



# **EL DORADO COUNTY LAND DEVELOPMENT MANUAL**

**ADOPTED MONTH, DAY, YEAR**

# EL DORADO COUNTY LAND DEVELOPMENT MANUAL

## FUTURE AMENDMENTS:

<u>DATE</u>	<u>RESOLUTION NUMBER</u>	<u>SECTION AMENDED</u>
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ADOPTED BY THE BOARD OF SUPERVISORS MONTH, DAY, YEAR  
RESOLUTION NUMBER XXX-2009

JOHN L. KNIGHT, DISTRICT I  
RAY NUTTING, DISTRICT II  
JAMES R. SWEENEY, DISTRICT III  
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DAVE PRATT, DISTRICT II  
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WALTER MATHEWS, DISTRICT IV  
ALAN TOLHURST, DISTRICT V

**PREPARED BY THE FOLLOWING COUNTY AGENCIES:**

DEVELOPMENT SERVICES DEPARTMENT  
DEPARTMENT OF TRANSPORTATION  
SURVEYOR'S OFFICE  
ENVIRONMENTAL MANAGEMENT DEPARTMENT

**WITH ASSISTANCE FROM THE FOLLOWING:**

EL DORADO COUNTY AGRICULTURE, WEIGHTS, AND MEASURES  
EL DORADO COUNTY COUNSEL  
SURVEYORS, ARCHITECTS, GEOLOGISTS, ENGINEERS (SAGE)  
EL DORADO COUNTY FIRE PROTECTION DISTRICTS  
CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION (CAL FIRE)

# LAND DEVELOPMENT MANUAL

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## 1.1 PURPOSE

This manual includes design standards for most proposed discretionary development, including Planned Developments, Use Permits, Design Reviews and all divisions of land.

ALL discretionary land development projects *shall* conform to the standards of design and improvements as specified in the County Design Manuals and applicable El Dorado County (County) Ordinances.

Any request to deviate from these standards shall be submitted to the County for a determination if an exception or exemption can be applied. Throughout this manual, exceptions and exemptions are described (where they exist). If neither an exception nor an exemption can be applied, the applicant may apply for a design waiver as part of the permit application.

This manual also provides an introduction to land use planning and development for people unfamiliar with the processes in the County. It is intended to be a resource for residents, business owners, property owners, staff, as well as for developers interested in building in the County. For building in the South Lake Tahoe basin, also refer to the Tahoe Regional Planning Agency, "TRPA".

The land development process will require additional information and documents not contained in this manual. The County maintains information on its website about the land use and development process: <http://www.edcgov.us/>. Some of the information available on the website includes:

- El Dorado County's General Plan,
- Zoning Ordinance,
- Design Manuals,
- Application forms,
- The fee schedule for application filing fees, and
- Applicable fire, water, school districts; land use designation; zoning; flood zone; snow load; etc.

## 1.2 EL DORADO COUNTY GENERAL PLAN

### 1.2.1 Overview and Legal Basis

All cities and counties in California are required under State law to prepare and adopt a General Plan that contains a set of broad policy statements for future development. The General Plan must address specific requirements contained in State law. The *2004 El Dorado County General Plan* (hereafter referred to as the *General Plan*) is a comprehensive, long-term plan to guide future development and growth in the County.

### **1.2.2 General Plan**

The *General Plan* is the County's official policy statement concerning its future character, land use patterns, and types of development. The *General Plan* describes the amount and type of development needed to achieve the County's social, economic, and environmental goals. It addresses a wide variety of development issues, including land uses, traffic, natural resources, and public safety.

The *General Plan* functions as a valuable decision making tool by providing the policy framework for all land use and capital expenditure decisions made by the County. County staff, the Planning Commission (Commission), and the Board of Supervisors (Board) use it to evaluate every discretionary development project that is submitted for approval.

The County's current *General Plan* was adopted in 2004 and may be amended from time to time. The Cities of Placerville and South Lake Tahoe have their own General Plans..

The "Land Use Diagram", a key component of the *General Plan*, provides a geographic reference and spatial context to the *General Plan's* major strategies, goals, and policies. It shows designated land uses, such as commercial, industrial, residential, agricultural, and open space.

## **1.3 ZONING**

### **1.3.1 Overview and Legal Basis**

While the *General Plan* sets the broad parameters for growth and establishes future land use patterns, zoning is the manner in which the County implements the *General Plan* and establishes the use and development standards for property. The County's "Title 17 Zoning Ordinance" defines the allowable uses and development standards for each property within the County. The "Zoning Ordinance" can be found in the "El Dorado County Ordinance Code" which can be found online at <http://www.edcgov.us/Planning/ordinances.htm> or by contacting the Development Services Department (DSD).

**1.3.2 Purpose** Zoning separates land uses into specific zones such as single-family residential, multi-family residential, commercial, and industrial. Zoning also regulates the intensity of such uses; the setbacks of structures from property lines; and the height and bulk of structures permitted on a site.

### **1.3.3 Amendment Process**

In order to permit a project that conforms to the *General Plan* land use designation, but not to the zoning district, the zoning must be changed on the land in question. There are two types of amendments to the County's Zoning Ordinances:

- A. Amending the Zoning Map for a specific property, and
- B. Changing the Zoning Ordinance itself.

All zone changes must be consistent with the *General Plan* and approved by the Board after public hearings.

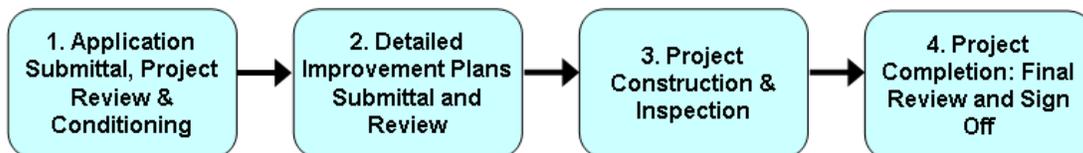
## 1.4 DEVELOPMENT PERMITS

There are many applications for various types of land use and development requests processed by the County. Generally these requests fall within two different land use action categories: ministerial actions and discretionary actions.

- A. A **ministerial action** describes a governmental decision involving little or no personal judgment by the public official as to the wisdom or manner of carrying out the project.
- B. A **discretionary action** describes a governmental decision which requires the exercise of judgment or deliberation, as distinguished from situations where the public agency or body merely has to determine whether there has been conformance with the applicable statutes, ordinances, or regulations.

## 1.5 GENERAL PROCESS STEPS FOR DISCRETIONARY PROJECTS

A discretionary project goes through four steps before completion:



There is a County departmental review process for each step. Many County Departments can be involved at each step (e.g., DSD, Environmental Management (EMD), Transportation (DOT), Surveyor's Office). Other agencies (e.g., Fire Districts, Community Service Districts) may also be involved. A project cannot move from one step to the next without completing the prior step.

### 1.5.1 Step 1. Application Submittal, Project Review & Conditioning

The first step is an essential part of the land use and development process. The following flow chart provides a basic overview. It is important to note that not every project will involve all of the steps described in the flow chart.

**A. Pre-Application Meeting (Optional)**

Before the applicant files the application, a Pre-Application review is recommended. Through the Pre-Application review, a project team (composed of County and other-agency staff) will review the proposal and point out potential problems that may affect or delay the application, as well as explain many of the requirements in the County’s *General Plan* or other regulations. A preliminary review allows the applicant to become familiar with the County’s Ordinances, policies and development review processes, and how they will affect the project. Preliminary reviews also reduce the time and money spent on revising plans to meet County standards before going to a public hearing.

**B. Application Filed by Applicant**

The applicant files a formal application, submits all required supporting documents, including maps, and pays the necessary fees. For most applications, a well-drawn set of plans is necessary as part of the application submittal in order for the formal review process to begin.

**C. County Staff Review & TAC Meeting**

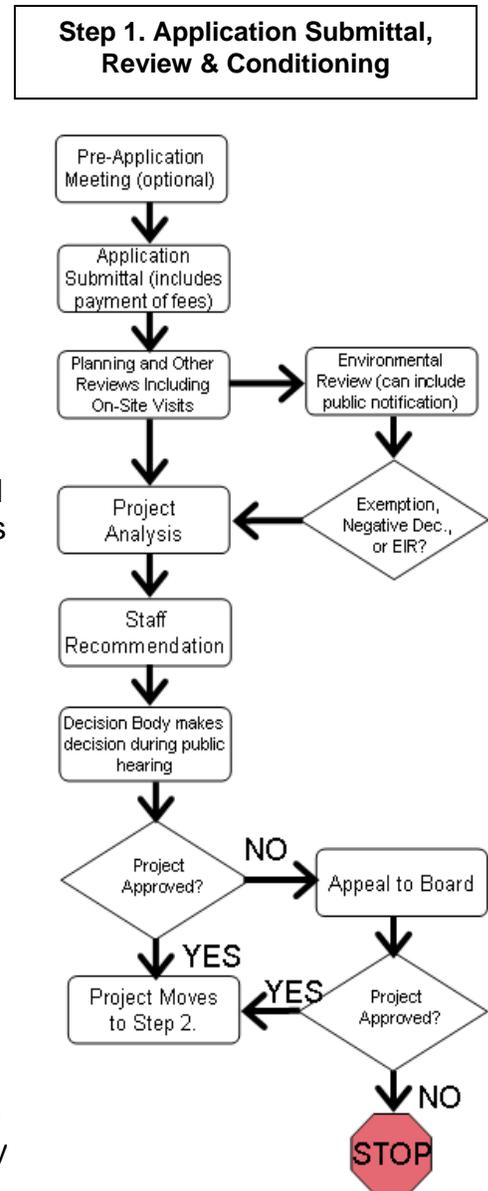
The application is initially reviewed by DSD. Other County departments (e.g., EMD, DOT, etc.) and outside Federal, State, and local agencies (e.g., the local fire district) also review the project application. A TAC (Technical Advisory Committee) meeting is held in which the reviewers discuss issues with the project, identify any missing information, and begin developing conditions that the proposed project must meet prior to being approved.

**D. Environmental Review (CEQA)**

All discretionary projects must go through an environmental review process. The California Environmental Quality Act (CEQA), Cal. Public Resources Code Sections 21000-21177, requires an assessment of every discretionary project’s environmental impacts. More information on CEQA can be found at the California Governor’s Office of Planning and Research (OPR): <http://www.opr.ca.gov/> and <http://ceres.ca.gov/ceqa/>.

**E. Notice of Public Hearing/Public Input**

Once the review process is completed, for discretionary projects, the application is set for hearing. A notice of the public hearing is sent to all property owners within



500 feet of the site. The public notice will provide a brief description of the project, the project address, the project contact person, and the date of the public hearing. This provides the public an opportunity to learn about the project, and to participate in the decision process. Ministerial projects generally do not have public hearings or public notice and the decision is made at the Department level.

**F-1. Zoning Administrator Public Hearing**

Some permit applications (e.g., Tentative Maps, Parcel Maps, Special Use Permits, and Variances) are forwarded with recommendations from County staff to the Zoning Administrator for a decision. The Administrator conducts a public hearing to receive input from members of the community prior to issuing a decision.

**F-2. Planning Commission Public Hearing**

For some permits, DSD forwards the project to the Commission. The Commission's public hearing provides the applicant and neighboring residents an opportunity to voice their opinions. The Commission acts upon Tentative Maps for subdivisions, Design Reviews, Planned Developments, Environmental Impact Reports, and other actions as set forth in County Code. The Commission provides recommendations for Zoning and *General Plan* amendment applications to the Board.

**G. Board of Supervisors Public Hearing**

The Board makes the final decision on legislative acts such as rezoning or *General Plan* amendments. The Board's public hearing provides the applicant and neighboring residents an opportunity to voice further opinions. The Board approves the project with conditions of approval or denies the project.

**Appeal Process**

Any decision made by the Zoning Administrator or Commission may be appealed by the applicant, or any other affected party, to the Board.

An appeal must be filed within 10 working days from the decision by the approving authority. An appellant completes the appeal form and submits the form together with the applicable fee. The appellant needs to clearly identify on the form the specific reasons for the appeal. The hearing body for the appeal will consider on appeal all issues raised by the appellant. The hearing body may consider other relevant issues related to the project being appealed. Appeals are heard by the appropriate hearing body in public hearings.

For more information on the appeal process, see "Title 16 Subdivisions", "Title 17 Zoning Ordinance", and the DSD website <http://www.edcgov.us/Planning/ordinances.htm>.

The following table summarizes the discretionary permit application processes. (Note: Building Permits for single family dwellings do not fall under "discretionary

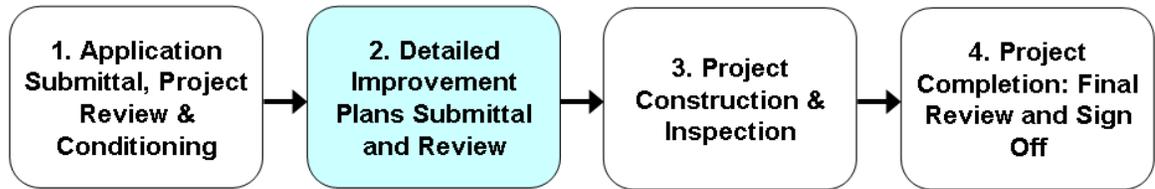
permits”). Most of the steps are applicable to each type of application; however, both the CEQA process and the public hearing process may vary depending upon project type. Consult with DSD to determine which process would be applicable. Applications are available from DSD or on their website <http://www.edcgov.us/Planning/applications.html>.

PROCESS	Land Use Type	Pre-Application Meeting (Optional)	Planning Staff Review, TAC mtg	Review/Permits Required By Other Depts.	Environmental Review (CEQA)	Notice of Public Hearing	Design Review Committee Public Hearing	Zoning Administration or Public Hearing	Planning Commission Public Hearing	Board of Supervisors Public Hearing
Tentative Map, Subdivision	Residential > 4 lots *	X	X	X	X	X			X	Appealable
Tentative Map, Parcel	Residential < 5 lots, All Commercial & Industrial *	X	X	X	X	X		X With no rezone	X With rezone	Appealable
Design Review	**	X	X	X	X	X	X		X	Appealable
Planned Development (PD)	All	X	X	X	X	X			X	Appealable
Special Use Permit	All	X	X	May be required	X	X		X	X	Appealable
Variance	All	X	X	May be required	X	X		X		Appealable
Site Plan Review***	All	X	X	X	X	X			X	Appealable
Zone Change, GP Amendment	All	X	X	May be required	X	X			X	X

\* Some exceptions apply; see “Title 16 Subdivisions” for more information.

\*\* Design Reviews are required in Cameron Park, Pollock Pines, El Dorado Hills for all commercial, industrial, multi-family projects, and for any projects located adjacent to State Highways and/or zoned with a “Design Control” overlay such as “- DC”, “- DS”, “-DH”.

\*\*\* Site Plan Reviews have multiple purposes and are typically part of ministerial permits but sometimes they require discretionary-like reviews. For example, under the “General Plan Policies Interim Interpretive Guidelines” (<http://www.edcgov.us/Planning/GeneralPlanImplementation.html>), where agricultural or riparian setback relief is requested, or where exemptions to the 30% slope restrictions or tree canopy policies are needed, a Site Plan Review may be required.



### 1.5.2 Step 2. Detailed Improvement Plans Submittal and Review

After a project has been approved in Step 1, the second step of the land development process requires an applicant to take the conceptual drawings and plans and develop them into detailed implementation plans and drawings (often referred to as “improvement plans”) that can be constructed. The applicant may also be required to do additional technical studies (e.g., drainage study) and to provide certain documents (e.g., Title Report) that will demonstrate that the development proposed is physically feasible and that the applicant has legal rights to the property.

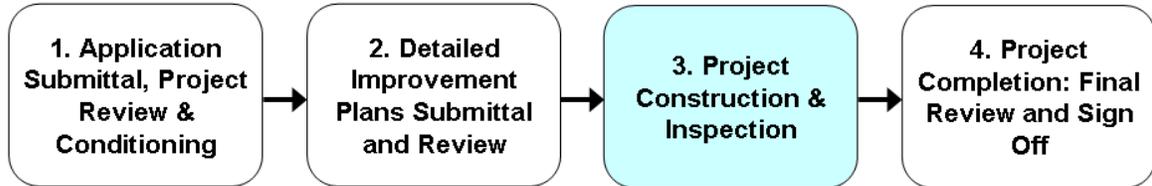
Some of the improvement plans and documents required in this step can include, but are not limited to, the following:

- Approved Tentative and proposed Final Maps,
- Engineer’s estimate,
- Title Report,
- Grading plans,
- Erosion control plans,
- Drainage study and storm drain plan,
- Geotechnical report,
- Road plans and profiles, including signing/stripping and traffic control plans,
- Street lighting and traffic signal plans,
- Utility plans,
- Right-of-way plans.

Plan checking fees, which are different than project application fees, must also be paid at this time.

The plan check process results in either:

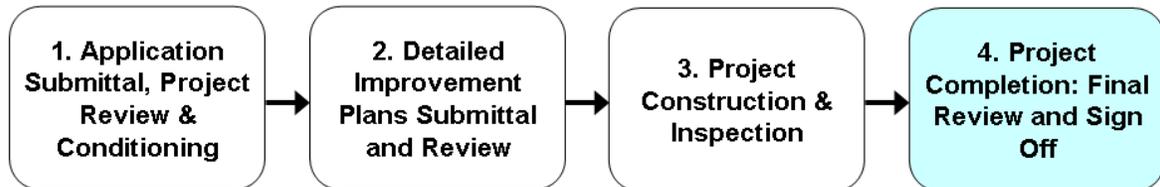
- A. Modifications being needed to one or more components of the detailed plans or studies, or
- B. In permits being approved. If permits are approved, and if the project includes improvements that affect the County’s infrastructure (e.g., roads), the applicant will need to enter into an improvement agreement with the County. (See County Code 16.16.050.)



### 1.5.3 Step 3. Project Construction and Inspection

Once construction permits have been issued, the applicant shall pay inspection fees and have any required insurance and security in place before construction can commence. Most permits have time limits and, in certain circumstances, these time limits can be extended.

A pre-job meeting is scheduled before work begins with County inspectors and various agencies (e.g., applicable water and fire districts, California State Water Quality Control Board, California State Department of Fish & Game, etc.) to go over job site requirements related to safety, protective fencing, erosion control, dust mitigation, etc. After completion of various phases of construction, the work is inspected by County staff, as well as by other applicable agencies, to ensure it is in substantial conformance with the detailed improvement plans. Work may need to be redone in order to pass inspection.



### 1.5.4 Step 4. Project Completion: Final Review and Sign Off

When a project is nearing completion, County staff will prepare a short list (typically referred to as a “punch list”) of the items that remain to be completed before a project can be finalized. After all items on the punch list have been completed, and the final inspection is signed off by County staff, a project that includes a Road Improvement Agreement or a Subdivision Improvement Agreement must go back to the Board for formal approval and acceptance of the improvements. In addition, a project that required a RIA and/or a SIA must have a one year warranty.

## 1.6 DESIGN WAIVERS

### 1.6.1 Requirements

All discretionary land development projects are required by County Ordinance to conform to the standards of design and improvements as specified in the County Design Manuals. Any deviation to these standards shall first be submitted to DSD to determine if an exception or exemption can be applied. If neither an exception nor an exemption can be applied, the applicant may apply for a design waiver as part of the discretionary project application.

### 1.6.2 Findings

A design waiver addressing the four findings, as described in “Title 16 Subdivisions”, Chapters “16.08” or “16.40” must be met for a waiver to be approved. The four findings include

- a. There are special conditions or circumstances peculiar to the property proposed to be subdivided which would justify the waiver,
- b. Strict application of the design or improvements requirements of this Chapter would cause extraordinary and unnecessary hardship in developing the property,
- c. The waiver would not be injurious to adjacent properties or detrimental to the health, safety, convenience and welfare of the public,
- d. The waiver would not have the effect of nullifying the objectives of this article or any other law or ordinance applicable to the subdivision.”

### 1.6.3 Guidelines for Making Design Waiver Findings

Design waivers are to be granted only when special circumstances exist such as size, shape, or topography, which preclude compliance with the County’s design standards.

The hearing body cannot approve a waiver unless it can make written findings, supported by substantial evidence that the waiver meets the required findings of Title 16. Defensible findings are based on the pertinent evidence that was available to the decision makers. Findings should be more than a mere recitation of the standards; they must provide the factual basis that leads to the conclusion drawn by the approving body. The following guidelines are provided to clarify appropriate findings for a design waiver:

- A. Guidelines for Finding 1: Design waivers must be limited solely to the physical circumstances of the property, not to the worthiness of the project, financial hardship, or community benefit. The test of bringing property to parity is based on equality of the property rather than equality of the owners.
- B. Guidelines for Finding 2: Increased cost is not considered a “hardship”. However, cost can be a consideration in evaluating a development’s “fair

share” of required improvements in the context of nexus and rough proportionality concepts.

- C. Guidelines for Finding 3: In general, there must be a beneficial component to a waiver request to meet this finding. Conditions can be added to a design waiver approval to compensate, or balance for, a design waiver that affects the health, safety, convenience and welfare of the public.
- D. Guidelines for Finding 4: If another rule already exists (e.g., Fire Code regulation, *General Plan* Policy, County Ordinance, CSD rule, etc.), a design waiver cannot be applied. In that case, the applicant would need to appeal to the appropriate hearing body (or bodies) for a change in the rule.

Examples of items that would **NOT** automatically be grounds for a waiver include:

- The cost of improvements required;
- Where a permit is required from another agency;
- Relocation of utilities, including telephone poles.

#### **1.6.4 Process**

An applicant requesting a waiver shall:

- A. Submit documentation (e.g., environmental reports, traffic studies, reports by professional experts, etc.) supporting a request for a design waiver(s) addressing the four findings required by “Title 16 Subdivisions”, Chapters “16.08” or “16.40”; and
- B. Demonstrate that all four findings are met.

Waivers are requested by an applicant as part of the initial project application process, and must be approved by the appropriate decision making body along with the project. Design waivers requested after approval of a project by the decision making body, must be approved by the same decision making body. For example, if, during the review of improvement plans, a change is requested, and it could affect the basis on which the project was initially approved, the project will have to be reviewed by DSD to determine if the change would constitute a design waiver. The review, design waiver process (if applicable), and subsequent changes are at the applicant’s expense.

#### **1.6.5 Non Applicability of Design Waivers**

Design Waivers are only applicable to standards in the County’s Design Manuals. The following items are not eligible for design waivers:

- A. Zoning requirements (A Variance or Planned Development is required.);
- B. *General Plan* Policies (A *General Plan* Amendment is required.).

### **1.6.6 Affordable Housing and Design Waivers**

Pursuant to the “Affordable Housing Density Bonus Ordinance Title 17, Chapter 17.81”, eligible affordable housing development may qualify for incentives, waivers, or concessions of development standards of the County Design Manual.

Design waiver requests based on the “Affordable Housing Density Bonus Ordinance” shall be processed the same as other design waivers, except that Findings a. and b. shall be replaced with the following findings:

- a. Compliance with the provisions of the “Affordable Housing Density Bonus Ordinance”;
- b. Special Findings of “Title 17 Zoning Ordinance”, Section “17.81.050.B.4”.

## **1.7 QUALIFICATIONS OF PLAN PREPARERS**

In accordance with State Law (“Professional Engineers/Architects Act, Business and Professions Code §§ 6700 – 6799” of the “Government Code”), the preparers of various types of plans and maps are required to meet certain licensing qualifications as outlined below.

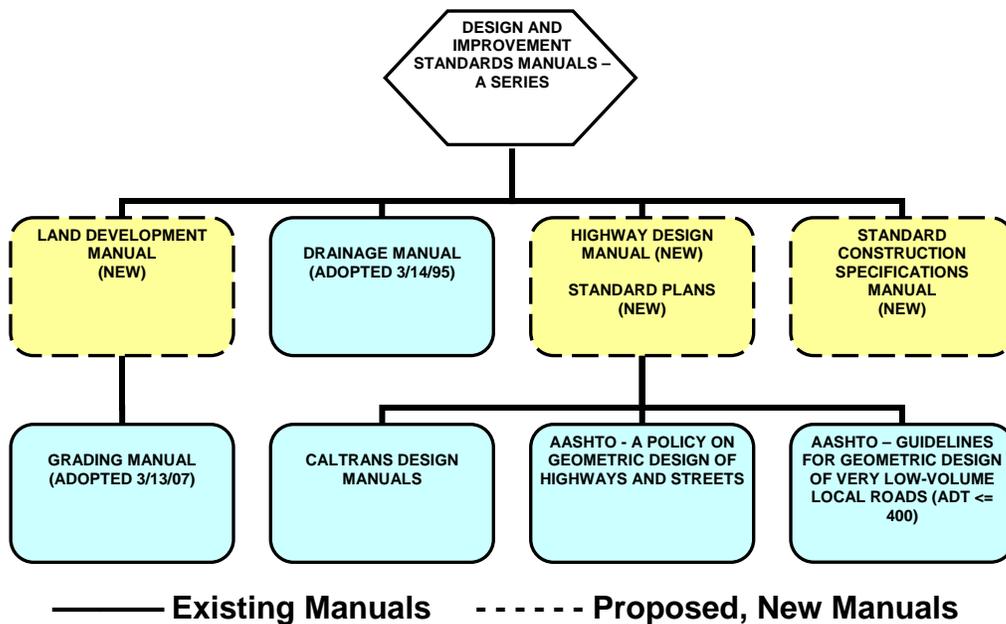
- A. Topographic surveys: Surveys of existing grades for the purpose of providing contours, or for preparing a site grading and drainage plan, shall be performed by either a Land Surveyor or any Civil Engineer. (“Land Surveyor”, “Civil Engineer”, and “Architect” are defined in Chapter 7 of this manual.)
- B. Grading and Drainage Plan: Preparation of a site grading and drainage plan must be prepared by a Civil Engineer or Architect, except as otherwise allowed and noted in Chapter 5 of this manual.
- C. Driveway profile: The preparation of a profile for a driveway shall be prepared by a Land Surveyor, Architect, or any Civil Engineer.
- D. Site/Plot plan: Plot plans indicating the location of all structures relative to property lines must be prepared by a Land Surveyor or a Civil Engineer licensed before January 1, 1982 if the work includes the determination of property boundaries. A Civil Engineer licensed after January 1, 1982, an Architect, or a Landscape Architect, may prepare a site plan as described above provided that the property boundaries have been delineated on the site by a Land Surveyor (or a Civil Engineer licensed prior to January 1, 1982) in accordance with “Section 8726” of the “Business and Professions Code”. For the permit processing of minor projects that do not involve new buildings, the Director of the applicable department may accept alternative information that meets the intent of these requirements.

- E. Plan of existing conditions: Plot plans showing existing conditions, indicating “existing” drainage and access improvements, are considered topographic surveys and therefore, must be prepared by a Land Surveyor or Civil Engineer.

## 1.8 ADMINISTRATION

The precursor to this manual is the “Design and Improvement Standards Manual” (DISM) originally published and adopted by the Board on May 27, 1986 by Resolution No. 136-86. (Amended: May 18, 1990 (Resolution No. 128-90), June 18, 1991 (Resolution No. 199-91), October 20, 1992 (Resolution No. 322-92), March 8, 1994 (Resolution No. 058-94), March 13, 2007 (Resolution 047-2007), and February 12, 2008 (Resolution 31-2008)). The “Grading, Erosion, and Sediment Control” volume was updated on March 13, 2007 (Resolution No. 047-2007)). A new supporting manual covering the topic of drainage (i.e., “The County of El Dorado Drainage Manual”), was added to the DISM “library” upon Board adoption on March 14, 1995 (Resolution No. 67-95). The original DISM included primarily design standards related to residential subdivisions.

It is envisioned that this manual is part of what will be a series of design manuals, some of which are still being written. The following illustration depicts how this document fits into the series.



The County Departments enforcing the Land Development Manual standards (e.g., DSD, DOT, EMD, County Surveyor) will apply the standards of the Land Development Manual (LDM) to applicable new development. Processes described in the LDM may change from time to time and each Department retains the authority to modify any process described in the LDM, as permitted by law.

Amendments to the LDM text and diagrams will be made from time to time and are generally subject to the Board's approval. Minor errors, edits, and inconsistencies may be resolved by the County Departments as long as the intent and practical application of the standards is maintained.

## 2.1 PURPOSE

## 2.2 AUTHORITY

## 2.3 SUBDIVISION PROCESS

- 2.3.1 Tentative Map Required
- 2.3.2 Exemptions
- 2.3.3 Applications for Tentative Map
- 2.3.4 Applications for Subdivision-related Actions
- 2.3.5 Process Summary

## 2.4 SUBMITTAL REQUIREMENTS FOR TENTATIVE MAPS

## 2.5 DEVELOPMENT AND SUBDIVISION STANDARDS

- 2.5.1 Background
- 2.5.2 General Information & Criteria
- 2.5.3 Streets, Street Lighting, Sidewalks, Bike Lanes
- 2.5.4 Drainage Criteria
- 2.5.5 Water Supply and Distribution System
- 2.5.6 Fire Protection and Other Emergency Services
- 2.5.7 Water Supply for Lots Not Supplied with Water by a Public Agency
- 2.5.8 Sewage Collection and Disposal Systems
- 2.5.9 Underground Power and Communication Utility Systems
- 2.5.10 Encroachments on County-Maintained Roads
- 2.5.11 Landscaping
- 2.5.12 Wetlands, Archeological & Cultural Resources & Native Tree Preservation
- 2.5.13 Protection of Agricultural Lands
- 2.5.14 Airport Land Use Plans

## 2.1 PURPOSE

This Chapter provides an introduction to the subdivision process, submittal requirements, and design standards for all proposed subdivisions, including Parcel Maps, Planned Developments, Conditional Use Permits, Design Reviews, and other discretionary development permits. The County may adopt plans that include unique design standards for an identified planning area that would supersede some or all of the standards in the LDM. These plans may include Specific Plans, Community Plans, Form Based Codes, or other similar programs. Where such plans do not specifically identify different standards than that contained in the LDM then the LDM standards would apply.

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¶ Unless otherwise noted, the design standards described in this Chapter apply to development projects of all land types/uses (e.g., residential, commercial, industrial, etc.).

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For applications and process information for specific projects and permits, contact DSD's Planning Services (530) 621-5355, or Building Services (530) 621-5775. See also the DSD website: <http://www.edcgov.us/DevServices/index.html>.

## 2.2 AUTHORITY

The design, improvement, mapping, and sale of subdivisions are governed by, but not limited to:

- A. "Real Estate Act" ("Section 11000" et seq. of the State's "Business and Professions Code");
- B. "Subdivision Map Act" ("Section 66410" et seq. of the State's "Government Code");
- C. "2004 El Dorado County General Plan";
- D. County Ordinance Code "Title 16 Subdivisions";
- E. This "Land Development Manual";
- F. Resolutions and Policies of the County.
- G. Public Resources Code Section 4290 and 4291 (Fire Safe Regulations)

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## 2.3 SUBDIVISION PROCESS

### 2.3.1 Tentative Map Required

All subdivisions creating two or more lots, requires approval by the County pursuant to Title 16 "Subdivisions". The procedure for subdivisions can be described as, a four step process:

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- A. The applicant submits and receives approval of a Tentative Map.
- B. The applicant ensures that all of the subdivision improvements are completed (or a Subdivision Improvement Agreement is executed, together with adequate security guaranteeing completion of the improvements and payment of all contractors and subcontractors' labor, materials, and equipment approved by the County), and that all conditions of approval are satisfied. (See County Ordinance Code section 16.16.050.)

- C. The applicant files the Parcel Map (for four or fewer residential lots) with the County Surveyor. The Final Map (for five or more residential lots) is submitted to DSD Planning Services and subject to the Board of Supervisors' (Board) approval.
- D. The Parcel Map or Final Map is filed with the County Recorder to create the new lots.

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### 2.3.2 Exemptions

There are occasions when Tentative Map approval is not required; reference the County's Title 16 "Subdivisions" Ordinance:

- A. "Parcel Map Waivers" pursuant to "Section 16.48.010" and "16.52.020";
- B. "Lot Line Adjustments" pursuant to "Chapter 16.53 Lot Line Adjustments".
- C. Other exceptions listed in Section 16.04.040 of the County Code and 66412 et. seq. of the Subdivision Map Act.

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### 2.3.3 Applications for Tentative Map

DSD has two separate application forms:

- A. Tentative Subdivision Map (for five or more residential lots), and
- B. Tentative Parcel Map (for four or fewer residential lots or any number of lots under special circumstances pursuant to "Section 66426" of the "Subdivision Map Act", such as for commercial developments).

### 2.3.4 Applications for Subdivision-related Actions

DSD has additional applications related to subdivisions:

- A. Map Amendment for Subdivisions & Parcel Maps – for making changes to recorded maps;
- B. Preliminary Subdivision Maps – recommended to provide a comprehensive assessment of a subdivision proposal's feasibility;
- C. Time Extensions – allows the County to extend the normal three year approval of a subdivision up to six additional years;
- D. Pre-Application – allows early review of proposed development projects and identification of potential issues associated with:
  1. *General Plan* consistency,
  2. County Ordinance consistency,
  3. Project alternatives,
  4. Application submittal requirements.

The applications contain specific submittal requirements for each application type as well as a summary of the application processing steps and timing. The applications are amended occasionally; prior to submittal, applicants should review the latest version on the DSD website.

### 2.3.5 Process Summary

### 2.3.5.1 Preliminary Map or Pre-Application Submittal

The Tentative Map process may begin with a Preliminary Map or Pre-Application submittal. This process is useful in order to design the subdivision in compliance with:

- A. The *General Plan*,
- B. Any applicable Specific Plan,
- C. Zoning,
- D. Other agency requirements, and
- E. All applicable County Design Manuals, including this one.

The Pre-Application may also identify any “fatal flaws” for a proposed subdivision, and allows the developer to evaluate project alternatives early in the process.

Some subdivision proposals should start with a Preliminary Map application for a more comprehensive evaluation rather than the Pre-Application process. For example, larger subdivisions of 50 lots or more may require Planned Development application, park land dedication, or need special consideration due to project size or location.

Applicants with discretionary projects are encouraged to submit a Pre-Application or Preliminary Map to resolve any development related issues, streamline the permit process, and reduce application processing costs.

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### 2.3.5.2 Application Submittal

An applicant is required to prepare and assemble the application submittal package based on the submittal checklist in each application. Once the submittal package is assembled, the applicant makes an appointment with DSD Planning Services to submit the application. At the submittal appointment:

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- A. The applicant and a staff planner will compare the submittal checklist with the submittal materials. The application will not be accepted unless all application checklist requirements are submitted, unless determined to be “not applicable” by staff.
- B. The applicant is required to pay the application fees based on the fee schedule adopted by the Board. An application fee “Quote” may be requested prior to the submittal appointment in order to prepare pre-cut checks.

### 2.3.5.3 Completion/TAC Meeting

The application will be assigned to a staff planner.

- A. The planner will review the application thoroughly for completeness within 30 days of submittal.
- B. The application will be distributed to affected agencies for comments, recommendations, and conditions.
- C. A Technical Advisory Committee (TAC) meeting will be scheduled. (The TAC is an informal meeting to discuss agency and Department comments and project issues with the applicant and his/her representatives.)

### 2.3.5.4 Staff Report/CEQA Documentation

After completion of the TAC meeting and resolution of any issues related to the project, the planner will prepare a staff report and the appropriate CEQA documentation. A public hearing will be scheduled. The applicant and property owner (if different than the applicant) will receive a copy of staff’s recommendation and conditions prior to the public hearing.

**2.3.5.5 Public Hearing**

A public hearing is held and staff will present the project recommendations to the decision making body.

- A. The applicant or agent should attend in order to respond to any questions or clarify any of the staff recommendations.
- B. The public is allowed to ask questions and comment on the proposal.
- C. The decision making body will consider all information received and make a decision on the project and any project conditions.
- D. Decisions by the Zoning Administrator and Planning Commission (Commission) may be appealed to the Board of Supervisors.

**2.3.5.6 Tentative Map Approval**

Once a Tentative Map is approved, the applicant or property owner has three years to file a Final Map or Parcel Map. Time extensions may be requested to allow additional time. (See the Time Extension Application and “Chapter 16.74” of “Title 16 Subdivisions”.)

- A. The developer shall submit plans for review and approval that are consistent with the Tentative Map and conditions. Once approved, subdivision construction can commence.
- B. Improvement plans shall comply with all conditions of the Tentative Map and adopted standards unless a design waiver has been approved with a Tentative Map. If the improvement plans identify that standards cannot be met, the applicant shall return to DSD to request a design waiver, revised map, or design exception (subject to review and approval by DOT).

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**2.3.5.7 Final Map and Parcel Map**

- A. Final (Subdivision) Map process:
  - 1. An applicant submits a formal application to DSD Planning Services for a Final Map. The applicant will be required to submit documentation demonstrating that all the conditions have been satisfied.
  - 2. The process concludes with a public hearing before the Board to verify that all conditions required for the Tentative (Subdivision) Map have been completed.
- B. Parcel Map process:
  - 1. An applicant submits a formal application for a Parcel Map to the County Surveyor’s Office.
  - 2. The County Surveyor will verify that all conditions required for the Tentative (Parcel) Map have been completed.

The Parcel Map and Final Map constitute the official maps that detail the location and dimension of all lot boundaries of an approved subdivision. The final step in the Final

Map and Parcel Map processes is the filing of these maps with the County Recorder's Office.

See Chapter 6 of this manual for more information on the Surveyor's Office's map requirements.

## 2.4 SUBMITTAL REQUIREMENTS FOR TENTATIVE MAPS

Submittal requirements for Tentative Maps are found on the DSD application form. Application submittal requirements change from time to time and it is recommended the applicant consult the DSD website before applying. Preliminary Maps and Pre-Application submittals may be used to clarify submittal requirements.

## 2.5 DEVELOPMENT AND SUBDIVISION STANDARDS

### 2.5.1 Background

In 2004, the County's Board adopted a new 20 year *General Plan*. That plan included numerous general guidelines, as well as very specific standards, directed at new development. These guidelines and standards have been incorporated into this manual, where appropriate.

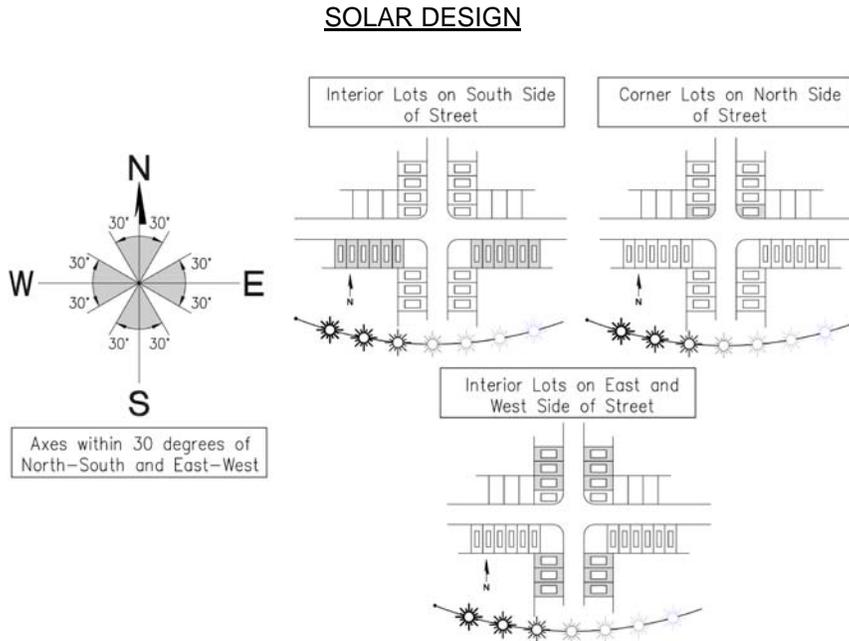
### 2.5.2 General Information and Criteria

- A. Lot: A lot is the basic development unit - an area with fixed boundaries, used or intended to be used for open space, recreation, public facilities, one or more buildings and accessory building(s), and not divided by any public highway or alley. See "Title 17 Zoning Ordinance" for detailed information on specific lot zoning and development standards, including setbacks and frontage requirements. The following list describes the variety of lot types:
1. Corner Lot: A lot located at the intersection of two or more streets having an angle of intersection of not more than 135 degrees. A corner lot shall be wide enough to accommodate all front yard setback requirements. See "Title 17 Zoning Ordinance".
  2. Deep Lot: A lot whose depth is excessive in relation to its frontage (sometimes called a "string bean" lot).
  3. Interior Lot: A lot bounded by a street on only one side.
  4. Reversed Corner Lot: A corner lot, the rear of which abuts the side of another lot.
  5. Flag Shaped Lot: A lot which has a narrow strip of land abutting the street (the "flagpole"), providing access and expanding into a larger area (the "flag"), or a narrow strip of land providing access to a natural feature (e.g., a lake, river, etc.). A lot shall not be considered a flag lot if the frontage meets the minimum lot width as established in "Title 17 Zoning Ordinance".
- B. Lot Design:
1. Solar Access Standards (references: "Subdivision Map Act Section 66473.1", *General Plan* "Policy 5.6.2.2" and "Implementation Measure HO-HH"): One (or more) of the following standards shall be included in the portions of detached, single family residential subdivisions that create lots that are

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20,000 square feet or less in order to benefit from natural solar heating and cooling, when feasible:

- a. Design lots such that, on streets that are within 30 degrees of a true east-west axis, the narrowest lots are interior lots on the south side of the street, or corner lots on the north side of the street. On streets that are within 30 degrees of a true north-south axis, the widest lots should be interior lots on the east or west side of the street. See “Solar Design” figure which follows.



- b. Establish or dedicate easements for the purpose of assuring that each lot shall have the right to receive sunlight across adjacent lots for any solar energy system as defined in “Section 801.5” of the “California Civil Code”.
- c. Design streets, lots and building setbacks so that all habitable buildings in the subdivision are oriented with their long axis running from east to west with a possible variation of thirty degrees to the southwest and thirty degrees to the southeast.
- d. Establish CC&R provisions that ensure structures (buildings, walls, fences, satellite dishes, etc.) are not constructed, or new vegetation placed or allowed to grow, so as to obstruct solar access on an adjoining lot.
- e. Establish CC&Rs that do not prohibit or unnecessarily restrict solar energy facilities that primarily serve on-site use.

f. Other options may be considered as proposed by the developer to ensure adequate solar access, subject to County approval.

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2. Area requirement for lots: Lots having an average natural slope of 10 percent or greater shall have the minimum area and frontage indicated in "Hillside Design", in section 2.5.2 G. of this Chapter, or shall comply with zoning requirements for area and frontage, whichever is more restrictive.

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3. Frontage (lot widths) shall be determined at the right-of-way line. All lots shall have frontage on a County-maintained street or a street meeting County standards. The minimum lot width shall be as is required within the appropriate zoning category for the project. The frontage of a lot in the turnaround area of a cul-de-sac or along a radius curve may be measured along the curve, at the required building setback. Lot width shall not include road easements, existing or proposed.

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**Exception (See 2.5.3.1):** For subdivisions of four or fewer lots, proposed lots may have no frontage on roads that meet County design standards, as long as all of the lot(s) being created have driveways installed with the subdivision that:

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- a. Meet the requirements of Sections "1271.00" and "1273.10" of the "California Code of Regulations, Title 14";
- b. Are at least 12 feet wide and not longer than 1,000 feet (as measured from the center-line of the road to the property line);
- c. Include a public utilities easement.

This exception only applies to lots that cannot be further subdivided under the zoning in place at the time the subdivision of four or fewer lots is approved.

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4. Driveway Design Standards: All proposed lots shall be designed to meet the driveway design standards. See Chapter 4 of this manual and the County's "Standard Plans" for driveway standards.

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- a. Construction of driveways is required where the street excavation or embankment exceeds a depth or height of six feet from the native soil at the property line.
- b. As an alternative, the applicant may be required to demonstrate that the driveway requirements can be met concurrently with the approval of improvement plans for the subdivision construction, prior to recordation of the final map.

5. Flag shaped lots are discouraged except as provided by the provisions of "Hillside Design Standards" described later in this Chapter.

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6. Double Frontage Lots: Where a residential lot is adjacent to a County-maintained road that is not used for direct access to the lot, the lot shall be designed with one (or more) of the following design standards to minimize impacts on the use of the property:

- a. Deeper lots to allow for deeper building setback requirements;
- b. Sound walls, landscaping, or other methods along the roadway to provide a noise and aesthetic buffer;
- c. Easements to set aside land for buffers;
- d. Creation of public entities, (such as CSDs, Lighting & Landscaping Districts, or Zone of Benefits), to maintain easements, landscaping, etc. established to separate the street from the residential lot.

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Exception: For County maintained roads with a low volume of traffic (as determined by DOT) these provisions may be waived.

7. Vehicular Access: For subdivisions of five or more lots, no lots shall be designed with direct vehicular access onto roads that are (or planned to be within the next 20 year timeframe) greater than 2,500 ADT except where:

- a. the subdivision's lots are of such size that turn-around areas can be included, so that vehicles can turn around to exit the lot facing forward, rather than in reverse,
- b. where unique existing physical constraints or lot design warrants an exception and conditions of approval are included to minimize issues such as safety, noise, air quality, traffic, emergency access, etc.

8. Lot Length to Width Ratio: Lots shall not exceed the following length to width ratios: Exceptions can be approved through a Planned Development.

- a. 3 to 1 for lots less than 10 acres in size,
- b. 4 to 1 for lots equal to or greater than 10 acres, but less than or equal to 40 acres in size,
- c. 5 to 1 for lots greater than 40 acres in size.

9. Special Districts: No lot shall be divided by special assessment district, fire district, school district, city, or county boundary lines.

11. Lot lines: Lot lines should be drawn so the lines are easy to identify. (Lot lines that are irregularly shaped are discouraged due to difficulty in determining setbacks and for purposes of drainage, erosion control, fencing, and landscaping.)

12. Lot Design Standards for reduction of Snow Hazards: The following snow storage standards shall apply in projects located at or above 3,000 feet elevation (above mean sea level):

- a. Provide snow storage areas of a size adequate to store snow removed from parking, driveway, and pedestrian access areas, or have arrangements by means of recorded easements or equivalent arrangements to remove and store accumulated snow offsite.
- b. Snow storage areas shall be designed such that they do not block any lines of sight.
- c. Snow storage is not permitted in parking lots, sidewalks, driveways, emergency access areas, and other shared use areas, unless designated as snow storage areas.
- d. Storage shall be a minimum of 25 feet away from wetlands, streams, creeks, rivers, lakes, ponds and any other water bodies. Adequate stormwater/sediment catchment basins, coarse gravel berms, or sediment traps/barriers/filters to reduce impacts from potential run off shall be shown on the Tentative Map.
- e. Snow storage shall not be located in predominantly shady areas.
- f. Areas designated for snow storage shall use suitable plant materials including vigorous ground covers, perennials, willows, and planters with low edges to facilitate plow access. Snow storage areas may be



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combined with landscaping if the landscaping is designed to be compatible with large amounts of snow.

- g. Snow storage areas shall be inspected after snow melt periods and cleaned of trash or sand as necessary.
- C. Grading and Erosion Control Requirements: All grading, including mass pad grading for subdivisions and contour grading, shall adhere to:
1. The requirements of "Chapter 15.14 El Dorado County Grading, Sediment, and Erosion Control Ordinance",
  2. Chapter 5 of this manual,
  3. The current version of the erosion control requirements and specifications created by a multi-agency team including the local RCDs, EMD, DSD, and DOT (<http://www.eldoradorcd.org/nodes/techassist/erosion.htm>).

A grading permit may be required. If a grading permit is not required, all other requirements as established by the County's Design Manuals shall be adhered to.

Note: If more than 1 acre of land will be disturbed, a "Notice of Intent" must be filed with California's Regional Water Quality Control Board ([http://www.waterboards.ca.gov/centralvalley/business\\_help/permit.html](http://www.waterboards.ca.gov/centralvalley/business_help/permit.html)).

For further information on erosion control, see also the resources available from the local Resource Conservation Districts ([www.Eldoradorcd.org](http://www.Eldoradorcd.org) or [www.Georgetowndividrcd.org](http://www.Georgetowndividrcd.org)).

- D. Lands Subject to Flood Hazards: All subdivisions are subject to the County Flood Damage Prevention Ordinance (Chapter 17.25 of the El Dorado County Code).
- E. Curbs, Gutters and Sidewalks: Curbs, gutters, and sidewalks are required as shown on the applicable Standard Plans and Section 2.5.3.3 "Sidewalks, Pedestrian Paths, and Bike Lanes."
- F. Model Homes in Subdivisions: Pursuant to the California "Subdivision Map Act", model homes may be built before subdivision improvements are completed. A maximum of eight model homes per 50 subdivision lots is allowed, subject to the following improvements being completed prior to any model homes being built:
  1. A Temporary Use Permit from DSD Planning Services is required;
  2. All utilities must be installed to the model homes unless otherwise permitted under a Temporary Use Permit;
  3. All required fire hydrants must be installed and in working order subject to the local Fire Protection District's approval;
  4. All but the last layer of asphalt serving the model homes must be built and approved by DOT;
  5. Adequate off-street parking shall be provided for the model homes; and
  6. Model homes may include office space for sales employees, subject to approval under the Temporary Use Permit and subsequent Building Permit. The office space shall be converted to living space or garage space prior to sale of the model home for single family dwelling purposes;
- G. Hillside Design

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1. The following *General Plan* Policies address development on hillsides, ridgelines and 30 percent slopes:
  - a. "Objective 2.3.2",
  - b. "Policy 2.3.2.1",
  - c. "Objective 7.1.2",
  - d. "Policy 7.1.2.1",
  - e. "Policy 7.1.2.2".

