4-1 GENERAL

4-1.1 Introduction

Right of Way Engineering can generally be defined as that phase of transportation engineering and surveying which involves the determination of existing right of way lines and property boundaries, the preparation of maps and descriptions for the appraisal, acquisition, and disposal of real property rights, and the maintaining of records relating to the State's right of way.

Right of Way Maps are used extensively. There are many types of maps depending on the function to be served. The users are varied: property owners, public agencies, engineers, surveyors, attorneys, utility companies, potential lessees, buyers of excess land, and the California Department of Transportation (Caltrans).

This chapter will concentrate on standards for the preparation of maps in the Right of Way effort.

Right of way map preparation requires familiarity with the terminology used in land surveying, appraisals, acquisition, condemnation, sale or transfer of property, as well as many other Right of Way activities.

4-1.2 General Standards

Computer-aided Design and Drafting (CADD) is the standard for right of way map preparation. Standards and procedures for preparing CADD documents are contained in the CADD User's Manual of Instructions

Lettering: Refer to Chapter 2 and Appendix A6 of the CADD User's Manual for lettering sizes and fonts.

Line Work: Refer to Chapter 2 and Appendix A4 of the CADD User's Manual for line work styles and weights.

Symbols: The Caltrans Right of Way Cell Library contains standard symbols used for mapping. Refer to Appendix A1 of the CADD User's Manual for a complete listing of the symbols.

Drawing Data Levels: Refer to Chapter 2 of the CADD User's Manual for leveling conventions.

Color & Symbolization for Right of Way Areas: Refer to Chapter 2 of the CADD User's Manual for coloring conventions.

Abbreviations: Refer to Appendix 4A of this chapter for abbreviations used in right of way map preparation. For additional abbreviations, refer to Standard Plan A10A.

Map Size: Unless otherwise noted size of maps will be 559 mm x 864 mm (22" x 34").

Map Scale: Detail sheets 1: 500; 1: 1000; occasionally 1: 2000; usually determined by scale of base map and density of development. Urban: 1: 500; Rural; 1: 1000; desert or remote mountain: 1: 2000; preferably 1: 1000.

Index maps: Usually 1: 5000; 1: 6000; 1: 1000 or scale adequate to show extent of project limits.

Plan dimensioning: Refer to "Metric Plan Dimensioning" in Article 2-1.3, "Use of the Metric System," of Chapter 2 of this manual.

When copyright clearance is needed in using maps other than State of California mapping, place copyright note on each drawing. If no permission has been granted, avoid using map except for internal circulation. *Reproducing a copyrighted map without permission from the copyright owner is strictly prohibited.*

4-1.3 General Mapping Guidelines

- Overlap each sheet to show complete continuity of right of way line. Overlap carefully to keep sheets to a minimum number. Use of match lines is encouraged.
- Use arrows if there is a possibility of misinterpreting a distance shown.
- Be sure all dimensions clear access ticks.
- When record dimensions must be shown on the same sheet as calculated ones, designate by enclosing in parenthesis, i.e. (30 m rec.) or (25' rec.).
- When the right of way line is parallel or concentric to the Design line show width of right of way on each side.

- Follow numerical progress of Design line stationing when indicating the bearing of the right of way line (N,E,S,W).
- When a total take parcel is too large to fit on one sheet and cannot be clearly shown by break lines, insert a small scale inset showing dimensions around excess.
- Use a same-ownership symbol (- - Z - -) to tie together lots or parcels from one ownership.
- Label lines PL (property line) LL (lot line), etc. for clarity in conflicting areas.
- Use light grayscale for topography to ensure the topography does not conflict with right of way lines and related data.
- Date all prints to indicate the latest status of information contained on the original.
- Map must clearly show the intent, and be legible. Add sheets, details, explanatory notes, etc. as needed.

4-2 COST ESTIMATE MAPPING

To show approximate land requirements for a project in advance of precise design requirements. Initial Estimate Maps are prepared for the Project Initiation Document (PID) and updated as requested throughout the life of the project.

4-2.1 Use

- By Planning in studying alternative route locations.
- By Project Development in studying alternative design features.
- By Project Management in budgeting and rescheduling projects.
- By Right of Way Estimating to produce Data Sheets itemizing impacted utilities, ownerships, land areas, and cost estimates.

4-2.2 Map Requirements

- Existing mapping i.e. As-Builts, R/W maps, Assessor's maps, etc. may be used as base.
- Assessor's parcel numbers and boundaries.
- Street names.
- Section numbers, township and range.
- Ownerships.
- Current and proposed R/W lines including access restrictions.
- Areas - total, R/W requirements, remainder and excess (if any).
- Current topography or photo imagery as available.
- Change assessor's parcel numbers to permanent parcel numbers when assigned.
- Any other data for adequate map orientation that may be necessary.

See sample Cost Estimate Map attached.

References: Current R/W Manual

4-3 RIGHT OF WAY HARDSHIP MAP

Hardship maps are prepared to show parcels proposed for acquisition in advance of normal acquisition scheduling. Hardship is defined in Chapter 5 of the Right of Way Manual and is normally initiated by the property owner.

4-3.1 Use

- For appraisal of the property.
- By acquisition agent and property owner as an aid in understanding the proposed acquisition.
- As a base for a Resolution of Necessity map, if necessary.
- Temporary Record Map.

4-3.2 Map Requirements

4-3.2.1 Detail Map

1) Use project planimetric mapping, if available, otherwise use reproducible of the best available map - assessor's map, tract or subdivision map, parcel map, R/W estimating map or existing R/W Record map. Transfer mapping used to standard appraisal map sheet. Do not use copyrighted material.
2) Use standard symbology as described in Appraisal Map section.
3) Parcel number, including excess land number, if any.
4) Color, flood or outline parcel.
5) Dimensions
   a) <u>Total ownership within R/W:</u> Property line distances same as preliminary title report or deed of record (Bearings may be omitted). R/W line may be without dimensions and labeled approximate.
   b) <u>Ownership partly within R/W:</u> All dimensioning required on property lines and right of way lines (same as for regular appraisal mapping).
6) Proposed access restrictions, if any.
7) Existing access restrictions, if any, with the notation "Access Rights Previously Acquired".
8) General location data, streets, existing improvements.
9) Centerline, if available.
10) Owners name, areas of ownership, R/W requirements, and remainder or excess, if any.
11) Bar scale, north arrow, legend
12) County, Route, Kilometer Post/Post mile in title block

4-3.2.2 Location Map

Can be on same sheet as an inset.

1) Parcel Location
2) Parcel Number
3) Parcel Kilometer Post in plan view
4) North Arrow
5) County, Route, Kilometer Post/Post mile in title block if a separate sheet

See sample(s) of the Right of Way Hardship Index and Detail Map attached.

