State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: **DISTRICT DIRECTORS**

Date: June 7, 2013

File:

From: TIMOTHY CRAGGS
Acting Chief
Division of Design

Subject: **DIVISION OF DESIGN POLICY UPDATES**

This memorandum supersedes Terry Abbott's memo dated April 12, 2013.

Summary:

The Program Review requested an evaluation of approvals retained in the Division of Design and a determination of which approvals to delegate to the lowest responsible level in the district, along with accountability for those decisions. The Program Review also requested a review of the roles and responsibilities of the Design Coordinators and Design Reviewers, and the development of a dispute resolution process related to Division of Design approvals. A risk-based value analysis (VA) study of these items was completed. Further evaluation and discussions with the District Directors, the Design Management Board, and others took place to vet the VA team recommendations.

The policy changes below substantially reflect the VA team recommendations. The Division of Design remains committed to facilitating delivery of quality transportation projects by seeking opportunities to delegate additional standards and policies and by continuously evaluating the effectiveness of the dispute resolution process and the Division's roles and responsibilities.

Policy Changes:

- Delegation is to the District Director. If the District Director is not a registered Professional Engineer, further delegation is required in writing to the District/Region manager responsible for the Design function. These delegations may further be delegated in writing to the Design Office Chief, not below the Supervising Transportation Engineer level. The delegation matrix is included as Attachment 1.
- The roles and responsibilities of the Design Coordinators and Design Reviewers are as described in Attachment 2.
- The Dispute Resolution process is as described in Attachment 3.

Implementation:

- The delegations described in Attachment 1 will be implemented effective the date of this memorandum.
- Combining District approved mandatory and advisory design exceptions into a single fact sheet is at the discretion of the District. Delegation of District approved exceptions to standards to the lowest responsible level will maximize effectiveness of the delegations.
- The Dispute Resolution process will be implemented effective the date of this memorandum.
- All necessary manual changes and duty statements reflecting these policies will be complete by June 30, 2013.

Design Reviewers and Design Coordinators are available to provide training and consultation on justification of exceptions to design standards and other design related topics as requested by the districts.

If you have any questions regarding these policy changes please contact me at (916) 654-3858.

Attachments:
1. Highway Design Manual Mandatory Standards Delegations
2. Roles and Responsibilities of Design Coordinators and Design Reviewers
3. Division of Design Dispute Resolution

c: Malcolm Dougherty, Director
Richard Land, Chief Deputy Director
Karla Sutliff, Chief Engineer, Deputy Director
Dennis Agar, Chief Division of Traffic
Janice Benton, Interim Assistant Chief Division of Design
Design Management Board, Executives
Design Management Board, Associates
Design Coordinators

Highway Design Manual - Mandatory Standards				
Section		**Mandatory Standard**	**VA Team Recommend.**	**June 7, 2013 Delegations**
101.1	Selection of Highway Design Speed	Such technical reductions in design speed shall be discussed with and documented as required by the Design Coordinator.	HQ	HQ Approval
101.1	Selection of Highway Design Speed	Local streets or roads within the State right of way, including facilities which will be relinquished after construction (such as frontage roads), shall have minimum design speeds conforming to AASHTO standards, as per the functional classification of the facility in question.	delegate	District Approval
101.1	Selection of Highway Design Speed	Where the local facility connects to a freeway or expressway (such as ramp terminal intersections), the design speed of the local facility shall be a minimum of 35 miles per hour.	HQ	HQ Approval
101.2	Highway Design Speed Standards	The following table shows appropriate ranges of design speeds that shall be used for various conditions: [Table 101.2 Vehicular Design Speed]	HQ	HQ Approval
104.4	Protection of Access Rights	For proper control of acquired access rights, fencing or other approved barriers shall be installed on all controlled access highways except as provided in Index 701.2(3)(e).	HQ	HQ Approval
201.1	General	Table 201.1 shows the minimum standards for stopping sight distance related to design speed for motorists.	delegate	HQ Approval
202.2(1)	Standards for Superelevation - Highways	Based on an emax selected by the designer for one of the conditions, superelevation rates from Table 202.2 shall be used within the given range of curve radii. If less than standard superelevation rates are approved (see Index 82.1), Figure 202.2 shall be used to determine superelevation based on the curve radius and maximum comfortable speed.	delegate	HQ Approval