2. Hillside Design Standards

The hillside design standards described below are to be used under any circumstance where the natural site cross-slope is 10 percent or greater (i.e., these standards do not apply to mass pad graded lots). (Note: The County will consider alternative designs that include an erosion and sediment control plan developed and certified by a Civil Engineer, and approved by the County Engineer.) Cross-slope shall be calculated by either dividing the vertical distance by the horizontal distance on a section drawn perpendicular to the contours for the full dimension of the proposed lot at 50 foot intervals with a minimum of two such sections per lot; or by making the same calculation between the highest and lowest point within the lot, whichever results in the highest average cross-slope. The cross-slope is then the average of the sections taken for each lot. Cross-slopes ending in one-half percent or more shall be rounded to the next highest whole number. Each lot or remainder created shall individually meet the minimum lot size standard based upon that lot's particular slope.

a. Lot Frontage

All residential lots shall have a minimum frontage depending on the average slope (natural) of the lot as noted below, or comply with zoning requirements, whichever is more restrictive:

SLOPE	MINIMUM LOT FRONTAGE
10-15%	75 feet
16-20%	90 feet
21-25%	105 feet
26-30%	120 feet
31-35%*	135 feet
36-40% *	150 feet

\* Lots with slopes over 30 percent are permitted. However, building sites may be limited to areas less than 30 percent slope.

b. Flag Shaped Lots in Hillside Development

Flag shaped lots shall be permitted when evidence has been provided which clearly indicates that such lots will result in substantially less grading or less impact on the environment. All flag shaped lots shall conform to the following standards:

i.

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ii. The lot's "flagpole" shall have a minimum width at any point of 25 feet.

iii. All cut or fill slope areas created by the driveway shall be contained within the flagpole or slope easements.

iv. Two adjacent flag shaped lots may use a common driveway provided the "flagpoles" are adjacent and meet the following:

- o The lots' flagpoles shall have minimum widths at any point of 12 and ½ feet.
- o An access and utility easement shall be provided to the use and benefit of both lots served.

Lots that qualify for the exception regarding requirements for street frontage pursuant to Section 2.5.2(B)4 are not considered Flag Shaped Lots.

c. Residential Lot Size Standards

The minimum required lot area shall be computed in accordance with the applicable provisions of the "Minimum Lot Size By Slope" graph (Exhibit A). Lot slope shall be calculated as the average cross-slope of the lot as noted above in this section.

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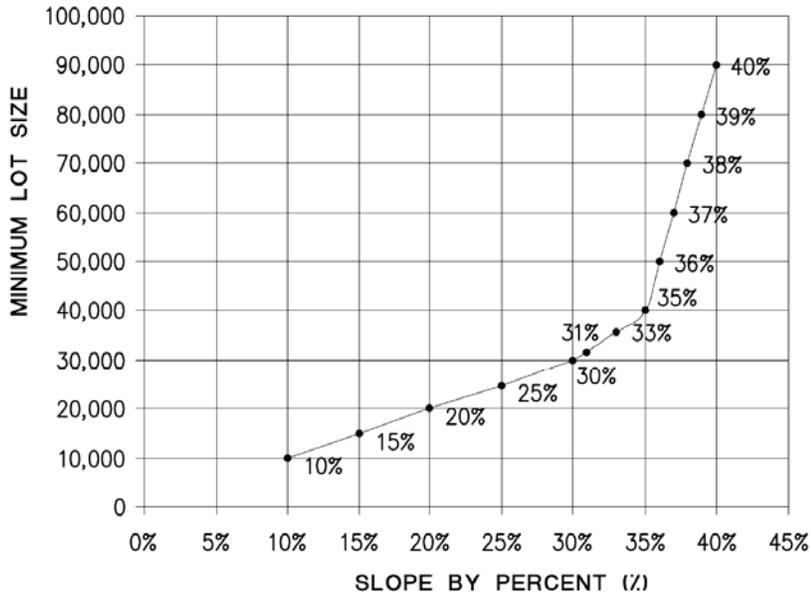
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**EXHIBIT A**

**MINIMUM LOT SIZE BY SLOPE**



• if slopes are less than 10% only zone district standards shall apply.

• Any portion of a lot with slopes exceeding 40% shall not be considered as part of the required minimum lot area.

SLOPE BY PERCENT (%)	10	15	20	25	30	31	33	35	36	37	38	39	40
MINIMUM LOT SIZE (SQ FT)	10,000	15,000	20,000	25,000	30,000	32,000	36,000	40,000	50,000	60,000	70,000	80,000	90,000

### 2.5.3 Streets, Street Lighting, Sidewalks, Bike Lanes

The *General Plan* provides general and specific transportation and circulation guidance that must be reflected in the design of new developments. (See Policies “TC-1a”, “TC-1b” and “Table TC-1”.) This manual, along with the other County Design Manuals, provides further definition and clarification to support the *General Plan’s* guidance.

New streets and Improvements to existing streets shall comply with the applicable Standard Plans. Exceptions from the Standard Plans require County Engineer approval prior to final approval of a Tentative Map by the decision making body.

#### 2.5.3.1 Streets

A. Street designs must conform to all County Ordinances and *General Plan* Policies, California’s Fire Safe Regulations and ***Fire Code***, as well as standards set forth in all County Design Manual(s), including this manual, and the Standard Plans, unless other standards have been adopted by the County (such as in a Specific Plan or Form Based Code). The following are applicable *General Plan* Policies:

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1. “Policy TC-1p”,
2. “Policy TC-1w”,
3. “Policy TC-Xa”,
4. “Policy TC-Xf”,
5. “Policy 2.2.5.16”,
6. “Policy 6.2.3.2”.

B. Street Standards for Subdivisions

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1. Proof of legal access (e.g., copies of deeded easements and a letter from a Title Company that states that all deeds are still valid) is required for all streets abutting the proposed development, whether the streets are County-maintained or non County-maintained.
2. Access to streets that meet the County’s design and level of service standards shall also be provided. Standard access requirements may be modified pursuant to the Frontage Exception (section 2.5.2.B.5.) or for Flag Shaped Lots (section 2.5.2.G.2.b). This may require the improvement of non County-maintained and/or County-maintained roads that provide access to the development. Access improvement requirements may be both “on-site” (i.e., physically on the proposed development site), and “off-site” (physically on surrounding lots not part of the proposed development).
3. Streets and lots may be required to be laid out so as to permit future re-subdivision if they are in a subdivision where a lot is twice the size or greater than the minimum size required in the zoning district.
4. When a subdivision abuts or contains an existing or proposed new street, limited access highway, or railroad, the following may be required to protect residential properties and separate through and local traffic:
  - a. Providing a new separate access road(s) to the lots in the subdivision, and/or

- b. Creating lots that front on the streets in the subdivisions (not onto existing streets). See the “Standard Plans” for access restrictions.
- 5. The County may require that a non-vehicular access restriction / easement be recorded on the Final or Parcel Map to prohibit future access to a road not intended to provide access to lots.
- 6. Subdividers may be required to dedicate right-of-way to the County for future road improvements and/or expansions to maintain public safety and/or to accommodate projected increased traffic volumes due to the new subdivision.

7. Phased Developments: (See 4.3.1.9 “Staged Developments”).  
 8. Dead-End Road Width and Turnaround Standards (Reference: “2007 California Fire Code, Appendix D, Table D103.4”): A turn-around is required for the dead-end roads, as depicted in the County’s “Standard Plans” as listed:

Length (Feet)	Width (feet)	Turnarounds Required
0 – 150	<b><i>20 (minimum) the entire length of the road (Fire Safe requires 18)</i></b>	None Required
151 – 500	<b><i>20 (minimum) the entire length of the road (Fire Safe requires 18)</i></b>	<b><i>1) 96 foot diameter cul-de-sac in accordance with County standard plans</i></b> <b><i>2) 120 foot Hammerhead, 60 foot “Y”</i></b> <i>(Fire Safe requires 80 foot diameter or hammerhead with 60 foot minimum for top of the “T”)</i>
501 – 750	<b><i>26 (minimum) the entire length of the road (Fire Safe requires 18)</i></b>	<b><i>1) 96 foot diameter cul-de-sac in accordance with County standard plans</i></b> <b><i>2) 120 foot Hammerhead, 60 foot “Y” (Fire Safe requires 80 foot diameter or hammerhead with 60 foot minimum for top of the “T”)</i></b>
Over 750	<b><i>See the applicable Fire Protection District for requirements. (See Fire Safe provisions in subsection 10.c)</i></b>	

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9. All road improvements, both on-site and off-site, shall be listed as conditions of approval on the Tentative Map.

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10. For all residential subdivisions:

a. ***A second road into/out of the subdivision is required where there are more than 12 lots on a dead-end road. (This implements the 25 dwelling unit maximum pursuant to the amendments to the "2007 California Fire Code, Appendix D, Section D107", passed by the El Dorado County Fire Protection Districts, and ratified by the Board in February, 2008. This limit assumes one primary and one secondary dwelling unit per lot. Hardship mobile home allowances are not within this total and may be prohibited if there are too many dwelling units on the road.) (See Fire Safe Regulations in subsection 10.c. below).***

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b. Where two roads are required, their connections to the County-maintained road system shall be at locations approved by the Director of DOT and the Fire Protection District having jurisdiction.

c. Dead-end roads shall not be longer than the following lengths, (measured along the centerline of the street from the intersecting centerlines of the intersecting street to the center point of the cul-de-sac bulb or equivalent), or longer than the California Fire Safe standards allow, whichever is more restrictive (see "Title 14 Natural Resources Division 1.5 – Department of Forestry, Chapter 7 – Fire Protection, Subchapter 2 SRA Fire Safe Regulations Articles 1 – 5"):

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- Lots zoned for less than one acre in size – 800 feet;
- Lots zoned for 1 acre to 4.99 acres – 1320 feet;
- Lots zoned for 5 acres to 19.99 acres – 2640 feet;
- Lots zoned for 20 acres and above – 5280 feet.

d. An acceptable Fire Safe Plan shall be developed by a Fire Safe Plan preparer acceptable to the El Dorado County Fire Prevention Officers' Association and CAL FIRE.

e. An entity shall be formed for the maintenance of any shared or common: roads, parking facilities, landscaping, signs and drainage facilities. If there is an existing entity, the property owner shall modify the appropriate document(s) if the current document(s) does not sufficiently address maintenance of facilities of the proposed project.

f. Subdivisions of four or fewer lots may qualify for the "Frontage Exception" provision of Section 2.5.2(B)4 that would allow a lot to be created that does not have frontage on a road and is served by a driveway.

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11. For all non-residential and all multi-family projects:
  - a. Two points of access are required, unless an exception is given by the applicable Fire Protection District(s).
  - b. Applicants are encouraged to provide shared access between parking lots in order to limit the need for emergency vehicles to go back out onto the local road.
  - c. Where two points of access are required, they shall be placed a distance apart subject to approval by the Director of DOT and the Fire Protection District having jurisdiction.
  - d. Additional driveway and road requirements may be required when building height(s) exceeds 30 feet.

### 2.5.3.2 Street Lighting

- A. Street lighting will be required by the County Engineer as needed for traffic safety purposes (e.g., intersections with high pedestrian usage at night, high accident locations where lighting will improve visibility, etc.).
- B. Street lighting shall meet the standards described in the County's "Highway Design Manual" and "Standard Plans".
- C. Street lighting shall meet minimum shielding requirements as described in the County's "Title 17 Zoning Ordinance", section "17.14.170 Outdoor Lighting".
- D. A maintenance entity (such as a lighting and landscaping district) shall be formed to pay for the ongoing energy costs and maintenance, subject to review and approval by DOT.

### 2.5.3.3 Sidewalks, Pedestrian Paths, and Bike Lanes

- A. General Policies

Pedestrian and other non-vehicular circulation systems are an integral part of any development project. Where required, these systems shall be incorporated into the Tentative Map design and noted or described on the Tentative Map. The *General Plan* specifies several policies related to sidewalks, pedestrian paths, and bike lanes:

  1. "Policy TC-4e",
  2. "Policy TC-4h",
  3. "Policy TC-4i",
  4. "Policy TC-5a",
  5. "Policy TC-5b",
  6. "Policy TC-5c".
- B. Sidewalks are required in accordance with the "Standard Plans", except for:
  1. Residential zoned subdivisions in which all lots are greater than 10,000 square feet;
  2. Industrial zoned parcel maps, in which all lots are greater than one acre;
  3. Specific Plans and Planned Developments where there is an adopted plan that addresses pedestrian and non vehicular circulation within those plans. If sidewalks, curbs, and gutters are not specifically addressed in the Plan, the requirements listed in the County's "Standard Plans" shall be met.

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- C. Sidewalks and bike lanes are required within 500 feet of schools, parks, and other public or community facilities. See the County's "Master Bicycle Plan" for more information.
- D. In some instances, a pedestrian path (i.e., asphalt paved paths) may be an acceptable alternative to sidewalk, curb, and gutter (e.g., in some Rural Centers and Community Regions such as Georgetown and Camino/Pollock Pines areas, and developments of large lots in other Community Regions).
- E. Standards
  1. Sidewalk Location: In proposed subdivisions where sidewalks are required, sidewalks shall be installed pursuant to the County's "Standard Plans", and may be required on at least one side of the streets into and out of the subdivision.
  2. Sidewalk Width: Sidewalk widths shall be as called out on the County's "Standard Plans". Exception: Where sidewalks already exist, new sidewalks may be required to match the existing sidewalks to make for seamless transitions.
  3. ADA: Sidewalks shall be in compliance with the Americans with Disabilities Act (ADA).
  4. Curb and Gutter Requirements: Concrete curb and gutter shall be used in all subdivisions where lots are less than 20,000 square feet. Grading shall provide for positive, controlled lot drainage to the street and/or storm drain system.

#### **2.5.3.4 Transit**

For standards regarding public transit facilities, please see the "Transit Design Manual" by the El Dorado County Transportation Association, <http://www.eldoradotransit.com/>.

#### **2.5.3.5 Frontage Improvements**

Where a proposed project has frontage on a County-maintained road, frontage improvements are required, consistent with the ADT and the applicable design standards, ordinances, laws and *General Plan* policies. Possible frontage improvements may include, but are not limited to: road widening, encroachments, shoulders, curbs, gutters, sidewalks, drainage ditches, vegetation clearance, signage, lighting, pedestrian or bicycle paths, and easements or right-of-way to accommodate the frontage improvements. The level of frontage improvements will be evaluated based on the type of development proposed, the amount of traffic on the frontage road, surrounding development or lack thereof, and other considerations identified through the discretionary process.

#### **2.5.3.6 Frontage Improvement Agreements**

Under some circumstances, an "in-lieu" fee may be substituted for frontage improvements (e.g., sidewalks, road widening, etc.). See DSD Planning Services for more information. An agreement providing for the in-lieu fee shall be reviewed and approved by DSD, County Counsel, and the Board of Supervisors.

#### **2.5.4 Drainage Criteria**

See the County's "Drainage Manual" for more detailed design standards related to drainage.

## **2.5.5 Water Supply and Distribution System**

If the water supply to new development will be either from groundwater or a community water system, see Chapter 3 in this manual for more information.

### **2.5.5.1 General Plan Policies**

- A. The following *General Plan* Policies address water supply:
  - 1. "Policy PS 5.2.1.2",
  - 2. "Policy PS 5.2.1.3",
  - 3. "Policy PS 5.2.1.4",
  - 4. "Policy PS 5.2.1.5".
- B. Water supply and distribution systems shall be provided to all lots when lots or parcels are less than five acres and public sewer is not available. Exceptions to this standard may apply if consistent with the parcel size exception standards of the County's "Title 17 Zoning Ordinance".
- C. When water supply and distribution systems are provided, they shall be constructed to the public purveyor's requirements. The public purveyor shall have final approval of the design of all water distribution systems.

### **2.5.5.2 Fire Protection**

See section 2.5.6 of this Chapter for more information.

### **2.5.5.3 Plans and Specifications**

Water supply plans and specifications shall be reviewed, approved, and signed by the authorized representative of the appropriate Fire Protection District and water district responsible for providing service upon completion of the project.

### **2.5.5.4 Water Commitment**

Prior to approval of the Final Map by the Board, or prior to the filing of a Parcel Map, the required water improvements shall be: 1. completed, or 2. fully identified and described within an approved Subdivision Improvement Agreement.

- A. The public purveyor shall submit a letter to DSD Planning Services stating that the water improvements have been completed to its satisfaction or that the improvements described in the subdivision agreement are acceptable to the public purveyor. The letter shall include a statement from the public purveyor that it is willing and able to provide service to each lot of the subdivision when the described improvements are completed.
- B. The applicant shall also provide to DSD Planning Services the equivalent of EID's "water meter award" letter, or an equivalent in areas served by other water purveyors, which states that each lot has secured a water meter.

## 2.5.6 Fire Protection and Other Emergency Services

### 2.5.6.1 General Policies

Fire protection measures are required including fuel management to reduce wildfire hazards, fire hydrants, and storage, if necessary.

- A. All proposed development shall adhere to the current standards as set forth in:
  1. California’s “Title 14 Natural Resources, Division 1.5 – Department of Forestry, Chapter 7 – Fire Protection Articles 1-5”;
  2. “2007 California Fire Code” and amendments as ratified by the Board on 2/26/08; or
  3. The standards described in the County’s Design Manuals, whichever is more restrictive.

Exceptions to fire protection requirements can only be made by the entity prescribing the standard.

- B. Pursuant to *General Plan* “Goal 5.7”, prior to approval of new development, adequate and comprehensive emergency services shall be provided, concurrent with development:

1. “Policy 5.7.1.1”,
2. “Policy 5.7.2.1”,
3. “Policy 5.7.3.1”,
4. “Policy 5.7.4.1”,
5. “Policy 5.7.4.2”,
6. “Objective 6.2.1”,
7. “Figure HS-1”,
8. “Policy 6.2.2.1”,
9. “Policy 6.2.4.1”,
10. “Policy 6.2.2.2”,
11. “Policy 6.2.3.4”.

General Plan



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### 2.5.6.2 Standards and Requirements

- A. Fire Protection is Required.

1. When subdivisions are proposed within a Fire Protection District, the minimum fire protection requirements shall be met, unless modified by agreement between the subdivider, the structural Fire Protection District having jurisdiction and any applicable wildland fire protection agencies (e.g., CAL FIRE).
2. When a subdivision of five or more lots (no matter the size of the lots) is proposed, it shall be within a structural Fire Protection District.
3. A proposed subdivision of four or fewer lots, creating lots 9.0 acres or smaller, shall be within a structural Fire Protection District.
4. If a proposed subdivision (of any number of lots) creates lots 9.0 acres or smaller, and is not within an existing Fire Protection District, one of the following shall occur:
  - a. annexation to an existing Fire Protection District; or,

- b. contract for services with existing structural Fire Protection District until such time as the annexation is finalized.
- B. All discretionary residential developments shall have a Fire Safe Plan prepared by a Fire Safe Plan preparer acceptable to the El Dorado County Fire Prevention Officers' Association and CAL FIRE.
- C. For non-residential discretionary development, a Fire Safe Plan may be required by the applicable Fire Protection District.
- D. For more details on what is included in a Fire Safe Plan, see below and Chapter 7 for the phone numbers and website addresses of the applicable Fire Protection District(s). For more information on qualifications for Fire Safe Plan preparers, contact the applicable Fire Protection District.
- E. A Fire Safe Plan is a written document prepared for the purpose of establishing minimum wildfire protection standards in conjunction with buildings, construction and development in State Responsibility Areas (SRA) and Local Responsibility Areas (LRA) when required by the Fire Protection District having jurisdiction.
  - 1. A Plan shall address future design and construction of structures, subdivisions, and developments in SRA.
  - 2. A Plan shall cover access, water supply, fuel (i.e., vegetation) modification, and related local requirements.
  - 3. A Plan shall be determined complete when approved by the Fire Protection District having authority and jurisdiction and CAL FIRE.
  - 4. The Fire Safe Plan shall include measures to reduce fire hazards, such as
    - a. Expand cleared rights-of-way and enlarge cul-de-sacs;
    - b. Address water supply;
    - c. Address emergency access;
    - d. Perform fuel modification (e.g., selective clearing and thinning) so that fuel load levels are reduced; and
    - e. Other reasonable measures to protect structures in areas where structural fire protection does not exist; i.e., if the land division is adjacent to existing water lines, the subdivider may be required to extend the water lines for fire protection purposes.
- F. Water Supply for subdivisions of five or more lots  
The supply system and source, public purveyor or private system, shall provide a minimum of 60,000 usable gallons of storage for five to 25 lots; 125,000 gallons for 25 to 50 lots; and 200,000 gallons for 50 or more lots. The water supply system and source shall be located at the direction of the DSD Director and based on comments received from the applicable Fire Protection District.
  - 1. Where water distribution systems are not available, the following will be considered by the applicable Fire Protection District:
    - a. Tanks,
    - b. Reservoirs,
    - c. Canals, and

- d. Other systems as may be approved by the structural Fire Protection District.
2. A facility for refilling fire trucks shall be provided for taking of water from the water supplies and shall conform to the County's "Standard Plans". The standard plans may be modified by the Fire Protection District having the responsibility in that area where structural conditions require it.
3. Fire hydrant locations shall be approved by the Fire Chief of the district providing the service. See the applicable Fire Protection District for details.

### **2.5.7 Water Supply For Lots Not Supplied with Water by a Public Agency**

See Chapter 3 in this manual for more detail on design standards.

### **2.5.8 Sewage Collection and Disposal Systems**

#### **2.5.8.1 General Policies**

The following *General Plan* policies apply:

- A. "Policy 5.3.1.1",
- B. "Policy 5.3.1.2",
- C. "Policy 5.3.1.3",
- D. "Policy 5.3.1.4",
- E. "Policy 5.3.1.7",
- F. "Policy 5.3.2.3".

#### **2.5.8.2 Requirements**

- A. There are four options available to new development to provide sewage disposal:
  1. On-site sewage disposal systems (e.g., septic systems),
  2. Community wastewater systems with flow less than 5000 gallons per day,
  3. Community wastewater systems with flow greater than 5000 gallons per day, and
  4. Sewage disposal provided by a public purveyor (such as EID).See Chapter 3 in this manual for more detail on standards for on-site sewage disposal systems and community wastewater systems with flow less than 5000 gallons per day. For community wastewater systems with flows greater than 5000 gallons per day, obtain a waste discharge permit from the California Water Quality Control Board, Central Valley, (916) 464-3291, website address:  
[http://www.waterboards.ca.gov/centralvalley/business\\_help/permit.htm](http://www.waterboards.ca.gov/centralvalley/business_help/permit.htm).

If a public sewer provider is proposed, the design of the sewage facilities, connections, etc., shall meet the provider's standards. See the appropriate public purveyor for their standards (e.g., EID).

- B. Prior to filing a Final Map or Parcel Map, sewer service shall be available for immediate use or as required in section 2.5.8.4 of this Chapter.
  - 1. A Civil Engineer shall provide documentation that demonstrates that the sewage system will be able to accommodate any future growth in the permitted area. No Building Permits can be approved without a Civil Engineer's certification that the sewage system can accommodate the proposed increase in sewage.
  - 2. A grading permit may be required for the trenching to install the wastewater system. See Chapter 5 of this manual for more information on whether a grading permit will be required. All sewer mains, manholes, and laterals, shall be placed, successfully tested, and the backfill compacted prior to the surfacing of the streets affected. Any trenching that affects the County's right-of-ways will require at a minimum an encroachment permit. See DOT.

### **2.5.8.3 Plans and Specifications**

Prior to the approval of the Final Map or filing a Parcel Map (for commercial or industrial development), the subdivider shall submit to the County Engineer, plans of the sewage collection and disposal system prepared by a Civil Engineer, of sufficient detail to enable the County Engineer to ascertain whether such system conforms to the standards set forth herein and to standard acceptable engineering practices. Such plans and specifications shall also be reviewed and signed by the authorized representative of the entity that will operate the sewer system(s), certifying it has approved the final construction plans and specifications. A letter shall be provided to the County Engineer by the public entity's engineer, stating that the provider is willing to maintain and operate the sewer system upon its completion.

The County Engineer or the public purveyor may require additional improvements for sewer systems having unusual problems.

### **2.5.8.4. Sewer Commitment**

Prior to approval of a Final Map by the Board, or prior to the filing of a Parcel Map, the required sewer improvements shall be completed or described within a Subdivision Improvement Agreement (SIA) and a security provided to guarantee completion. The public purveyor shall submit a letter stating the sewer improvements have been completed to its satisfaction or that the improvements described in the SIA are acceptable to the public purveyor. The letter shall include a statement from the public purveyor that it is willing and able to provide service to each lot of the subdivision when the described improvements are completed.

## 2.5.9 Underground Power and Communication Utility Systems

### 2.5.9.1 General Policies

The following *General Plan* Policies apply to power and communication systems:

- A. "Objective 5.6.1" ,
- B. "Policy 5.6.1.1".

### 2.5.9.2 Standards of Construction

- A. PG&E requires all power lines to be undergrounded in new: (1) Residential Subdivisions, (2) Residential Developments, (3) Commercial Developments, (4) Industrial Developments, and (5) locations that are in proximity to and visible from designated Scenic Areas (Reference "PUC Electric Rule 15-Distribution Line Extensions"). There are some exceptions such as for subdivisions with lots of three acres or more. See PG&E for more information.
- B. Multi-family and non-residential development in Community Regions and Rural Centers shall, where feasible and appropriate, underground existing and new utilities in accordance with PUC rules and regulations.
- C. Electrical and communication systems shall be installed as shown in the County's "Standard Plans" and in accordance with the applicable utility's rules and regulations.
- D. Electrical and communication systems in streets shall be placed before pavement is constructed and shall be constructed in conformance with the plans.
- E. Surface facilities that will be located in paved areas shall have traffic frames and lids conforming to the County's "Standard Plans".
- F. Surface facilities that protrude from the finished grades shall be located so that they will not cause a hazard.
- G. The final plans and specifications shall show the work to be performed by the subdivider, normally consisting of conduit, pull boxes and transformer pads. Wires are typically supplied by the utility entity and need not be shown on the plans.

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### 2.5.9.3 Plans and Specifications

Prior to the approval of the Final Map, the subdivider shall submit to the County Engineer plans showing the location of the electrical and communication systems of sufficient detail to enable the County Engineer to ascertain whether such systems conform to the standards set forth herein and to standard acceptable engineering practices. Such plans and specifications shall be approved by the authorized representative of the entity operating the electrical or communication systems and shall be accompanied by a letter from the entity stating that the entity and subdivider have entered into an agreement that will provide the utility's service to a lot line at each lot in the subdivision. A letter shall be provided to the County Engineer by each provider's engineer, stating that the provider is willing to maintain and operate the system upon its completion.

See Chapter 4 of this manual, as well as the "Highway Design Manual" and "Standard Plans" for more details.

### 2.5.10 Encroachments on County-Maintained Roads

All encroachments onto County-maintained roads shall comply with California "Streets and Highways Code 942" and County Ordinance Code "Chapter 12.08" et seq. and the standards in the County Design Manuals. See Chapter 4 of this manual, as well as the "Highway Design Manual" and "Standard Plans" for more details.

**Deleted:** Encroachments shall conform to the applicable standard in "Chapter 2, Road Encroachments", "Chapter 12.08" et seq. of the County Code

### 2.5.11 Landscaping

Where landscaping is required, reference "Title 17 Zoning Ordinance" and the "WATER CONSERVING LANDSCAPE STANDARDS" adopted by the Board in "Resolution 69-93" on 2/23/93, or as most recently amended. (Reference: General Plan "Policy 5.6.2.1").

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For landscaping standards in road medians (including trees), or in close proximity of a roadway, see the "Highway Design Manual" and "Standard Plans".

### 2.5.12 Wetlands, Archaeological and Cultural Resources, and Native Tree Preservation

#### 2.5.12.1 General Policies

The following General Plan policies address impacts to important habitat areas:

- A. "Policy 7.3.3.1"
- B. "Policy 7.3.3.3"
- C. "Policy 7.3.3.4"
- D. "Policy 7.3.3.5"
- E. "Policy 7.4.1.6"
- F. "Policy 7.4.2.2"
- G. "Policy 7.4.2.8"

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#### 2.5.12.2 Wetland Preservation Standards

- A. No person engaging in construction activity shall:
  1. Ignore or discount the regulatory requirements of State or Federal agencies applicable to any project;
  2. Fill or substantially alter any existing wetland area without first obtaining an appropriate permit(s) from the U.S. Army Corps of Engineers, California Department of Fish and Game, or other State or Federal agency with jurisdiction over wetlands and wildlife resources;
  3. Park or operate any motor vehicle within the wetland area;
  4. Place or store any equipment or construction materials within the wetland area;

- 5. Place or allow to flow into the wetland any oil, fuel, concrete mix or other deleterious substance.
- B. Where construction activity is proposed within 50 feet of a wetland area:
  - 1. The wetland area should be clearly marked with flagged lath or other removable marking device;
  - 2. A deleterious substance filter shall be installed within any drainage course leaving one construction zone and entering the wetland area.
- C. Discretionary permits may require setbacks from wetlands, for biological mitigation, water quality, flood damage prevention, or other purposes identified through the discretionary process.

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**2.5.12.3 Archaeological and Cultural Resources**

Protection or mitigation of archaeological and cultural resources may be required when found on-site. Cultural Resource studies are required with application submittal and must meet the County "Guidelines for Cultural Resource Studies". Resources protection may be required by the State Historic Preservation Office or as approved by the County discretionary permit, based on the permit's Cultural Resources study. Recommendations from the permits' Cultural Resource study may be incorporated into the conditions of approval for discretionary permits.

**2.5.12.4 Oak Tree Preservation**

- A. Oak tree protection plans are required to comply with the El Dorado County "Oak Woodland Management Plan". (See the DSD website.)
- B. Oak Tree Protection Construction Standards:

For the use of this section, oak trees are defined as being healthy and having a diameter at breast height (dbh) of six inches or greater, or for a tree with multiple trunks with an aggregate of at least 10 inches dbh.

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- 1. No person engaging in construction activity shall:
  - a. Change the amount of irrigation provided to any oak tree from that which was provided prior to the commencement of construction activity;
  - b. Trench, grade, or pave into the drip line area of an oak tree;
  - c. Park or operate any motor vehicle within the drip line area of any oak tree;
  - d. Place or store any equipment or construction materials within the drip line of any oak tree;
  - e. Attach any signs, ropes, cables, or any other items to any oak tree;
  - f. Place or allow to flow into or over the drip line area of any oak tree any oil, fuel, concrete mix, or other deleterious substance.
- 2. Where construction activity is proposed within 50 feet of an oak tree:
  - a. A minimum four foot tall temporary fence shall be placed around the protected area prior to the work beginning;
  - b. No grade changes shall occur within the protected area unless specifically indicated in the plans;

- c. No trenching shall be allowed within the protected area. If it is necessary to install underground utilities within the temporary fence the utility trench shall be hand dug so as not to cut any roots over two inches in diameter, or a line may be bored or drilled;
- d. Only dead, weakened, diseased, or dangerous branches shall be removed, and only by the recommendation of, or under supervision of, a licensed arborist. Any roots two inches in diameter or larger that must be cut shall be cleanly cut with pruning (not excavation) equipment;
- e. Excessive dust accumulation shall be hosed off from the foliage of oak trees as recommended by an arborist during the construction of the project.

Reference the County's "Title 16 Subdivisions", "Title 17 Zoning Ordinance", the *General Plan*, and the "Interim Interpretative General Plan Guidelines" for more information. See DSD's website: <http://www.edcgov.us/Planning/GeneralPlanOakWoodlands.html>.

### **2.5.13 Protection of Agricultural Lands**

The following *General Plan* policies apply to new projects:

- A. "Policy 8.1.3.1",
- B. "Policy 8.1.3.2",
- C. "Policy 8.1.4.1".

The design of projects shall take these policy requirements into consideration, through clustering and lot design that provides the opportunity to meet the minimum lot size and setback requirements. Refer to "Title 16 Subdivisions", "Title 17 Zoning Ordinance", the *General Plan* "Policies 8.1.3.2" and "8.4.1.2", and the "General Plan Interim Interpretive Guidelines" (<http://www.edcgov.us/Planning/GeneralPlanImplementation.html>).

### **2.5.14 Airport Land Use Plans**

All development shall comply with any applicable Airport Comprehensive Land Use Plan (CLUPs) policies. There are adopted CLUPs for Georgetown, Cameron Park, Placerville, and South Lake Tahoe airports. Consult with DSD. (Reference: *General Plan* "Policy 6.8.1.1".)

### 3.1 INTRODUCTION

#### 3.1.1 Zone Change and General Plan Amendments

### 3.2 SITE EVALUATION FOR WASTEWATER DISPOSAL

#### 3.2.1 Site Evaluation Process

#### 3.2.2 Soil Observation Pit(s)

#### 3.2.3 Site Evaluation Report

### 3.3 SUITABLE WASTEWATER DISPOSAL AREAS

#### 3.3.1 Soil and Groundwater Determination

#### 3.3.2 Percolation Tests

#### 3.3.3 Minimum Area To Be Shown On Each Lot

### 3.4. COMMUNITY SEWAGE DISPOSAL SYSTEMS

#### 3.4.1 Background

#### 3.4.2 Requirements

### 3.5. SUPPLEMENTAL TREATMENT SYSTEMS

#### 3.5.1 Background

#### 3.5.2 Requirements

#### 3.5.3 Design Standards

#### 3.5.4 Inspections

#### 3.5.5 Operation, Maintenance, and Monitoring Instructions

### 3.6. OPERATING PERMITS

### 3.7. PERFORMANCE MONITORING AND REPORTING

#### 3.7.1 Systems under Operating Permits

### 3.8 MINIMUM SETBACK DISTANCES FOR SEWAGE DISPOSAL AREAS

### 3.9 LAND DEVELOPMENT WATER SUPPLY STANDARDS

#### 3.9.1 Proof of Water for Tentative Map Approval

#### 3.9.2 Lot Size

#### 3.9.3 Setbacks

#### 3.9.4 Justification for Final Map Approval

#### 3.9.5 Water Requirements for Final Map Approval

#### 3.9.6 Zone Change and General Plan Amendments

### 3.10 AIR QUALITY

#### 3.10.1 Emission Sources

#### 3.10.2 Design Elements

#### 3.10.3 Permit Requirements

### 3.1 INTRODUCTION

The following pages incorporate State of California requirements, County Ordinances, Board of Supervisors (Board) Resolutions, and Environmental Management Department (EMD) policies, concerning water supplies and sewage disposal for lot creation. This Chapter describes what must be done to prove that each lot can support an onsite sewage disposal system and onsite water supply. This process shall be completed by an applicant prior to approval by the Planning Commission (Commission) or Zoning Administrator. For more information and definitions, please visit EMD's website at: [www.edcgov.us/emd](http://www.edcgov.us/emd)

Waste from within the Lake Tahoe watershed shall be placed only into a sewer system and treatment facility sufficient to handle and treat any such waste and transportation facilities sufficient to transport any resultant effluent outside the Lake Tahoe watershed (California Water Code Section 13951).

#### 3.1.1 Zone Change and General Plan Amendments

For zone changes and *General Plan* amendment proposals that, if approved, will increase development densities in areas where public sewer and/or public water is not available, a feasibility report is required.

- A. Onsite Wastewater Treatment Systems: A site evaluation, including soil test pits and percolation tests on at least 10 percent of the proposed lots shall be conducted as part of the feasibility report for zone change approval. All soil types, as delineated in the USDA Soil Survey of El Dorado Area, California, that are present within the zone change request for a specific parcel(s) shall be included. Proposed test pit sites shall be spread throughout the project to obtain an accurate representation of the project sewage disposal capability and sites shall be pre-approved by EMD prior to digging. The test locations shall be accurately shown on a site map. Site evaluations shall be scheduled to include EMD staff in the process. EMD staff may require additional site evaluations and percolation tests when field conditions indicate that there may be development constraints for wastewater disposal.

### 3.2 SITE EVALUATION FOR WASTEWATER DISPOSAL

The purpose of the site evaluation is to determine whether or not a lot can accommodate an onsite wastewater treatment system, and is required for both ministerial and discretionary applications. The site evaluation includes a soil observation pit (test trench) and percolation test to determine the soil's ability to treat and dispose of wastewater. EMD shall observe all soil observation pits. The

**Deleted:** For Tentative Maps to be served by onsite sewage disposal systems, the applicant or his agent shall provide a feasibility report. Feasibility studies for onsite sewage disposal systems must be approved by EMD in the form of a written statement prior to a proposed project being scheduled for hearing with either the Commission or the Zoning Administrator. ¶

¶ A site evaluation and percolation test on at least 10 percent of the proposed lots shall be conducted as part of the feasibility report for Tentative Map approval. When less than 10 lots are proposed all lots shall be evaluated. Proposed lots shall have a sewage disposal area shown that meets section 3.3.3 of this Chapter. All soil types listed by the USDA Soil Survey of El Dorado Area, California, shall be included. Proposed test pit sites shall be spread throughout the project to obtain an accurate representation of the project sewage disposal capability and sites shall be pre-approved by EMD prior to digging. The test locations shall be accurately shown on the Tentative Map. Site evaluations shall be scheduled to include EMD staff in the process. EMD staff may require additional site evaluations and percolation tests when field conditions indicate the need in order to approve the proposal for onsite sewage disposal. ¶

¶ All proposed lots shall have a site evaluation conducted and meet criteria in section 3.3 of this Chapter as a condition for Final Map approval. ¶

overall site shall be evaluated by the Consultant/Designer<sup>1</sup>. Any specific limitations or conditions that may affect the proposed onsite wastewater disposal system shall be addressed in the site evaluation report.

A site evaluation report is transferable and runs with the land. The report is based upon property conditions at the time of the site evaluation. Changes made to the property after the site evaluation may render the designated area unacceptable. Examples of types of changes include: grading, cuts and fills, new structures, wells, ponds, etc. The property owner must take care not to encumber or alter the designated area in a manner that affects the future system.

In addition, changes in State laws, regulations, County Ordinances, or other policies, governing onsite wastewater treatment systems may necessitate modifications to site evaluation and reporting requirements as well.

### **3.2.1 Site Evaluation Process**

Only licensed Consultants/Designers shall conduct the site evaluation. The Consultant/Designer assists the property owner in locating the appropriate wastewater disposal site on the lot. The Consultant/Designer shall evaluate the soil observation pit(s), and prepare the site evaluation report. The Consultant/Designer shall schedule the time and date of the soil observation pits with EMD.

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A. <sup>1</sup> Consultant/Designer: For this chapter, see <http://www.edcgov.us/> for more information.

### 3.2.2 Soil Observation Pit(s)

The soil observation pits are to be dug in the area of the proposed wastewater disposal area. If needed, additional soil observation pits may be required to locate a suitable area for the wastewater disposal system, specifically in an area of potential groundwater or shallow soils ([www.edcgov.us/emd](http://www.edcgov.us/emd)).

### 3.2.3 Site Evaluation Report

The Site Evaluation Report shall have the following information on a site map that is drawn to scale:

- A. Required disposal area;
- B. Location of percolation test holes and test pits;
- C. Distance from disposal areas to property lines, easements, driveways, and structures;
- D. Existing structures;
- E. Existing or proposed cuts and/or fills on the property which may affect the onsite wastewater disposal system;
- F. Location of all wells on the lot or on adjacent lots that may affect the onsite wastewater disposal system;
- G. Location of rivers, streams, lakes, ponds, water supply(s), ditches, springs, and wetland areas that may affect the onsite wastewater disposal system;
- H. Percent of slope of the ground in the wastewater disposal area. (NOTE: All development of a lot shall reserve areas that are less than 30 percent slope for wastewater disposal.);
- I. Significant rock outcrops, cuts, fills, and slopes 30 percent or greater which may affect the onsite wastewater disposal system;
- J. Frontage road and all easements pertaining to the property which may affect the onsite wastewater disposal system.

The overall site shall be evaluated by the Consultant/Designer for considerations that may affect the lot's ability to support an onsite wastewater disposal system. Some of these considerations are slopes 30 percent or greater, and setbacks from wells, drainage courses, wetland areas, and cut banks. Any specific limitations or conditions that may impact the proposed onsite wastewater disposal system shall be addressed in the report.

## 3.3 SUITABLE WASTEWATER DISPOSAL AREAS

### 3.3.1 Soil and Groundwater Determination

- A. Effective soil depth shall be four feet below the bottom of the design depth.
- B. Depth to groundwater shall be a minimum of five feet below the bottom of the design depth.

- C. Slopes in designated sewage disposal area shall not exceed 30 percent.

**3.3.2 Percolation Tests**

- A. All percolation tests shall be conducted using standard procedures. See EMD's website: [www.edcgov.us/emd](http://www.edcgov.us/emd).
- B. The location of the percolation test holes shall be evenly distributed horizontally and vertically in the proposed leaching area.
- C. The minimum number of test holes to be dug is four.
- D. Deep trench designs shall be tested at varying depths for proper evaluation of soil.

**3.3.3 Minimum Area To Be Shown On Each Lot**

For Tentative Maps to be served by onsite sewage disposal systems, the applicant or his agent shall provide a feasibility report. Feasibility studies for onsite sewage disposal systems must be approved by EMD in the form of a written statement prior to a proposed project being scheduled for hearing with either the Commission or the Zoning Administrator.

A site evaluation on at least 10 percent of the proposed lots shall be conducted as part of the feasibility report for Tentative Map approval. All soil types listed by the USDA Soil Survey of El Dorado Area, California, shall be included. Proposed test pit sites shall be spread throughout the project to obtain an accurate representation of the project sewage disposal capability and sites shall be pre-approved by EMD prior to digging. The test locations shall be accurately shown on the Tentative Map. Site evaluations shall be scheduled to include EMD staff in the process. EMD staff may require additional site evaluations when field conditions indicate the need in order to approve the proposal for onsite sewage disposal.

All proposed lots shall have a site evaluation conducted and meet criteria in Table 3.3.3 A. as a condition for Final Map approval.

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The suitable wastewater disposal areas shall be shown on all Tentative Maps. Suitable wastewater disposal areas shall meet all the requirements for an onsite wastewater disposal system, and shall be located so as not to conflict with any other applicable County requirements, including those contained in the County's *General Plan*.

A. The size of available wastewater disposal areas shown on each proposed lot shall correspond to the table below:

**Table 3.3.3 A.**

PERCOLATION RATE (minutes/inch)	MINIMUM DISPOSAL AREA (square feet)
Less than 10	3,500
11-20	4,800
21-40	6,700
41-60	8,200
61-80	9,500
81-100	10,700
101-120* <sup>2</sup>	11,700
121-140	12,500
141-160	13,500
161-180	14,300
181-200	15,100
201-220	15,800
221-240	16,500
Greater than 240 CRWQCB requirement	unsuitable for wastewater disposal

B. Proposed subdivisions of greater than 99 lots shall be submitted for review to the California Regional Water Quality Control Board, Central Valley Region (CRWQCB).

### 3.4 COMMUNITY SEWAGE DISPOSAL SYSTEMS

#### 3.4.1 Background

EMD shall consider applications for private community wastewater collection and on-site disposal systems (“community systems”). A “community system” is a system which serves more than one lot and may include packaged wastewater treatment plants as acceptable alternatives to traditional wastewater treatment facilities.

This section shall govern the management of all community systems not proposed to be connected to an existing public sewer facility. This section is

<sup>2</sup> Proposed State Water Quality Control Board regulations may limit percolation rates for new lots to below 120 minutes per inch (mpi). Presently limit is 240 mpi.

intended to regulate the use of new community systems or the expansion of capacity for existing community systems constructed after the effective date of this section for the treatment and disposal of domestic sewage. This section shall be applicable to those users, including residential, commercial, and industrial developments, whose waste discharge can be considered domestic sewage.

### 3.4.2 Requirements

Community systems shall meet the following requirements:

- A. Ensure protection of the public health.
- B. Assure reliable and reasonable service to the customer.
- C. Prevent degradation of surface and/or subsurface waters.
- D. Minimize any other detrimental environmental effects that could result from the collection, treatment, storage, and disposal of sewage or wastewater associated with on-site sewage disposal systems
- E. In order to set up a community system, the applicant shall cause to be formed a Property Owner's Association, Community Service District, Zone of Benefit, or similar body, hereinafter called "Body"\*, which shall be responsible for the normal and routine operation of a community system.
- F. In the event of problems with the operation and maintenance by the Body, the Body shall take all steps necessary to correct the problems in a timely fashion to the satisfaction of EMD.
- G. A defined area of benefit and service fees shall be established prior to the recordation of a Final Map. The funding for this area of benefit shall be set up so as to accrue funds to provide for the future repair or replacement of major components of the system. The level of funding shall be reviewed under authority of the Board on a yearly basis to determine if sufficient monies are available to provide the necessary ability to correct any foreseeable problems with the system. The operating permit shall stipulate the manner in which this funding can be used for project repair or replacement.
- H. The County may require a bond or other accepted surety to cover the initial period until sufficient funds have accrued to the service areas to handle potential problems. The amount of surety may be reduced annually by the amount equal to the reserve funds accrued within the past year.
- I. The operating permit shall be continued until the system, in its entirety, has been abandoned and the dwelling units and other buildings served by such system have been connected to a public sewer system.
- J. This policy shall provide that when a sub regional sewer treatment plant and collection system becomes available, a review of the system will be made. If it is determined by EMD to be

advantageous, the system shall be connected to the public sewer system.

- K. All systems shall be designed by a qualified Registered Professional Engineer, Geologist, or Environmental Health Specialist. The design shall be approved by EMD or when applicable, the California Regional Water Quality Control Board, Central Valley Region. Construction shall be supervised by the appropriate agencies, Engineer, and Body.
- L. The Body will be accountable to the County for the correction of problems or nuisance conditions that may develop.
- M. Prior to recordation of the Final Map, the applicant must have approval assigned and contractual agreement with the Body.
- N. The County has no obligation to issue a permit or enter into a contractual agreement with the applicant solely as a result of this policy.
- O. The Body shall obtain an operating permit and be responsible for operation and maintenance of sewer facilities within the County-maintained streets. In the case of a single owner of a multi-unit residential or recreational type facility (such as a mobile home park or campground), the owner shall be the Body. Provisions shall be made in the operating permit to prevent the termination without the concurrence of all parties. The operating permit shall be tied to the property services so that EMD shall have the authority to assess the Body for any expense incurred, with the right to lien the property should the Body default. The Body must be able to collect funds for the normal operation and maintenance of the system. The Body must have in its employment or a contract with, a person(s) to operate, monitor, and routinely maintain the system on a day-to-day basis. This person(s) shall be a "Certified Onsite Wastewater System Inspector" or State-licensed "Wastewater Treatment Plant Operator". The level of certification shall be commensurate with the required duties and responsibilities.

### **3.5 SUPPLEMENTAL TREATMENT SYSTEMS**

#### **3.5.1 Background**

Supplemental treatment systems perform additional wastewater treatment designed to reduce biochemical oxygen demand (BOD) and total suspended solids (TSS) concentrations, and are special design systems that may be used to serve individual single-family residences, multi-family residences, commercial establishments, and institutional or industrial facilities.

### 3.5.2 Requirements

- A. Subdivisions, multi residential, multi structural, commercial, and industrial developments utilizing supplemental treatment systems shall form an entity to manage the system.
- B. The system shall be installed by one of the following:
  - a. Licensed General Engineering Contractor (Class A),
  - b. General Building Contractor (Class B),
  - c. Sanitation System Contractor (Specialty Class C-42), or
  - d. Plumbing Contractor ("Specialty Class C-36" in accordance with the "California Business and Professions Code", Sections 7056, 7057, and 7058 and Article 3, Division 8); Title 16 of the "California Code of Regulations"; and who is familiar with the supplemental treatment system being installed.
- C. Notwithstanding any other provisions, final approval of the proposed supplemental treatment system(s) shall be at the discretion of the Director of EMD.
- D. Gray water systems shall comply with "Title 22 of the State Water Code" and "Gray water Regulations" of the "Uniform Plumbing Code".

### 3.5.3 Design Standards

- A. Engineering plans and site data for supplemental treatment systems shall be submitted in accordance with EMD's standard wastewater disposal application procedures.
- B. Site evaluations, including soil profile and percolation testing, shall be conducted in accordance with EMD's standard procedures.
- C. Soil separation between the bottom of the dispersal field and high seasonal groundwater, impervious layer of soil or bedrock, or fractured/weathered bedrock may be reduced to 3 feet.
- D. Onsite Wastewater Treatment Systems with supplemental treatment components shall:
  - 1. Be equipped with a visual or audible alarm, as well as a telemetric alarm, that alert the owner and service provider in the event of system malfunction.
  - 2. At a minimum, provide for 24-hour wastewater storage based on design flow as a means to minimize pollution from overflow discharge after a system malfunction or power outage.

### 3.5.4 Inspections

- A. Designs for supplemental treatment systems shall be signed by a Consultant/Designer.
  - 1. The Consultant/Designer shall also be responsible for inspection of system installation to assure conformance with approved plans, and shall provide an "As-Built" drawing of the installation to the County and property owner.
  - 2. The construction inspection by the Consultant/Designer shall be in addition to standard County inspection.

- B. The Consultant/Designer shall provide a construction inspection schedule with the design plan which identifies critical points during construction at which time he will make inspections.
- C. Owner/applicant shall grant access to EMD for the periodic inspection of system operation.

### **3.5.5 Operation, Maintenance and Monitoring Instructions**

The Consultant/Designer shall provide operation, maintenance, and monitoring instructions in the design which are brief and simple guidelines regarding the operation of the system, owner responsibilities, and system monitoring requirements.

