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TO: Board of Supervisors

FROM: Peter N. Maurer, Principal Planner

DATE: July 21, 2011

RE: Land Development Manual and Standard Plans

Background:

On February 14, 2011, the Board of Supervisors reviewed the recommendation of the Planning Commission to consider adoption of the draft Land Development Manual (LDM) (Legistar Item #10-1101). At that time the Board continued the matter, with direction to staff to work with the Economic Development Advisory Committee (EDAC) to refine the document and bring it back in July. Included in the direction by the Board was to consider a less stringent interpretation of the California Fire Code and to incorporate the reference matrix developed by the EDAC Engineering Sub-Committee (ESC).

Since that action by the Board in February, Development Services and Transportation staff have worked closely with fire district and CalFire personnel, along with representatives of EDAC and the local engineering and design industry, to modify and streamline the draft LDM. At the same time, DOT staff worked with the ESC to refine the proposed standard plans, so that both the LDM and Standard Plans could be considered by the Board concurrently. Both are available on the County's web site at:

[http://www.edcgov.us/Government/Planning/Land_Development_Manual_\(LDM\).aspx](http://www.edcgov.us/Government/Planning/Land_Development_Manual_(LDM).aspx)

Where possible, modifications and compromises were made to both sets of documents to try to minimize conflict areas. The remaining unresolved issues are presented to the Board for further direction. They are discussed in detail below.

During this same period of time, the Board directed staff to work with EDAC on the development of a project description for a targeted General Plan amendment, addressing concerns raised through the 5-year review of the General Plan, with input from EDAC on the development of moderate housing, creation of jobs, and loss of potential sales tax revenue due to limited retail sales opportunities in the county. The Board directed staff to return on July 25, 2011 with that description. A third major project that is underway is the update to the zoning ordinance. The Board decided to hold off on beginning the CEQA process for that project so that the targeted GPA, the LDM, and the ordinance update could be reviewed comprehensively,

LDM-Standard Plans Staff Memo-July 21, 2011
Board Workshop/July 25, 2011

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to ensure that no conflicts between those documents arose. This memo focuses on the issues of the LDM and Standard Plans.

The LDM and Standard Plans will replace the current Design and Improvement Standards Manual (DISM). However, only some of the existing Standard Plans contained in the DISM are proposed to be replaced at this time. The existing, adopted standard plans not proposed to be replaced will be included in the Standard Plans document, identified as Interim Standard Plans. It is DOT's intent to replace these over time as all are outdated and should be upgraded.

Discussion:

Land Development Manual:

Planning staff, working with DOT, Building Services, Environmental Management Department, and the County Surveyor, has worked to consolidate the draft LDM, incorporating the source documents for the various standards, with the overall goal to make it more user-friendly. Some of the background information and description of process has been eliminated. The most significant change is that Chapters 2, 3 and 4 have been reorganized. Chapter 2 now addresses roads, lot design, fire protection, and other miscellaneous requirements and Chapter 3 addresses water and sewage disposal. The applicable provisions of Chapter 4 were incorporated into either Chapter 2 or 3. Most of the procedural discussion has been eliminated.

Two issues associated with the LDM remain unresolved.

1. Section 2.2.3.D – Vehicular Access.

This provision is a modification to the DISM limiting lots having direct access onto collector streets. DISM Vol. II, Sec. 3.A.5 states, "Lot frontage shall be avoided on these streets when the design traffic volume exceeds 400 vehicles per hours. (sic)" Since road design is based on average daily trips (ADT), staff is proposing to modify this standard to 2500 ADT, which correlates to a peak hour rate of 400 trips. This would apply to new roads constructed as a part of the project, while the standard for existing roads would be 4000. The latter number has been suggested by EDAC as more appropriate. In addition, an exception is provided for larger lots with unique circumstances where vehicles may turn around on the lot and do not have to back out onto the road.

Staff Recommendation: The exception and dual standard for existing versus proposed roads provides sufficient flexibility for designing new subdivision while protecting the public safety. Staff recommends that the language as proposed in 2.2.3.D be accepted.