References: Current R/W Manual

4-4 RIGHT OF WAY PROTECTION MAP

Protection maps are prepared to show parcels proposed for advanced acquisition to prevent development or additional development of the parcels. Protection is defined in Chapter 5 of the Right of Way Manual and is normally initiated by the Department.

4-4.1 Use

- Part of the package submitted to the CTC requesting approval to appraise and acquire.
- Appraisal Map for appraising the property.
- By Acquisition Agent and Property owner as an aid in understanding the proposed acquisition.
- As a base for the Resolution of Necessity map, if condemnation required.
- Temporary Record Map

4-4.2 Map Requirements

4-4.2.1 Detail Map

1) Use project planimetric mapping, if available, otherwise use reproducible of the best available map - assessor's map, tract or subdivision map, parcel map, R/W estimating map or existing R/W Record map. Transfer mapping used to standard appraisal map sheet. Do not use copyrighted material.
2) Use standard symbology as described in Appraisal Map section.
3) Parcel number, including excess land number, if any.
4) Color, flood or outline parcel.
5) Dimensions
   a) <u>Total ownership within R/W:</u> Property line distances same as preliminary title report or deed of record (Bearings may be omitted). R/W line may be without dimensions and labeled approximate.
   b) <u>Ownership partly within R/W:</u> All dimensioning required on property lines and right of way lines (same as for regular appraisal mapping).
6) Proposed access restrictions, if any.
7) Existing access restrictions, if any, with the notation "Access Rights Previously Acquired".
8) General location data, streets, existing improvements.
9) Centerline, if available.
10) Owners name, areas of ownership, R/W requirements, and remainder or excess, if any.
11) Bar scale, north arrow, legend
12) County, Route, Kilometer Post

4-4.2.2 Location Map

Can be on same sheet as an inset.

1) Parcel Location
2) Parcel Number
3) Parcel Kilometer Post in plan view
4) North Arrow
5) County, Route, Kilometer Post/Post mile in title block if a separate sheet

See sample(s) of the Right of Way Hardship Index and Detail Map attached.

References: Current R/W Manual

4-5 RIGHT OF WAY APPRAISAL MAP

Right of Way Appraisal Maps are created to show land and improvements to be acquired for transportation facility right of way and non-operating right of way.

NOTE: When it is cost effective and timely to do so, use any available mapping (Existing RW Record Maps, subdivision map, previous appraisal map, etc.). For example, use existing RW Record Map for Temporary Construction Easement (TCE) only acquisition.

4-5.1 Use

Right of Way Appraisal Maps may be used by different functions for various purposes. The following are some examples of such use.

- By APPRAISALS: For location of and familiarization with property; for assistance in determining property value and severance damages, for use in Appraisal Reports.
- By ACQUISITION: For familiarization with property to be acquired.
- By PROJECT DEVELOPMENT: For certification.
- By UTILITIES: For utility relocation.
- By R/W ENGINEERING: As base for additional mapping; for temporary record map and as the base for the final R/W maps.
- By R/W CLEARANCE: For relocation and clearance of improvements.

4-5.2 Map Requirements

The following information should appear on the Right of Way Appraisal Map, as applicable.

4-5.2.1 Location data

- Rancho, Section, Township, Range, Meridian, subdivision, federal and state boundaries, property lines - Lines and corners labeled to indicate whether approximate, found, calculated, or record. Abbreviate Government Tracts and Lots as GOVT.
- Name of county, city, town; subdivision with recordation data, lot, block; city and county limit lines
- Street names and widths (if uniform)
- Waterways; rivers, creeks, lakes, etc.
- Railroad rights of way and widths
- Existing landmarks (by name), parks, schools, airports
- County, route, kilometer post / Post Mile (in title block)

4-5.2.2 Property Lines

- Annotate appropriately to indicate if lines were located or calculated from record information. Delineate the limits of the ownership on the appraisal map. If necessary use shortened lines, inset map, or show on index map.

4-5.2.3 Design Line / Record Right of Way Centerline data

- Stationing, curve data, bearings, and distances.
- Design Line - Shall have same designation as design plans. (e.g. “A-1”). Ramp alignments, etc., only if necessary to clarify proposed R/W.
- Kilometer post on Design Line at approximate center of sheet.
- Label record R/W centerline, Reference Lines, or Alignments as “Record …”. Show other alignments, as needed, with stationing as a minimum to clarify the proposed right of way.

4-5.2.4 Topography

- Topography to be shown, if available.
- All building improvements within the proposed right of way.
- Building improvements on remainders unless such improvements are so remotely located that they will not be

either physically or economically affected by State's requirements.

- All pertinent man-made culture and natural features such as sidewalks, curbs, foundations, walls, fences, trees and shrubbery, wells, ditches, waterways (rivers, creeks, lakes, etc.), power lines and telephone lines, driveways and both surface and underground pipelines (or evidence of such).
- Contour lines where appropriate.

4-5.2.5 Parcel data and R/W lines

- Ownership numbers and parcel numbers assigned as described in Right of Way Manual. Each primary right of way requirement shall have the identical number as the ownership of which it is all or a portion and shall have the suffix "-1" added. Each secondary right of way requirement, or subparcel, will be identified by a dash and sequential numerical suffix following the parcel number.
- Excess identified by 10 digit (maximum) number, as described in R/W Manual.
- Remainders will not be given parcel number.
- If more than one remainder and/or excess exists for a specific parcel, show separate areas on plan view at proper location.
- Underlying Fee area (e.g. U.F. = 1.2 hectares) shall be shown in plan view, for each separate area, if more than one area comprises the total shown in Ownership Record Block.
- Dimensions of ownerships*, R/W requirements and remainder. Dimensions shall include bearings, distances, and curve data. Radial bearings, if shown, shall read from center of curve. (* *A total take completely within the R/W may be described by its record dimensions and the area corrected if necessary by further calculation. Refer to the Right of Way Engineering chapter of the R/W Manual.)*
- Easements to be acquired: dimensioned and labeled as to purpose.
- Existing easements involved in the project are to be shown and labeled. Plot location of easements of record that are in or near the take area. Show evidence of unrecorded easements or encroachments such as utilities, fences or access. (See topography).
- Show proposed frontage roads and other collateral facilities.
- New R/W lines labeled as "Proposed R/W" and delineated with a heavier line weight than existing.
- Existing R/W - Dimension existing right of way lines with bearings, distances and curve data. Include an explanatory note if necessary to clarify relative accuracy of existing R/W. Label as "Existing R/W".
- R/W lines that are superseded by the new acquisition will be broken and the same weight as existing.