## **3.6 OPERATING PERMITS**

- A. In addition to a construction permit, an operating permit is required for:
  - 1. All supplemental treatment systems;
  - 2. Pump stations connected to a public sewer system;
  - 3. Large commercial systems;
  - 4. All existing systems requiring repair or additions that are multi family developments with sewage flows exceeding 2500 gallons per day;
  - 5. All commercial and industrial developments not operating under waste discharge requirements set by the State's Regional Water Quality Control Board, Central Valley District; and
  - 6. Any special design systems requiring operating permits, as determined by the Director of EMD.
- B. Operating permits shall be issued at the time of final approval of the system; they are required to be renewed every year at a minimum. Operating permits shall also be renewed at the time of sale or, in the case of commercial properties, upon change of occupants.
- C. An operating permit shall include a contract with a "Certified Onsite Wastewater System Inspector" ("COWA", "NAWT", "NEHA", or other recognized certification program for Onsite Wastewater Treatment inspectors) or a State-licensed Wastewater Treatment Plant Operator, to inspect the system every six months and file a report with EMD within 30 days after the inspection. Further, if the system has a grease trap or interceptor, it shall be inspected and cleaned every three months or as needed.
- D. Operating permits are intended to serve as the tool for verifying the adequacy of the system performance and maintenance and operation.

Permit conditions shall include monitoring and inspection requirements, and other provisions as specified by the Consultant/Designer.

- E. Renewal of an operating permit requires the submission of an application, an application fee, and the written results of required system monitoring and inspection.
- F. Failure to submit a renewal application, the required fee, or specified monitoring and inspection data; or failure to undertake any required corrective work specified by EMD, may be cause for non-renewal or revocation of the operating permit, as well as referral to County Counsel for collection, and the District Attorney for prosecution.
- G. Monitoring requirements shall be recorded with the County of El Dorado Recorder's Office.

### **3.7 PERFORMANCE MONITORING AND REPORTING**

#### **3.7.1 Systems under Operating Permits**

- A. Monitoring of systems shall be conducted by or under the supervision of the Consultant/Designer. The County shall conduct spot-check inspections of the systems and may also be present to observe the performance of monitoring activities by others.
- B. Monitoring results shall be submitted to EMD annually, by July 1st, for the preceding 12-month period ending on May 31st.
  - 1. The monitoring report shall be signed by the Certified Onsite Wastewater System Inspector or a State-licensed Wastewater Treatment Plant Operator responsible for the monitoring.
  - 2. Notwithstanding the annual report, the County shall be notified immediately of any significant system problems observed during routine inspection and monitoring or at any other time.
- C. Monitoring requirements will vary depending upon the specific type of system but, in general, they will include the following
  - 1. Recording of wastewater flow based on water meter readings, pump event counters, elapsed time meters, or other approved methods.
  - 2. Inspection and recording of water levels in any monitoring points in the disposal field.
  - 3. Inspection and observation of pump operation or other mechanical equipment; and general inspection of treatment and disposal area for evidence of seepage, effluent surfacing, erosion, or other indicators of system malfunction.

4. The frequency and monitoring shall be in accordance with the supplemental treatment performance requirements of the State Water Quality Control Board as well as the Consultant/Designer's criteria.
- D. Monitoring frequency may be increased if system problems are experienced. Monitoring frequency for each system or type of system will be established by the Consultant/Designer with agreement of EMD.

### 3.8 MINIMUM SETBACK DISTANCES FOR SEWAGE DISPOSAL AREAS

**Table 3.8 A.**

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FEATURE REQUIRING SETBACK (4)	DISPOSAL FIELD AND REPLACEMENT AREA	SEPTIC TANK
Perennial stream, lake, pond, marsh or wetland (2)	100'	50'
Well, spring (public or domestic)	100'	100'
Seasonal wet area	50'	50'
Intermittent stream or drainage course (1)	50'	25'
Lake or pond used for drinking water (2)	200'	100'
Road easements, driveways, Buildings (3)	10'	5'
Domestic water service line	5'	5'
Cuts or fills (down gradient)	4x height or depth of cut or fill, 25' maximum	10'
Swimming pools	10'	5'
Property line adjoining private property	10'	5'

1. Measured from the edge
2. Measured from the 10-year high water mark
3. Buildings include porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, walks, covered driveways, and similar structures or appurtenances
4. Definitions in this table are from Resolution #259-99.

### 3.9 LAND DEVELOPMENT WATER SUPPLY STANDARDS

#### 3.9.1 Proof of Water for Tentative Map Approval

##### 3.9.1.1 Background

As part of the review and approval process, to be submitted with the Tentative Map, the applicant shall demonstrate through production testing, water quality testing, and other studies, that the groundwater supply is adequate to meet the highest demand associated with the project in question. The report must be signed and stamped by the Consultant/Designer.

For lot development dependent on groundwater wells, proof of an adequate water supply shall also be determined from well production and water quality testing (see General Plan Policy 5.2.3.2).

### 3.9.1.2 Testing Requirements

- A. For Tentative Maps, of more than 10 proposed lots, a minimum of 10 percent of the proposed lots shall have a well drilled. For proof of adequate water quantity, these wells shall then have a 24 hour pump test conducted. The well sites shall be spread throughout the project area to provide an accurate representation of the project water supply. The well sites shall be accurately shown on a site map and submitted with the Tentative Map.

Wells that do not meet the minimum quantity or quality requirements of this section shall be replaced and tested by at least two additional wells, in addition to the 10 percent required above, as determined appropriate by EMD. If a well is drilled on every proposed lot meeting the minimum production criteria of County Policy 800-02 or the "Well Construction and Water Supply Standards Ordinance" and minimum water quality standards, the map may be deemed acceptable for proof of adequate water. For Tentative Maps of 10 lots or less, a feasibility report may be substituted for well drilling.

- B. For Parcel Maps, a minimum of one well shall have a 24 hour pump test or there shall be a well drilled on each parcel that meets the minimum standards of County Policy 800-02 or the "Well Construction and Water Supply Standards Ordinance". For Parcel Maps, a feasibility report may be substituted for well drilling.
- C. Tentative Maps that include rezoning may require a larger percentage of lots to show adequate quantity and quality of water.
- D. The test method shall be approved by EMD prior to testing. These wells shall also be tested for water quality requirements.
- E. The 24 hour production capacity of each tested well shall meet or exceed five gallons per minute.
- F. Water sources may not be combined to meet the minimum production requirement for proposed lots.
- G. Proposed well sites shall be spread throughout the project to obtain an accurate representation of the project water supply and sites shall be pre-approved by EMD prior to drilling. The well locations shall be accurately shown on the Tentative Map.
- H. Water quality testing shall be performed on these pump-tested wells for the following:
  - 1. Primary acute health risks
    - a. Total and fecal coliform
    - b. Nitrate (as NO<sub>3</sub>)
    - c. Nitrite (as nitrogen)
    - d. Nitrate plus Nitrite (sum as nitrogen)

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2. Primary chronic (long term use) health risks
  - a. Aluminum
  - b. Antimony
  - c. Arsenic
  - d. Asbestos
  - e. Barium
  - f. Beryllium
  - g. Cadmium
  - h. Chromium
  - i. Fluoride
  - j. Mercury
  - k. Nickel
  - l. Selenium
  - m. Thallium
  
3. Secondary standards for taste, odor, appearance
  - a. Bicarbonate, carbonate, and hydroxide alkalinity
  - b. Foaming agents (MBAS)
  - c. Odor-threshold
  - d. Methyl-tert-butyl ether (MTBE)-also a primary health standard
  - e. Specific conductance or total dissolved solids
  - f. Calcium
  - g. Chloride
  - h. Color
  - i. Copper
  - j. Iron
  - k. Magnesium
  - l. Manganese
  - m. pH
  - n. Silver
  - o. Sodium
  - p. Sulfate
  - q. Thiobencarb
  - r. Turbidity
  - s. Total hardness
  - t. Zinc
  
4. Initial results that exceed standards shall be re-sampled by an approved third party to determine compliance.
  
5. If the level of any inorganic chemical exceeds the MCL, a second sample shall be collected within 14 days to confirm the result. If the second sample result again exceeds the MCL, the well will not be acceptable as proof of an adequate water supply for the purpose of land development.

6. If the second sample result does not exceed the MCL, a third sample shall be taken to confirm the result.
7. If testing confirms that the water quality exceeds State primary acute health risk standards, the well shall not be acceptable as proof of an adequate water supply for the purpose of land development.
8. If testing confirms that the water quality exceeds State primary chronic (long term use) health risk standards (listed above), EMD may consider approval of a treatment process to meet safe health standards for a potable water supply. (See below under Section 3.9.1.3.)
9. Water systems that serve five or more connections shall be operated by a legally created public entity.
10. For lot development dependent on creation of a public water system, all State regulations relating to public water systems, including adequate Technical, Managerial, and Financial Capabilities, shall be met. Please contact, California Department of Public Health, Division of Drinking Water and Environmental Management at (916) 449-5600, or visit <http://ww2.cdph.ca.gov/certlic/drinkingwater/Pages/default.aspx>
11. Public Water System wells are required to be pump tested following criteria specified by the California Department of Public Health, Division of Drinking Water and Environmental Management.

**3.9.1.3 Treatment Process**

A. Applicability and Intent

1. Treatment and monitoring shall be implemented in cases when State primary chronic (long term use) health risk standards are exceeded.
2. This section shall govern the management of individual systems not proposed to be connected to an existing public water supply. This section shall be applicable to those users, including residential, commercial, and industrial developments, whose water is supplied by individual wells.
3. This section shall be liberally construed to:
  - a. Ensure protection of the public health;
  - b. To assure reliable and reasonable service to the property owner.

B. Requirements:

1. The proposal shall provide, at a minimum, all of the following:

- a. A treatment process, certified by a third party (ANSI, NSF, State Department of Public Health, or other official agency), that will consistently maintain the level of the chemical(s) to a safe level.
  - b. The applicant shall cause to be formed a Property Owner's Association, Community Service District, Zone of Benefit, or similar body, (hereinafter called "Body"), which shall be responsible for the normal and routine maintenance and operation of the system(s).
  - c. The Body shall provide a State Certified Water Treatment Plant Operator to operate and maintain the treatment system; and to report to EMD.
2. An operating permit shall be obtained from EMD and stipulate the manner in which this funding can be used for project repair or replacement.
  3. The County may require a bond or other accepted surety to cover the initial period until sufficient funds have accrued to the service areas to handle potential problems. The amount of surety may be reduced annually by the amount equal to the reserve funds accrued within the past year.
  4. The operating permit shall be continued until the system, in its entirety, has been abandoned and the dwelling units and other buildings served by such system have been connected to a public water system.
  5. The Body will be accountable to the County for the correction of problems or nuisance conditions that may develop.
  6. Prior to recordation of Final Map, the applicant shall have created the Body that will be responsible for operation and maintenance of all water facilities within the development.
  7. In the event of problems with the operation and maintenance by the Body, the Body shall take all steps necessary to correct the problems in a timely fashion to the satisfaction of the EMD.
  8. A defined area of benefit and service fees within shall be established prior to the recordation of a Final Map. The funding for this area of benefit shall be set up so as to accrue funds to provide for the future repair or replacement of major components of the system(s). The level of funding shall be reviewed under authority of the Board on a yearly basis to determine if sufficient monies are available to provide the necessary ability to correct any foreseeable problems with the system(s).

### 3.9.2 Lot Size

Pursuant to *General Plan* Policies 5.2.3.5 and 5.3.1.2, all lots using individual wells ~~and individual septic systems~~ shall ~~average~~ at least 5 acres. ~~Adjustments may be considered consistent with the parcel size exception policy and ordinances.~~ In areas with groundwater supply limitations, the lot size ~~may be required to average not~~ less than 10 acres.

**Deleted:** for the domestic water source

**Deleted:** be

**Deleted:** shall not be

**Deleted:** (This includes both ministerial and discretionary applications.)

**3.9.3 Setbacks**

**Table 3.9.3 A.**

<b>Potential Contamination Source</b>	<b>Minimum Setback Distance to Well (in feet)<sup>3</sup></b>
Sewer line (main or lateral)	50
Public drinking water main	50
Onsite wastewater treatment system (both septic tank and leach lines)	100
Animal or fowl enclosure with solid wastes constituting a nuisance <sup>4</sup>	100
Abandoned dump site	1000
Flooded areas and drainages	Avoid or divert away from well

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Notes:

- A. It is recommended that a well be placed at least 100 feet from a property line to protect the well from development on an adjacent lot.
- B. If a drill site is located within zoning setbacks (as prescribed in the County’s “Title 17 Zoning Ordinance”), no structure over 30” high can be constructed over the wellhead.

**3.9.4 Justification for Final Map Approval**

Prior to the filing of a Final Map, acceptable proof shall be provided to EMD that each lot has a safe and reliable water supply.

**3.9.5 Water Requirements for Final Map Approval**

- A. Water wells must be:
  - 1. Constructed to the standards specified in “Water Well Standards”, State of California, Department of Water Resources, Bulletins 74-81, 74-90, and subsequent supplements or revisions;
  - 2. Capable of providing to each connection a minimum of five gallons per minute, either from the well itself or a combination of well and storage (See Chapter 2, section 2.5.6, of this manual and also the applicable fire protection district for fire protection water storage requirements.);
- B. Wells producing less than one gallon per minute shall not be accepted as an adequate water supply for the purpose of a building permit.
- C. The production capacity of a well for a single family dwelling shall be determined from a four hour well production test per EMD’s requirements.

<sup>3</sup> Lesser or greater separation distances may be approved by the Environmental Management Department based on specific site conditions.

<sup>4</sup> As defined in the County’s “Solid Waste Management Ordinance

The production capacity is valid for two years from the date of testing and shall be certified with an original signature by a licensed Well Driller, Pump Contractor, or other professional person approved by EMD.

- D. Well production test reports shall include the start and end time of the test period. Test reports shall be submitted on company letterhead and signed by the person performing the test.
- E. A report of water quality, analyzed by a California State certified laboratory, shall be submitted to EMD on the proposed water supply.
- F. Water quality reports shall include, at a minimum, all of the required constituents in section 3.9.1 of this Chapter.
- G. Water supplies that exceed State primary drinking water health standards for chronic contaminants shall have a deed restriction recorded on the lot that the water supply is not potable without installation of a certified treatment system that reduces the contaminant level to safe health standards.
- H. Additional water quality parameters may be required depending on the location of the lot, susceptibility to other contaminants, results of testing conducted during Tentative Map proof of water documentation, and future drinking water standards.

### **3.9.6 Zone Change and General Plan Amendments**

This section applies to water supplies for individual wells.

For zone changes, a minimum of 10 percent of the maximum allowable lots shall have a well drilled. For proof of adequate water quantity, these wells shall then have a 24 hour pump test conducted. The well sites shall be spread throughout the project area to provide an accurate representation of the project water supply. The well sites shall be accurately shown on a site map and submitted with the zone change land feasibility report.

## **3.10 AIR QUALITY**

### **3.10.1 Emission Sources**

Several types of emission sources need to be considered when evaluating the impacts of a project under CEQA.

- A. Indirect Sources: For many development projects, motor vehicle trips are the principal source of air pollution. Projects in this category, such as shopping centers, office buildings, arenas, and residential developments, are often referred to as "indirect sources." This is because they do not

directly emit significant amounts of air pollutants from onsite activities, but cause additional emissions from motor vehicles traveling to and from the development.

- B. Area Sources: Most development projects also generate “area source” emissions. Area sources are sources that individually emit fairly small quantities of air pollutants, but which cumulatively may represent significant quantities of emissions. Water heaters, fireplaces, lawn maintenance equipment, and application of paints and lacquers are examples of area source emissions.
- C. Stationary Sources: Certain projects also may directly generate stationary or “point” source emissions from operations. Although most area sources discussed above are stationary, the term stationary or point source usually refers to equipment or devices operating at industrial and commercial facilities. Examples of facilities with stationary sources include manufacturing plants, quarries, print shops and gasoline stations.
- D. Temporary Sources: Finally, consideration must be given to emissions from the operation of equipment and vehicles, as well as dust emissions, during the construction phase of a project. In some cases, construction emissions, even though they are temporary, may be greater than emissions from subsequent operation of the project.
- E. Land Use: Land use decisions are critical to air quality planning because land use patterns greatly influence transportation needs, and motor vehicles are the largest source of air pollution in the Air Pollution Control District (District). The location, intensity, and design of land use development projects significantly influence how people travel. For example, land use strategies such as locating moderate or high-density development near transit stations increases opportunities for residents/employees to use transit rather than drive their cars. Similarly, design considerations such as orienting a building entrance towards a sidewalk and/or transit stop increases the attractiveness of walking and transit as an alternative to driving.

### **3.10.2 Design Elements**

Some important land use and design elements that help improve air quality include the following:

- A. Encourage the development of higher density housing and employment centers near transit stations;
- B. Encourage compact development featuring a mix of uses that locates residences near jobs and services;

- C. Provide neighborhood retail within or adjacent to large residential developments;
- D. Provide services, such as restaurants, banks, copy shops, post office, etc., within office parks and other large employment centers. Encourage infill development;
- E. Be sure that the design of streets, sidewalks, and bike paths/routes within a development encourages walking and biking;
- F. Orient building entrances towards sidewalks and transit stops;
- G. Provide landscaping to reduce energy demand for cooling;
- H. Orient buildings to minimize energy required for heating and cooling.

By incorporating such measures in local plans and addressing them during initial contacts with project proponents, the environmental impacts of development proposals may be lessened and environmental review processes simplified. The District encourages project proponents to use computer tools that analyze emissions from development projects and assist in developing different designs or alternatives with reduced air quality impacts. Contact the District for information or assistance.

### **3.10.3 Permit Requirements**

State law requires any facility that has the potential to emit air contaminants to apply for a permit from the District. If you have any question about whether you need a permit, contact the District at (530) 621-6662.

*Air Pollution Control District*  
(530) 621-6662  
[www.edcgov.us/emd](http://www.edcgov.us/emd)

## 4.1 BACKGROUND

- 4.1.1 Primary Goal
- 4.1.2 DOT Permits, Projects, and Other Processes

## 4.2 GENERAL PROCESS DESCRIPTION FOR DISCRETIONARY PROJECTS

- 4.2.1 General Process Steps for Discretionary Projects
- 4.2.2 Step 1. Application Submittal, Project Review and Conditioning
- 4.2.3 Step 2. Detailed Improvement Plans Submittal and Review
- 4.2.4 Step 3. Project Construction and Inspection
- 4.2.5 Step 4. Project Completion: Final Review and Sign Off
- 4.2.6 Fees

## 4.3 STANDARDS FOR DISCRETIONARY DEVELOPMENT

- 4.3.1 Streets
- 4.3.2 Driveways
- 4.3.3 Street Lighting
- 4.3.4 Traffic Signals
- 4.3.5 Sidewalks, Curb, and Gutter
- 4.3.6 Onsite Improvement Requirements
- 4.3.7 Underground Power, Communication, and Other Utility Systems
- 4.3.8 Storm Water Quality and Drainage
- 4.3.9 Design Waivers and Design Exceptions Policy

## 4.4 MISCELLANEOUS PERMITS

- 4.4.1 Grading Permits
- 4.4.2 Utility Encroachment Permits
- 4.4.3 Miscellaneous Encroachments

## 4.5 OTHER

- 4.5.1 General Vacation and Summary Abandonment of Easements
- 4.5.2 Irrevocable Offer of Dedication

**DEPARTMENT OF TRANSPORTATION MISSION:**  
**PROVIDE A SAFE, CONGESTION FREE HIGHWAY**  
**SYSTEM THAT IS RESPONSIVE TO THE NEEDS OF THE**  
**COUNTY'S CITIZENS, AND IS ENVIRONMENTALLY**  
**SENSITIVE.**

## 4.1 BACKGROUND

While this manual includes design standards for all County departments, as well as the El Dorado County Fire Protection Districts, there are some processes and standards that are either unique to DOT, or that are the primary responsibility of DOT. This Chapter describes DOT's application processes and the components of an application that must be submitted for discretionary projects for which DOT has purview. It also contains design and construction standards and is a companion chapter to the other chapters in this manual, as well as the County's other Design Manuals (e.g., "Highway Design Manual", "County of El Dorado Drainage Manual", "Standards Plans", etc.) DOT also has responsibility for some miscellaneous permits that affect the County's roads. These are described briefly in this Chapter but for more information and application forms, call DOT (530) 621-5900 or see the DOT website <http://www.edcgov.us/DOT/index.html>. Following the processes outlined in this Chapter, as well as discussing a project early with DOT staff, will help facilitate the completion of a project in a timely and efficient manner. NOTE: If your project is in the Lake Tahoe basin or vicinity, your project may also be subject to TRPA's requirements. Please contact TRPA for more information.

### 4.1.1 Primary Goal

DOT's primary goal is to serve the transportation needs of residents and visitors to the County. One of DOT's areas of responsibilities includes oversight of land development, and includes the following specific responsibilities:

- A. Reviewing and recommending conditions for proposed new development projects (e.g., Tentative Maps, Parcel Maps, Design Reviews, etc.) to ensure they meet the County's standards related to road design, drainage, storm water quality, and erosion control;
- B. Reviewing, issuing, and monitoring permits that affect the County's roads and bridges (e.g., encroachment permits, road closure permits);
- C. Inspecting new development under construction to ensure it meets design, safety, and construction plans and requirements.

### 4.1.2 DOT Permits, Projects, and Other Processes

There are a number of different permits, projects, and other processes that DOT is either a party to, or has sole responsibility for. These are listed below:

#### 4.1.2.1 Discretionary Projects

DOT is part of a County team, led by DSD Planning Services that reviews and conditions discretionary projects including

- A. Tentative Maps,

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- B. Special Use Permits,
- C. Design Reviews,
- D. Planned Developments,
- E. *General Plan* Amendments, and
- F. Rezone Applications.

#### 4.1.2.2 Miscellaneous Permits

DOT issues separate permits for specific purposes. Some of these are issued as stand-alone permits or in conjunction with discretionary projects. Included are

- A. Grading:
  - 1. Off-site (in the County's right-of-way),
  - 2. Subdivision (related to roads and drainage);
- B. Utility Encroachments;
- C. Miscellaneous Encroachments:
  - 1. Driveway Access/Obstructions,
  - 2. Timber Harvest Temporary Encroachments,
  - 3. Oversized Loads, and
  - 4. Special Functions/Events.

#### 4.1.2.3. Other Processes

DOT is responsible for processing applicants' requests to vacate and abandon existing easements that were granted to the County (not other parties). These are referred to as "General Vacations" and "Summary Abandonment of Easements" or "AOE"s. Vacations and AOE's are typically a by-product of some other type of change to the land in question, such as Parcel Maps, Tentative Maps, right-of-way acquisitions for roads, etc. They are technically not permits as they require approval by the Board of Supervisors (Board). DOT also processes "Irrevocable Offer of Dedications" or "IOD"s. When an applicant for a discretionary project is required to dedicate a portion of their real property to the County, typically for purposes such as road and other public infrastructures, DOT will help the applicant with the IOD process.

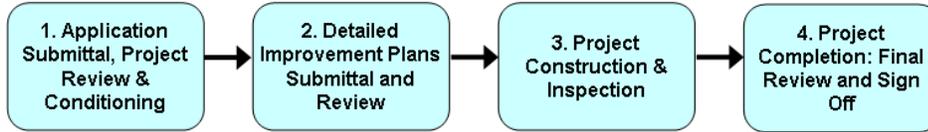
In order to provide its customers service quickly and efficiently, DOT maintains and staffs a service counter in DSD, as well as at DOT. Customers can come to the DSD counter to obtain information on DOT fees and apply for DOT permits and to the DOT counter to get more detailed information about road requirements related to new development, obtain clearances required by DOT, and receive information regarding DOT issues. For questions, please call DOT at (530) 621-5900.

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## 4.2 GENERAL PROCESS DESCRIPTION FOR DISCRETIONARY PROJECTS

### 4.2.1 General Process Steps for Discretionary Projects (as applied to DOT)

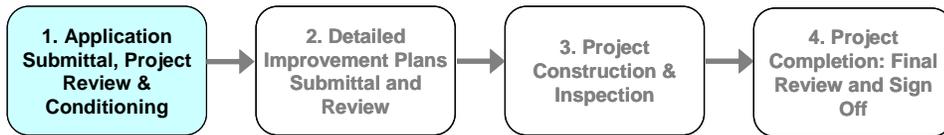
A discretionary project goes through four steps before completion:



There is an in-depth County departmental (e.g., DSD, EMD, DOT, Surveyor's Office) and other agency (e.g., Fire Protection Districts, Community Service Districts) review process for each of the four steps. A project cannot move from one step to the next without completing the prior step. The steps of the process are described below.

Depending on the complexity and size of the project, each step can take between several months and several years, and can incur fees from several thousands to several millions of dollars. Therefore, it is important that applicants educate themselves about the process(es) involved in land development pertaining to their specific project, and, to talk with staff for further clarification.

### 4.2.2 Step 1. Application Submittal, Project Review and Conditioning



Most construction in the County requires approval from DSD. Anyone interested in undertaking a discretionary project is encouraged to arrange a "Pre-Application" meeting with DSD. At this preliminary stage, a Pre-Application meeting allows for early review of a project to identify any potential issues the project may have in light of the *General Plan*, zoning, and CEQA.

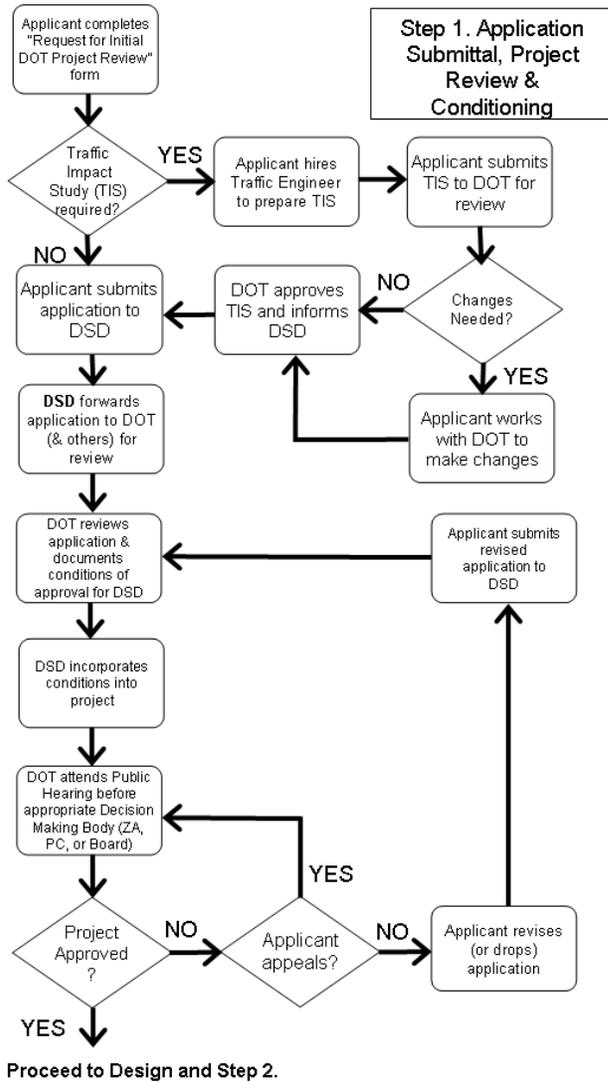
DSD applications for all discretionary development projects, as well as a "Pre-application Submittal Meeting application", are available on-line <http://www.edcgov.us/Planning/applications.html>.

As part of Step 1, a traffic study may be required. Before completing a formal project application, see DOT's website for more information regarding when traffic studies are required.

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Once a formal project application and the appropriate fees (<http://www.edcgov.us/Planning/fees.html>) are submitted to DSD, the plans are routed to DOT's Discretionary Review team, as well as other County departments, for review.

During the project review process, DOT reviews and evaluates traffic impacts of a project including all aspects that involve roads and bridges, as well as facilities that affect the public right-of-way (i.e. traffic signals, in-ground and overhead utilities, streetlights, landscaping, etc.). DOT and DSD also review proposed grading.



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DOT will respond to DSD with a list of recommended conditions for approval of the permit. If the applicant does not agree with certain conditions that DOT, or others, places on the project, the applicant may be able to apply for a “design waiver” to ask the applicable decision making body to waive a particular standard. For more information on design waivers, see Chapter 1.

- A. DOT staff reviews and analyzes a proposed project application for compliance with, or impact on, the following subject areas:
  - 1. Traffic Impacts Analysis (TIA) – the *General Plan* requires that all new development fully mitigate all traffic impacts associated with it. Thus, a traffic study may be required. See DOT’s website for more information <http://www.edcgov.us/DOT/TrafficStudy.html> or contact DOT at (530) 621-5900;
  - 2. Consistency with the *General Plan*’s “Transportation and Circulation Element” (<http://www.edcgov.us/Planning/GeneralPlanAdopted.html>);
  - 3. Right-of-Way;
  - 4. Bicycle Transportation Plan;
  - 5. Grading;
  - 6. Drainage (<http://www.edcgov.us/DOT/manuals.html>);
  - 7. Easements;
  - 8. Street Improvements (e.g., surface improvements, storm and sanitary sewer, street lights, traffic signals, landscaping, etc.);
  - 9. Private Streets;
  - 10. Under-grounding of Overhead Utilities;
  - 11. Existing Assessment Districts / Zones of Benefit (<http://www.edcgov.us/DOT/special.html>.)
- B. DOT primarily reviews the existing and proposed public infrastructure necessary for:
  - 1. The ability to support the development application,
  - 2. Any grading necessary to develop the site.

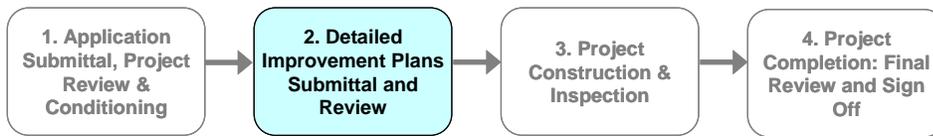
***IMPORTANT –  
The more complete your  
application, the easier and quicker it  
is to review.***

Note: Grading is a shared responsibility with DSD. Depending on the type of project, either DSD or DOT, or both, may review the grading of a proposed project. A current version of a “Preliminary Grading Plan Checklist” is provided on DOT’s website (<http://www.edcgov.us/DOT/manuals.html>).

To ensure a quick and effective review of an application, it is important that the plans detail all of the public improvements adjacent to the project as well as the onsite grading needed to develop the site.

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### 4.2.3. Step 2. Detailed Improvement Plans Submittal and Review



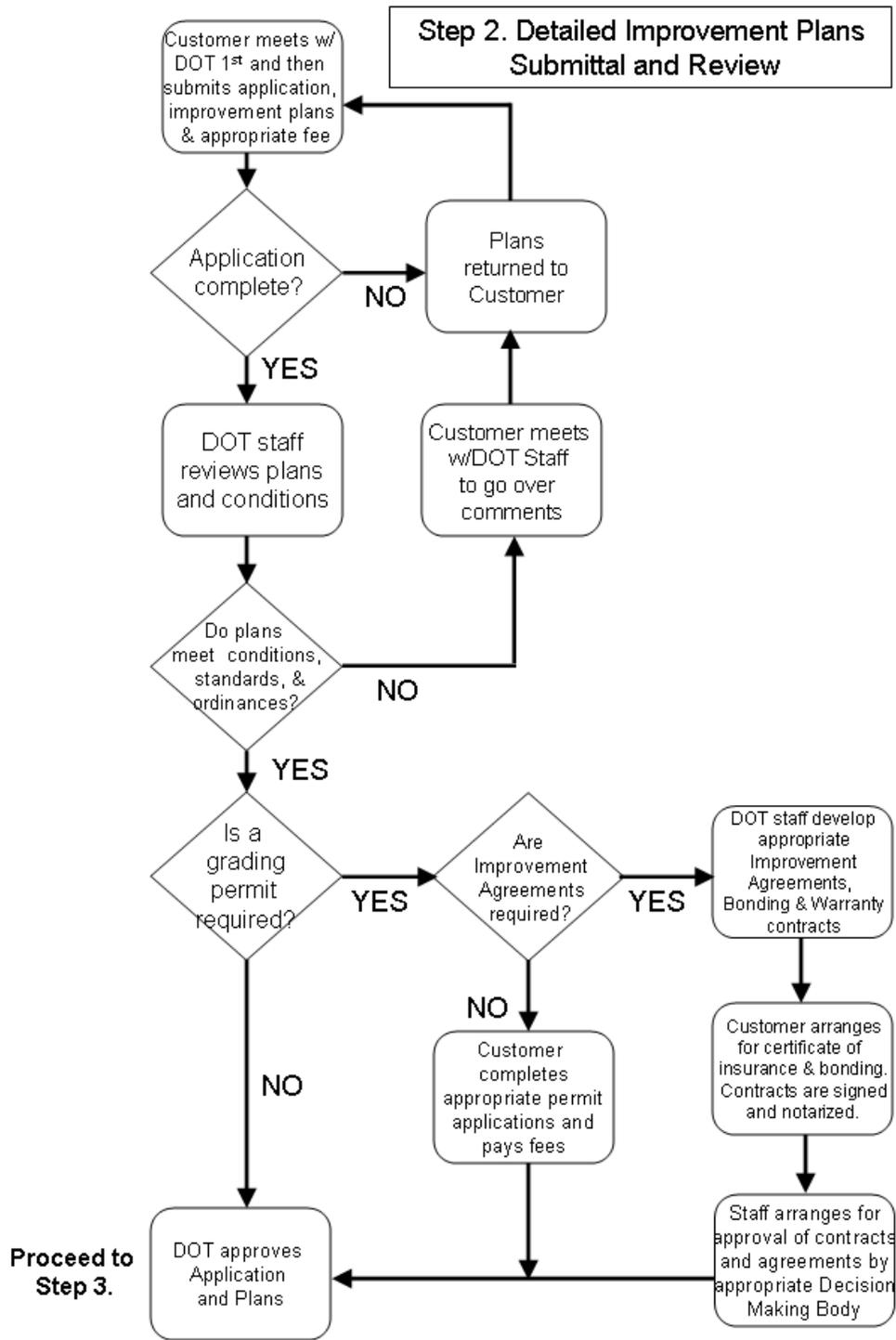
#### 4.2.3.1 Preparing Improvement Plans

Once a project is approved by the appropriate decision making body, an applicant shall schedule a preparatory meeting with DOT before creating any detailed improvement plans. DOT may waive this requirement upon a signed request from the property owner. DOT will provide information as to what will be needed on the detailed improvement plans. After the preparatory meeting, the applicant then creates and submits to DOT the detailed plans for all the specific improvements that are needed to construct a project, which could include road improvements in the County right-of-way. DOT staff will also work with the applicant to prepare any required agreements. As part of the detailed improvement plans, DOT is primarily concerned with items such as signing and striping, right-of-way, landscaping and fencing, traffic signals, drainage, erosion control, etc. These detailed improvement plans are submitted to DOT, along with the appropriate fees, for plan checking. Plans shall adhere to the conditions placed on the project as well as to all County Ordinances and design standards. Changes may be required. If public improvements (e.g., road widening, addition of traffic signals) are required as part of a project approval, the applicant's Civil Engineer shall create these detailed improvement plans as well.

- A. Improvement plans prepared for the construction of public improvements, in support of a private development, shall be completed at no cost to the County. All County services required for their review, approval and inspection shall be paid for by cost recovery fees collected from the applicant.
- B. The plans shall be adequate to bid and build the improvements at the correct location and elevation.
- C. The plans shall be legible.
- D. At initial submittal, the plans must be substantially complete, signed, sealed and marked "preliminary, not for construction" until the plan check process has been fully completed. At final plan check, the plans shall be complete, signed, sealed and ready for construction.

**Incomplete plans will be returned for completion prior to any review taking place. See the DOT website for a current checklist.**

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#### 4.2.3.2 Initial Submittal

It is strongly recommended that you make an appointment to submit your detailed improvement plans to DOT. Call (530) 621-5900 to make an appointment.

When submitting Improvement Plans, be sure to include the following:

- A. Application – See DOT’s website (<http://www.edcgov.us/DOT/forms.html>).
- B. Plans Prepared In Accordance With DOT Requirements – Plans shall follow requirements set forth in DOT’s Improvements Checklist. The coversheet on the plans shall include DOT’s “Standard Improvement Plan Notes” and “Erosion Control Notes”. The plans shall also follow DOT’s standard plan for symbols and legends, which are based on Caltrans’ standards. These documents can be obtained at the DOT Service Counter or from the website (<http://www.edcgov.us/DOT/forms.html>). See below for a sample list of plans and information needed for submittal.
  1. Current Title Report, showing any easements and boundaries;
  2. Road plans, profiles and sight distance triangle profiles (40’ scale), or as appropriate to convey the information;
  3. Signing and striping plan;
  4. Grading plan;
  5. Storm drain plan;
  6. Erosion control plan;
  7. Post-construction run-off control procedures;
  8. Wet utility plans e.g., sewer, water, reclaimed water, etc.;
  9. Dry utility plans e.g., electricity, cable, phone, etc.;
  10. Traffic control plan (if working in existing roadways);
  11. Traffic signal plans and notes (marked “preliminary, not for construction” at initial submittal and sealed, signed and ready for construction at final submittal);
  12. Landscape & entry plans;
  13. Retaining wall plans, profiles & cross sections related to road improvements - other retaining walls shall have retaining wall plans and typical cross sections;
  14. Retaining wall structural calculations (sealed and signed);
  15. Right-of-way plans, including monument setting to indicate right-of-ways;
  16. Assessor’s parcel book page(s);
  17. Tentative Maps;
  18. Conditions of approval (as a separate attachment);
  19. Traffic study (sealed and signed);
  20. Drawings of abutting/joining road & drainage improvements;
  21. Drainage study (sealed and signed);
  22. Soils report (sealed and signed);
  23. Structural/other calculations (sealed and signed);
  24. CEQA status with supporting documentation;

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25. Where new aerial surveys must be done in conjunction with a road improvement plan, that information shall be provided to the County (contact DOT for specifics);
  26. Copies of permits from other agencies (e.g., U.S. Army Corp of Engineers, California Department of Fish & Game, Cal-EPA, Regional Water Quality Control Board, etc.).
- C. Engineer's Estimate – Include a Civil Engineer's estimate showing unit prices, quantity and extensions for all construction items. DOT has unit price estimates available; contact DOT's Land Development Services' Division for this information. The engineer's estimate shall be signed and sealed prior to final approval.
- D. Plan Review Fee – Include a plan review fee; call DOT or refer to the DSD/DOT website for the current fee schedule.

#### 4.2.3.3 Improvement Agreements

- A. If an improvement agreement is required, it should be initiated with DOT as soon as feasible. An improvement agreement is a contract that the applicant enters into with the County to ensure that the applicant completes the improvements for the proposed project. The County has very specific requirements for improvement agreements that shall be adhered to before any work can commence. The required improvement agreements are identified by DOT as part of the plan check/review process. Examples of improvement agreements include:
1. **Subdivision Improvement Agreement (SIA)**: for parcel splits into 5 or more lots. This agreement covers the on-site work done.
  2. **Road Improvement Agreement (RIA)**: for work done in the County's right-of-way and/or for other off-site improvements.
  3. **Parcel Map Improvement Agreement (PMIA)**: this agreement is similar to an SIA but applies to parcel splits of 4 or fewer lots if the lots are residential and 5 or more if non-residential.
- B. Below is a sample list of information needed by DOT to create improvement agreements; see DOT for more details.
1. Owner's name, type of entity (e.g., corporation, partnership, homeowner's association, etc.), and principal place of business;
  2. Subdivider's name, type of entity, and principal place of business;
  3. Total cost of all improvements;
  4. Current APN (Assessor's Parcel Number);
  5. Permit Name and Number;
  6. Date improvement plans signed.

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#### 4.2.3.4 Additional Plans

If the project includes any of the following, additional plans shall be prepared and submitted.

- A. Traffic Signal construction or modification – Plans shall be prepared by a Civil Engineer and consistent with the County’s “Standard Plans”.
  
- B. Sewage Collection & Disposal System – If the improvement plan includes provisions for an onsite system, see Chapter 3. If the improvement plan includes provisions for an offsite sewage collection and disposal system, the applicant shall submit to DOT, plans of the sewage collection and disposal system prepared by a Civil Engineer, of sufficient detail to enable the County Engineer to ascertain whether such system conforms to the standards set forth herein and to standard acceptable engineering practices. Such plans and specifications shall also be reviewed and signed by the authorized representative of the entity that will operate the sewer system(s), certifying it has approved the final construction plans and specifications. A letter shall be provided to DSD Planning Services by the public entity’s engineer, stating that the provider is willing to maintain and operate the sewer system upon its completion.
  
- C. Landscaping in the public right-of-way – Plans shall be consistent with Chapter 900 of the County’s “Highway Design Manual”, the County’s “Policy G-1” adopted 12/22/87, County “Ordinance 12.12.070 Prohibited Trees”, and the County’s “Water Conserving Landscape Standards” (“Resolution R-69-93”) adopted 2/23/93. A “Lighting and Landscaping District” (LLD) shall be created (or some other funding mechanism acceptable to the County) to pay for future maintenance requirements.
  
- D. Street Light construction or modification – Plans shall be prepared by a Civil Engineer and consistent with Chapter 2000 of the County’s “Highway Design Manual” and the associated Standard Plans referred to therein.

#### 4.2.3.5 Plan Review

Upon receipt of the initial package, County staff will review the plans for completeness.

- A. If the initial submittal is complete, staff will review the plans and call the applicant for an appointment, at the applicant’s option, to go over staff’s comments. Any corrections or clarifications that are required shall be made. The applicant may make an appointment with DOT to review the revised plans. If all changes have been made as requested, the applicant is ready to make the final submittal.
- B. If the initial submittal is incomplete (incomplete design, missing plans, etc.) staff will return the plans to the applicant for completion prior to any review taking place. This can potentially delay DOT’s approval, which is required

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to get a building permit, grading permit, road improvement agreement, or other authority to move a project forward into construction.

#### 4.2.3.6 Final Submittal

Upon final submittal, the applicant shall satisfy all of the following conditions prior to project improvement plans approval and permit issuance:

- A. Original Improvement Plans – Submit the original plans (referred to as “mylars”) together with all County checkprints. The plans shall be signed and wet stamped by a Civil Engineer.
- B. Additional Plans / Map – Any other plans (e.g., Landscaping, Non County-maintained roads, Traffic Signal, etc.) necessary for this project shall also be complete and ready for approval.
- C. Discretionary Conditions – Documentation shall be provided that demonstrates that the original conditions placed upon the project when it was approved have been satisfied. (For example, a narrative describing how the plans meet the conditions.)
- D. Improvement Agreements – Execute and notarize any Improvement Agreements, security instruments, and permits prepared by DOT staff.
- E. Security – Projects and agreements (e.g., RIAs, SIAs) require some form of security. See County Ordinance “16.16.050 Security to Guarantee Performance of the Improvement Agreement” for more information on the forms of security the County will accept. County staff will provide the forms necessary for the required agreement.

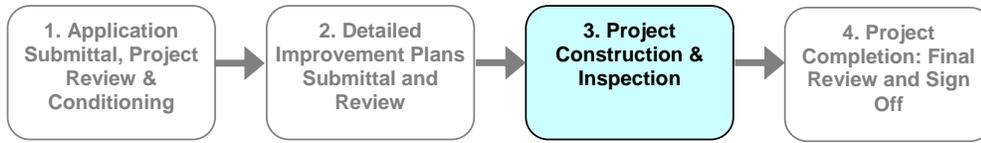
The County has rigorous requirements and it is best to work closely with County staff to ensure compliance with the County’s requirements. This will ensure a project moves as rapidly as possible through the permit approval process.

- F. Policy of Insurance – A policy of insurance which meets all County requirements shall be maintained throughout the course of an agreement. The policy of insurance shall explicitly name the County as an additional insured and a certificate evidencing this coverage shall be provided to the County. Refer to DOT for more information regarding insurance requirements.

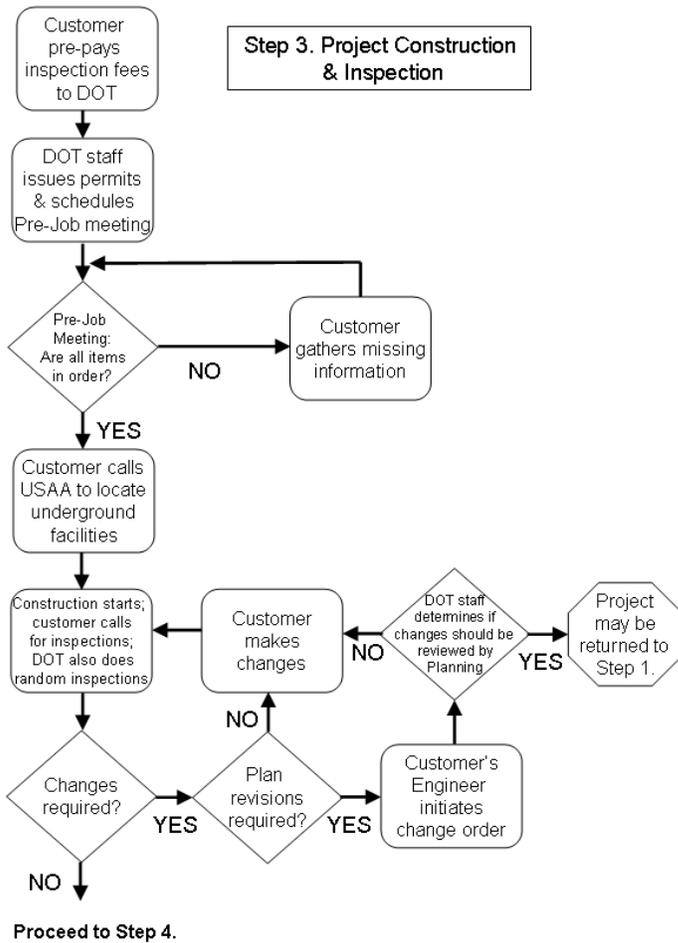
***IMPORTANT***  
*DOT cannot approve permits  
without the appropriate Security  
and Insurance in place.*

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### 4.2.4 Step 3. Project Construction and Inspection



The Construction phase is the actual implementation of a project. Prior to permits being issued, the applicant shall pay inspection fees and have any required insurance and bonding in place before construction can commence. Most permits have time limits; however, in certain circumstances, these time limits can be extended.



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#### 4.2.4.1 Pre-Job Meeting

Once all documents have been provided, a pre-job meeting is scheduled before work begins and includes the applicant's team (e.g., the applicant or designated representative, design engineers, soils engineers, etc.), County departmental inspectors (e.g., DOT, EMD, DSD), and various agencies (e.g., EID, PG&E, State Department of Fish & Game, etc.) to go over job site requirements related to safety, protective fencing, erosion control, dust mitigation, storm water quality, etc. The inspectors will also ask the applicant to bring approved plans and permits to be sure all documents are in order before work commences. See DOT's website for a current checklist of what needs to be brought to the pre-job meeting and the topics that will be discussed.

Before any digging begins, call or check online with Underground Service Alert, known as "USA", to determine the location of any underground facilities that should be avoided. USA is an organization with the sole purpose to make people aware of the locations of USA's members' underground facilities to prevent accidents, such as digging into an electrical line, water line or a gas pipeline. USA can be found online at <http://www.usanorth.org/> and toll free at 1-800-227-2600.

Some important items typically required for large projects such as subdivisions and commercial projects include

- A. **A Staging Plan** for how the proposed work will be done and over what time period. For example, for a proposed widening of an existing road, one lane may be closed first while a new adjacent lane is under construction.
- B. **A Traffic Control Plan** for work in County roads and right-of-ways. The County will review the plans and issue a Traffic Safety Order that shall be kept on-site.
- C. **Staking**: In most cases, all staking is done by the applicant/developer's survey crews – including monuments and streetlight locations.
- D. **Material Submittals for Traffic Signals**: If a traffic signal is to be designed by a consultant, the material submittals are to be reviewed and stamped by the consultant's Civil Engineer prior to submittal to the County for review. (Note: Traffic signals cannot be staked until the County approves the material submittals.)
- E. **Utility Encroachment Permit(s)** may be required (discussed later in this Chapter).

#### 4.2.4.2 Inspection

After completion of various phases of construction, work is inspected by County inspectors, as well as by other applicable agencies, to ensure it matches the detailed improvement plans. Rejected work must be corrected and re-inspected.

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The project inspector is an authorized representative of the County Engineer, acting exclusively for the benefit of the County, authorized to make all necessary inspections of the work performed and of the materials furnished for conformance to the improvement plans and contract documents.

At the time of this writing, DOT requires 48 hours advance notice for inspection services. The number to call to schedule an inspection is (530) 621-5900.

**IMPORTANT**  
*48 hours advance notice is required for all inspection requests.*

#### 4.2.4.3 Plan Revisions

Revisions to plans may be required for various reasons.

