

COUNTY OF INYO

ROAD DEPARTMENT



County Standard Specifications And Standard Plans

For construction or repair of County Roads to
be accomplished under the provisions of an encroachment permit.

Revised June 1, 2001

COUNTY OF INYO

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STANDARD DRAWINGS

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SECTION 1. DEFINITIONS AND TERMS

1(a) Specifications

The work embraced herein shall be done in accordance with the latest revision of the Standard Specifications, Standard Plans and Traffic Manual of the State of California, Department of Transportation hereinafter referred to as the **Standard Specifications**, insofar as the same may apply and be in accordance with the following County Standard Specifications and Standard Plans.

These Inyo County Standard Specifications and Standard Plans cover the usual construction requirements for work specified on a County Encroachment Permit; however, in the event it is determined that specific work to be done is of such a nature that the method of construction, type and/or kind of material cannot be defined by the Standard Specifications or these County Standard Specifications and Standard Plans, such work shall be performed in accordance with specifications prepared for the specific work and made a part of the approved plans.

Section numbers in these County Standard Specifications correspond with like numbered sections in the Standard Specifications. All sections of the Standard Specifications will govern except those sections specifically mentioned herein which are not relevant to the work contemplated herein.

In case of conflict between the Standard Specifications and Standard Plans and these Inyo County Standard Specifications and Standard Plans, the County Standard Specifications and/or special provisions shall take precedence.

1(b) Definitions

Whenever in the Standard Specifications or these Inyo County Standard Specifications the following terms are used, the intent and meaning shall be interpreted as follows:

- a. “Department of Public works”, “Division of Highways” or “State” shall be construed to mean the Inyo County Road Department.
- b. “Engineer” or “Director” shall be construed to mean the County Road Commissioner acting either directly or through properly authorized agents acting within the scope of their particular duties.
- c. “Contractor” shall be construed to mean:
 - 1. The agency or individual doing the work, and furnishing the materials herein discussed.
 - 2. Permittee: The agency or individual securing an encroachment permit to do work on or improve a portion of County right-of-way.
 - 3. Subdivider; the agency or individual engaged in constructing or improving the roads as planned for a new land subdivision under approved subdivision procedures – this work to be authorized by an encroachment permit where applicable.
- d. “Attorney General” shall be construed to mean the Inyo County Board of Supervisors.
- e. “Laboratory” shall be construed to mean an acceptable materials laboratory operated under the direction of a registered Civil Engineer.
- f. “Plans” – Those construction plans prepared under the direction of the County Road Commissioner or a registered Civil Engineer, and approved by the County Road Commissioner acting either directly or through properly authorized assistants. Adopted County Standard Plans are to be included in this category.

SECTIONS 2 AND 3

Sections 2 and 3 of the Standard Specifications are not applicable.

SECTION 4. SCOPE OF WORK

4(a) General

The scope of work shall be as set forth on the approved plans and/or special provisions, County Standard plans and details, Standard Specifications, these County Standard Specifications, or as directed by the Engineer.

4(b) Precedence

- a. Special Provisions
- b. Approved Plans
- c. Inyo County Standard Specifications and Standard Plans
- d. Standard Specifications

SECTION 5. CONTROL OF WORK

5(a) General

The work to be performed under these County Standard Specifications shall be controlled in accordance with the provisions in Section 5 of the Standard Specifications and as hereinafter specified.

5(b) Lines and Grades (5-1.07)

Where construction plans have been prepared by other than the County Road Commissioner's staff, all lines and grades will be set and established under the direction of a registered civil engineer or licensed land surveyor or an engineer or surveyor acting on his behalf.

5(c) Inspection (5-1.08)

Advance notice of at least 24 hours shall be given the Engineer when requesting inspection, and no work shall be covered by succeeding work until approved by the Engineer.

SECTION 6. CONTROL OF MATERIALS

6(a) General

The materials to be furnished under these specifications shall be controlled in accordance with the provisions of Section 6 of the Standard Specifications and as hereinafter specified.

6(b) Scales

The standard 50-pound weights for each 500 pounds of batch scale capacity, for testing scales specified in Sections 39-3.04A and 90 5.02 of the Standard Specifications will not be required.

6(c) Testing

Tests, which may be required by the Engineer and are necessary to establish quality of materials or workmanship shall be done at no expense to the County.