4-5.2.6 Parcel Bubbles

- Regular acquisition use a hot dog shape, flooded with color assigned ownership.
- Parcels not to be vested in State use rectangular shape, flooded with color assigned ownership. There is no distinction between parcels acquired for third party vs. parcels acquired by State to be deeded to third party.
- Excess parcels use a hot dog shape flooded with color assigned ownership.

4-5.2.7 Ownership Record

- Parcels, numbers and ownership names tabulated in block.
- Flood each row in block with same color assigned ownership.
- Areas: total ownership (as defined in R/W Manual), R/W requirement, excess, and remainder.

- Underlying Fee: Area to be shown in parenthesis in same cell as related area above, e.g. R/W requirement area (UF area), excess area (UF area).
- If Underlying Fee is not easily ascertainable, do not map. Indicate existence by placing a (Y) where area would normally be shown in the cell. Note: "If any" clause to be used in legal description. District/Region discretion (in conjunction with R/W and Legal) to be used in relation to Resolution of Necessity descriptions.
- Where practical, use same units of measure for all areas shown.
- The sum of the required, excess, UF, and remainder areas should equal total area.
- Easements to be acquired: purpose and ultimate grantee (if not purchased for State) listed in remarks column of vesting block.
- Assessor's Parcel Number in Plan View (Optional)

4-5.2.8 Coloring

- Individual ownerships shall have a distinctive color (except YELLOW) assigned. All ownerships with the same vesting shall be assigned the same color.
- Fee or Highway Easement – flood with color assigned ownership.
- Other easements (TCE, drainage, slope, utility, etc.) – outlined with solid line colored same as ownership.
- Excess parcels – flooded in YELLOW if identified prior to transmittal.
- Underlying Fee – if being acquired outlined with solid line colored same as ownership, if not being acquired line will be dashed.
- Remainder – outlined by long dashed line in color assigned ownership.

  NOTE: Coloring is only an aid. All mapping information must be independently legible.

4-5.2.9 Coordinates

- Monuments that are referenced in the legal descriptions for the parcel to be acquired will be shown on the appraisal map with coordinates. Show tie to R/W line, if necessary.
- If no monuments are shown, then enough coordinate pairs on RW angle points will be shown so that coordinate locations of remaining RW angle points can be calculated.

4-5.2.10 Access Information

- Current requirements, identified by access denial ticks.
- Access rights previously acquired – labeled, with clarifying note if necessary.
- Access to remainders (topography or record easement).
- Frontage roads.
- Grade separation labeled.
- Access openings: symbol, size, ties to right of way line (DO NOT tie to Design line).

4-5.2.11 Map Background

- Topography.
- Contours, if needed.
- Basis of Bearing (when CCS used, include grid factor and zone).
- North arrow, legend.
- Title block:
  1) Title: Right of Way Appraisal Map
  2) County, route, kilometer post/post mile.
  3) Bar Scale (dual unit).
  4) To Design: (Date of initial transmittal to Design – does not change with revisions)
  5) Map file number. (Optional – per District system)
  6) Project EA

7) Federal Aid Project (FAP) number to right of EA. Note: Contact R/W Planning and Management Branch for proper numbering.

- Revision block - with date, description of changes, and First Initial – Last Name of person making revision.
- Reference block - (optional) but refer at least to R/W EA.
- References to other highway routes and map numbers of intersecting projects.
- Drawing path name – lower left, below border.

4-5.2.12 Use of Details

- Use when needed to clarify dimensioning. Place close to parcel, or add note "See Detail 'A' ", etc.
- If not drawn to scale must be so labeled.
- Repeat at least one parcel number and one dimension for reference.
- If necessary to rotate detail, use additional north arrow.
- Labels in bold to stand out
- Coloring and delineation should be the same as rest of appraisal map.
- Border details with a dashed black line or show detail on a separate page.

See sample(s) of the Right of Way Appraisal Map attached.

4-5.3 Right of Way Appraisal Index Map

Utilize existing city or county map, freeway exhibit map or any available map of adequate scale. Reproduce by using template or by cut and paste drafting.

4-5.3.1 Index Map Requirements

- Limits of map set (layout of map sheets) and limits of project.
- Existing roads and streets.
- City names, ranchos, section and township information.
- Landmarks - schools, parks, etc., as necessary (by name)
- County, route, kilometer post range (e.g. 0.0/10.0) Note: Map should be oriented with kilometer posts increasing from left to right.
- Direction arrows to neighboring cities or towns. Also, for rural projects show approximate mileage.
- Ownership numbers only will be shown on the index map.
- Outline of each map identified by sheet number.
- Title - **Right of Way Appraisal Index Map**
- Bar Scale (optional).
- North arrow.
- Legend, if applicable.
- Reference to adjacent and intersecting state routes.
- Coloring may be used to delineate boundary of larger parcels that cannot be shown on appraisal map sheet.
- Revision block will be shown on index map and used only to record revisions to the index map.
- Index Map will be numbered as sheet 1.

See sample(s) of the Right of Way Appraisal Index Map attached.

References: Current R/W Manual

4-6 FEDERAL LANDS APPLICATION MAPS

Federal Land Application Maps are used to secure rights of way, material sites or other transportation interests in Federal lands covered in the Federal Highway Act of August 27, 1958 (23 USC 107 (d) and/or 317, (see Chapter 5 of Right of Way Manual). The major classifications of land involved are unpatented public lands, national forests, Indian lands and surplus U.S. Lands.

4-6.1 Use

- By a Federal Agency in reviewing and approving the application.
- By Headquarters R/W in reviewing and processing the transaction
- For recording in the State Highway Map Book in the County recorder's office when the map is referenced by the conveyance instrument.
- By R/W Engineering as Exhibit in the conveyance instrument.

4-6.2 Map Requirements

4-6.2.1 Detail Map

In addition to the information shown on the R/W Appraisal Map, all application maps must meet the following requirements:

- The Right of Way Appraisal Map shall be used whenever possible as the base for preparation of the application map.
- All application maps shall be 559 mm x 864 mm (22" x 34") or 279mm x 432mm (11"x 17").
- All application maps shall include a location or index map to graphically depict the right of way plan for the highway facility. Both the Detail Sheet and location or index map should be combined on one sheet wherever practical.
- The right of way parcel(s) applied for shall be depicted by gray shading as appropriate.
- Map information must be legible. Outlining, shading or reduction must not affect legibility.
- Parcel numbers and areas (in hectares to the nearest thousandth) for the required right of way must be shown within or adjacent to each delineated parcel. The standard Appraisal Map grantor block will not be used.
- An adequate legend for clear, complete interpretation of the map, covering symbols of all pertinent items shown on the map such as: access control, control points, parcel or area definition, special items, etc.
- Sufficient information to physically locate the parcel or area on the ground using standard land surveying procedures.
- California Coordinate System coordinates shown on at least two significant points per map sheet, if applicable.
- Basis of bearings and statement as to whether distances shown are grid distances or ground distances. Include factor necessary to convert ground distances to grid distances.
- Show design line and right of way requirements.
- The right of way limit shall be shown by a dominant line and gray shading. All courses shall show bearings and distances or curve data as appropriate. For right of way of uniform width, complete design line data with right of way width noted will be adequate.
- The right of way and/or design line must be tied to the existing land net. Intermediate ties at section lines and at lesser subdivisions shall be included to clarify location of right of way with respect to the smallest legal subdivision.