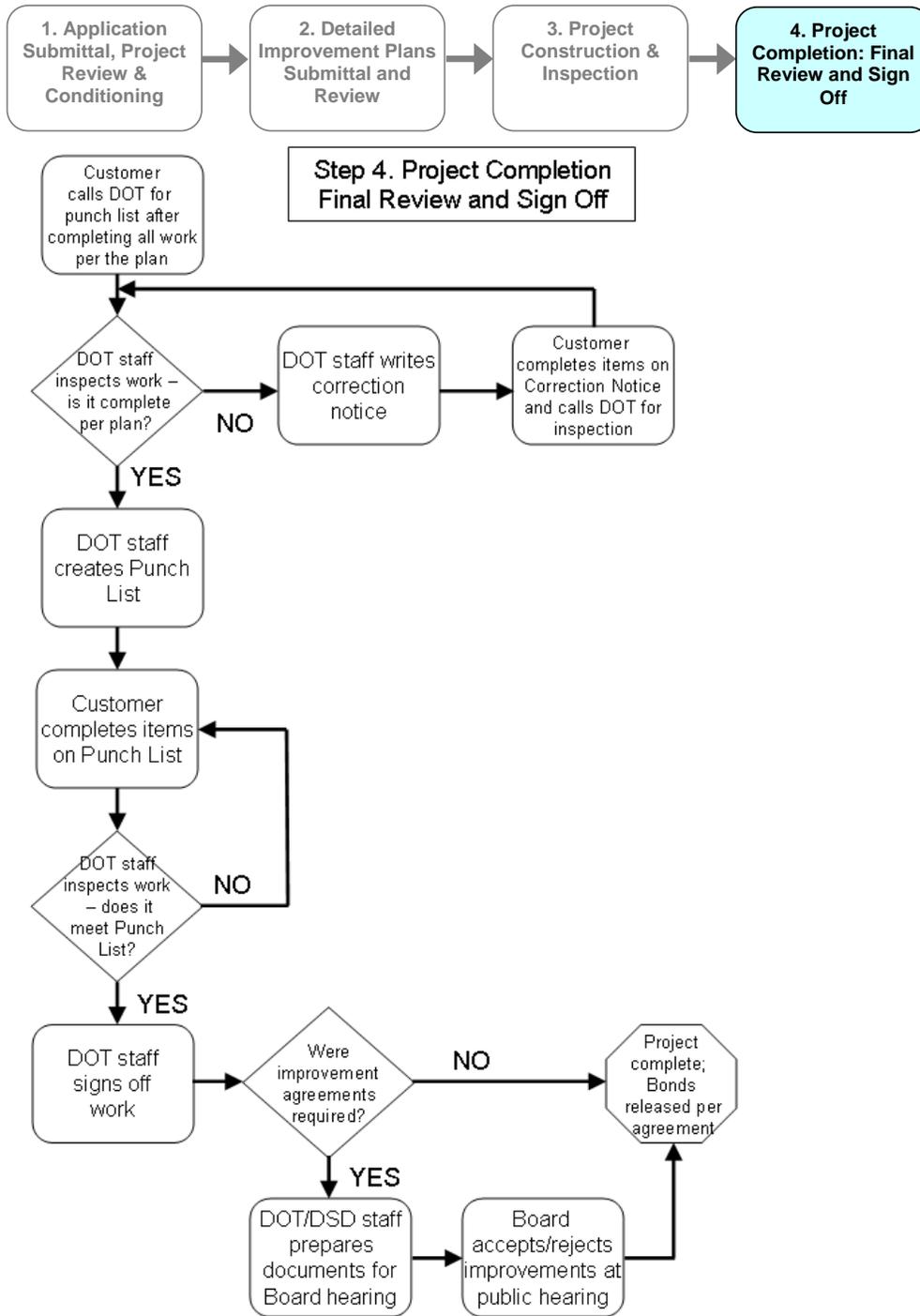
- A. The design change shall be based on recommendations made by the applicant's engineer and shall be approved by the County Engineer prior to revising the original plans.
- B. If changes may impact any of the original components that formed the basis for the project's approval, the project may have to be re-reviewed by DSD Planning Services.
- C. All changes to the original plans shall be made by the applicant's Civil Engineer, signed by the owner, contractor and the engineer.
- D. A duplicate set of plan sheets shall be submitted along with an explanation of the change and why it is being made.
- E. DOT's County Engineer will sign the plan revisions after everyone else has signed.

The applicant's Civil Engineer will discuss the change with DOT's County Engineer and/or submit a checkset showing the proposed change.

- A. When making changes to the original, cross out or shade the old so that it is still legible and add the new, together with a revision number inside a diamond symbol.
- B. Also add a cloud bubble to denote the change. Return the changed plan to DOT.
- C. If the proposed change is acceptable to DOT, the County Engineer will sign the plan revisions. At that time, the applicant's engineer shall provide DOT with copies of the revised sheet(s).
- D. Note that for substantial changes, the bonding requirements may need to be changed as well.

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4.2.5 Step 4. Project Completion: Final Review and Sign Off



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#### 4.2.5.1 Punch Lists for the Project

When a project is nearing completion, the DOT inspector will prepare a short list (typically referred to as a “punch list”) of the items that remain to be completed before a project can be finalized. DOT’s “punch list” includes all administrative requirements that need to be completed associated with a project. (A punch list will not be created until everything has already been done on the approved plans.) After all items on the punch list have been completed to the satisfaction of the DOT inspector, the project will be signed off or “finalized”. Below is a sample punch list of items typically checked by DOT inspectors when a project is nearing completion. For a current version, please call DOT (ask for the Land Development Services team) or see the DOT website.

Sample Punch List (sent to owner and person who signed agreement):

- A. All improvement plans, change orders, terms of subdivision agreements, engineer’s estimates, and conditions of approval are complete;
- B. Compliance certifications completed by the Civil and Geotechnical engineers for any lots that required them;
- C. Acceptance and completion letters from all applicable parties (e.g., CSDs or Homeowner’s Associations, utility companies, Resource Conservation Districts, etc.);
- D. Record drawing checkprints (including utility composites, landscaping plans, and grading plans). Record drawings shall be stamped, certified and signed by the applicant’s Civil Engineer;
- E. All Plan Revisions signed off and noted in the “Revision” Block on the plans and labeled at the site of the change;
- F. If asbestiform-containing soils are present and mitigation has been completed, documentation that test results, reports, and locations have been submitted and a completion and acceptance letter from AQMD (Air Quality Management District);
- G. Drainage ditches built within their easements and are operational per the plans;
- H. All fees and bills paid current including inspection fees and Zone of Benefit taxes.

All record drawing checkprints, including dry utilities and landscaping plans, and acceptance letters, shall be submitted together at the same time.

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#### 4.2.5.2 Road Acceptance

- A. A project that includes a RIA or SIA shall be approved and accepted by the Board before the County will take ownership and responsibility for maintenance of the improvements.
- B. A Zone of Benefit may be required to be formed by the applicant so that the residents pay for the ongoing maintenance of the improvements.
- C. In those instances in which the applicant proposes non County-maintained improvements (e.g., non County-maintained streets), the applicant shall set up a governing body (e.g., Homeowners' Association, Road Association, Zone of Benefit, Community Service District) which will be responsible for ongoing maintenance of these improvements.
- D. All proposed County-maintained and non County-maintained facilities shall meet applicable County standards.

#### 4.2.5.3 Board of Supervisors Acceptance

In addition to items listed above on the sample punch list, the following shall be completed and verified by DOT before staff can prepare for the Board's acceptance of improvements:

- A. All items shown on improvement plans, change orders, subdivision agreements, engineer's estimate, and Tentative Map conditions of approval;
- B. All slopes, drainage facilities and utilities within rights-of-way or easements;
- C. Driveways placed per plans and where cuts/fills are greater than six feet;
- D. Tentative Map conditions met;
- E. Landscaping acceptance, if applicable, by CSD or other like entity;
- F. Acceptable post-construction BMPs (Best Management Practices) in place to address California's water quality requirements  
<http://www.edcgov.us/DOT/manuals.html>;
- G. Drainage walk-through with Zone of Benefits maintenance representative;
- H. Street grading within right-of-way of slope easements;
- I. All documentation (e.g., contracts, agreements, legal descriptions, etc.) for the developer or the County to acquire necessary offsite property or

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easements;

- J. All fees paid current.

**Note that items may differ for each project.** This list serves as the starting basis for applicants and DOT staff. For the most current list, contact DOT or visit the DOT website. For questions related to your particular project, contact DOT.

**4.2.5.4 Occupancy**

- A. No occupancy will be allowed until the following are complete and operational and have been approved by the County: Roadways; storm, sanitary, and water facilities; driveways and sidewalks; and streetlights and/or traffic signals.

**4.2.6 Fees**

DOT services required for review, approval and recordation, shall be paid for by cost recovery fees collected from the applicant. See the current fee schedule at the County website.

***IMPORTANT***  
*No occupancy will be allowed until all primary infrastructure is inspected & operational.*

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### 4.3 STANDARDS FOR DISCRETIONARY DEVELOPMENT

These standards shall apply to all discretionary development, except where specifically noted.

The terms “streets”, “roads”, “highways”, “boulevards”, and “routes” are used interchangeably to refer to means of circulating various types of traffic but primarily the automobile.

#### 4.3.1 Streets

##### 4.3.1.1 Access

See Chapter 2, section 2.5.3 of this manual.

##### 4.3.1.2 Drainage

- A. Roads shall have well-defined roadside ditches or inlets directing surface water away from the roadway to an adequate drainage system.
- B. Water shall not cross the road surface but shall be conveyed through a culvert of adequate size to accommodate storm water without flooding the roadway.
- C. If a history of roadway flooding or damage caused by inadequate drainage facilities exists, the existing road shall not be approved for an access road unless sufficient improvements are made to eliminate the flooding problem. Refer to the County’s “Drainage Manual” for more information.

##### 4.3.1.3 Gates

Gates are not permitted across any public roads (non County-maintained or County-maintained).

##### 4.3.1.4 Improvement Requirements

- A. Any development that requires improvements to existing roads and/or the addition of new roads, shall include the setting of monuments placed by a licensed land surveyor, to indicate the road right-of-way. A Record of Survey may also be required under “Section 8762” of the “California Business and Professions Code”.
- B. All survey work shall be done on horizontal datum NAD83 (California State Plane Coordinates, Zone 2, U.S. Survey Feet) and vertical datum NGVD 1929 or NAVD 88, or as approved by DOT. The epoch shall be specified. Any existing survey information available from the National Geodetic Survey ([www.ngs.noaa.gov/cgi-bin/datasheet.prl](http://www.ngs.noaa.gov/cgi-bin/datasheet.prl)) or from DOT shall also be used. All plans and maps shall include a statement on the cover sheet confirming which horizontal and vertical datums have been used.

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- C. Other improvement requirements shall be as is identified in the County's "Highway Design Manual" and "Standard Plans".

#### 4.3.1.5 Erosion Control

For erosion control construction requirements and standard notes for improvement plans, see both the Resource Conservation District website <http://www.eldoradorcd.org/nodes/techassist/erosion.htm> and Chapter 5 of this manual.

#### 4.3.1.6 Street Signage

- A. Street name signs of a type and construction approved by the County Engineer shall be placed at each intersection. See the applicable standard plans in the "Standard Plans" manual.
- B. Traffic control signs shall be placed where designated by the County Engineer and shall meet the appropriate standard plan in the "Standard Plans" manual and the "California Manual of Uniform Traffic Control Devices".
- C. A sign at each access of a development reading, "This Road is Not County Maintained" (or a DOT-approved equivalent), shall be placed in a prominent location for developments which include non County-maintained roads.
- D. Street names shall be approved by the County's Surveyor's Office. See Chapter 6 of this Manual and the Surveyor's website for more information on street names <http://www.edcgov.us/surveyor/>.

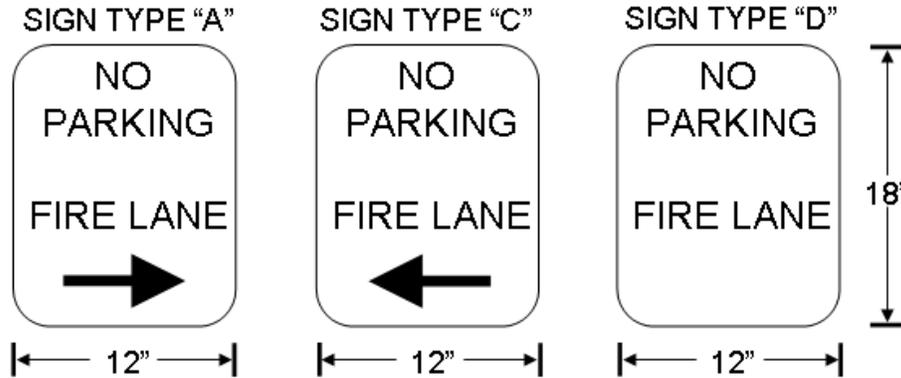
#### 4.3.1.7 On Street Parking

- A. ***Pursuant to the "2007 California Fire Code" and amendments as ratified by the Board on February 26, 2008, and where required by the applicable Fire Protection District having jurisdiction, roads shall be marked with permanent "NO PARKING—FIRE LANE" signs complying with the figures below.***
- B. ***Signs shall have a minimum dimension of 12 inches wide by 18 inches high and have red letters on a white reflective background.***
- C. ***Signs shall be posted on one or both sides of the road as follows:***
  - 1. ***Roads from 20 to 29 feet in width shall be posted on both sides as a fire lane, with no parking allowed on either side of the roadway.***
  - 2. ***Roads from 30 to 39 feet in width shall be posted on one side as "No Parking, Fire Lane", with parking allowed only on the opposite side of the roadway.***

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- 3. Roads 40 feet and greater width may allow parking on both sides of the roadway.
- D. When signs are required, the applicant shall arrange for a funding mechanism, such as a Homeowners Association or Lighting and Landscaping District, to pay for the ongoing maintenance of these parking restrictions.



*(Fire Safe Regulations: not applicable)*

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**4.3.1.8 Other requirements**

The County Engineer may require additional design and construction requirements as determined to be necessary to prevent excessive operating costs, protection against deterioration, and obsolescence.

**4.3.1.9 Staged Developments**

There are some exceptions to these standards associated with phased or staged developments. The following exceptions may be applied to the County’s road standards in phased developments, with the approval of the County Engineer:

- A. Some proposed streets may be required to extend to the boundary line of the development. Temporary turnarounds shall be created in compliance with the standards for permanent turnarounds. Temporary turnarounds may be created with temporary easements shown on the map. A barrier approved by the County Engineer shall be installed at the end of the improved street. See the County’s “Standard Plans” for the appropriate standard plans. A temporary turnaround easement shall be removed by a “Certificate of Correction” completed by the applicant, upon the improvement of the road that changes the dead-end road to a through road.
- B. Streets that are one-half the width of the applicable standard road plan are not allowed unless they are planned as part of staged construction of a

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four lane street and two travel lanes, one in each direction, are constructed.

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**4.3.1.10 Weight**

- A. Pursuant to the “2007 California Fire Code” and Code amendments, as ratified by the Board on February 26, 2008, all roads and bridges shall meet a 75,000 pound load. This requirement can be met by using normal pavement design methods found in the Caltrans “Highway Design Manual, Chapters 600-670”, “Pavement Engineering for Roadways”, and the California Amendments to the AASHTO “LRFD Bridge Design Specifications HL93 and P15” (permit) for bridges. Reference the following Caltrans documents (<http://www.dot.ca.gov/hq/esc/techpubs/>):
1. “Bridge Design Specifications”,
  2. “Bridge Design Aides”,
  3. “Bridge Design Details”,
  4. “Bridge Design Detail Sheets”,
  5. Bridge Design “Memo to Designers”.
- B. The above referenced standards will provide adequate structures to support all legal commercial vehicles as set forth in the “California Vehicle Code”, “Sections 35550 – 35558”, and for fire trucks as set forth in the “California Code of Regulations, Title 21, Division 2, Chapter 7”.

**4.3.1.11 Access Management**

- A. Access management is a set of techniques that state and local governments use to control access to highways and roadways. It includes several techniques designed to:
1. Increase the capacity of these roads,
  2. Manage congestion, and
  3. Reduce accidents.
- B. This is often done by designating an appropriate level of access control for each of a variety of facilities. Local residential roads are typically allowed full access, while major highways and freeways allow very little.
- C. Depending on the type of project proposed and the existing traffic volume and safety conditions in the surrounding area, DOT may require the applicant to do any of the following:
1. Increase spacing between signals and intersections;
  2. Alter driveway location, spacing, and design;
  3. Install new, or modify existing, exclusive turning lanes;
  4. Install median treatments, including two-way left turn lanes that allow turn movements in multiple directions from a center lane and raised medians that prevent movements across a roadway;
  5. Provide service and frontage roads;
  6. Implement land use policies that limit right-of-way access to highways;
  7. Add recordation of vehicular access restrictions.

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### 4.3.2 Driveways

The following standards apply to driveways:

- A. A driveway shall serve no more than two buildings with no more than three dwelling units on a single parcel, and any number of accessory buildings (Reference: "California Fire Safe Regulations, section 1271.00 of Article 1"). A road is required where more than one parcel shall be served.
- B. Distance between driveways shall be consistent with requirements shown in the County's "Standard Plans" and safe traffic engineering practices.

See the County's "Highway Design Manual" and "Standard Plans" for details of driveway encroachment construction requirements and the "Standard Plans" for driveway requirements.

### 4.3.3 Street Lighting

- A. Street lighting may be required by Specific Plans or as part of Planned Developments.
- B. Street lighting may also be required by the County Engineer as needed for traffic safety purposes (e.g., intersections with high pedestrian usage at night). In areas where street lighting is required, it shall meet the standards described in the County's "Highway Design Manual" and "Standard Plans".
- C. Where street lighting is required, a funding/maintenance entity (such as a Lighting and Landscaping District) shall be formed to pay for the ongoing energy costs and maintenance, subject to review and approval by DOT.
- D. Electric service to new streetlights shall be underground except where conditions prohibit such installation.
- E. All existing streetlights, including those on the site frontage(s) on both sides of the street and 100 feet beyond the property lines, shall be shown on developer submitted improvement plans. Street lights mounted on utility poles shall also be shown.
- F. Where the developer provides lighting, it shall meet the design standards and adhere to the standard plans in the County's "Highway Design Manual" and "Standard Plans".



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#### 4.3.4 Traffic Signals

The construction of new traffic signals is conditioned on a project during the discretionary review phase. The requirement for new traffic signals often comes about through a traffic impact analysis report that is prepared in support of the permit application.

If the traffic impact analysis report determines the need for a new traffic signal at an intersection, the applicant shall construct the traffic signal or, contribute a fair share amount towards the future construction of the traffic signal, at the discretion of the County.

##### 4.3.4.1 Guidelines

- A. Installation of traffic signals is determined through an operational and safety study.
- B. "Signal warrant studies" are part of a traffic impact analysis report. Signal warrant studies are performed to substantiate the need for the installation of a traffic signal at an intersection. The warrants are those included in the "California Manual on Uniform Traffic Control Devices", "Chapter 4", "Section C".
- C. When it is determined that the installation of a traffic signal is necessary for public safety at those locations where development results in a new intersection or access point, or adds a new leg to an existing intersection, that intersection or access shall be signalized prior to use and always prior to completion of the first phase of construction.
- D. Traffic signals are coordinated and reviewed through DOT. See the County's "Highway Design Manual" and "Standard Plans" for more details.

#### 4.3.5 Sidewalks, Curb, and Gutter

Standards regarding sidewalks are in Chapter 2, [section 2.5.3](#) of this manual and in the "Standard Plans".

#### 4.3.6 Onsite Improvement Requirements

- A. Parking areas shall be sloped at least two percent in at least one direction to prevent ponding and icing. Areas subject to ADA guidelines may slope at a minimum of one percent. Also see the County's "Title 17 Zoning Ordinance" for off-street parking requirements and "Standard Plans" for on-street parking standard plans.

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### 4.3.7 Underground Power, Communication, and Other Utility Systems

#### 4.3.7.1 Standards of Construction

- A. Utility plans indicating exact location of trenches, crossings and structures shall be approved before any utility placement.
- B. Gas, electrical and communication systems shall have 30 inch minimum cover to finished grade when in a public street.
- C. Gas, electrical and communication systems in public streets shall be placed before pavement is constructed and shall be accurately constructed in conformance with the plans.
- D. Surface facilities that will be located in paved areas shall have traffic frames and lids conforming to the "Standard Plans" manual.
- E. Surface facilities that extend above the finished grades shall be located so that they will not cause a hazard.
- F. The final improvement plans and specifications shall show the work to be performed by the applicant, normally consisting of conduit, pull boxes and transformer pads. Wires are normally supplied by the utility entity and need not be shown on the plans.
- G. No non-yielding obstructions, including transformers, splice boxes, and other structures, may be placed within 20 feet of edge of pavement unless vertical curb and gutter has been placed, in which case 6 feet from the top back of curb will be the minimum limit. Structures may also require protection posts.
- H. Water service installations in roadways with cuts or fills greater than six feet in height and slopes steeper than three to one shall have the meter box set at finish grade next to the road in the location directed by the district. The service line shall then be extended five feet beyond the slope catch-point with PVC schedule 40, sized to match the service. Ends of lines shall be marked with an acceptable permanent marker, for example steel T-posts, painted blue.
- I. Water meter boxes, sewer clean-outs and other utility boxes shall be set flush with the grade if in a walk area such as behind the curb.
- J. Structural backfill for all manholes in streets shall conform to "Section 19-3.06" of the Caltrans "Standard Specifications".

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#### 4.3.7.2 Plans and Specifications

- A. Prior to County acceptance, the applicant shall submit to the County Engineer, plans showing the location of the electrical and communication systems prepared by a Civil Engineer, of sufficient detail to enable the County Engineer to ascertain whether such systems conform to the standards set forth herein and to standard acceptable engineering practices.
- B. Such plans and specifications shall be approved by the authorized representative of the entity operating the electrical or communication systems and shall be accompanied by a letter from the entity stating that the entity and applicant have entered into an agreement that will provide the utility's service to a lot line at each lot in the subdivision.
- C. A letter shall be provided to the County Engineer by each service provider, stating that the provider is willing to maintain and operate the system upon its completion.

#### 4.3.8 Storm Water Quality and Drainage

The County is subject to State and Federal laws, as well as its own ordinance, prohibiting the discharge from any property of anything except clean rainwater into the County's storm drains and waterways.

- A. All types of potential contaminants from jobsites are prohibited, including
  1. sediment,
  2. oil,
  3. other vehicle fluids,
  4. concrete washout,
  5. paint,
  6. landscaping materials,
  7. fertilizers,
  8. pesticides,
  9. and trash.

See <http://www.edcgov.us/DOT/manuals.html>.

- B. Sites which involve one acre or more of disturbed soil area, or are part of a larger common plan of development that encompasses one acre or more of disturbed soil, are required to file a "Notice of Intent" (NOI) with the Regional Water Quality Control Board (916) 464-4764 or ([http://www.waterboards.ca.gov/centralvalley/business\\_help/permit.html](http://www.waterboards.ca.gov/centralvalley/business_help/permit.html)).

This requirement applies in the Tahoe region as well.

- C. DSD, Department of Agriculture, and DOT review the majority of "Erosion Control Improvement Plans" submitted through the permit and project

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process. The El Dorado County & Georgetown Divide Resource Conservation District has been contracted through the County to review certain “Erosion Control Improvement Plans”. More information on the review process of “Erosion Control Improvement Plans” can be found at <http://www.edcgov.us/emd/solidwaste/storm.html>.

- D. See Chapter 5 for more information on Best Management Practices (BMPs) for grading in general. In addition, BMPs specific to agricultural grading can be found [by](#) contacting the Agriculture Department.
- E. See the County’s “Drainage Manual” for requirements and standards related to stormwater drainage.
- F. See the County’s “Highway Design Manual” and “Standard Plans” for standards related to manholes, inlets, etc.

#### 4.3.9 Design Waivers and Design Exceptions Policy

Design waivers are discussed in Chapter [2, section 2.3.5.6 B.](#) of this manual. In addition, DOT has a “Design Exceptions Policy” that applies in any situations where a deviation from a DOT design standard is requested. See DOT for the most current version of the policy.

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## 4.4 MISCELLANEOUS PERMITS

There are several permits that are issued directly by DOT either in conjunction with a discretionary project, or separately for a specific, stand-alone purpose. For example, a commercial project to build a new shopping center may trigger a Design Review process that will ultimately include not only improvement plans as part of the discretionary review process, but also DOT-issued permits for grading, utility, and driveway encroachments after project approval. Another example is when a homeowner wants to add an additional driveway encroachment onto a County road from his/her property; the applicant would submit a stand-alone encroachment permit to DOT. DOT permits include:

### 4.4.1 Grading:

- Off-site (in the County's right-of-way)
- Subdivision (related to roads and drainage)

### 4.4.2 Utility Encroachments

### 4.4.3 Miscellaneous Encroachments:

- Driveway Access/Obstructions
- Timber Harvest Temporary Encroachments
- Oversized Loads
- Special Functions/Events.

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#### 4.4.1 Grading Permits

At the time of this writing, grading is a joint responsibility shared between DSD and DOT. Depending on the project, one or both organizations may need to review the grading plan. (See Chapter 5 for a description of which department is responsible for the various types of grading permits.)

- A. Pursuant to Section “15.14.130” of the County Grading Ordinance (<http://www.edcgov.us/building/>), when applicable, a grading permit is required for earth moving activities conducted on private property within the unincorporated area of the County in order to protect neighboring properties, public welfare, and water quality of streams, rivers and lakes.
- B. In order for a permit to be issued, a proposed grading project shall be consistent with:
  - 1. The *General Plan*,
  - 2. Any applicable Specific Plan,
  - 3. The County’s “Grading, Erosion and Sediment Control Ordinance”,
  - 4. Chapter 5 of this manual, and
  - 5. The Building Code currently in force.

The grading permits that DOT issues typically are requirements associated with the conditions of approval of discretionary projects. Specifically:

- A. DOT is responsible for the issuance of permits and inspection of any “off-site” grading in the County right-of-way, usually in conjunction with roadways or drainage around roadways.
- B. DOT is also responsible for the issuance of permits and inspection of any grading associated with new subdivisions (including Parcel Maps) for all land use types (e.g., residential, commercial, etc.).
- C. DOT’s responsibility related to grading in subdivisions includes inspection of roadways and drainage.
- D. Drainage encompasses, among other things, the grading required to create lots and ensure that they drain properly. One form of grading used to create lots is called “mass pad” grading. Examples of when a DOT-issued grading permit may be required include:
  - 1. A new commercial building on a County-maintained road which requires grading in the County right-of-way to widen the roadway and create a turn-in to the parking lot for the new building;
  - 2. A new subdivision development, where new roads will be developed and/or where drainage needs to be reviewed.

Grading plans prepared for the moving of soil, in support of private development, shall be completed at no cost to the County. All County services required for the

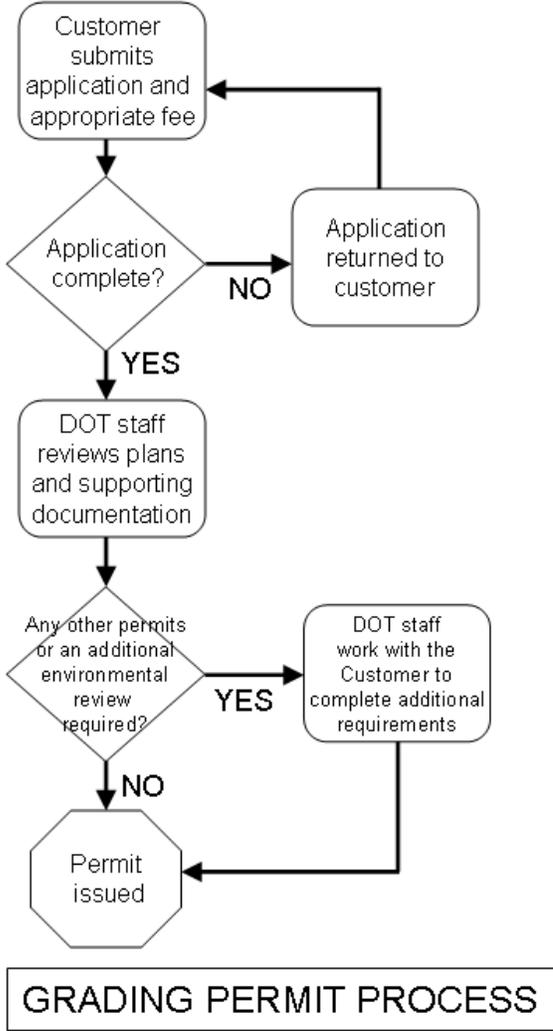
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review, approval and inspection of grading plans and operations shall be paid for by cost recovery fees collected from the applicant.

**4.4.1.1 Submittal Instructions**

For any grading permit, submit the items as outlined in Chapter 5 of this manual.

**After a discretionary project has been approved:**



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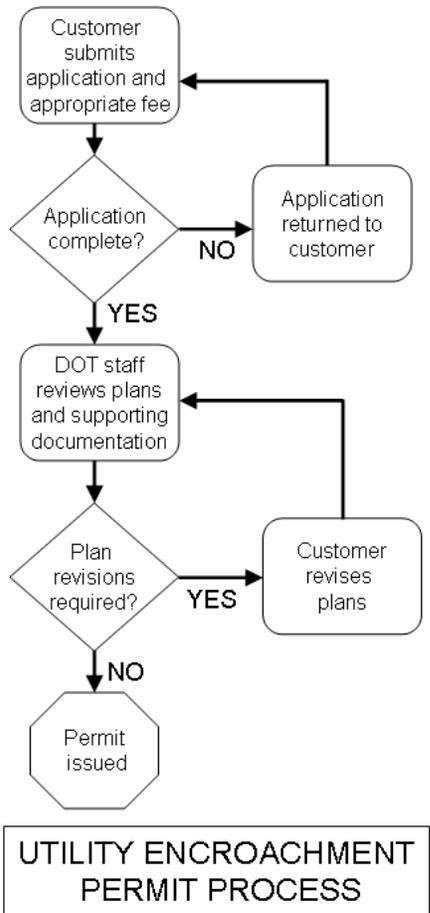
### 4.4.2 Utility Encroachment Permits

Utility permits follow the rules and process described in the County’s Ordinance “Title 12, Chapter 12.08 Road Encroachments”. This permit is required whenever temporary use of the public right-of-way is requested for utility trench construction, for improvements to a maximum value of \$100,000. (Above this threshold, a RIA is required.)

Typical examples of when a utility encroachment is required include:

- A. Installation of a utility trench in a residential or industrial subdivision;
- B. Installation of utility services to a new use (e.g., commercial, residential, or industrial building);
- C. Installation or upgrading of utility service to an existing structure;
- D. Expansion or modification of transmission or distribution facilities by a public utility.

For more information, application forms, and instructions, contact DOT.



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### 4.4.3 Miscellaneous Encroachments

#### 4.4.3.1 Driveway/Obstruction Encroachment Permits

This permit is required when:

- A. A property owner wants to modify, replace or construct a new or additional driveway, or
- B. A property owner wishes to put a fixed object in the County's right-of-way.

Contact DOT for more information and application forms and instructions.

#### 4.4.3.2 Timber Harvest Temporary Encroachment Permits

Encroachments onto County-maintained roads for the purposes of timber harvesting, shall follow the rules and process described in the County's Ordinance "Title 12, Chapter 12.08 Road Encroachments". This permit is required whenever temporary use of the public right-of-way is requested for timber harvesting. See the DOT website for the application form and instructions.

#### 4.4.3.3 Oversized Load Permits

Oversized load permits are required for any vehicles, or their loads, that are equal to or greater than eight feet wide. An application and appropriate fee shall be submitted to DOT. (See the DOT website for an application form and instructions.)

#### 4.4.3.4 Special Function Permits

A Special Function Permit is needed for any special events such as parades, foot or bicycle races that use the County's roads. (Reference County Ordinance "Title 12, Chapter 12.37 Parades".) Call DOT for more information and an application form.

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## 4.5 OTHER

### 4.5.1 General Vacations and Summary Abandonment of Easements (AOE)

General Vacations and Abandonments of Easements may be required as part of a land development project. Please contact DOT for more information.

### 4.5.2 Irrevocable Offer of Dedication (IOD)

IODs are typically used when an applicant either desires, or is required to, convey right-of-way, in fee, or an easement to the County, usually as a condition of approval for a discretionary project.

See the DOT website or call DOT for an application, fee schedule, or more information. Please call DOT to schedule an appointment before completing the application.

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## 6.1 GENERAL SUMMARY

## 6.2 LAND DIVISIONS

- 6.2.1 Final Map
- 6.2.2 Parcel Map
- 6.2.3 Amending Maps and Corrections
- 6.2.4 Mapping Standards
- 6.2.5 Road Naming

## 6.3 LOT LINE ADJUSTMENTS AND MERGERS

- 6.3.1 Lot Line Adjustment
- 6.3.2 Parcel Merger

## 6.4 OTHER

- 6.4.1 Road Naming of an Existing Road
- 6.4.2 Addressing of Parcels
- 6.4.3 Certificates of Compliance

## 5.1 GENERAL POLICIES

## 5.2 DESIGN AND CONSTRUCTION STANDARDS

5.2.1 Earthwork

5.2.2 Stormwater Management Requirements, Erosion and Sediment Control, and Drainage

5.2.3 Setbacks

5.2.4 Mass Pad Grading

5.2.5 Retaining Wall Design and Construction

~~5.2.6 Retaining Wall Design Checklist and Examples~~

## 5.3 GRADING PERMIT APPLICATION AND PROCEDURES

5.3.1 Responsibilities

5.3.2 Submittal Requirements

5.3.3 Grading Permit Processing Procedures

5.3.4 Inspections and Construction Requirements

This Chapter was most recently called “Volume III: Grading, Erosion and Sediment Control” and was last updated by Board Resolution “#047-2007” in 2007 along with “Title 15.14 El Dorado County Grading, Sediment and Erosion Control Ordinance” (Grading Ordinance). This manual, and particularly this Chapter, supersedes “Volume III” in its entirety.

## 5.1 General Policies

- A. For any project that proposes grading, whether it is ministerial or discretionary, may require a grading permit, unless the project is exempted under the provisions of the “Grading Ordinance”. Grading permits may be required for residential building permits (all types), subdivisions, Parcel Maps, commercial projects, industrial projects, research & development projects, multi-family projects, etc. Even if a grading permit is not required, all other requirements as established by the County’s Design Manuals shall be followed. Projects proposed in the Tahoe Basin, ~~must~~ shall meet the Tahoe Regional Planning Agency’s (TRPA) requirements. See Section 5.3.3.5 of this Chapter.
- B. Except as otherwise noted in this Chapter, the provisions of the currently adopted “Soils and Foundations” and “Grading Appendix” chapters of the “California Building Code”, shall apply. ~~(Reference: Appendix J, California Building Code, as may be amended from time to time.)~~
- C. This Chapter is not intended to supersede or otherwise preempt any applicable local, State, or Federal law or regulation. Where conflicts may occur between this Chapter and such laws or regulations, the most restrictive shall apply.
- D. Natural features, including vegetation, oak trees, watercourses, wetlands, steep slopes and similar resources shall be preserved consistent with the Policies, Objectives, and Implementation Measures of the *General Plan* (e.g., ~~Objectives “2.3.2”, “7.1.1”; Policies “2.3.2.1”, “7.1.2.1”, “7.1.2.2”, “7.1.2.3”; Measure “TC-U”~~), any applicable Specific Plan, the requirements of “Title 17 Zoning Ordinance”, the conditions of approval of any applicable discretionary permit, the “Oak Tree and Wetlands Preservation” standards included in this manual, and the requirements of the grading permit under which the work is conducted. ~~Notwithstanding any other requirement, these natural features shall be preserved to the extent feasible.~~
- E. Grading permits shall not be approved for a discretionary project until the discretionary project is approved by the appropriate decision making body of the County. Grading permits for ministerial applications which are zoned commercial, multi-family, industrial, or research & development, and all public facilities (e.g., parks, utilities, roads), shall not be issued without a Building Permit application which has been submitted to DSD Building Services for plan review. In unusual circumstances, the Director of the department responsible for issuing the grading permit may make an exception to these requirements.

- F. Agricultural grading is exempt from these provisions but may require an agricultural grading permit. The County's Department of Agriculture should be contacted for specific requirements relating to agriculture grading. ~~(530) 621-5520.~~
- G. No person shall perform any grading work or place obstructions within the right-of-way of a public road or street, or within a public easement under the jurisdiction of the County, without prior approval of the County Engineer.
- H. Public-County maintained roads shall comply with the County Highway Design Manual, Standards Plans, and Standard Specifications.

NOTE: It is the applicant's responsibility to apply for the appropriate permit from the appropriate department. An exemption granted by one department, for example the County's Department of Agriculture, does not entitle an applicant to an automatic exemption from obtaining a grading permit issued by another department, if the project falls under the purview of the latter. For more information, contact DSD.

## 5.2 DESIGN AND CONSTRUCTION STANDARDS

This manual contains multiple references to various agencies and source documents including contact information. These references can be found in a handout located at the DSD counter or website.

### 5.2.1 Earthwork

All earthwork shall comply with the applicable chapters and appendix sections of Appendix J of the California Building Code for design and construction standards. The following provisions reflect additional local requirements or clarifications:

#### 5.2.1.1 Excavation – Cut Slope Standards

~~Cut slopes shall be constructed in a manner that does not create unstable conditions or induce severe erosion. The following minimum design standards are required to assure the stability of permitted cuts:~~

- ~~A. **Slope steepness:** No excavation shall be made with a cut face steeper in slope than two horizontal to one vertical (2:1). The face of cut slopes between terraces shall be no steeper than two horizontal to one vertical. A cut with a steeper slope may be permitted if the engineering, geotechnical engineering and engineering geology reports demonstrate that the underlying earth material is capable of standing on a steeper slope. A cut slope may be limited to steepness flatter than a two to one gradient due to the presence of earth materials that would potentially be unstable at such a slope angle~~
- ~~B. **Unsupported foliation or bedding planes:** No slope shall be cut at an angle steeper than the bedding/foliation planes or orientation of the principal joint sets in any formation where such planes or joints dip down toward the proposed cut face. A cut slope with this underlying condition (i.e. downslope-dipping bedding planes or joint sets) may be permitted if the engineering, geotechnical engineering and engineering geology reports demonstrate that the slope would be stable at a steeper angle.~~
- ~~C. **Adjacent structure protection:** Footings which may be affected by an excavation shall be protected against lateral movement and settlement. Fills or other surcharge loads shall not be placed adjacent to any building or structure unless such building or structure is capable of withstanding the additional loads caused by such fill or surcharge.~~

Exception: ~~These~~ R requirements may be modified if recommended in an acceptable Geologic Report or Geotechnical Report.

#### 5.2.1.2. Fill Construction Standards

~~Completed fills shall comply with Appendix J with the applicable provisions of the California Building Code. be stable masses of well-integrated material bonded to adjacent materials and to the materials on which they rest. Fills shall be competent~~

~~to support anticipated loads and be stable at the design slopes shown on the plans. U unless recommended otherwise in an acceptable Geotechnical Report, the following minimum design standards are required to assure the stability of permitted fills.~~

- ~~A. **Ground preparation for fill placement:** The natural ground surface shall be prepared to receive fill by the removal of all unsuitable material such as vegetation, top soil, landslide deposits or other unstable earth material and existing fill not installed in conformance with this manual. Where natural or pre-existing underlying slopes are five horizontal to one vertical (5:1) or steeper in gradient, keys and benches at least 10 feet wide shall be placed into competent earth material in an adequate manner.~~
- ~~B. **Placement of fill:** Fills shall be constructed in layers. The loose thickness of each layer of fill material before compaction shall not exceed eight inches.~~
- ~~C. **Fill compaction:** All fills shall be compacted throughout their full extent to a minimum relative compaction based on dry density as determined by ASTM test method D-1557 (or a successor standard adopted by the County), as follows:~~
- ~~1. Landscape fills: 85 percent;~~
  - ~~2. Fills intended to support structures: 90 percent;~~
  - ~~3. Fills intended to support vehicular ways: 90 percent with 95 percent in the top one foot;~~
  - ~~4. Temporary fill stockpiles: Compaction is not required unless it is determined that compaction is necessary to prevent instability or erosion of the fill.~~
- ~~D. **Fill Density (Compaction) Testing:** The number and distribution of tests required during construction to determine the density of compacted fills shall be determined by the following criteria:~~
- ~~1. A minimum of one test for each two feet of vertical lift is required;~~
  - ~~2. A minimum of one test for each 1,000 cubic yards of material placed is required;~~
  - ~~3. A minimum of one test for each 1,000 square feet in slope surface, including at least one test for each 10 vertical feet of slope height, is required. These tests shall be conducted on a point one foot below the fill surface;~~
  - ~~4. Test locations shall be uniformly distributed within the fill or along the fill slope surface to the extent feasible;~~
  - ~~5. Except for the tests required for the fill surface under item 3. above, testing may be waived for fills comprised of more than 35 percent rock by weight upon certification by the design professional<sup>1</sup> that the~~

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<sup>1</sup> Design Professional: (In context of this Chapter) is a California registered Civil Engineer or Land Surveyor, or a California licensed Architect, Landscape Architect, Geologist, or Engineering Geologist; whose license is current and who practices under the authorization provided in the "Practice Act" of their particular profession as set forth in the "California Business and Professions Code".

~~fill will be inspected continuously during construction for adequacy of compaction and that testing is not feasible in the subject material.~~

~~Results of the density (compaction) testing and the distribution of test locations shall be presented in the periodic and final reports. Compaction may be less than 90 percent of maximum density, within six inches of the slope surface when such surface material is placed and compacted by an acceptable method for the planting of the slopes.~~

~~E. **Fill composition:** Earth materials shall be used which have no more than minor amounts of organic substances, and have no rock or similar irreducible material with a maximum dimension greater than 12 inches. The placement of larger rock may be permitted with a rock disposal plan prepared by a design professional that includes the following elements:~~

- ~~1. Delineation of potential rock disposal areas on the grading plan;~~
- ~~2. Placement of rocks greater than 12 inches in maximum dimension a minimum of two feet below grade;~~
- ~~3. The avoidance of "nested" rock disposal sites;~~
- ~~4. Placement of rocks in a manner such that all voids are filled with fines;~~
- ~~5. Continuous inspection of the rock placement by the responsible design professional;~~
- ~~6. Certification of the stability of the fill by the responsible design professional.~~

~~F. **Slope steepness:** No fill shall be constructed with a face steeper in slope than two horizontal to one vertical (2:1), exclusive of required terraces described herein. *(The face of fill slopes between terraces shall be no steeper than two horizontal to one vertical.)* A fill with a steeper slope may be permitted if the applicant demonstrates through engineering, geotechnical engineering and engineering geology reports, that the proposed fill material, including any proposed reinforcement, and the supporting native ground, would form a stable slope. Construction of a fill with a surface slope flatter than a two horizontal to one vertical may be required to assure stability and safety.~~

### 5.2.1.3 Terrace and Terrace Drainage Requirements

- ~~1. For cut or fill slopes up to 60 feet in height, terraces at least eight feet in width shall be established at not more than 30-foot vertical intervals on all cut slopes to control surface drainage and debris except that where only one terrace is required, it shall be at midheight.~~
- ~~2. For cut or fill slopes greater than 60 feet and up to 120 feet in vertical height, one additional terrace at approximately midheight shall be 12 feet in width.~~
- ~~3. Terraces shall slope a minimum of five percent gradient toward the hillside and be accessible for maintenance.~~

- ~~4. Terrace widths and spacing for cut or fill slopes greater than 120 feet in height shall be designed by a design professional and subject to review and acceptance by the Director of the department responsible for issuing the grading permit.~~
- ~~5. Suitable access shall be provided to permit proper cleaning and maintenance.~~
- ~~6. Terrace swales or ditches: Drainage facilities on terraces shall have a gradient of five to 12 percent and must be paved with reinforced concrete not less than three inches in thickness or an approved equivalent paving. The longitudinal terrace slope and the slope of the ditch or swale shall be equivalent. These facilities shall have a minimum depth at the deepest point of one foot and a minimum paved width of five feet. A single run of swale or ditch shall not collect runoff from a tributary area exceeding 13,500 square feet (projected) without discharging into a down drain. An alternate design prepared by a design professional may be approved.~~
- ~~7. Terrace rounding: Cut or fill slopes shall be rounded into the existing terrain to produce a contoured transition from cut face to natural ground.~~
- 8.A. Interceptor (Brow) Ditches: Interceptor ditches shall be provided above all cut or fill slopes exceeding 10 feet in height if the tributary drainage area above the cut slopes toward the cut and has a drainage path greater than 40 feet measured horizontally. Interceptor ditches shall be designed to accommodate the flow volume and velocity of runoff estimated for a 100-year storm event as determined in a County-accepted drainage report prepared by a Civil Engineer. They shall have a minimum depth of 12 inches and a minimum width of 30 inches measured horizontally across the drain. An alternate design prepared by a design professional may be approved.
- ~~9. Down drains: Down drains, drainage outlets and erosion protection for terrace and interceptor ditches shall be designed to accommodate the flow volume and velocity of runoff estimated for a 100-year storm event as determined in a County-accepted report prepared by a design professional~~
- B. Ditches shall be designed to accommodate 100 year storm events, but are not mandated to provide extra 1 foot "free board" as may otherwise be required in the Drainage Manual.

### **5.2.2 Storm Water Management Requirements, Erosion and Sediment Control, and Drainage**

For projects on the West Slope of the Sierra Nevada in the County, storm water management, erosion and sediment control and drainage shall comply with the adopted County "Drainage Manual", ~~the~~ "Storm Water Management Plan" (SWMP) and ~~and all of the following:~~

- ~~A. If more than one acre of land will be disturbed, the applicant for a grading project in the County shall obtain coverage under the current Current California State Water Resources Control Board's (SWRCB) Order(s) regulating construction activities.~~

~~General Permit which, at the time of this writing, is "Construction Activities Storm Water General Permit Order No. 99-08-DWQ". The applicant shall provide proof of coverage under such SWRCB permit with the grading permit application.~~

- ~~B. The General Permit requires that any person performing such grading work:~~

- ~~1. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off-site into receiving waters;~~
- ~~2. Eliminate or reduce non-storm water discharges to storm sewer systems and other waters of the County;~~
- ~~3. Perform inspections of all BMPs.~~

- ~~B. Minimum construction site BMPs are listed in the County SWMP and the "Minimum Construction Site Storm Water Management Practices" available on the County website at:~~

- ~~B. <http://www.edcgov.us/emd/solidwaste/storm.html#SWMP> shall be implemented on all projects to control erosion and sediment, and other construction related pollutants.~~

~~Other approved requirements and BMPs are found in the County SWMP, "Section 4.4 Construction Site Runoff Controls" and the "Stormwater Best Management Practice (BMP) Construction Handbook" published by the California Stormwater Quality Association, and available on the web at:~~

~~<http://www.cabmphandbooks.com/>.~~

- ~~C. At construction sites, all reasonable measures shall be taken to prevent or avoid:~~

- ~~1. Discharge of sediment from the site, in quantities exceeding SWRCB standards, to any watercourse, drainage system, or adjacent property;~~
- ~~2. Damage to watercourses and adjacent properties in the form of erosion, flooding, or deposition which may result from the permitted grading;~~
- ~~3. Sediment deposition onto public or private vehicle ways.~~

- ~~D. Grading projects shall be designed to prevent increased discharge of sediment at all stages of grading and development, from initial disturbance of the ground to project completion, and shall be consistent with all local, State, and Federal rules and regulations.~~

- ~~E. Projects shall be designed with long-term erosion and sediment control as a primary consideration. Every feasible effort shall be made to ensure that site stabilization is permanent.~~

- ~~F. Temporary construction site BMPs to control erosion and sediment runoff shall be included in all projects. Implementation of temporary BMPs, however, may not be necessary based on the timing of completion of grading operations.~~

H.C. Erosion and sediment control measures shall include an effective revegetation program to stabilize all disturbed areas which will not be otherwise protected. See "Vegetation Establishment Guidelines for the Sierra Nevada Foothills and Mountains" published by the High Sierra Resource Conservation and Development Council (or the most current approved edition), available on the following website: <http://www.co.el-dorado.ca.us/emd/solidwaste/storm.html>.

~~All such areas where grading has been completed between May 1st and October 15th shall be planted and stabilized as soon as possible after the completion of grading but in no case later than by October 15th or at the recommendation of RCD. Graded areas disturbed at other times of the year shall be planted within 15 days after the completion of the work. If revegetation is infeasible or cannot be expected to stabilize an erodible area during any part of the rainy season, non-vegetative erosion and sediment control measures shall be required to prevent increased sediment discharge. During the rainy season, the smallest practical area of erodible land shall be exposed at any one time.~~

I.D. Topsoil salvage: No topsoil shall be removed from the site unless otherwise directed or authorized by the Director of the Department issuing the grading permit. Topsoil overburden shall be stockpiled and redistributed within the disturbed area to provide a suitable base for seeding and planting. Runoff from the stockpiled area shall be controlled to prevent erosion and resultant sedimentation of receiving water.

I.E. Drainage and :a

~~J.General requirements: Drainage structures and facilities shall be designed and constructed in accordance with the standards included in this manual, the County "Drainage Manual", the "California Building Code", Natural Resource Conservation Service guidelines, and other documents as appropriate.~~

~~K.Protection of adjoining property: When surface drainage is discharged onto any adjoining property, it shall be discharged in a manner that it will not cause erosion or endanger any cut or fill slope or any building or structure. Runoff water shall not be conveyed off-site in a concentrated manner unless directed to an existing watercourse or established drainage easement.~~

Aa acceptance of historic runoff: All grading projects shall be designed to convey the runoff water historically delivered to the site from off-site property to an adequate storm drain or existing watercourse.

