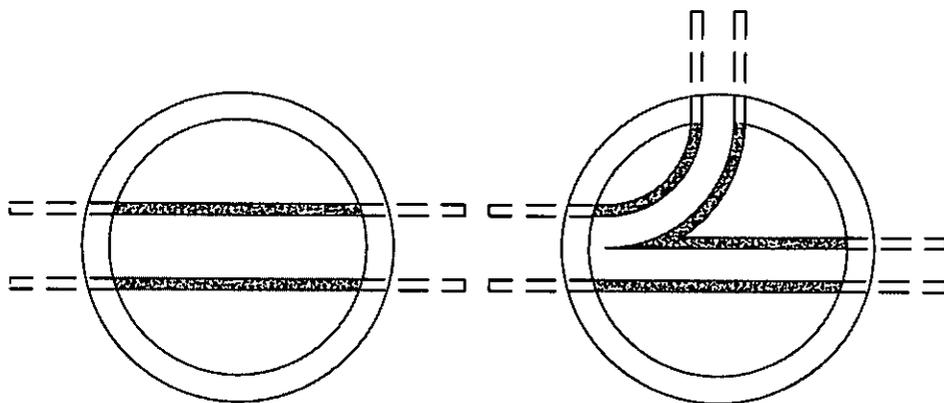




SECTION A - A

NOTE: 5' 0" DIA. M.H. FOR 39" TO 48" PIPE.
4' 0" DIA. M.H. FOR 36" AND SMALLER PIPE.

STANDARD MANHOLE 48"

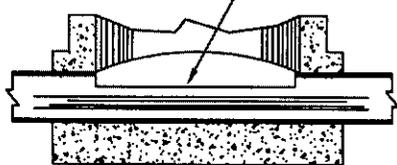


TO BE FABRICATED OF $\frac{3}{8}$ " STEEL ROD & GALVANIZED

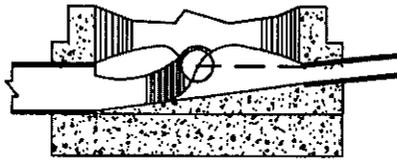
STEPS NOT REQUIRED UNLESS SPECIFIED IN SPECIAL PROVISIONS

MANHOLE STEP
DETAIL

BREAK AWAY TOP
 $\frac{1}{4}$ OF PIPE



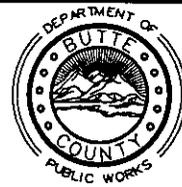
SECTION OF PIPE
CONTINUOUS THROUGH M.H.

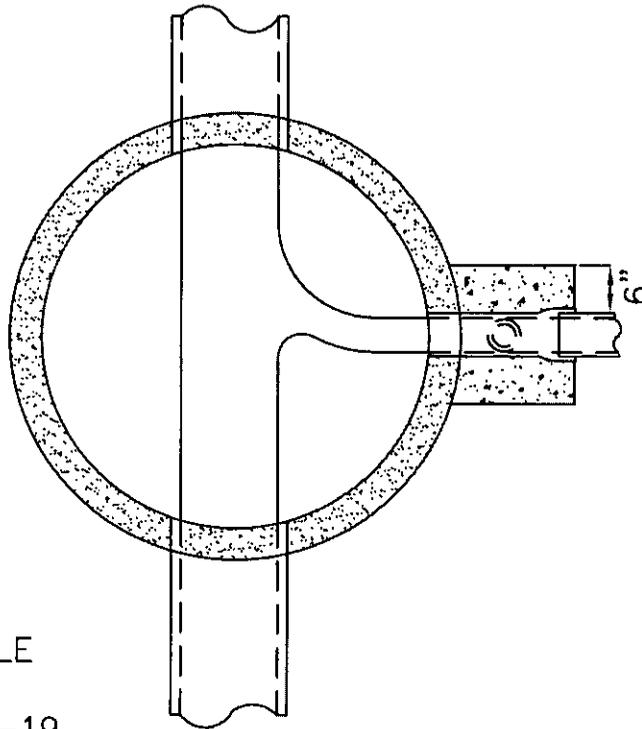


JUNCTION M.H.
BETWEEN DIFF. PIPE SIZES

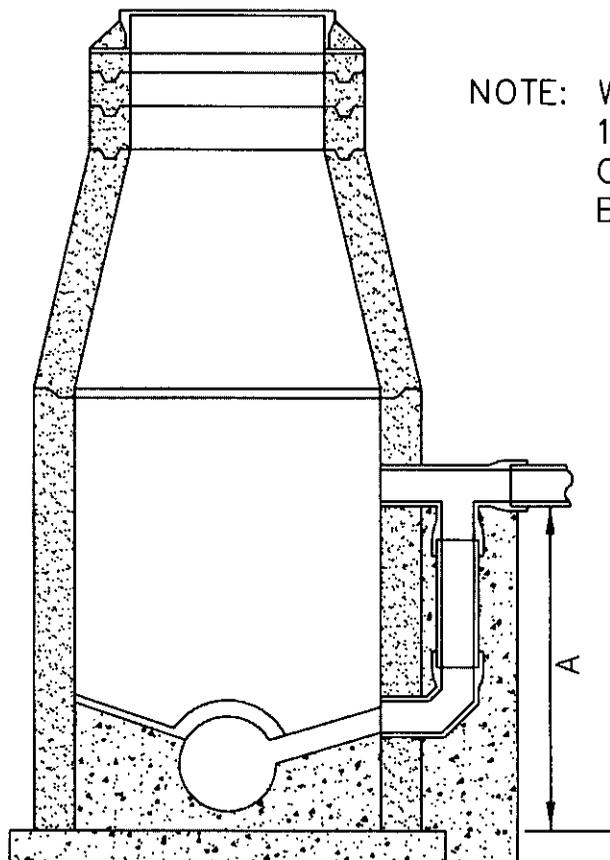
SHAPING BOTTOM OF MANHOLE

DEPARTMENT OF PUBLIC WORKS
STANDARD MANHOLE
COUNTY STANDARD NO.
S-19
N.T.S.



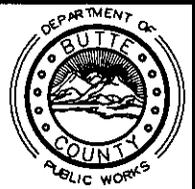


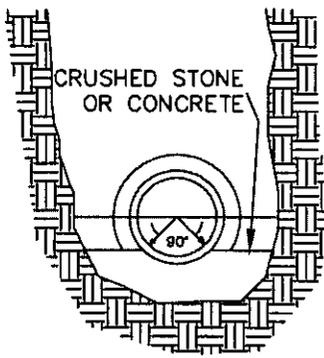
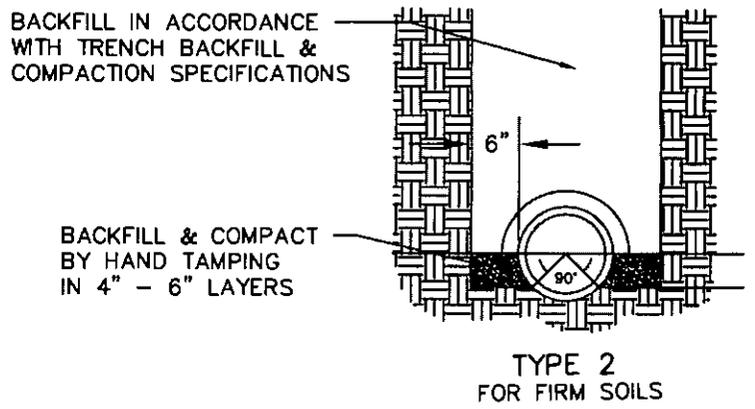
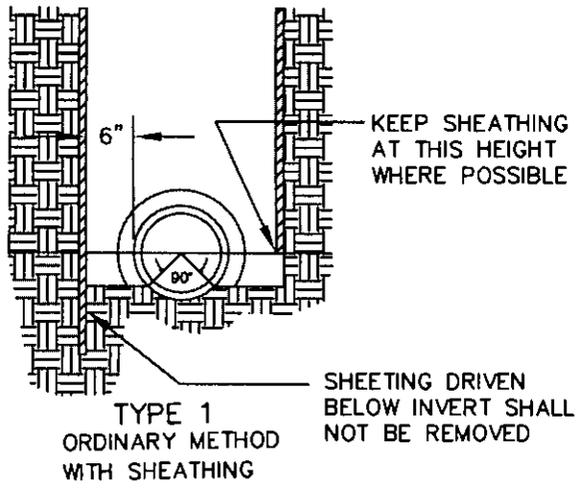
NOTE: FOR STD. MANHOLE
DIMENSIONS SEE
STANDARD NO. S-19



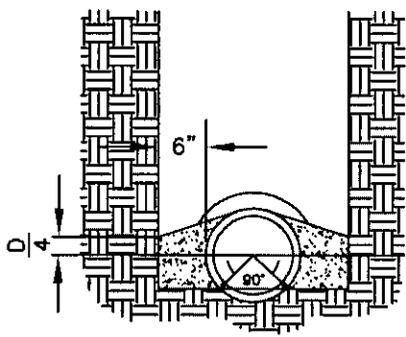
NOTE: WHEN "A" EXCEEDS
18" DROP TYPE
CONNECTION MUST
BE INSTALLED

DEPARTMENT OF PUBLIC WORKS
STANDARD DROP MANHOLE
COUNTY STANDARD NO.
S-20
N.T.S.

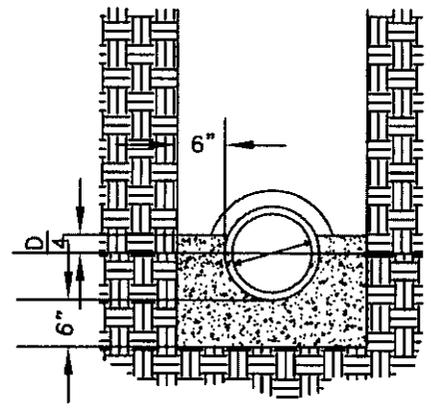




TYPE 3 (CRUSHED STONE)
TYPE 3A (CONCRETE)
FOR ROCK TRENCH BOTTOM

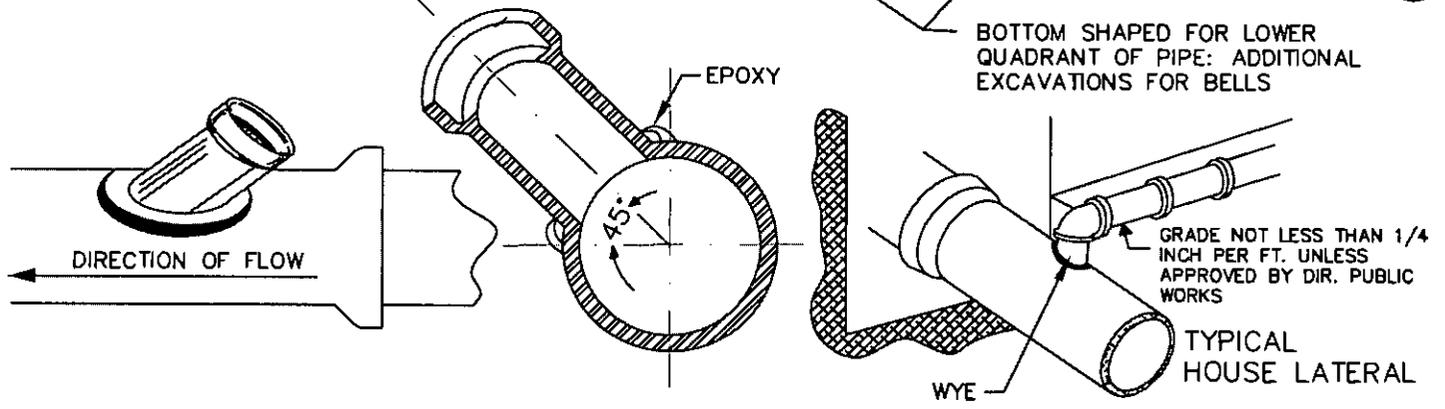
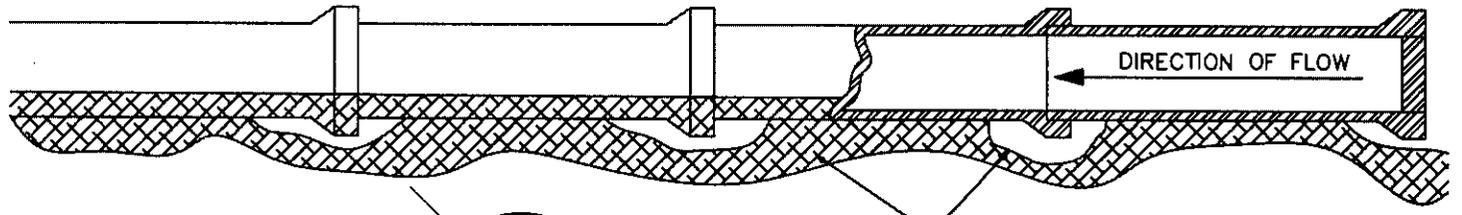


TYPE 4
CONCRETE CRADLE FOR MINIMUM COVER CONDITIONS



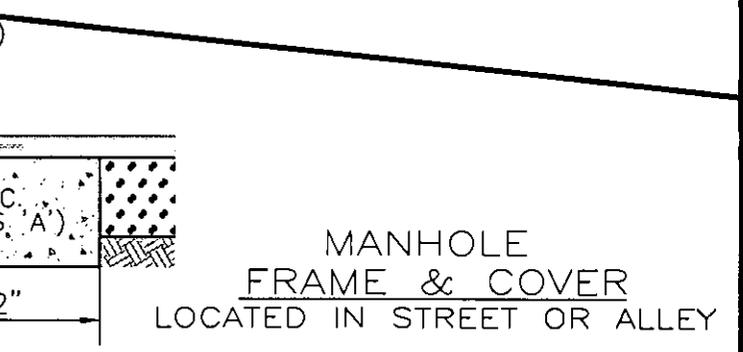
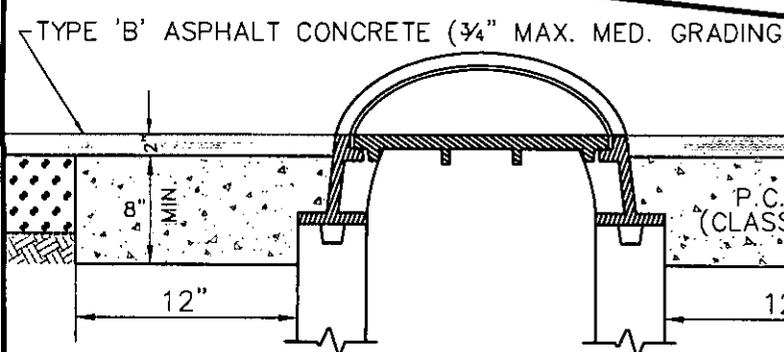
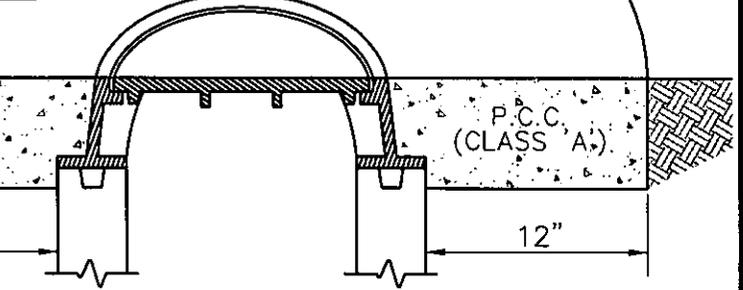
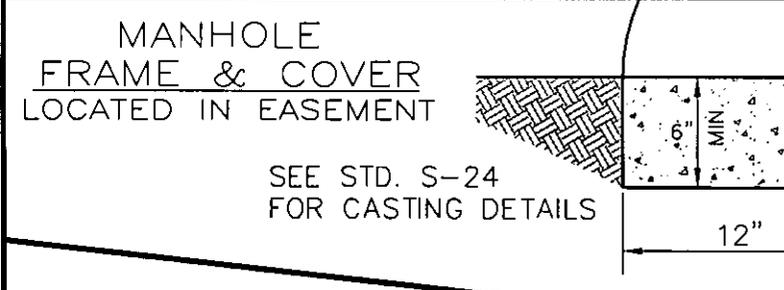
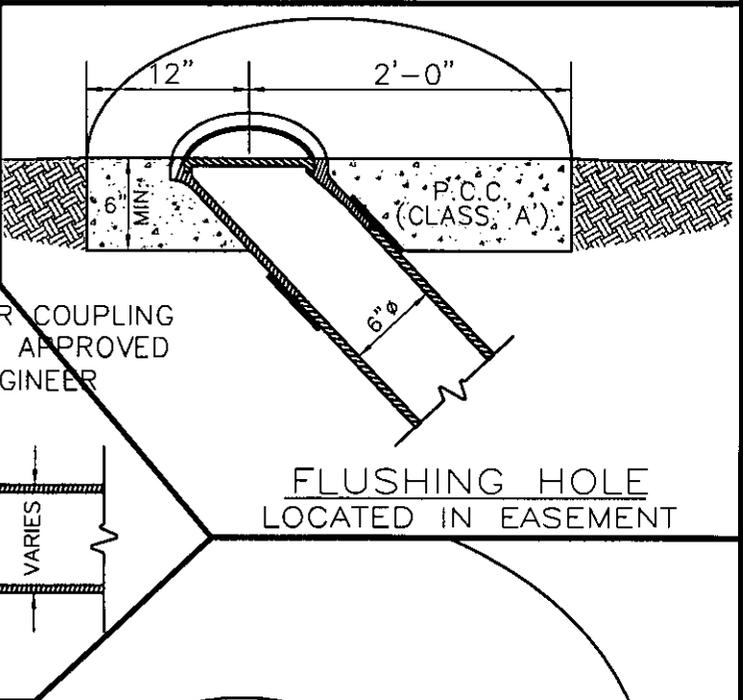
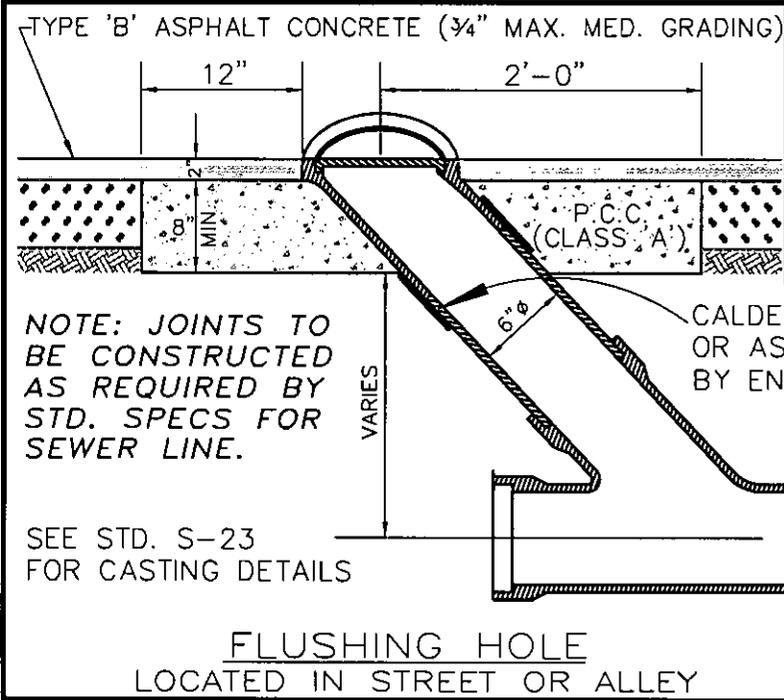
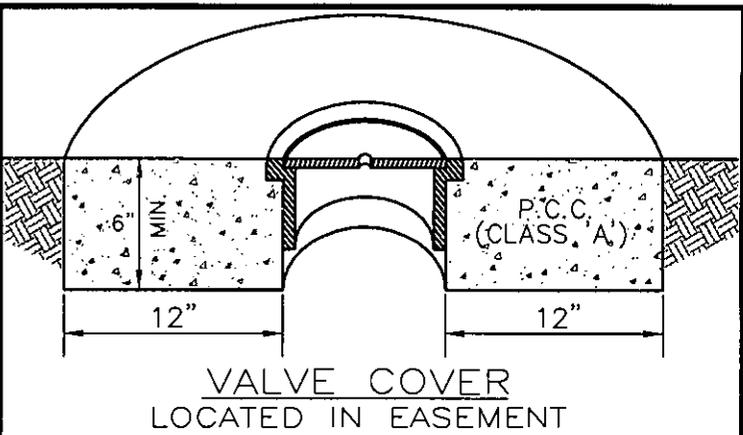
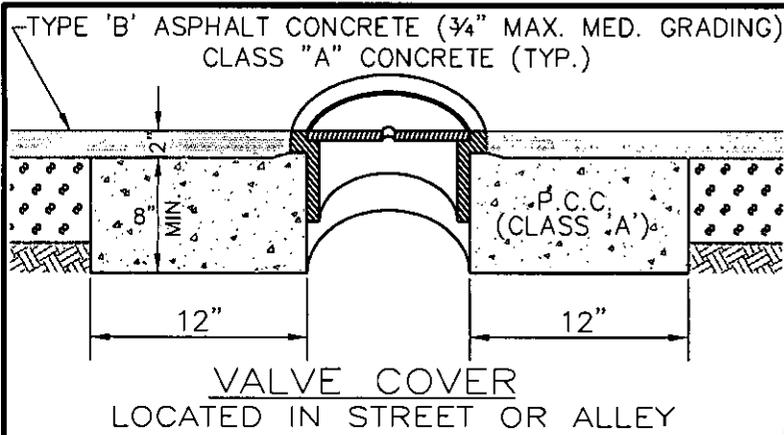
TYPE 5
FULL CONCRETE CRADLE FOR YIELDING SOILS

START LAYING PIPE AT LOW END & BUILD AGAINST DIRECTION OF FLOW



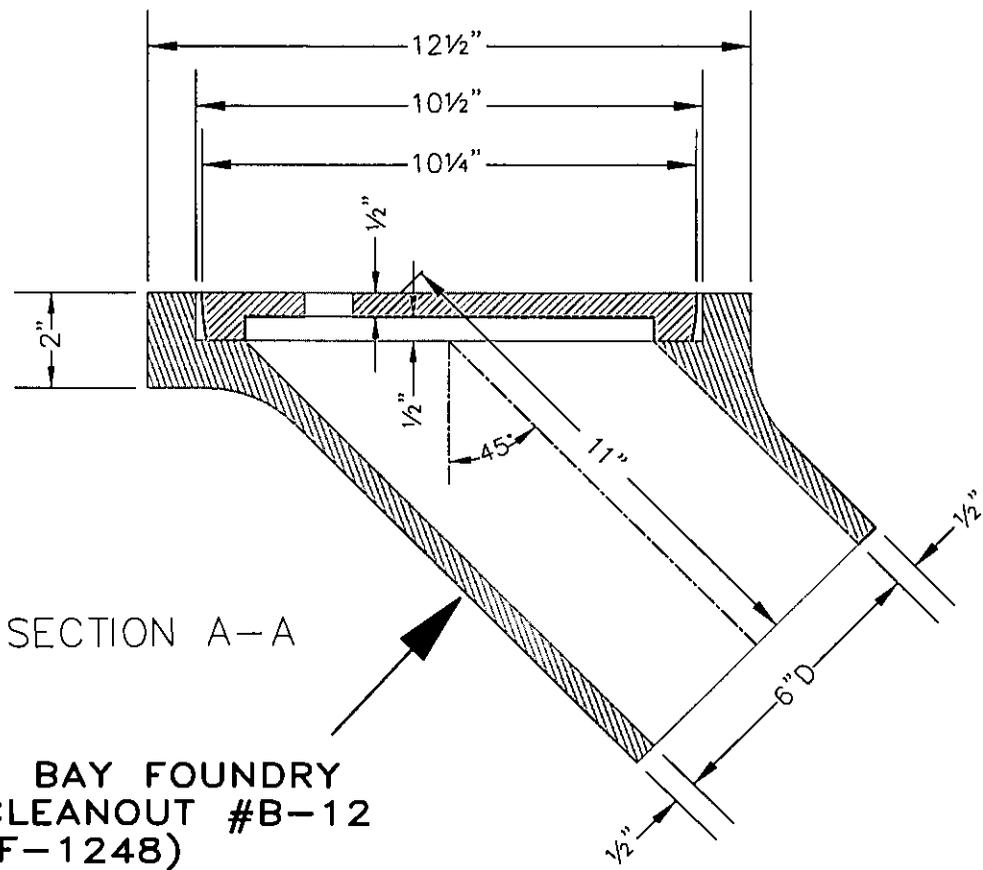
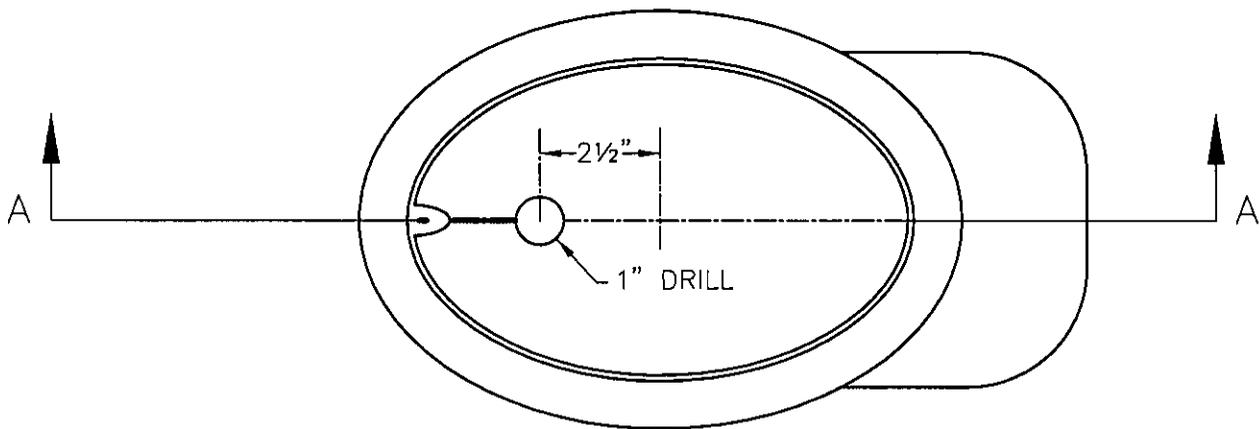
DEPARTMENT OF PUBLIC WORKS
APPROVED METHODS OF LAYING PIPE
COUNTY STANDARD NO.
S-21
N.T.S.