- Show relationship of the right of way to Ranchos, sections or subdivisions, cities or counties. The smallest legal subdivisions ((16.185 ha (40 acre) tracts and lots)) must be shown on all surveyed public lands affected by the right of way requirement. Such lines should not show precise bearing and distance data for their location unless re-established through standard surveying procedures. Lines not meeting this criteria shall be shown and labeled “approximate.”
- Show all field evidence uncovered, recovered, and all monuments found or set.
- Access restriction shall be clearly delineated and designated openings clearly defined. Frontage road areas and interchange locations shall be shown.
- Areas of exclusion (private lands, etc.) must show recording information when precise location of boundaries cannot be defined on the map and it is not economically feasible to survey the boundaries.
- The route number in the Federal Aid System, whether primary or secondary, must appear on the map. The Interstate route number must also be shown if the route is in the Interstate System.

See sample(s) of Federal Lands Application Maps attached.

4-6.2.2 Index Map:

Combine on same sheet with Detail Map when practical

- Location of application denoted by arrow.
- Roads, other reference information to locate project in relation to the area.

References: Current R/W Manual

4-7 MAP APPLICATION FOR STATE SOVEREIGN LANDS

To obtain a reservation across State sovereign land for highway purposes.

4-7.1 Use

To accompany the Department's request for a reservation over State sovereign lands.

4-7.2 Map Requirements

- Map shall be 559 mm x 914 mm (22" x 36")
- Show relation of the right of way to ranchos, sections, or subdivisions.
- California Coordinate System coordinates shown on at least two significant points.
- Adjacent record owners and their vesting document references.
- Basis of bearings and statement as to whether distances shown are grid distances or ground distances. Show conversion factor between grid and ground.
- Surveyor's statement attesting to accuracy of information shown on map, signature, Surveyor's license number and date of signature.
- All field evidence uncovered, recovered, and all monuments found or set should be shown.
- Symbols must be explained by legend; distances and bearings shown for all lines, and all other data necessary for the intelligent interpretation of the map.
- Insert the following on the map:

STATE OF CALIFORNIA
STATE LANDS DIVISION
This map is hereby approved and filed for record with the Division of State Lands pursuant to the provisions of Section 101.5 of the Streets and Highways Code. The sovereign lands under the jurisdiction of the State Lands Commission as they may lie within the right of way lines shown upon this map are hereby reserved for highway purposes.
APPROVED: Meeting of ____, 20 __
STATE LANDS COMMISSION
by _____
_____
Title

See sample of the Map Application for State Sovereign Lands attached.

References: Current R/W Manual.

4-8 RESOLUTION OF NECESSITY MAP

Resolution of Necessity Maps are required:

- To comply with Section 1250.310(e) of the Code of Civil Procedure.
- To accompany the resolution of necessity and present a visual picture of the parcel described in the resolution.

4-8.1 Use

The maps are used by Headquarters Right of Way and Land Surveys (R/W&LS), District Acquisition Branch, Legal Division, State and Local Project Development Program, property owners, and the CTC in the review, analysis, and approval to proceed with condemnation.

4-8.2 Index Map (Exhibit A)

Made from Appraisal Index or Construction Plans Index. Other mapping may be substituted if it meets minimum legal requirements.

- Size to be 216mm x 279mm (8.5” x 11”)
- Title: Exhibit “A”
- Location, general route, and termini of the project.
- Parcel to be condemned with arrow pointing to the location.
- Direction to adjacent cities, or other major landmarks.
- County, Route, Kilometer Post / Post Mile. Note: For large parcels use a range of KP/PM.
- North arrow, and legend, if necessary. Add “Not to scale”.

See sample(s) of the Resolution of Necessity Index Map attached.

4-8.3 Detail Map (Exhibit B)

- Size to be 261mm x 279mm (8.5” x 11”)
- Title: Exhibit “B” (Second sheet “C”, etc.)
- County, Route, Kilometer Post / Post Mile. Note: For large parcels use a range of KP/PM.
- North arrow, legend, bar scale. State “Not to scale”, if applicable.
- General location in relation to streets, roads and centerline stationing.
- Show planimetrics, where practical. (Do not show contours)
- Resolution of Necessity parcel number(s) as described in current R/W Manual.
- Parcel outlined or shaded unless some other method approved by the Legal Division. (Do not use color)
- Property lines and right of way lines.
- Access restrictions.
- Point of beginning for the description, when practical.
- Distances in the description are shown on the map unless otherwise directed by the Legal Division. Bearings are optional unless otherwise directed by the Legal Division. When bearings are shown for the parcel, they must follow the same direction as the description.

See sample(s) of the Resolution of Necessity Detail Map attached.

References: Current R/W Manual

4-9 COURT EXHIBIT MAP

Court Exhibit Maps are used by EXPERT WITNESSES and LEGAL STAFF to support testimony in Condemnation trial.

4-9.1 Map Requirements

Map preparation and requirements will be determined by needs of the case and specific requests of legal staff and witnesses. One map is prepared to represent the “Before” condition, and another the “After”. Contour lines, design geometrics, aerial overlays may be used in the preparation.

The information below describes “a typical case”.

<u>“BEFORE” condition</u>

- Parcel in its entirety.
- Location with relation to proposed highway, existing streets.
- Area of R/W requirement and remainder.
- Dimensions if requested.
- R/W lines, topography.
- Last name of property owner.
- North arrow - straight up.
- Parcel number.
- Scale, legend (optional).
- Arrow and name of nearest city in each direction.

See sample of the "Before" Court Exhibit Map attached.

<u>“AFTER” condition</u>

- Parcel as it will appear after construction.
- Remainder area.
- R/W line and geometrics.
- Dimensions if requested.
- Last name of property owner.
- North arrow - straight up.
- Parcel number.
- Arrow and name of nearest city in each direction.

See sample of the "After" Court Exhibit Map attached.