~~1.Drainage control on building pads: Unless waived, building pads shall have a drainage gradient of two percent toward approved drainage facilities, or a one percent gradient if all of the following conditions exist throughout the permit area:~~

- ~~a. No proposed fills are greater than 10 feet in maximum depth;~~
- ~~b. No proposed finish cut or fill slope faces have a vertical height in excess of 10 feet;~~

- ~~c. No existing slope faces steeper than one unit vertical in 10 units horizontal (10 percent slope) have a vertical height in excess of 10 feet.~~

For projects in the Tahoe Basin, the provisions of this manual shall apply, except where those provisions are in conflict with the requirements of the Lahontan Regional Water Quality Control Board (RWQCB) or the Tahoe Regional Planning Agency (TRPA). In such cases, the requirements of the Lahontan RWQCB or TRPA shall take precedence. Further information may be found on the web at:

[http://www.waterboards.ca.gov/lahontan/water\\_issues/programs/storm\\_water/index.shtml](http://www.waterboards.ca.gov/lahontan/water_issues/programs/storm_water/index.shtml)

### 5.2.3 Setbacks

#### 5.2.3.1 General Requirement

Cut and fill slopes shall be set back from permit area boundaries (boundary) in accordance with ~~Appendix J of the California Building Code, this section. Setback dimensions shall be horizontal distances measured perpendicular to the boundary. These boundaries may be property lines or the edges of a specific permit area within a parcel delineated under the terms of an applicable permit. (Exceptions may be made for example, when an applicant obtains a slope easement from a neighboring property owner.)~~

#### 5.2.3.2 Grading Setbacks

~~Setback dimensions shall be as shown in Figure 1.~~

~~**A. Top of Cut Slope:** The top of cut slopes shall not be made nearer a permit area boundary (boundary) than one fifth the vertical height of cut with a minimum of two feet and a maximum of 10 feet. The setback may need to be increased for required interceptor drains.~~

~~**B. Toe of Fill Slope:** The toe of the fill slope shall not be made nearer to the boundary than one half the height of the slope with a minimum of two feet and a maximum of 20 feet. Where a fill slope is to be located near the boundary and the adjacent off-site property is developed, special precautions shall be incorporated in the work as necessary to protect the adjoining property from damage as a result of such grading. These precautions may include but are not limited to:~~

- ~~1. Additional setbacks,~~
- ~~2. Provision for retaining or debris walls,~~
- ~~3. Mechanical or chemical treatment of the fill slope surface to minimize erosion, or~~
- ~~4. Provisions for the control of surface waters.~~

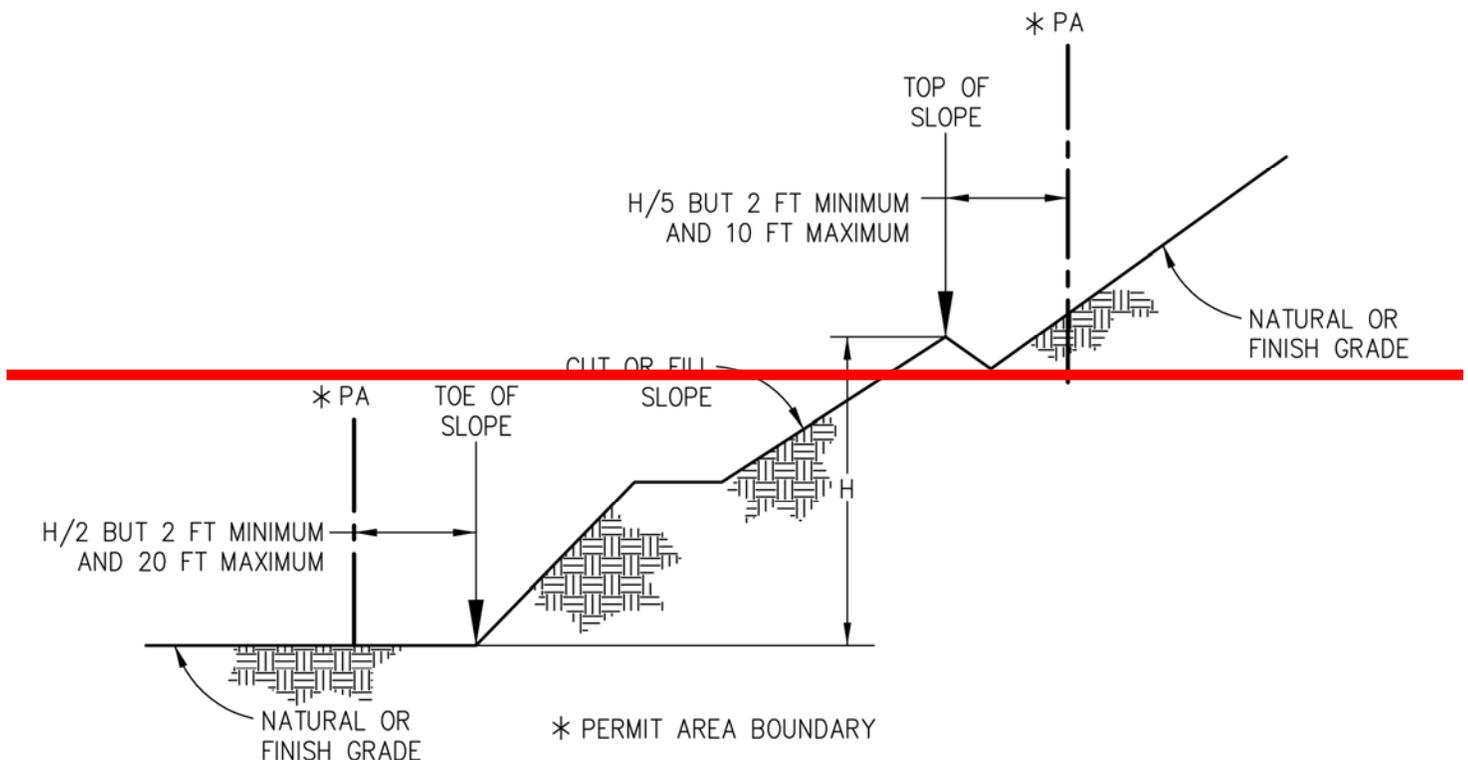


FIGURE 1: SETBACK DIMENSIONS FOR GRADED SLOPES

### 5.2.3.3 Building Setbacks from Slopes

Notwithstanding other requirements such as zoning and Fire Codes, buildings shall be set back from the edge of graded and natural slopes in accordance with this section. Setback dimensions shall be horizontal distances measured perpendicular to the edge of a graded slope. Setback dimensions shall be as shown in the Figures 2, 3a, and 3b.

**A. Top of Descending Slope:** Foundation footings on or adjacent to slope surfaces shall be founded in firm material with an embedment and setback from the slope surface sufficient to provide vertical and lateral support for the footing without detrimental settlement. The setback dimensions indicated in the figures which follow are deemed adequate, except where the adjacent slope exceeds 100 percent gradient (i.e. greater than 1 to 1). In the case of slopes that exceed 100 percent, the required setback indicated in the figures which follow shall be measured from an imaginary plane projecting upward at a 45-degree angle from the toe of the slope.

**B. Toe of an Ascending Slope:** The setback dimensions indicated in the figures which follow are deemed adequate, except where the adjacent slope exceeds 100 percent gradient (i.e. greater than 1 to 1). Where the adjacent slope exceeds 100 percent gradient, the required setback shall be based on the following parameters:

The toe of the slope shall be assumed to be at the intersection of a horizontal plane drawn from the top of the foundation and a plane drawn tangent to the slope at an angle of 45 to the horizontal;

Where a retaining wall is constructed at the toe of the slope, the height of the slope shall be measured from the top of the wall to the top of the slope.

#### 5.2.3.4 Modification of Slope Location

Alternate slope setbacks that are consistent with the property line setbacks

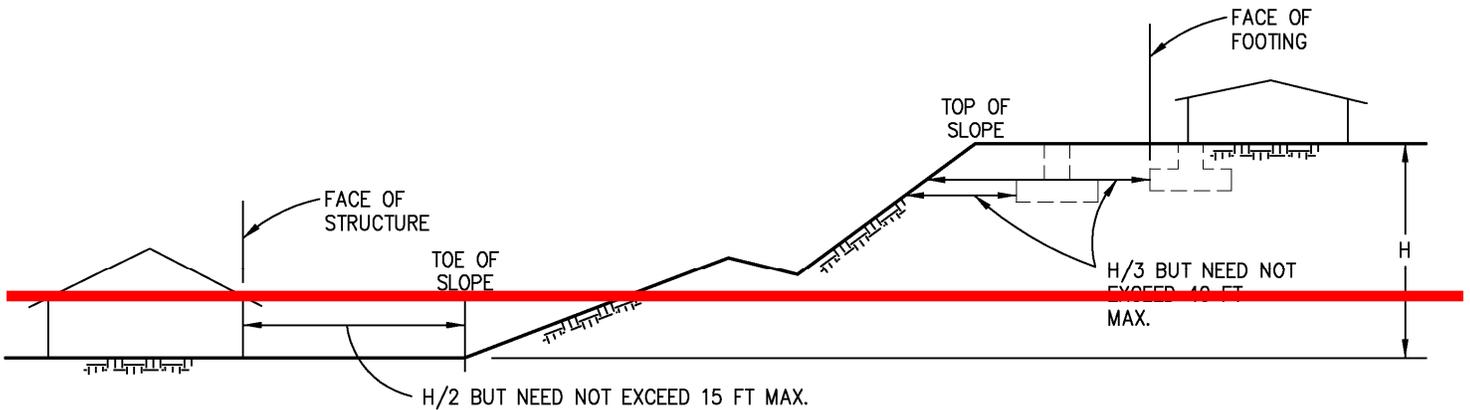
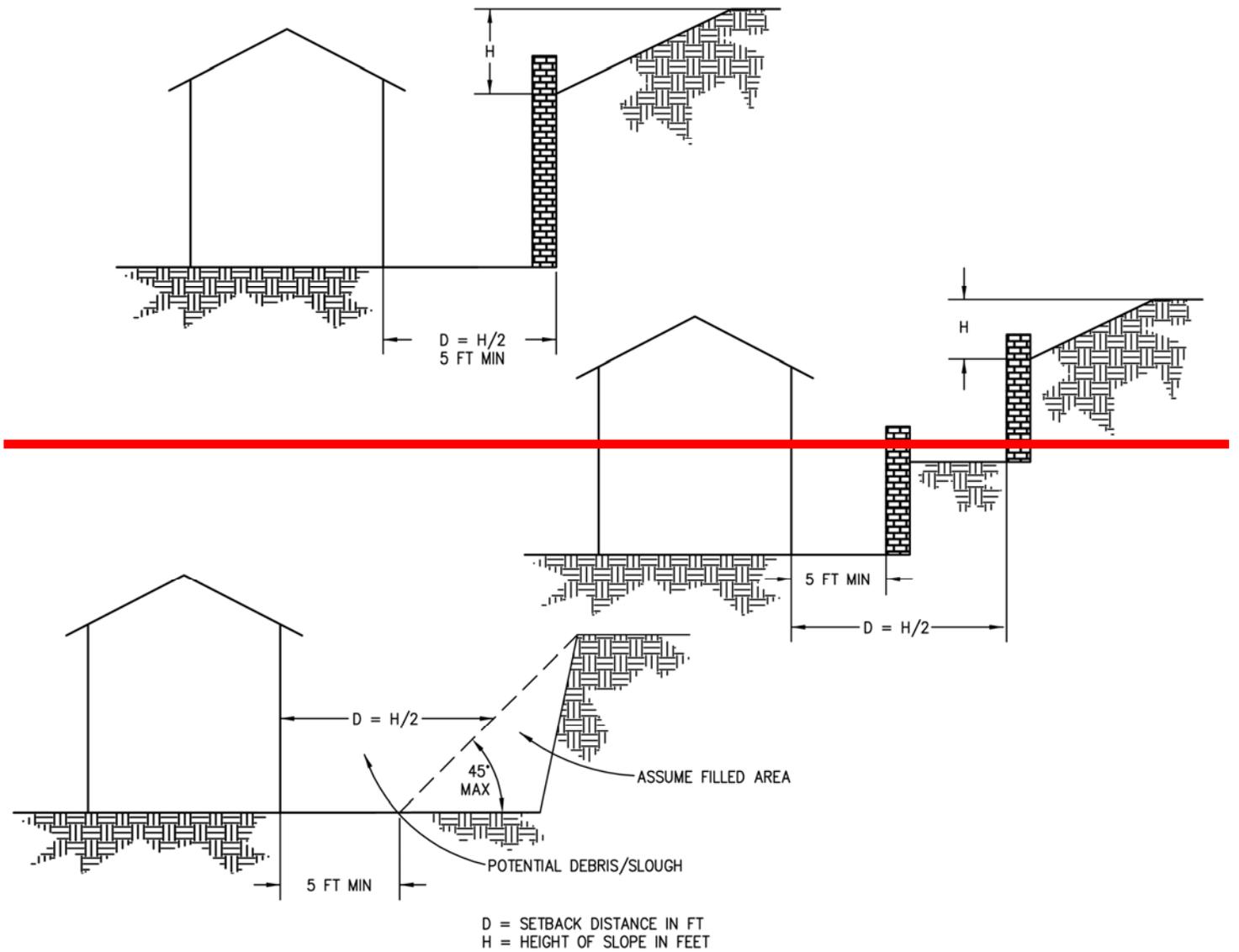
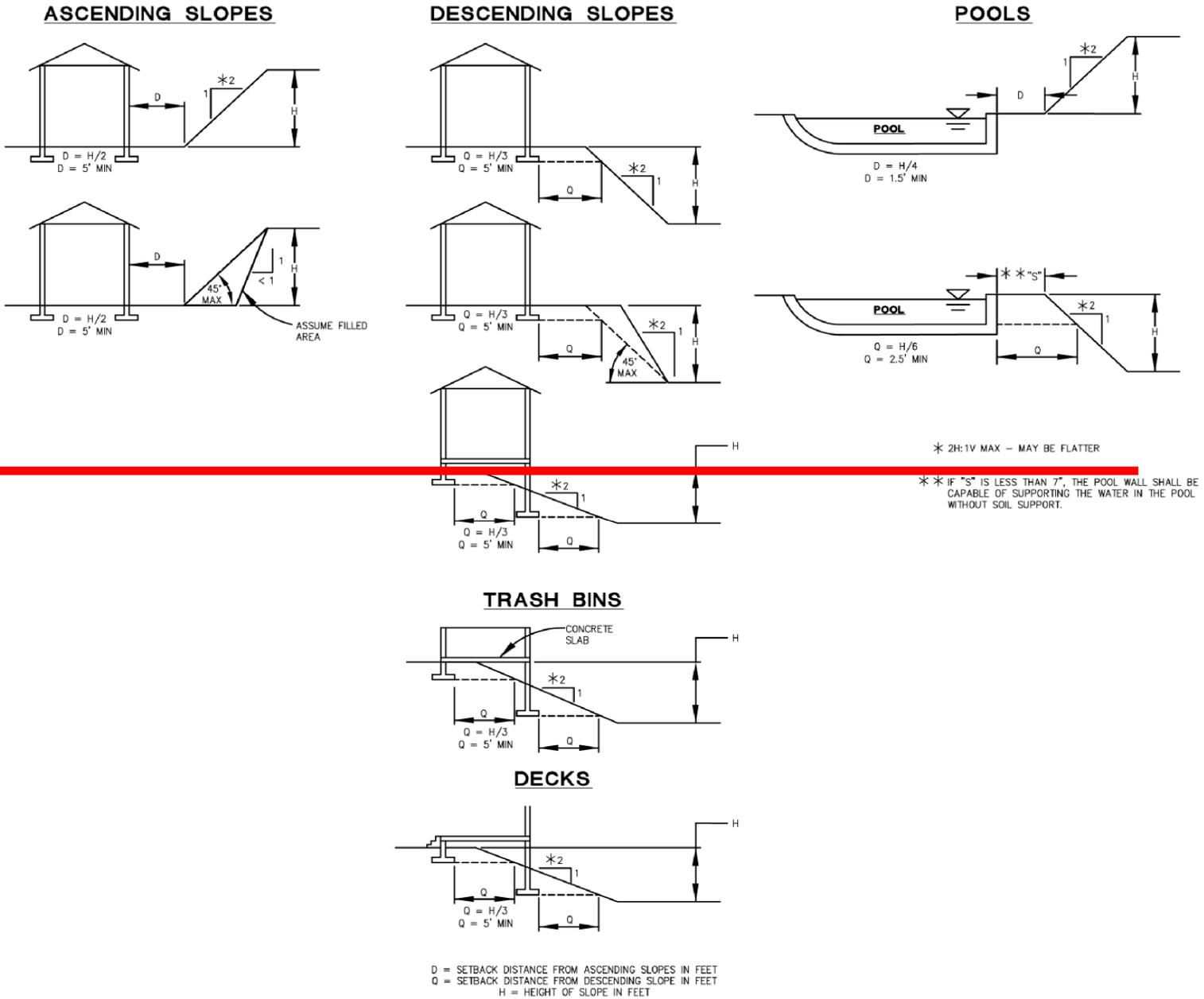


FIGURE 2: SETBACK DIMENSIONS FOR BUILDINGS FROM GRADED AND NATURAL SLOPES

specified in the "Title 17 Zoning Ordinance" may be approved. An investigation and recommendation by a qualified engineer or engineering geologist may be required to demonstrate that the intent of this section has been satisfied. Such an investigation shall address the height of slope, slope gradient, load intensity and erosion characteristics of the material. The following diagrams illustrate approved alternate building and accessory structure setbacks for slopes modified with the installation of a retaining wall(s). Such walls require design and analysis by a design professional and must incorporate surface and subsurface drainage facilities (not shown in Figures 3a and 3b which follow). Refer to retaining wall design standards discussed later in this Chapter.



**FIGURE 3a: ALTERNATE APPROVED SETBACK DIMENSIONS**



**FIGURE 3b: ALTERNATE APPROVED SETBACK DIMENSIONS**  
NOT DRAWN TO SCALE

### 5.2.4 Mass Pad Grading

"Mass pad grading" (also known as mass lot grading) means the grading or disturbance of the surface of any lot or parcel more than the percentage specified below for the size of the lot or parcel in question:

Percentage (%) of land area disturbed	Parcel size (Square feet)
80	Less than 6,000
60	6,000-19,999
50	20,000-43,559
30	43,560-87,120
20	Greater than 87,120

Mass pad grading is usually, but not always, associated with subdivisions in which, the grading of all lots is more efficiently done at one time. Also, due to the terrain encountered in the County, mass pad grading may be necessary to create adequately-drained, near-level building sites and to provide for adequate access to these sites.

#### 5.2.4.1 Basic Principles

A. The volume of grading shall be limited to that necessary to accomplish the proposed development. It is the intent of this section, consistent with the *General Plan*, that all grading shall reflect the natural gradient and contours of the site, to the greatest extent possible.

B. Grading shall be designed to minimize the creation of extensive, artificial banks or terraces which may be visible from public streets or other public views.

C. Grading shall conform to the design standards provided in this manual unless demonstrated through adequate analysis and report ~~that an alternate design can provide a stable slope that avoids severe erosion and other hazards.~~

D. To the extent that it is consistent with sound engineering practices and the need to provide proper drainage and roadway configuration, pad elevations shall be determined with the objective to preserve native trees ~~having a trunk diameter in excess of 6 inches and~~ which are generally in good health. See also Chapter 2 for standards related to oak tree protection.

E. Cross-lot or rear-lot drainage shall generally be avoided. However rear-lot drainage can be utilized when it reduces the rear-lot vertical difference between adjacent lots. When rear-lot drainage is proposed, a properly designed drainage system shall be installed to collect drainage on each lot. When cross lot drainage does occur, it shall be contained within dedicated drainage easements. This drainage shall be conveyed via closed conduit or v-ditch, to either a natural drainage course of adequate size or an appropriately sized storm drain system within the public roadway ~~unless exceptions are provided by an approved drainage study.~~

#### **5.2.4.2 Contour Grading**

- A. **Front Yards:** In order to minimize a "stair step" effect on streetscapes in padded lot areas, the transitional slope areas along the side lot lines in the front yards shall be softened by reducing the slope or by contouring the top and toe of the slope into the front yards of each unit. Front yard landscaping shall be required to be installed by the subdivider in areas where mass pad grading is combined with a build-out program.
- B. **Rear Yards:** In order to allow for a maximum of usable rear yard, and to provide proper drainage between lots, contour grading shall not be required along rear lot lines nor along side lot lines in those areas which are not visible from a public street.

#### **5.2.4.3 House Construction**

The Building Official, at final inspection for any house, shall verify that pad slopes and drainage substantially conform to approved plans.

#### **5.2.4.4 Subsequent Construction**

For mass pad graded lots on which homes have been built, and which are subject to County permit issuance for construction of a secondary structure, including but not limited to, pools, gazebos, etc., evidence of conformance to the original lot drainage pattern shall be provided as part of the building permit for secondary structures, or a revised lot drainage plan shall be submitted for review and approval. A revised drainage plan shall provide for positive, controlled lot drainage. These shall be subject to the final sign-off by the Director of the department issuing the permit.

## 5.2.5 Retaining Wall Design and Construction

### 5.2.5.1 Overview

For the purposes of this section, retaining walls are classified into three general categories, each representing retaining walls of similar height of retained earth or similar loading conditions. The definitions which follow should be read carefully before determining a retaining wall's category. After the retaining wall has been categorized, the design requirements or information to be included with the calculations or plans submitted for permit can be obtained from the "requirement" table which follows. Category "I" walls are exempt and do not require a building permit. Otherwise, the following information is applicable to the design and construction of all retaining walls in the County. Example engineering drawings to illustrate typical retaining wall construction details to be included in the plans are shown in section 5.2.6 "Retaining Wall Design Checklist and Examples." (Note: Retaining walls are subject to the setback and other requirements of the County's Ordinance Codes, the *General Plan*, Planned Developments, etc.) For the purposes of this section, snow on ground loads of 20 psf (pounds per square foot) or less need not be considered as a surcharge load. The heights of all walls shall be measured from the bottom of the footing.

### 5.2.5.2 Retaining Wall Categories

**A. Category I:** Walls which meet *all* of the following are exempt from getting a permit:

1. Retain less than four vertical feet of earth measured from the bottom of the footing;
2. Have a finish grade above and below the wall sloping less than 5:1 (five horizontal to one vertical);
3. Do not impound Class I, II, or III-A liquids as those liquids are defined in the "California Building Code" (CBC).

Note: Retaining walls that meet all of the above criteria, but that are built on the property line, or that are within a perpendicular distance from the property line equal to the height of the exposed wall face, shall not be constructed of wood.

**B. Category II:** Walls retaining between four feet and 10 feet of earth (including tiered walls retaining a combined total of no more than 10 feet of earth) and Category I walls on a property line that support a lateral load imposed by a six foot high solid fence (now or proposed for the future).

**C. Category III:**

1. Walls that retain more than 10 feet of earth, or are affected by adverse geotechnical conditions.

- ~~2. Retaining walls and retaining wall systems designed with complex configuration or construction, including segmental, stacked, and “rockery” walls, walls designed with geogrid soil reinforcing, and tiered walls that retain more than 10 feet of earth. This category also includes unconventional or proprietary walls, such as Keystone or Earthstone, where ICG approval requires special inspection or other construction review.~~
- ~~3. Walls located within a County-maintained road right-of-way are subject to review and approval by DOT, and shall be designed in accordance with the current editions of the American Association of State Highway and Transportation Officials (AASHTO) “Bridge Design Specifications”, or State of California Department of Transportation (Caltrans) “Bridge Design Specifications”, “Bridge Design Aides”, and “Bridge Details”.~~

**5.2.5.3 Design Requirements**

~~A. Design requirements for the non-exempt categories of retaining walls are outlined in the following table and described below. Any required geotechnical documents shall address the loading conditions and recommend design soil parameters for the type of retaining wall(s) proposed.~~

<b>Requirements</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<del>Category II</del>		X	X	X	X	X	X
<del>Category III</del>	X			X	X	X	X

- ~~1. Geotechnical report: A geotechnical report shall be prepared consistent with this manual by a design professional qualified to address all applicable geotechnical issues.~~
- ~~2. Site Observation: A site observation shall be made, or equivalent information obtained, by the wall designer (i.e. a design professional, or landowner as allowed under this manual) to determine the site conditions for which the wall is designed. The wall designer shall document the observations in a report which shall attest that:
 
  - ~~a. Visible or known adverse geotechnical conditions are not present and conditions applicable to Category III retaining walls do not apply, and~~
  - ~~b. The assumptions used in the wall design are adequate and appropriate for the observed conditions.~~

~~A geotechnical report may be submitted in lieu of a site observation.~~~~
- ~~3. Minimum Equivalent Fluid Pressure: In the absence of soil design parameters from a Geotechnical Report, the design may use the values provided in Table 1.~~

**Table 1: Allowable Foundation and Lateral Pressure Values**

Classification of Material	Allowable Foundation Pressure PSF	Lateral Bearing PSF/ft of depth	Coeff. of lateral sliding	Total Unit Weight of Soil $\gamma_{tot}$ (lb./cu. ft.)	Unit Weight of Equivalent Fluid $\gamma'_{w}$ (lb./cu. ft.)	
					Level Backslope	2:1 Backslope
1. Crystalline Bedrock	4000	1200	0.70	100	30	50
2. Sedimentary and Foliated Bedrock	4000	400	0.35	100	30	50
3. Sandy Gravel and/or Gravel (GW and GP)	2000	200	0.35	100	35	60
4. Sand, silty Sand, clayey Sand, silty Gravel, and clayey Gravel (SW, SP, SM, SC, GM, GC)	1500	150	0.25	80	40	65
5. Clay, sandy Clay, silty Clay, and clayey Silt (CL, ML)	1000	100	*	90	70	90

\*130 psf multiplied by the contact area, but not more than one half the dead load.

- a. Cantilevered walls may be designed for equivalent fluid pressures (unit weights) shown in Table 1 for the soil classification shown and having a depth equal to that of the retained earth. Any surcharges shall be in addition to the equivalent fluid pressure. Increased loads due to sloped backfill between five horizontal to one vertical (5H:1V) and two horizontal to one vertical (2:1), may be accounted for by increasing the equivalent fluid pressure to the value shown in Table 1 for 2:1 backslope.
- b. Restrained walls that retain drained earth, such as walls having buttresses or top restraint, may be designed using design parameters recommended in a geotechnical report. In lieu of such recommendations, the wall may be designed using the equivalent fluid pressures defined in Table 1 together with a uniform load equal to ten times the wall height (10H with 10 is pounds and H is measured in feet) superimposed uniformly over the height of the wall. Any surcharge loads shall be in addition to this composite pressure distribution.

~~c. Alternatively, the lateral earth pressure imposed on cantilevered or restrained retaining walls may be determined by using Rankine (assumes no wall friction or soil cohesion) or Coulomb or other generally accepted theory.~~

~~4. Seismic (Earthquake) Loads: Seismic forces shall be specifically addressed:~~

- ~~a. If the exposed wall face is 12 feet or more, or if the wall is a "rockery" wall,~~
- ~~b. If the wall is supporting a structure or the surcharge from a structure; or if the wall is protecting a structure other than single family residences, private garages, sheds, or agricultural buildings,~~
- ~~c. If the wall is protecting a required exit or is part of a structure having a "Category III" or "Category IV occupancy" as defined in the "California Building Code",~~
- ~~d. If required by the design professional in responsible charge, the wall designer, or the Director of the department issuing the grading permit.~~

~~At the discretion of the design professional, the seismic thrust may be evaluated with the pseudo-static Mononabe-Okabe equation, or walls may be designed using the approximated value of the resultant seismic force =  $14H^2$  positioned 0.6H above the top of the footing or base, where "H" is the retained earth height.~~

~~In addition, Mechanically Stabilized Earth wall designs shall include the horizontal inertia force of the reinforced fill. The Mononabe-Okabe inertia force equation may be used, or, walls may be designed using the approximated value of the inertia force =  $20HL$  positioned 0.5H above the base, where "H" is the retained earth height and "L" is the depth of reinforced fill.~~

~~5. Minimum Design Requirements:~~

- ~~a. Retaining walls shall be designed to withstand lateral earth and/or fluid pressures, including any live and dead load surcharge, the self weight of the wall, and earthquake loads; all in accordance with accepted engineering practice, the CBC, and all applicable IGC or IGBO Legacy Evaluation Reports.~~
- ~~b. Walls shall be designed for the minimum factors of safety shown in Table 2. Factors of safety against sliding and overturning failure under combined loading (seismic load included) may be reduced to 75 percent of the static safety factors.~~
- ~~c. Friction force and passive soil pressure shall not be combined to resist sliding unless technical justification is provided and approved. Passive soil pressure within the top 12 inches or above the frost line shall be neglected.~~

- ~~d. Concrete retaining walls designed to resist earthquake forces shall be constructed of concrete with a minimum strength of 3000 pounds per square inch (psi).~~
- ~~e. Rockery walls shall not have chinking on the exposed face and the minimum weight of cap rocks shall be 200 pounds.~~
- ~~f. Drainage behind walls shall be provided by a 12-inch wide (minimum) continuous blanket of free-draining granular material equivalent to Caltrans Class 2 permeable material extending from the base of the wall to within one foot of the ground surface. The top one foot of backfill shall consist of material capable of reducing the potential for surface water to enter the wall drain. Water collected behind the wall shall be drained by weep holes, open joints or rigid perforated pipes (perforations down) placed at the base of the wall within the permeable material. Pipes shall be sloped to provide positive drainage and be connected to solid pipes at the ends of the wall to convey drainage to daylight, storm drain or other suitable disposal location. Additional drains to divert surface water shall be placed wherever water can be impounded by the walls. Surface water drains shall not be connected to wall back drains.~~
- ~~g. Restrained walls shall not be backfilled until restrained connection and supporting elements are completed or temporary shoring is in place.~~

<b>Table 2: External Stability Factors of Safety</b>	
<b>Failure Mode</b>	<b>Factor of Safety</b>
Soil Bearing Capacity	2.0-3.0
Sliding	1.5
Overturning	1.5
Overturning of MSE* walls	2.0
Supporting elements of a restrained wall	1.5
Global stability	1.5

\* Mechanically Stabilized Earth

- ~~6. Engineered Drawings: Plans submitted for permit shall be drawn to scale with sufficient detail to describe the nature and extent of the work proposed. They shall accurately reflect the results of the wall design calculations and shall be stamped and wet signed by the design professional. Submitted plans shall include:
 
  - ~~a. A plan showing the location of the proposed wall with respect to existing structures and property lines and easements;~~
  - ~~b. A plan showing a plan view of the wall itself with top of wall and bottom of wall elevations and finish grade contours;~~
  - ~~c. Typical cross section(s);~~~~

- d. Elevation view(s) if the wall has a complex configuration with steps, differing lengths and locations of steel reinforcing or wall thickness, or if the wall has varying geogrid layer locations and lengths;
- e. Notes specifying required or desired special inspections and structural observations together with compaction and other soil test requirements.

Information on the submitted drawings shall be complete and legible to facilitate the plan review and inspection process. Examples of drawings illustrating various wall types and materials and typical plan information to be shown are in section 2.5.6 “Retaining Wall Design Checklist and Examples” at the end of this Chapter, as follows:

Drawing #1	Pictorial glossary of retaining wall types
Drawing #2	Cross section of a Category A exempt retaining wall
Drawing #3	Cross section of a restrained retaining wall constructed of reinforced concrete
Drawing #4	Cross section of a cantilevered retaining wall constructed of reinforced masonry
Drawing #5	Cross section of a gravity and Mechanically Stabilized Earth retaining wall with segmental wall face
Drawing #6	Elevation of a stepped segmental wall with grid layers
Drawing #7	Cross section of terraced wall system
Drawing #8	Plan view of retaining wall
Drawing #9	Retaining wall type: Rockery Typical Section
Drawing #10	Retaining wall type: Rockery Partial Typical Profiles

7. Inspections: The schedules in the following tables provide an abbreviated description of the minimum inspections required for retaining walls:

- a. Inspections by County staff:

**Table 4 Reinforced Concrete Retaining Walls**

Inspection	Scope of Inspection
1 <sup>st</sup>	Footing pad and size, key size, reinforcement, soil condition at toe. Discuss special inspection procedures (if applicable).
2 <sup>nd</sup>	Prior to concrete pour. Wall forms and reinforcement (must be accessible). Anchor bolts and hardware placement.
3 <sup>rd</sup>	Drain(s), wall waterproofing, restrained support or temporary shoring per design professional. Discuss drain rock and backfill compaction procedures.
Final	Drain to daylight. Weep holes, restrained support, erosion control, backfill compaction report, special inspection report.

**Table 5: Block (Masonry) Retaining Walls**

Inspection	Scope of Inspection
1 <sup>st</sup>	Footing pad and size, key size, reinforcement, soil condition at toe. Discuss special inspection procedures (if applicable).
2 <sup>nd</sup>	Four foot lift, prior to grout pour. Block, mortar joints, reinforcement and grout cells
3 <sup>rd</sup>	Top lift, prior to last grout pour. Block, mortar joints, reinforcement and grout cells. Anchor bolts and hardware placement.
4 <sup>th</sup>	Drain(s). Wall waterproofing. Restrained support or temporary shoring per design professional. Discuss drain rock and backfill compaction procedures.
Final	Drain to daylight. Weep holes, restrained support, erosion control, backfill compaction report, special inspection report.

**Table 6: Segmental or MSE Retaining Walls**

Inspection	Scope of Inspection
1 <sup>st</sup>	Footing/leveling pad. Batter (if any). Discuss Special Inspection procedures (if applicable), drain(s), and backfill compaction.
2 <sup>nd</sup>	Lowest layer of grid or third course of modules. Permeable drain material. Batter. Backfill compaction report. Grid, type, length, taut.
3 <sup>rd</sup>	Mid layer of grid or mid course of modules. Permeable drain material. Batter. Backfill compaction report. Grid, type, length, taut.
Final	Drain to daylight. Cap layers, batter, erosion control, backfill compaction report, special inspection report.

**Table 7: ~~Rockery Retaining Walls~~**

<b>Inspection</b>	<b>Scope of Inspection</b>
<del>1<sup>st</sup></del>	<del>Footing/leveling pad. Batter (if any). Discuss Special Inspection procedures (if applicable), drain(s), and backfill compaction.</del>
<del>2<sup>nd</sup></del>	<del>Mid-height of wall. Permeable drain material. Batter. Backfill compaction report</del>
<del>Final</del>	<del>Drain to daylight. Cap layers, batter, erosion control, backfill compaction report, special inspection report.</del>

~~b. Special Inspections: Where or when required, the following special inspections shall be performed by the designer or a certified inspector acceptable to the County; and testing shall be performed by a qualified testing agency acceptable to the County.~~

**Table 8: ~~Special Inspection and Testing~~**

<b>Item</b>	<b>Continuous</b>	<b>Periodic</b>
<del>Soil Compaction</del>		<del>X</del>
<del>Reinforced Concrete</del>	<del>X</del>	
<del>Structural Masonry</del>	<del>X</del>	
<del>Shotcrete</del>	<del>X</del>	
<del>Segmental or Rockery Wall placement</del>		<del>X</del>
<del>Grids and Tie Backs</del>		<del>X</del>
<del>Gabion or Grib wall</del>		<del>X</del>
<del>ICC or ICBO Legacy Report</del>	<del>As Specified</del>	<del>As Specified</del>
<del>Structural Observation</del>	<del>As Specified</del>	<del>As Specified</del>

- ~~1. Compaction testing of soil backfill (excluding self-compacting drain rock) shall be per the designer's specifications but not less than every 24 inches of lift and every 50 lineal feet of length.~~
- ~~2. Segmental or Mechanically Stabilized Earth (MSE) walls shall be constructed under the observation of the designer, and shall include review of the footing pad, base course and geogrid placement, face batter, wall facing cavity (if any) backfill, review of compaction testing, and overall compliance with the plans.~~
- ~~3. Rockery walls shall be constructed under the observation of the designer, and shall include review of the footing pad, rock and backfill placement, review of compaction testing, and overall compliance with the plans.~~

- ~~4. Soil characteristics shall be observed by the designer or the geotechnical engineer to confirm that they are consistent with the assumptions used in the wall design.~~
- ~~5. Compaction and Special Inspection or Structural Observation reports shall be provided before or at the time of inspection by the County. Reports not prepared by the designer shall be reviewed and approved by the designer before being provided to the County. All final reports shall be provided to the County before the final inspection by the County. On projects where a Design Professional in Responsible Charge has been designated by the owner, that person shall review and approve or accept all reports before they are provided to the County.~~

## 5.2.6 – Retaining Wall Design Checklist and Examples

### 5.2.6.1 Index

- Checklist of information to be provided for permit
- Drawing #1 – Pictorial Glossary of Retaining Wall Types
- Drawing #2 – Category A, Exempt Wall
- Drawing #3 – Retaining Wall Type: Restrained
- Drawing #4 – Retaining Wall Type: Cantilever
- Drawing #5 – Retaining Wall Type: Mechanically Stabilized Earth With Segmental Wall Face
- Drawing #6 – Elevation of a Stepped Segmental Wall with Grid Layers
- Drawing #7 – Terraced Wall System
- Drawing #8 – Plan View of Retaining Wall
- Drawing #9 – Rockery Wall Typical Section
- Drawing #10 – Rockery Walls, Typical Elevations
- Drawing #11 – Surcharge Loading Examples

### 5.2.6.2 Checklist of Information to be Provided for Permit

The drawing details which follow are intended primarily to illustrate many of the different types of retaining walls which may be designed for a particular site. These details show most, but not all, of the information required to be detailed on plans or calculations submitted for permit. The following is intended to assist the designer in preparation of a complete permit application, but is not intended to replace the independent judgment of and analysis by the wall designer. Much of the information in this checklist is covered in this manual in section 5.2.5.3 “Design Requirements.”

- A. **Signatures:** All calculations, reports, and plans included in applications for permit shall be stamped and wet signed by the designer.
- B. **Design parameters:** An analysis of the site conditions is required for the design of all retaining walls. This may be in the form of a Geotechnical Report or a site visit by the designer or an authorized representative. If the design parameters are determined by the designer, notes in the design calculations or a statement by separate letter shall be submitted that describes the site conditions encountered and justifies the selection of the design parameters used.
- C. **Global Stability:** The designer shall address the possibility that slip plane failure may affect walls constructed on slopes. The calculations provided as part of the permit application shall document that the wall will meet established standards of stability.
- D. **Construction Plans:** The wall construction requirements determined by the design analysis shall be clearly shown on the construction plans. Engineering features described in the calculation report, shall be shown on the plans or the plans shall have a prominent reference to the location of this information. If a Geotechnical Report was prepared by a design professional other than the wall designer, a letter from that engineer confirming that the design parameters used in the wall design are consistent

- with the recommendations in the Report shall be submitted with the permit application.
- ~~E. **Wall profile elevations** shall be included where the walls are constructed on undulating terrain or where different reinforcing schedules or geogrid lengths or types are required to accommodate varying wall heights.~~
  - ~~F. **Plot and/or Site Plans** drawn to scale shall be included with the construction plans and shall show the location of the wall(s) with respect to easements, property lines, and structures. Top of wall elevations and finish grade elevations shall be shown at appropriate intervals or steps along the length of wall.~~
  - ~~G. **Special Inspections and/or structural observations** shall have prominent notes placed on the plans detailing special inspection and/or structural observation requirements.~~
  - ~~H. **Compaction requirements** for backfill material shall be described on the plans. The plans shall clearly show the geometry, placement methods, and density testing requirements for backfill material installed adjacent to the wall. Mechanical compaction is required of backfill material.~~
  - ~~I. **Concrete:** The plans shall specify the required concrete strength (2500 psi minimum, 3000 psi minimum for walls resisting seismic loads) and any applicable special mixing requirements. Concrete strengths over 2500 psi require onsite testing.~~
  - ~~J. **Concrete Masonry Units:** The plans shall show the type of concrete masonry units to be utilized (e.g., ASTM C90), the type and strength of grout, the type of mortar and how it is struck, the design strength of the wall (f'm), and whether or not special inspection is required.~~
  - ~~K. **Reinforcing Steel:** The plans shall show the strength and size of reinforcing steel, and its placement relative to the edges of wall stems and footings.~~
  - ~~L. **Mechanically Stabilized Earth** walls shall include the identity of the manufacturer, the type of geogrid material to be used, and the placement locations of these geogrid materials clearly shown on submitted plans. Proprietary facings typically have special Code approvals (ICC Evaluation Reports) for their use. The designer shall include requirements of applicable Code approvals for propriety facings (i.e., special inspections) on the plans.~~
  - ~~M. **Rockery Walls** constructed in the County have special requirements that shall be shown on the plans, including a seismic design analysis and special inspection or structural observation of the wall construction by the designer, a minimum cap rock size of 200 pounds, and no chinking on exposed faces.~~

### **5.2.6.3 Drawings of Different Types of Retaining Walls**

The following drawings illustrate the typical minimum information to be shown on plans submitted for permit for various types of retaining walls:

## **5.2.5 Retaining Wall Design and Construction**

The purpose of this section is to provide basic information to assist applicants in obtaining permits, ensuring proper design, ensuring proper construction of the wall system, and in getting the proper inspections.

### **5.2.5.1 Governing Standards and Guidelines**

The retaining walls shall be designed in accordance with the applicable chapters and appendices of the latest edition of the California Building Code in addition to the applicable provisions provided in this section. All retaining walls requiring a permit are shall consider earthquake loading in accordance with the applicable chapters of the building code.

A Reference Guide is available at the County department responsible for issuing the permit.

### **5.2.5.2 Permit Requirements**

Construction of retaining walls requires a permit and is regulated by local building and zoning codes and this manual.

Exception: Walls retaining less than four feet of earth measured from the bottom of the footing, and that have a finish grade above and below the wall sloping less than 5:1 (five horizontal to one vertical) and do not impound Class I, II, or III-A liquids as those liquids are defined in the "California Building Code" (CBC), are exempt from permit. Walls built on the property line or within a perpendicular distance from the property line equal to the height of the exposed wall face shall not be constructed of wood.

All walls located within a County-maintained road right-of-way are subject to review and approval by DOT, and shall be designed in accordance with the current editions of the American Association of State Highway and Transportation Officials (AASHTO) "Bridge Design Specifications", or State of California Department of Transportation (Caltrans) "Bridge Design Specifications", "Bridge Design Aides", and "Bridge Details".

### **5.2.5.3 Design Requirements**

All permitted retaining walls require a soils investigation in accordance with the California Building Code.

Exception: Walls or a combination of walls constructed of concrete or masonry that are less than 10 feet in height. Soil design parameters and requirements for site observation shall be in accordance with California Building Code.

Seismic design is required for all permitted retaining walls unless exempted by exception in the California Building Code. However, all rockery walls require a seismic analysis. Seismic design may be submitted in accordance with the FHWA methods provided in the referenced standard provided local parameters are used in the design. At the discretion of the design professional, the seismic thrust may be evaluated with the pseudo-static Mononabe-Okabe equation, or walls may be designed using the approximated value of the resultant seismic force =  $14H^2$  positioned 0.6H above the top of the footing or base, where "H" is the retained earth height. In addition, Mechanically Stabilized Earth wall designs shall include the horizontal inertia force of the reinforced fill. The Mononabe-Okabe inertia force equation may be used, or, walls may be designed using the approximated value of the inertia force =  $20HL$  positioned 0.5H above the base, where "H" is the retained earth height and "L" is the depth of reinforced fill.

Minimum Design Requirements:

- A. Retaining walls shall be designed to withstand lateral earth and/or fluid pressures, including any live and dead load surcharge, the self weight of the wall, and earthquake loads; all in accordance with accepted engineering practice, the CBC, and all applicable ICC or ICBO Legacy Evaluation Reports. Snow on ground surcharge loads of 20 psf or less may be ignored.
- B. All retaining wall heights are measured from the bottom of the footing to the top of the wall.
- C. Walls shall be designed for the minimum factors of safety shown in Table 1. Combined loading factors shall be in accordance with the California Building Code.
- D. Justification shall be provided for lateral pressure resistance used in the top 12 inches or above frost line is used.
- E. Concrete retaining walls designed to resist earthquake forces shall be constructed of concrete with a minimum strength as specified in ACI 318 and the California Building Code. ~~of 3000 pounds per square inch (psi).~~
- F. Rockery walls shall not have chinking on the exposed face and the minimum weight of cap rocks shall be 200 pounds.
- G. Drainage behind walls shall be provided in accordance with the California Building Code.
- H. Restrained walls shall not be backfilled until restrained connection and supporting elements are completed or temporary shoring is in place.

<b>Table 1: External Stability Factors of Safety **</b>	
<u>Failure Mode</u>	<u>Factor of Safety</u>
<u>Soil Bearing Capacity</u>	<u>2.0-3.0</u>
<u>Sliding</u>	<u>1.5</u>
<u>Overturning</u>	<u>1.5</u>
<u>Overturning of MSE* walls</u>	<u>2.0</u>
<u>Supporting elements of a restrained wall</u>	<u>1.5</u>
<u>Global stability</u>	<u>1.5</u>

\* Mechanically Stabilized Earth

\*\* The above safety factors may be used with the various load combinations of the California Building Code

**5.2.5.4 Plan Check Submittal Requirements**

- A. All plans must be drawn to scale. Two copies of all plans, calculations and supporting documents are required for submittal. Designed professional prepared material shall be stamped and wet signed;
- B. Plot Plan indicating the location, accurate width of the wall, length and height of the wall, lot drainage patterns, top and bottom of wall elevations and finish grade contours, and the distance to the property line, easements and adjacent structures on the lot. Refer to Section 5.2.3 for setback requirements;
- C. Typical cross section(s);
- D. Elevation views for clarification of complex wall configurations;
- E. Special Inspection and structural observation requirements shall be listed on the Plan Title Sheet;
- F. The calculations shall reference the design parameters and soil type used in the design if a soils report is not provided;
- G. If the manufacturer provides a "Standardized Design", provide the "Standardized Manual with a Design Professional's wet signed stamp on the cover sheet. The applicant shall "Highlight" on the plan the wall to be used for construction. All the provisions of the standardized wall must shall apply including slope configuration and material type.
- H. A soil investigation report providing the design parameters for use in the design of the walls, as required in 5.2.5.3.
- I. One copy of the latest Design Manual and the ICC-ES Report if the wall is a manufactured product (i.e. keystone wall, anchor wall, etc.).

**5.2.5.5 Construction**

Retaining Walls must be constructed per the plans, the approved engineering calculations; and where applicable the manufacturer's installation manual, and the latest ICC-ES Report.

**5.2.5.6 Inspections**

The following inspections will be required during the retaining wall construction.

Inspections by County staff: The schedules in the following tables provide an abbreviated description of the minimum inspections required for retaining walls

**Segmental or MSE Retaining Walls**

<u>Inspection</u>	<u>Scope of Inspection</u>
<u>1<sup>st</sup></u>	<u>Footing/leveling pad. Batter (if any). Discuss Special Inspection procedures (if applicable), drain(s), and backfill compaction &amp; testing.</u>
<u>2<sup>nd</sup></u>	<u>Lowest layer of grid or third course of modules. Permeable drain material. Batter. Backfill compaction report. Grid, type, length, taut.</u>
<u>3<sup>rd</sup></u>	<u>Mid layer of grid or mid course of modules. Permeable drain material. Batter. Backfill compaction report. Grid, type, length, taut.</u>
<u>Final</u>	<u>Drain to daylight. Cap layers, batter, erosion control, backfill compaction report, special inspection report.</u>

**Rockery Retaining Walls**

<u>Inspection</u>	<u>Scope of Inspection</u>
<u>1<sup>st</sup></u>	<u>Footing/leveling pad. Batter (if any). Discuss Special Inspection procedures (if applicable), drain(s), and backfill compaction.</u>
<u>2<sup>nd</sup></u>	<u>Mid-height of wall. Permeable drain material. Batter. Backfill compaction report</u>
<u>Final</u>	<u>Drain to daylight. Cap rocks, batter, erosion control, backfill compaction report, special inspection report.</u>

**Reinforced Concrete Retaining Walls**

<u>Inspection</u>	<u>Scope of Inspection</u>
<u>1<sup>st</sup></u>	<u>Footing pad and size, key size, reinforcement, soil condition at toe. Discuss Special Inspection procedures (if applicable).</u>
<u>2<sup>nd</sup></u>	<u>Prior to concrete pour. Wall forms and reinforcement (must be accessible). Anchor bolts and hardware placement.</u>
<u>3<sup>rd</sup></u>	<u>Drain(s), wall waterproofing, restrained support or temporary shoring per design professional. Discuss drain rock and backfill compaction procedures.</u>
<u>Final</u>	<u>Drain to daylight. Weep holes, restrained support, erosion control, backfill compaction report, Special Inspection report.</u>

**Block (Masonry) Retaining Walls**

<u>Inspection</u>	<u>Scope of Inspection</u>
<u>1<sup>st</sup></u>	<u>Footing pad and size, key size, reinforcement, soil condition at toe. Discuss Special Inspection procedures (if applicable).</u>
<u>2<sup>nd</sup></u>	<u>Four foot lift, prior to grout pour. Block, mortar joints, reinforcement and grout cells</u>
<u>3<sup>rd</sup></u>	<u>Top lift, prior to last grout pour. Block, mortar joints, reinforcement and grout cells. Anchor bolts and hardware placement.</u>
<u>4<sup>th</sup></u>	<u>Drain(s), wall waterproofing, restrained support or temporary shoring per design professional. Discuss drain rock and backfill compaction procedures.</u>
<u>Final</u>	<u>Drain to daylight. Weep holes, restrained support, erosion control, backfill compaction report, special inspection report.</u>

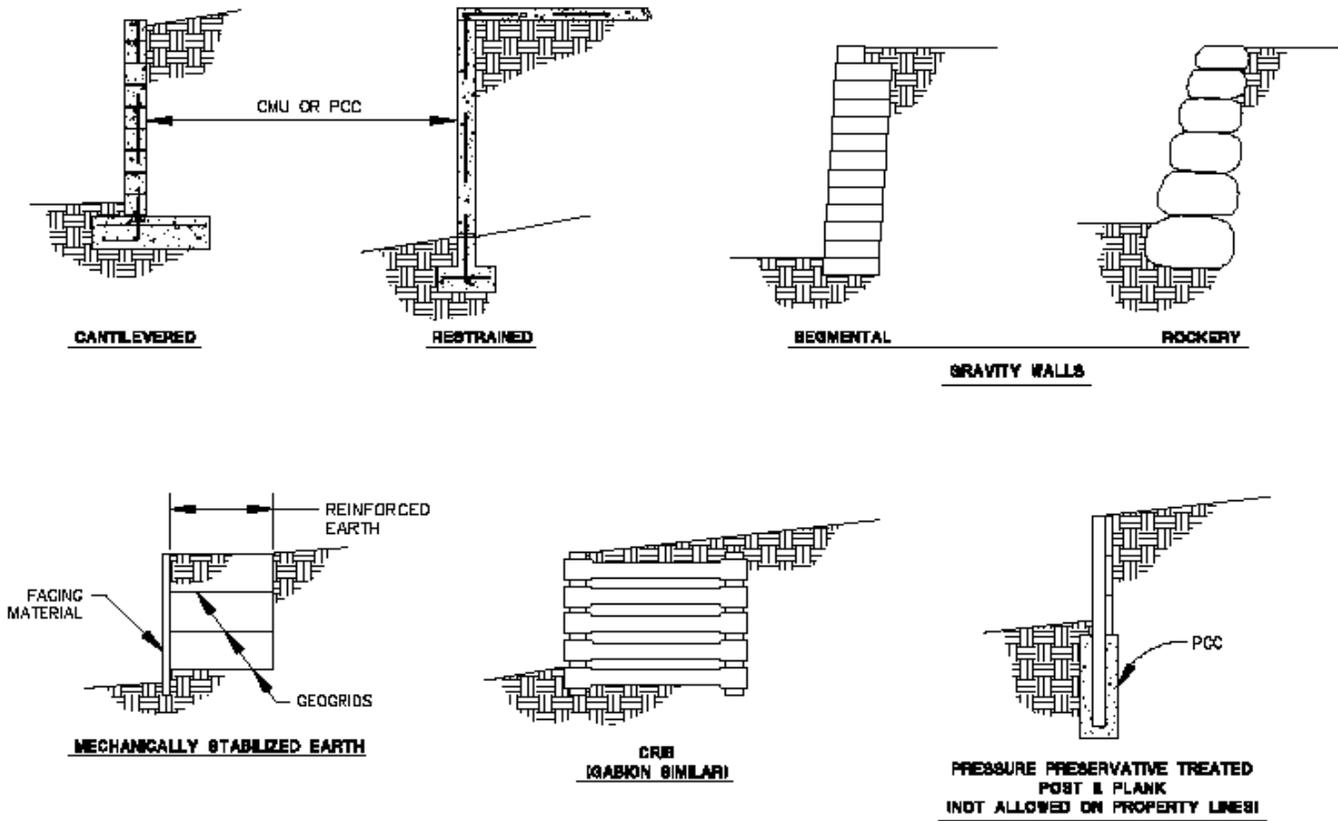
Special Inspection by Qualified Professional: Where or when required, the following special inspections shall be performed by the designer or a certified inspector acceptable to the County; and testing shall be performed by a qualified testing agency acceptable to the County. Special Inspections are in addition to the required inspections performed by County Building Inspectors.