DEPARTMENT OF PUBLIC WORKS
TYPICAL METHOD FOR SETTING APPURTENANCES
COUNTY STANDARD NO.
S-22
N.T.S.





SOUTH BAY FOUNDRY
SEWER CLEANOUT #B-12
(SBF-1248)

SEE STD. S-22 FOR METHOD OF INSTALLATION & RISER CONSTRUCTION.

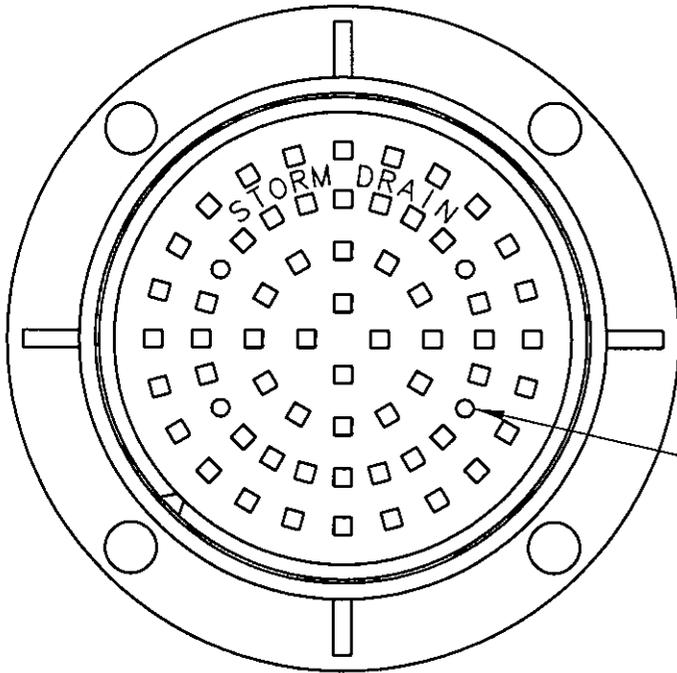
DEPARTMENT OF PUBLIC WORKS
STANDARD FLUSHING HOLE C.I. FRAME & COVER
COUNTY STANDARD NO.
S-23
N.T.S.



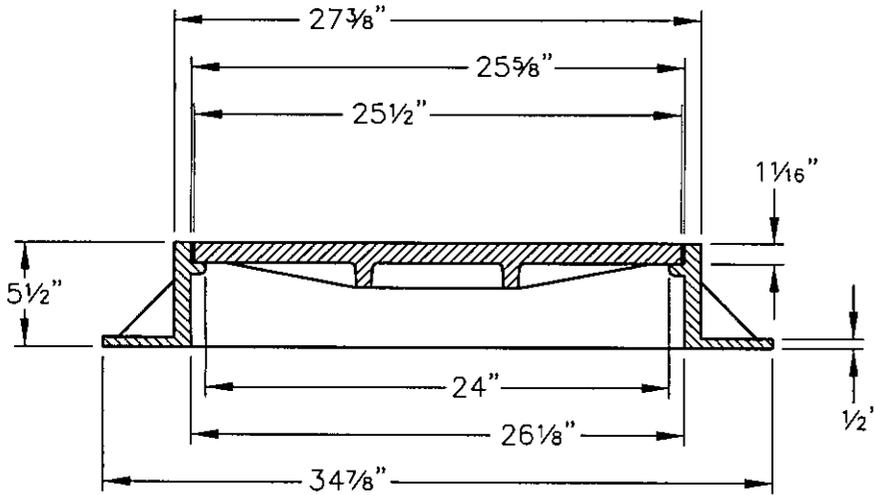
SBF 107 (1940)

SET WEIGHT

FRAME	130 LBS
COVER	147 LBS
TOTAL	277 LBS



1" PICK HOLE



GENERAL INFORMATION

ALL MATERIALS USED IN MANUFACTURING SHALL CONFORM TO ASTM 48, CLASS 35B.

FRAME AND COVER BEARING SURFACES SHALL BE MACHINED TO ASSURE CLOSE, TIGHT FIT.

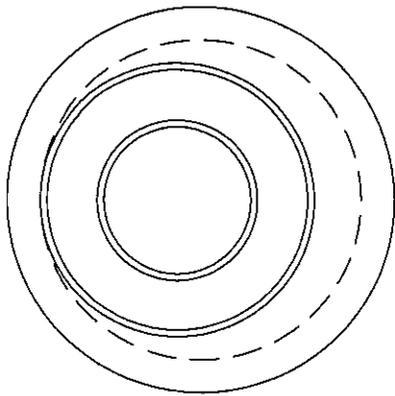
CASTINGS SHALL BE DIPPED IN BLACK BITUMINOUS PAINT.

FRAME AND COVER SHALL EXCEED HS-20 WHEEL LOADING.

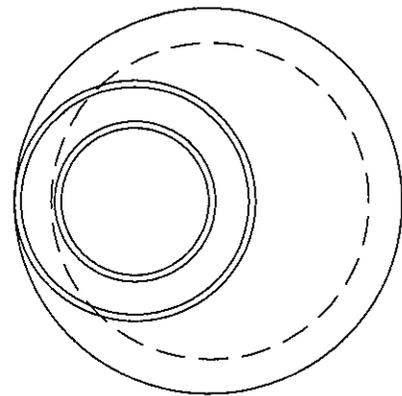
**SOUTH BAY FOUNDRY
NO. A 55 OR EQUAL**

DEPARTMENT OF PUBLIC WORKS
STANDARD MANHOLE FRAME & COVER DETAILS
COUNTY STANDARD NO.
S-24
N.T.S.

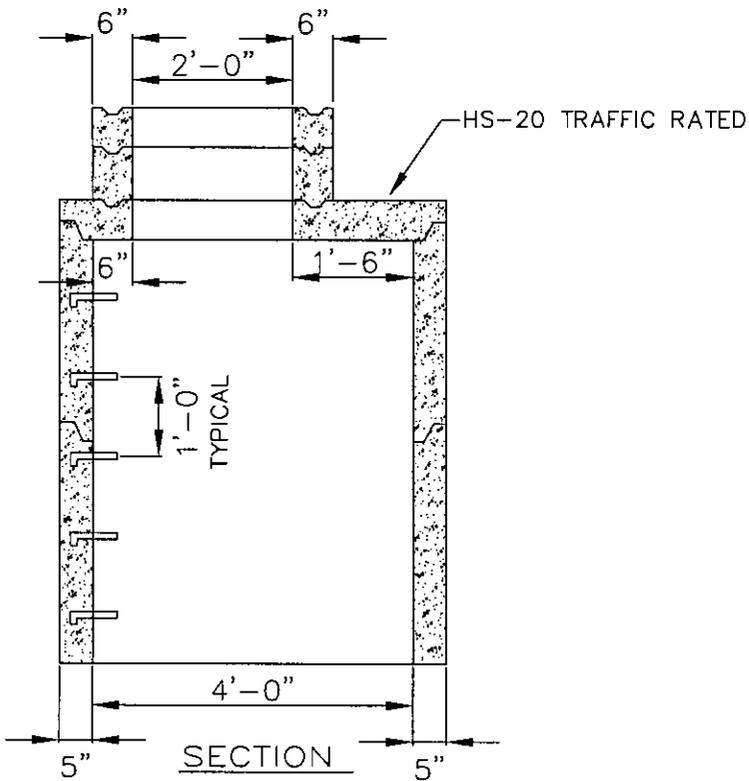




PLAN OF MANHOLE WITH
"SHALLOW" LID

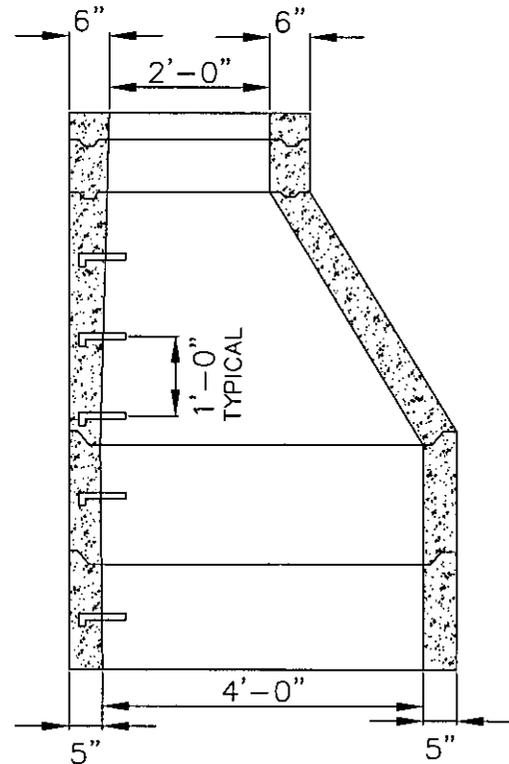


PLAN OF MANHOLE WITH
ECCENTRIC TAPER



SECTION
THROUGH
"SHALLOW" LID

NOT ALLOWED IN ROAD RIGHT OF WAY
OR TRAFFIC AREAS



SECTION THROUGH
ECCENTRIC TAPER

DEPARTMENT OF PUBLIC WORKS
ECCENTRIC MANHOLE DETAILS
COUNTY STANDARD NO.
S-25
N.T.S.



USE COUNTY OF BUTTE
STD. S-24 MANHOLE
FRAME AND COVER
DETAIL.

3" OR 6" GRADE
ADJUSTING RINGS

1' MIN. TO
TOP OF
TAPER

O.G.

USE 1 PC. REINF.
CONC. ECCENTRIC
TAPER SECTION AS
PER COUNTY OF
BUTTE
STD. S-25

1'
TYPICAL

LENGTHS OF
1-2-3 FOOT
SECTIONS
(OPTIONAL)

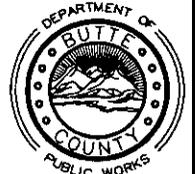
5'

VARIABLE TO
54" MAXIMUM
C-I-P-C-P

CONCRETE

TYPICAL PRECAST CONCRETE MANHOLE

DEPARTMENT OF PUBLIC WORKS
ECCENTRIC MANHOLE FOR C-I-P-C-P
COUNTY STANDARD NO.
S-26
N.T.S.



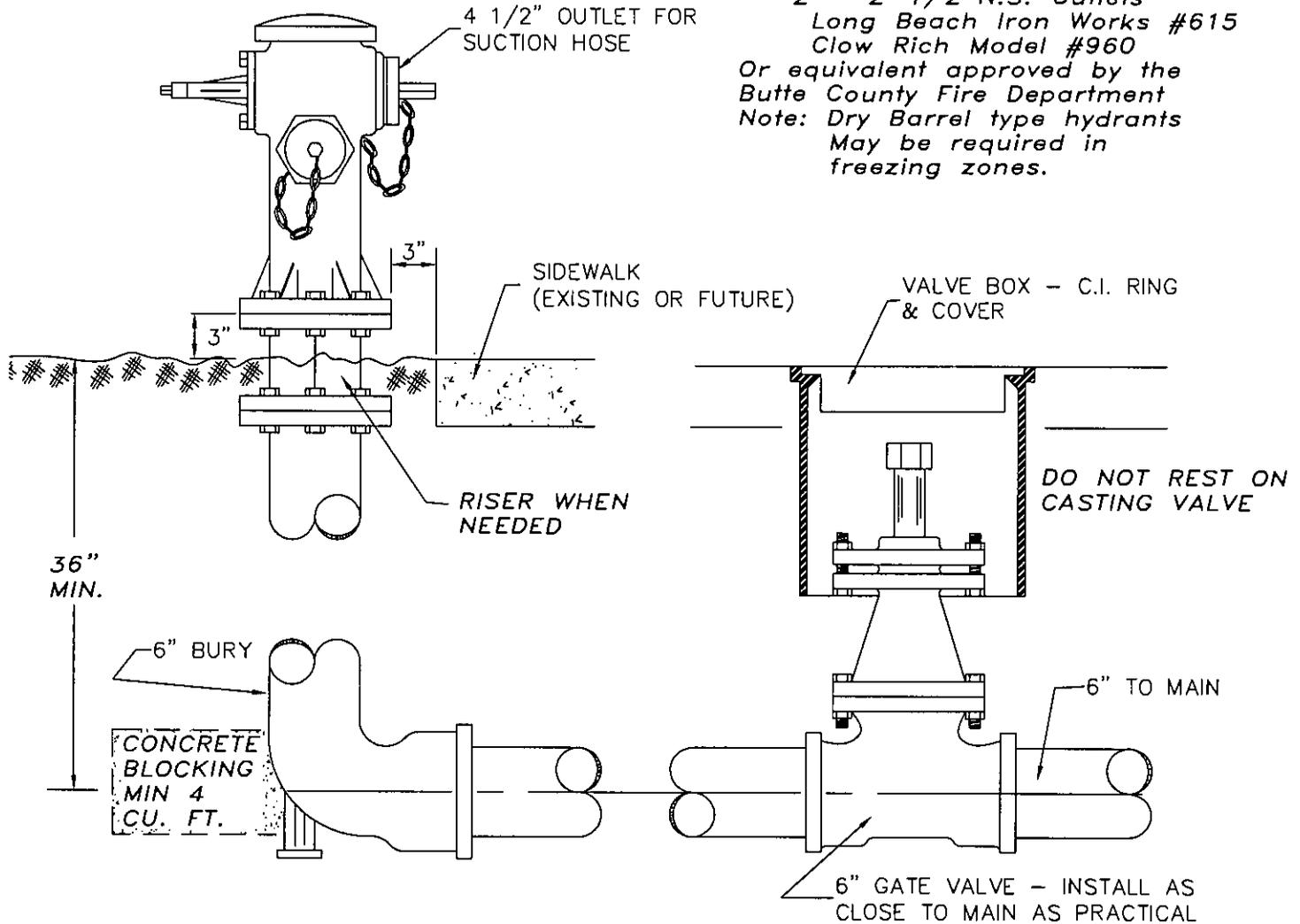
Note:

1. Hydrants to be installed min. of 3" and max of 36" behind sidewalk
2. 4-1/2" outlet for suction hose to face road

HYDRANT:

- A) 1 - 4-1/2" N.S. Outlet and 1 - 2-1/2" N.S. Outlet
Long Beach Iron Works #614
Clow Rich Model #950
- B) 1 - 4-1/2" N.S. Outlet and 2 - 2-1/2" N.S. Outlets
Long Beach Iron Works #615
Clow Rich Model #960

Or equivalent approved by the Butte County Fire Department
Note: Dry Barrel type hydrants May be required in freezing zones.

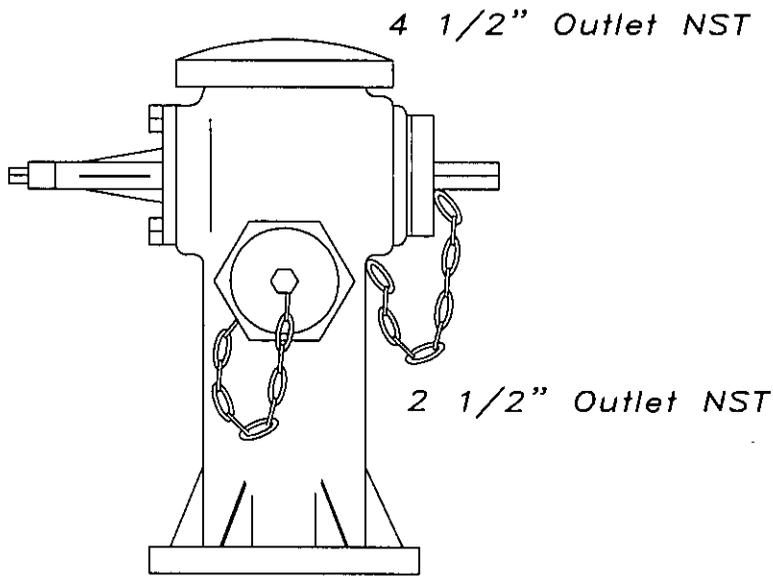


INSTALL IN ACCORDANCE WITH LOCAL UTILITY CO. & B.C.F.D. STANDARDS.

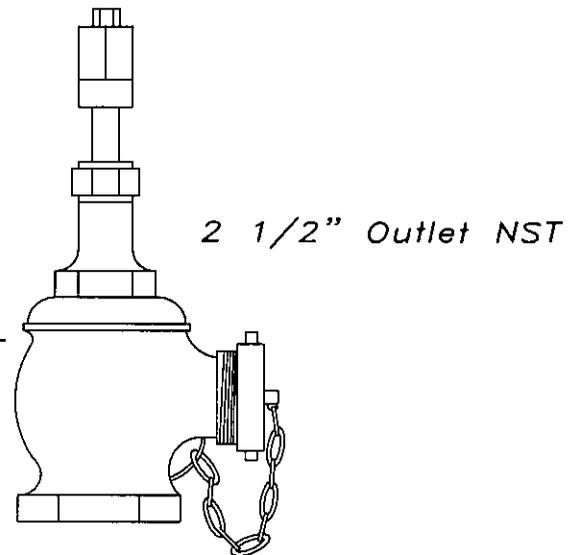
Install blue reflective pavement markers according to the State Fire Marshals "Guidelines For Fire Hydrant Marking Along State Highways and Freeways" May 1988. Two are required when a hydrant is at an intersection of two streets. Install only on paved streets/roads, and only in zones not normally plowed for snow.

DEPARTMENT OF PUBLIC WORKS
STANDARD FIRE HYDRANT INSTALLATION
COUNTY STANDARD NO.
S-27
N.T.S.





IMPROVED LOS ANGELES
TYPE HYDRANT

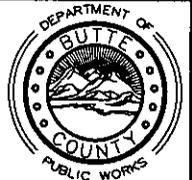


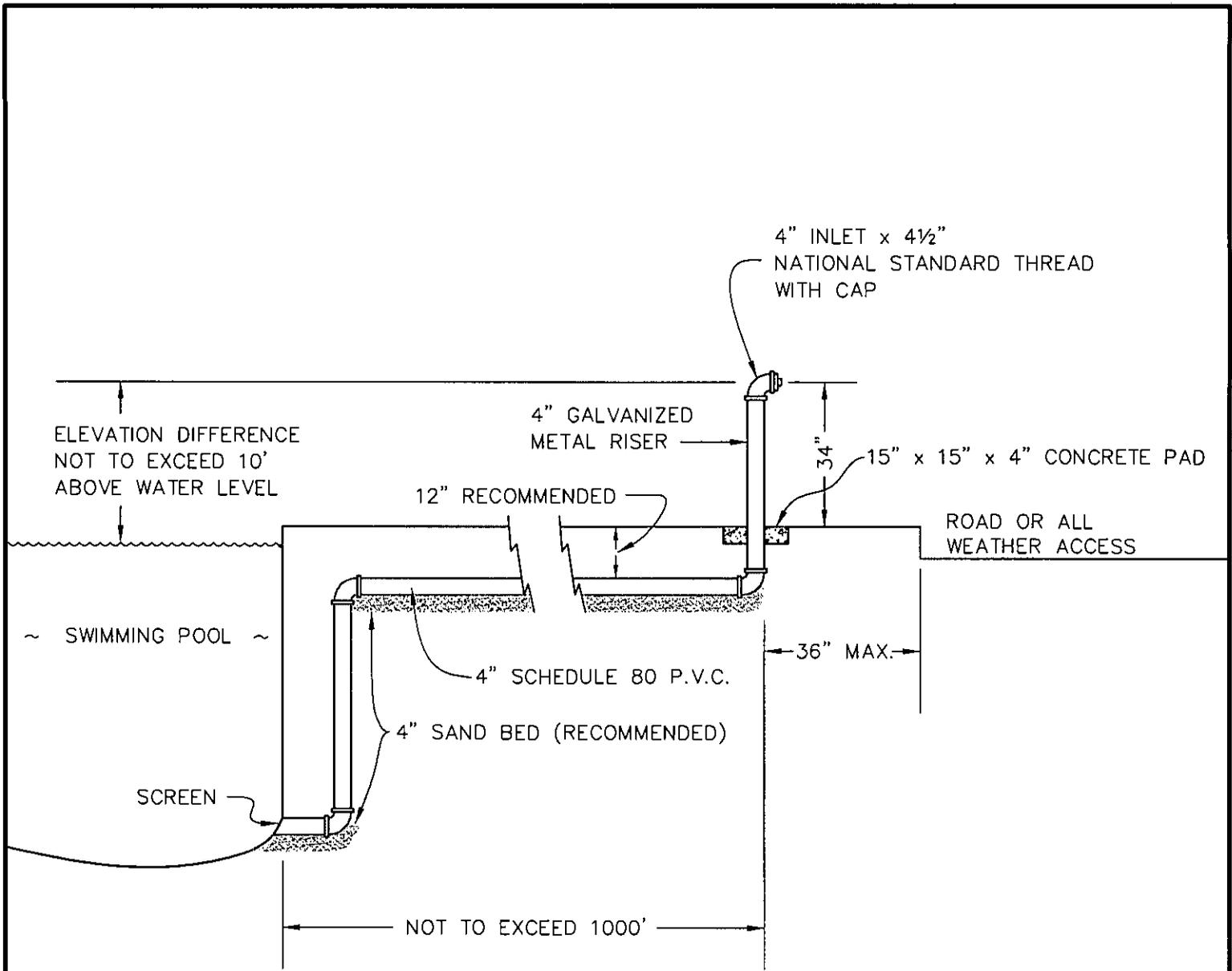
WHARF HYDRANT

NOTE:

- (1) Each hydrant must be gated between hydrant and street main.
- (2) Each hydrant shall be placed in such a manner that the 4 1/2" outlet or wharf hydrant outlet faces the street.
- (3) For easy access to fire engines, hydrant shall be placed within 36" maximum from dike or shoulder of roadway or 3" from back of sidewalk as directed by B.C.F.D.
- (4) In area of prolonged freezing temperatures, barrel must be of dry type or protected from freezing.
- (5) Hose threads on outlets to be National Standard dimensions.
- (6) Hydrants outlet shall not be less than 18" or more than 25" above roadway level.

DEPARTMENT OF PUBLIC WORKS
STANDARD FIRE HYDRANTS
COUNTY STANDARD NO.
S-28
N.T.S.

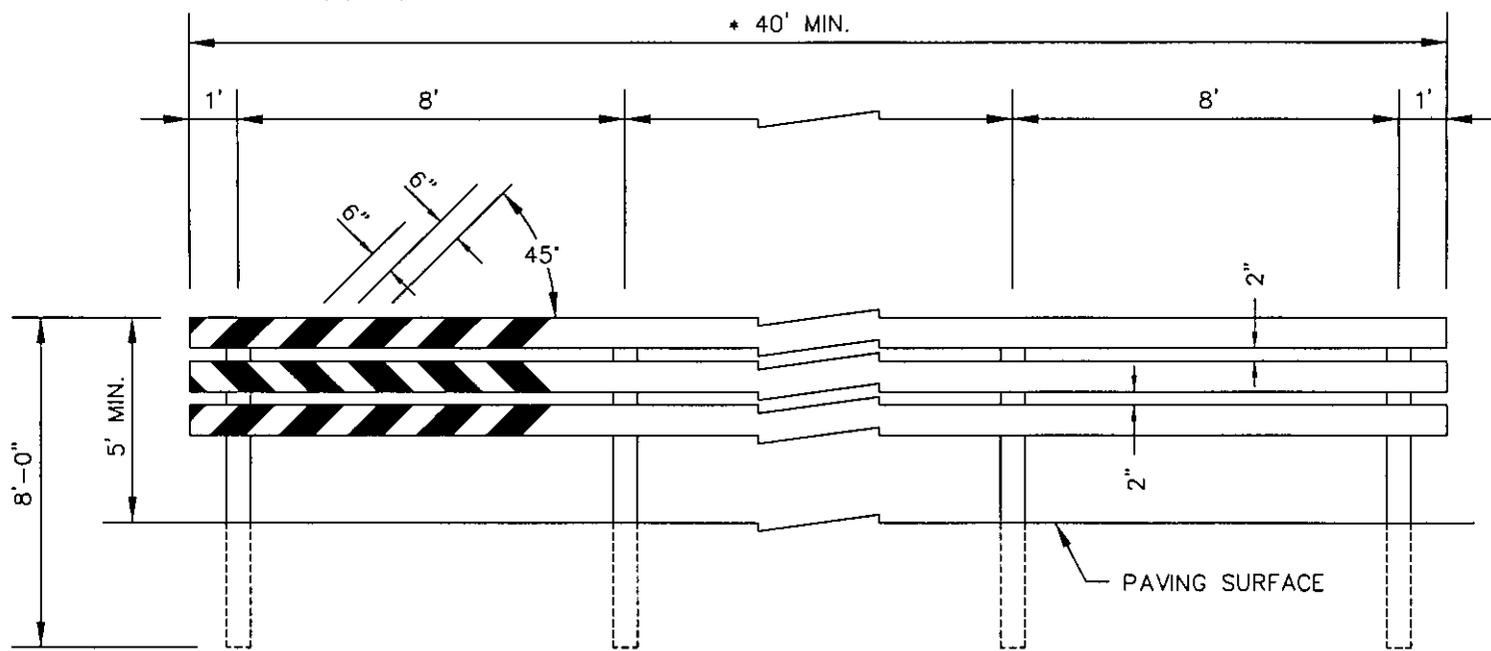




NOTE:
 IF OUTLET IS BELOW WATER LEVEL - INSTALL CLOW - RICHVALVE # 125A (4" INLET x 4 1/2" NATIONAL STANDARD THREAD, OR EQUIVALENT APPROVED BY THE FIRE DEPARTMENT.)

STANDARD FOR:
 SWIMMING POOL AND WATER TANK CONNECTION
 COUNTY STANDARD NO.
 S-29
 N.T.S.