References: Current R/W Manual

4-10 DIRECTOR'S DEED MAPS

Director's Deed maps are used to depict State land slated for disposal. This disposal may be accomplished by various methods. The mapping will generally be produced on a 216mm x 279mm (8.5" x 11") format. The following information will be common to all Director's Deed mapping.

4-10.1 Director's Deed Mapping

4-10.1.1 Detail Maps

1) Director's Deed Numbers are boldly shown on field of drawing with arrow, if necessary, to excess parcel.
2) Areas of excess parcel and reservations must be shown
3) Boundary of area being Director's Deeded is clearly identified by outlining or shading.
4) Dimensions of parcel boundary lines as shown in legal description (distances mandatory, bearings optional).
5) Centerline, R/W lines, access restrictions.
6) Name of city, adjacent local streets, county roads and frontage roads.
7) Reservations, if any, as described in legal description (slope and drainage easements, etc.)
8) County, Route, Kilometer Post / Post Mile.
9) Bar scale, north arrow, legend.
10) Location by Rancho, Public Lands or Subdivision.
11) Other information as requested by Excess Lands.

4-10.1.2 Index Maps

1) Mapping information must be clearly legible and provide potential buyer with picture of general vicinity of excess parcel and precisely how to get to the excess from nearby roads and streets.
2) Location of parcel with relation to Cities, State highway, local streets and roads.
3) Graphical outline of parcel.
4) Parcel number in field of drawing with arrow to excess.
5) County, Route, Kilometer Post / Post Mile.
6) North arrow, legend. Note "Not to Scale".

The following is specific information relating to the mapping for the various disposal methods.

4-10.2 Director's Deed Map (PUBLIC SALE)

To show excess State land to be disposed of by public auction or public sealed bid sale.

4-10.2.1 Director's Deed Map (PUBLIC SALE) Use

Used as a visual aid for:

- Excess land appraisal map.
- Inclusion into sales notice to provide prospective purchasers a visual picture of excess property and how to locate the property for field inspection and appraisal.
- Review of the transaction by Headquarters R/W&LS.
- Review of transaction by CTC.
- Updating of County Assessor's Records.

4-10.2.2 Director's Deed Map (PUBLIC SALE) Map Requirements

1) Detail Map
   - No additional requirements. (See Above)

See example of Directors Deed Detail Map (Public Sales) attached.

References: Current R/W Manual

4-10.3 Director's Deed Map (Finding A and B)

To show excess State land to be disposed of by direct sale to an adjoining owner.

4-10.3.1 Director's Deed Map (Finding A and B) Use

Used as a visual aid for:

- Excess land appraisal map.
- Review of the transaction by Headquarters R/W&LS and CTC.
- Updating of County Assessor's Records.

4-10.3.2 Director's Deed Map (Finding A and B) Map Requirements

1) Detail Map
   - Adjacent owner acquiring excess is shown by name and limits of ownership adjacent to state ownership (or as directed by Excess Lands Section).
   - The above information is required in addition to the information stated in 4-10.1 above.

See example of Directors Deed Detail Map (Findings A and B) attached.

References: Current R/W Manual

4-10.4 Director's Deed Map (Exchange)

To show excess State land to be exchanged (normally with an adjacent property owner) for a right of way requirement.

4-10.4.1 Director's Deed Map (Exchange) Use

Used as a visual aid for:

- Excess land appraisal.
- Negotiation with property owner.
- Review of the transaction by Headquarters R/W&LS and CTC.
- Updating of County Assessor's Records.

4-10.4.2 Director's Deed Map (Exchange) Map Requirements

1) Detail Map
   - Boundary of the excess is clearly identified by outlining.
   - Boundary of right of way being acquired is clearly identified by shading.
   - R/W parcel to be acquired is identified by parcel number and notation "Acquired in Exchange".
   - The above information is required in addition to the information stated in 4-10.1 above.

See example of the Directors Deed Detail Map (Exchange) attached.

References: Current R/W Manual

4-10.5 Director's Deed Map (Contract Obligation)

To show State land being Director's Deeded pursuant to a contract obligation (Utility Agreements, Cooperative Agreements, Clearance of cloud on title, etc.).

4-10.5.1 Director's Deed Map (Contract Obligation) Use

Used as a visual aid for:

- Communicating with receiver of Director's Deed.
- Review of the transaction by Headquarters R/W and CTC.
- Updating of County Assessor's Records.

4-10.5.2 Director's Deed Map (Contract Obligation) Map Requirements

1) Detail Map
   - No additional requirements. (See Above)

See example of Directors Deed Detail Map (Contract Obligation) attached.

References: Current R/W Manual

4-11 TRANSFER OF JURISDICTION MAP

To show State land under the control of Caltrans to be transferred to other State agencies.

4-11.1 Use

- Appraisal
- Review of the transaction by Headquarters R/W&LS
- Review by the Director prior to approval of the transaction.
- Update of County Assessor's Records (if the transaction is recorded).

4-11.2 Map Requirements

4-11.2.1 Detail Map

- Size normally will be 559 mm x 914 mm (22" x 36"). It may be reduced to half size for ease of handling. Use existing record map or appraisal map as a base.
- The appraisal or record map should normally be sufficient when the following is added or revised:
  1) Boundary of area(s) being transferred is clearly identified.
  2) Excess Land Deed Number and area are boldly shown on field of drawing with arrow, if necessary, to excess area.
  3) Title block is changed to show that it is a Transfer of Jurisdiction Map.

See example of the Transfer of Jurisdiction Detail Map attached.

4-11.2.2 Index Map

- Size normally will be 559 mm x 914 mm (22" x 36"). It may be reduced to half size for ease of handling. Use existing record map or appraisal map index as a base.
- The record or appraisal map used for the appraisal, acquiring and record of the excess is normally sufficient when the following is added or revised:
  1) Director's Deed Number is boldly shown on field of drawing with arrow to approximate location of excess clearly evident from a casual glance at the index map.
  2) Title block is changed to show that it is a Transfer of Jurisdiction Map.

See example of the Transfer of Jurisdiction Index Map attached.

References: Current R/W Manual

4-12 RIGHT OF WAY RECORD MAP

To present the current status of all real properties including interest in real properties under the jurisdiction and control of the Department of Transportation. This includes operating r/w, (fee, easements, etc.), excess lands, access rights or other interests. **Note:** The Right of Way Record Map is typically developed from the Right of Way Appraisal Map.

4-12.1 Use

- By R/W ENGINEERING: To provide information on R/W status, excess lands; for posting of acquisition parcels, relinquishments, abandonments, vacations, director's deeds and utility easements.
- By DISTRICT MAINTENANCE: For designation of limits of responsibility; for access control information.
- By RIGHT OF WAY: For information on R/W and parcel status.
- By OTHERS: To county offices, city engineers, title companies and the pubic for information.