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
202.7	Superelevation on City Streets and County Roads	Superelevation rates of local streets and roads which are within the State right of way (with or without connection to State facilities) shall conform to AASHTO standards, for the functional classification of the facility in question.	delegate	District Approval
203.1	General Controls	For local facilities which are within state right of way and where there is no connection or the connection is to a non-controlled access facility (conventional highway), AASHTO standards shall prevail.	delegate	District Approval
203.1	General Controls	Horizontal alignment shall provide at least the minimum stopping sight distance for the chosen design speed at all points on the highway, as given in Table 201.1 and explained in Index 201.3.	delegate	HQ Approval
203.2	Standards for Curvature	Table 203.2 shall be the minimum radius of curve for specific design speeds on highways.	delegate	HQ Approval
203.2	Standards for Curvature	If the minimum radii indicated in Table 203.2 does not provide the desired lateral clearance to an obstruction, Figure 201.6 shall govern.	delegate	HQ Approval
204.1	General Controls	For local facilities which are within the State right of way and where there is no connection or the connection is to a non-controlled access facility (conventional highway), AASHTO standards shall prevail.	delegate	District Approval
204.3	Standards for Grade	Table 204.3 shows the maximum grades which shall not be exceeded for the condition indicated.	delegate	District Approval
204.8(5)	Grade Line of Structures-Falsework	The minimum vertical falsework clearance over freeways and nonfreeways shall be 15 feet.	HQ	HQ Approval
205.1(1)	Access Openings on Expressways-Criteria for Location	Sight distance equivalent to that required for public road intersections shall be provided (see Index 405.1).	HQ	HQ Approval

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
208.1(1)	Bridge Lane and Shoulder Width - State Highways	The clear width of all bridges, including grade separation structures, shall equal the full width of the traveled way and paved shoulders on the approaches with the following exceptions:	HQ	HQ Approval
208.1(1)	Bridge Lane and Shoulder Width - State Highways	(a) Bridges to be constructed as replacements on existing 2-lane, 2-way roads shall not have less than a 32-foot wide roadbed for ADT less than 400, and not less than 40-foot wide roadbed for ADT greater than 400. (see Index 307.2).	HQ	HQ Approval
208.1(1)	Bridge Lane and Shoulder Width- State Highways	(b) When the approach shoulder width is less than 4 feet, the minimum offset on each side shall be 4 feet, and shall be documented in accordance with Index 82.2.	HQ	HQ Approval
208.4	Bridge Sidewalks	The minimum width of a bridge sidewalk shall be 6 feet.	HQ	HQ Approval
208.10(2)	Bridge Barriers and Railings - Policies	Any use of railings and barriers with sidewalks on structures with posted speeds greater than 45 miles per hour shall have a barrier separation between the roadway and the sidewalk.	HQ	HQ Approval
208.10(2)	Bridge Barriers and Railings - Bridge Approach Railings	Approach railings shall be installed at the ends of bridge railings exposed to approach traffic.	HQ	HQ Approval
301.1	Lane Width	The minimum lane width on two-lane and multilane highways, ramps, collector roads, and other appurtenant roadways shall be 12 feet, except as follows:	HQ	HQ Approval
301.1	Lane Width	For conventional State highways with posted speeds less than or equal to 40 miles per hour and AADTT (truck volume) less than 250 per lane that are in urban, city or town centers (rural main streets), the minimum lane width shall be 11 feet.	HQ	HQ Approval
301.1	Lane Width	Where a 2-lane conventional State highway connects to a freeway within an interchange, the lane width shall be 12 feet.	HQ	HQ Approval

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
301.1	Lane Width	Where a multilane State highway connects to a freeway within an interchange, the outer most lane of the highway in each direction of travel shall be 12 feet.	HQ	HQ Approval
301.2(1)	Class II Bikeway (Bike Lane) Lane Width-General	Class II bikeways (bike lanes), for the preferential use of bicycles, may be established within the roadbed and shall be located immediately adjacent to a traffic lane as allowed in this manual.	HQ	HQ Approval
301.2(1)	Class II Bikeway (Bike Lane) Lane Width-General	The minimum Class II bike lane width shall be 4 feet, except where: ...On highways with concrete curb and gutter, a minimum width of 3 feet measured from the bike lane stripe to the joint between the shoulder pavement and the gutter shall be provided.	HQ	HQ Approval
301.3(2)(a)	Cross Slopes-Standards	The standard cross slope to be used for new construction on the traveled way for all types of surfaces shall be 2 percent.	HQ	HQ Approval
301.3(2)(b)	Cross Slopes-Standards	For resurfacing or widening (only when necessary to match existing cross slope), the minimum shall be 1.5 percent and the maximum shall be 3 percent.	HQ	HQ Approval
301.3(2)(c)	Cross Slopes-Standards	On unpaved roadway surfaces, including gravel and penetration treated earth, the cross slope shall be 2.5 percent to 5.0 percent.	HQ	HQ Approval
301.3(2)	Cross Slopes-Standards	For new construction, the maximum shall be 4 percent. [maximum algebraic difference]	HQ	HQ Approval
302.1	Width	The shoulder widths given in Table 302.1 shall be the minimum continuous usable width of paved shoulder on highways.	HQ	HQ Approval
302.1	Width	Where rumble strips are placed in the shoulder, the shoulder shall be a minimum of 4 feet width to the right of the grooved rumble strip when a vertical element, such as curb or guardrail is present or a minimum of 3 feet width when a vertical element is not present.	HQ	HQ Approval