FRONT VIEW

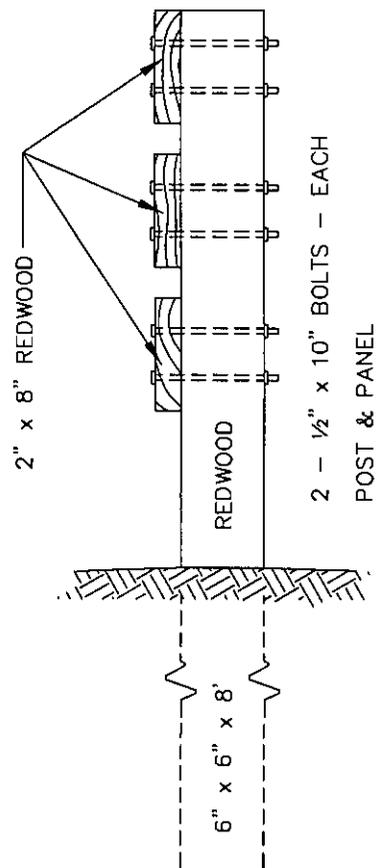
NOTES:

1. ENTIRE PANEL SHALL BE PAINTED WITH REFLECTORIZED RED AND WHITE ALTERNATING STRIPES OVER FULL LENGTH OF PANEL.
2. ALL HARDWARE SHALL BE GALVANIZED.

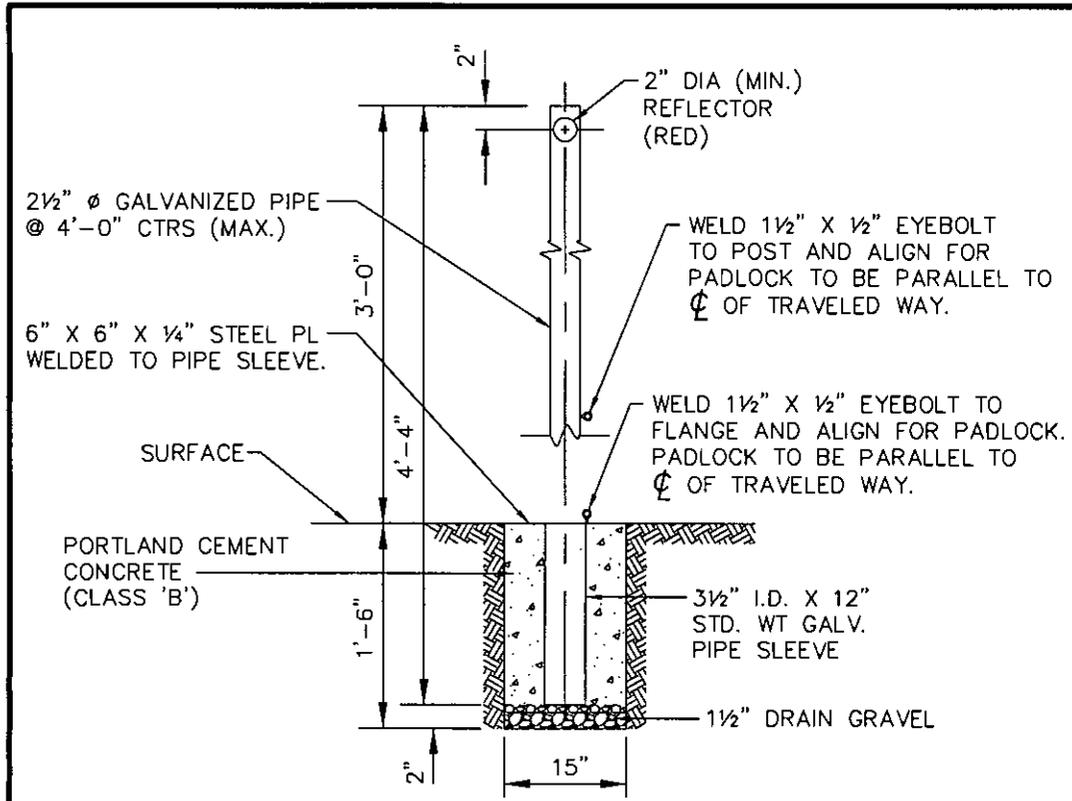
* SHALL BE CONSTRUCTED ACROSS FULL RIGHT OF WAY WIDTH WHERE REQUIRED.

GUARD PANEL DETAIL

AMENDED, RES. 84-183



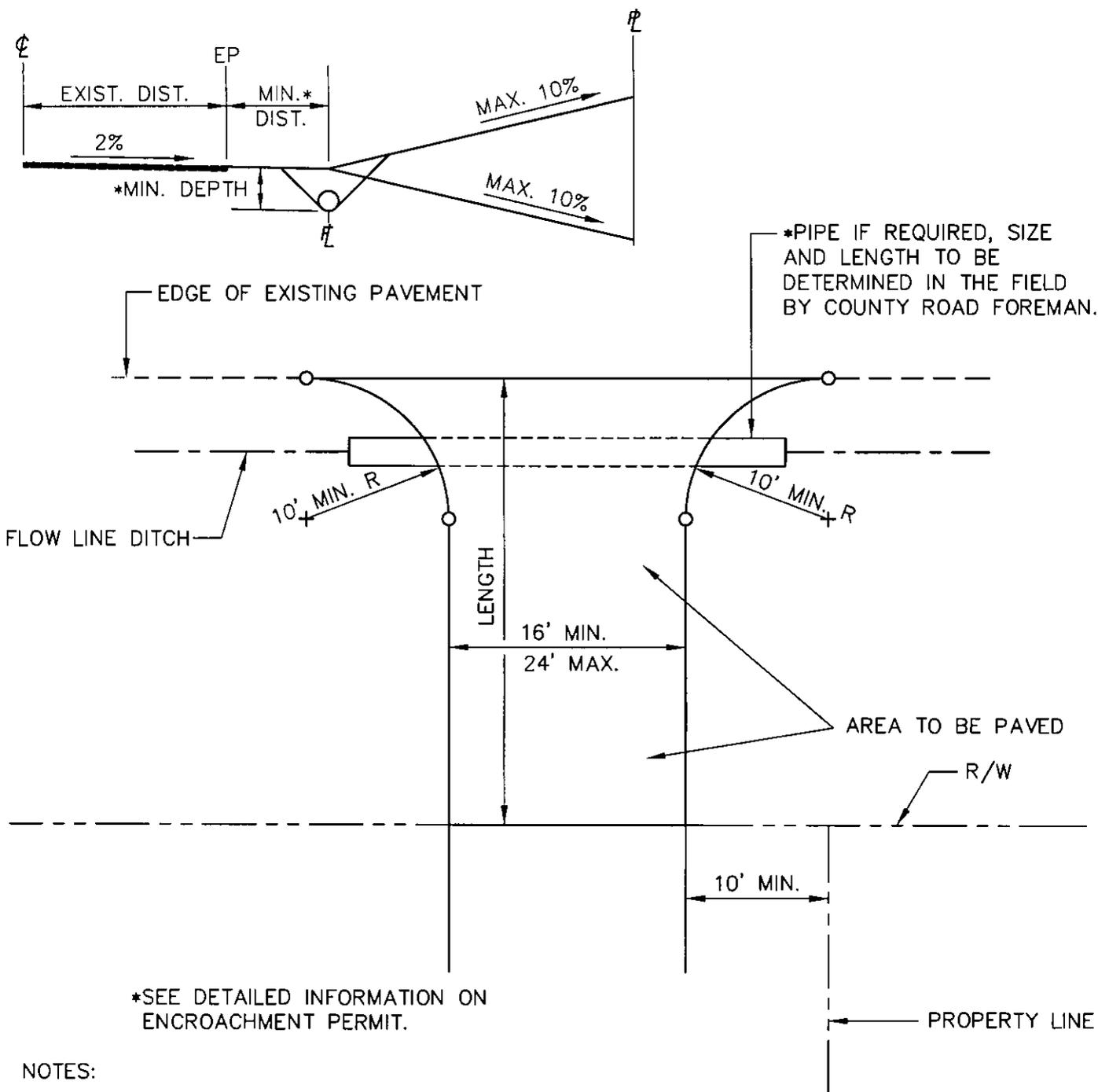
SIDE VIEW



GUARD POST DETAIL

**STANDARD FOR:
GUARD PANEL & GUARD POST DETAILS
COUNTY STANDARD NO.
S-30
N.T.S.**



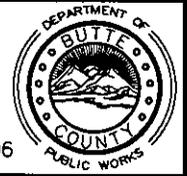


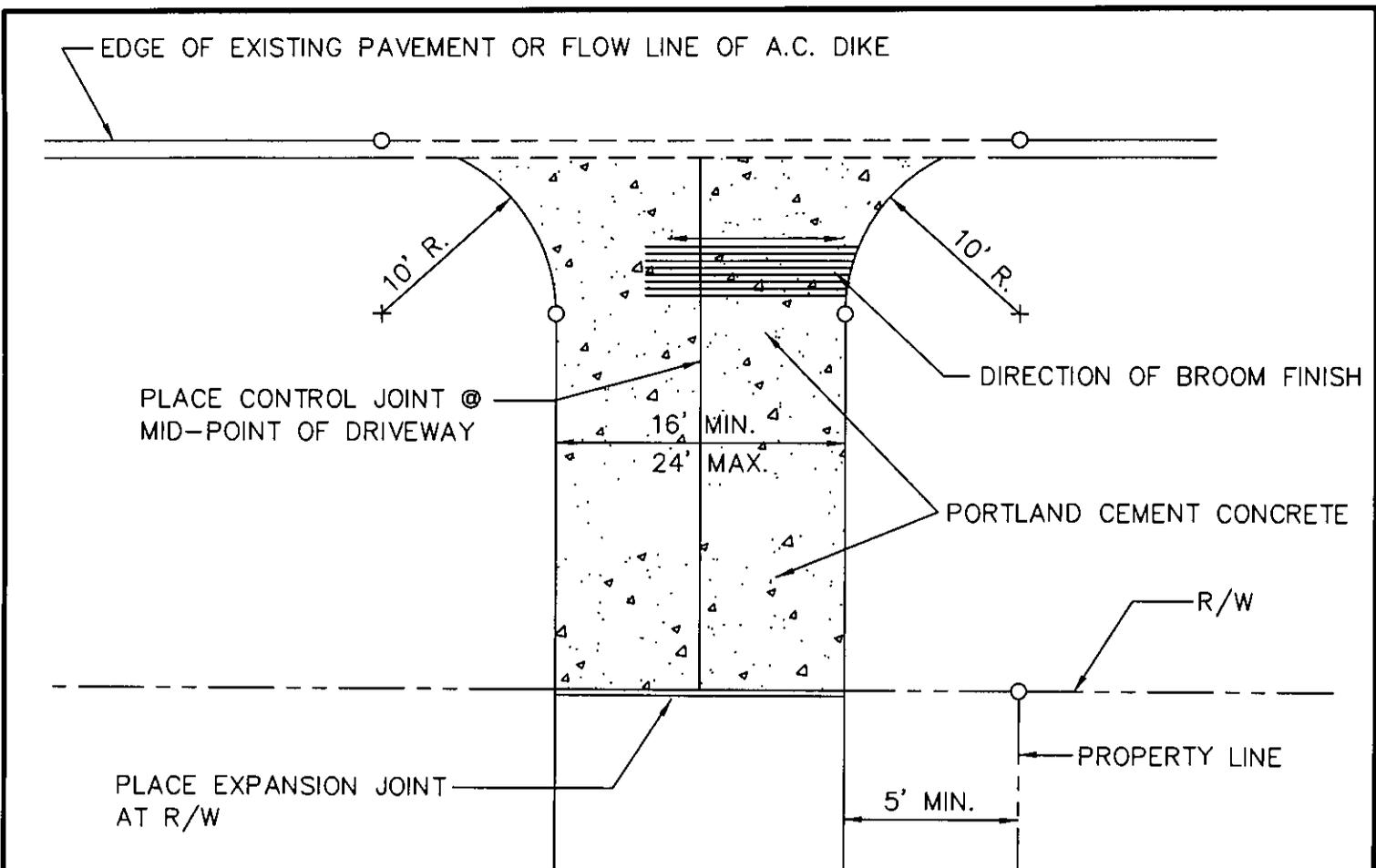
*SEE DETAILED INFORMATION ON ENCROACHMENT PERMIT.

NOTES:

1. PIPE TO BE C.M.P. OR EQUAL (12" DIA. MIN.)
2. PAVING SHALL CONSIST OF 4" OF AGGREGATE BASE, MIN., AND 2" OF ASPHALT CONCRETE, MIN.
3. IF THE ATTACHED DRIVEWAY ENCROACHMENT PERMIT IS ONLY TO REPLACE A DRAINAGE CULVERT IN AN EXISTING DRIVEWAY THEN THE STRUCTURAL SECTION FOR THE DRIVEWAY TRENCH SHALL BE THE SAME AS THE EXISTING DRIVEWAY STRUCTURAL SECTION.

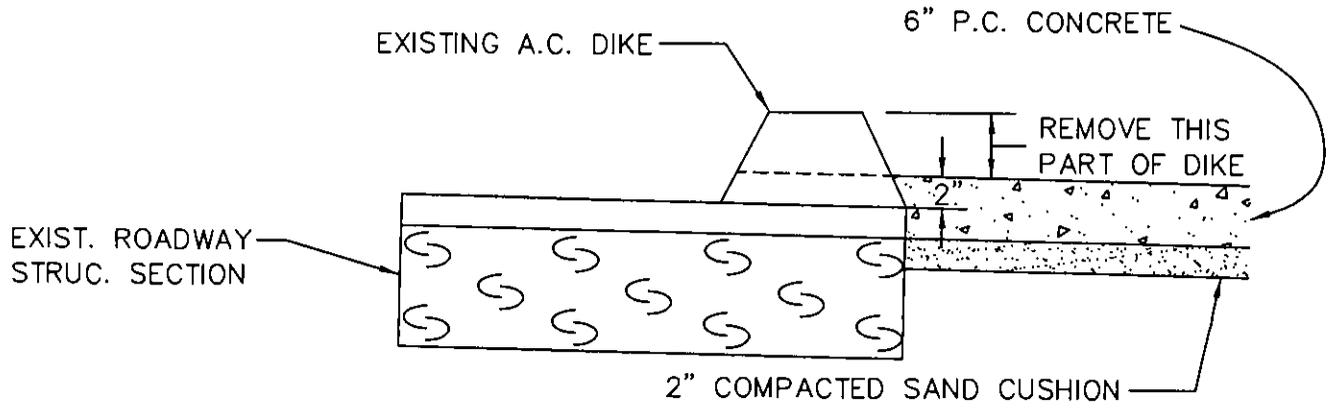
STANDARD FOR:
 PRIVATE DRIVEWAY DETAILS
 COUNTY STANDARD NO.
 S-31
 N.T.S.





NOTES:

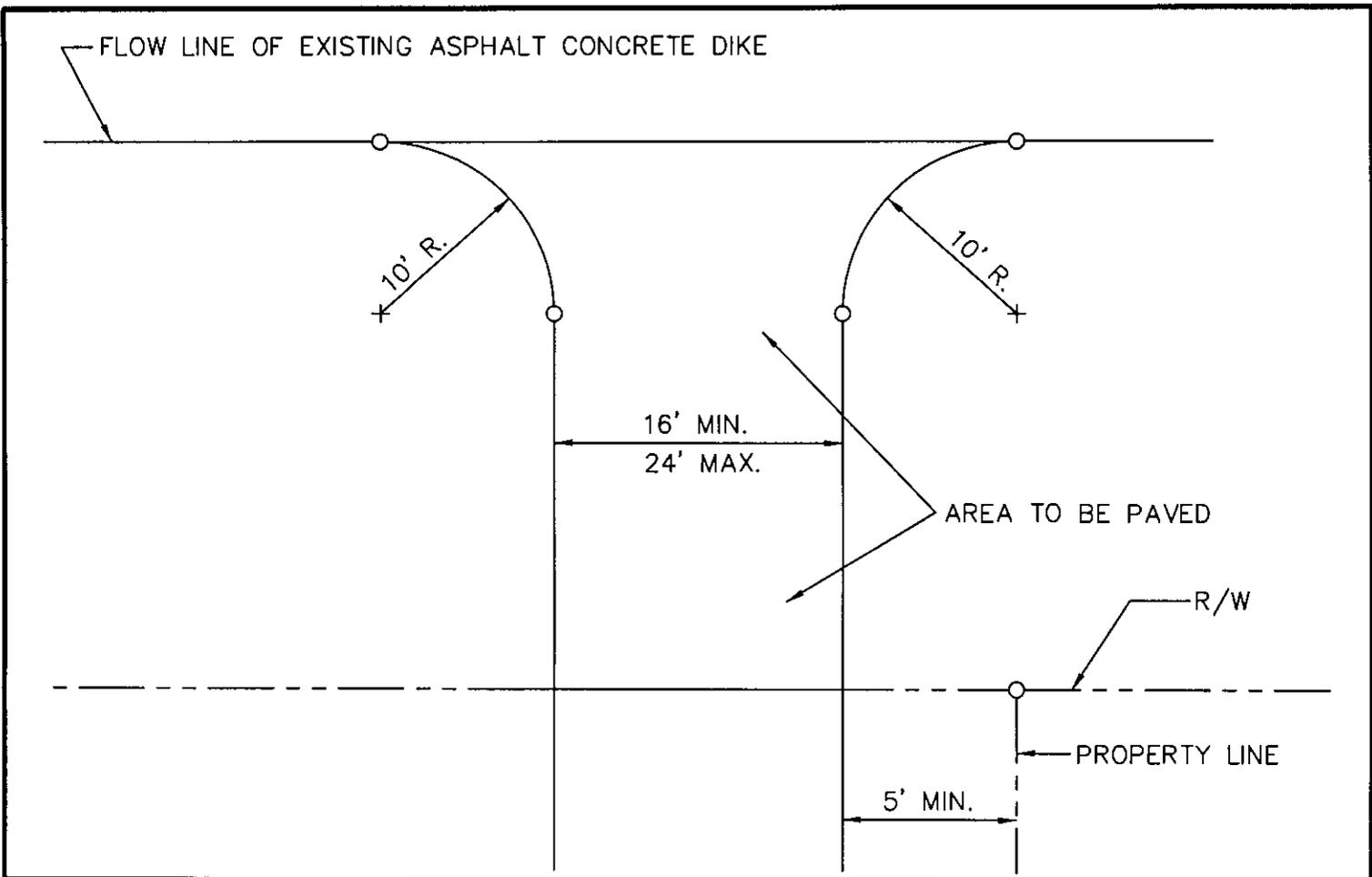
1. DO NOT PUT REBAR OR WIRE MESH IN CONCRETE WITHIN COUNTY RIGHT OF WAY.
2. COUNTY ROADWAY RECONSTRUCTION WILL REPLACE EXISTING CONCRETE DRIVEWAYS WITH ASPHALT CONCRETE OVER AGGR. BASE TO LIMIT OF CONSTRUCTION.



CUT A.C. DIKE AND LEAVE 2" MIN. HIGH LIP FOR STORM WATER.

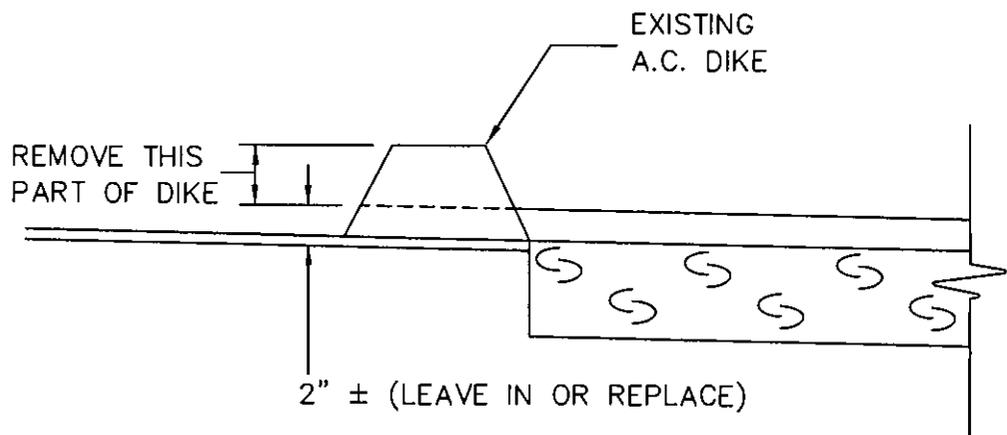
TYPICAL DETAILS & SECTION FOR:
 CONCRETE PRIVATE DRIVEWAY BEHIND ASPHALT DIKE SECTION
 COUNTY STANDARD NO.
 S-31A
 N.T.S.





NOTE:

1. DRIVEWAY SURFACING SHALL CONSIST OF
 2" (MIN.) OF ¾" TYPE 'B' MAX. MED. GRADING ASPHALT CONCRETE OVER
 4" (MIN.) OF CLASS 2, ¾" MAX. GRADING AGGREGATE BASE.



CUT A.C. DIKE AND LEAVE 2" MIN. LIP.

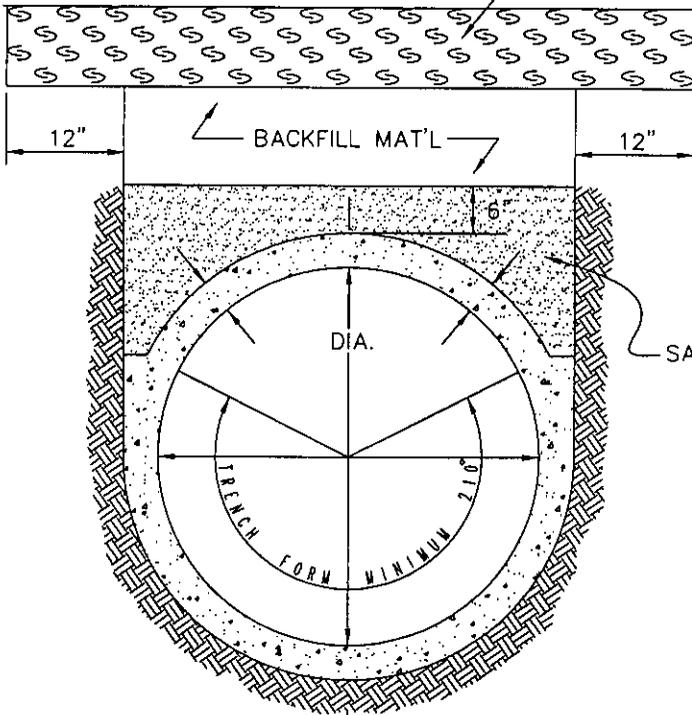
TYPICAL DETAILS & SECTION STANDARDS FOR:
 PRIVATE DRIVEWAY BEHIND ASPHALT DIKE SECTION
 COUNTY STANDARD NO.
 S-31B
 N.T.S.



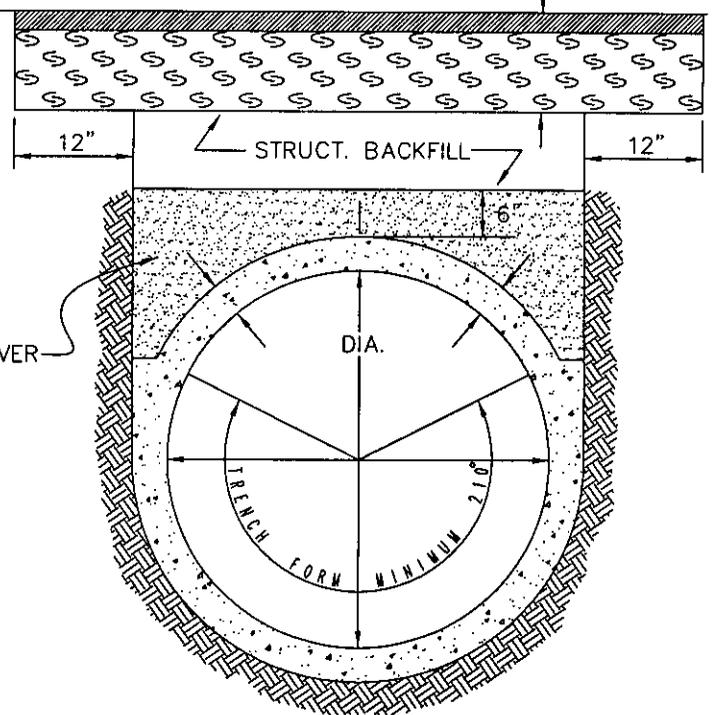
MINIMUM STRUCTURAL SECTION

8" CLASS 2 AGG. BASE $\frac{3}{4}$ " MAX. GRADING
95% REL. COMP.

FOG SEAL, 2" TYPE "B" ASPH. CONC. $\frac{3}{4}$ " MAX. MED. GRADING,
PRIME COAT, 8" CL 2 AGG. BASE $\frac{3}{4}$ " MAX. GRADING
95% REL. COMP.



WITHIN SHOULDER AREA



WITHIN PAVMT. AREA

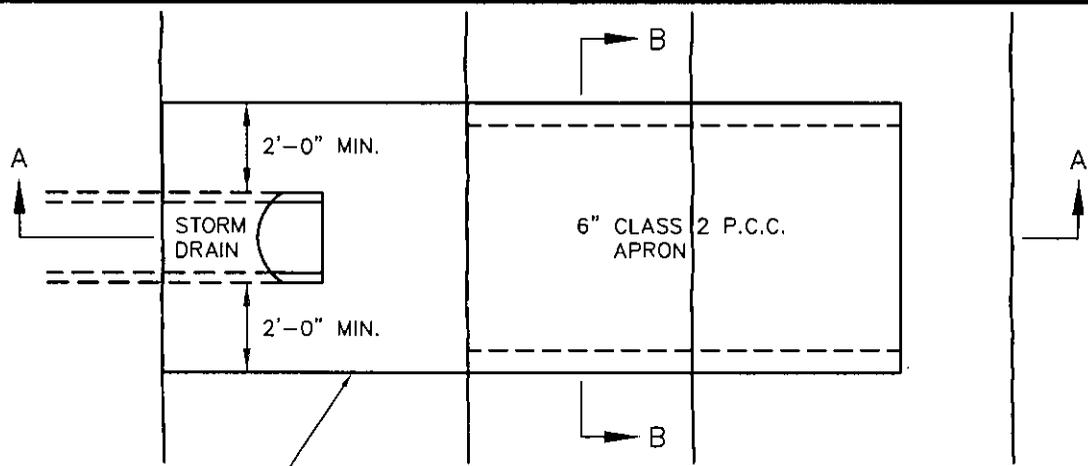
CURING, PROTECTING, BACKFILL AND SURFACING SCHEDULE:

1. All work shall conform to section 63 "Cast-In-Place Concrete Pipe", of the Caltrans Standard Specifications.
2. Cover and protect fresh concrete with waterproof membrane or curing compound immediately after placing pipe. A humid atmosphere within the pipe, as evidenced by condensation on the interior surface, shall be maintained for at least seven (7) days following placement.
3. Place sand cover after pipe has been in place not less than 24 hours.
4. Place backfill material or structure backfill (min. S.E. = 30) as shown above and compact to 95% relative compaction after the pipe has been in place not less than 48 hours, and attained a minimum compressive strength of 2,500 psi.
5. Compact the subgrade material to not less than 95% relative compaction for a depth of not less than 12" and place aggregate base and asphalt concrete, as shown, after the pipe has been in place not less than seven days.
6. Contractor shall have test cylinders taken on the job site as directed by the County inspector. Test cylinders shall be prepared and tested as per Section 90 of the Caltrans Standard Specifications. Test results shall be provided to the County from a qualified lab. Minimum 3 day break 2,500 psi, 28 day break 3,500 psi.
7. Minimum 24" cover required between top of pipe and ground or road surface.