2. Section 2.2.3.G – Two Points of Access Required

Earlier concerns regarding application of fire code standards have been partially resolved. These dealt primarily with the number of lots that could be served by a dead end road and access issues. Meetings were held with representatives of CalFire and several local fire districts together with the EDAC ESC. Some flexibility was built into the second point of access concern, recognizing that in some instances developing a second access is infeasible, and alternative methods of fire protection could be considered in lieu of a second access. However, a conflict still exists

between the state requirement that a dead end road not serve more than 25 **dwelling**s and the County's current standard of permitting up to 24 **parcels**. With the ability to construct a second dwelling by right on any parcel, the potential for more than 25 dwellings could be exceeded on any dead end road with more than 12 parcels.

Staff Recommendation: The potential conflict with state law requires staff to recommend that the 12-lot maximum be established for dead end roads.

Standard Plans:

At the request of the EDAC Regulatory Reform Subcommittee, members of the local engineering community, Engineering Sub-Committee (ESC), have participated with DOT staff in the process of refining the proposed Standard Plans over the last several months. These meetings resulted in agreement or compromise on many of the detailed points of our discussions. However, three points of significant disagreement remain (items 2, 6, and 8). Current proposed Standard Plans reflect the staff recommendations as summarized below.

1. Mechanism for Approval of Minor Deviations from the Standard Plans

ESC Issue: ESC requested that a provision be incorporated in to the standards allowing the Deputy Director or Director discretion in the application of the new standards. The ESC believes it is important that there be some other mechanism to obtain deviations from the standard without obtaining Commission and/or Board approval for each instance.

Staff Recommendation: The Department of Transportation proposes to utilize its existing Design Exception Policy to allow the County Engineer to exercise discretion in application of the standards. A note has been added to Standard Plan RD-01, which reads as follows:

“The County Engineer may approve deviations or modifications to the application of the Standard Plans in accordance with the Department of Transportation design exception policy.”

2. Standards for Vertical Curves

ESC Issue: The ESC acknowledged the DISM (“Blue Book”) vertical curve design standards are written as less restrictive than the standards contained in *A Policy on the Geometric Design of Highways and Streets* (AASHTO Policy) published by the American Association of State Highway and Transportation Officials (AASHTO). However, the ESC would like to see evidence that there is a good reason to abandon the DISM standard. ESC has asked if there is some statistically significant evidence that is able to justify this change in the name of public safety or other worthy goals? ESC believes that there is certainly an environmental and economic tradeoff associated with abandoning the existing DISM with respect to vertical curves. Assuming there was sufficient evidence to justify the change, the ESC feels that the AASHTO Low Volume crest portion of the curve data would be more appropriate than the currently proposed standard for crest curves.

Staff Recommendation: Vertical curve design is calculated to provide sight distance necessary for drivers to stop or avoid obstacles on the roadway. The AASHTO Policy is a national standard that has been applied by most agencies throughout the country. The Department is

recommending these standards be adopted to maintain public safety. In addition, the vertical curve design as proposed only poses a change meaning additional grading for roads designed above 35 mph.

Standard Plan RD-01 specifically references the Guidelines for Geometric Design of Very Low Volume Roads ($ADT \leq 400$) published by AASHTO. By inclusion of this reference, AASHTO Low Volume Crest Data may be used where appropriate.

3. Clarification of Rolled and Vertical Curbs

ESC Issue: The ESC requested clarification of where rolled and vertical curbs would be required on the applicable RS standards. Currently there is no distinction. The ESC would expect rolled curb and gutter for local subdivision streets with homes fronting the street and vertical curb and gutter on remaining roads, as well as at landscaped lots or open space frontages within a subdivision.

Staff Recommendation: Staff is in agreement with ESC's request for clarification. At the request of ESC, a column has been added to the tables to the proposed Standard Plans RS-20 and RS-21.