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
302.2(1)	Cross Slopes-General	When a roadway crosses a bridge structure, the shoulders shall be in the same plane as the adjacent traveled way.	HQ	HQ Approval
302.2(2)	Cross Slopes-Left Shoulders	In depressed median sections, shoulders to the left of traffic shall be sloped at 2 percent away from the traveled way.	HQ	HQ Approval
302.2(2)	Cross Slopes-Left Shoulders	In paved median sections, shoulders to the left of traffic shall be designed in the plane of the traveled way.	HQ	HQ Approval
302.2(3)	Cross Slopes-Right Shoulders	In normal tangent sections, shoulders to the right of traffic shall be sloped at 2 percent to 5 percent away from the traveled way.	HQ	HQ Approval
303.4(1)	Curb Extensions-Bulbouts	The curb face of the bulbout shall be setback from the edge of traveled way such that there is a minimum of 3 feet measured from the edge of traveled way to the joint between the shoulder pavement and the gutter pan or 3 feet to curb face without gutter pan.	delegate	District Approval
305.1(2)	Width-Conventional Highways	In rural areas the minimum median width for multilane conventional highways shall be 12 feet.	HQ	HQ Approval
305.1(3)(a)	Width-Conventional Highways-Facilities under Restrictive Conditions-Freeways and Expressways	In areas where restrictive conditions prevail the minimum median width shall be 22 feet.	HQ	HQ Approval
307.2	Two-lane Cross Sections for New Construction	Shoulder widths based on design year traffic volumes shall conform to the standards given in Table 307.2.	HQ	HQ Approval
308.1	City Streets and County Roads	Where a local facility within the State right of way crosses over or under a freeway or expressway but has no connection to the State facility, the minimum design standards for the cross section of the local facility within the State's right of way shall be those found in AASHTO.	delegate	District Approval

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
308.1	City Streets and County Roads	The minimum width of 2-lane overcrossing structures shall not be less than 32 feet face of curb to face of curb.	delegate	District Approval
308.1	City Streets and County Roads	Where a local facility crosses over or under a freeway or expressway and connects to the State facility (such as ramp terminal intersections), the minimum design standards for the cross section of the local facility shall be at least equal to those for a conventional highway with the exception that the outside shoulder width shall match the approach roadway, but not less than 4 feet, and as shown below.	delegate	District Approval
308.1	City Streets and County Roads	Where the 2-lane local facility connects to a freeway within an interchange, the lane width of the local facility shall be 12 feet.	delegate	District Approval
308.1	City Streets and County Roads	Where a multilane local facility connects to a freeway within an interchange, the outer most lane in each direction of the local facility shall be 12 feet.	delegate	District Approval
308.1	City Streets and County Roads	Shoulder width shall not be less than 5 feet when railings or other lateral obstructions are adjacent to the right edge of shoulder.	delegate	District Approval
308.1	City Streets and County Roads	If gutter pans are used, then the minimum shoulder width shall be 3 feet wider than the width of the gutter pan being used.	delegate	District Approval
308.1	City Streets and County Roads	The minimum width for two-lane overcrossing structures at interchanges shall be 40 feet curb-to-curb.	delegate	District Approval
309.1	Horizontal Clearances for Highways	Horizontal clearances greater than those cited below under subsection (3) - "Minimum Clearances" shall be provided where necessary to meet horizontal stopping sight distance requirements.	HQ	HQ Approval