<b>Special Inspection and Testing</b>		
<u>Item</u>	<u>Continuous</u>	<u>Periodic</u>
<u>Soil Compaction</u>		<u>X</u>
<u>Reinforced Concrete</u>	<u>X</u>	
<u>Structural Masonry</u>	<u>X</u>	
<u>Shotcrete</u>	<u>X</u>	
<u>Segmental or Rockery Wall placement</u>		<u>X</u>
<u>Grids and Tie Backs</u>		<u>X</u>
<u>Gabion or Crib wall</u>		<u>X</u>
<u>ICC or ICBO Legacy Report</u>	<u>As Specified</u>	<u>As Specified</u>
<u>Structural Observation</u>	<u>As Specified</u>	<u>As Specified</u>

- A. Compaction testing of soil backfill (excluding drain rock) shall be per the designer's specifications but not less than every 24 inches of lift and every 50 lineal feet of length provided at an appropriate interval to verify proper compaction levels are obtained.
- B. Segmental or Mechanically Stabilized Earth (MSE) walls shall be constructed under the observation of the designer, and shall include review of the footing pad, base course and geogrid placement, face batter, wall facing cavity (if any) backfill, review of compaction testing, and overall compliance with the plans.
- C. Rockery walls shall be constructed under the observation of the designer, and shall include review of the footing pad, rock and backfill placement, review of compaction testing, and overall compliance with the plans.
- D. Soil characteristics shall be observed by the designer or the geotechnical engineer to confirm that they are consistent with the assumptions used in the wall design.
- E. Compaction and Special Inspection or Structural Observation reports shall be provided before or at the time of inspection by the County. Reports not prepared by the designer shall be reviewed and approved by the designer before being provided to the County. All final reports shall be provided to the County before the final inspection by the County. On projects where a Design Professional in Responsible Charge has been designated by the owner, that person shall review and approve or accept all reports before they are provided to the County.

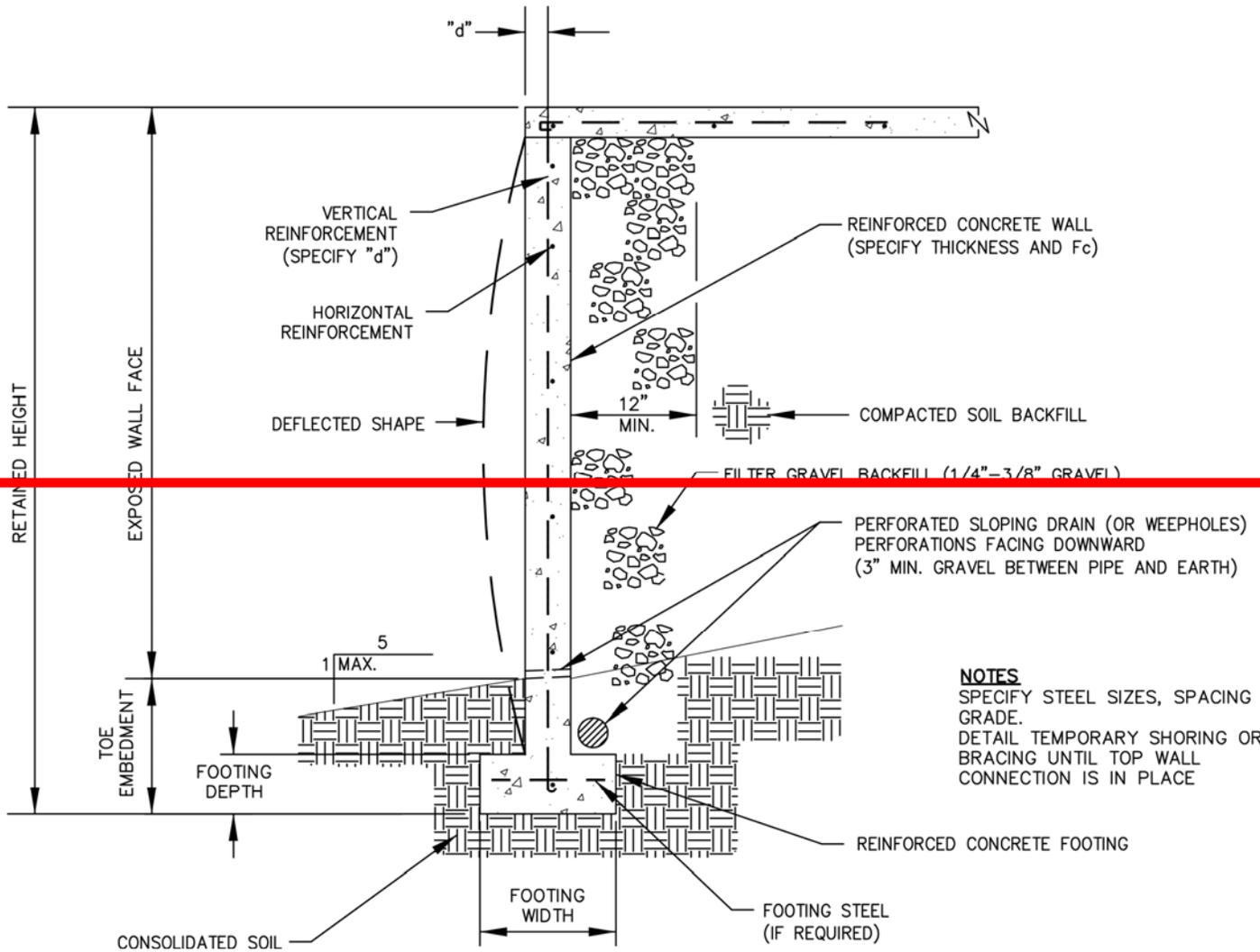
**5.2.5.7 Appendices**

Code references and general information together with the Retaining Wall Design Checklist and Examples of different types of retaining walls as illustrated below can be found in the reference guide available at the County office responsible for issuing the permit.



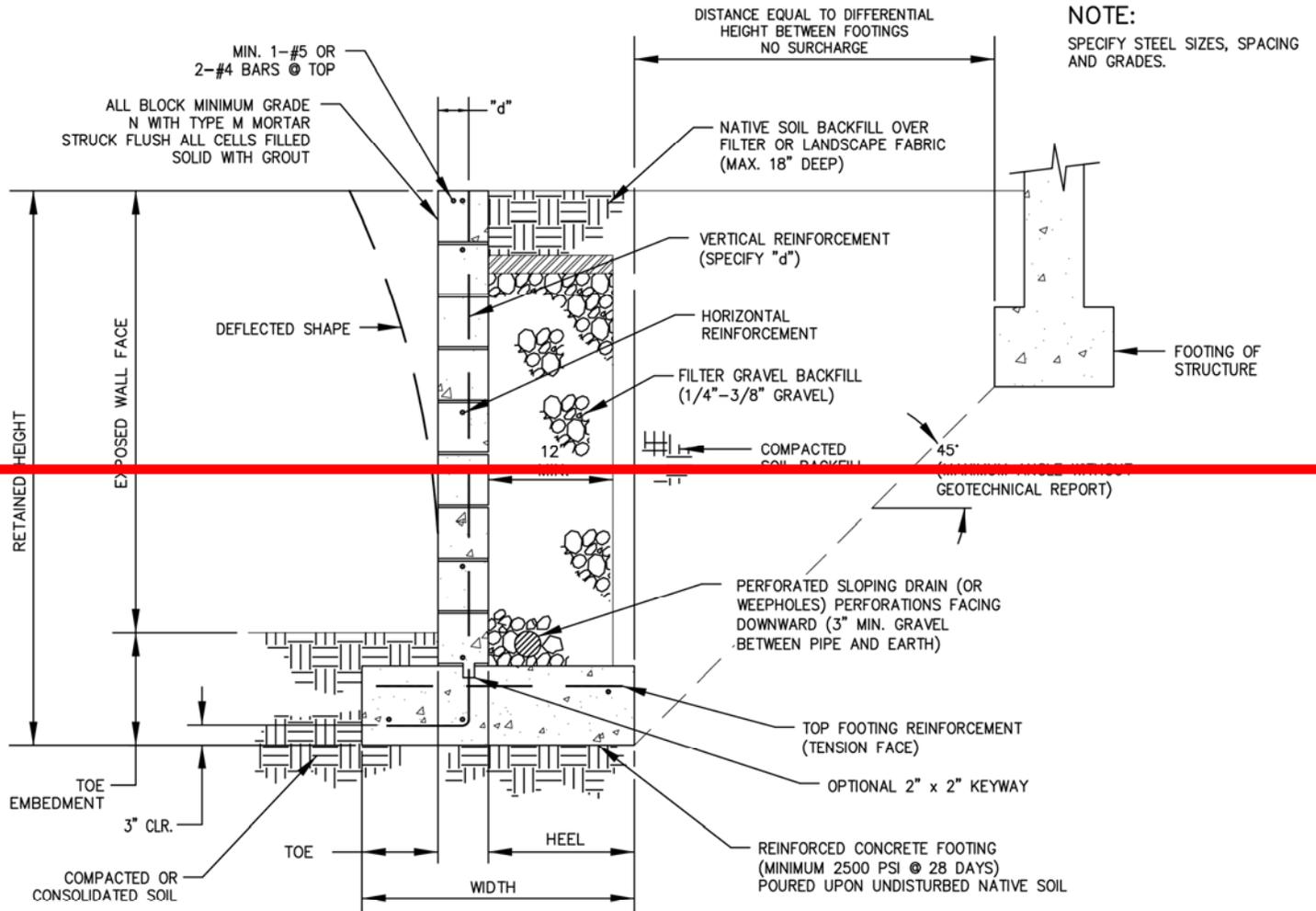
DRAWING #1  
PICTORAL GLOSSARY OF RETAINING WALL TYPES  
NOT TO SCALE





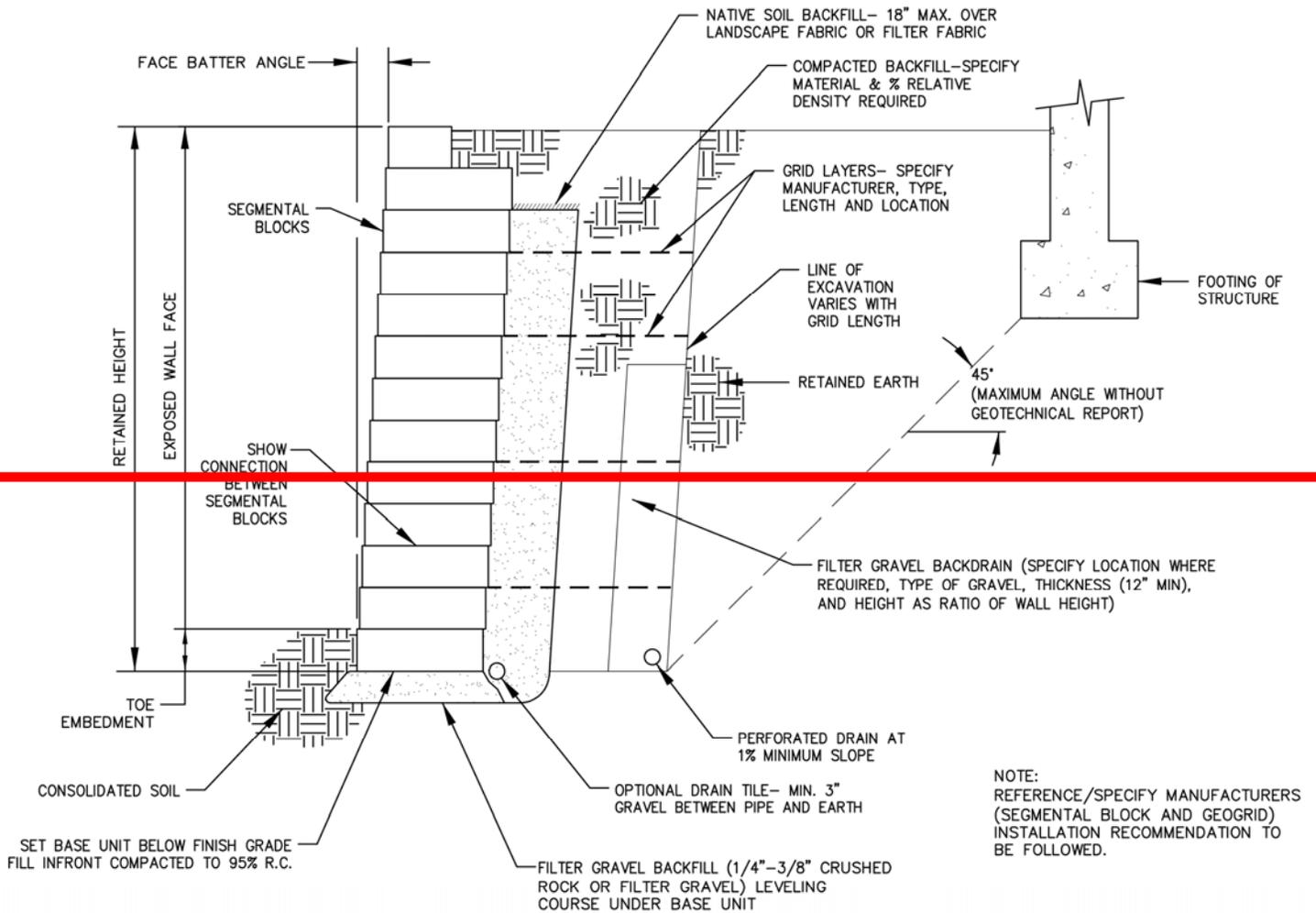
**NOTES**  
 SPECIFY STEEL SIZES, SPACING AND GRADE.  
 DETAIL TEMPORARY SHORING OR BRACING UNTIL TOP WALL CONNECTION IS IN PLACE

**DRAWING #3**  
 RETAINING WALL TYPE: RESTRAINED  
 MATERIAL: REINFORCED CONCRETE  
 NOT TO SCALE

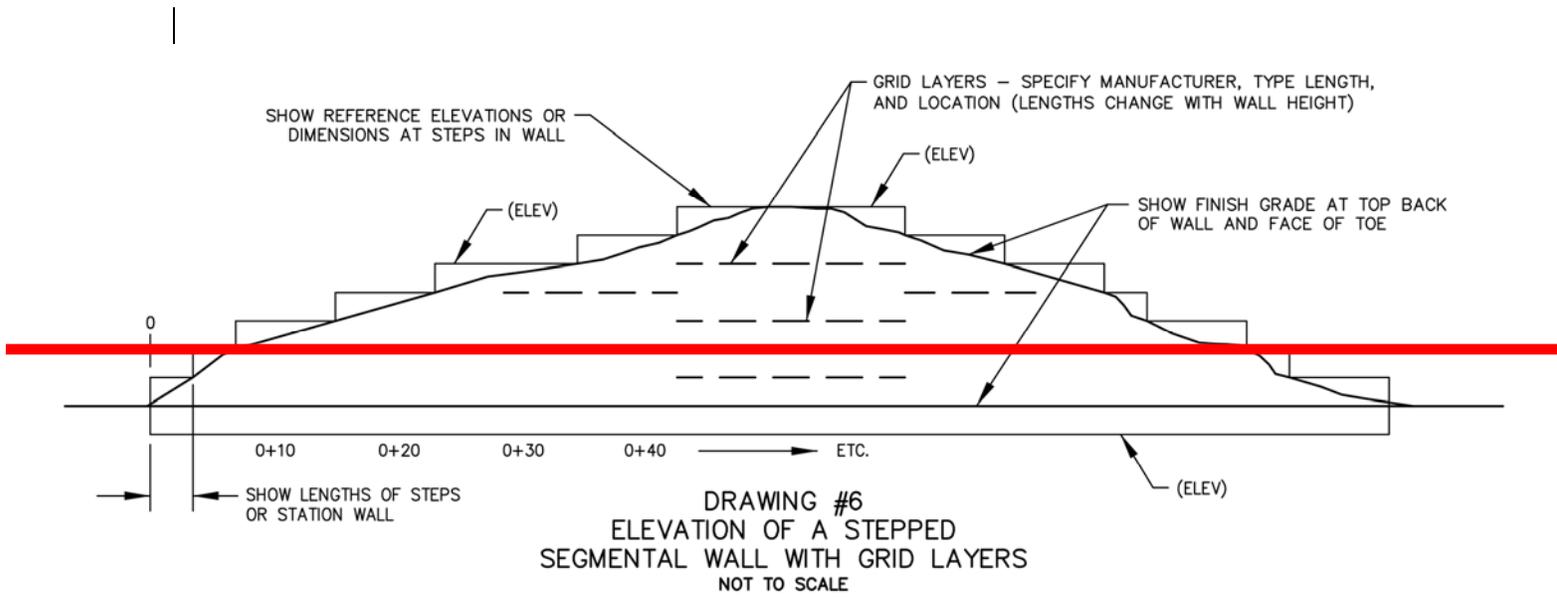


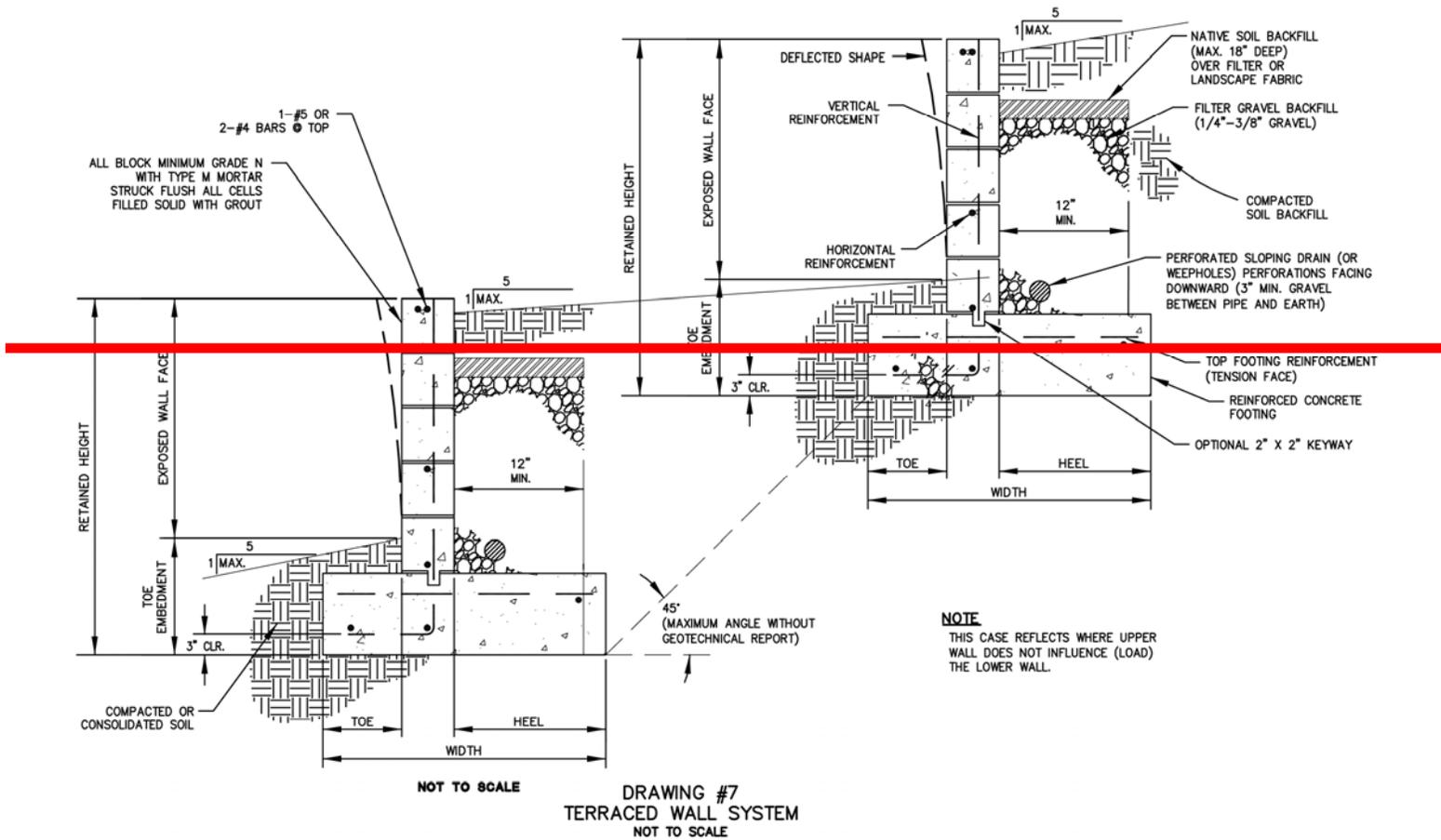
**NOTE:**  
SPECIFY STEEL SIZES, SPACING AND GRADES.

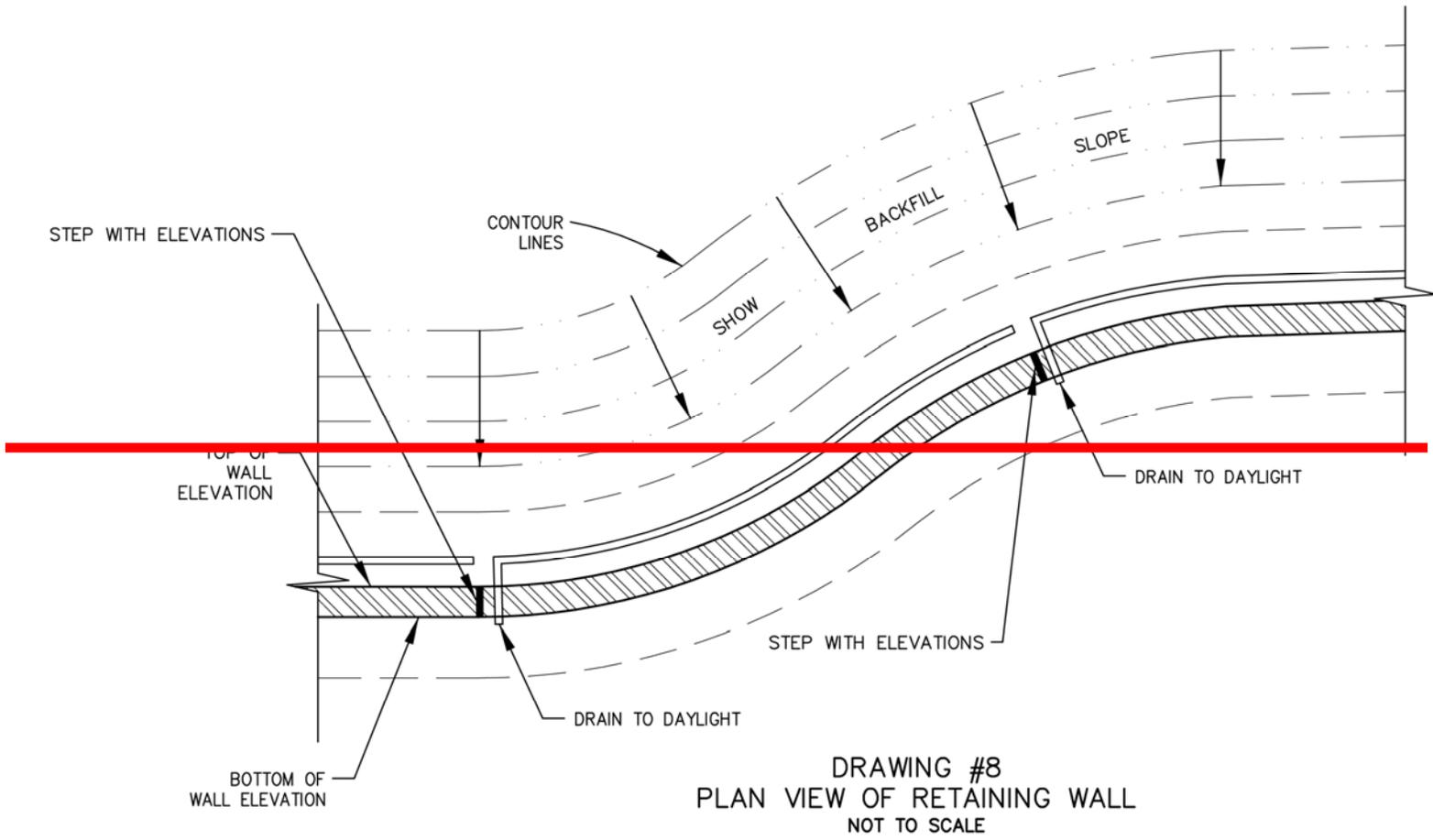
**DRAWING #4**  
**RETAINING WALL TYPE: CANTILEVER**  
**MATERIAL: STRUCTURAL MASONRY**  
**NOT TO SCALE**

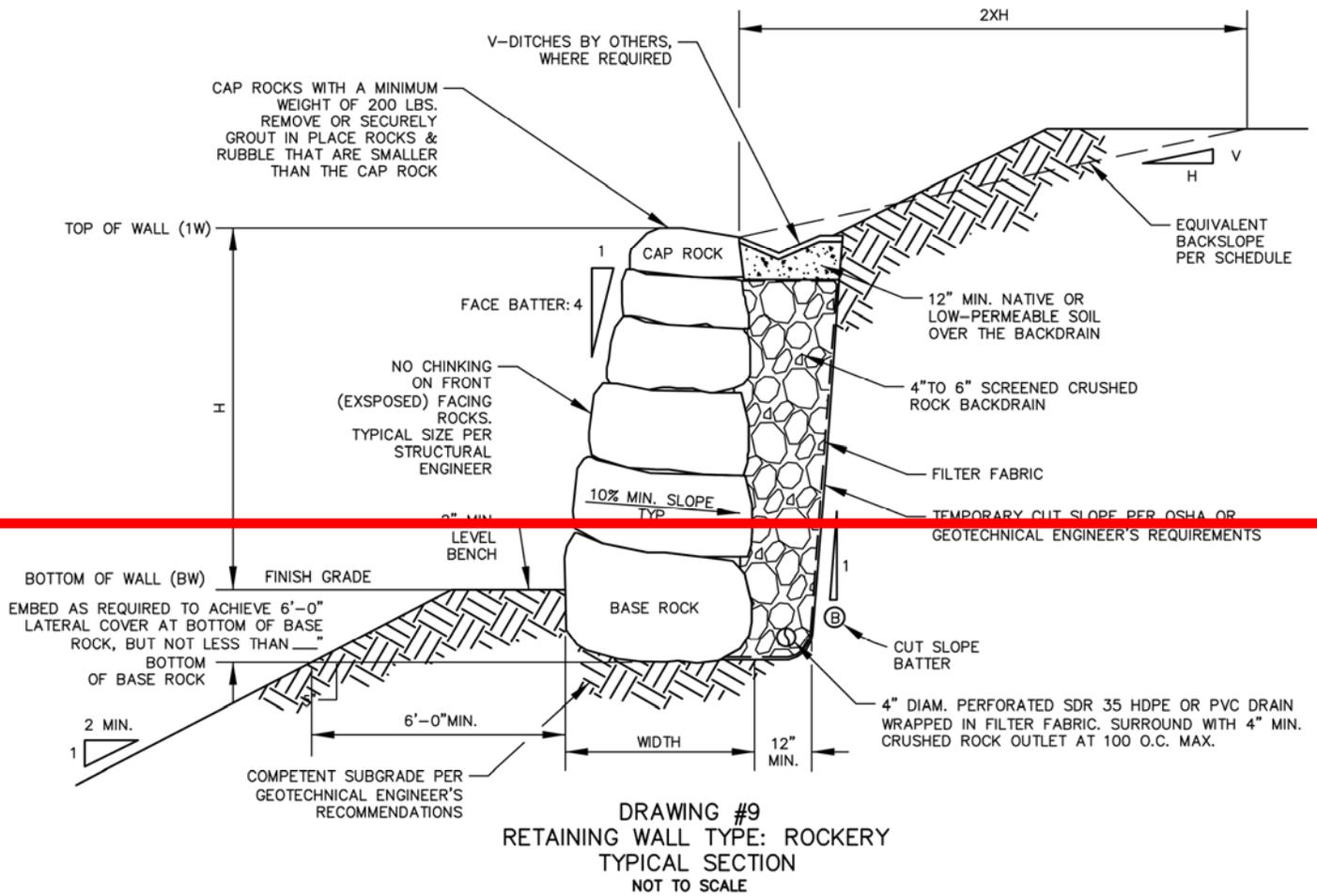


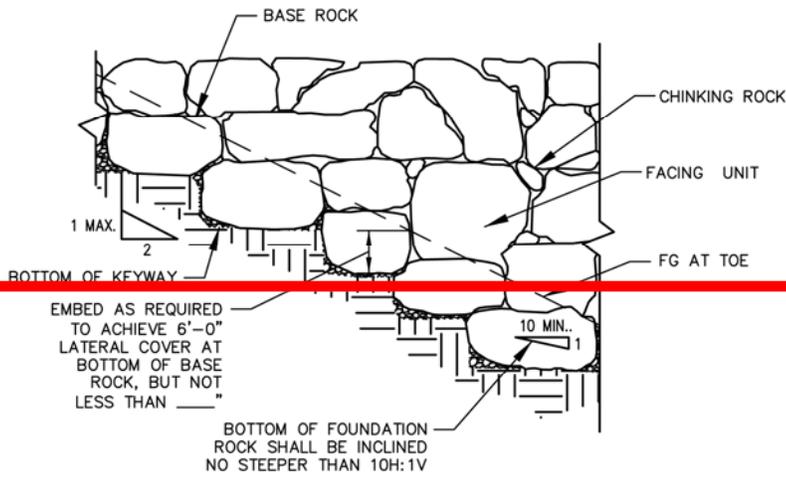
DRAWING #5  
 RETAINING WALL TYPE: MECHANICAL STABILIZED EARTH WITH  
 SEGMENTAL WALL FACE  
 NOT TO SCALE



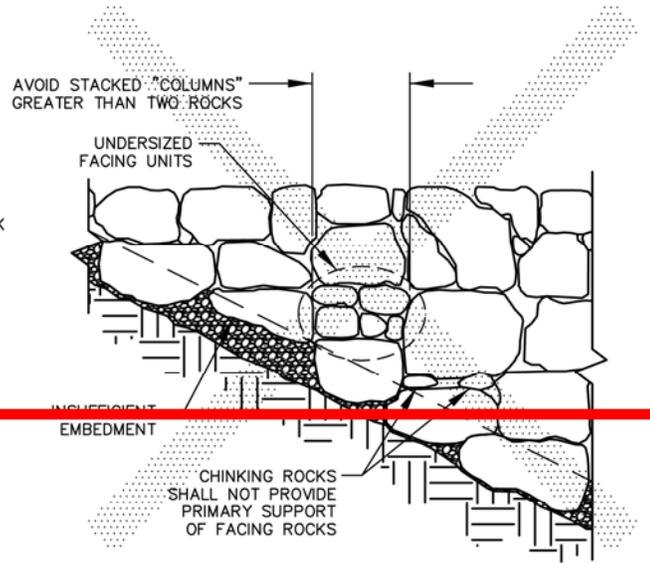






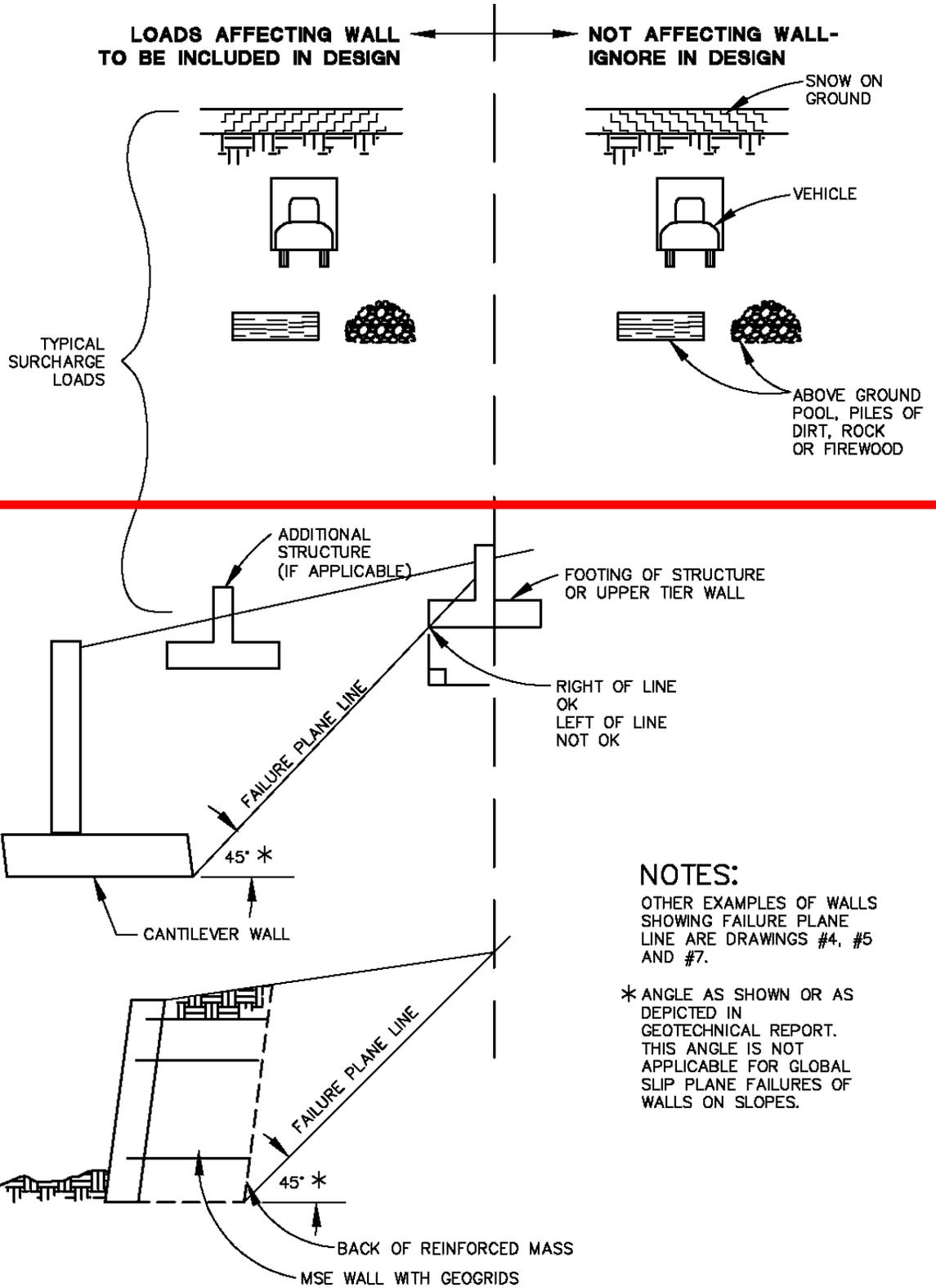


**CORRECT**



**INCORRECT**

DRAWING #10  
 RETAINING WALL TYPE: ROCKERY  
 PARTIAL TYPICAL ELEVATION VIEWS  
 NOT TO SCALE



**NOTES:**

OTHER EXAMPLES OF WALLS SHOWING FAILURE PLANE LINE ARE DRAWINGS #4, #5 AND #7.

\* ANGLE AS SHOWN OR AS DEPICTED IN GEOTECHNICAL REPORT. THIS ANGLE IS NOT APPLICABLE FOR GLOBAL SLIP PLANE FAILURES OF WALLS ON SLOPES.

**DRAWING #11**  
**SURCHARGE LOADING EXAMPLES**  
**NOT TO SCALE**

## 5.3 GRADING PERMIT APPLICATION AND PROCEDURES

### 5.3.1 Responsibilities

Review and regulation of grading is a joint responsibility shared between DSD, DOT, and the Agriculture Department. Depending on the project, one or more organizations may need to review the grading plan. This may include non-County agencies such as Fish and Game, Public Utilities, etc. A list of these agencies is available at DSD. The table which follows describes which department will handle the various types of grading permit applications:

#### **5.3.1.1 Transfer of Professional Responsibility**

If the design professional (i.e. the professional responsible for project design) is changed:

- A. Prior to permit issuance: It shall be the duty of the permittee to notify the building official in writing of such change and to provide documentation that a replacement(s) has agreed to accept responsibility within the required area(s) of technical competence. The permit shall not be issued until such documentation is provided.
- B. After permit issuance: The work shall be stopped until the replacement has agreed in writing to accept responsibility within the area of technical competence for approval upon completion of the work. It shall be the duty of the permittee to notify the County's Director administering the work in writing of such change prior to the commencement or recommencement of such grading or associated work. (Adapted from Section 3317.8 of the 2001 California Building Code).

Type of Grading	Examples/ Clarification	Type of Project Association	Responsible Department
Agricultural Grading	Grading that involves the conversion of one acre or more of undisturbed vegetation to agricultural cropland. (Reference <i>General Plan Policy 7.1.2.7</i> )	Agricultural only; not done in conjunction with development of any structures	Agriculture Department
Residential Grading	Grading associated with the construction of single-family dwellings, accessory buildings, swimming pools, retaining walls, or residential driveways and multi-family site developments that are not associated with a division of land or off-site improvements	Single-Family building permits, Multi-Family building permits, and associated on-site structures	Development Services Department (DSD)
Non-Residential Development Grading (also known as "Commercial Grading")	Grading done on sites that are not residential and that are not associated with a division of land or off-site improvements	Non-Residential building permits such as commercial or industrial buildings	Development Services Department (DSD)
General Grading	Grading unrelated to the construction of single-family residences, accessory buildings, or residential driveways. Typical general grading would include ponds, pads for horse arenas, additional parking areas, and rural (non-County maintained) access roads.	General grading covers miscellaneous on-site grading not associated with structures.	Development Services Department (DSD)
Subdivision Grading	All subdivision grading (including parcel maps) irrespective of the type of land use (e.g., residential, commercial, etc.) includes mass pad grading across the property line of two or more, existing or proposed, contiguous lots or parcels.	Subdivision grading is associated with discretionary projects.	Department of Transportation (DOT)
Right of Way, Encroachments and Public Utility/Drainage Easements	Grading that takes place within the County's right-of-way.	Grading in the County's right-of-way is typically associated with discretionary projects or DOT's CIP projects	Department of Transportation (DOT)

\*Source: Exhibit A of Resolution # 048-2007 adopted by the Board of Supervisors as Implementation of Chapter 15.14 of the County Code

## 5.3.2 Submittal Requirements

### 5.3.2.1 Grading plans

- A. Agricultural grading plans shall be prepared to the specifications of the County's Department of Agriculture. All other grading plans submitted to the County in support of a permit application shall be prepared by qualified individuals as discussed below and shall include the following:
1. **Certification:** The signature and professional stamp of the design professional except as provided in section 5.3.2.4 of this manual.
  2. **Plan Size:** Plans shall be submitted on sheets 24 inches by 36 inches unless an alternate paper size has been approved.
  3. **Number of Copies:** A minimum of three complete sets of grading plans shall be submitted.
  4. **Title Block;** Plans shall be entitled "Grading Plan" and state the purpose of the proposed grading. The name of the design professional responsible for plan preparation and the design professional in responsible charge shall be listed. The title block shall be located at the lower right corner or along the right edge of the plan sheet.
  5. **Topographic features:** Accurate contour lines drawn at intervals not greater than two feet of elevation, unless an alternate interval has been authorized by the Director of the Department issuing the permit, depicting topographic features and drainage patterns and the configuration of the ground before and after grading in the area proposed to be disturbed and immediately adjacent areas, relative to an established bench mark ~~established on site~~. Topographic maps shall be prepared by a design professional.
  6. **Limits of Grading:** The plans shall clearly delineate the boundaries between areas of cut, areas of fill placement, and areas that would remain at natural or pre-existing grade.
  7. **Property Boundaries:** Property lines and easements shall be clearly marked.
  8. **Construction Details:** Construction details for roads (including structural pavement sections), man-made watercourses, culverts, bridges and drainage devices, retaining walls, cribbing, dams, and other improvements existing or to be constructed, together with supporting calculations and maps as required.
  9. **Cross Sections:** Cross-sections, profiles, elevations, dimensions and construction details shall be provided based on accurate field data.
  10. **Erosion Control:** For projects greater than one acre in Disturbed Soil Area the following are required:
    - a. Waste Discharge Identification Number (WDID) Letter from the California State Water Resources Control Board, or Central Valley Regional Water Quality Control Board, and
    - b. Storm Water Pollution Prevention Plan (SWPPP).

~~For projects disturbing less than 1 acre, but more than 10,000 square feet, a Water Pollution Control Plan (WPCP) is required.~~

11. **Preliminary Landscape and Irrigation Plan:** A preliminary landscaping and irrigation plan to demonstrate consistency with “Title 17 Zoning Ordinance” and any discretionary approvals associated with the grading permit.
12. **Material Volume Estimate:** An estimate of the quantities of excavation and fill, adjusted for anticipated swell or shrinkage.
13. **Stockpiles and Borrow Sites:** The location of any on-site stockpile, borrow site, or location for storage of surplus material.
14. **Design Professional in Responsible Charge:** The name and contact information of the design professional in responsible charge shall be identified on the plans.
15. **Certificate Block:** A Certificate block (i.e. signature block for licensed professionals), shall be provided on the cover sheet of the project plans.
16. **Cost Estimate:** The applicant shall submit a detailed cost estimate covering the proposed work, except if the project is limited to grading associated with a single family dwelling on an individual lot.

#### 5.3.2.2 Storm Water Management, Erosion and Sediment Control

A. Control of storm water, erosion, ~~and~~ sediment and other construction related pollutants is required for all grading projects.

1. **Storm Water Pollution Prevention Plan (SWPPP):** A Storm Water Pollution Prevention Plan and Waste Discharge Identification Number (WDID) are required for projects exceeding one acre in Disturbed Soil Area (DSA) by the conditions of the General Permit from the California State Water Resources Control Board (see prior section 5.2.2). Requirements for the SWPPP are found in the General Permit, and the County Storm Water Management Plan (SWMP). A copy of the SWPPP shall be kept on the project site at all times and made available to representatives of the County or State upon request.
- ~~2. **Water Pollution Control Plan (WPCP):** A Water Pollution Control Plan is required where any of the following conditions exist:
  - a. Non-agricultural projects where DSA exceeds 10,000 square feet;
  - b. There is a significant risk that more than 2,500 square feet will be unprotected or inadequately protected from erosion during any portion of the rainy season;
  - c. Grading will occur within 20 feet of any pre-existing watercourse;
  - d. Grading would occur within the 100-year event flood plain;
  - e. It is determined that the grading could potentially result in significant erosion or sediment discharge.~~

~~The Water Pollution Control Plans shall include design and implementation of Construction Site Best Management Practices (BMPs) to control storm water discharge, erosion and sediment from the project site in accordance with the provisions listed in section 5.2.2, paragraphs C through H of this Chapter.~~

~~Construction Site BMPs for Water Pollution Control Plans may be shown on a separate sheet, or shown on the grading sheets if all facilities and measures can be shown on the grading sheets without obscuring the clarity of either the grading plan or the Construction Site BMPs / WPCP.~~

3.2. RCD Approval: The applicant must submit grading plans (including SWPPP) to the Resource Conservation District (RCD) and obtain approval from the RCD for all erosion and sediment control practices prior to issuance of a grading permit by the County.

4.3. Professional Recommendations: SWPPPs ~~and WPCPs~~ shall comply with the recommendations of the design professional, ~~as incorporated in the approved grading plans.~~

5.4. Engineered Facilities: The structural and hydraulic adequacy of all storm water containment or conveyance facilities shown on the plans shall be certified by the design professional through stamp and signature on the accepted plans. Sufficient calculations and supporting material to demonstrate such adequacy shall accompany the plans when submitted. Adequate provision shall be made for long-term maintenance of permanent erosion-control and sediment-control structures.

6.5. Inspection, and Repair, and Maintenance: ~~WPCPs shall provide specific procedures for inspection, repair, and maintenance and repair~~ of all erosion and sediment control facilities are required during the rainy season, and for sediment cleanout and vegetation maintenance. Inspection, maintenance and repair of construction site BMPs shall occur at least once per week, and prior to and immediately after storm events. During extended storm events, construction site BMPs shall be inspected at least once every 24 hours.

### 5.3.2.3 Technical reports

Certain technical reports may be required as part of a grading permit application. The types of reports, the qualifications of the report preparer and the circumstances under which a report is required are discussed below:

A. **Geotechnical Report:** A geotechnical report prepared under the direct supervision of, and sealed and signed by, a design professional shall be submitted at the time of application for all project types as required by the California Building Code. ~~except those associated with single family dwellings on an individual lot.~~

~~1. The geotechnical study report shall be based on observations and tests of the material exposed by exploratory borings or excavations~~

~~and inspections made at appropriate locations. Additional studies may be necessary to evaluate soil and rock strength, the effect of moisture variation on soil bearing capacity, compressibility, expansiveness, stability, and other factors. The report shall contain all of the following components that are applicable to the proposed work:~~

- ~~a. A plot plan showing the location of all exploratory borings and excavations;~~
  - ~~b. Descriptions and classifications of the materials encountered.~~
  - ~~c. Elevation of the water table, if encountered, and a description of other moisture conditions observed;~~
  - ~~d. Recommendations for foundation type and design that address bearing capacity, the potential for liquefaction, and the effects of expansive or weak soils;~~
  - ~~e. Recommendations for retaining wall type and design, including measures to address the effects of any adjacent loads;~~
  - ~~f. Expected total and differential settlement;~~
  - ~~g. A vicinity map showing the regional setting of the site;~~
  - ~~h. Laboratory test data pertinent to the evaluation of the nature, distribution and strength of existing soils;~~
  - ~~i. A general description of the geology of the site;~~
  - ~~j. A description of the geotechnical study techniques employed.~~
  - ~~k. A log for each exploratory boring and excavation showing the elevation at ground level, the depths from which samples were recovered and the depth of each soil or rock strata;~~
  - ~~l. An evaluation of the stability (including potential soil creep) of any proposed cut and fill slopes and proposed retaining walls;~~
  - ~~m. Recommendations for grading procedures and specifications, including excavation and fill placement;~~
  - ~~n. Recommendations regarding drainage and erosion control;~~
  - ~~o. Recommendations for pavement design;~~
  - ~~p. Recommendations for testing and inspection during construction;~~
  - ~~q. Recommended seismic design parameters;~~
  - ~~r. The signature and professional stamp of the design professional.~~
- ~~2. Geotechnical Design Criteria:~~  
The report shall include all the following design criteria applicable to the site and work to be done:
- ~~a. Unit weight of the soil;~~
  - ~~b. Cohesion of the soil;~~
  - ~~c. Angle of internal friction of the soil ( $\Phi$ );~~
  - ~~d. Equivalent fluid pressure;~~
  - ~~e. Allowable bearing pressure of the soil;~~
  - ~~f. Earth pressure from expansive or unstable soils;~~

- ~~g. Freeze/thaw depth;~~
- ~~h. Friction factor for resistance to lateral loads;~~
- ~~i. Passive pressure for resistance to lateral loads;~~
- ~~j. Drain rock/filter fabric requirements;~~
- ~~k. Moisture density curve with minimum in place density recommendations;~~
- ~~l. Erosion protection and maintenance requirements.~~

**B. Geologic Report:** A geologic report prepared under the direct supervision of and signed by a Certified Engineering Geologist or qualified Professional Geologist shall be submitted at the time of application if:

1. Such a report is required by the Director of the department issuing the permit;
2. The project is located in an area of known geologic hazards such as unstable slopes, collapsible soils, severe erosion, rockfall or seismically-induced ground failure;
3. The soil or geologic study report shall conform to the requirements of the California Building Code. ~~contain all of the following as they may be applicable to the subject site:~~
  - ~~a. A vicinity map showing the location of the site relative to known cultural features such as towns and roads;~~
  - ~~b. A topographic map of the site upon which the location of all borings, trenches and other exploratory excavations are marked;~~
  - ~~c. A description of the geology of the site and geology of the adjacent areas that may affect or be affected by the proposed development. This description shall include a discussion of the character of each rock unit exposed and the structural geology of the site;~~
  - ~~d. A geologic map of the site drawn on an accurate topographic base map that delineates the distribution of rock units and structural features (bedding, faults, landslide deposits, etc.);~~
  - ~~e. Geologic cross-sections that accurately depict the rock structure underlying the site;~~
  - ~~f. A description of any groundwater encountered in exploratory excavation or observed to discharge on the site;~~
  - ~~g. A description of the study techniques employed;~~
  - ~~h. A written description and a scaled graphic log of each boring, trench and exploratory excavation;~~
  - ~~i. An evaluation of the stability of natural slopes that could affect or be affected by the proposed development. The source of the material strength parameters used in the evaluation of slope stability shall be documented in the report. The scope of any required slope stability analysis shall be determined by the Director of the department issuing the permit;~~
  - ~~j. Recommendations regarding drainage and erosion control;~~

~~k. Recommendations for the mitigation or avoidance of identified geologic hazards. Pursuant to "Section 6835" of the "Geologists and Geophysicists Act", the report and all maps, plans, specifications, and other graphic materials shall be signed or stamped by the Professional Geologist or Certified Engineering Geologist responsible for the work.~~

C. **Drainage Report:** A drainage report prepared by a design professional in conformance with the design criteria provided in the County "Drainage Manual" is required with all grading permit applications. All drainage reports shall be prepared under the direct supervision of, and signed and stamped, by a design professional in conformance with the guidelines and design criteria provided in the County's "Drainage Manual". These reports shall contain, at a minimum, the following:

- ~~A.1.~~ A vicinity map showing the location of the site relative to known cultural features such as towns and roads;
- ~~B.2.~~ A topographic map of the site upon which the location of all watershed boundaries and watercourses are marked;
- ~~C.3.~~ Calculations that estimate the pre-project and post-project runoff;
- ~~D.4.~~ Recommendations for placement and design of any necessary drainage facilities.