**DEPARTMENT OF PUBLIC WORKS
CAST-IN-PLACE CONCRETE PIPE IN ROAD OR STREET RIGHT OF WAY
COUNTY STANDARD NO.**

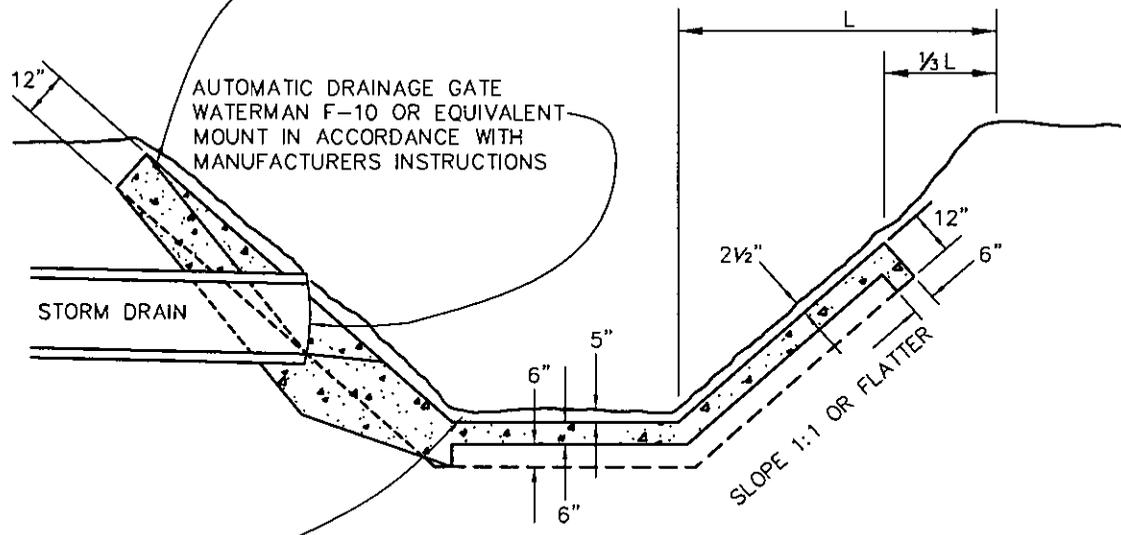
**S-32
N.T.S.**





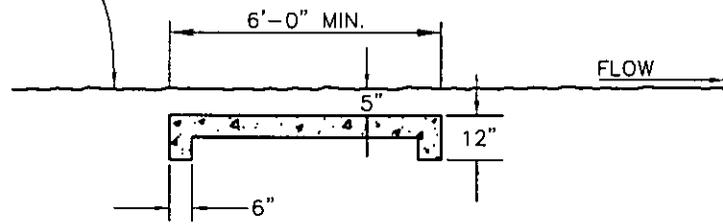
PLAN

12" CLASS 2 P.C.C. PAD
 W/6x6x8 WELDED WIRE FABRIC TO BE
 PLACED 1½" FROM BOTTOM OF CONCRETE.



SECTION A-A

EXISTING CHANNEL SURFACE



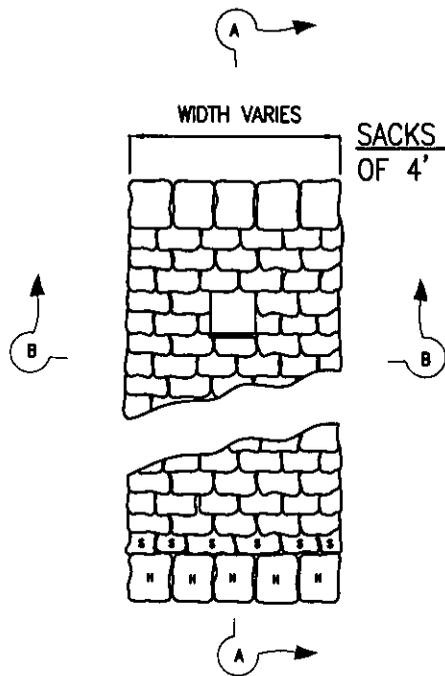
SECTION B-B

NOTES:

1. GROUTED COBBLE MAY BE PERMITTED WITH APPROVAL OF THE DIRECTOR OF PUBLIC WORKS.
2. DIMENSIONS SHOWN ARE MINIMUM VALUES.
3. ACTUAL DEPTH OF CUT-OFF WALLS DEPENDENT UPON RUNOFF VELOCITY AND/OR SCOUR RESISTANCE OF SURROUNDING SOILS.

**STANDARD FOR:
 DRAINAGE DITCH PIPE OUTLET DETAILS
 COUNTY STANDARD NO.
 S-33
 N.T.S.**

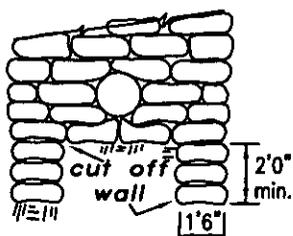




NOTE: SACKED CONCRETE SLOPE PROTECTION

- S = STRETCHER - LONG AXIS OF SACK PARALLEL TO SLOPE
- H = HEADER - LONG AXIS OF SACK NORMAL TO SLOPE
- 6" MINIMUM CLEARANCE - FLAP GATE TO SLOPE

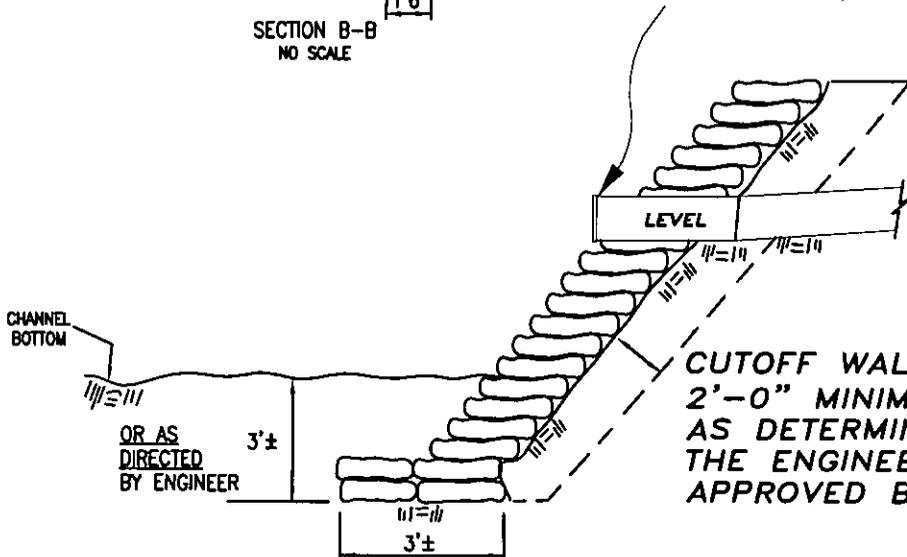
PLAN
NO SCALE



SECTION B-B
NO SCALE

INSTALL WATERMAN F-10 AUTOMATIC DRAINAGE GATE OR EQUIVALENT

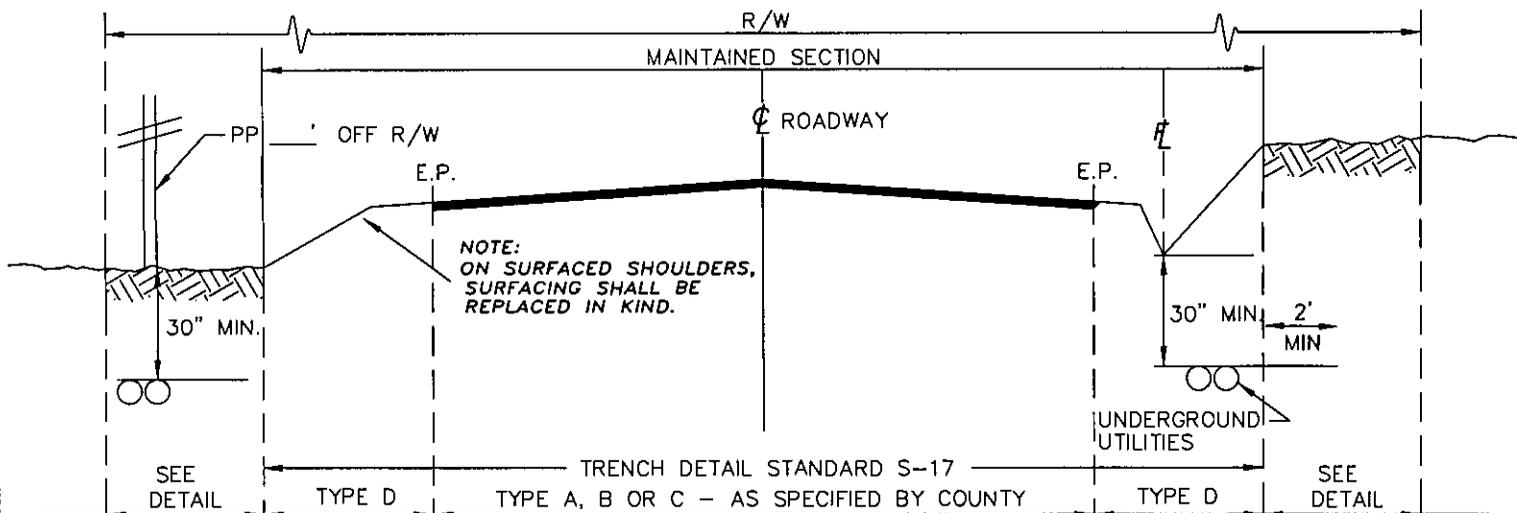
2' ABOVE HIGH WATER
OR TOP OF PIPE ELEVATION
(WHICHEVER IS GREATER)



SECTION A-A
NO SCALE

DEPARTMENT OF PUBLIC WORKS
SACKED CONC. SLOPE PROTECTION W/STORM DRAIN INSTALLATION INTO CHANNELS
COUNTY STANDARD NO.
S-34
N.T.S.

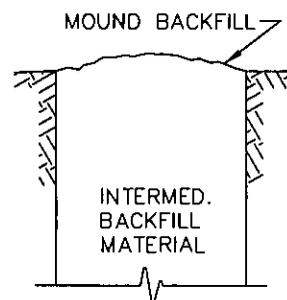




NOTE: EXCESS MATERIAL FROM TRENCHING SHALL BE REMOVED AND DEPOSITED OFF OF THE ROADWAY RIGHT OF WAY.

NOTE: CONTRACTOR SHALL SHORE ALL TRENCHES IN CONFORMANCE WITH STATE AND O.S.H.A. SAFETY REQUIREMENTS.

CALL U.S.A.
1-800-227-2600
48 HRS. PRIOR TO WORKING.



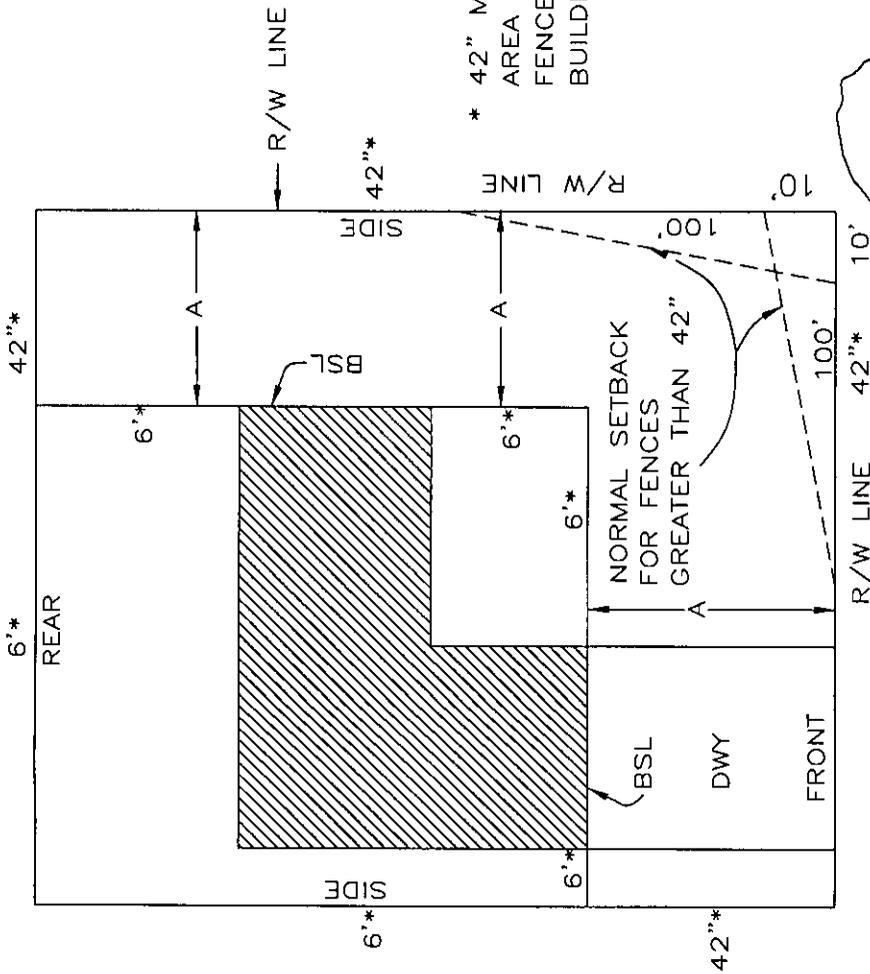
PUBLIC EASEMENT BACKFILL DETAIL

MATERIAL & COMPACTION REQUIREMENTS FOR TRENCH BACKFILL

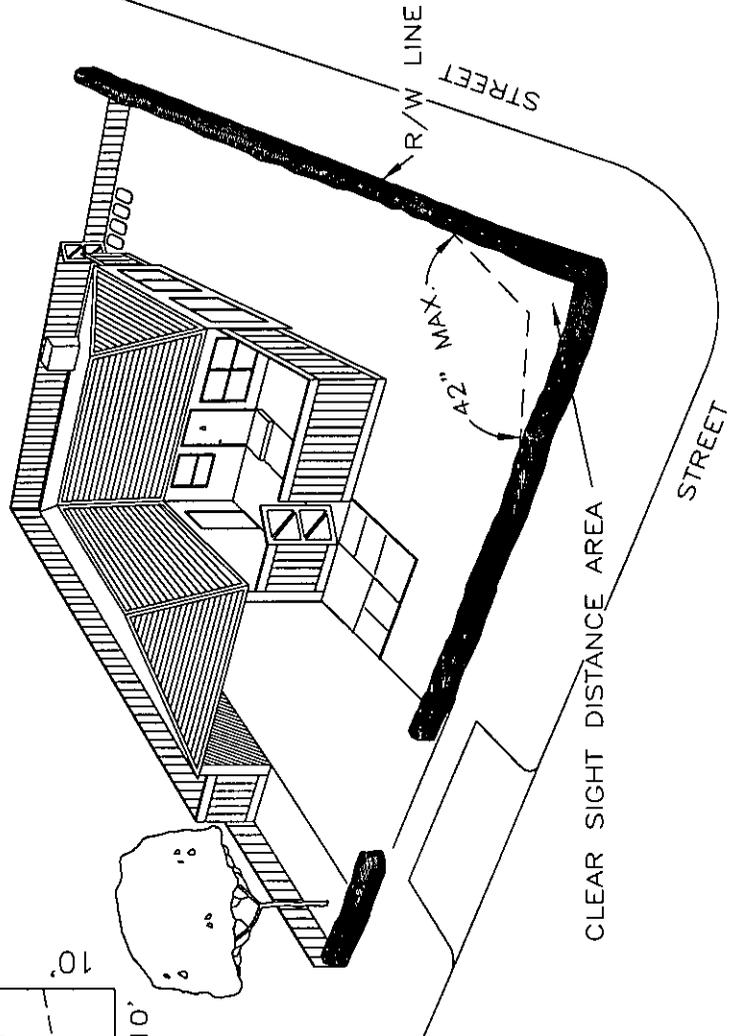
1. TRENCH EDGES SHALL BE CLEAN CUT.
2. PIPE BEDDING MATERIAL AND BACKFILL MATERIAL SHALL CONFORM TO REQUIREMENTS OF THE UTILITY HAVING JURISDICTION OVER THE INSTALLATION, AND SHALL ALSO MEET THE REQUIREMENTS OF SECTION 19 - 3.06, "STRUCTURE BACKFILL" OF THE STANDARD SPECIFICATIONS AS MODIFIED BELOW.
3. INTERMEDIATE BACKFILL SHALL BE ANY SUITABLE NATIVE OR IMPORTED GRANULAR MATERIAL. RELATIVE COMPACTION SHALL BE AT LEAST 95% WITH A MIN. S.E. OF 30.
4. CLASS #2 AGGREGATE BASE (¾" MAX. GRADING) SHALL CONFORM TO THE STANDARD SPECIFICATIONS. MINIMUM RELATIVE COMPACTION SHALL BE 95%.
5. WHEN TRENCHES ARE BACKFILLED WITH GRANULAR MATERIALS, PROVISIONS MUST BE PROVIDED TO DRAIN OFF EXCESS WATER.
6. TRENCHING IS THE PRIMARY METHOD THAT SHALL BE PERMITTED WITHIN THE MAINTAINED SECTIONS OF RIGHT OF WAYS; HOWEVER, BORING MAY BE REQUIRED WHEN CROSSING EXISTING ROADWAYS. ALTERNATE METHODS MAY BE APPROVED BY THE DIRECTOR OF PUBLIC WORKS.



CORNER LOT



* 42" MAXIMUM FENCE HEIGHT IN BUILDING SETBACK AREA WITHOUT APPROVAL OF PUBLIC WORKS. FENCES OVER 6' IN HEIGHT MAY REQUIRE A BUILDING PERMIT PRIOR TO CONSTRUCTION.



A = ARTERIALS & COLLECTORS = 25'
 A = ALL OTHER STREETS = 20'
 BSL = BUILDING SETBACK LINE

DEPARTMENT OF PUBLIC WORKS
 FENCES, WALLS & HEDGES CORNER LOT
 COUNTY STANDARD NO.

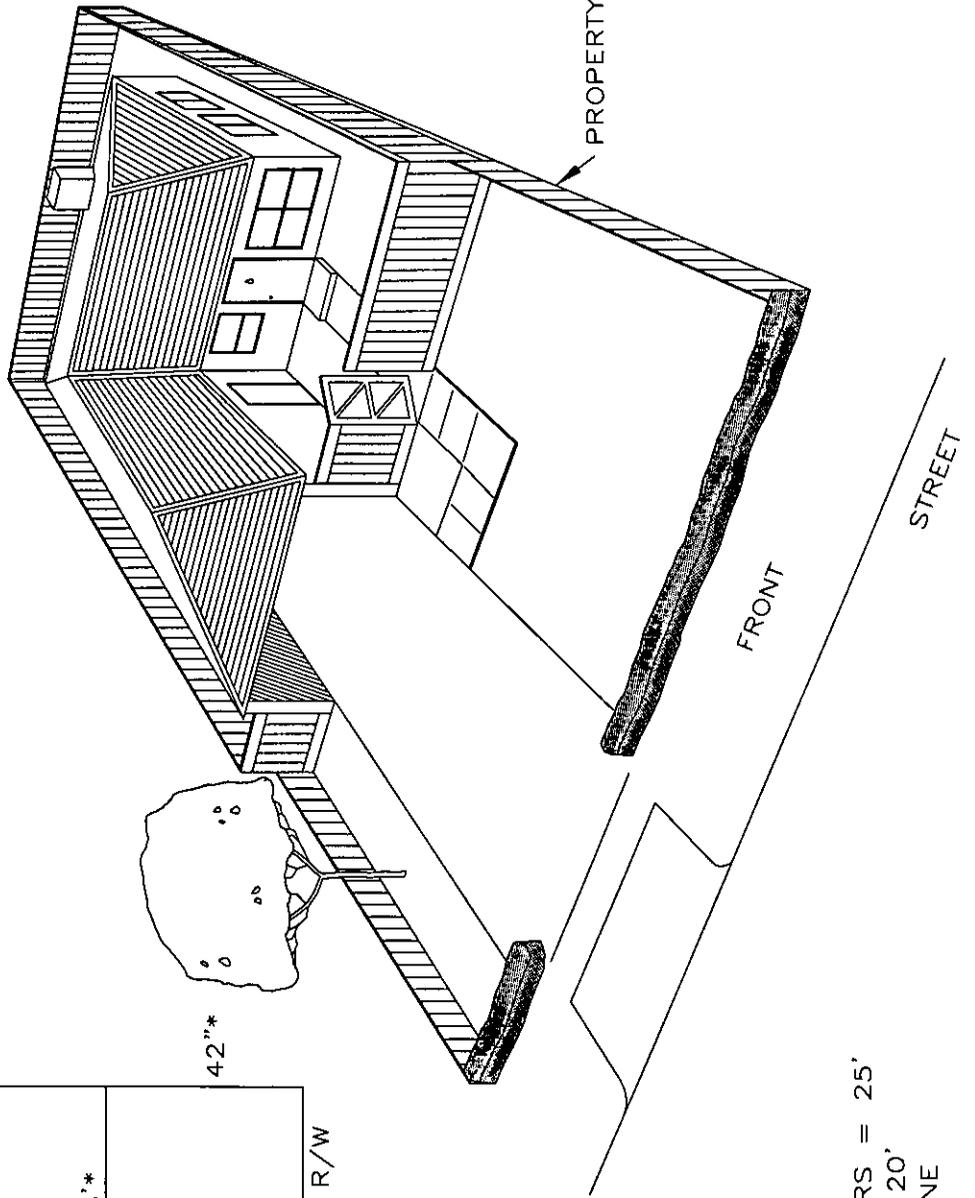
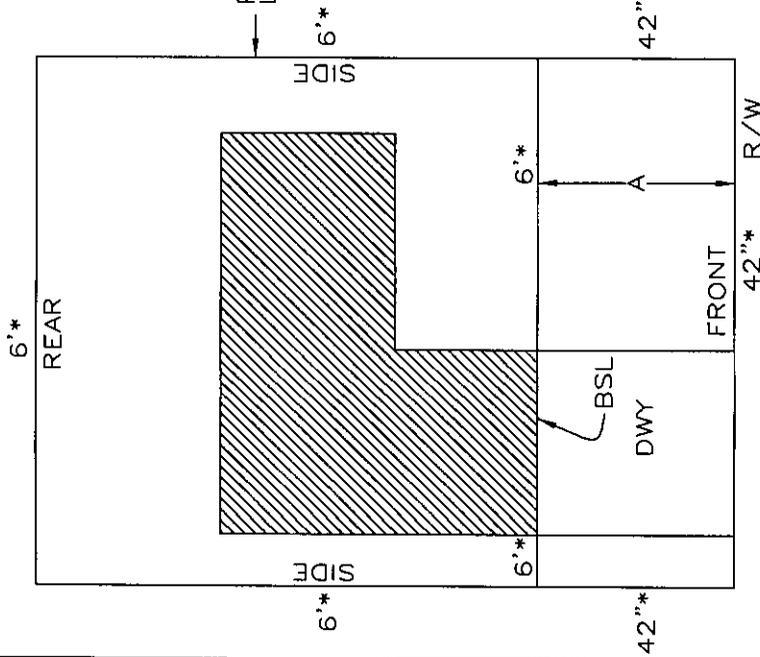
S-36
 N.T.S.

RES 06-149 10/24/06



INTERIOR LOT

* 42" MAXIMUM FENCE HEIGHT IN BUILDING SETBACK AREA WITHOUT APPROVAL OF PUBLIC WORKS. FENCES OVER 6' IN HEIGHT MAY REQUIRE A BUILDING PERMIT PRIOR TO CONSTRUCTION.



A = ARTERIALS & COLLECTORS = 25'
 A = ALL OTHER STREETS = 20'
 BSL = BUILDING SETBACK LINE

DEPARTMENT OF PUBLIC WORKS
 FENCES, WALLS & HEDGES INTERIOR LOT
 COUNTY STANDARD NO.
 S-37
 N.T.S.

RES 06-149 10/24/06



1. LEACH TRENCHES NOT ALLOWED UNDER ROAD SECTION.
2. CAL TRANS SPECS SECTION 68-1.025.
3. CONSTRUCTION SPECIFICATION PER SECTION 68 OF THE CAL TRANS STANDARDS UNLESS OTHERWISE NOTED.
4. CLEANING ACCESS TO PIPE REQUIRED; INSTALL CLEANOUT TO GRADE FOR ANY ABRUPT CHANGES IN ALIGNMENT OF INFLOW PIPING.