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
309.1(2)	Horizontal Clearances for Highways-Clear Recovery Zone (CRZ)	Where compliance with the above stated clear recovery zone guidelines are impractical, the minimum horizontal clearance cited below shall apply to the unshielded fixed object. These minimum horizontal clearances apply to yielding objects as well.	HQ	HQ Approval
309.1(3)	Horizontal Clearances for Highways-Minimum Clearances	The following minimum horizontal clearances shall apply to all objects that are closer to the edge of traveled way than the clear recovery zone distances listed above:	HQ	HQ Approval
309.1(3)(a)	Horizontal Clearances for Highways-Minimum Clearances	The minimum horizontal clearance to all objects, such as bridge rails and safety-shaped concrete barriers, as well as sand-filled barrels, metal beam guardrail, etc., on all freeway and expressway facilities, including auxiliary lanes, ramps, and collector roads, shall be equal to the standard shoulder width of the highway facility as stated in Table 302.1. A minimum clearance of 4 feet shall be provided where the standard shoulder width is less than 4 feet.	HQ	HQ Approval
309.1(3)(b)	Horizontal Clearances for Highways-Minimum Clearances	The minimum horizontal clearance to walls, such as abutment walls, retaining walls in cut locations, and noise barriers on all facilities, including auxiliary lanes, ramps and collector roads, shall not be less than 10 feet per Table 302.1.	HQ	HQ Approval
309.1(3)(c)	Horizontal Clearances for Highways-Minimum Clearances	On conventional highways, frontage roads, city streets and county roads (all without curbs), the minimum horizontal clearance shall be the standard shoulder width as listed in Tables 302.1 and 307.2.	HQ	HQ Approval
309.2(1)(a)	Vertical Clearances-Major Structures-Freeways and Expressways, All construction except overlay projects	construc-tion except overlay projects – 16 feet 6 inches shall be the minimum vertical clearance over the roadbed of the State facility (e.g., main lanes, shoulders, ramps, collector-distributor roads, speed change lanes, etc.).	HQ	HQ Approval

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
309.2(1)(b)	Vertical Clearances-Major Structures-Freeways and Expressways, Overlay Projects	16 feet shall be the minimum vertical clearance over the roadbed of the State facility.	HQ	HQ Approval
309.2(1)(c)	Vertical Clearances-Major Structures-Conventional Highways, Parkways, and Local Facilities, All Projects	15 feet shall be the minimum vertical clearance over the traveled way and 14 feet 6 inches shall be the minimum vertical clearance over the shoulders of all portions of the roadbed.	HQ	HQ Approval
309.2(2)	Vertical Clearances-Minor Structures	Pedestrian over-crossings shall have a minimum vertical clearance 2 feet greater than the standard for major structures for the State facility in question.	HQ	HQ Approval
309.2(2)	Vertical Clearances-Minor Structures	Sign structures shall have a vertical clearance of 18 feet over the roadbed of the State facility.	HQ	HQ Approval
309.2(3)	Vertical Clearances-Rural Interstates and Single Routing in Urban Areas	Vertical clearance for structures on this system shall meet the standards listed above for freeways and expressways.	HQ	HQ Approval
309.3(1)	Tunnel Clearances-Horizontal Clearances	In one-way tunnels on conventional highways the minimum side clearance from the edge of the traveled way shall be 4 feet 6 inches on the left and 6 feet on the right. For two-way tunnels, this clearance shall be 6 feet on each side.	HQ	HQ Approval
309.3(2)	Tunnel Clearances-Vertical Clearances	The minimum vertical clearance shall be 15 feet measured at any point over the traveled way and 14 feet 6 inches above the gutter at the curb line. On freeways and expressways, the vertical clearance listed in Index 309.2(1)(a) shall be used.	HQ	HQ Approval
309.4	Lateral Clearance for Elevated Structures	The minimum horizontal clearance between elevated highway structures, such as freeway viaducts and ramps, and adjoining buildings or other structures, shall be 15 feet for single-deck structures and 20 feet for double-deck structures. Spot encroachments on this clearance shall be approved in accordance with Index 82.2.	HQ	HQ Approval