SECTION 7. LEGAL RELATIONS AND RESPONSIBILITY

7(a) General

The Contractor's legal relationship and responsibilities shall be as specified in Section 7 of the Standard Specifications and as hereinafter specified.

7(b) Permits and Licenses

An encroachment permit from the Inyo County Road Department and/or any other Public Agency affected shall be procured prior to any construction projects within public rights-of-way.

SECTION 8 PROSECUTION AND PROGRESS

The provisions of Section 8, Prosecution and Progress, will not apply. Beginning of work and time of completion shall be in accordance with the current County Subdivision Ordinance and/or in accordance with the County Encroachment Permit issued for the work.

The County of Inyo shall have no responsibility in making arrangements for the installation, relocation, alteration or removal of any utility or non-highway facilities necessary for the completion of the work. All non-highway facility work shall be completed at no cost to the Inyo County Road Department.

SECTION 9. MEASUREMENT AND PAYMENT

The provisions of Section 9, Measurement and Payment will not apply.

The Inyo County Road Department does not assume any responsibility for the methods of measurement or for the methods of payment for work completed in accordance with these specifications when the County is not the contracting agency.

Work completed in accordance with these County specifications and under Contract with the County of Inyo shall be measured and paid in accordance with the contract and/or purchase order covering the work.

When any work is ordered by the Engineer and the Standard Specifications designate that payment will be made by Extra Work, the County shall not be held liable for payment of such work and the Standard Specifications shall not be construed to imply that additional compensation is to be provided for such extra work.

SECTION 10. DUST CONTROL

10(a) General

Dust Control shall conform to the provisions in Section 10 of the Standard Specifications and as hereinafter specified.

10(b) Application of Control (10-1.02)

When, in the opinion of the Engineer, the operations of the Contractor are such as to unduly endanger the public health or safety, the Engineer may direct the Contractor to apply water to areas of excavation, embankment, or haul roads to control and minimize dust.

SECTION 15. EXISTING HIGHWAY FACILITIES

15(a) General

The removal or protection of existing highway facilities shall conform to the provisions in Section 15 of the Standard Specifications and as hereinafter specified.

15(b) Removal and Protection (15-2.02)

The Contractor shall be responsible for the removal and/or protection of existing signs, except regulatory signs and pavement painting, fences, curb and gutter, and other highway facilities, which may be encountered in the roadway. The replacement or repair of any facilities which the Engineer deems necessary, as a result of the Contractor's operations, shall be done by the Contractor as directed by the Engineer. The replacement of regulatory signs and pavement painting will be done by County forces at the expense of the Contractor.

SECTION 19. EARTHWORK

19(a) General

Earthwork shall conform to the provisions of Section 19 of the Standard Specifications.

19(b) Testing

In addition to the testing specified, State Division of Highways Test (California No. 216-F) shall be used to determine relative compaction, nuclear testing or ASTM D1556 and D1557.

19(c) Relative Compaction (19-5.03)

Relative compaction of not less than 95 % shall be obtained for a minimum depth of ½ foot below the grading plane for the width between the outer edges of shoulders, whether in excavation or embankment. In addition, relative compaction of not less than 95% shall be obtained for a minimum depth of 2.5 feet below finished grade for the width of the traveled way and auxiliary lanes plus 3 feet on each side thereof, whether in excavation or embankment. Relative compaction of not less than 95% shall be obtained for the embankment under bridge and retaining wall footings without pile foundations within the limits established by inclined planes sloping 1½: 1 out and down from lines one foot outside the bottom edges of the footing.

19(d) Relative compaction (90 percent) (19-5.04)

Relative compaction of not less than 90 % shall be obtained in all material in embankment, except as specified herein to be 95 %.

SECTION 25. AGGREGATE SUBBASES

25(a) General

Aggregate Subbase shall conform to the requirements of Section 25 of the Standard Specifications and as hereinafter specified.

25(b) Materials

Aggregate subbases shall be free from vegetable matter and other deleterious substances, and shall be well graded from coarse to fine.

SECTION 26. AGGREGATE BASE

26(a) General

Aggregate bases shall conform to the provisions of Section 26 of the Standard Specifications and as hereinafter specified.

26(b) Materials

Aggregate bases shall be free from vegetable matter and other deleterious substances, and shall be well graded from coarse to fine.