4-12.2 Map Requirements

4-12.2.1 Location data

- Rancho, Section, Township, Range, Meridian, subdivision, federal and state boundaries, property lines - Lines and corners labeled to indicate whether approximate, found, calculated, or record. Abbreviate Government Tracts and Lots as GOVT.
- Name of county, city, town; subdivision with recordation data, lot, block; city and county limit lines
- Street names and widths (if uniform)
- Waterways; rivers, creeks, lakes, etc.
- Railroad rights of way and widths
- Existing landmarks (by name), parks, schools, airports
- County, route, kilometer post / Post Mile (in title block)

4-12.2.2 Property Lines

- Annotate appropriately to indicate if lines were located or calculated from record information. Delineate the limits of the ownership on the Record Map. If necessary use shortened lines, insert map, or show on index map

4-12.2.3 Design Line / Record Right of Way Centerline data

- Stationing, curve data, bearings, and distances.
- Design Line - Shall have same designation as design plans. (e.g. "A-1")
- Kilometer post on Design Line at approximate center of sheet.
- Label historical R/W centerline, Reference Lines, or Alignments as "per …". (Enter recording data or other reference)

4-12.2.4 Topography

- Topography to be shown if appropriate.
- All building improvements within the proposed right of way.
- Building improvements on remainders unless such improvements are so remotely located that they will not be either physically or economically affected by State's requirements.
- All pertinent man-made culture and natural features such as sidewalks, curbs, foundations, walls, fences, trees and shrubbery, wells, ditches, waterways (rivers, creeks, lakes, etc.), power lines and telephone lines, driveways and both surface and underground pipelines (or evidence of such).
- Contour lines where appropriate.

4-12.2.5 Parcel Data

- Identified by parcel and subparcel numbers 12345-1

- Fee parcel (part take): dimensions around area taken.
- Fee parcel (total take): dimensions around area required and dimensions around excess, if any. Include excess parcel number.
- Easement parcel, dash lines, dimensioned, labeled (slope, drainage, etc.). Existing (non-state) easements need not be shown unless they affect excess land.
- Other parcels - JUA, CCUA, Director's Deed, Relinquishment, Abandonment, Vacation, etc. all with identifying parcel number.

4-12.2.6 R/W Lines

- Bearings, distances, and curve data.
- Non-tangent curves - designate by radials or tangent bearings. (Radials read from CC)
- Bearing of R/W line (N, E, S, W,) to follow numerical progress of Design line stationing.
- Coordinates at two points on the R/W line, one near each end of sheet, or at found monuments.

4-12.2.7 Access Control

- Access denial "ticks" designate access prohibited or controlled. The access denial line is not necessarily the fence line.
- If less than full abutter's rights, note it. (i.e. ***Vehicle Access Restrictions***)
- Grade separation - labeled, with information as to type.
- Frontage road, labeled, dimensioned.
- Access openings, symbol, size of opening, tie to right of way line.

4-12.2.8 Prior Parcel Data

(Refer to R/W Manual)

- Graphically shown property lines.
- Recording data.
- Type of title.
- Prior access restrictions, if still applicable.
- Revised excesses including dimensioning and areas resulting from new alignments.
- Recorded relinquishments, abandonments, vacations, director's deeds, JUAs/CCUAs, with parcel number and proper symbol.

4-12.2.9 Ownership Record

- List all parcels that have been acquired or disposed of.
- Show name of grantor or grantee.
- Show area of total ownership, R/W acquired, remainder and excess.
- Indicate type of title in the Acquisition Code column.
- Show type of instrument (GD, FOC, QC, etc.)

4-12.2.10 Use of Details

- Use when needed to clarify dimensioning. Place close to parcel, or add note "See Detail 'A' ", etc.
- Labels in bold to stand out
- Coloring and delineation should be the same as rest of appraisal map.
- Border details with a dashed black line or show detail on a separate page.
- If not drawn to scale must be so labeled.
- Repeat at least one parcel number and one dimension for reference.
- If necessary to rotate detail, use additional north arrow.

4-12.2.11 Map Background

- Show basis of bearings for California Coordinate System, also show grid factor and zone.
- North arrow, legend
- Title block -
  1) Title: R/W Record Map

2) County, route, kilometer post.
3) Bar Scale
4) To Design Date. (Original date from Appraisal Map)
5) Map file number. (Optional – per District system)

- Revision block –
  1) Date Record Map initiated
  2) Date, description of changes, and First Initial / Last Name of person making revision.
- Reference block - (optional) but refer at least to R/W EA.
- Reference to adjoining map numbers if needed to clarify.
- References to other highway routes (and map numbers) of intersecting projects.

See sample of the Right of Way Record Map attached.

4-12.3 Record Map Index

- The Record Map Index is optional. Use District convention.

4-13 RELINQUISHMENT MAPS

4-13.1 Relinquishment Map (Superseded Highway or Legislative Deletion)

To describe in map form State right of way being relinquished to a local agency pursuant to Section 73 of the Streets and Highways Code. Note: See Section 4-13.4 for Collateral Facilities.

4-13.2 Use

- For recording in the State Highway Map Book in the County Recorder's Office. The map is a part of the conveyance instrument.
- Used as an aid by:
  1) District functional units to review and approve proposed Relinquishments.
  2) Headquarters R/W&LS in reviewing and processing the transaction.
  3) By CTC in reviewing the proposed transaction.
  4) By the local agency in reviewing the 90-day notice package and as a permanent local agency record.
  5) By District R/W Engineering for posting on record map.

4-13.3 Map Requirements (Superseded Highway or Legislative Deletion)

4-13.3.1 Detail Map

- Map size to be 559mm x 914mm (22" x 36"), including margins, per Streets and Highways Code Sections 128 & 129.
- Title block including statement "RELINQUISHMENT NO _____".
- County, Route, Kilometer Post / Post Mile.
- Bar Scale, North Arrow, Legend
- Sheet Number (1 of 6, etc.)
- Signature - District Director or designated representative and date of signature.
- Location data when necessary for analysis of relinquishment description. Examples: city names, city limits, streets, subdivision data, sections, ranchos, etc.
- Access reserved and relinquished.
- Segments identified by number (see R/W Manual).
- Segment clearly identified by standard symbology (see Relinquishment Map exhibits).
- P.O.B. and metes and bounds of segment terminals (may be omitted when segment terminal is county or city limit line).
- Basis of bearings (include Calif. Coordinate System clause, if applicable).
- Excess land must be excluded from segments (see Chapter 6 of R/W Manual).
- Filing data block if map is to be used as the recording instrument, subject to County standard.