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
309.5(1)	Structures Across or Adjacent to Railroads-Normal Horizontal and Vertical Clearances	However, the greater clearances specified under Index 309.2 shall be used.	HQ	HQ Approval
310.1	Cross Section	However, the minimum paved 2-lane cross section width including 4-foot shoulders without curb and gutter shall be: • 32 feet if 12-foot lanes are to be provided; • 30 feet if 11-foot lanes are to be provided.	delegate	District Approval
310.1	Cross Section	The minimum paved 2-lane cross section width, including 5-foot shoulders and curb and gutter shall be: • 34 feet if 12-foot lanes are to be provided; • 32 feet if 11-foot lanes are to be provided.	delegate	District Approval
404.2(1)(b)	Design Considerations-Traveled Way	The tracking and swept widths lines for the design vehicle shall stay within the lane as defined in Index 301.1 and Table 504.3A.	HQ	HQ Approval
404.4(1)(b)	Design Vehicles and Related Definitions-The Surface Transportation Assistance Act of 1982 (STAA)-STAA Design Vehicle	Where use of the STAA Design Vehicle is not practical, the California Legal Design Vehicle shall be used.	HQ	HQ Approval
405.1(2)(a)	Sight Distance-Corner Sight Distance-General	Set back for the driver of the vehicle on the crossroad shall be a minimum of 10 feet plus the shoulder width of the major road but not less than 15 feet.	HQ	HQ Approval
405.1(2)(b)	Sight Distance-Corner Sight Distance-Public Road Intersections	Set back for the driver of the vehicle on the crossroad shall be a minimum of 10 feet plus the shoulder width of the major road but not less than 15 feet.	HQ	HQ Approval
405.1(2)(c)	Private Road Intersections and Rural Driveways	The minimum corner sight distance shall be equal to the stopping sight distance as given in Table 201.1, measured as previously described.	HQ	HQ Approval
405.2(2)(a)	Left-turn Channelization-Design Elements-Lane Width	The lane width for both single and double left-turn lanes on State highways shall be 12 feet.	HQ	HQ Approval
405.2(2)(a)	Left-turn Channelization-Design Elements-Lane Width	For conventional State highways with posted speeds less than or equal to 40 miles per hour and AADTT (truck volume) less than 250 per lane that are in urban, city or town centers (rural main streets), the minimum lane width shall be 11 feet.	HQ	HQ Approval

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
405.2(4)	Left-turn Channelization-Two-way Left-turn Lane (TWLTL)	The minimum width for a TWLTL shall be 12 feet (see Index 301.1).	HQ	HQ Approval
405.3(2)(a)	Right-turn Channelization-Design Elements-Lane and Shoulder Width	Index 301.1 shall be used for right-turn lane width requirements. Shoulder width shall be a minimum of 4 feet.	HQ	HQ Approval
501.3	Spacing	The minimum interchange spacing shall be one mile in urban areas, two miles in rural areas, and two miles between freeway-to-freeway inter-changes and other interchanges. The minimum interchange spacing on Interstates outside of a Transportation Management Area shall be three miles.	HQ	HQ Approval
502.2	Local Street Interchanges	Isolated off-ramps or partial interchanges shall not be used because of the potential for wrong-way movements.	HQ	HQ Approval
502.3(1)	Freeway-to-Freeway Interchanges-General	Interstate routes shall maintain route continuity. Where both the designated route and heavier traffic volume route are present, the interchange configuration shall keep the designated route to the left through the interchange.	HQ	HQ Approval
504.2(1)	Freeway Entrances and Exits-Basic	All freeway entrances and exits, except for direct connections with median High-Occupancy Vehicle (HOV) lanes, Express Toll lanes or BRT lanes, shall connect to the right of through traffic.	HQ	HQ Approval
504.2(2)	Freeway Entrances and Exits-Standard Designs	The minimum deceleration length shown on Figure 504.2B shall be provided prior to the first curve beyond the exit nose to assure adequate distance for vehicles to decelerate before entering the curve.	HQ	HQ Approval

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
504.3(1)(b)	Ramps-General-Lane Width	Ramp lanes shall be a minimum of 12 feet in width. Where ramps have curve radii of 300 feet or less, measured along the outside edge of traveled way for single lane ramps or along the outside lane line for multilane ramps, with a central angle greater than 60 degrees, the single ramp lane, or the lane furthest to the right if the ramp is multilane, shall be widened in accordance with Table 504.3 in order to accommodate large truck wheel paths.	HQ	HQ Approval
504.3(1)(c)	Ramps-General-Shoulder Width	Shoulder widths for ramps shall be as indicated in Table 302.1.	HQ	HQ Approval
504.3(1)(d)	Ramps-General-Lane Drops	However, the lane drop taper past the limit line shall not be less than 15 to 1.	HQ	HQ Approval
504.3(2)(b)	Ramps-Ramp Metering-Metered Multilane Ramps	However, the lane drop taper past the limit line shall not be less than 15 to 1.	HQ	HQ Approval
504.3(2)(c)	Ramps-Ramp Metering-Metered Freeway-to-Freeway Connectors	The installation of ramp meters on connector ramps shall be limited to those facilities which meet or exceed the following geometric design criteria:• Standard lane and shoulder widths. • "Tail light" sight distance, measured from 3 ½ feet eye height to a 2-foot • "Tail light" sight distance, measured from 3 ½ feet eye height to a 2-foot object height, is provided for a design speed of 50 miles per hour minimum.	HQ	HQ Approval
504.3(2)(c)	Ramps-Ramp Metering-Metered Freeway-to-Freeway Connectors	All lane drop transitions on connectors shall be accomplished with a taper of 50:1 (longitudinal to lateral) minimum,	HQ	HQ Approval
504.3(3)	Ramps-Location	The minimum distance (curb return to curb return) between ramp intersections and local road intersections shall be 400 feet.	HQ	HQ Approval