26(c) Adding Water (26-1.035)

The requirements for adding water will not apply for Class 3 Aggregate Base.

26(d) Spreading (26-1.04)

The use of motor graders may be permitted for spreading all aggregate bases.

SECTION 38. ROAD MIXED ASPHALT SURFACING

38(a) General

Road-mixed asphalt surfacing shall conform to the provisions in Section 38 of the Standard Specifications and as hereinafter specified.

38(b) Bituminous Materials (39-2.01)

Bituminous binder to be mixed with the aggregate shall be liquid asphalt MC800 with kinematic viscosity at 140° F in a range of 1200-1600 conforming to the provisions in Section 93 of the Standard Specifications. The percentage of liquid asphalt to be applied shall be in accordance with the recommendations of a qualified materials testing laboratory.

38(c) Prime Coat

Prime coat will not be required

38(d) Choker

Where there is no concrete curb and gutter at the edge of the pavement, a six-inch (6") Choker will be required.

38(e) Header (Residential Area)

When constructing a half width street, a 2" X 6" redwood header or pressure treated fir of adequate strength will be required on centerline.

38(f) Curb and Gutter

Where there is curb and gutter at the edge of pavement, the finished grade shall be ¼" higher than edge of gutter.

SECTION 39. ASPHALT CONCRETE

39(a) General

Asphalt concrete surfacing, leveling course, and dike shall conform to the provisions in Section 39 of the Standard Specifications and as hereinafter specified.

39(b) Asphalts (39-2.01)

Asphalt binder to be mixed with aggregate shall be steam-refined paving asphalt, conforming to the provisions in Section 92 of the Standard Specifications and the grade shall be as determined by the Engineer. The percentage of paving asphalt to be mixed with the aggregate shall be in accordance with the recommendations of a qualified materials testing laboratory, or as directed by the Engineer.

39(c) Aggregate (39-2.02)

Aggregate grading requirements for leveling course shall conform to $\frac{3}{4}$ " maximum, Type B gradation, or as directed by the Engineer; for surface course, shall conform to $\frac{1}{2}$ " maximum, Type B, medium gradation, with the amount of bituminous binder increased to conform with Subsection 39-7.01 of the Standard Specifications.

39(e) Spreading and Compacting (39-6)

In addition to the requirements of section 39-06.01 General Requirements of the Standard Specifications, the top layer of asphalt concrete shall not exceed 0.13 foot unless otherwise directed by the Engineer. Prime binder shall be applied to any course in advance of spreading the next course unless waived by the Engineer.

39(f) Miscellaneous Areas (39-07.01)

The provisions of Subsection 39-7.01 of the Standard Specifications shall apply and shall also include alleys to be constructed.

39(g) Prime Coat (39-4.02)

Prime coat shall not be required unless shown on the approved plans.

39(h) Curb and Gutter

Where there is curb and gutter at the edge of pavement the finished grade shall be $\frac{1}{4}$ " higher than edge of gutter.

SECTION 51. CONCRETE STRUCTURES

51(a) General

Concrete structures shall conform to the provisions in Section 51 of the Standard Specifications, except that plywood forms shall be used for all surfaces of concrete, which will be exposed.

SECTION 66. CORRUGATED METAL PIPE

66(a) General

Corrugated metal pipe shall conform to the provisions in Section 66 of the Standard Specifications and as hereinafter specified.

66(b) End Finish

The ends of 0.060-inch and 0.075-inch thick pipes, which are not fully protected by concrete structures of flared-ends, shall be reinforced as shown on the plans and in accordance with the provisions in Subsection 66-2.04 of the Standard Specifications.

66© Materials (66-1.02)

Materials for corrugated metal products shall conform to the provisions in Subsection 66-3.02 of the Standard Specifications, except that, upon approval by the Engineer, aluminum corrugated metal pipe may be used outside the roadbed when the flow and soil conditions meet the minimum criteria as set forth in Section 7-821 of the State Division of Highways Planning Manual, Part 7-Design, for a service life of 25 years.

SECTION 73. CONCRETE CURBS AND SIDEWALKS

73(a) General

Concrete curbs and sidewalks shall conform to the provisions in Section 73 of the Standard Specifications and these County Specifications.