Exceptions:

- ~~A.1.~~ The requirement is waived for minor projects where a study is not required by another regulatory agency;
- ~~B.2.~~ The project involves development of a single family dwelling. (A drainage study may be required due to special circumstances or the requirements of another regulatory agency.)

#### 5.3.2.4 Waiver of the Requirement for Design Professional Prepared Plans

The requirement that grading plans (with the exception of agricultural grading plans) submitted for County review be prepared, signed and stamped by a design professional may be waived if all of the following conditions are met:

- A. The proposed grading would not endanger public health, safety or welfare;
- B. Cuts and fills do not exceed a combined total of 500 cubic yards;
- C. The grading does not involve an access road serving three or more existing or potential residences;
- D. A fill intended to support structures is not proposed;
- E. All proposed cuts or fills would be designed to avoid adverse affects on any adjacent structure or property;
- F. The construction of drainage or sediment-control structures, culverts or facilities would not be required;
- G. The alteration of an existing drainage course would not occur;
- H. An unstable slope condition would not be created;

- I. The grading would not affect the channelized flow of the 100-year storm event;
- J. The plan is prepared by the property owner of record for the subject parcel as allowed under ~~“Section 6744”~~ of the California “Business and Professions Code” (current section “Section 6744”);
- K. The submitted plans meet all other requirements of the County’s Design Manuals.

### 5.3.3 Grading Permit Processing Procedures

#### 5.3.3.1 Review of Permit Applications

The design of proposed grading projects shall be reviewed for consistency with the *General Plan*, the County’s “Title 17 Zoning Ordinance”, the “California Building Code”, conditions of approval from discretionary actions by the County, the requirements of the “Grading Ordinance”, the “Drainage Manual”, this manual and other applicable regulations. Only grading projects found consistent with all applicable design standards, laws and regulations, and conditions of approval may be issued a grading permit.

#### 5.3.3.2 County Review of Technical Reports

Any engineering, geotechnical or geologic study report shall be subject to the review and acceptance of the Director of the department issuing the permit. As part of the Director’s review of the submitted report, supplemental reports and data may be required prior to report acceptance. Reports may be found inadequate for County use based on inaccurate description of the conditions on the project site, failure to address the technical issues identified by the County, failure to meet established standards of professional practice, the lack of clear professional recommendations, or the lack of an original signature and stamp affixed by the design professional responsible for the work. Recommendations included in reports shall be incorporated in the final plans and specifications.

#### 5.3.3.3 Compliance With CEQA

The California Environmental Quality Act (CEQA) may require the preparation of environmental documents concerning a proposed grading project. In such event, the County may function as the lead agency or a responsible agency. The applicant will be advised as to any additional information required with the permit application. The applicant shall be required to pay all costs associated with the preparation and processing of an environmental document. The department issuing the permit shall decide whether to prepare the document itself or retain a consultant(s) to prepare the document.

#### 5.3.3.4 Standard Conditions Of Approval

- A. **Consistency with County Design Standards:** The proposed grading shall conform to the design standards established in the County’s Design Manuals, including this manual.

- B. Follow-up to a Discretionary Approval:** Where a proposed grading project would implement a discretionary permit approval (i.e., Special Use Permit, subdivision of land, etc), no grading permit shall be issued prior to approval of the discretionary use by the applicable planning authority.
- C. Compliance with Terms of Approval:** The permit shall be limited to work shown on the grading plans. In issuing a permit, the Director of the department issuing the permit may impose any condition of approval deemed necessary to protect the health, safety and welfare of the public, to prevent the creation of a hazard to public or private property, and to assure proper completion of the grading, including but not limited to:
1. Mitigation of adverse environmental impacts disclosed in any environmental document;
  2. Reconfiguration of any existing graded surface to comply with the standards of this Manual;
  3. Installation of fencing or other protective devices to avoid work site hazards or environmental damage;
  4. Requirements for dust, erosion, sediment and noise control, hours of operation and season of work, weather conditions, sequence of work, access roads and haul routes;
  5. Requirements for safeguarding watercourses from deposition of sediment or debris in quantities exceeding natural levels;
  6. Requirements for safeguarding areas reserved for on-site sewage disposal;
  7. Demonstration by the applicant, through adequate engineering or geologic analysis and report, that the site of the proposed grading activities is not subject to unstable slopes, substantial settlement, erosion, flooding or seismic hazards or that such hazards are adequately mitigated by the design recommendations included in the submitted report(s);
  8. Demonstration by the applicant of compliance with State or Federal regulations. A Grading Permit issued by a department of the County of El Dorado shall not relieve the permittee of responsibility for securing other permits or approvals as required by other County agencies or agencies of the State or Federal government.
- a.D. Changed Conditions:** Where conditions encountered in the grading operation deviate from that anticipated in the geotechnical and geologic study reports, or where such conditions warrant changes to the recommendations contained in the original studies, revised reports may be required.
- b.E. Safety:** Excavations shall not endanger life or property. Access to any temporary or permanent excavation that constitutes a potential safety hazard shall be restricted by fencing or other barrier as long as such hazard exists. Excavation safety measures shall conform to any applicable CAL-OSHA standards.
- c.F. Setbacks:** Grading and other development shall be set back from property boundaries, established easements, creeks or other water bodies, steep

natural slopes and other resources as required by the *General Plan*, the County's "Title 17 Zoning Ordinance", the conditions of approval of any applicable subdivision map or discretionary permit, the "California Building Code" and this manual. Setback distances may be increased based on a recommendation included in an acceptable geotechnical or geologic report. Any request for a reduced setback would require similar documentation and would be reviewed for consistency with the *General Plan*, "Title 17 Zoning Ordinance" and other applicable regulations.

**d.G. Protection of Levees:** No person shall excavate or remove any material from, or otherwise alter, any levee required for river, creek, bay, or local drainage control, without prior approval of the local governmental agency responsible for the maintenance of the levee.

**e.H. Obstruction of Storm Waters:** Grading activities that obstruct, divert, impede or interfere with the natural flow of storm waters within man-made channels or natural watercourses are prohibited unless it is demonstrated that all of the following are true:

1. The proposed activities will not cause flooding or exacerbate an existing flooding condition as documented in a County-accepted drainage report conforming to the requirements set forth in the "Drainage Manual".
2. The proposed activities would not result in severe or ongoing erosion.
3. The applicant is in compliance with applicable sections of the "State of California Water Code", "State of California Fish and Game Code", "The National Clean Water Act", the County's SWMP, and other applicable local, State, and Federal laws.

#### 5.3.3.5 Tahoe Basin Special Conditions of Approval

**1.A. General:** All grading projects shall conform to the rules and regulations of the Tahoe Regional Planning Agency (TRPA). See Chapter 7 for TRPA contact information.

**2.B. Grading season:** Grading shall be prohibited during the period from October 15<sup>th</sup> through May 1<sup>st</sup> unless otherwise provided by this Manual. The County requires complete winterization of any project by October 15<sup>th</sup> pursuant to "Section 64.2" of the TRPA "Code of Ordinances".

**3.C. Other agencies:** All grading work shall conform to any restriction required by other Federal, State, or local agencies.

**4.D. Applicability:** Except for section "15.14.140 (Exemptions)", the provisions of the County's "Grading, Erosion and Sediment Control Ordinance, Chapter 15.14" of the "County Ordinance Code", shall apply to grading activities in the Tahoe Basin.

**5.E. Permit waivers:** The requirement for a grading permit may be waived if the work complies with all the following conditions:

- a.1.** The excavation does not exceed five feet in vertical depth at its deepest point measured from the existing ground surface, there is

not a reasonable possibility of interception of a water table, and the volume of earth moved does not exceed three cubic yards;

b.2. The fill does not exceed three feet in vertical depth at its deepest point measured from the original ground surface and the fill material does not exceed three cubic yards per site;

e.3. Disturbance, injury, or removal of vegetation has been authorized by a TRPA project approval in accordance with “Section 65.2” of the TRPA “Code of Ordinances”.

### 5.3.3.6 Grading Plans For Stockpiles

Plans submitted for a stockpile permit application must comply with the application requirements listed in this manual. The plan must also contain all of the following:

1.A. The estimated date the stockpile will be removed from the site. This date shall not exceed one year from the date of initial placement. An extension of time may be granted for good cause shown;

2.B. A prominent note stating that the final inspection shall not be complete until all of the stockpiled material has been removed from the site, or utilized as part of a permitted development project, and that all required permanent erosion control devices and materials are in place;

3.C. A written statement signed by the landowner that acknowledges and accepts the following:

D.1. The landowner authorizes the placement, temporary storage and removal of earth materials on the subject property as specified in the approved grading plans;

E.2. The landowner is solely responsible for the stockpile and for compliance with the terms and conditions of approval included in any relevant permit;

F.3. The person (named) submitting the permit application is acting as an agent of the landowner.

### 5.3.3.7 Modification of Approved Plans:

- A. Requests for modifications of an approved final plan shall be submitted to the County for review.
- B. All necessary geotechnical and geological information, and all design details shall accompany any proposed modification.
- C. The proposed modification shall be consistent with any applicable subdivision map or use permit conditions of approval.

### ~~5.3.3.8 Transfer Of Professional Responsibility Prior To Permit Issuance~~

~~If the design professional of record (i.e. the professional responsible for project design) is changed prior to permit issuance, it shall be the duty of the permittee to notify the building official in writing of such change and to provide documentation that a replacement(s) has agreed to accept responsibility within the required area(s) of technical competence. The permit shall not be issued until such documentation is provided.~~

### 5.3.3.9 Water Impoundments

**A. DSOD-Regulated:** Water impoundments involving a dam greater than twenty-five feet in height or storage of more than fifty acre-feet of water (or other design thresholds currently adopted by the State) are under the jurisdiction of the State of California Department of Water Resources, Division of Safety of Dams (DSOD). The height of a dam shall be measured from the lowest elevation of the outside limit of the dam to the maximum possible water storage elevation (i.e. the spillway elevation). Such reservoirs require a grading permit issued by the County with engineering review and approval by DSOD. The grading permit can only be issued if the project is found in conformance with County regulations, including the *General Plan*.

**B. Non-DSOD Regulated:** Construction of any dam or obstruction to water flow shall require a grading permit pursuant to “Section 15.14.130” of the “County Ordinance Code” and this manual. Design and construction standards for non-jurisdictional dams are established in the “Drainage Manual”. The construction of dams shall follow the current practices of the California Department of Water Resources, Division of Safety of Dams as set forth in the “Guidelines for the Design and Construction of Small Embankment Dams.”

## 5.3.4 Inspections and Construction Requirements

### 5.3.4.1 Inspections

**A. Construction Schedule:** When required, a project schedule shall be provided that includes, as a minimum, the dates of:

1. Commencement of work;
2. Start and finish of rough grading;
3. Completion of drainage facilities;
4. Completion of work in any watercourse;
5. Completion of erosion and sediment control facilities;

**56.** Completion of hydro mulching and other drought-resistant landscaping. If rough grading is proposed between October 15th and May 1st, a more detailed schedule of grading activities and use of erosion and sediment control facilities may be required (final schedule to be provided after the grading permit is issued prior to the beginning of construction).

**B Regular Inspections:** The County may inspect any work done under the authority of a permit granted pursuant to the “Grading, Erosion, and Sediment Control Ordinance”. No permittee shall be deemed to have complied with this Ordinance until a final inspection of the work has been completed by the County and it has been determined in writing that the work has been completed in accordance with all requirements and conditions of the permit. The permittee shall provide adequate access to the site for

inspection during the performance of all grading work and for a minimum period of one year after the final inspection of all improvements.

C. **Violation and abatement inspections:** Pursuant to section D.1. below, the Director of the department issuing the permit may require site inspections to investigate an alleged violation of the “Grading, Erosion, and Sediment Control Ordinance”, or inspections necessary to document the abatement of a verified violation of this Ordinance.

D. **Special Inspections:**

1. Criteria for special inspections: As a condition of any permit, or as part of the investigation or abatement of a violation of the “Grading Ordinance”, the Director of the department issuing the permit, may require the permittee to provide periodic or continuous monitoring of the construction activities under the direction and responsibility of the design professional within their area of expertise and licensure. The permittee shall contract for such services and be responsible for the payment of all costs. Continuous or periodic observation and reporting by the design professional shall include, but not be limited to, the following situations:

- a. During the preparation of a site or the placement of fills which exceed three feet in depth on slopes which exceed 10 percent;
- b. Fill placement for vehicular ways shall be continuously inspected when fills exceed 10 feet in height;
- c. During the preparation of a site for the placement of any fill and during the placement of such fill which is intended to support any building or structure;
- d. During the installation of subsurface drainage facilities;
- e. Construction of retaining wall; see section 5.2.6 of this manual.

The use of a licensed professional for inspections or observations shall not preclude additional inspections by representatives of the County.

2. Special Inspection reports: Reports filed by the design professional regarding a special inspection shall state in writing a professional opinion, based on personal knowledge, that adequate inspection has been performed and the work accomplished during the period covered by the report has been completed in substantial accordance with the approved plans and specifications.

E. **Progress Reports:** When required, periodic progress reports shall be provided under the direction of the design professional in responsible charge that address the following:

1. Laboratory test results;
2. Slope stability;
3. Placement of materials;
4. Retaining wall installation;
5. Installation of drainage facilities;
6. Installation of utilities;
7. Compliance with special permit or plan requirements;

8. Other technical issues.
- F. **Storm Water Inspections:** Inspection and monitoring of construction BMPs is required to reduce or eliminate erosion and sediment or other pollutant discharge to storm drains and waterways, under the General Permit issued by the State Water Resources Control Board (see sections 5.2.2 and 5.3.2 above). Attention is directed to that document.
- G. **Final Technical Reports:** Upon completion of grading work, a final report(s) may be required that addresses geotechnical, geologic, drainage or engineering issues and includes, but is not limited to the following:
- A.1. A complete record of all field and laboratory tests including location and elevation of all field tests;
  - B.2. A professional opinion regarding slope stability, soil bearing capacity, and any other pertinent information;
  - C.3. Recommendations regarding foundation and roadway design, including soil bearing potential, and building restrictions or setbacks from the top or toe of slopes.
  - D.4. A declaration of professional opinion by the design professional, in the format required by the County, as to whether the work was done in substantial accordance with the recommendations contained in the accepted soil or geologic reports and in conformance with the approved plans and specifications, including but not limited to, line, grade and drainage design.
- H. **As-built plans:** When required, the permittee shall submit an "as-built" grading plan following completion of grading operations in an acceptable format.

#### 5.3.4.2 Construction Site Requirements

- A. **Protection of Existing Utilities:** The permittee shall take all reasonable measures to prevent or avoid damage to existing public utilities or services. The permittee shall be responsible for the cost of repair of any damage to facilities resulting from the grading activities performed under the authority of the permit.
- B. **Protection of Adjacent Property:** The owner of record of the property upon which the grading permit is issued is responsible for any physical damage to adjacent property resulting from the grading activities. All persons shall take all reasonable measures to prevent or avoid damage to any adjoining public street, sidewalk, alley or other public or private property.
- C. **Advance Notice:** The permittee shall construction-stake the site and notify the County at least 48 hours prior to the start of work.
- D. **Grading Limits:** Limits of grading shall be clearly defined and marked in the field to prevent damage by construction equipment. Wetlands and oak trees shall be protected from construction activity as described in Chapter 2 of this manual.

- E. **Minimization of Exposed Area:** During the rainy season, the smallest practical area of erodible land shall be exposed at any one time during grading operations and the time of exposure shall be minimized.
- F. **Storm Water, Erosion and Sediment Control:** The permittee shall fully comply with the requirements of the County Storm Water Management Plan (SWMP), Clean Water Act, the California State Water Quality Control Board (SWRCB) Rules and Regulations, ~~the requirements of the Construction Activities Storm Water General Permit Order No. 99-08-DWQ (General Permit)~~ and other applicable orders and permits issued from time to time by the SWRCB. The permittee is shall take responsible for the following during construction operations:

~~all reasonable measures to prevent or avoid:~~

~~9.1. Implementation and maintenance of storm water and non-storm water BMP's to reduce or eliminate discharge of sediment or other pollutants to sediment from the site, in quantities exceeding State Water Resources Control Board standards, to any watercourse, drainage system, or adjacent property;~~

~~10.2. Damage to watercourses and adjacent properties in the form of erosion, flooding, or deposition which may result from the permitted grading;~~

~~11.3. Sediment deposition onto public or private vehicle ways.~~

Construction site BMP's shall be inspected by the permittee weekly during the rainy season, and in advance of forecasted storm events. Following any storm event, BMP's shall be inspected for effectiveness and replaced and/or supplemented as necessary.

Attention is directed to Sections 5.2.2 and 5.3.2 of this Manual.

- G. **Approved Plans:** One set of approved plans and permit shall be retained on the site and made available for use by the County inspector at all times during the work.

#### ~~5.3.4.3 Transfer of Professional Responsibility After Permit Issuance~~

~~If the design professional (i.e. the professional responsible for project design) is changed, the work shall be stopped until the replacement has agreed in writing to accept responsibility within the area of technical competence for approval upon completion of the work. It shall be the duty of the permittee to notify the County's Building Official in writing of such change prior to the commencement or recommencement of such grading or associated work. (Adapted from Section 3317.8 of the 2001 California Building Code)~~

## 6.1 GENERAL SUMMARY

The El Dorado County Surveyor's Office checks maps and supporting documents for compliance with Federal, State and local laws. Projects that are reviewed by the Surveyor's Office include all Record of Survey Maps, Parcel Maps, Final Maps, Lot Line Adjustments, Ministerial Certificates of Compliance, road names and addresses, and other discretionary or ministerial projects that affect boundary lines. These maps, exhibits, official documents, and descriptions in most cases must be prepared by a California Professional Land Surveyor or a California Registered Civil Engineer who is qualified to perform land surveying. Authority to review and approve falls within the provisions of Section 66410 of the Government Code of the State of California, "The Subdivision Map Act" (hereafter referred to as "SMA"); Section 8700 of the Business and Professions Code of the State of California, "The Professional Land Surveyors Act" (hereafter referred to as the "LS Act") and "Title 16 Subdivisions" of the County's Ordinance Code (hereafter referred to as "County Code").

For this Chapter:

- A. "Lot" refers to a basic land division unit created by a "Final Map" and "parcel" refers to a basic land division unit created by a "Parcel Map", or created by written description without the benefit of any map.
- B. To distinguish between the two different types of Tentative Maps, "Tentative Subdivision Map" and "Tentative Parcel Map" are used. The latter typically refers to residential land divisions of four or fewer lots, and commercial subdivisions of any number of parcels, and the former to residential land divisions of five or more lots. See the County's "Title 16 Subdivisions" for further information.

County Surveyor services required for review, approval and recordation, shall be paid for by cost recovery fees collected from the applicant. See the current fee schedule at <http://www.edcgov.us/surveyor/>.

El Dorado County Surveyor

Web Site: <http://www.edcgov.us/surveyor/>

Phone: (530) 621-5440 Fax (530) 626-8731

Address: 360 Fair Lane, Placerville, CA 95667

## 6.2. LAND DIVISIONS

Under the provisions of the SMA and County Code, anyone subdividing land in El Dorado County is required to prepare a Parcel Map or a Final Map. The required map must show how the land is to be subdivided, and what public dedications are to be made as a result of the subdivision.

Section 66411 of the SMA requires local agencies to regulate and control the design of subdivisions. The process of subdividing land by map can be separated into two phases, the Tentative Map phase and the Parcel or Final Map phase. The Tentative Map phase is overseen by the Development Services Department (DSD) and establishes the conditions of approval. Once the Tentative Map is approved, the Parcel or Final Map can be submitted to the County Surveyor for review and approval. The Final Map phase is managed by DSD with the County Surveyor reviewing and approving the actual map. The Parcel Map phase is managed, reviewed and approved by the County Surveyor, and includes the actual filing of the Parcel Map with the County Recorder.

To provide uniformity and consistency and to ensure that the notes and statements required on a map meet the provisions of the SMA, LS Act and County Code, a list of standard notes and statements for Parcel and Final Maps can be obtained from the County Surveyor Web site at <http://www.edcgov.us/surveyor/>.

### 6.2.1 Final Map

The Final Map must include, at a minimum, the following:

- A. All of the technical requirements cited in the County Code and the SMA, such as size, format, content, basis of bearings and map title.
- B. Applicable statements and certificates.
- C. Be substantially the same as the approved Tentative Subdivision Map as to the number of units or lots, lot sizes, street alignment and right-of-way width, property rights reservations, and dedication of any public easements or other dedications or conveyances.
- D. Include the names of all streets, public and private, and all monumentation required by the SMA, LS Act, and County Code.
- E. All conditions placed on the Tentative Subdivision Map must be met.

A Subdivider may elect to file a Final Map covering only a portion of the approved Tentative Subdivision Map. Such a submission shall be in compliance as the phase is approved by DSD. Each such Final Map shall be named and filed as a numerical unit of the approved Tentative Subdivision Map. All of the requirements

for approval of a Final Map shall apply to the approval covering a portion of the Tentative Subdivision Map. A Final Map and the subdivision agreements required shall provide for the construction of the improvements as may be necessary to constitute a logical and orderly development of the whole subdivision by units.

#### **6.2.1.1 Form and Contents**

The Final Map shall be prepared by, or under the direction of, a California Professional Land Surveyor or California Registered Civil Engineer (who is authorized to perform land surveying); and shall be based upon a survey; and shall conform to all of the following provisions:

- A. Materials: It shall be legibly drawn, printed or reproduced by a process guaranteeing a permanent record in black India drawing ink on polyester drafting film of a thickness of four mil. Certificates, affidavits and acknowledgements may be legibly stamped or printed upon the map with black India drawing ink.
  
- B. Size: The size of each sheet shall be 18 inches by 26 inches . A marginal line shall be drawn completely around each sheet leaving an entirely blank margin of one inch. The scale of the map shall be large enough to show all details clearly and enough sheets shall be used to accomplish this end. The particular number of the sheet and total number of sheets comprising the map shall be stated on each of the sheets, and its relation to each adjoining sheet shall be clearly shown.
  
- C. Survey and Math Data: The Final Map shall show all survey and mathematical data necessary to:
  - 1. Locate all monuments,
  - 2. Locate and retrace any and all interior boundary lines appearing thereon including:
    - a. bearings and distances of straight lines,
    - b. the radii and chord bearings,
    - c. chord distances of all curves,
    - d. such information as may be necessary to determine the location of the centers of curves when the curves are non-tangent.
  
- D. Exterior Boundary: The exterior boundary of the land included within the subdivision shall be indicated by a heavy-line border.
  
- E. Location: The Final Map shall show the location of the subdivision, its relation to surrounding surveys and the names of all adjacent subdivisions or adjacent ownership. The north arrow, scale and basis of bearing shall be shown.
  
- F. Map Title: The title of the Final Map shall be the name of the subdivision map as it appears on the approved Tentative Subdivision Map, unless

changed with the approval of DSD. The title shall identify section, township and range and prior maps, if any.

- G. Map Number: The Tentative Subdivision Map number and date of approval by the Board of Supervisors (Board) shall be clearly shown in the lower left hand corner.
- H. Easements Data: The width and actual locations of all easements shall be clearly shown.
- I. Lots Data: Each lot shall be numbered or lettered showing the area, in square feet to the nearest five feet or in acres to the nearest thousandths of an acre.
- J. Streets Data: Each street width and name shall be shown.
- K. Monuments: The location and type of all monuments shall be shown, including all monuments required to be set by the SMA and County Code. All existing monuments shall be shown.
- L. The title, notes, legend, basis of bearing, references and amendments shall be placed on each survey sheet. Any of the foregoing in this subsection may be deleted when found superfluous by the County Surveyor.
- M. Amending Maps: Maps filed for the purpose of amending a previously recorded Final Map shall include in the title "*Amending Final Map*" and shall conspicuously include a list of all the approved amendments.
- N. Reversion Maps: Maps filed for the purpose of showing land previously subdivided into numbered or lettered lots being reverted to acreage, shall include in the title "*Final Map for Reversion to Acreage*".

#### **6.2.1.2 Certificates and Statements**

The following certificates shall appear on the Final Map: (Also, see the County Surveyor's web site for current SMA statements.)

- A. Owner's Certificate, the signed and acknowledged certificate of the owners of the land consenting to the preparation, offering for dedication to the County those lots and or easements designated upon the Final Map to be devoted to public purposes, if any, including the underlying fee if required and the recording of the Final Map.
- B. Surveyor's Statement of the Professional Land Surveyor responsible for the survey, that the map is in conformance with the SMA and local ordinance.

- C. County Surveyor's Statement that:
  - 1. The map is substantially the same as the Tentative Map with any approved alterations thereof;
  - 2. The provisions of the Subdivision Map Act and any local ordinances have been satisfied;
  - 3. The map is technically correct.
  
- D. DSD's Director's Statement that the map conforms to the approved Tentative Subdivision Map and that all conditions imposed upon the approval have been satisfied.
  
- E. County Engineer's Statement that all improvements required have been completed, or the subdivider has executed the necessary agreement and submitted the required bond or deposit to secure the completion of the required improvements.
  
- F. County Tax Collector's Statement that there are no liens against any portion of the subdivision for unpaid state, county, city or local taxes, or special assessments.
  
- G. County Clerk's Statement that the Board approved the map and accepted or rejected any lots or easements offered for dedication to public uses.
  
- H. County Recorder's Certificate that the map is accepted for filing.
  
- I. Where the Surveyor's Statement states that all of the monuments will be set on or before a specified later date, the Subdivider shall furnish to the County Surveyor a bond or cash deposit in an amount equal to the estimated cost of setting the monuments guaranteeing payment.

#### **6.2.1.3 Filing Process**

- A. When all of the certificates required by the SMA and County Code have been executed, except those of the County Clerk and County Recorder, the Final Map may be submitted for action to the Board.
  
- B. Upon Final Map approval at the Board of Supervisors' meeting the Final Map may be submitted to the County Clerk to be signed and stamped.
  
- C. After the County Clerk has executed the Certificate of Approval of the Board, the Final Map may be submitted to the County Recorder. The County Recorder may accept it for filing by executing the "Recorder's Statement" on the map, provided that:
  - 1. The Subdivider has furnished to the County Recorder a guarantee of title certifying the names of all persons whose consent is necessary to pass clear title to the land;

2. All acknowledgements appear on the certificates consenting to the preparation of the map and offers of dedication.

#### **6.2.1.4 Timely Filing**

To obtain a "Timely Filing" of a Final Map, prior to the expiration date of a Tentative Subdivision Map, or any extension thereof, all items must be completed as set forth below:

- A. The original Final Map with the signatures of all those having record title interest, the Surveyor of Record, and the Tax Collector, to The County Surveyor.
- B. A subdivision improvement agreement and adequate surety executed by the Final Map applicant, to the County Engineer.
- C. Documentation demonstrating satisfaction of all applicable conditions of approval of the Tentative Subdivision Map, to DSD.

#### **6.2.2 Parcel Map**

The Parcel Map must include, at a minimum, the following:

- A. All of the technical requirements delineated in the County Code, the SMA, such as size, format, content, basis of bearings and map title.
- B. Applicable statements and certificates.
- C. The same data contained in the approved Tentative Parcel Map as to the number of units or parcels, street alignment and right-of-way width, property rights reservations, and dedication of any public easements or other dedications or conveyances.
- D. The names of all streets, public and private, and all monumentation required by the SMA, LS Act, and the County Code.

##### **6.2.2.1 Form and Contents**

The Parcel Map shall be prepared by, or under the direction of, a California Professional Land Surveyor or California Registered Civil Engineer who is authorized to perform land surveying; and shall be based upon a field survey or compiled from recorded data; and shall conform to all of the following provisions:

- A. Materials: It shall be legibly drawn, printed or reproduced by a process guaranteeing a permanent record in black India drawing ink on polyester drafting film of a thickness of four mil. Certificates, affidavits and acknowledgements may be legibly stamped or printed upon the map with black India drawing ink.

- B. Size: The size of each sheet shall be 18 x 26 inches. A marginal line shall be drawn completely around each sheet leaving an entirely blank margin of one inch. The scale of the map shall be large enough to show all details clearly and enough sheets shall be used to accomplish this end. The particular number of the sheet and total number of sheets comprising the map shall be stated on each of the sheets, and its relation to each adjoining sheet shall be clearly shown.
- C. Survey and Math Data: The Parcel Map shall show all survey and mathematical data necessary to:
1. locate all monuments,
  2. locate and retrace any and all interior boundary lines appearing thereon including:
    - a. bearings and distances of straight lines,
    - b. the radii and chord bearings,
    - c. chord distances of all curves,
    - d. such information as may be necessary to determine the location of the centers of curves when the curves are non-tangent.
- D. Exterior Boundary: The exterior boundary of the land included within the subdivision shall be indicated by a heavy-line border.
- E. Location: The Parcel Map shall show the location of the subdivision, its relation to surrounding surveys and the names of all adjacent subdivisions or adjacent ownership. The north arrow, scale and basis of bearing shall be shown.
- F. Map Title: The title of the Parcel Map shall be labeled as a Parcel Map in the heading and identify section, township and range, and prior maps, if any.
- G. Map Number: The Tentative Parcel Map number and date of approval by the applicable approving authority shall be clearly shown in the lower left hand corner.
- H. Easements Data: The width and actual locations of all easements shall be clearly shown.
- I. Parcel Data: Each parcel shall be numbered or lettered showing the area, in square feet to the nearest five feet or in acres to the nearest thousandths of an acre.
- J. Streets Data: Each street width and name shall be shown.

- K. Monuments: The location and type of all monuments shall be shown, including all monuments required to be set by the SMA and County Code. All existing monuments shall be shown.
- L. The title, notes, legend, basis of bearing, references and amendments shall be placed on each survey sheet. Any of the foregoing in this subsection may be deleted when found superfluous by the County Surveyor.

#### **6.2.2.2 Certificates and Statements**

The following certificates shall appear on the Parcel Map: (Also see the County Surveyor's website for current SMA statements.)

- A. Owner's Certificate, or a cross reference to the document recorded as the Owner's Certificate, signed and acknowledging that they have consented to the preparation, offering for dedication to the public those parcels and easements designated upon the Parcel Map to be devoted to public purposes, if any, and the recording of the Parcel Map.
- B. Surveyor's Statement of the professional Land Surveyor responsible for the survey.
- C. County Surveyor's Statement that the map is substantially the same as the Tentative Parcel Map with any approved alterations thereof, that the provisions of the SMA and County Code have been satisfied. that the map is technically correct, and acknowledgement of accepted or rejected parcels or easements offered for dedication to public uses.
- D. County Recorder's Statement that the map is accepted for filing.

#### **6.2.2.3 Filing Process**

- A. The County Surveyor may submit the Parcel Map to the County Recorder for filing after all agencies validate by letter, that all conditions imposed by said agencies have been satisfied.
- B. The County Recorder may accept the Parcel Map for filing by executing the "Recorder's Statement" on the map, provided the Subdivider has furnished to the County Recorder a guarantee of title certifying the names of all persons whose consent is necessary to pass clear title to the land, and all acknowledgements thereto appear on the certificates consenting to the preparation of the map and offers of dedication.

#### **6.2.3 Amending Maps and Corrections**

The purpose of an Amending Final or Parcel Map (Amending Map) or Certificate of Correction is to correct an error, (see 66469 of the SMA) or to show changes

in circumstances that make any or all of the conditions of the map no longer appropriate or necessary. (See 66472.1 of the SMA)

After a Final or Parcel Map is filed in the office of the County Recorder, it may be amended by a Certificate of Correction or an Amending Map where a finding is made by the appropriate approving body to change the conditions of the map.

#### **6.2.3.1 Form and Content**

- A. The Amending Map or, if applicable, a Certificate of Correction, shall be prepared by, or under the direction of, a California Professional Land Surveyor or a California Registered Civil Engineer who is authorized to perform land surveying services.
- B. The Amending Map shall follow the standard form, content, and Certificates and Statements as outlined in 6.2.1 and 6.2.2 above.
- C. The Certificate of Correction shall be on the County-approved "Certificate of Correction" format.
- D. Upon the filing of the Amended Map or Certificate of Correction the original map shall be deemed to have been conclusively so corrected, and thereafter shall impart constructive notice of all such corrections in the same manner as though set forth upon the original map.

#### **6.2.4 Mapping Standards**

All Final Maps, Parcel Maps, and Record of Surveys shall conform to the requirements set forth in this Chapter, unless provided for in the current Subdivision Map Act and Land Surveyor's Act.

##### **6.2.4.1 Mapping**

- A. Scale: The scale of the map shall be adequate to provide legibility.
- B. Lettering size: The minimum height of all lettering shall be 1/8 inch.
- C. Multiple Sheets: When the map consists of more than two sheets, exclusive of the certificate sheet, a key map showing the relation of the sheets shall be placed on the first map sheet. The sheets shall be numbered beginning with the certificate sheets, then continuing with map sheets.
- D. Dimensions: Dimension of lots or parcels shall be given as total dimensions, corner to corner, and shall be shown in feet and hundredths of a foot.

- E. Monuments: The map shall show clearly what monuments or other evidence were found on the ground to determine the boundaries of the subdivision.
- F. Bearing & Measurements: The bearing and length of every lot or parcel line, block line, and boundary line shall be shown. Bearing and lengths of chords, and radii, arc length, and delta for all curves as may be necessary to determine the location of the center of curves and tangent points shall be shown. All radial lines shall be identified.
- G. Easements: Final Maps and Parcel Maps shall show all easements to which the lots are subject. The easements must be clearly labeled by solid capital letters and identified, and if already of record, the record reference given. If any easement is not definitely located by record, a statement of such must appear on the map sheet. Easements shall be denoted by fine dashed lines. The width of the easement and the lengths and bearings of the lines thereof and sufficient ties thereto to definitely locate the easement with respect to the subdivision must be shown. If the easement is being dedicated by the map, it shall be properly referenced in the owner's certificate with the appropriate acknowledgement in the Board Clerk or County Surveyor's Statement.
- H. Boundaries: Boundary lines of all political subdivisions adjacent to the subdivision shall be clearly designated and referenced.
- I. Accuracy: Map accuracy shall be such that any and all calculated closures shall be 1 in 10,000 or greater.

#### 6.2.4.2 Surveying

- A. Basis of Bearings: Each map shall contain a Basis of Bearings notation which includes the description and bearing of the line used as the basis and:
  - 1. The record data of the map or document from which it was obtained; or
  - 2. A statement that says bearing is based on either a solar, polaris or GPS observation.

The following are acceptable basis of bearings:

- 1. Recorded Maps;
- 2. Astronomical Observation;
- 3. California Coordinate System. Maps with this basis of bearing shall also include a control scheme through which the coordinates were determined from points of known coordinates;
- 4. Government Records and other records as approved by the County Surveyor.

*Note:*

*If any map for any proposed land development project may affect the County's right-of-way, please refer to Chapter 4 and/or DOT for more information. The applicant may be required to use existing survey information and/or DOT's basis of bearings.*

- B. Accuracy: All field survey accuracy shall be in compliance with acceptable surveying practices.
- C. Monuments: All lot or parcel corners shall be monumented in subdivisions and include permanent horizontal control monuments sufficient to re-establish the subdivision control at the direction of the County Surveyor.

## **6.2.5 Road Naming**

In many cases a Final or Parcel Map will require roads to be named. The road naming process is managed by the County Surveyor and includes approvals by the applicable local Fire Protection District and the U.S. Post Office responsible for mail delivery to the area. The process description and the forms needed may be obtained from the County Surveyor Web site at <http://ww.edcgov.us/surveyor/>.

### **6.2.5.1 Form and Contents**

The Road Name Petition must be filled out completely and the applicant must obtain all the required signatures. The petition, a copy of the Assessors Map, and fee must be submitted to the County Surveyor.

### **6.2.5.2 Process**

The road names must follow the County's Policy on Road Naming. The approved road name will appear on the Final or Parcel Map. Applicant shall, within thirty days of notification, install a permanent sign as shown on the County Surveyor's website.

## **6.3 LOT LINE ADJUSTMENTS AND MERGERS**

### **6.3.1 Lot Line Adjustments**

The purpose of a Lot Line Adjustment is to permit minor changes in boundary or property lines between parcels without requiring the entire subdivision map process. A Lot Line Adjustment:

- A. is limited to four or less adjoining parcels;
- B. results when land taken from one parcel is added to an adjacent parcel;
- C. does not create a greater number of parcels.

A Lot Line Adjustment shall not be permitted without the approval of the DSD Director, Tax Collector and County Surveyor.

#### **6.3.1.1 Form and Contents**

The Lot Line Adjustment descriptions and applicable map shall be prepared by, or under the direction of, a California Professional Land Surveyor or California Registered Civil Engineer who is authorized to perform land surveying services.

A Lot Line Adjustment shall be reflected in a deed and a Record of Survey shall be completed as required by Section 8762 of the California Business and Professions Code, unless the new boundary line appears on a Final Map or Parcel Map.

#### **6.3.1.2 Certificates and Statements**

The Lot Line Adjustment descriptions and applicable map shall follow the standard form, content, Certificates and Statements as outlined in 6.2.2 above.

#### **6.3.1.3 Filing Process**

Real property taxes must be current on all parcels involved in the proposed Lot Line Adjustment and all record title interest holders must consent to the adjustments.

### **6.3.2 Parcel Merger**

The purpose of a Parcel Merger is to combine adjoining parcels into one parcel.

A Parcel Merger shall not be permitted without the approval of the DSD Director, Tax Collector and County Surveyor.

#### **6.3.2.1 Form and Content**

The Parcel Merger descriptions, and certificate or map shall be prepared by, or under the direction of, a California Professional Land Surveyor or California Registered Civil Engineer who is authorized to perform land surveying services.

A Parcel Merger shall be reflected in a Certificate of Merger document and a Record of Survey where required by Section 8762 of the California Business and Professions Code. *Exception:* A Certificate of Merger is not required if the new parcel merger is on a Final Map or Parcel Map.

#### **6.3.2.2 Certificates and Statements**

The Parcel Merger certificate shall be on the County-approved “Certificate of Merge” format, or the applicable map shall follow the standard form, content, Certificates and Statements as outlined in 6.2.2 above.

#### **6.3.2.3 Filing Process**

Real property taxes must be current on all parcels involved in the proposed Parcel Merger and all record title interest holders must consent to the merger.

## 6.4 OTHER

The County Surveyors Office is also responsible for a variety of other functions pertaining to development. Some of those functions are listed here.

### 6.4.1 Road Naming of Existing Roads

In many cases, a building permit will require roads to be named. The road naming process is managed by the County Surveyor and includes approvals by the applicable local Fire Protection District, the U.S. Post Office providing mail delivery to the area, and a large percentage of the property owners along the road being named. The process description and forms needed are available on the County Surveyor Web site at <http://www.edcgov.us/surveyor/>.

#### 6.4.1.1 Form and Contents

The Road Name Petition must be filled out completely and the applicant must obtain all the required signatures. The petition, a copy of the Assessors Map, and fee must be submitted to the County Surveyor.

#### 6.4.1.2 Process

The road names must follow the County's Policy on Road Naming. The approved road name will appear on the Final or Parcel Map. The applicant shall, within thirty days of notification, install a permanent sign meeting the standards as shown on the County Surveyor Web Site.

### 6.4.2 Addressing

In many cases a building permit will require an address. The address numbering process is managed by the County Surveyor and includes approvals by the local Post Office and the applicable Fire Protection District. The process is described on the County Surveyor Web site at <http://www.edcgov.us/surveyor/>.

#### 6.4.2.1 Form and Contents

The address will be determined from the DSD-approved site plan.

### 6.4.3 Certificates of Compliance

In some cases a building permit or other development will require a Certificate of Compliance. Although the Certificate of Compliance process is managed by the County Surveyor, it may require the involvement of DSD to complete. The process description and forms needed can be obtained from the County Surveyor Web site at <http://www.edcgov.us/surveyor/>.

#### 6.4.3.1 Form and Contents

The Certificate of Compliance Application must be filled out completely and all supporting data be attached.

### 6.4.3.2 Process

As of March 4, 1972, the California State Subdivision Map Act required that new parcels of land could only be created lawfully by recording a Parcel Map or a Final Map. Parcels created in violation of these requirements may not be eligible to obtain building or development permits. The Certificate of Compliance application process can be used to make these unlawfully created parcels legal parcels.

There are three major categories of Certificate of Compliance applications:

- A. The Certificate of Compliance is processed by DSD, which may require a public hearing and compliance with applicable development standards. See Chapter 2 of this manual.
- B. The Certificate of Compliance is processed by the County Surveyor without a public hearing and is Unconditional under the following rules:
  1. The parcel is one of less than five parcels created by the same owner from the original parcel prior to March 4, 1972, or
  2. The parcel is the result of a division which created parcels of 40 acres or larger, or is not less than a quarter of a quarter section, created prior to March 4, 1972, or
  3. The parcel is a Final or Parcel Map remainder created prior to January 1, 1980, or
  4. The parcel was created in violation of the Subdivision Map Act or local ordinance and subsequently issued any permit or grant of approval for development.
- C. The Certificate of Compliance is processed by the County Surveyor without a public hearing and is Conditional under the following rules:
  1. The parcel was one of five or more parcels created by separate ownership transfer of a deed or similar document by the same owner from the original parcel prior to March 4, 1972 and the parcel appears on the 1972 tax roll as a separate parcel.
  2. The parcel was created by a gift deed or grant deed with zero transfer tax between the dates of March 4, 1972 and October 10, 1983 where fewer than five parcels were created by the same owner from the original parcel.
  3. The parcel was the result of a division which created parcels 40 acres or larger, or not less than a quarter of a quarter section after March 4, 1972 and prior to January 7, 1992 and fewer than five parcels were created by the same owner from the original parcel.

7.1 CONTACT INFORMATION

7.2 GLOSSARY

7.3 ABBREVIATIONS

## 7.1 CONTACT INFORMATION

**El Dorado County**

Agriculture Department	(530) 621-5520	<a href="http://www.edcgov.us/ag/">http://www.edcgov.us/ag/</a>
Air Pollution Control District	(530) 621-6662	<a href="http://www.edcgov.us/emd/apcd/index.html">http://www.edcgov.us/emd/apcd/index.html</a>
Board of Supervisors	(530) 621-5390	<a href="http://www.edcgov.us/bos/index.html">http://www.edcgov.us/bos/index.html</a>
County Counsel	(530) 621-5770	<a href="http://www.edcgov.us/counsel.html">http://www.edcgov.us/counsel.html</a>
Department of Transportation (DOT)	(530) 621-5900	<a href="http://www.edcgov.us/DOT/index.html">http://www.edcgov.us/DOT/index.html</a>
Development Services Department (DSD), Building	(530) 621-5775	<a href="http://www.edcgov.us/building/index.asp">http://www.edcgov.us/building/index.asp</a>
Development Services Department (DSD), Planning	(530) 621-5355	<a href="http://www.edcgov.us/Planning/index.asp">http://www.edcgov.us/Planning/index.asp</a>
Economic Development	(530) 621-5595	<a href="http://www.edcgov.us/economic/">http://www.edcgov.us/economic/</a>
Environmental Management Department (EMD)	(530) 621-5300	<a href="http://www.edcgov.us/emd/">http://www.edcgov.us/emd/</a>
Planning Commission – Contact Planning Services	(530) 621-5355	<a href="http://www.edcgov.us/Planning/PC.html">http://www.edcgov.us/Planning/PC.html</a>
Surveyor's Office	(530) 621-5440	<a href="http://www.edcgov.us/surveyor/">http://www.edcgov.us/surveyor/</a>

**Fire Protection Districts**

California Department of Forestry and Protection (CAL FIRE)	(530) 644-2345	<a href="http://www.fire.ca.gov">www.fire.ca.gov</a>
Cameron Park	(530) 672-7336	<a href="http://www.cameronpark.org/fire.html">www.cameronpark.org/fire.html</a>
Diamond Springs-El Dorado	(530) 626-3190	<a href="http://www.diamondfire.org/">www.diamondfire.org/</a>
El Dorado County	(530) 644-9630	
El Dorado Hills	(916) 933-6623	<a href="http://www.edhfire.com">www.edhfire.com</a>
Garden Valley	(530) 333-1240	
Georgetown	(530) 333-4111	<a href="http://www.georgetownfiredepartment.com">www.georgetownfiredepartment.com</a>
Latrobe	(530) 677-6366	<a href="mailto:lfpd@zetabb.com">lfpd@zetabb.com</a>
Lake Valley	(530)577-3737	
Meeks Bay	(530)525-7548	<a href="http://www.meeksbayfire.com">www.meeksbayfire.com</a>
Mosquito	(530)626-9017	
Pioneer	(530)620-4444	
Rescue	(530)677-1868	<a href="http://www.rescuefiredepartment.org">www.rescuefiredepartment.org</a>

**Other Agencies, Companies**

AT&T	(530) 888-2031	
California Department of Public Health, Division of Drinking Water and Environmental Management	(916) 449-5600	<a href="http://ww2.cdph.ca.gov/">http://ww2.cdph.ca.gov/</a>
California Department of Transportation (Caltrans)	(916) 654-5266	<a href="http://www.dot.ca.gov">www.dot.ca.gov</a>
California Department of Fish and Game		<a href="http://www.dfg.ca.gov/">http://www.dfg.ca.gov/</a>
California Water Quality Control Board, Central Valley	(916) 464-3291	<a href="http://www.waterboards.ca.gov/centralvalley/business_help">http://www.waterboards.ca.gov/centralvalley/business_help</a>
Cameron Park Community Services District (CSD)	(530) 677-2231	<a href="http://www.cameronpark.org/">http://www.cameronpark.org/</a>
City of Placerville	(530) 642-5200	<a href="http://www.ci.placerville.ca.us">www.ci.placerville.ca.us</a>
City of South Lake Tahoe	(530) 542-6000	<a href="http://www.ci.south.lake.tahoe.ca.us">www.ci.south.lake.tahoe.ca.us</a>
Comcast		
El Dorado Hills Community Services District (CSD)	(916) 933-6624	<a href="http://www.edhcsd.org">www.edhcsd.org</a>
El Dorado Irrigation District (EID)	(530) 622-4513	<a href="http://www.eid.org">www.eid.org</a>
EDC Resource Conservation District	(530) 295-5630	<a href="http://www.eldoradorcd.org/">http://www.eldoradorcd.org/</a>
El Dorado LAFCO	(530) 295-2707	<a href="http://www.co.el-dorado.ca.us/lafco/">http://www.co.el-dorado.ca.us/lafco/</a>
Georgetown Divide Public Utilities District	(530) 333-4356	<a href="http://www.gd-pud.org">www.gd-pud.org</a>
Georgetown RCD	(530) 295-5630	<a href="http://www.eldoradorcd.org/">http://www.eldoradorcd.org/</a>
Office of Planning and Research (OPR)		<a href="http://www.opr.ca.gov/">http://www.opr.ca.gov/</a>
Pacific Gas & Electric (PG&E)	(530) 621-7265	<a href="http://www.pge.com/index.html">http://www.pge.com/index.html</a>
SAGE: Surveyors, Architects, Geologists, and Engineers		<a href="http://www.sagesite.org/">http://www.sagesite.org/</a>
Sierra Pacific	(800) 824-8856	<a href="http://www.sierrapacific.com/">http://www.sierrapacific.com/</a>
South Tahoe PUD	(530) 544-6474	<a href="http://www.stpud.us">www.stpud.us</a>
Tahoe RCD	(530) 543-1501	<a href="http://www.tahoercd.org">www.tahoercd.org</a>
Tahoe Regional Planning Agency (TRPA)	(775) 588-4547	<a href="http://www.trpa.org/">http://www.trpa.org/</a>
US Army Corps of Engineers (USCOE)		<a href="http://www.usace.army.mil/">http://www.usace.army.mil/</a>

## 7.2 GLOSSARY

### PURPOSE

This glossary provides definitions of terms and phrases used in this manual that are technical or specialized, or that may not reflect common usage.