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
504.4(4)(a)	Freeway-to-Freeway Connections-Three-lane Connections	The width of shoulders on single-lane and two-lane (except as described below) freeway-to-freeway connectors shall be 5 feet on the left and 10 feet on the right. A single lane freeway-to-freeway connector that has been widened to two lanes solely to provide passing opportunities and not due to capacity requirements shall have a 5-foot left shoulder and at least a 5-foot right shoulder.	HQ	HQ Approval
504.4(4)(b)	(b) Three-lane Connections	The width of shoulders on three-lane connectors shall be 10 feet on both the left and right sides.	HQ	HQ Approval
504.7	Weaving Sections	The minimum weaving length, measured as shown on Figures 504.2A and 504.2B shall be 2,000 feet in urban areas, 5,000 feet in rural areas, and 5,000 feet between freeway-to-freeway interchanges and other interchanges.	HQ	HQ Approval
504.8	Access Control	Access rights shall be acquired along interchange ramps to their junction with the nearest public road.	HQ	HQ Approval
504.8	Access Control	Access control shall extend at least 50 feet beyond the end of the curb return, ramp radius, or taper.	HQ	HQ Approval
504.8	Access Control	For new construction or major reconstruction, access rights shall be acquired on the opposite side of the local road from ramp terminals to preclude the construction of future driveways or local roads within the ramp intersection.	HQ	HQ Approval
612.2	New Construction and Reconstruction	The minimum pavement design life for new construction and reconstruction projects shall be no less than the values in Table 612.2 or the project design period (see Index 103.2), whichever is greater.		Defer to Maintenance

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
612.3	Widening	The pavement design life for widening projects shall either match the remaining pavement service life of the adjacent roadway (but not less than the project design period as defined in Index 103.2), or the pavement design life values in Table 612.2 depending on which has the lowest life-cycle costs.		Defer to Maintenance
612.5	Roadway Rehabilitation	The minimum pavement design life for roadway rehabilitation projects shall be 20 years except for roadways with existing rigid pavements or with a current Annual Average Daily Traffic (AADT) of at least 150,000, where the minimum pavement design life shall be 20 or 40 years depending on which design life has the lowest life-cycle costs.		Defer to Maintenance
613.5(2)(a)	Specific Traffic Loading Considerations-Shoulders-New	At a minimum, new or reconstructed shoulders shall be engineered using the same TI as the adjacent traffic lane when any of the following conditions apply: • The shoulder width is 5 feet or less. • Where there are sustained (greater than 1 mile in length) grades of over 4 percent without a truck climbing lane. • The shoulders are adjacent to exclusive truck or bus only lanes, or weigh station ramps.		Defer to Maintenance
613.5(2)(a)	Specific Traffic Loading Considerations-Shoulders-New	For all other cases, the minimum TI for the shoulder shall match the TI of the adjacent traffic lane for the first 2 feet of the shoulder width measured from the edge of traveled way. For the remaining width of the shoulder, the TI shall be no less than 2 percent of the projected ESALs of the adjacent traffic lane or a TI of 5, whichever is greater.		Defer to Maintenance
622.4	Dowel Bars and Tie Bars	New or reconstructed rigid pavements and lane replacements shall be doweled except as noted below:		Defer to Maintenance