73(b) Curb Construction (73-1.05) (73-1.07)

Curb shall be constructed in accordance with provisions in Subsection 73-1.05 of the Standard Specifications, except expansion joints shall be ½” instead of ¼”. One half-inch expansion material shall be placed along back of curb return when sidewalk is adjacent.

SECTION 86. SIGNALS AND LIGHTING

86(a) General

Signals and lighting shall conform to Section 86 of the Standard Specifications, and Section 86 shall also be used when signals are to be moved or relocated.

INYO COUNTY ROAD DEPARTMENT

IMPROVEMENT PLAN CHECK LIST

Work Order # _____ Checked By _____ Schedule _____
Date _____

A. PREPARATION OF SHEETS

- _____ 1. Plan and profile cloth 24" X 36"
- _____ 2. Drawings shall be in ink and all work must be clearly reproducible
- _____ 3. Submit eight (8) sets of prints for F.A.S Projects, and two (2) sets for all other work.
- _____ 4. Submit original for final approval

B. INDEX AND VICINITY MAP

- _____ 1. Shown on first sheet
- _____ 2. Street names shown thereon
- _____ 3. Flow diagram with drainage arrows
- _____ 4. Show tie to nearest County Maintained Road System
- _____ 5. Show location of drainage structures existing and proposed.
- _____ 6. Show "Q" for all drainage facilities on work sheet for County review

C. TITLE BLOCK

- _____ 1. Use County Road Department Title Block
- _____ 2. Show all sheet numbers
- _____ 3. Tract Number, Work Order Number or File Number
- _____ 4. Registered Engineer's signature and number
- _____ 5. Date

D. ENGINEERS ESTIMATE OF QUANTITIES

- _____ 1. Roadway excavation (clearing and grubbing) _____ C.Y. _____
- _____ 2. Ditch and channel excavation _____ C.Y. _____
- _____ 3. Base Material _____ Tons _____ S.F. _____
- _____ 4. Asphalt Concrete (A.C.) _____ Tons _____ S.F. _____
- _____ 5. Road mix surfacing _____ Tons _____ S.F. _____
- _____ 6. Curb and Gutter _____ Cu. Yds. _____ L.F. _____
- _____ 7. Alley Aprons _____ Cu Yds _____ S.F. _____
- _____ 8. Sidewalks _____ Cu Yds. _____ S.F. _____
- _____ 9. Cross Gutters _____ Cu Yds _____ S.F. _____
- _____ 10. R.C.P. ("D" Strength) _____ L.F. _____

D. ENGINEER'S ESTIMATE OF QUANTITIES (Con't)

| | | | | |
|-------|-----------------------------------|--------|----------|-------|
| _____ | 11. C.M.P. (Gauge) _____ | | L.F. | _____ |
| _____ | 12. PCC or AC ditch lining _____ | Tons | S.F. | _____ |
| _____ | 13. Catch Basins _____ | Cu Yds | Ea. | _____ |
| _____ | 14. Outlet Structures _____ | Cu Yds | Ea. | _____ |
| _____ | 15. Street Signs _____ | | Ea. | _____ |
| _____ | 16. Barricades _____ | | Ea. | _____ |
| _____ | 17. Guard Fence _____ | | LF | _____ |
| _____ | 18. Block Wall _____ | | LF | _____ |
| _____ | 19. Chainlink Fence _____ | | LF | _____ |
| _____ | 20. Headwalls _____ | | Ea | _____ |
| _____ | 21. Removal Items _____ | | Lump Sum | _____ |
| _____ | 22. Maintaining Traffic _____ | | Lump Sum | _____ |
| _____ | 23. Finishing Roadway _____ | | Lump Sum | _____ |
| _____ | 24. Developing Water _____ | | Lump Sum | _____ |
| _____ | 25. Furnishing Water _____ | | Lump Sum | _____ |
| _____ | 26. Structural Excavation _____ | | C.Y. | _____ |
| _____ | 27. Structural Backfill _____ | | C.Y. | _____ |
| _____ | 28. Borrow Material _____ | | C.Y. | _____ |
| _____ | 29. Miscellaneous Structure _____ | | Lump Sum | _____ |