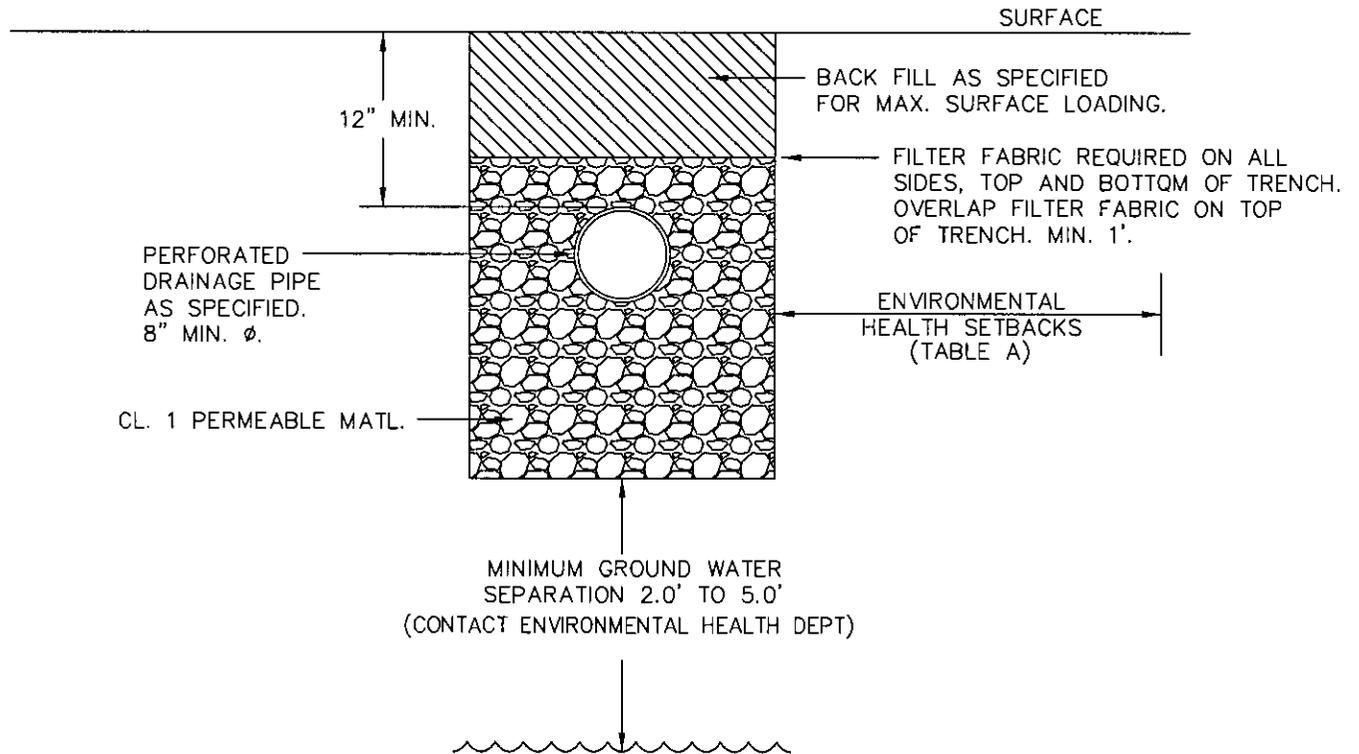
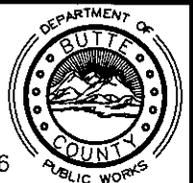


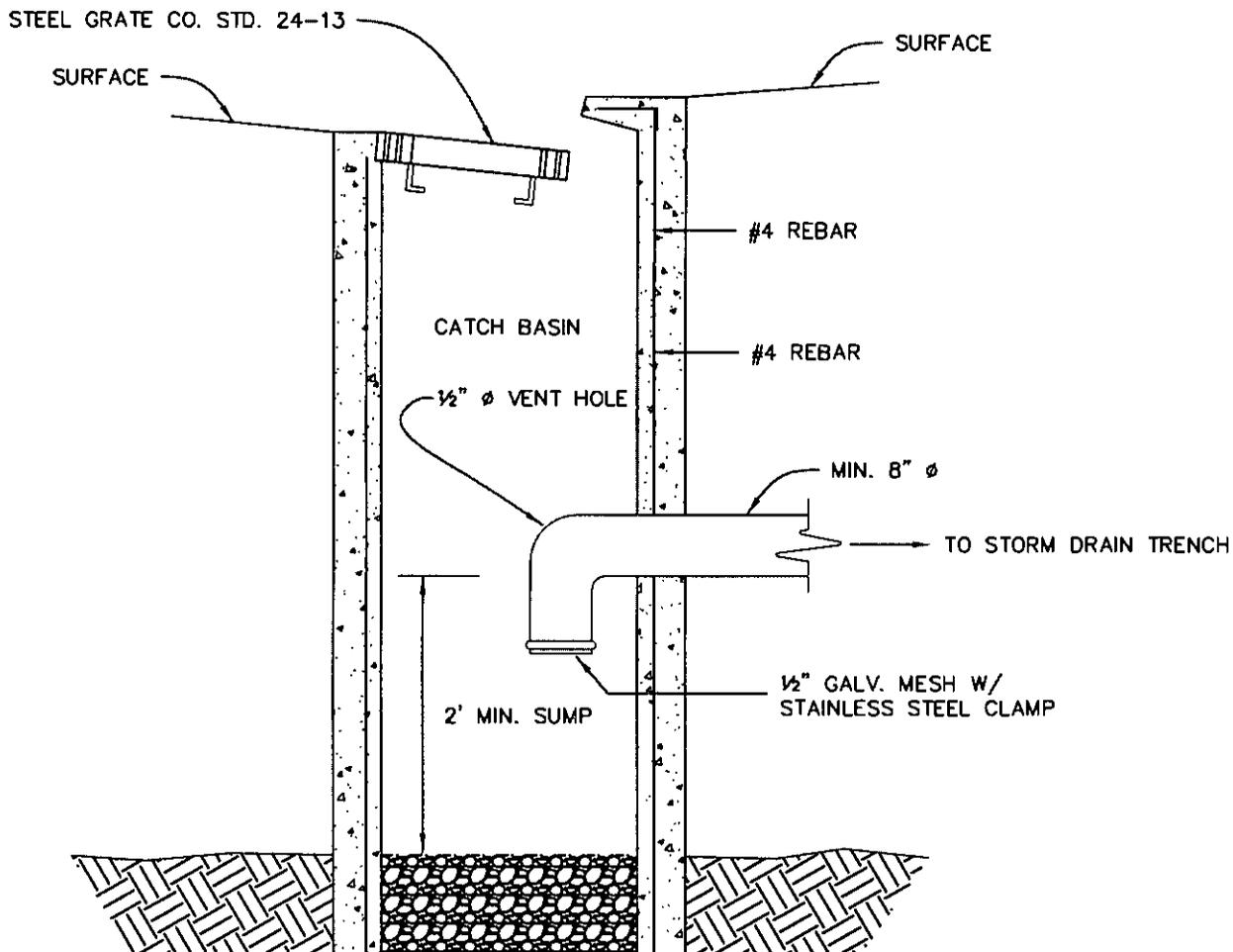
TABLE A

<u>TABLE</u>	<u>MINIMUM SETBACK</u>
1. SEWAGE LEACH TRENCH	10.0'
2. WATER WELL	100.0'
3. PERENNIAL STREAM	100.0'
4. LAKE OR RESERVOIR	200.0'
5. DRAINAGE COURSE	50.0'
6. BUILDING FOUNDATION	5.0'
7. DOMESTIC WATER MAIN	10.0'
8. DOMESTIC WATER SERVICE	5.0'
9. SEPTIC TANK	5.0'

TYPICAL
STORM DRAINAGE LEACH TRENCH
COUNTY STANDARD NO.
S-38
N.T.S.

RES 06-149 10/24/06



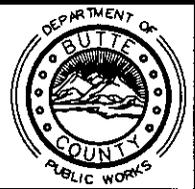


PLACE CALTRANS PERMEABLE
MATERIAL CLASS 1, TYPE A
PER SECTION 68-1.025 OF THE
STANDARD SPECIFICATIONS (1.0
CU. FT. MIN.)

NOTES:

1. 90° BENDS SHALL BE PLACED ON ALL CATCH BASIN OUTLETS.
2. CATCH BASINS SHOULD BE PROVIDED WITH THE MAXIMUM SUMP DEPTH POSSIBLE. A MINIMUM 2 FT. SUMP IS RECOMMENDED.
3. ALL DETAILS NOT SHOWN ARE THE SAME AS COUNTY STD. S-8 SERIES.

STANDARD DETAILS FOR:
TYPICAL INLET TO LEACH TRENCH CONNECTION
COUNTY STANDARD NO.
S-39
N.T.S.

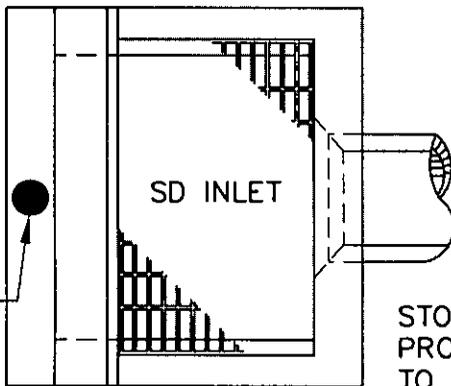




MARKER FOR STORM DRAIN INLETS THAT DRAIN TO CREEK, SWALE OR OTHER WATER BODY.



MARKER FOR STORM DRAIN INLETS THAT RETAIN IN LEACH TRENCH OR RETENTION SYSTEM.



STORM DRAIN MARKER LOCATION.

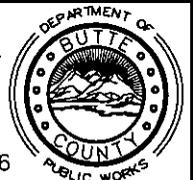
PLAN VIEW

STORM WATER MANAGEMENT PROGRAM DOMED MARKER TO BE PURCHASED FROM COUNTY OF BUTTE PUBLIC WORKS DEPARTMENT.

CONTRACTOR TO EPOXY MARKER TO INLET WHERE SHOWN USING "das" CURB MARKER ADHESIVE #RS-222 OR EQUIVALENT.

STANDARD DETAILS FOR:
STORM WATER MANAGEMENT PROGRAM DRAINAGE INLET MARKER
COUNTY STANDARD NO.

S-40
N.T.S.



RES 06-149 10/24/06

FLUORESCENT ORANGE
PLASTIC DELINEATOR
HAWKINS-HAWKINS
#V8E-42-PO-2(S)
3 3/4" I.D. X 42" LONG
CUT TO 19" LENGTH
USE EXCESS TO PROVIDE
DOUBLE LAYER FOR
SNUG FIT. SLIT INNER
LAYER AND POP RIVET
TO PIPE W/ 6 EA-
ALUMINUM RIVETS-
3/16" Ø X 1/2" GRIP.

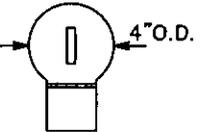
3" I.D. PVC CAP-POP RIVET IN PLACE
W/ 3EA.-ALUMINUM RIVETS-3/16" Ø X 1/2" GRIP
W/ WASHER.

4" INLAYED REFLECTIVE BANDS (SILVER)
POSITIONED 2" FROM TOP.

3" I.D. X 27" STD.
WT. GALV. PIPE

WELD 1 1/2" X 1/2" EYEBOLT
TO PIPE.
ALIGN FOR PADLOCK.

ALTERNATE HASP



1 1/2" X 1/2"
EYEBOLT OR
ALTERNATE HASP
WELDED TO PLATE.
ALIGN FOR PADLOCK.

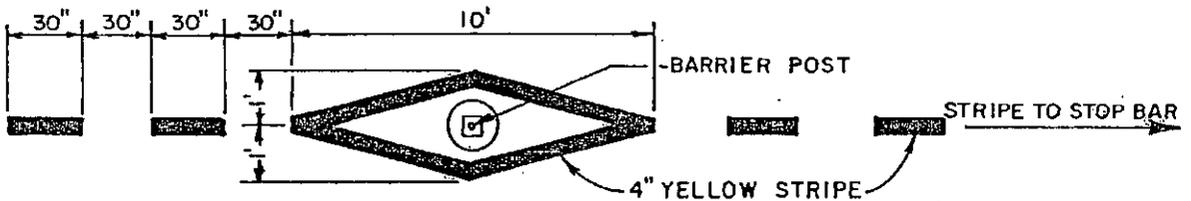
6" X 6" X 1/4" STEEL PLATE
WELDED TO 3 1/2" I.D. PIPE

3 1/2" I.D. X 12"
STD. WT. GALV.
PIPE SLEEVE

CONCRETE FOOTING

DRAIN GRAVEL

BARRIER POST

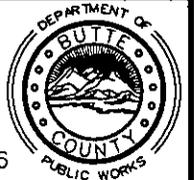


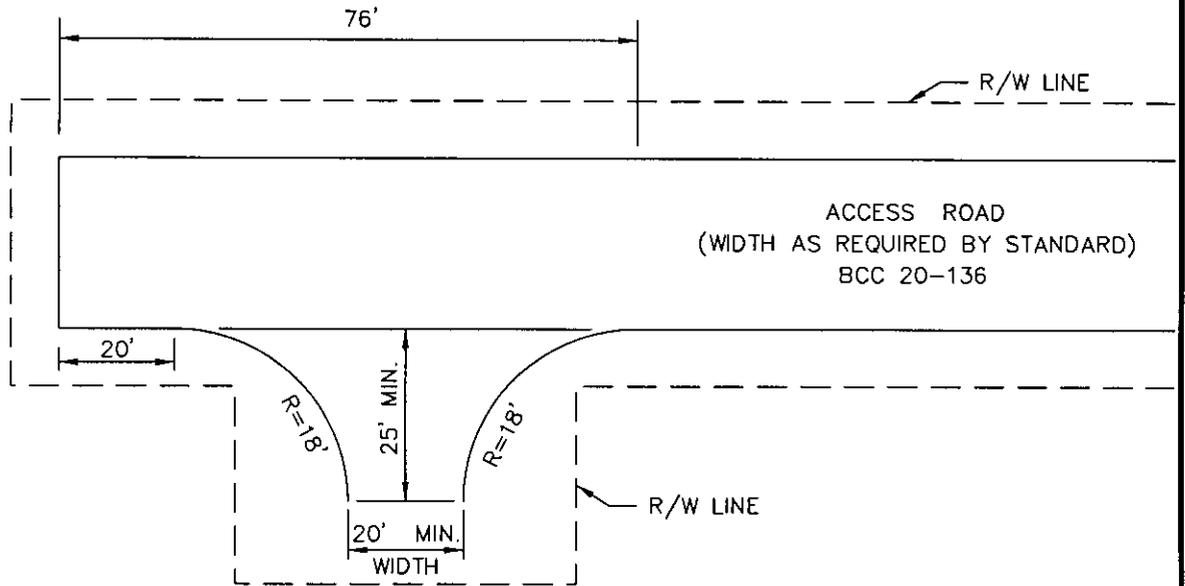
NOTE

ALL FERROUS METALS SHALL BE GALVANIZED-FIELD WELDS WILL BE PERMITTED
WELDS MUST BE PAINTED IN ACCORDANCE WITH STATE STANDARD SPECIFICATION SECTION 59-3.

BICYCLE/PEDESTRIAN PATH
TRAFFIC BARRIER POST
COUNTY STANDARD NO.
S-41
N.T.S.

RES 06-149 10/24/06

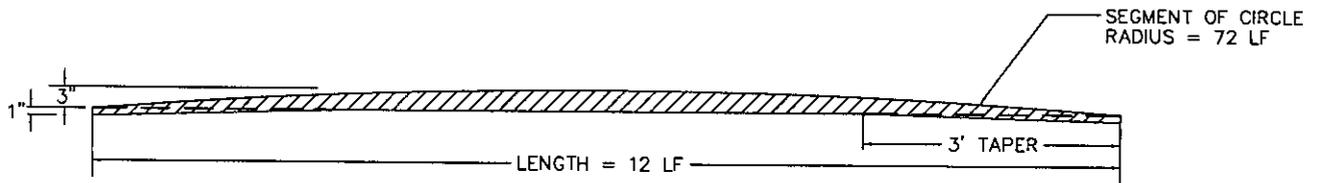




BUILDING FREE
TURN AROUND AREA
COUNTY STANDARD NO.
S-42
N.T.S.

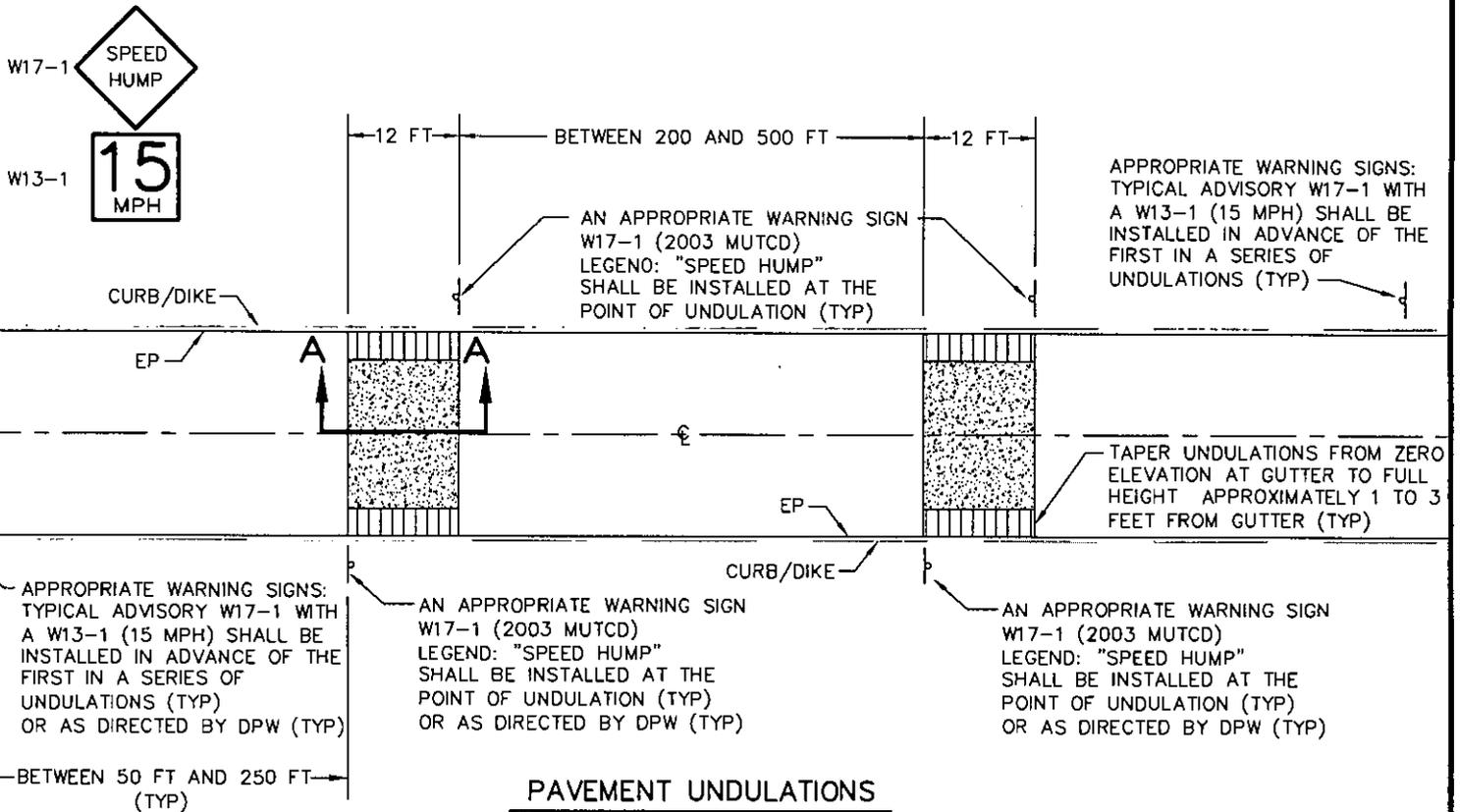
RES 06-149 10/24/06



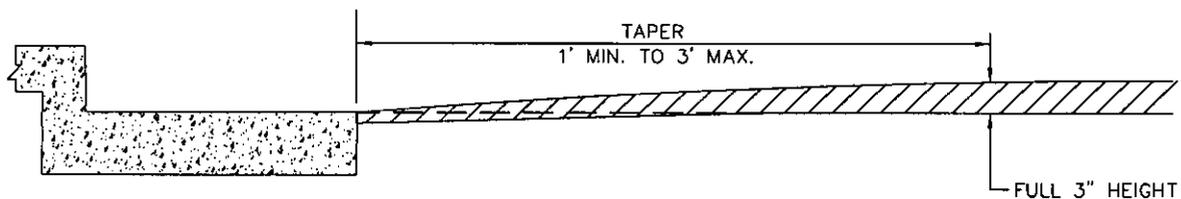


SECTION A-A

TYPICAL UNDULATION CROSS SECTION DETAIL
NOT TO SCALE



PAVEMENT UNDULATIONS
NOT TO SCALE

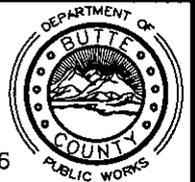


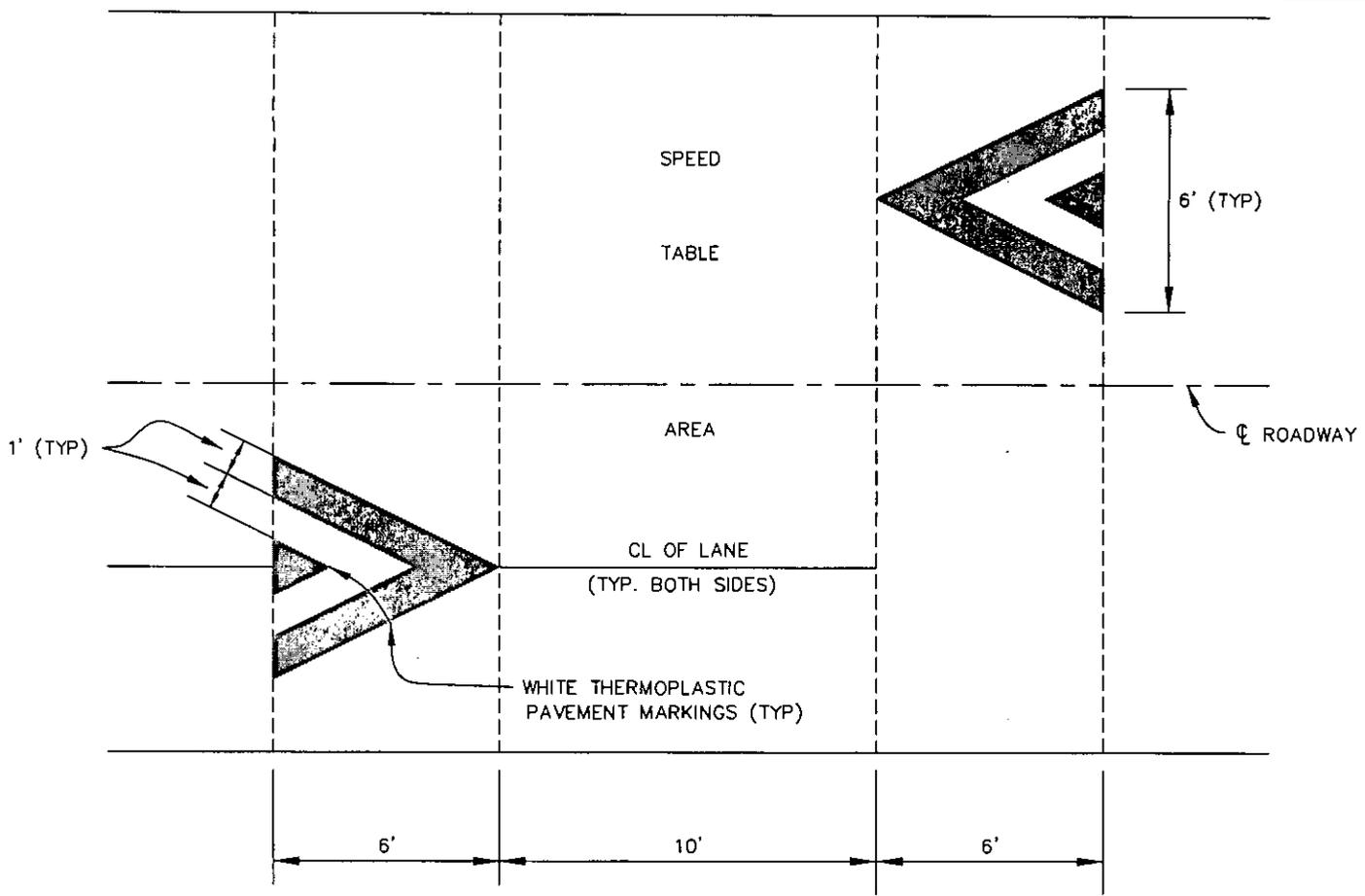
UNDULATION CURBLINE TAPER DETAIL
NOT TO SCALE

12' SPEED HUMP

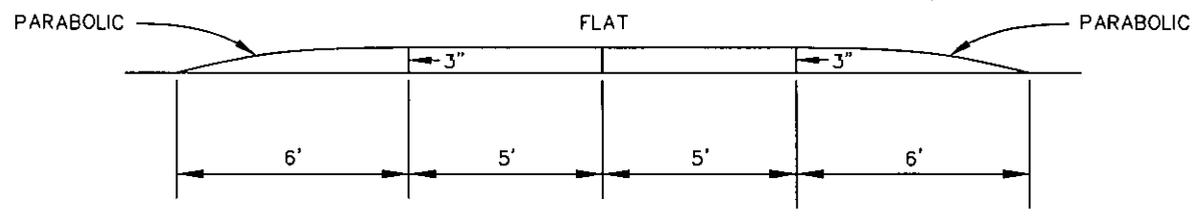
COUNTY STANDARD NO.
S-43
N.T.S.

RES 06-149 10/24/06

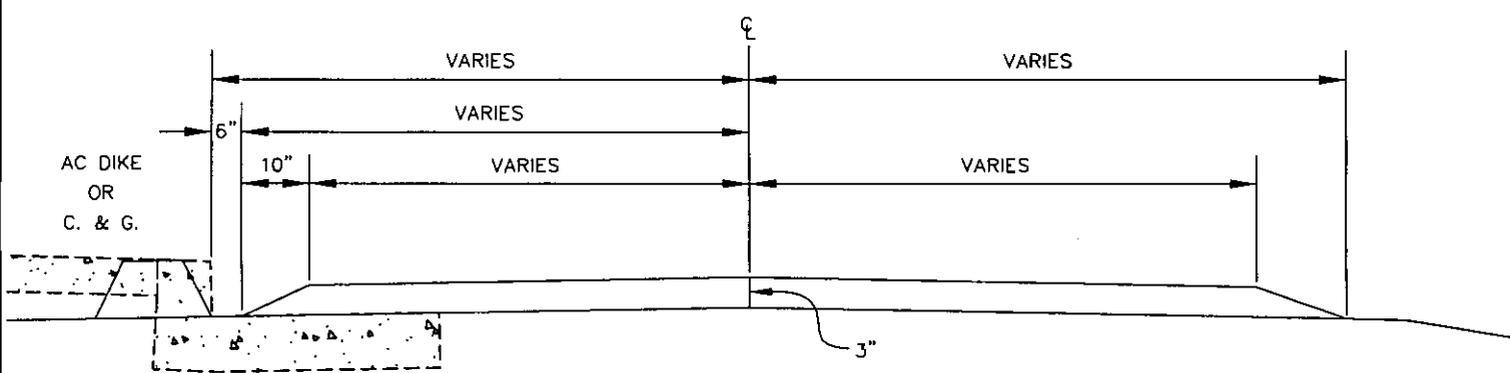




PLAN VIEW



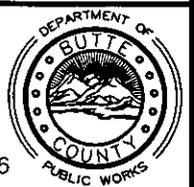
PROFILE VIEW



X-SECTION VIEW

SPEED TABLE
 COUNTY STANDARD NO.
 S-44
 N.T.S.