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
622.8	Transitions and Anchors	For CRCP, a terminal anchor or terminal joint shall be used at all transitions to or from structure approach slabs, JPCP, PPCP, or flexible pavement.		Defer to Maintenance
625.1(2)	Rigid Pavement Rehabilitation Strategies-Overlay Limits	On overlay projects, the entire traveled way and paved shoulder shall be overlaid.		Defer to Maintenance
626.2(4)(a)	Shoulder-Selection Criteria	Tied rigid shoulders shall be used for: • Rigid pavements constructed in the High Mountain and High Desert climate regions (see climate map in Topic 615). • Paved buffers between rigid High-Occupancy Vehicle (HOV) lanes and rigid mixed flow lanes. Same for High-Occupancy Toll (HOT) lanes. • Rigid ramps to and from truck inspection stations.		Defer to Maintenance
626.2(4)(b)	Shoulder-Selection Criteria	Either tied rigid shoulders or widened slabs shall be used for: • Continuously reinforced concrete pavement. • Horizontal radii 300 feet or less. • Truck and bus only lanes.		Defer to Maintenance
626.2(4)(b)	Shoulder-Selection Criteria	Where tied rigid shoulders or widened slabs are used, they shall continue through ramp and gore areas (see Figure 626.2B).		Defer to Maintenance
633.1(2)	Empirical Method-Procedures for Full Depth Hot Mix Asphalt	The following enhancements shall be incorporated into all flexible pavements with a design life greater than twenty years:		Defer to Maintenance
635.1(1)	Empirical Method-General	On overlay projects, the entire traveled way and paved shoulder shall be overlaid.		Defer to Maintenance
645.1	Empirical Method	On overlay projects, the entire traveled way and paved shoulder shall be overlaid.		Defer to Maintenance
701.2(1)	Fences on Freeways and Expressways-Policy	Fences shall be provided on freeways and expressways to control access (except as otherwise provided under paragraph (3)(e)).	HQ	HQ Approval
902.3(4)	Planting Guidelines- Trees Planted on Conventional Highways	Trees in the median shall be at least 100 feet from the longitudinal end of the median.	HQ	HQ Approval

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
902.3(4)(c)	Planting Guidelines- Trees Planted on Conventional Highways	The planting of large trees shall be permitted in medians with posted speeds of 35 miles per hour or less, only if the following conditions are met:	HQ	HQ Approval
902.3(4)(d)	Planting Guidelines- Trees Planted on Conventional Highways	The planting of large trees shall be permitted in medians, with posted speeds of less than 45 miles per hour, only if the following conditions are met:	HQ	HQ Approval
902.3(4)(e)	Planting Guidelines- Trees Planted on Conventional Highways	The planting of large trees shall not be permitted in medians, with posted speeds of greater than or equal to 45 miles per hour.	HQ	HQ Approval
903.5(1)	Site Planning-Ingress and Egress	Rest areas designed for freeways shall have standard freeway exit and entrance ramps, in accordance with Chapter 500.	HQ	HQ Approval
904.3(1)	Design Features and Facilities-Road Connections	Vista points designed for freeways shall have standard freeway exit and entrance ramps	HQ	HQ Approval
1003.1(1)	Class I Bikeways (Bike Paths)-Widths and Cross Slopes	The minimum paved width of travel way for a two-way bike path shall be 8 feet, 10-foot preferred. The minimum paved width for a one-way bike path shall be 5 feet.	delegate	District Approval
1003.1(1)	Class I Bikeways (Bike Paths)-Widths and Cross Slopes	A minimum 2-foot wide shoulder, composed of the same pavement material as the path or all weather surface, free of vegetation, shall be provided adjacent to the traveled way of the path when not on a structure.	delegate	District Approval
1003.1(2)	Class I Bikeways (Bike Paths)-Clearance to Obstructions	A minimum 2-foot horizontal clearance from the paved edge of a bike path to obstructions shall be provided.	delegate	District Approval
1003.1(2)	Class I Bikeways (Bike Paths)-Clearance to Obstructions	The clear width of a bicycle path on structures between railings shall be not less than 10 feet.	delegate	District Approval
1003.1(2)	Class I Bikeways (Bike Paths)-Clearance to Obstructions	The vertical clearance to obstructions across the width of a bike path shall be a minimum of 8 feet and 7 feet over shoulder.	delegate	District Approval