**Abandonment** (of an easement) See "Vacation".

**Access** A way or means of approach to provide physical entrance and exit to a property.

**Accessory Building** Any building described in the "2007 California Building Code" as a "U" occupancy.

**Adjacent** Physically touching or bordering upon; sharing a common property line.

**Adverse Geotechnical Conditions** Unstable soils as determined by a design professional, including, but not limited to, landslides, thick colluvium soil layers, expansive soils, soil creep, low bearing pressure, unsupported planes of weakness, or potentially saturated soils.

**Agency** The governmental entity, department, office, or administrative unit responsible for carrying out regulations.

**Agricultural Operation** An activity involving the use of land for farming, dairying, pasturage agriculture, horticulture, floriculture, silviculture (outside of the practices contained in a Timber Harvest Plan), viticulture, animal and poultry husbandry.

**Agricultural Preserve** Land designated for agriculture or conservation. (See also "Williamson Act")

**American Society for Testing and Materials (ASTM)** A membership society that is recognized as the foremost United States source of information on the specifications and testing of materials.

**Americans with Disabilities Act (ADA)** Federal law which outlines requirements for creating new, and retrofitting existing, development to provide those with disabilities access to public and private amenities.

**Applicant** An owner, or owner's authorized representative.

**Approving Authority** The agency, board, group, or other legally designated individual or authority which has been charged with review and approval of project plans and permit development applications. "Approving authority" refers to the body designated by ordinance as the body to give original approval to any application.

**Archaeological** Relating to the material remains of past human life, culture, or activities.

**Architect** An individual holding a current license to practice architecture in the State of California.

**Architecture** The planning of sites and the design, in whole or in part, of buildings or groups of buildings and structures.

**Asbestos** Asbestos is the name for a group of naturally occurring silicate minerals, and may be found in serpentinite rock, the California State rock, other ultramafic rock, and volcanic rock. When rock containing NOA is broken or

crushed, asbestos may be released from the rock and may become airborne, potentially causing a health hazard.

**Back Structural Element** The rearmost component of a retaining wall where it contacts the ground underneath, which would be the back of the footing at its interface with soil for a gravity or cantilevered wall, or the back of the geogrid reinforcing at the footing plane elevation for a mechanically stabilized earth wall.

**Bedrock** The rock, usually solid, that underlies soil or other unconsolidated surface material. The solid undisturbed rock in place either exposed at the ground surface or beneath superficial deposits of unconsolidated sediment, soil, landslide debris, or decomposed or weathered material derived from the underlying undisturbed rock. It also refers to all consolidated rock in its place of formation, including volcanic cap rock.

**Bench** A nearly level step excavated into sloping natural ground upon which engineered fill or embankment fill is to be placed. In reference to grading, “benches” are located under a fill and “terraces” are located on the face of a constructed slope.

**Best Management Practices** (BMPs) Refers to schedule of activities, prohibitions of practices, maintenance and operating procedures, and other management practices to prevent or reduce the undesirable affects associated with certain activities, for example, erosion and pollution associated with construction activities.

**Bikeways** A term that encompasses bicycle lanes, bike paths, and bicycle routes.

**Borrow** Earth material acquired from an off-site location for use in grading on a site.

**Boundary Line Adjustment** (BLA) Also know as “lot line adjustments”. Used for the purpose of taking land from one parcel and adding it to another parcel. In no case are any new parcels created. In El Dorado County, BLAs can be applied to two to four adjacent parcels. They can also be used to merge contiguous parcels into one parcel.

**Bridge** A structure for carrying traffic over a watercourse, depression, or other obstacle.

**Building** Defined in the “2007 California Building Code” as “Any structure used or intended for supporting or sheltering any use or occupancy.” Also see the exceptions as listed in the Building Code.

**California Building Code** The building code adopted by the State of California, as modified by County Ordinance, which is in effect at the time of permit application.

**California Code of Regulations (CCR)** A compilation of administrative regulations that implement, interpret, make specific or otherwise carry out the provisions of certain statutes that are consistent with and not in conflict with the statute and reasonably necessary to effectuate the purpose of the statute.

**California Environmental Quality Act (CEQA)** California Public Resources Code sections 21000, et seq., requires government agencies to consider the environmental impacts of their actions before approving policies and plans, or committing to a course of action on a project. The State's CEQA Guidelines are found in California Code of Regulations, Title 14, Section 15000 et seq.

**California Fire Code** The State's adopted code of regulations pertaining to fire prevention. The latest version was adopted by the State in 2007 and the amended versions adopted by the El Dorado County Fire Protection Districts were adopted by the County's Board on February 26, 2008. See also "California Fire Safe Regulations".

**California Fire Safe Regulations** Beginning at "§1270" of the "California Government Code", this law contains the basic wildland fire protection standards of the California Board of Forestry and pertain to the State Responsibility Area. Along with the "California Fire Code", these regulations set specific requirements for new discretionary development as well as for building permits.

**Caltrans** State of California's Department of Transportation. See <http://www.dot.ca.gov>.

**Capital Improvement Program (CIP)** A program, administered by a government entity, which schedules permanent improvements, usually for a minimum of five years into the future, to fit the projected fiscal capability of the local jurisdiction. The program generally is reviewed annually for conformance to and consistency with the entity's general plan.

**Character** Physical features, attributes, or characteristics of a structure or area that distinguish it from its surroundings and contribute to its individuality.

**Checkset** Also referred to as "checkprint". An already approved, detailed drawing of improvement plans that have been marked up to show proposed changes.

**Circulation** The movement of people and goods by such means as streets, highways, railways, waterways and airways.

**Circulation Element** One of the seven State mandated elements of a General Plan, it contains adopted goals, policies and implementation programs for the planning and management of existing and proposed thoroughfares, transportation routes and terminals, as well as local public utilities and facilities, all correlated with the Land Use Element of the General Plan.

**Civil Engineer** An individual currently registered as a Civil Engineer by the State of California.

**Civil Engineering** means the application of the knowledge of the forces of nature, principles of mechanics and the properties of materials to the evaluation, design, and construction of civil works for the beneficial uses of mankind.

**Commercial** A land use classification that permits facilities for the buying and selling of commodities and services.

**Community Region** As defined in the County's *General Plan*, refers to those areas which are appropriate for the highest intensity of self-sustaining compact urban-type development or suburban-type development, based on the municipal spheres of influence, availability of infrastructure, public services, major transportation corridors and travel patterns, etc. Communities within this

designation include: Camino/Pollock Pines, El Dorado Hills, Cameron Park, El Dorado, Diamond Springs, Shingle Springs, and the City of Placerville and immediate surroundings. More information on the boundaries for Community Regions and Rural Centers can be found at <http://www.edcgov.us/Planning/index.asp>

**Community Services District** A limited purpose district created pursuant to California Government Code section 61000 et seq., or its predecessors.

**Compaction** The increase of density of a soil or rock by mechanical means.

**Complex Configuration or Construction** Terraced or tiered retaining walls (closer than twice the retained height of the lower wall), retaining walls with multiple tiers or anchors, slopes greater than two to one at toe of wall, or as otherwise determined by the design professional or the County.

**Concurrent** The availability of new or expanded public facilities and services to meet the demands of new development at the time that such demand is created.

**Contiguous** Next to, abutting, or touching and having a boundary, or portion thereof, which is coterminous.

**County Engineer** DOT's Director, or his/her designee.

**Criteria** Standards upon which a judgment or decision may be based.

**Cut** A land surface resulting from mechanical land shaping. See also "Excavation".

**Dam** A structure used to store or detain water that is either more than six feet high, as measured from its lowest point (toe) to the spillway elevation, or has the capacity to impound more than fifteen acre-feet of water.

**Declaration of Covenants, Conditions and Restrictions (CC&R's)** Where appropriately created, a declaration of restrictions on property that creates equitable servitudes.

**Dedication of Land** An appropriation of land by its owner for use by or on behalf of the public for any general and public uses.

**Defensible Space** The area within the perimeter of a parcel, development, neighborhood and community where basic wildland fire protection practices and measures are implemented, providing the key point of the defense against encroaching wildfires or escaping structural fires.

**Depth of cut** The vertical dimension from the exposed cut surface to the original ground surface at the cut's deepest point, generally at the hinge point.

**Depth of Fill** The vertical dimension from the exposed fill surface to the original ground surface at the fill's deepest point, generally at the hinge point.

**Design Manual** The County design manuals as adopted by resolution of the Board of Supervisors.

**Design Professional** As used in Chapter 5 of this manual, refers to a California registered Civil Engineer or Land Surveyor, or a California licensed Architect, Landscape Architect, Geologist, or Engineering Geologist; whose license is current and who practices under the authorization provided in the "Practice Act" of their particular profession as set forth in the "California Business and Professions Code".

**Design Professional in Responsible Charge** As used in Chapter 5 of this manual, refers to the individual engaged by the owner to act as the design

professional in responsible charge. When required by the County Building Official, that individual shall be designated on the permit application.

**Design Review; Design Control** The comprehensive evaluation of a development and its impact on neighboring properties and the community from the standpoint of site and landscape design, architecture, materials, colors, lighting and signage, in accordance with a set of adopted criteria and standards. "Design Control" requires that certain specific things be done and that other things not be done. "Design Review" usually refers to a system set up outside of the County's Zoning Ordinance, whereby projects are reviewed against certain standards and criteria by a specially established design review board or committee.

**Design Waiver** An exception to a design or improvement requirement granted by an approving authority. Design waivers are to be granted only when, because of special circumstances applicable to the property, including size, shape, topography, location or surroundings, the strict application of the standard(s) deprives such property of privileges enjoyed by other property in the vicinity under identical zoning. Design waivers are limited to those situations where the peculiar physical characteristics of a site make it difficult to develop under standard regulations. A waiver is granted in order to bring the disadvantaged property up to the level of use enjoyed by nearby properties in the same zone.

**Developer** The legal or beneficial owner or owners of a lot or of any land included in a proposed development including the holder of an option or contract to purchase, or other persons having enforceable proprietary interests in such land.

**Development** The division of land into two or more parcels; the construction, reconstruction, conversion, structural alteration; relocation, or enlargement of any structure; any mining, excavation, landfill, or land disturbance; and any use or extension of the use of land, excepting agriculture.

**Development Plan** means the requirements for development of a Planned Development, including but not limited to a plat of subdivision, all covenants relating to use, location and bulk of buildings and other structures, intensity of use or density of development, streets, walkways and parking facilities. "Requirements of the plan," when used in these provisions, means the written and graphic materials referred to in this definition.

**Discretionary Project** A project which requires the exercise of judgment or deliberation when the public agency or body decides to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.

**Division, Division of Land, and Divided** Any separation of land into two or more parts or parcels accomplished by deed, including gift deed, contract of sale, lease, conveyance of right-of-way, court decree, intestate or testamentary disposition, excepting any such conveyance made for the purpose of locating or adjusting boundary lines between two parcels which does not result in the elimination or creation of new building sites.

**Drainage** (1) Surface water runoff; (2) The removal of surface water or

groundwater from land by drains, grading or other means which include runoff controls to minimize erosion and sedimentation during and after construction or development, the means for preserving the water supply and the prevention or alleviation of flooding.

**Drainage Manual** Refers to the current edition of the “County of El Dorado Drainage Manual”.

**Drainage Way** Those natural depressions in the earth’s surface, such as swales, ravines, draws and hollows, in which surface waters tend to collect, but which do not constitute a watercourse in the defined sense.

**Drains** A pipe, ditch, or channel for collecting and conveying water. Sometimes used in “storm drains” when describing an urban storm drainage system to carry the initial runoff.

**Driveway** A vehicular access that serves no more than one parcel, with no more than three dwelling units on a single parcel, and any number of accessory buildings.

**Dwelling** Any structure or building or any portion thereof, which is used, intended, or designed to be occupied for human living purposes including, but not limited to, houses, manufactured homes, houseboats, boathouses, mobile homes, travel trailers, hotels, motels, and apartments.

**Dwelling Unit** See “Dwelling”.

**Earth Material** Any rock, natural soil or fill and/or any combination thereof.

**Easement** An intangible property right in the land of another that gives its owner the right to use the land of the other person or to prevent the other property owner from using the land. There are many different types of easements.

**Embankment** (fill) A deposit of soil, rock or other materials placed by man.

**Encroachment** California Streets and Highways Code section 1480 and surrounding provides that encroachment includes any structure or object of any kind or character placed, without the authority of law, either in, under or over any County highway. Under County Code section 12.08.030, encroachment means any thing or action with respect to a county highway for which a permit is required by the provisions of that Chapter.

**Encroachment Permit** A permit pursuant to County Code section 12.08.

**Engineered Fill** Any fill designed by a design professional for its intended use and placed with appropriate inspection and documentation.

**Engineering Geologist** A licensed Professional Geologist certified as an Engineering Geologist by the state of California.

**Engineering Geology** The application of geologic knowledge in the investigation and evaluation of naturally occurring rock and soil for use in the design of civil engineering works.

**Enhance** To improve existing conditions by increasing the quantity or quality of uses or features identified as desirable.

**Environment** The physical conditions which exist within the area which may be affected by a proposed project, including land, air, water, mineral, flora, fauna, noise and objects of historic or aesthetic significance.

**Environmental Health Specialist** A person registered as an Environmental Health Specialist (REHS) by the State of California.

**Erosion** The wearing away of earth material as a result of the movement of wind, water, or ice.

**Erosion Control** Methods designed to prevent erosion.

**Excavation** (cut) The removal of earth materials by mechanical means. This term may also refer to the topographic depression or other change in the topography of the land resulting from the removal of material.

**Excessive Settlement** An amount of settlement after construction which could cause damage to future structures built behind a retaining wall.

**Existing grade** The elevation of the ground surface at a given point prior to any proposed or unpermitted excavating or filling.

**Expansive Soil** Soils that undergo substantial volume changes (shrink or swell) in response to changes in moisture content.

**Exposed wall face** The vertical distance measured from the finish grade (consolidated soil or rock) at the toe of a retaining wall to the top of the wall.

**Fault** A fracture in the earth's crust forming a boundary between rock masses that have shifted.

**Feasible** Capable of being accomplished in a successful manner within a reasonable period of time taking into account economic, environmental, legal, social, and technological factors.

**Fill** See "Embankment", "Engineered Fill", and "Landscape Fill".

**Final Map** refers to a map prepared in accordance with the provisions of California's "Subdivision Map Act" and this manual and for which the map is to be filed in the office of the County Recorder.

**Findings** The result of the deliberations of the agency. A decision upon a question of fact reached as a result of agency examination or investigation by the agency. It may also include a ruling as a matter of law.

**Finished Grade** The topography of the site after the excavation or placement of fill in conformance with the approved final grading plan. The finished grade is also the grade at the top of a paved surface (final grade).

**Fire Apparatus Access Road** This term comes from the "2007 California Fire Code": A road that provides fire apparatus access from a fire station to a facility, building or portion thereof. This is a general term inclusive of all other terms such as fire lane, public street, private street, parking lot lane and access roadway.

**Fire Code** See "California Fire Code".

**Fire Flow** The flow rate of a water supply available for firefighting. In new construction, fire flow requirements are defined by the local fire protection district.

**Fire Hazard Severity Zone Maps** Maps created by the California Department of Forestry and Fire Protection (CAL FIRE) to show fire hazards within State Responsibility Areas (SRA), based on relevant factors such as fuels, terrain, and weather. These zones, referred to as Fire Hazard Severity Zones (FHSZ), provide the basis for application of various mitigation strategies to reduce risks to buildings associated with wildland fires. Specifically, the zone determines the requirements for unique building codes designed to reduce the ignition potential to buildings. The maps were created by using data and models describing

development patterns, potential fuels over a 30-50 year time horizon, terrain, and expected burn probabilities to quantify the risks of developing in areas throughout California.

**Fire Lane** A road or other passageway developed to allow the passage of fire apparatus. A fire lane is not necessarily intended for vehicular traffic other than fire apparatus.

**Fire Protection District (FPD)** Refers to geographic areas that are served by a specific fire protection agency. Fire Protection Districts provide emergency services to the residents of a specific geographic area. Proposed developments must adhere to the specific requirements of the Fire Protection District that has jurisdiction for the geographic area in which the proposed development resides.

**Fire Protection Plan** See “Fire Safe Plan”.

**Fire Safe Plan** A written document prepared by a Fire Safe Plan Preparer (acceptable to El Dorado County’s Fire Prevention Officers’ Association and CAL FIRE), for the purpose of establishing minimum wildfire protection standards in conjunction with buildings, construction and development in State Responsibility Areas (SRA) and Local Responsibility Areas (LRA) when required by the authority having jurisdiction.

**Fire Safe Regulations** See “California Fire Safe Regulations”.

**Flood** A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters; the unusual and rapid accumulation or runoff of surface waters from any source.

**Flood Insurance Rate Map (FIRM)** For each community, the official map on which FEMA has delineated areas of special flood hazard and the risk premium zones applicable to that community.

**Flood Plain** The relatively level land area on either side of the banks of a stream or river which is regularly subject to flooding. That part of the flood plain subject to a one percent chance of flooding in any given year is designated as an “area of special flood hazard” by FEMA.

**Freeway** A high-speed, high-capacity, limited-access transportation facility serving regional and county-wide travel.

**Fuel Modification** Refers to the selective clearing and thinning of brush, trees, and undergrowth, so as to reduce the likelihood of wildland fires.

**General Plan** A compendium of policies regarding long-term development, in the form of maps and accompanying text. It is the legal document required of each local agency by the State of California “Government Code, Section 65301” and adopted by the applicable City Council or Board of Supervisors. In California, the General Plan has seven mandatory elements (Circulation, Conservation, Housing, Land Use, Noise, Open Space, Safety, and Seismic Safety) and may include any number of optional elements (e.g., Economic Development, Parks and Recreation, Public Services and Utilities, Tahoe Basin).

**Geologic Hazard** Any condition in naturally occurring earth materials which may endanger life, health or property.

**Geologist** A person licensed by the State of California as a Professional Geologist.

**Geotechnical Engineer** A Civil Engineer who holds a valid authorization to use the title “Geotechnical Engineer,” as provided in the “State of California Business and Professions Code”. The terms “Geotechnical Engineer”, “Soils Engineer” and “Soil Engineer” are deemed to be synonymous.

**Geotechnical Engineering** The investigation and engineering evaluation of earth materials including soil, rock, groundwater and man-made materials and their interaction with earth retention systems, structural foundations and other civil engineering works. The practice involves application of the principles of soil mechanics and the earth sciences, and requires knowledge of engineering principles, formulas, construction techniques and performance evaluation of civil engineering works influenced by earth materials. The terms “Geotechnical Engineering”, “Soils Engineering” and “Soil Engineering” are deemed to be synonymous.

**Geotechnical Report** The documentation of a study or investigation made by a Geotechnical Engineer or Civil Engineer of the earth materials (See “Geotechnical Engineering”) at the proposed development site. This documentation shall include an engineering evaluation of the properties of the encountered earth materials and recommendations for their disturbance, removal, modification, or replacement to prepare the project site for its proposed use. The terms “Geotechnical Report”, “Soils Report” and “Soil Report” are deemed to be synonymous. For more information see Chapter 5 of this manual, “Submittal Requirements”, “Technical Reports”.

**Grade** (1) The inclination or slope of a channel, canal, conduit, or natural ground surface, usually expressed in terms of the percentage of number of units of vertical rise (or fall) per unit of horizontal distance. (2) The elevation of the invert of the bottom of a conduit, canal, culvert, sewer, etc. (3) The finished surface of a canal bed, road bed, top of an embankment, or bottom of an excavation. (4) Ground level at the foundation of a building or structure. (5) The vertical location (elevation) of the ground surface, either natural or man-made.

**Grade, Rough** The stage at which the grade approximately conforms to the approved plan.

**Gradient** Degree of increase or decrease in the elevation of a surface.

**Grading** refers to any land excavation or filling, or combination thereof, or the installation of required drainage and erosion control facilities.

**Grading, General** Grading that is unrelated to the construction of any structure or associated vehicular way. Typical general grading would include dams, ponds, level areas for horse arenas, additional parking areas and access roads.

“General grading” does not include the construction of a building pad or driveway for a future structure.

**Grading Ordinance** Refers to the “El Dorado County Grading, Erosion and Sediment Control Ordinance, Chapter 15.14 of” the County Ordinance Code.

**Grading Plan** A plan prepared in accordance with this manual showing grading and related work.

**Ground Failure** Ground movement or rupture caused by strong shaking during an earthquake. Includes landslide, lateral spreading, liquefaction, and subsidence.

**Groundwater** Water under the Earth's surface, often confined to aquifers capable of supplying wells and springs.

**Habitat** The physical location or type of environment in which an organism or biological population lives or can be found.

**Hearing Body** An individual or group, either elected or appointed (e.g., Board of Supervisors, Planning Commission, Zoning Administrator), that makes decisions in public hearings regarding discretionary land use applications. A Hearing Body also may hear appeals of decisions made by a lower-level hearing body.

**Height of Cut** The difference in elevation from the toe (hinge point) of the cut slope to the top (hinge point) of the cut slope.

**Height of Fill** The difference in elevation from the toe (hinge point) of the fill slope to the top (hinge point) of the fill slope.

**Highway** High-speed, high-capacity, limited-access transportation facility serving regional and county-wide travel. Highways may cross at a different grade level by means of overpasses or underpasses.

**Homeowner's Association** A nonprofit corporation or unincorporated association created for the purpose of managing a common interest development as defined in California Civil Code section 1351.

**Impact** The effect of any direct human-made actions or indirect repercussions of human-made actions on existing physical, social, or economic conditions.

**Improvement** The addition of one or more structures, roads or utilities on a parcel of land. "Improvement" refers to the streets, utilities and facilities to be installed, or agreed to be installed, by a subdivider on the land to be used for public or private streets, highways, ways and easements (as are necessary for the general use of the lot owners in the subdivision and local neighborhood traffic), and drainage needs, as a condition precedent to the approval and acceptance of the Final Map thereof. "Improvement" also refers to the other specific improvements or types of improvements the installation of which either by the subdivider, by public agencies, by private utilities, by any other entity approved by the local agency or by a combination thereof, is necessary or convenient to ensure conformity to, or implementation of, the General Plan as required by "Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of the Government Code" or any Specific Plan adopted pursuant to "Article 8 (commencing with Section 65450) of Chapter 3 of Division 1" of the "Government Code".

**Improvement Agreement** A contract between a party and the County for construction of improvements. Includes Subdivision Improvement Agreement (SIA), Road Improvement Agreement (RIA), Parcel Map Improvement Agreement (PMIA).

**Industrial** The manufacture, production, and processing of consumer goods. Industrial is often divided into "heavy industrial" uses, such as construction yards, quarrying, and factories; and "light industrial" uses, such as research and development and less intensive warehousing and manufacturing.

**Infrastructure** Public services and facilities, such as sewage-disposal systems, water-supply systems, other utility systems and roads.

**Inspection** The evaluation, by County staff or a County-authorized agent, of the conformity of construction with established standards of materials and workmanship, applicable ordinances and policies of the *General Plan*, and the conditions of approval of all applicable permits.

**Integrated Natural Resources Management Plan** The County program for effective habitat preservation and management. See “*General Plan Policy 7.4.2.8*”.

**International Code Council (ICC)** A membership association dedicated to building safety and fire prevention. The Council develops the International Building Code, which is the model for the California Building Code.

**Inundation** Covered by floodwaters.

**Keyway or Key** A special backfilled excavation which is constructed beneath the toe area of a planned fill slope on sloping ground to improve the stability of the slope.

**Lake** Any natural or manmade body that impounds water year round under normal conditions. In identifying the high water mark on manmade lakes controlled by dams, the maximum spillway elevation will be used.

**Landscape Architect** An individual holding a current license to practice landscape architecture in the State of California under the authority of the “Landscape Architects Practice Act” of the “California Business and Professions Code”.

**Landscape Architecture** Providing services for the purpose of landscape preservation, development, and enhancement for human use and enjoyment.

**Landscape Fill** A non-structural fill intended solely to support plant growth.

**Landscaping** Planting; including trees, shrubs, and ground covers; suitably designed, selected, installed, and maintained as to enhance a site or roadway permanently.

**Landslide** Downslope movement of soil and/or rock, which may occur during an earthquake or following heavy rainfall.

**Land Surveyor** A Professional Land Surveyor licensed by the State of California.

**Land Use** The occupation or utilization of a land or water area for any human activity or any purpose defined in the *General Plan*.

**Land Use Designation** A system for classifying and designating the appropriate use of properties via the *General Plan*.

**Lanes** Also referred to as “Travel Lanes” or “Travel Ways”. Typically refers to the number of lanes of vehicular traffic that can be accommodated on a street, road, highway, freeway, etc. For example, a two lane highway is signed and striped for one vehicle width of traffic traveling in each direction, for a total of two lanes.

**Level of Service (LOS)** To assess the quality of existing traffic conditions, levels of service were calculated for the State highways and major County roads throughout the County. Level of Service is a general measure of traffic operating conditions whereby a letter grade, A through F, is assigned to a facility. Level of Service A corresponds to the best free-flow conditions, and the levels progress toward increased traffic congestion to Level of Service F.

**Licensed Professional** For purposes of this manual, an individual is considered

a licensed professional if the individual meets the definition of such in the current “California Professional Engineers, Land Surveyors, Architects and Landscape Architects Act”.

**Lighting and Landscaping Districts (LLDs)** An entity formed to collect funds from residents in a specific community in order to maintain street lighting and landscaping.

**Liquefaction** A process by which water-saturated granular soils transform from a solid to a liquid state during strong ground shaking events.

**Local Agency Formation Commission (LAFCO)** A commission formed pursuant to the Cortese-Knox Local Government Reorganization Act of 1985, California Government Code section 56000.

**Local Responsibility Area (LRA)** Incorporated cities which have assumed fire protection within what otherwise would be a SRA. The cities of Placerville and South Lake Tahoe are LRAs.

**Lot** A platted parcel of land intended to be separately owned, developed, and otherwise used as a unit.

**Lot Lines** The lines which delineate one parcel or lot from another.

**Lot Line Adjustment** See “Boundary Line Adjustment”.

**Mass Pad Grading** Also referred to as Mass Lot Grading. Typically done in conjunction with a subdivision where building pads and adequate drainage are created for each lot. Often results in removal of most/all vegetation in the subdivision to make adequate room for buildings and drainage. For more information, see Chapter 5 of this manual.

**Ministerial Action** An action taken by a governmental agency that follows established procedures and rules and does not call for the exercise of judgment in whether or not to approve a project.

**Mitigation Measures** Include: (a) Avoiding the impact altogether by not taking a certain action or parts of an action; (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; (e) Compensating for the impact by replacing or providing substitute resources or environments.

**Mylar** Trademark name for a polyester film.

**Native Trees** Trees that are naturally occurring, rather than transplanted to, a given area, such as El Dorado County. Several varieties of oak trees are native to El Dorado County.

**Natural Resource Conservation Service** Refers to an agency of the United States Department of Agriculture acting as staff for the Resource Conservation District (RCD).

**Noise** Any sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. Noise, simply, is “unwanted sound.”

- dB: Decibel; a unit used to express the relative intensity of a sound as it is heard by the human ear; degree of loudness.
- dBA: The “A-weighted” scale for measuring sound in decibels; weighs or

reduces the effects of low and high frequencies in order to stimulate human hearing. Every increase of 10 dBA doubles the perceived loudness though the noise is actually ten times more intense.

- **Leq:** The energy equivalent level, defined as the average sound level on the basis of sound energy (or sound pressure squared). The  $L_{eq}$  is a “dosage” type measure and is the basis for the descriptions used in current standards, such as the 24-hour CNEL used by the State of California.
- **Ldn:** Day-Night Average Sound Level. The A-weighted average sound level for a given area (measured in decibels) during a 24-hour period with a 10 dB weighting applied to night-time sound levels. The Ldn is approximately numerically equal to the CNEL for most environmental settings.
- **CNEL:** The Community Noise Equivalent Level, or CNEL, is based on the weighted average hourly Leq over a 24-hour day as in Ldn except that an additional +4.77 decibel weight is applied to the nighttime Leq values. The CNEL was developed for the “California Airport Noise Regulations” and is used specifically for airport/aircraft noise assessment.

**Obstruction** means any tower, pole, pole line, pipe, pipeline, fill, fence, billboard, sign, stand or building, or any structure or object of any kind or character not particularly mentioned in the foregoing, which is placed in, under or over any portion of the right-of-way of any street, road, or highway.

**Open Space Land** Any parcel or area of land or water that is essentially unimproved and devoted to an open space for the purposes of:

- (1) the preservation of natural resources;
- (2) the managed production of resources;
- (3) outdoor recreation; and/or
- (4) public health and safety.

**Ordinance** A rule established by authority; the enactments of a legislative body of an agency authorized to do so.

**Owner** Any person who alone, or jointly, or severally with others:

- (1) Has legal title to any single lot, dwelling, dwelling unit, or commercial facility.
- (2) Has care, charge, or control of any real property as agent, executor, executive administrator, administrative trustee, commercial lessee, or guardian of the estate of the holder of legal title; or the owner's authorized representative.

**Parcel** See “Lot”.

**Parcel Map** Refers to a map prepared in accordance with the Subdivision Map Act and the County’s “Title 16 Subdivisions” Ordinance, and which is designed to be filed in the office of the County Recorder after review by the County Surveyor to determine that all conditions on the Tentative Map have been satisfied.

**Pedestrian Path** A paved route not on a street or roadway and expressly reserved for pedestrians (and other non motorized traffic) traversing an otherwise unpaved area. Pedestrian paths may parallel roads but typically are separated from them by drainage ditches or landscaping.

**Permit** A written license or document issued by an agency empowering the permittee to do the specified act not forbidden by law but not otherwise allowable without such authority.

**Permittee** The person to whom a permit is issued.

**Phased Development** A development project that is constructed in stages, each stage being capable of existing independently of the others.

**Planned Development (PD)** Land under unified control to be planned and developed as a whole in a single development operation or a programmed series of development operations or phases. A Planned Development includes principal and accessory structures and uses substantially related to the character and purposes of the Planned Development. A Planned Development is built according to general and detailed plans that include not only streets, utilities, lots and building locations, and the like, but also site plans for all buildings as are intended to be located, constructed, used, and related to each other, and plans for other uses and improvements on the land as related to the buildings. A Planned Development includes a program for the provisions, operations, and maintenances of such areas, facilities, and improvements as will be for common use by some or all of the occupants of the Planned Development district, but which will not be provided, operated, or maintained at general public expense. PDs are subject to the same standards and requirements that apply to all discretionary projects and building permits.

**Planning and Research, California State Office of (OPR)** A governmental division of the State of California that has among its responsibilities the preparation of a set of guidelines for use by local jurisdictions in drafting General Plans.

**Planning Commission** The Body established pursuant to Chapter 3, Title 7 of the California Government Code. See also County Code section 2.27.

**Policy** The general principles by which government is guided in the management of public affairs; the general purpose of a law or ordinance.

**Precipitation** Any moisture that falls from the atmosphere, including snow, sleet, rain, and hail.

**Public Water Supply** A water supply provided by a public utility, local agency or publicly owned corporation.

**Punch List** The few remaining items that need to be completed before the County can finalize a discretionary project such as a subdivision.

**Rainy Season** The period of the year during which there is a substantial risk of rainfall. For the purpose of this manual, the rainy season is defined as beginning on October 15th and ending on May 1<sup>st</sup>, inclusive.

**Rare or Endangered Species** A species of plant or animal listed in:

- (1) "Sections 670.2 or 670.5", "Title 14 of the California Administrative Code"; or
- (2) "Title 50, Code of Federal Regulations", "Section 17.11" or "Section 17.2", pursuant to the "Federal Endangered Species Act" designating species as rare, threatened or endangered.

**Research and Development Use** A land use engaged in the study, testing, design, analysis, and experimental development of products, processes, or services.

**Residential** Land designated in the County's *General Plan* and "Title 17 Zoning Ordinance" for buildings consisting only of dwelling units. Residential land may be improved, vacant or unimproved.

**Residential Land Use Designations** Includes the following: Multi-family

Residential (MFR), High-Density Residential (HDR), Medium-Density Residential (MDR), Low-Density Residential (LDR), and Rural Residential (RR).

**Resource Conservation District (RCD)** A District formed pursuant to Division 9 of the California Public Resources Code. For more information see <http://www.eldoradorcd.org/nodes/aboutus/index.htm>.

**Retaining Wall** Walls constructed to withstand lateral earth and/or fluid pressures, including any live and dead load surcharge, the self weight of the wall, and earthquake loads in accordance with accepted engineering practice. This definition also applies to free standing swimming pool walls.

**Rezoning** An amendment to the zoning map and/or text of a zoning ordinance to effect a change in the nature, density, or intensity of uses allowed in a zoning district and/or on a designated parcel or land area.

**Riparian Areas/Lands** Riparian lands are comprised of the vegetative and wildlife areas adjacent to water bodies (e.g., lakes, rivers, ponds, perennial and intermittent streams, etc.). Riparian areas are delineated by the existence of plant species normally found near freshwater.

**Road** See "Street".

**Route** See "Street".

**Runoff** That portion of rain or snow that does not percolate into the ground and is discharged into streams, drains, sewers, etc. instead, directly or indirectly.

**Rural Center** Those places that are centers within the Rural Regions which provide a focus of activity and provide goods and services to the surrounding areas. More information on Community Regions and Rural Centers can be found at <http://www.edcgov.us/Planning/index.asp>.

**Rural Region** All lands not contained within the boundaries of a Community Region or a Rural Center are classified as Rural Regions. More information on the boundaries for Community Regions and Rural Centers can be found at <http://www.edcgov.us/Planning/index.asp>.

**Secondary Access** An alternate way or means of approach to provide physical entrance and exit to a property or neighborhood. Required in certain instances to ensure that residents of a specific area or subdivision can safely exit at the same time emergency vehicles are entering.

**Sediment** Any material transported or deposited by water, including soil debris or other foreign matter.

**Seismic** Caused by or subject to earthquakes or earth vibrations.

**Setback** The horizontal distance between the property line and any structure.

**Sign** Any representation (written or pictorial) used to convey information or to identify, announce, or otherwise direct attention to a business, profession, commodity, service or entertainment, and which is placed on, suspended from, or in any way attached to any structure, vehicle, or feature of the natural or human-made landscape.

**Significant Surcharges** Any one of the following lateral forces or moments acting on a retaining wall from live, dead, or earth loads defined as follows:

- (1) Backfill sloped greater than two horizontal to one vertical.
- (2) Lateral pressure exerted by structures founded within a horizontal distance equal to one and one-half times the retained height, measured

from the back structural element of the wall to the closest element of the adjacent structure.

- (3) Vertical loads (traffic, pedestrian, snow, other live and dead) greater than 250 pounds per square foot (psf) applied within a horizontal distance equal to the retained height, measured back from the back structural element of the wall.
- (4) Lateral loads imposed by vehicular guardrails and solid fences greater than six feet in height within a distance equal to one and one-half times the height of the wall, measured from the back of the wall.

**Site** Any lot or parcel of land or combination of contiguous lots or parcels of land, whether held separately or joined together in common ownership or occupancy, where grading is to be performed or has been performed, except within County rights-of-way. A "site" can also be a portion of a lot or parcel defined by permit limitations.

**Slope** An inclined ground surface. The inclination of this surface may be described as the ratio of horizontal distance to the corresponding vertical distance. The ratio may be expressed by integers (Example: 3H:1V) or by percentage (Example: 33%). See also "grade".

**Soil** The unconsolidated material on the immediate surface of the Earth created by natural forces that serves as the natural medium for growing land plants and that overlies bedrock. Soil may include the decomposed zone of bedrock which can be excavated readily by mechanical equipment.

**Soil Capability Report** A report on the potential agricultural capability of topsoil that utilizes the classification system presented in the Natural Resources Conservation Service soils survey of El Dorado County.

**Soil Engineer** See Geotechnical Engineer.

**Soil Engineering** See Geotechnical Engineering.

**Soil Report** See Geotechnical Report.

**Soil Scientist** A professional Soil Scientist certified by the American Registry of Certified Professionals in Agronomy, Crops and Soils (ARCPACS).

**Solar Design** Methods for lay out and design of lots and buildings to take advantage of the sun's light or heat. For example, in passive solar design, orienting lots and buildings in an east-west alignment for southern exposure in the winter and to take advantage of shade and prevailing breezes in the summer. Active solar design includes the use of various devices for the absorption of solar radiation for the heating of water or buildings or the production of electricity.

**Special Use** A use permitted in a particular zoning district only upon showing that such use in a specified location will comply with all the conditions and standards for the location or operation of such use as specified in a zoning ordinance and authorized by the approving authority.

**Specific Plan** Under "Article 8" of California "Government Code (65450 et seq.)", a legal tool for detailed design and implementation of a defined portion of an area covered by a General Plan. A Specific Plan may include all detailed regulations, conditions, programs and/or proposed legislation that may be necessary or convenient for the systematic implementation of any General Plan element(s).

**State Responsibility Area (SRA)** is the area within the County where the California Department of Forestry and Fire Protection (CAL FIRE) has primary financial responsibility for preventing and suppressing wildland fires. This does not necessarily include structural fire protection but CAL FIRE may provide such protection under "automatic aid agreements". The prevention and suppression of fires in all areas not classified as SRA are the primary responsibility of the local or Federal fire agency.

**Standard** (1) A rule or measure establishing a level of quality or quantity that must be complied with or satisfied. (2) Requirements in a zoning ordinance that govern buildings and development, as distinguished from use restrictions. Examples might be such site-design regulations as lot area, height limit, frontage requirements, landscaping, and/or floor area ratio requirements.

**Stockpile** A temporary accumulation of soil, whether compacted or uncompacted.

**Storm Water Management Plan (SWMP)** A program to reduce the discharge of pollutants associated with the storm water drainage systems. It identifies how the County will comply with the provisions of the "National Pollutant Discharge Elimination System (NPDES)" permit proposed by the California State Water Resources Control Board (SWRCB). The SWMP addresses the primary program elements of all County activities, including:

- How the County manages the planning, design and construction of projects carried out directly by the County and under permits issued by the County; and
- How the County maintains facilities owned and operated by the County and activities carried out by others on properties owned by the County.

The SWMP also addresses its responsibilities for implementing the applicable storm water management practices as well as training, public education & outreach, monitoring, program evaluation, and reporting activities. (For more information, see <http://www.edcgov.us/emd/>.)

**Stream** A body of water flowing in a natural surface channel.

**Street** Land devoted primarily to vehicular traffic uses extending to the boundaries of the right-of-way of the adjoining owner whether designated as a highway, freeway, throughway, thoroughfare, avenue, boulevard, road, parkway, lane, alley, place, circle, drive, way or other similar terms.

**Structure** Anything constructed or erected that requires location on the ground.

**Subdivider** A person, firm, corporation, partnership or association who causes land to be divided into a subdivision for himself or for others.

**Subdivision** The division of a tract of land into defined lots, either improved or unimproved, which can be separately conveyed by sale or lease, and which can be altered or developed. "Subdivision" includes a condominium project as defined in "Section 1350" of the "California Civil Code" and a community apartment project as defined in "Section 11004" of the "Business and Professions Code".

**Subdivision Map Act** First passed by the State in 1907, regulates the subdivision of land. See California Government Code, Sections 66410 - 66499.58.

**Surcharge or Surcharge Load** For the purpose of this manual, surcharge refers to an additional weight added to soil that can influence the stability of a soil mass or retaining wall. Examples of surcharge loads include structures, vehicles, snow, above ground swimming pools, stacks of material such as firewood and building products, large trees, the additional weight of earth due to an ascending backslope behind a wall, etc.

**Surety** In general, one who undertakes to pay money or to perform or do any other act upon his principal's failure to do so. See California Civil Code section 2787, et seq.

**Tahoe Basin** The area of the County which is tributary to Lake Tahoe and subject to the regulations and policies administered by the Tahoe Regional Planning Agency (TRPA).

**Tentative Map** A map made for the purpose of showing the design of a proposed subdivision and the existing conditions in and around it.

**Terrace** A relatively level step constructed on the face of a graded cut or fill slope surface for drainage, maintenance or other purposes. (Note: For purposes of this manual, "benches" are located under a fill and "terraces" are located on the face of a constructed slope.)

**Terrace Rounding** The minor excavation of the edges of a cut slope to provide a more contoured transition with the adjacent natural slope.

**Tiered Wall(s)** A condition where the upper and lower walls are close enough that a 1.5 horizontal to 1 vertical (i.e., 1.5H:1V) plane projected from the closest structural element of the upper wall intersects any portion of the lower wall. In the case of reinforced or mechanically stabilized earth walls, the walls are considered tiered if a 1.5H:1V plane projected from the closest structural element of the upper wall intersects any portion of the lower wall, including the reinforced zone behind the lower wall.

**Timber Harvest Plan (THP)** A plan for harvesting timber prepared by a Registered Professional Forester (RFP) which conforms to "California Government Code 11152".

**TITLE 14 of the Natural Resources Division** The fire protection requirements contained in the State of California's "TITLE 14, NATURAL RESOURCES, DIVISION 1.5 – DEPARTMENT OF FORESTRY, CHAPTER 7 – FIRE PROTECTION, Subchapter 2 SRA Fire Safe Regulations, Articles 1 – 5 (CDF/SRA)".

**Traffic Impacts Analysis** See "Traffic Study".

**Traffic Impacts Study** See "Traffic Study".

**Travel Lanes** See "Lane".

**Traffic Study** A set of protocols and procedures used to analyze the impacts of proposed development projects on existing levels of service on roadways that would potentially be affected by the proposed projects.

**Tree Survey** Typically an inventory on a site map plan that identifies all trees of interest (e.g., native oaks) on a proposed project site. In conjunction with proposed development, tree surveys are typically done as part of a tree protection plan.

**Trench** An excavation made for installing pipes, masonry walls, and other

purposes. A trench is distinguished from a ditch in that the opening is temporary and is eventually backfilled.

**Underground Service Alert (USA)** USA is an organization with the sole purpose to make people aware of the locations of USA's members' underground facilities to prevent accidents, such as digging into an electrical line, water line or a gas pipeline. USA can be found online at <http://www.usanorth.org/> and toll free at [1-800-227-2600](tel:1-800-227-2600).

**Unstable Slope** A slope that does not meet the established standards of stability described in the current edition of "Special Publication 117" of the Department of Conservation, State of California.

**Use** The purpose for which a lot or structure is, or may be, leased, occupied, maintained, arranged, designed, intended, constructed, erected, moved, altered, and/or enlarged in accordance with the County's "Title 17 Zoning Ordinance" and *General Plan's* land use designations.

**Use Permit** The discretionary and conditional review and permitting of an activity, function, or operation on a site, or in a building or facility.

**Vacation** Defined by "Section 8309" of the California "Streets & Highway Code" as "the complete or partial abandonment or termination of the public right to use a street, highway, or public service easement."

**Variance** A departure from any provision of the zoning requirements for a specific parcel, except use, without changing the zoning ordinance or the underlying zoning of the parcel. A variance usually is granted only upon demonstration of hardship based on the peculiarity of the property in relation to other properties in the same zone district.

**Vehicular way** Any public or private roadway or driveway designed for or used by vehicles (as defined by the "California Vehicle Code").

**Watercourse** For purposes of this manual, any natural or human-made channel in which water flows on a continuous or intermittent basis. Also called "Waterway." The term watercourse also includes facilities used to hold or delay the release of storm water runoff. (Note: It is recognized that the definition of a "watercourse" in the *General Plan* excludes human-made channels, ditches, and underground drainage and sewer systems. These facilities are not subject to the stream and creek setback policies of the *General Plan* that are intended to protect natural resources. This manual addresses the adequacy of drainage facilities to convey estimated runoff volumes.)

**Watershed** The total area above a given point on a watercourse that collects water to its flow; the entire region drained by a waterway or watercourse that drains into a lake, reservoir or to the sea.

**Wetlands** Land that qualifies as wetlands by State and/or Federal agencies having jurisdiction.

**Williamson Act** Known formally as the "California Land Conservation Act of 1965", it was designed as an incentive to retain prime agricultural land and open space in agricultural use, thereby slowing its conversion to urban and suburban development. The program entails a 10 year contract between a city or county and an owner of land, whereby the land is taxed on the basis of its agricultural use rather than its market value. The land becomes subject to certain

enforceable restrictions, and certain conditions need to be met prior to approval of an agreement. Once land is placed in a Williamson Act contract, there is a ten year rollout period should the landowner decide they no longer wish to continue its agricultural use.

**Zone of Benefit (ZOB)** A specified area established within a County Service Area with rates, services fees and charges, and benefit assessments varying with the extent of benefit to the zone derived from the services provided to the property within the zone. See California Government Code sections 25211, et seq., and its predecessor Section 25210 et seq.

**Zoning** The division of a city or county by legislative regulations into areas, or zones, that specify allowable uses for real property and size restrictions for buildings within these areas; a program that implements policies of the General Plan.

**Zoning District** A designated section of a city or county for which prescribed land use requirements and building and development standards are uniform.

**Zoning Lot** See "Lot".

### 7.3 ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
ADT/AADT	Average Daily Traffic, also called Average Annual Daily Traffic
ADA	Americans with Disabilities Act (Federal)
AHJ	Agency Having Jurisdiction (California Fire Code)
AOE	Summary Abandonment of Easements
APN	Assessor's Parcel Number
APWA	American Public Works Association
ASTM	American Society for Testing and Materials
BLA	Boundary Line Adjustment
BMP	Best Management Practice
CAL FIRE	California Department of Forestry and Fire Protection (also "CDF")
Cal/OSHA	California Department of Industrial Relations
Caltrans	California Department of Transportation
Catx	Categorically or statutorily exempt, also known as "cat. ex."
CBC	California Building Code
CC&Rs	Covenants, Conditions and Restrictions
CCR	California Code of Regulations
CD	Compact Disc
CDF	California Department of Forestry and Fire Protection (also "CAL FIRE")
CEQA	California Environmental Quality Act
CFC	California Fire Code
CFR	Code of Federal Regulations
CIP	Capital Improvement Program
CNEL	Community Noise Equivalent Level
CSD	Community Services District
CTC	California Transportation Commission
dB	Decibel
dBA	The "A-weighted" scale for measuring sound in decibels
DSD	Development Services Department
DSOD	California Department of Water Resources, Division of Safety of Dams
DOT	El Dorado County Department of Transportation
EDC	El Dorado County
EDCCWPP	El Dorado County Community Wildfire Protection Plan
EDCTA	El Dorado County Transit Authority
EDCTC	El Dorado County Transportation Commission
EFFHR	Emergency Fuel Fire Hazard Reduction
EID	El Dorado Irrigation District
EIR	Environmental Impact Report
EMD	Environmental Management Department
FAA	Federal Aviation Administration
FD	Fire Department; often a Fire Protection District
FEMA	Federal Emergency Management Agency

FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIL	Facilities Improvement Letter
FIRM	Flood Insurance Rate Maps (Federal)
FPD	Fire Protection District
GDPUD	Georgetown Divide Public Utility District
GPS	Global Positioning System
HDM	Highway Design Manual
HOA	Homeowner's Association
IBC	International Building Code
ICBO/ICC	International Conference of Building Officials/International Code Council
INRMP	Integrated Natural Resources Management Plan
L <sub>dn</sub>	Equivalent Day/Night Sound Level
L <sub>eq</sub>	Equivalent Sound Level
LAFCO	Local Agency Formation Commission
LDM	Land Development Manual
LLD	Lighting and Landscaping District
LOS	Level of Service
LRA	Local Responsibility Area (regarding Fire Protection)
MPH	Miles Per Hour
MUTCD	Manual on Uniform Traffic Control Devices (State)
ND	Negative Declaration or Neg Dec
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NHS	National Highway System (Federal)
NPDES	National Pollutant Discharge Elimination System
NST	National Standard Thread
NWI	National Wetlands Inventory map
OES	El Dorado County Office of Emergency Services
OPR	Office of Planning and Research (State of California)
PD	Planned Development
PG&E	Pacific Gas & Electric
PL	Platted Lands
PMIA	Parcel Map Improvement Agreement
PSF	Pounds per Square Foot
PSI	Pounds per Square Inch
PUC	Public Utilities Commission (State)
RCD	Resource Conservation District
RIA	Road Improvement Agreement
RPF	Registered Professional Forester
ROW	Right of Way
R/W	Right of Way
RWQCB	Regional Water Quality Control Board (State)
SACOG	Sacramento Area Council of Governments
SD	Structure Design

SIA	Subdivision Improvement Agreement
SP	El Dorado County Standard Plans
SPE	Same Practical Effect
SRA	State Responsibility Area (regarding Fire Protection)
SWMP	Storm Water Management Plan
TAC	Technical Advisory Committee
TI	Traffic Index
TIA	Traffic Impact Analysis
TIFF	Tagged Image File Format (a format for storage of electronic files)
TIM	Traffic Impact Mitigation
TRPA	Tahoe Regional Planning Agency
UPC	Uniform Plumbing Code
USA	Underground Service Alert
USFS	United States Forest Service - In El Dorado County this refers either to the El-Dorado National Forest or to the Lake Tahoe Management Unit
USGS	United States Geological Survey
WUI	Wildland Urban Interface
ZA	Zoning Administrator