RES 06-149 10/24/06



APPENDIX IV

DRAINAGE CHARTS

Rainfall Intensity—Oroville	D-1
Rainfall Intensity—Paradise	D-2
Rainfall Intensity—Chico	D-3
Minimum Culvert Sizes for Given “Q”	D-4
Values for Estimating Coefficient of Runoff “C”	D-5
Headwater Depth Circular Pipe	D-6
Headwater Depth Arch Pipe	D-7
Maximum Velocities for Channel Lining	D-8
Stone Size for Rip-Rap	D-9
Culvert Cover	D-10
Drainage Calculation Form	D-11
Time of Concentration	D-12

RAINFALL INTENSITY IN./HR.

OROVILLE

<u>Fe</u>	<u>H0</u>	<u>H00</u>	<u>Fe</u>	<u>H0</u>	<u>H00</u>	<u>Fe</u>	<u>H0</u>	<u>H00</u>
10-min.	2.22	3.12	28	1.42	1.99	46	1.08	1.53
11	2.16	3.04	29	1.38	1.94	47	1.07	1.51
12	2.10	2.96	30	1.34	1.88	48	1.05	1.48
13	2.04	2.88	31	1.32	1.86	49	1.04	1.46
14	1.98	2.80	32	1.31	1.84	50	1.02	1.44
15	1.92	2.72	33	1.29	1.81	51	1.00	1.42
16	1.88	2.66	34	1.28	1.79	52	0.99	1.40
17	1.84	2.61	35	1.26	1.77	53	0.97	1.37
18	1.80	2.55	36	1.24	1.75	54	0.96	1.35
19	1.77	2.50	37	1.23	1.73	55	0.94	1.33
20	1.73	2.44	38	1.21	1.70	56	0.92	1.31
21	1.69	2.38	39	1.20	1.68	57	0.91	1.29
22	1.65	2.33	40	1.18	1.66	58	0.84	1.26
23	1.61	2.27	41	1.16	1.64	59	0.88	1.24
24	1.57	2.22	42	1.15	1.62	1-hr.	0.86	1.22
25	1.53	2.16	43	1.13	1.59	2-hrs.	0.59	0.83
26	1.49	2.10	44	1.12	1.57	3-hrs.	0.47	0.67
27	1.46	2.05	45	1.10	1.55	12-hrs.	0.22	0.31
						24-hrs.	0.17	0.24

RAINFALL INTENSITY
COUNTY STANDARD NO.



~~RAINFALL INTENSITY IN./HR.~~

PARADISE

<u>Te</u>	<u>H10</u>	<u>H100</u>	<u>Te</u>	<u>H10</u>	<u>H100</u>	<u>Te</u>	<u>H10</u>	<u>H100</u>
10 min.	1.68	2.40	28	1.48	2.09	46	1.24	1.75
11	1.72	2.45	29	1.45	2.04	47	1.23	1.73
12	1.76	2.50	30	1.42	2.00	48	1.22	1.72
13	1.80	2.54	31	1.41	1.98	49	1.21	1.70
14	1.84	2.59	32	1.40	1.97	50	1.20	1.69
15	1.88	2.64	33	1.39	1.95	51	1.19	1.67
16	1.85	2.60	34	1.38	1.94	52	1.18	1.66
17	1.82	2.55	35	1.37	1.92	53	1.17	1.64
18	1.79	2.51	36	1.35	1.91	54	1.16	1.62
19	1.76	2.47	37	1.34	1.89	55	1.15	1.61
20	1.73	2.43	38	1.33	1.87	56	1.13	1.59
21	1.70	2.38	39	1.32	1.86	57	1.12	1.58
22	1.67	2.34	40	1.31	1.84	58	1.11	1.56
23	1.63	2.30	41	1.30	1.83	59	1.10	1.55
24	1.60	2.26	42	1.29	1.81	1-hr.	1.09	1.53
25	1.57	2.21	43	1.28	1.80	2-hrs.	0.82	1.16
26	1.54	2.17	44	1.27	1.78	3-hrs.	0.73	1.02
27	1.51	2.13	45	1.26	1.76	12-hrs.	0.46	0.64

~~RAINFALL INTENSITY~~
 (REVISED 4-20-88)
~~COUNTY STANDARD NO.~~



~~RAINFALL INTENSITY IN /HR.~~

CHICO

<u>Fe</u>	<u>H0</u>	<u>H00</u>	<u>Fe</u>	<u>H0</u>	<u>H00</u>	<u>Fe</u>	<u>H0</u>	<u>H00</u>
10-min.	1.80	2.52	28	1.04	1.46	46	0.82	1.16
11	1.73	2.42	29	1.01	1.42	47	0.81	1.15
12	1.66	2.31	30	0.98	1.38	48	0.80	1.13
13	1.58	2.21	31	0.97	1.37	49	0.79	1.12
14	1.51	2.10	32	0.96	1.35	50	0.78	1.11
15	1.44	2.00	33	0.95	1.34	51	0.77	1.09
16	1.41	1.96	34	0.94	1.33	52	0.76	1.08
17	1.38	1.92	35	0.93	1.31	53	0.75	1.07
18	1.35	1.88	36	0.92	1.30	54	0.74	1.05
19	1.32	1.83	37	0.91	1.28	55	0.73	1.04
20	1.29	1.79	38	0.90	1.27	56	0.72	1.02
21	1.26	1.75	39	0.89	1.26	57	0.71	1.01
22	1.23	1.71	40	0.88	1.24	58	0.70	1.00
23	1.19	1.67	41	0.87	1.23	59	0.69	0.98
24	1.16	1.63	42	0.86	1.22	1-hr.	0.68	0.97
25	1.13	1.59	43	0.85	1.20	2-hrs.	0.49	0.69
26	1.10	1.55	44	0.84	1.19	3-hrs.	0.41	0.58
27	1.07	1.50	45	0.83	1.18	12-hrs.	0.21	0.30
						24-hrs.	0.11	0.21

~~RAINFALL INTENSITY~~
~~COUNTY STANDARD NO.~~



CULVERTS
MINIMUM PIPE SIZES FOR GIVEN "Q"

Pipe Flowing Full - No Head

PIPE SIZE IN.	AREA SQ. FT.	PIPE - ARCH EQUIV. IN.	"Q" C.F.S.	MINIMUM (CRITICAL) SLOPES	
				N = .021 PERCENT	N = .015 PERCENT
12	0.785		2.6	1.6	0.8
15	1.2	18" x 11"	4.6	1.8	0.9
18	1.767	21" x 15"	7.1	1.6	0.8
21	2.4	24" x 18"	11.	1.8	0.9
24	3.142	28" x 20"	15.	1.4	0.7
30	4.909	35" x 24"	26.	1.6	0.8
36	7.069	42" x 29"	40.	1.2	0.6
42	9.62	49" x 33"	59.	1.2	0.6
48	12.57	57" x 38"	83.	1.4	0.7
54	15.90	64" x 43"	110.	1.0	0.5
60	19.63	71" x 47"	150.	1.2	0.6
66	23.76	76" x 52"	190.	1.2	0.6
72	28.27	83" x 57"	230.	1.0	0.5
78	33.18	7' - 8" x 5' - 5"	280.	1.0	0.5
84	38.48	8' - 2" x 5' - 9"	330.	1.0	0.5
90	56.75	10' - 8" x 6' - 11"	400.	1.0	0.5
96	60.27	10' - 11" x 7' - 1"	470.	1.0	0.5
108	63.62	11' - 5" x 7' - 3"	630.	1.0	0.5
120	78.54	12' - 6" x 7' - 11"	810.	0.8	0.4

REFERENCES

ARMCO HANDBOOK

Table 26 - 2 - Page 230

Table 33 - 2 - Page 278

MINIMUM CULVERT SIZES
FOR GIVEN "Q"
COUNTY STANDARD NO.



TABLE FOR ESTIMATING "C" IN RATIONAL FORMULA

UNIMPROVED AREAS

<u>CONDITION</u>	<u>EXTREME</u>	<u>HIGH</u>	<u>MODERATE</u>	<u>LOW</u>
Slope	.36 - .28 Above 30%	.28 - .15 30% - 10%	.15 - .10 10% - 5%	.10 - .05 5% - 0
Surface permeability	.20 - .15 Bare rock or very thin soil	.15 - .07 Impervious clays - shallow soils	.07 - .04 Deep pervious loam, sandy loam	.03 Deep sand, volcanic ash
Vegetation	.20 - .15 None or very sparse	.15 - .07 Less than 20% covered with substantial growth	.07 - .04 About 50% covered with heavy growth	.03 90% covered with heavy growth. deep humas layer
Surface	.20 - .15 Smooth soil, slick rock, drainage flow continuous	.15 - .07 Roughened soil or rocks	.07 - .04 Drainage flow interrupted, many ponds, lakes, marshes	.03 Drainage flow arrested, large lakes, ponds, marshes

IMPROVED AREAS

Surface	C
Roof Surfaces	.95
A.C. or P.C.C. Pavement, patios, driveways, streets, sidewalks	.90
Landscaped areas	.25
Gravel walks, roadways	.80

EXAMPLE: Unimproved

20% Slope	.22
Well drained soil	.05
Fair cover	.07
No ponds	<u>.08</u>

C = .42

EXAMPLE: Improved

100 acre tract	
15 acres roof	@ .95
50 acres A.C. Pave	@ .90
35 acres Landscaped	@ .25

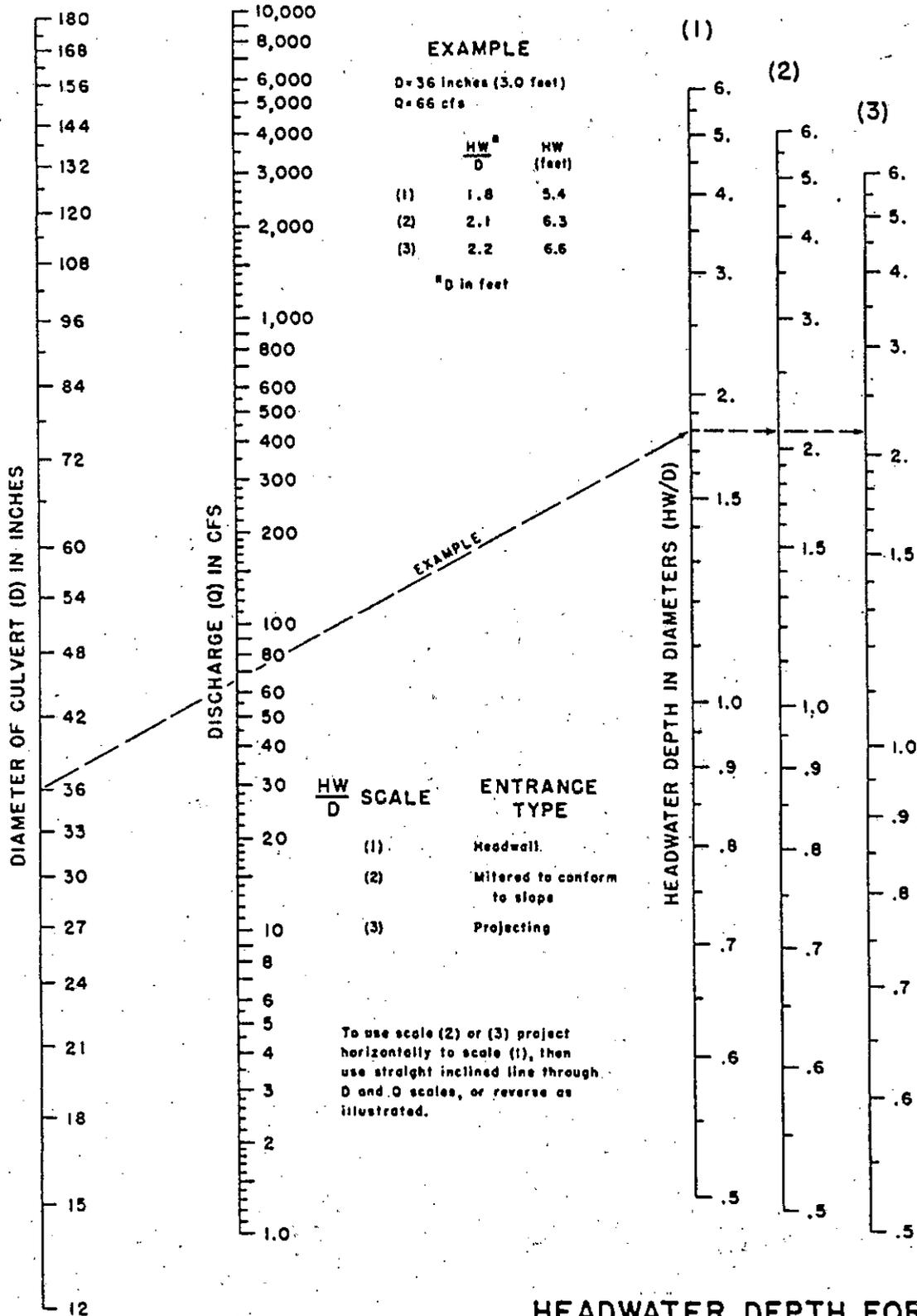
$C = \frac{(15 \times .95) + (50 \times .90) + (35 \times .25)}{100 \text{ acres}} = 0.68$

C = .68

VALUES FOR ESTIMATING
COEFFICIENT OF RUNOFF "C"

COUNTY STANDARD NO.
D-5



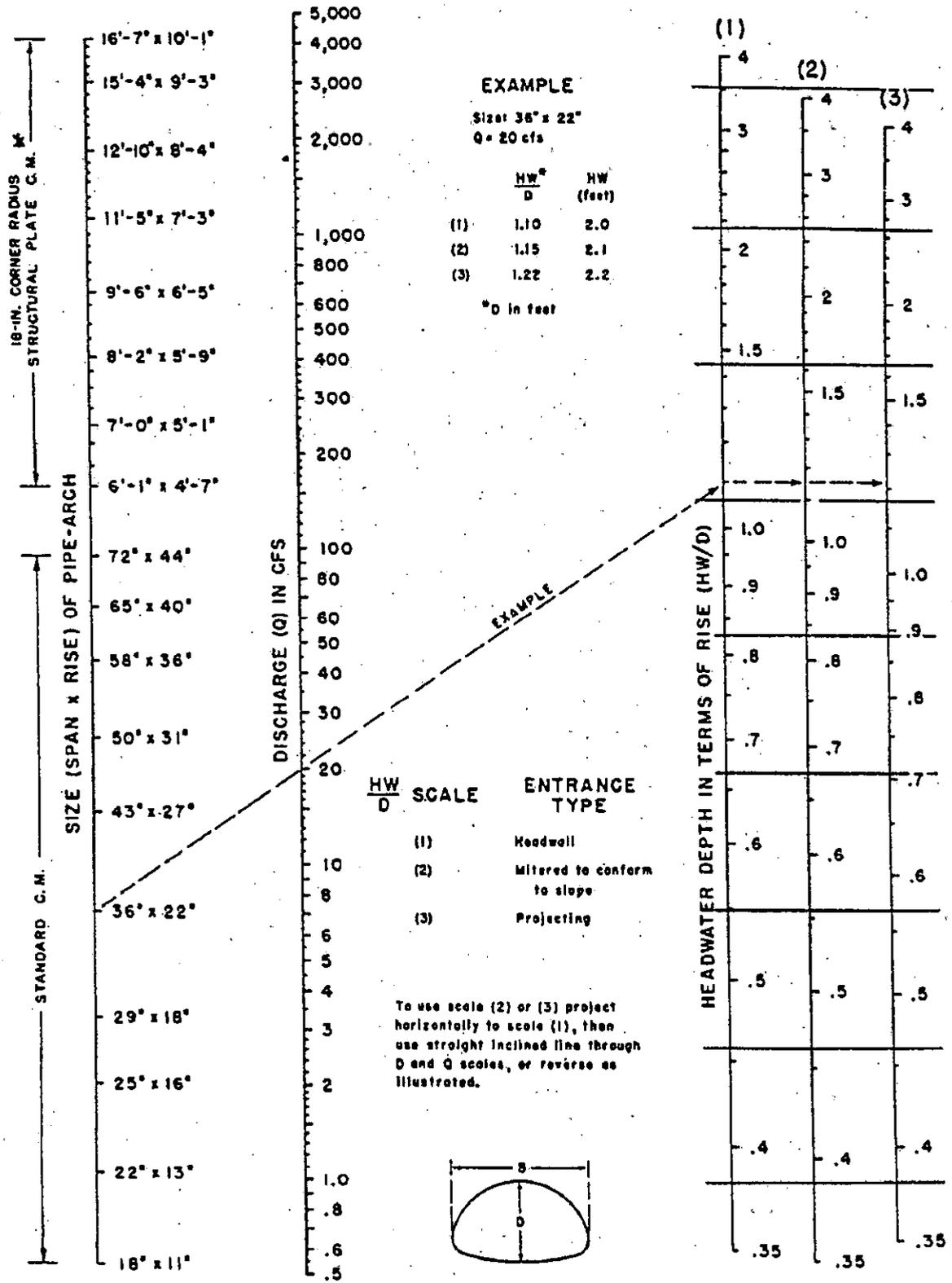


FHWA

**HEADWATER DEPTH FOR
 C. M. PIPE CULVERTS
 WITH INLET CONTROL**

**HEADWATER DEPTH — CIRCULAR PIPE
 COUNTY STANDARD NO.**





EXAMPLE

Size 36" x 22"
Q = 20 cfs

	$\frac{HW}{D}$	HW (feet)
(1)	1.10	2.0
(2)	1.15	2.1
(3)	1.22	2.2

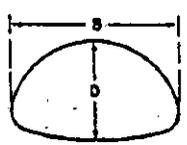
*D in feet

$\frac{HW}{D}$ SCALE

ENTRANCE TYPE

- (1) Headwell
- (2) Mitered to conform to slope
- (3) Projecting

To use scale (2) or (3) project horizontally to scale (1), then use straight inclined line through D and Q scales, or reverse as illustrated.



HEADWATER DEPTH FOR C. M. PIPE-ARCH CULVERTS WITH INLET CONTROL

FHWA

**HEADWATER DEPTH — ARCH PIPE
COUNTY STANDARD NO.**

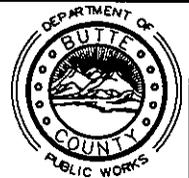


MATERIAL OF CHANNEL BED	VELOCITY IN FEET PER SECOND	
	SHALLOW DITCH	DEEP DITCH
DECOMPOSED GRANITE	1.00 - 1.50	1.50 - 2.50
CLAYEY LOAM OR SANDY CLAY	1.50 - 2.00	2.25 - 3.50
COLLOIDAL CLAY OR NON-COLLOIDAL GRAVELLY LOAM	2.00 - 3.00	3.00 - 5.00
SODDED GUTTERS	3.00 - 5.00	————
COBBLED GUTTERS, NOT GROUTED, OR BITUMINOUS PAVING	5.00 - 7.50	————
STONE MASONRY (GROUTED RIP-RAP)	7.50 - 15.00	————
SOLID ROCK - CONCRETE - GUNITE	15.00 - 25.00	————

NOTES:

1. THIS CHART CONTAINS THE MAXIMUM VELOCITIES ALLOWABLE FOR VARIOUS TYPES OF LINING MATERIAL.
2. IN NO CASE SHALL UNLINED CHANNELS BE ALLOWED WHERE THE SLOPE EXCEEDS 6% OR WHERE VELOCITIES ARE EXCESSIVE, EXCEPT AS ALLOWED PER SECTION 10 OF THE STANDARDS.
3. ANY CHANNEL REQUIRING LINING IN ITS UPPER REACHES SHALL BE LINED TO ITS JUNCTION WITH ANOTHER PAVED CHANNEL, AN INTERCEPTING PIPE OR NATURAL CHANNEL.

MAXIMUM VELOCITIES FOR
CHANNEL LINING
COUNTY STANDARD NO.



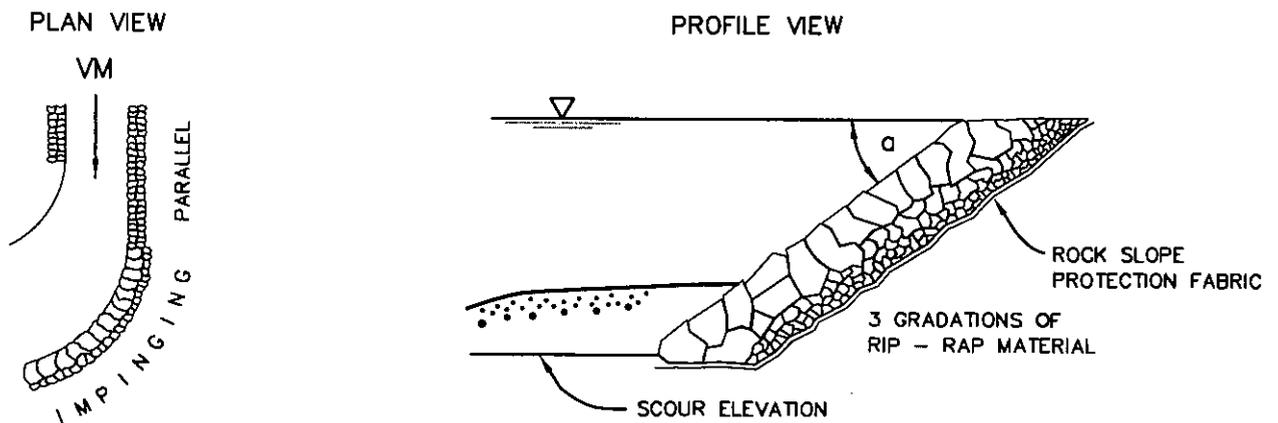
Design of rock slope protection shall be in accordance with "California Bank and Shore Rock Slope Protection Design."

Final Report No. FHWA-CA-TL-95-10
Caltrans Study No. F90TL03

$$W = \frac{0.00002 * V^6 * SG}{(SG - 1)^3 * \sin^3(r - a)}$$

- W= theoretical minimum rock mass (size or weight) which resists forces of flowing water and remains stable on slope of stream or river bank, POUNDS.
V= velocity to which bank is exposed, FEET PER SECOND.
for PARALLEL flow multiply average channel velocity (VM) by 0.67 (2/3)
for IMPINGING flow multiply average channel velocity (VM) by 1.33 (4/3)
SG= specific gravity of the rock. (Min. SG = 2.50)
r= 70 DEGREES (for randomly placed rubble, a constant).
a= outside slope face angle with horizontal, DEGREES.

KEY VARIABLES IN EQUATION 1



STONE SIZE FOR RIP-RAP
COUNTY STANDARD NO.

D-9
N.T.S.