See sample(s) of the Relinquishment Detail Map (Superseded Highway/Legislative Deletion) attached.

4-13.3.2 Index Map

- Location of the segment relative to major landmarks such as: cities, streets, roads, rivers, state highways and freeways, railroads, etc.
- Segment identified by number.
- Segment clearly identified (see Relinquishment Index Map exhibit).
- Title block including statement "RELINQUISHMENT NO _____".
- County, Route, Kilometer Post / Post Mile.
- Bar Scale, North Arrow, Legend
- Sheet Number (1 of 6, etc.)
- Signature - District Director or designated representative and date of signature.

- Filing data block if map is to be used as the recording instrument, subject to County standard.

See sample of the Relinquishment Index Map (Superseded Highway/Legislative Deletion) attached.

References: Current R/W Manual

4-13.4 Relinquishment Map (Collateral Facilities)

Relinquishment maps used in the relinquishment of collateral facilities serve the same purpose and use as relinquishment maps for superseded highways and highways deleted by Legislative Act. Preparation of the Detail Map and Index Map is the same as stated for superseded and legislative deleted mapping. Map requirements are also the same except for the following:

- The segment must have calculated bearings and distances around the entire perimeter.
- It is not necessary to show excess land excluded from the segment.
- The mapping should show the relationship of the segments to the highway or freeway, including Design line.

See sample of the Relinquishment Detail Map attached.

References: Current R/W Manual

4-14 VACATION MAP

To describe, by map, the extinguishment of the public's right of use in State highway right of way easement.

4-14.1 Use

Used as a visual aid for:

- Review of the transaction by Headquarters R/W&LS and the CTC.
- Updating of County Assessor's Records;

- and -

- May be used as a part of the vacation instrument and recorded in the State Highway Map Book in the County Recorder's Office.

4-14.2 Map Requirements

4-14.2.1 Detail Map

- Map size to be 559mm x 914mm (22" x 36"), including margins, per Streets and Highways Code Sections 128 & 129.
- Title block including statement "VACATION NO _____".
- County, Route, Kilometer Post / Post Mile.
- Bar Scale, North Arrow, Legend
- Sheet Number (1 of 6, etc.)
- Signature - District Director or designated representative and date of signature.
- Location data when necessary for analysis of vacation description. Examples: city names, city limits, streets, subdivision data, sections, ranchos, etc.
- Access reserved and relinquished.
- Segments identified by number (see R/W Manual).
- Segment clearly identified by standard symbology (see Vacation Map exhibit)
- Show all easements to be reserved from Vacation.
- P.O.B. and metes and bounds of segment terminals (may be omitted when segment terminal is county or city limit line).
- Basis of bearings (include Calif. Coordinate System clause, if applicable).
- Show all easements (public utilities, coastal access, etc.) to be reserved from Vacation.
- Filing data block if map is to be used as the recording instrument, subject to County standard.

4-14.2.2 Index Map

- Location of the segment relative to major landmarks such as: cities, streets, roads, rivers, state highways and freeways, railroads, etc.
- Segment identified by number.
- Segment clearly identified by proper symbology (see Vacation Index Map exhibit)
- Title block including statement "VACATION NO _____".
- County, Route, Kilometer Post / Post Mile
- Bar Scale, North Arrow, Legend
- Sheet Number (1 of 6, etc.)
- Signature - District Director or designated representative and date of signature.
- Filing data block if map is to be used as the recording instrument, subject to County standard.

See sample(s) of the Vacation Map and Vacation Index Map attached.

References: ***Current R/W Manual***

4-15 FREEWAY LEASE AREA MAP (FLA)

To show State-owned property (adjacent to or under freeways) available for leasing.

4-15.1 Use

- By R/W AIRSPACE: For inventory of lease areas; for information to potential lessees; for district circulation prior to leasing.
- By R/W APPRAISALS: For estimating or appraising value.

4-15.2 Map Requirements

- Use existing maps, R/W Map Appraisal or Record, by duplicating portion of map required, or trace parcel, if simpler to do so.
- Add pertinent data from:
  1) As Builts (Bridge Plans).
  2) R/W Record Maps.
  3) Field information as needed.
  4) Utility plans for easement data.

4-15.2.1 Freeway Lease Area Parcel Maps (Inventory).

Drawn or reduced to 216 mm x 279 mm (8-1/2" x 11").

<u>Information to be shown:</u>

- Perimeter of FLA and as a minimum, scaled dimensions.
- Right of way lines.
- Design line of freeway with stationing.
- Graphically depict outside edge of viaduct structure.
- Graphically depict ramps.
- Top of slope - if any.
- Toe of slope - if any.
- Approximate size and location of bridge supports.
- Gross FLA (scaled).
- Area covered by structure (scaled).
- Area of supports (scaled).
- Location and width of easements (graphical).
- Area outside the right of way lines (excess).
- Fences and size and location of gates.
- FLA identification number.
- County, Route and Kilometer Post.
- Distance from existing ground to underside of bridge structure (minimum number to identify vertical clearance).

4-15.2.2 Freeway Lease Area Parcel Maps (Appraisal).

Drawn to scale with sufficient detail to enable the preparation of a legal description. Map size should be 559 mm x 864 mm (22" x 34").

<u>Information to be shown:</u>

- Perimeter of the FLA showing bearings and distances with points of reference.
- Right of way lines.
- Design line of freeway with stationing.
- Edge of pavement or outside edge of viaduct structure (graphical).
- Ramps, abutments and retaining walls (graphical).
- Height-Limitation Zone 4.5 m from edge of viaduct structure) (optional with Districts) (graphical if used).
- Top of slope.
- Toe of slope.
- Size and location of bridge supports.
- Approximate location, width and purpose of all easements including joint use agreements.
- Distance from existing ground to underside of bridge structure to the nearest foot (minimum number to identify vertical clearance).
- Typical Viaduct Section.

<u>Information to be calculated:</u>

- Gross Freeway Lease Area.
- Area of supports.
- Net FLA (Gross Freeway Lease Area. minus Area of supports)
- Area covered by viaduct (graphical).
- Area of Height Limitation Zone (graphical and optional with Districts).
- Area outside Height Limitation Zone within the right of way lines (graphical and optional with Districts).
- Area outside right of way lines (excess)

An index map should accompany each Lease Area Map and show:

- Parcel location.
- Relation to State Highway.
- Nearest streets, roads and identifiable locations.

All lease area maps shall include the District, County, Route and Kilometer Post designation and shall be assigned Freeway Lease Area numbers.

See examples of Lease Area Maps attached.