4. Maximum Roadway Grade

ESC Issue: The 15% roadway grade for 600 feet currently allowed in the DISM needs to be retained for all local roads. This is a critical point for the engineering community to continue to be able to design projects in the often mountainous terrain of El Dorado County. The ESC requests sufficient evidence that the existing standard is inadequate. ESC believes that the potentially significant environmental and economic considerations of such a change to the standards should be considered before adopting a reduction to the currently proposed 12% max. The ESC believes that, when feasible, the engineer's design of lower road grades because a steep street is not an advantage to a project. ESC states that there are frequently cases where a street steeper than 12% is required to make a project's land use designation feasible, or to avoid significant impacts to creeks and hillsides where terrain is a factor. ESC believes that this also needs to be addressed in the Fire Code for consistency.

Staff Recommendation: At the request of ESC, DOT has amended Note 3 to allow 15% for up to 600-feet in length.

5. Curb, gutter and sidewalks in Community Regions on large lot development projects (lot size > 10,000 sq. ft.)

ESC Issue: The ESC identified that there is no provision in RS-20 or 21 for the projects in these community regions to be designed without curb, gutter, and sidewalk in subdivisions of 10,000 sq. ft. or larger. The ESC can accept curb, gutter, and sidewalk requirements in RS-20. However, the ESC feels that for the Cameron Park/Placerville/Diamond Springs/El Dorado/Shingle Springs community regions, a provision for no curb, gutter, and sidewalk should be provided for projects with lot sizes greater than or equal to 1 acre in area, (MDR). The ESC feels that requiring Class 1 subdivision improvements in a subdivision or large lots (between 1 and 2 acres) is not in keeping with the character of those project types. Some members of the

ESC believe, in the case of these particular situations, the County should develop a program whereby existing sidewalk deficiencies within the community region are identified and partially funded by an in-lieu sidewalk fee for use within the same community region. This would allow sidewalks to be built in locations where they are most needed, rather than in the lowest density areas of the community.

Staff Recommendation: At the request of ESC, Note 1 on Standard Plan RS-21 has been amended to be consistent with General Plan Policy TC-5a to read as follows:

“Sidewalks, curb, and gutter shall be constructed where required by the Land Development Manual.”

6. **Reduced Design Speed for collector roads, 2500-4000 ADT**

ESC Issue: The ESC disagreed with the design speeds of 35 mph for collector roads with 2,500 – 4,000 ADT. This requirement is included on Standard Plans RS-20, 21, 22, and 25 (Community Regions). The ESC believes 25-30 mph is a more appropriate design speed for these roadways. The ESC believes in this particular case, the capacity of the roadway system is not effectively reduced by the lower design speed. The result is a safer roadway design and the roads can be constructed in a more environmentally friendly manner (i.e., less grading, less disturbance of hillside slopes and mature trees).

Staff Recommendation: In accordance to exhibit 5-1 from AASHTO, the minimum design speeds for local roads for 2,000 and over vehicles per day are the following:

Rolling Terrain:	40 mph
Mountainous Terrain:	30 mph

At the request of ESC, staff has amended the design speed to be 30 mph as defined by the AASHTO manual. Based on AASHTO Standards, DOT could not justify a design speed of 25 mph. A reduction in Design Speed may be allowed subject to the Design Exception Policy.

7. **Access Restrictions on Collector Roadways**

The ESC is reluctant to accept a limitation on residential frontages on collector roads above 2,500 ADT. ESC requests that this number be changed to 4,000 ADT. There are no provisions made or clarifications provided on how the threshold will apply to infill projects where existing homes/neighborhood services would create situations that prohibit reasonable build-out of existing land or situations where adding lots at the end of a road might push traffic counts in front of existing homes above the limit, thus making projects un-approvable or cost prohibitive.

Staff Recommendation: At the request of ESC, language was added to Standard Plan RD-01 limiting the applicability of standards to new roadways associated with new development. The language reads as follows:

“RD Series Standard Plans shall be used for the design of new Local Roads and Collectors carrying less than 4000 AD (internal infrastructure typically associated with new development).”