RES 06-149 10/24/06



**MAXIMUM ALLOWABLE COVER – DRAINAGE PIPES
(MEASURED SURFACE TO BOTTOM OF TRENCH IN FEET)**

CLASS	CONCRETE PIPE						C.M.P. UNSTRUTTED					CORRUGATED ALUMINUM					
	C-14		REINFORCED				16	14	12	10	8	16	14	12	10	8	
DIA.	SS	ES	II	III	III	IV	V	GA.	GA.	GA.	GA.	GA.	GA.	GA.	GA.	GA.	
10	13	30	NOT PERMITTED									40					
12	12	25		8	12	30			60	80			35	40	50		
15	12	26		10	15	35			50	70			32	35	40		
18	12	29		11	16	38			40	60	100		26	30	35		
21	12	29		12	17	39			35	50	80	100	21	25	30		
24	12	24		12	18	39			17	47	72	82	13	21	30		
27				13	19	39				40	60	77					
30				14	19	38				32	47	72		19	25	30	
33				14	20	38				25	40	60					
36				13	17	27	64		18	33	48		10	18	25	30	
42				14	18	29	62			28	38	100		16	20	25	
48				15	19	30	60			24	29	39		15	20	25	
54				16	20	31	58			20	25	35		15	20	25	
60				14	16	21	31	57			20	30				14	18
66				15	17	22	32	56			20	25				13	17
72			15	18	23	33	56			16	21				12	15	

**MINIMUM ALLOWABLE COVER – DRAINAGE PIPES
(MEASURED SURFACE TO TOP OF PIPE IN INCHES)**

CLASS	CONCRETE PIPE							CORRUGATED METAL PIPE – ALL SIZES H-20 LOADING	CORRUGATED ALUMINUM PIPE – ALL SIZES H-20 LOADING
	C-14		REINFORCED						
DIA.	SS	ES	II	III	III	IV	V		
ALL SIZES	27"	24"	30"	30"	24"	12"	12"	Major Streets D/5 or 24" Min. Cover	Major Streets 24" Min. Cover

NOTES:

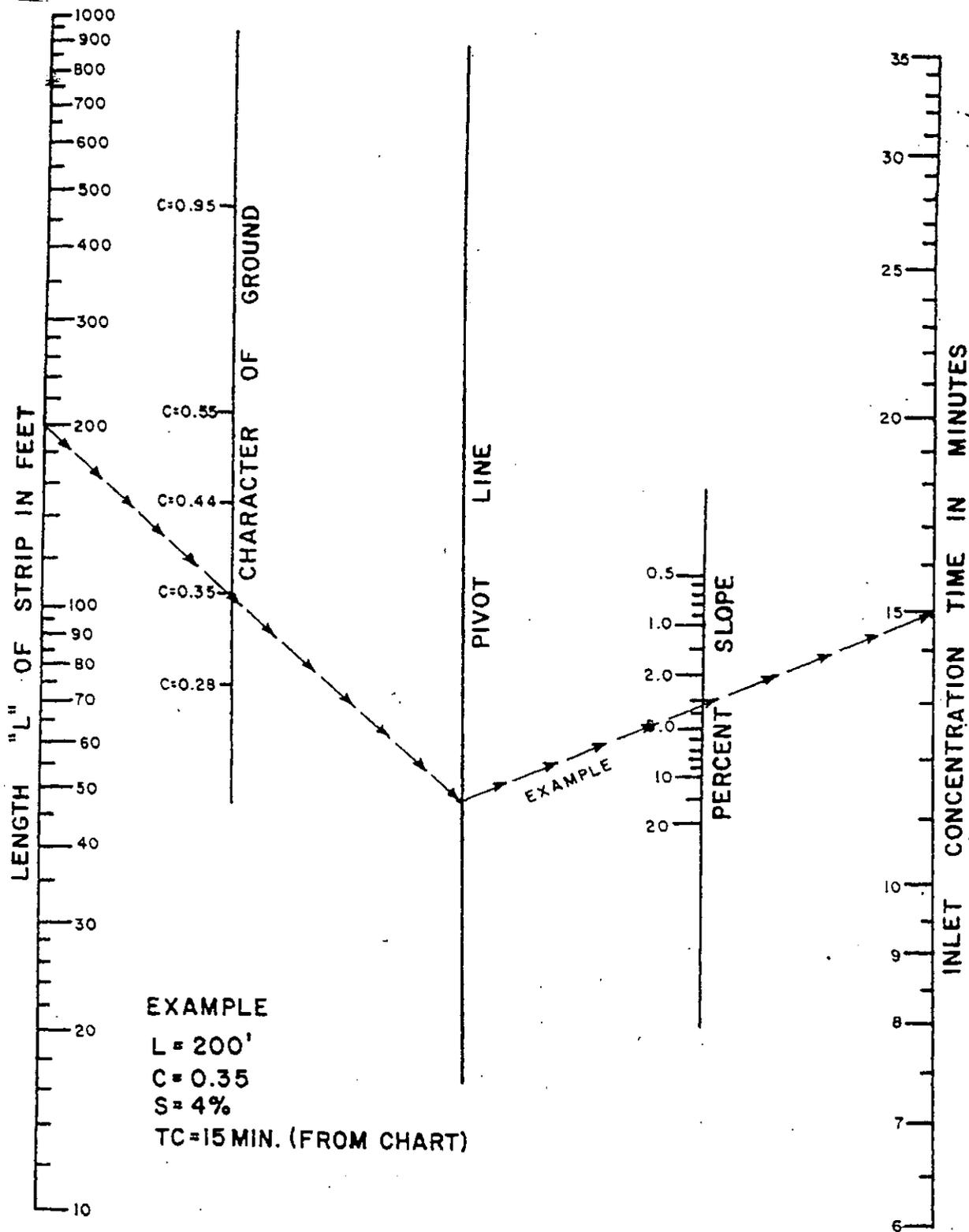
1. CONCRETE PIPE SHALL CONFORM TO A.S.T.M. C-76, 57-T OR A.S.T.M. C-14.
2. VITRIFIED CLAY PIPE SHALL BE EXTRA STRENGTH & CONFORM TO A.S.T.M. C-278 CLASS II.
3. ALL DEPTHS SHOWN FOR FLEXIBLE PAVEMENT ONLY.
4. MINIMUM COVER ON V.C.P. – ES SHALL CONFORM TO THAT OF CONCRETE PIPE CLASS II. IN ROAD SECTION, MIN. CL IV R.C.P. OR V.C.P.
6. S.S. – SINGLE STRENGTH
7. E.S. – EXTRA STRENGTH
8. HDPE – HIGH DENSITY POLYETHYLENE PIPE, WHEN USED FOR STORM DRAIN SYSTEM MUST BE TYPE "S". 30" MIN. COVER REQUIRED WITHIN A ROAD RIGHT OF WAY FOR ALL HDPE.

**CULVERT COVER
COUNTY STANDARD NO.**

D-10

RES 06-149 10/24/06





OVERLAND FLOW FOR
 TIME OF CONCENTRATION
 THIN FLOW OVER SMALL AREAS

TIME OF CONCENTRATION
 COUNTY STANDARD NO.



APPENDIX V

Subdivision Agreement	1
Maintenance Bond	3

APPENDIX V

SUBDIVISION AGREEMENT

THIS AGREEMENT is made and entered into this _____ day of _____, 20____, by and between _____, hereinafter called "Subdivider", and the County of Butte, a political subdivision of the State of California, hereinafter called "County".

WITNESSETH:

The parties hereto agree that the Subdivider shall complete the road and street improvements, tract drainage and all other improvements required in the approved construction plans for the _____ Subdivision as per the map being filed at this time in the office of the County Recorder of the County; and Subdivider further agrees that the construction of said improvements shall be completed to the satisfaction of the Director of Public Works within one year from the date hereof, and shall be constructed in accordance with the approved plans on file with the Butte County Department of Public Works and the specifications for subdivision roads adopted by the County and the applicable sections of the current edition of the State of California Division of Highways Standard Specifications.

The Subdivider shall cause the work to be completed without undue delay except for inclement weather or other reasonable cause. Any delay in the completion of the work beyond the period stated, unless an extension thereof is approved by the Board of Supervisors, shall result in forfeiture of the cash deposit and/or security, or a portion thereof, for the completion of the work.

The Subdivider further agrees to maintain these subdivision roads for a period of one (1) year from the date of acceptance of the work by the County Board of Supervisors.

The Subdivider further agrees that he will pay all the costs of improvements when due, including all labor and materials and the costs of relocating existing utilities when such relocation is necessary to permit the construction of improvements required for the subdivision.

The Subdivider further agrees to pay for the setting and establishment of all survey monuments and points as shown on the filed subdivision map.

The Subdivider further agrees that at the time of execution of this agreement, he will deposit with the County in the form of a cash deposit or acceptable surety bond or bonds to guarantee the performance of work, payment for labor and materials, maintenance of the facilities for a one-year period, payment for surveying in the amount listed below, and payment of all costs and reasonable expenses and fees, including reasonable attorneys' fees, incurred by the County in successfully enforcing the obligations secured by this agreement:

1. Performance in amount of 50% of approved engineer's estimate: \$ _____
2. Labor and materials in amount of 50% of approved engineer's estimate: \$ _____
3. Maintenance bond in amount of 25% of approved engineer's estimate: \$ _____
4. Surveying bond in amount equal to estimate of work: \$ _____

The County in consideration of the terms above referred to, agree to permit the Subdivider to file and record said subdivision map and recognize the subdivision described therein as a subdivision complying with the ordinances and requirements of the County of Butte and the applicable laws of the State of California.

IN WITNESS WHEREOF, the parties hereto have set their hands the day and year first above written.

Approved:

COUNTY OF BUTTE

Chair of the Board of Supervisors

Department of Public Works

ATTEST: Paul McIntosh
Clerk of the
Board of Supervisors

Developer

Address

Developer

Address

MAINTENANCE BOND
(Typical Wording)

KNOW ALL MEN BY THESE PRESENTS: That (Owner or Contractor and Address) as Principal and the (Insurance Company) as a (Name of State) corporation authorized to execute bonds in the State of California, and duly authorized to transact a general surety business in the State of California, as Surety, are held and firmly bound unto County of Butte, State of California, in the sum of (25% of Contract Price) lawful money of the United States, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT: WHEREAS (The Principal) has

_____, and WHEREAS, the said (Principal) is required to give a bond in the amount of (25% Contract Price) to protect the said COUNTY OF BUTTE against the result of faulty materials or workmanship for a period of ONE YEAR from and after the date of completion and acceptance of said work;

NOW, THEREFORE, if the said (Principal) shall for a period of ONE YEAR from and after the date of completion and acceptance of said work, replace any and all defects arising in said work whether resulting from defective materials or defective workmanship, then the above obligation to be void; otherwise, to remain in full force and effect.

Signed and sealed this _____ day of _____, 20__.

APPENDIX VI

Construction Standards for Small Community Water Supplies	1
CHART 1 - Maximum Day Demand – Metered Water Systems	7
CHART 2 - Maximum Day Demand – Flat Rate Water Systems	8
CHART 3 - Needed Storage Volume When $Q=Q_o$ – Metered Water Systems	9
CHART 4 - Needed Storage Volume When $Q=Q_o$ – Flat Rate Water Systems	10

13050 – 13274

13750 – 13755

California Code of Regulations Title 17

Section 7104 – 7134

Section 7583 – 7629

California Code of Regulations Title 22

Section 60001 – 60003

Section 60400 – 64710

Public Utilities Commission of the State of California General Order 103

United States Code on Variances United States Code Title 42
Chapter 6A

Butte County Water Well Ordinance Chapter 23B, Code of Butte County

III. DOMESTIC WATER SUPPLY SYSTEM CLASSIFICATIONS

“Public Water System” – A system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year. A public water system includes the following:

1. Any collection, treatment, storage, and distribution facilities under control of the operator of the system which are used primarily in connection with the system.
2. Any collection or pretreatment storage facilities not under the control of the operator that are used primarily in connection with the system.
3. Any water system that treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

“Community Water System” – A public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25 yearlong residents of the area served by the system.

“Non-Community Water System” – A public water system that is not a community water system.

“Non-Transient Non-Community Water System” – A public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year.

“State Small Water System” – A system for the provision of piped water to the public for human consumption that serves at least five, but not more than 14, service connections and does not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year.

Transient Non-Community Water System” – A non-community water system that does not regularly serve at least 25 of the same persons over six months per year.

IV. SURFACE WATER SUPPLY SOURCES

Surface Water – Community Water Supplies Serving 200 or More Service Connections.

The Developer or Water Purveyor shall apply to the Department of Health Services, Division of Drinking Water and Environmental Management for approval.

Surface Water Community Water Supplies Serving Less than 200 Service Connections

Due to complex watershed protection, water treatment, water sampling, managerial, financial, reliability and water rights requirements governing surface water supply sources (creeks, streams, lakes, reservoirs, springs), it is the policy of the Butte County Department of Public Health to encourage to the extent possible the construction of new public water supplies utilizing water sources other than surface.

Applicants proposing a new surface water public water supply serving less than 200 service connections are advised by the Department of Public Health to consult with the Department as part of the initial development planning process.

V. PERMITS

A domestic water supply permit that includes authorization to serve the development shall be obtained prior to recording a map. Should the development be served by an existing public water supply, verification by the water purveyor that service connections exist for the development and that financial arrangements to serve the development shall be provided prior to recording a map.

VI. COMMUNITY WATER SUPPLY WELLS

A. Construction

Each well shall be constructed in compliance with Chapter 23B of the Butte County Code or if an existing well is proposed to serve the development verified to meet equivalent standards.

B. Water Quality

Each well shall meet chemical, radiological, bacteriological and quantity requirements as required by the Butte County Department of Public Health in conformance with State and Federal law.

C. Location

1. Wells shall be located an adequate distance from any source of contamination or pollution. If possible wells shall be up the ground water gradient (upstream) from sources of pollution or contamination.

2. Wells shall be located not closer than:

- a. 50 feet to any sewer line.
- b. 50 feet to a septic tank.
- c. 100 feet to a sewage leach field.
- d. 150 feet to a sewage seepage pit.
- e. 100 feet to a storm water drainage leaching facility either a covered ditch or percolation basin.
- f. Separation from other sources of pollution shall be in accordance with Chapter 23B, Butte County Code and approved by the Butte County Department of Public Health. Where adverse conditions exist, these distances may be increased and special protection well construction required.

D. Continuous Water Supply

Where the water system is to be served by a well and pressure tank and the system will serve over ten lots, at least two wells shall be provided and one of these wells shall be equipped with auxiliary power. The California State Safe Drinking Water Act requires every public water supply to provide water continuously at a minimum pressure of 20 pounds per square inch gauge (psig) (140 kilo pascals gauge (kpag) under the following demand condition

1. User maximum hour demand.
2. User average day demand plus design fire flow.

to each service connection.

VII. SOURCE CAPACITY AND NEEDED STORAGE VOLUME

Procedures for determining needed source capacity and needed storage volume (Reference 64564 Title 22 California Code of Regulations)

- a. Whenever possible, needed source capacity and needed storage volume shall be determined from existing water use records of the water system.
The records used shall clearly indicate total source capacity, total storage volume and maximum day demand of previous years.
The existing records of the water system may be supplemented as needed by the records of a similar water system acceptable to either the Department or a qualified registered engineer.
- b. When the existing records of the water system are inadequate to determine these values and no records of a similar water system can be found to supplement the existing records, the maximum day demand, the needed source capacity and the needed storage volume for typical residential and general commercial areas (without provisions for fire flow) shall be determined as follows:
 1. Determine the maximum day demand ($Q[o]$) from Chart 1 or Chart 2.
 2. When the total capacity of the existing sources equals the maximum day demand ($Q[o]$), the needed storage volume ($V[o]$) to meet peak demand during the day shall be determined from Chart 3 or Chart 4.
 3. When the total storage volume of the existing reservoirs (V) is less than the needed storage volume ($V[o]$), the existing sources shall be

supplemented so that the needed source capacity (Q) is met. For a metered water system, $Q = Q[o] (2.5-1.5V/V[o])$ or for a flat rate water system, $Q = Q[o] (2-V/V[o])$.

Unless site specific data is provided that verifies that the maximum average monthly air temperature is less than 80°F (27°C), the design criteria for source capacity and storage requirements shall be based upon an 80°F (27°C) maximum average monthly air temperature.

VIII. PREMPTION

Design criteria included within these standards are provided to facilitate map planning and development design. Specific criteria included within these standards is consistent with State and Federal Laws and Regulations upon adoption of these revised standards. Local public water supply design criteria is pre-empted by State and Federal Laws and Regulations if those statutes become more strict than local standards.

MAXIMUM DAY DEMAND - METERED WATER SYSTEMS

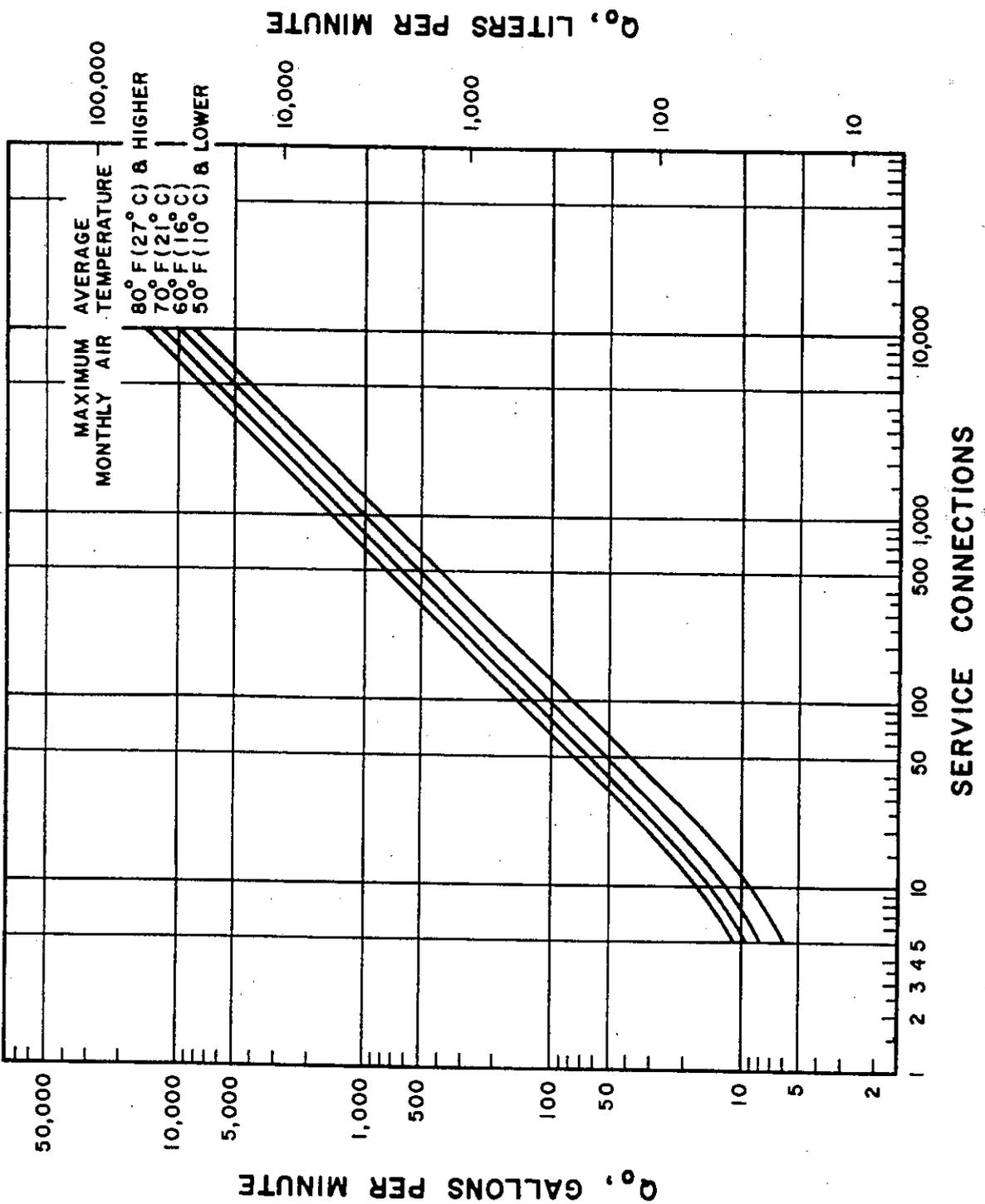


CHART 1

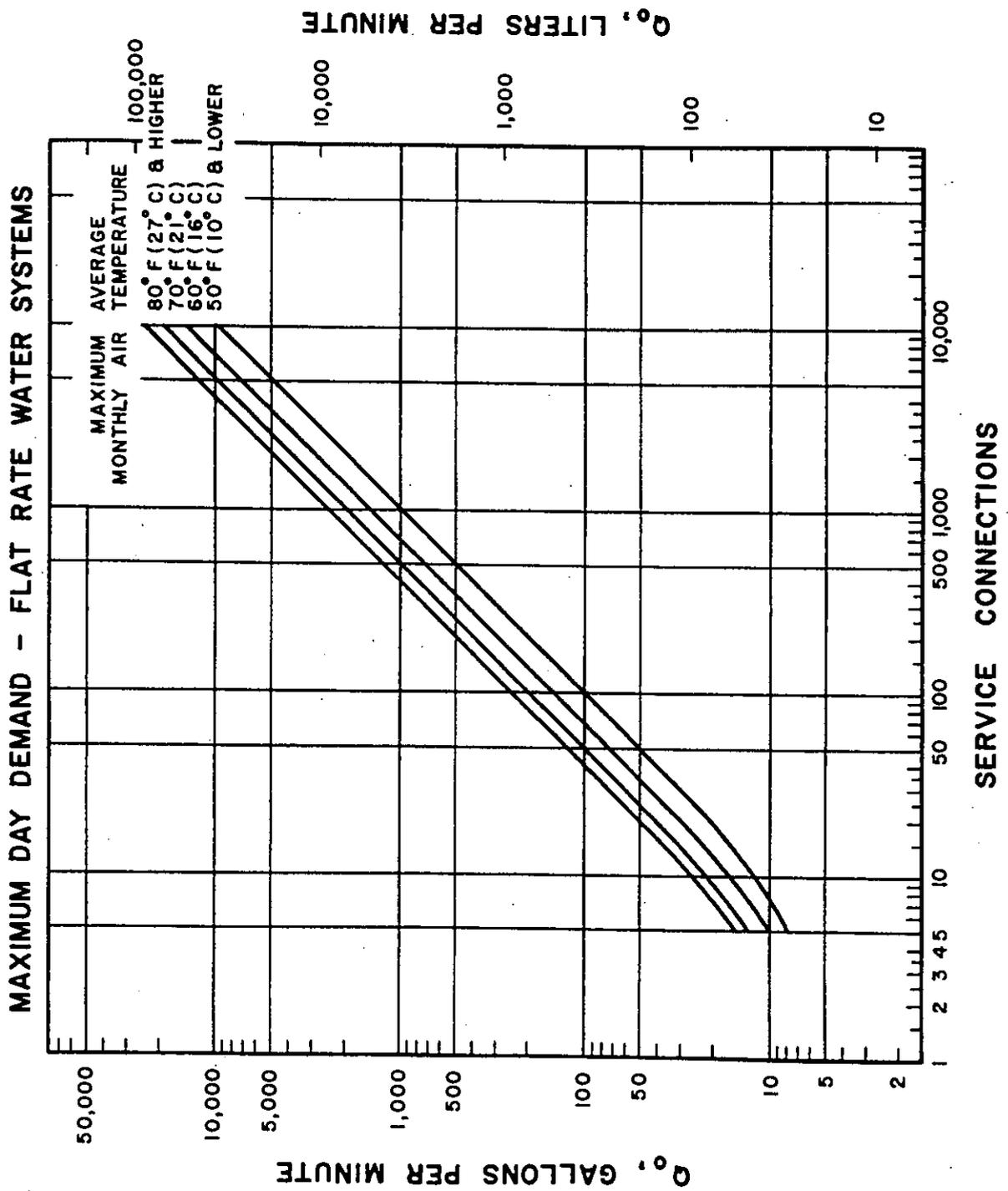


CHART 2

NEEDED STORAGE VOLUME WHEN $Q = Q_0$ - METERED WATER SYSTEMS

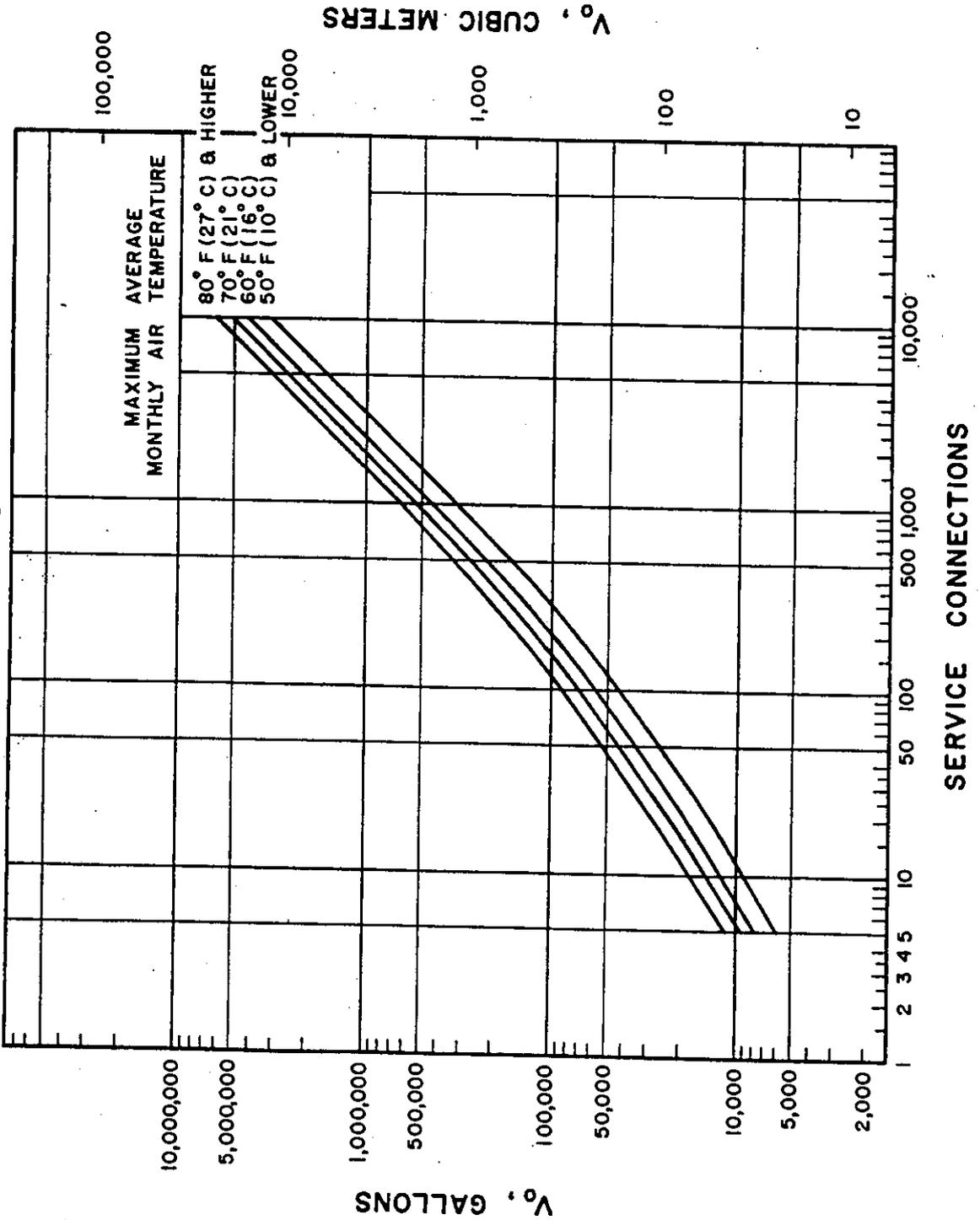


CHART 3

NEEDED STORAGE VOLUME WHEN $Q = Q_0$ - FLAT RATE WATER SYSTEMS

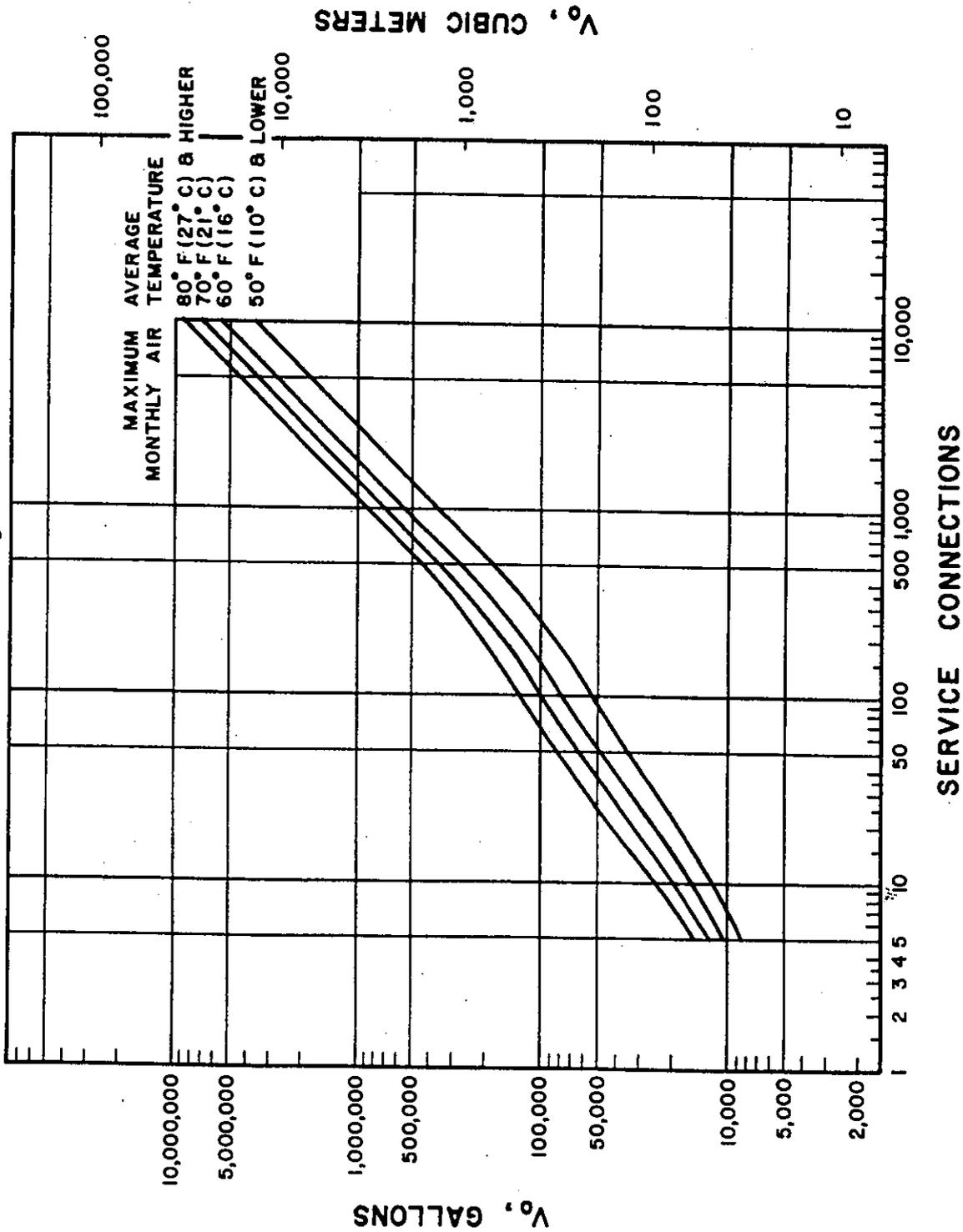


CHART 4

APPENDIX VII

Minimum Usable Lot Areas for Subdivisions and Land Divisions

Where Individual Sewage Disposal Systems are to be used; Minimum Separation Distances

APPENDIX VII

MINIMUM USABLE LOT AREAS FOR SUBDIVISIONS AND LAND DIVISIONS WHERE INDIVIDUAL SEWAGE DISPOSAL SYSTEMS ARE TO BE USED; MINIMUM SEPARATION DISTANCES

- A. The requirements below for sewage disposal are applicable to subdivisions and land divisions where septic tanks and leach fields are proposed. The required minimum areas shall be computed proportionally based upon sewage flows expected from the land division or subdivision in question using the Table I value as 350 gallons of waste water per day per area requirement.
1. For subdivisions of AGRICULTURAL LAND for continued AGRICULTURAL LAND PURPOSES only, no required minimum areas for sewage disposal shall be necessary. No development requiring an individual sewage disposal system shall be permitted on any such agricultural parcel unless the requirements of A are met.