E. PLAN VIEW

- _____ 1. North Arrow (Pointing up or to the right)
- _____ 2. Stationing Shall be from south to north or west to east
- _____ 3. Centerline stationing shown on plan view
- _____ 4. Stationing at all intersections with equations if applicable
- _____ 5. Stationing of all BCR's and ECR's
- _____ 6. Stationing of all BC's and EC's
- _____ 7. Stationing of end of improvements
- _____ 8. Stationing of end of curb and gutter
- _____ 9. Scale (40 feet to 1 inch)
- _____ 10. Show names of all streets
- _____ 11. Curb return data (delta, tangent, radius and length)
- _____ 12. Show flow line at all BCR's and ECR's
- _____ 13. Show flow line elevations on cross gutter at intersections
- _____ 14. Centerline curve data

E. PLAN VIEW (con't)

- _____ 15. Lot lines and R/W lines
- _____ 16. Lot numbers
- _____ 17. Show connection to existing improvements with elevations and stationing
- _____ 18. Stopping sight distance adequate for design speed. See design designation
- _____ 19. Lengths and stationing of transitions or superelevations (if required); also of transitional paved sections for drainage control. Show improvements to be constructed with solid lines, existing improvements shown with dashed lines.
- _____ 20. Limits of different type curb and gutter if applicable
- _____ 21. Show details of all proposed streets if necessary
- _____ 22. Show typical sections for all streets per County Standards:
 - ___ a. Dimensions of right-of-way pavement and parkway
 - ___ b. Base material thickness
 - ___ c. Asphalt concrete thickness or road mix surfacing thickness
 - ___ d. Curb sections
 - ___ e. Base material under curb sections if required
 - ___ f. Slopes to adjacent property lines
 - ___ g. Supplemental cross sections required for different design widths, structural sections, half width streets, etc..
 - ___ h. Note if in Select System
- _____ 23. Note size, length, and gauge of CMP
- _____ 24. Note size, length and "D" strength of RCP
- _____ 25. Show construction notes wherever necessary to clarify construction details
- _____ 26. Show existing pipe lines, weir boxes, irrigation systems, power poles, traffic control devices, etc., in or adjacent to right-of-way and include note as to their disposition.
- _____ 27. Refer to County Road Department Standard No. if applicable to structure or work
- _____ 28. Specifications note, if different from County Standard
- _____ 29. Improved drainage easements shall provide either pipe or concrete lined ditch sections. Lined ditches shall have the soil sterilized prior to placement of lining.
- _____ 30. Slope easements, delineated
- _____ 31. All easements to show on plan view
- _____ 32. Feather over a minimum of two feet when meeting existing pavement
- _____ 33. Details of drainage facilities
- _____ 34. Check benchmark location and elevation and survey control data

F. PROFILE VIEW

- _____ 1. Scale (vertical) four (4) feet to the inch or eight (8) feet to the inch (on prior approval).
- _____ 2. Existing and future centerline
- _____ 3. Existing ground at right-of-way line both right and left of centerline
- _____ 4. Edge of existing pavement both right and left
- _____ 5. Existing and future top of curb both right and left of centerline with BCR; MOCR; ECR notations, and ¼ points on curb returns.
- _____ 6. Show datum elevations on each end of sheet at the centerline ground line and the right-of-way ground lines.
- _____ 7. If curbs are variable height, show with elevations and stationing at break points.
- _____ 8. Label all grade lines and profiles; show percent of grade on each
- _____ 9. Stationing and elevations at beginning and end of improvement
- _____ 10. Stationing and elevations
- _____ 11. Stationing and elevations at P.I.
- _____ 12. Elevations every twenty-five feet (25') on vertical curves
- _____ 13. Elevations and stationing at all grade breaks
- _____ 14. Elevations and stationing with equations if the street is curved
- _____ 15. Extend profiles beyond end of improvement for 300 feet; if new road intersects existing street show profile on existing street for 100 feet each way
- _____ 16. At drainage easements show profile for grading and daylight to natural ground
- _____ 17. Indicate lengths of curb returns
- _____ 18. Stationing at bottom of profile sheet
- _____ 19. Names and stationing at intersecting street points
- _____ 20. Structures to scale, note critical flow line elevations (capacity of structure in relation to "Q" shown on flow chart)
- _____ 21. Use straight grades for cross gutters without flattening; grade of cross gutters shall be in relation to street centerline grade.
- _____ 22. Use vertical curves for all grade break differentials more than 1%
- _____ 23. The minimum fall from the BCR to the cross gutter shall be 0.30 feet
- _____ 24. Profile to be shown of graded or improved drainage facilities.