The Department of Transportation should be consulted for design standards required for General Plan Roadways and Collectors carrying more than 4000 ADT.”

8. Design Speed for Private Roads in Rural Regions (RS-30) > 600 ADT

The ESC disagrees with the design speeds of 40 mph for RS-30 (private roads in rural regions and rural centers) roadways carrying more than 600 ADT. The ESC recommends 25 mph design speeds for these roadways. The ESC believes that these roadways are often located in areas of challenging terrain and a minimum design speed of 40 mph for a roadway that is not necessarily a paved roadway is excessive.

Staff Recommendation: In accordance to exhibit 5-1 from AASHTO, the minimum design speeds for local roads from 400 to 1,500 vehicles per day are the following:

Rolling Terrain:	40 mph
Mountainous Terrain:	30 mph

At the request of ESC, staff has amended the design speed to be 30 mph as defined by the AASHTO manual. Based on AASHTO Standards, DOT could not justify a design speed of 25 mph. A reduction in Design Speed may be allowed subject to the Design Exception Policy.

9. Four Legged Intersections

ESC Issue: The ESC requested that references to 4-legged intersections be eliminated.

Staff Recommendation: At the request ESC, language was deleted on note 14 discouraging 4-legged intersections.

10. Remove references to Standard Plans not yet reviewed by ESC

ESC Issue: The ESC requested that references of Standard Plans not yet reviewed/approved by the ESC in the Road and Streets Standard Plans be removed.

Staff Recommendation: At the request of ESC, staff has removed all references to standard plans not yet reviewed/approved by the ESC. Changes have been made to the notes on the Road and Streets Standard Plans. The General Legend & Notes sheet provided in the package has been revised to reflect the changes in Street Standard Plans, specifically Note 2 which discusses intersection sight distance.

Summary of Standard Plan Issues: Where staff and the ESC were able to come to agreement, the proposed Standard Plans have been revised to reflect those agreements. Staff requests Board direction on the remaining three issues: vertical curves, design speed for collector roads, and design speed for private roads in rural regions.

Recommendation:

Adoption of the LDM and new Standard Plans was continued to resolve disagreements between staff and the private engineering sector, as well as to ensure that any changes being considered as

part of the targeted General Plan amendment would not create any conflicts. None of the policy changes under consideration would affect the LDM or standard plans. Because of that, the LDM and Standard Plans could move forward independently of the EIR that will be prepared for the amendment and zoning ordinance update. A draft negative declaration was prepared previously which is still valid for this project.

Since the Standard Plans are primarily technical engineering requirements, the Board may wish to consider authorizing the Transportation Director to approve the changes, based on direction by the Board on any policy issues. This would apply also to those Standard Plans that have not yet been updated, but will need to be in the future. In the current climate of cooperation with stakeholders, any concerns that cannot be resolved between staff and the ESC would be brought before the Board for direction.

The revised draft of the LDM is almost ready for adoption, but the ESC and other interested parties may need additional time to review the edits, and allow staff to make final adjustments to the document. Staff believes that an adoption-ready Land Development Manual can be ready for consideration by the Board within a very short period of time. Final edits, re-notice of the CEQA document and hearing will only take a couple of weeks, however, given the additional work load of the targeted GPA and zoning ordinance update, a time frame of 60 to 120 days would be reasonable.

Staff recommends that the Board of Supervisors take the following action:

1. Provide direction to staff on the remaining four unresolved issues associated with the Land Development Manual and Standard Plans:
 - a. Number of lots that may be served by a dead end road
 - b. ADT of collector roads for which direct access from subdivision lots should be restricted;
 - c. Standards for vertical curves;
 - d. Design speed for collector roads, 2500-4000 ADT; and
 - e. Design speed for private roads in Rural Regions > 600 ADT (RS-30).
2. Authorize the Director of Transportation to adopt the Standard Plans, based on the direction provided by the Board.
3. Direct staff to return to the Board within 60 to 120 days for adoption of the Land Development Manual.