A statement shall be placed on any required map and reserved in deeds for each lot that "lots within this division are not approved for sewage disposal."
"Agricultural Purposes" as used in this section means cultivation of food or fiber or grazing or pasturing of livestock on parcels of 20 acres or larger.

- B. Usable lot area shall mean that area of the lot usable for installation of an individual sewage disposal system. Usable lot area shall not include areas contained in the following:
1. Building setbacks required by County Ordinance or the Butte County Code unless approved by the Health Department and Department of Public Works.
 2. Easements dedicated or reserved for surface or underground improvements unless dedicated or reserved for sewage disposal purposes on the approved and recorded map.
 3. Easements for access or roadway purposes.

4. Areas occupied by structures and within five-feet (5') of existing structures or to be occupied by structures. For purposes of single-family residential lots on which there are no existing structures, this area shall be deemed to be 2,500 square feet.
 5. Areas within five feet (5') of the property line
 6. Areas that do not comply with the minimum separation distances shown in Table II below.
 7. Paved areas or areas proposed to be paved, where the percolation rate exceeds 20min/in.
 8. Areas with a slope in excess of 30%.
 9. Areas where the percolation value is in excess of 120 min/in.
 10. Areas with less than two feet (2') of soil above impervious stratum.
 11. Areas with less than five feet (5') of soil above seasonal high groundwater level.
- C. Each lot in a subdivision or land division shall provide the minimum area for sewage disposal found in Table I attached. Areas shown in Table I up to and including 2.0 acres are minimum usable areas for sewage disposal as defined in B above. Areas in Table I in excess of two (2) acres are minimum gross parcel sized provided; however, that such gross parcels shall contain not less than two (2) acres of usable area as defined in B above.
- D. Seepage pits shall not be utilized on any lot created after January 20, 1987.
- E. Required usable sewage disposal area for these smaller lots created in accordance with IV F (3) of the Nitrate Action Plan for the Greater Chico Urban Area may be located on adjacent land by easement acceptable to the Health Department, provided:
1. The easement is within the land area proposed for division and overlays a duly approved subdivision designed for community sewers.
 2. A note shall be placed on the map that the easement-encumbered lots shall not be buildable lots until such time as sewers have been made available and the easements terminated

(Amended per Resolution 85-113)

Table I
Minimum Useable Areas (square feet or acres)
Soil Depth Above A, Groundwater or B, Impervious Stratum
(Based Upon 350 Gallons of Waste Water Per Day Per Area Requirement)

Slope	Perc Value	A-B		A-B		A-B		B		B	
		7' or Greater	7' to 6'	6' to 5'	5' to 4'	4' to 3'	3' to 2'				
0 to 10%	* 0-10	6,000	16,000	21,000	31,000	76,340	5 acres				
	11-20	8,000	18,000	23,000	33,000	78,340	5 acres				
	21-40	10,000	20,000	25,000	35,000	80,340	5 acres				
	41-60	12,000	22,000	27,000	37,000	82,340	5 acres				
	61-80	27,000	32,000	37,000	47,000	2.0 acres	5 acres				
	81-100	37,000	42,000	47,000	57,000	2.25 acres	5 acres				
101-120	57,000	62,000	67,000	77,000	2.75 acres	5 acres					
OVER 10% to 20%	* 0-10	9,000	26,000	34,000	49,000	2.5 acres	5 acres				
	21-40	11,000	28,000	36,000	51,000	2.5 acres	5 acres				
	21-40	13,000	30,000	38,000	53,000	2.5 acres	5 acres				
	41-60	15,000	32,000	40,000	55,000	2.5 acres	5 acres				
	61-80	35,000	42,000	50,000	65,000	2.75 acres	5 acres				
	81-100	45,000	52,000	60,000	75,000	3.0 acres	5 acres				
101-120	65,000	72,000	80,000	2.25 acres	3.5 acres	5 acres					
OVER 20% to 30%	* 0-10	16,000	36,000	46,000	69,560	3.5 acres					
	21-40	18,000	38,000	48,000	71,560	3.5 acres					
	21-40	20,000	40,000	50,000	73,560	3.75 acres					
	41-60	22,000	42,000	52,000	75,560	3.75 acres					
	61-80	42,000	52,000	62,000	2.0 acres	4.0 acres	NO DEVELOPMENT				
	81-100	52,000	62,000	72,000	2.25 acres	4.25 acres					
101-120	72,000	82,000	2.0 acres	2.75 acres	4.75 acres						
* Perc values of less than 5 must show sufficient soil to assure proper filtration											

Table II

Minimum Separation Distances in Lineal Feet

<u>Facility</u>	<u>S-T or Sewer Line</u>	<u>Leaching Field</u>	<u>Seepage Pit</u>
a. Individual Domestic Wells	50'	100'	150'
b. Public Domestic Wells	100'	100'	150'
c. Perennial Stream or Spring	50'	100' from high water line	100' from high water line
d. Drainage Course or Ephemeral Stream	25'	50' from edge of channel	50' from edge of channel
e. Cut or Fill Bank	10'	4' x vertical height	4' x vertical height
f. Lake or Reservoir	50'	200' from high water line	200' from high water line
g. Lot Lines where Individual Wells Used*	25'	50'	75'

*Note: This requirement shall not apply where location of wells on each lot is specified on the final map and required usable area for each lot is 100' from any well location.

- Notes:
- a. An impervious stratum or layer is a bed or lens of fine-grained soil, rock, cemented material, or similar soil structure, which retards the downward movement of water. A stratum, which has a percolation value in excess of 120 minutes per inch and/or in which six (6) inches of water will not seep completely away in a 12-hour period, shall be deemed to be impervious.
 - b. Areas with less than two feet (2') of soil above an impervious stratum or less than five feet (5') of soil above the seasonal high groundwater level, slopes in excess of 30%, or percolations values in excess of 120 min/inch are deemed unsuitable for septic tank systems.
 - c. In addition to the requirements of these standards, sewage disposal areas must be of such a configuration that it is practicable to use them as disposal areas based upon standard practices for the installation of septic tank systems.

APPENDIX VIII

Storm Drainage Fees – County Of Butte

1

Storm Drainage Fee Schedule Exhibit “A” Included

8

APPENDIX VIII
STORM DRAINAGE FEES
COUNTY OF BUTTE

I. All persons, firms or corporations developing land within the County of Butte shall pay a storm drainage fee in accordance with the attached “Storm Drainage Fee Schedule” (Exhibit “A”) or in accordance with the fee schedules for the Thermalito Drainage Area and Chico Storm Drainage Master Plan as set forth in Article XI of Chapter 3 of the Butte County Code.

II. Fee Application

A. Exempt Conditions – No Fee Required:

1. Any property being developed, outside the adopted master plans for the Thermalito Drainage Area and Chico Storm Drainage Master Plan as set forth in Article XI of Chapter 3 of the Butte County Code and Article IX of Chapter 20 of the Butte County Code, from which the owner has constructed storm drainage facilities to an existing natural drainage channel in accordance with the requirements of the Butte County Department of Public Works shall be exempt from the payment of a storm drainage fee identified in this Appendix VIII.
2. If the property being developed is located within an existing storm drainage system assessment district and the proposed land use density is the same as the density used in the design of the storm drainage assessment district facilities already constructed, there shall be no additional fee.

B. Conditions Which Require Fee Payment:

1. If the property being developed is located within an area which has no storm drainage facilities and is not included in a storm drainage assessment district or the above referenced master plans for the Thermalito Drainage Area and Chico Storm Drainage Master Plan, the developer shall either:
 - a. Construct appropriate onsite storm drainage facilities with, as a minimum, mitigation for no increase in peak runoff from the site above predevelopment levels and pay a storm drainage fee in accordance with the attached “Storm Drainage Fee Schedule” (Exhibit A), or
 - b. Construct an underground storm drainage system, with, as a minimum, mitigation for no increase in peak runoff from the site above predevelopment levels, to the nearest adequate natural storm drainage channel in accordance with the requirements of the Butte County Department of Public Works.

2. If the property being developed is located within a storm drainage assessment district or the above referenced master plans for the Thermalito Drainage Area and Chico Storm Drainage Master Plan, which contain partially constructed storm drainage facilities, the developer shall either:
 - a. Construct appropriate onsite storm drainage facilities with, as a minimum, mitigation for no increase in peak runoff from the site above predevelopment levels and pay a storm drainage fee to be computed as follows:

Fee = Storm drainage fee (from Exhibit “A”) minus previous storm drainage assessment on the property being developed minus the

cost of the master plan required storm drainage facilities constructed, or

- b. Construct appropriate onsite storm drainage facilities with, as a minimum, mitigation for no increase in peak runoff from the site above predevelopment levels and construct the necessary storm drainage facilities from the property being developed to existing assessment district or master plan facility and pay a fee to be computed as follows:

Fee = Storm drainage fee (from Exhibit "A") minus the storm drainage assessment on the property minus the cost of the master plan required storm drainage facilities constructed.

3. If the property being developed is located within a storm drainage assessment district which contains fully constructed storm drainage facilities and the proposed land use density is greater than the density used in the design of the storm drainage assessment district facilities already constructed, the developer shall either:

- a. Construct appropriate onsite storm drainage facilities with, as a minimum, mitigation for no increase in peak runoff from the site above predevelopment levels and pay a storm drainage fee to be computed as follows:

Fee = Storm drainage fee (from Exhibit "A") minus storm drainage assessment on the property, or

- b. Construct appropriate onsite storm drainage facilities with, as a minimum, mitigation for no increase in peak runoff from the site above predevelopment levels and construct a storm drainage

extension from the property being developed to a storm drainage system or adequate natural drainage channel, the developer shall pay a fee to be computed as follows:

Fee = Storm drainage fee (from Exhibit "A") minus the cost of constructing the extension to the storm drainage system.

In no case will the developer be entitled to a rebate due to a "negative fee".

4. If the property being developed is not located within an existing storm drainage assessment district but can be served by an existing storm drainage facility constructed and maintained by some local agency other than a storm drainage assessment district, the developer shall either:
 - a. Construct appropriate onsite storm drainage facilities with, as a minimum, mitigation for no increase in peak runoff from the site above predevelopment levels and pay a storm drainage fee in accordance with the "Storm Drainage Fee Schedule" (Exhibit "A"), or
 - b. Construct appropriate onsite storm drainage facilities with, as a minimum, mitigation for no increase in peak runoff from the site above predevelopment levels and construct the necessary storm drainage facilities from the property to the existing storm drainage facility and pay a fee to be computed as follows:

Fee = Storm drainage fee (from Exhibit "A") minus the cost of the storm drainage facilities constructed.

In no case will the developer be entitled to a rebate due to a "negative fee."

III. Subdivision Development

- A. If the property is being developed as a subdivision outside the master plan areas for the Thermalito Drainage Area and Chico Storm Drainage Master Plan and requires the processing of a tentative and final subdivision map, the developer shall construct a storm drainage system which shall carry subdivision storm drainage run-off to the nearest natural drainage channel having adequate capacity for same or construct temporary facilities in conformance with the Butte County Improvement Standards and provide an appropriate maintenance entity. The drainage plans shall specify how drainage waters shall be detained on site and or conveyed to the nearest natural or publicly maintained drainage channel or facility and shall provide that there shall be no increase in the peak flow runoff to said channel or facility. In this case, no storm drainage fee shall be assessed.
- B. If the property is being developed as a subdivision inside the master plan areas for the Thermalito Drainage Area and Chico Storm Drainage Master Plan and requires the processing of a tentative and final subdivision map, the developer shall construct a storm drainage system in conformance with the adopted plan, which shall carry subdivision storm drainage run-off to the nearest natural drainage channel having adequate capacity for same or construct temporary facilities in conformance with the Butte County Improvement Standards and provide an appropriate maintenance entity. The drainage plans shall specify how drainage waters shall be detained on site and or conveyed to the nearest natural or publicly maintained drainage channel or facility and shall provide that there shall be no increase in the peak flow runoff to said channel or facility. The drainage fee shall be the amount specified in the plan minus the cost of construction of identified plan facilities. In no case will the developer be entitled to a rebate due to a “negative fee.”

IV. Existing Assessments on Property To Be Subdivided

If there is an existing storm drainage or improvement assessment on the property to be subdivided, the developer shall either:

- a. Pay off the entire assessment prior to recording of final map or waiver, or
- b. Divide the assessment in accordance with the State of California Streets and Highways Code and the Butte County Director of Public Works.

The application to the County of Butte to divide assessment shall be accompanied by a fee of five hundred dollars (\$500.00) plus twenty dollars (\$20.00) for each individual parcel or lot created and written confirmation from the bond holders that they will approve segregation or division of the assessment.

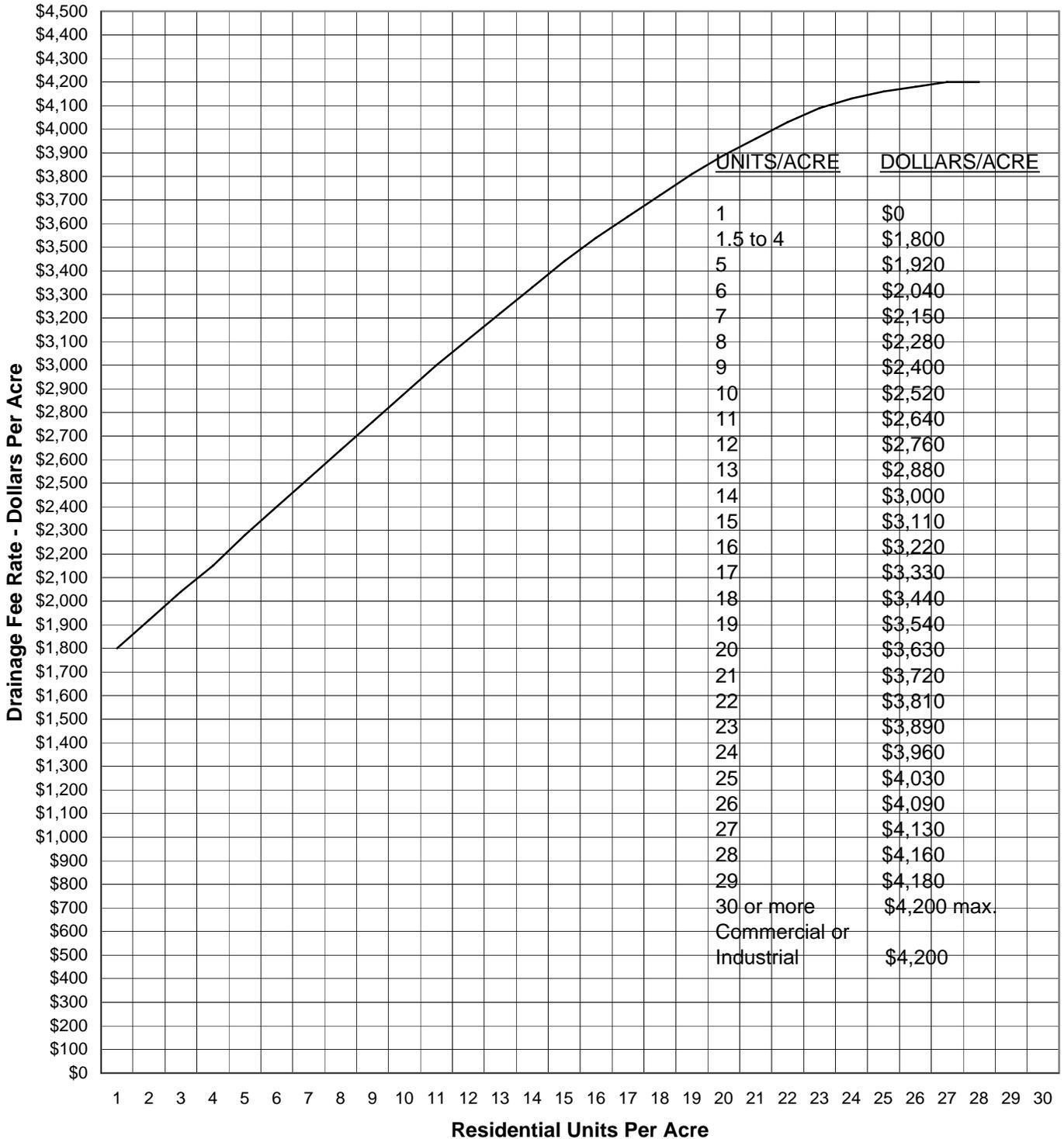
V. Drainage requirements for Parcel Maps

- A. If the property is being developed as a subdivision outside the master plan areas for the Thermalito Drainage Area and Chico Storm Drainage Master Plan and requires the processing of a Parcel Map, and any of the proposed lots is three (3) acres or less in gross area, the developer shall construct a storm drainage system which shall carry subdivision storm drainage run-off to the nearest natural drainage channel having adequate capacity for same or construct temporary facilities in conformance with the Butte County Improvement Standards. The drainage plans shall specify how drainage waters shall be detained on site and or conveyed to the nearest natural or publicly maintained drainage channel or facility and shall provide that there shall be no increase in the peak flow runoff to said channel or facility. In this case, no storm drainage fee shall be assessed.
- B. If the property is being developed as a subdivision inside the master plan areas for the Thermalito Drainage Area and Chico Storm Drainage Master Plan and

requires the processing of a tentative and final subdivision map, the developer shall construct a storm drainage system in conformance with the adopted plan, which shall carry subdivision storm drainage run-off to the nearest natural drainage channel having adequate capacity for same or construct temporary facilities in conformance with the Butte County Improvement Standards and provide an appropriate maintenance entity. The drainage plans shall specify how drainage waters shall be detained on site and or conveyed to the nearest natural or publicly maintained drainage channel or facility and shall provide that there shall be no increase in the peak flow runoff to said channel or facility. The drainage fee shall be the amount specified in the plan minus the cost of construction of identified plan facilities. In no case will the developer be entitled to a rebate due to a “negative fee.”

STORM DRAINAGE FEE SCHEDULE

Maximum Fee - \$4200.00 Per Acre



APPENDIX IX

County Code Chapter 26 Article II
Additional Improvements Requirements for Certain Buildings in Specified Urban
and Rural Areas

26-10 Findings; necessity for additional improvements for development in specified urban and rural areas.

The board of supervisors finds that additional building and development requirements are necessary in order to protect the health, welfare, and safety of the general public in the unincorporated area of Butte County as specified in this Article II. The board further finds that such additional requirements are necessary in order to protect the health, welfare and safety of the general public, including but not limited to those people residing within said areas as well as those using the county roads in said areas. (Ord. No. 3127, § 1, 3-8-94)

26-11 “Urban and rural areas” defined.

The urban areas to which this article is applicable are hereby described as those certain areas surrounding Chico, Durham, Gridley, and Oroville urban areas, as shown on a map established by a resolution or resolutions of standards adopted by the board of supervisors pursuant to Chapter 20 of the Butte County Code as being the said urban areas. A copy of said maps shall be on file with the county clerk, county planning division, county health department and public works department. The urban areas as established in said resolution of standards may be amended by the board of supervisors by resolution, and the amended map shall then be filed in the aforesaid county offices.

The rural areas to which this article applies are hereby described as all unincorporated areas outside of the designated urban areas. (Ord. No. 3127, § 1, 3-8-94)

26-12 Improvement requirements--Urban areas.

When a building permit for a new building or other permits required for modular buildings or mobile homes are required for commercial or industrial uses or for multiple living unit uses having three (3) or more living units per parcel, and the project involved falls within one of the urban areas described in Section 26-11, in addition to all other requirements set forth in the Uniform Building Code as amended and adopted by reference in this chapter, the following shall be required:

- (1) The construction of curbs, gutters, sidewalks or walkways, public roads, proper access from public roads, and drainage facilities;
- (2) Dedication of any necessary rights-of-way; and
- (3) The construction of an enclosure for containers used to hold solid waste and/or recyclable materials for collection.

The technical standards and specifications of the aforesaid improvements shall be as provided for subdivisions in Chapter 20 of the Butte County Code and a resolution or resolutions of standards adopted pursuant thereto. The Butte County Department of Public Works shall determine and approve the grade, width and location of all required improvements on county roads from surveys or other information submitted by the developer’s engineer or from file information if available. Any relocation

caused by county alignment or grade changes for future road construction shall be the responsibility of the county. (Ord. No. 3844, § 16, 2-11-03; Ord. No. 3127, § 1, 3-8-94; Ord. No. 3394, § 1, 2-10-98)

26-12.1 Same--Rural areas.

When a building permit for a new building or other permits required for modular buildings or mobile homes are required for commercial or industrial uses or for multiple living unit uses having three (3) or more living units per parcel, and the project involved falls outside one of the urban areas described in Section 26-11, in addition to all other requirements set forth in the Uniform Building Code as amended and adopted by reference in this chapter, the following shall be required:

- (1) The construction of the public roads, proper access from public roads, and drainage facilities;
- (2) Dedication of any necessary rights-of way; and
- (3) The construction of an enclosure for containers used to hold solid waste and/or recyclable materials for collection.

The technical standards and specifications of the aforesaid improvements shall be as provided for subdivisions in Chapter 20 of the Butte County Code and a resolution or resolutions of standards adopted pursuant thereto. The Butte County Department of Public Works shall determine and approve the grade, width and location of all required improvements on county roads from surveys or other information submitted by the developer's engineer or from file information if available. Any relocation caused by county alignment or grade changes for future road construction shall be the responsibility of the county. (Ord. No. 3844, § 17, 2-11-03; Ord. No. 3127, § 1, 3-8-94; Ord. No. 3394, § 1, 2-10-98)

26-13 Postponement of drainage improvements.

Notwithstanding the provisions of Section 26-12 or Section 26-12.1, drainage improvements may be postponed at the discretion of the Board of Supervisors or the Director of Public Works on the deposit of a drainage fee in an amount determined by the Board of Supervisors (by resolution), which fee shall be reserved for the cost of the required drainage facilities, provided that an interim drainage solution is available on the property in question. (Ord. No. 3127, § 1, 3-8-94)

26-13.1 Postponement of street improvements.

Notwithstanding the provisions of Section 26-12 or Section 26-12.1, street improvements may be postponed at the discretion of the Board of Supervisors or the Director of Public Works for a period of five (5) years upon the deposit of a negotiable fee in the amount determined by the Director of Public Works, which fee should be reserved for the cost of the required street improvements.

This postponement shall be made only if there are no other such street improvements within five hundred (500) feet of this installation and if such other facilities are not constructed in the neighborhood, Butte County will refund the assurance fee at the end of the five (5) years. (Ord. No. 3127, § 1, 3-8-94)

26-14 Requirements inapplicable if adverse to health, safety and welfare.

Notwithstanding anything to the contrary in Sections 26-12, 26-12.1 and 26-13, the requirements contained therein shall not be applicable if their application would adversely affect the health, safety and welfare of the general public because of special circumstances applicable to the immediate area of the improvement, including the topography and the nature of other developments in the area. The determination whether the requirements in a particular case would cause such adverse affect on the health, safety or welfare shall be made by the director of development services after consultation with the director of public works and subject to appeal to the board of supervisors in the manner specified in Article IX of Chapter 20 of the Butte County Code. (Ord. No. 3127, § 1, 3-8-94)