References: ***Current R/W Manual***

4-16 RIGHT OF WAY MAP FILES

4-16.1 General

State law requires that each district office maintain a file of Right of Way Record Maps of all completed State highway projects located within the district. Streets and Highways Code, Section 128 refers to "right-of-way record maps". The term is used interchangeably with "Right of Way Map".

Upon completion of a right of way mapping project, a print of each map shall be obtained and each set of maps bound together in a R/W MAP FILE.

Maps in the R/W MAP FILE must be kept current. Documents must be posted as they are recorded and maps must be revised to conform to design changes made subsequent to acquisition

When documents are recorded:

- Add recordation data for fee parcels, easements relinquishments, abandonments, vacations, director's deeds, utility agreements, etc.
- Add coloring striping and/or other symbolization for recorded parcels per Appendix 4B of this chapter. Vary color for adjoining parcels unless ownership is the same.
- Add Porter Bill Lease of excess land parcels, pursuant to the provisions of Section 104.15 of Street and Highways Code.

When revisions are required -

- Strike out superseded data and delineate new information.
- Add references to new maps; to new intersecting routes.
- Examine map to determine if replacement is necessary when map is deteriorating or too cluttered by changes to be readable.
- A description of the changes should be listed in a revision block and dated.

4-16.2 Updating Right of Way Map Originals to Conform to R/W Map Files

Changes made on right of way map prints must be added to the originals. Since map prints are available to the public and to other departments upon request, the originals must always reflect the latest changes.

Whenever possible, these changes should be added to originals and R/W map file print simultaneously. If this is not feasible, the time lag for incorporating the data should be as short as possible.

Revisions should be noted and dated.

4-16.3 Check List For Updating Right of Way Maps

- Are all Director's Deeds incorporated?
- Are all Relinquishments, Vacations, etc., shown?
- All JUA's, CCUA's shown?
- Recordation data for above items entered?
- Have excess parcel numbers been added where new excess has been created, or excess split, or on non-highway related easements across excess land?
- Have relinquished roads been assigned names? (Use Thomas Brothers or other map guides for information.)
- Have changed street names been added? Old ones put in parenthesis?
- Has new route number and post mile (per 1964 Legislative Act) been added? Has old route number been added on projects completed subsequent to 1964?
- Have references to adjacent maps been added?
- Has I-number been added to sheets on Interstate jobs?
- Is condition of print good, or does it need replacing?

- Is condition of original good (especially if cloth or vellum) or should it be converted to scanned image?
- Has latest revision and date been listed in revision block or column?

Appendix 4A

ABBREVIATIONS

A

Aband	Abandonment
Abn	Abandon
Ac	Acre
Acq	Acquisition
Add'l	Additional
AH	Ahead
Appr	Appraisal
Approx	Approximate
Appurt	Appurtenance
Ave	Avenue
AO	Access Opening
A	Area

B

BC	Begin Horizontal Curve
BT	Bearing Tree
BK	Back
BK, PG	Book, Page
Bldg	Building
Blk	Block
Blvd	Boulevard
BM	Bench Mark
Brg	Bearing

C

CTC	California Transportation Commission
Calc	Calculated
C/L	Centerline
Co	County
Conc	Concrete
Cond	Condemnation
Const	Construct (ion)
Coord	Coordinate
CCUA Agreement	Consent to Common Use
Corp	Corporation
Cr	Creek
Ct	Court (Street Name)
Culv	Culvert

D

Dr. Ease	Drainage Easement
Dds	Deeds
DD	Directors's Deed
Det	Detour
Dia	Diameter
Diag	Diagonal
Dist	Distance, District
Dr	Drive
Dwg	Drawing
Dwy	Driveway
DE	Director's Easement Deed
DK	Director's Quitclaim Deed
DL	Director's Lease
DB	Deed Book

E

Ease, E	Easement
EC	End of Horizontal Curve
Eqn	Equation
Et al	And Others
Et ux	And Wife
Et vir	And Husband
Exist	Existing
Ex	Excess
E'LY	Easterly

F

Fc	Fence
FD, Fnd	Found
Fr	Frontage
FR	Frontage Road
Fwy	Freeway
FLA	Freeway Lease Area
F	Fee
F + A	Fee + Access Rights
FOC	Final Order of Condemnation
FOD	Field of Drawing

G

GD	Grant Deed
Geo	Geodetic
Gov't	Government

H

ha	Hectare
H.M.	Humbolt Meridian
Hse	House
Hwy	Highway

I

Irr	Irrigation
I/C	Interchange

J

JUA	Joint Use Agreement

K

KP	Kilometer Post
km	Kilometer

L

L	Length
Lat	Latitude
LoL	Layout Line
Lt	Left
LL	Lot Line
Ln	Lane

M

Max	Maximum
Mi	Mile (s)
Min	Minimum
M.D.M.	Mount Diablo Meridian
Misc	Miscellaneous
Mon	Monument
Med	Median
m	Meter
m^2	Square Meter

N

NO.	Number
N'LY	Northerly

O

OR	Official Records
OC	Overcrossing
OH	Overhead
Orig	Original

P

Pcl	Parcel
Ped UC	Pedestrian Undercrossing
PG	Page
PI	Point of Intersection
PP	Power Pole
PL	Property Line
PM	Post Mile, Parcel Map
POC	Point on Curve
POT	Point on Tangent
Pt	Point
PT	Point of Tangency
Pvmt	Pavement
Pvt	Private
POB	Point of Beginning
PRC	Point of Reverse Curve
Prop	Property

Q

Qc	Quitclaim

R

Rad	Radial
R	Radius
Rd	Road
REC	Recorded
Ref	Reference
REL	Relinquishment
Rem	Remainder
Reqd	Required
Rp	Ramp
RP	Reference Point
RR	Railroad
Rt	Right
RAR	Relinquishment of Access Rights
RTE	Route
R/W	Right of Way
Rd Ease	Road Easement

S

S.B.M.	San Bernardino Merdian
Sec	Section
Sta	Station
Std	Standard
St	Street
Subd	Subdivision
Swr	Sewer
Sl Ease	Slope Easement
Sht	Sheet
S'LY	Southerly

T

T	Semi-tangent

Tan Brg	Tangent Bearing
TCE	Temporary Construction Easement
Tel	Telephone
Temp	Temporary
Topo	Topography
T.P.O.B.	True Point of Beginning
TR	Title Report
TP	Telephone Pole
TS	Title Statement
Typ	Typical
T-R-	Township, Range
TL	Tract Line

U

UC	Undercrossing
UP	Underpass
Ut	Utility (ies)
UF	Underlying Fee

V

Vert	Vertical
Vol	Volume

W

W	Wavier
W'LY	Westerly

X

Xing	Crossing