Section		Mandatory Standard	VA Team Recommend.	June 7, 2013 Delegations
1003.(6)	Class I Bikeways (Bike Paths)-Bike Paths Parallel and Adjacent to Streets and Highways	The minimum separation between the edge of pavement of a one-way or a two-way bicycle path and the edge of travel way of a parallel road or street shall be 5 feet plus the standard shoulder width. Bike paths within the clear recovery zone of freeways shall include a physical barrier separation.	delegate	District Approval
1003.(7)	Class I Bikeways (Bike Paths)-Bike Paths in the Median of Highway or Roadway	Bike paths shall not be placed in the medians of State highways or roadways, especially freeways or expressways.	delegate	District Approval
1003.(8)	Class I Bikeways (Bike Paths)-Bicycle Path Design Speed	The design speed given in Table 1003.1 shall be the minimum.	delegate	District Approval
1003.(10)	Class I Bikeways (Bike Paths)-Stopping Sight Distance	The minimum stopping sight distance based on design speed shall be 125 feet for 20 miles per hour, 175 feet for 25 miles per hour and 230 feet for 30 miles per hour.	delegate	District Approval
1003.(16)	Class I Bikeways (Bike Paths)-Entry Control for Bicycle Paths	Fold-down obstacle posts or bollards shall not be used within the paved area of bicycle paths.	delegate	District Approval
1102.2(1)	Noise Barrier Location-Lateral Clearances	Minimum lateral clearance to noise barriers shall be as provided in Topic 309.1, Horizontal Clearances, of this manual, but shall not be less than 10 feet.	HQ	HQ Approval
1102.2(1)	Noise Barrier Location-Lateral Clearances	When lateral clearance is 15 feet or less, the noise barrier shall be placed on a safety shape concrete barrier.	HQ	HQ Approval

Highway Design Manual - HQ Design Approvals				
Section		**Approval**	**VA Team Recommend.**	**June 7, 2013 Delegations**
108.3(2)	Commuter and Light Rail Facilities Within State Right of Way	Rail Crossings. All rail crossings are to be concurred with by the Design Coordinator prior to the approval of the PID.	delegate	District Approval
108.3(3)	Commuter and Light Rail Facilities Within State Right of Way	Parallel Rail Facilities. All parallel rail facilities are to be concurred with by the Design Coordinator prior to the approval of the PID.	delegate	District Approval
116.1	Topic 116 - Bicyclists and Pedestrians on Freeways - General	The Headquarters Traffic Liaison and the Design Coordinator must approve any proposals to open freeways to bicyclists, pedestrian or other non-motorized use. See the California MUTCD and CVC Section 21960.	delegate	HQ Approval (to be considered for future approval jointly with Traffic Operations)
701.2(5)(b)	Fences on Freeways and Expressways-Locked Gates	Proposals for locked gates to be used by other public agencies or utility companies must be submitted to the Chief, Division of Design for approval.	delegate	District Approval*

* FHWA approvals not currently delegated to Caltrans cannot be delegated to the District. Approval of locked gates for use by other public agencies or private entities remains with FHWA.

Project Development Procedures Manual - HQ Design Approvals				
Section		**Approval**	**VA Team Recommend.**	**June 7, 2013 Delegations**
Chapter 17, Article 4 (also see HDM 701.2(5)(b))	Encroachments in Caltrans' Right of Way-Locked Access Gates	This article covers Caltrans' procedures regarding use of locked gates to provide non-Caltrans personnel with access to freeway and expressway rights of way. Such locked gates require the approval of the DOD Chief.	delegate	District Approval*
Chapter 8, Section 7 , Article 5	Overview of Project Development-Policies and Procedures that Span the Project Development Process-Mobility Considerations-Park and Ride Facilities	Park and ride facilities are not permitted within interchange areas except with the review and approval from the design coordinator and the traffic liaison engineer.	delegate	HQ Approval (to be considered for future approval jointly with Traffic Operations)
Chapter 14, Section 4, Article 4	Preparation of Project Plans-PS&E Submittal-Preparation of Contract Documents-Exception to Delivery of Cross-Sections at RTL	Exceptions to the policy that cross-sections shall be completed by RTL can only be granted by the Division Chief of the Division of Design.	delegate	District Approval
Chapter 29, Section 8	Community Identification-Administrative Responsibilities & Procedures for Processing Community Identification Proposals by Local Agencies	The Principal Landscape Architect, LAP, is responsible for: Approving any exceptions to community identification policy. Exceptions to this policy must be submitted to and approved by the Principal Landscape Architect, LAP.	delegate	District Approval

* FHWA approvals not currently delegated to Caltrans cannot be delegated to the District. Approval of locked gates for use by other public agencies or private entities remains with FHWA.

Design Information Bulletins and Memos- HQ Design Approvals Proposed for Delegation				
Date	**Title**	**Approval**	**VA Team Recommend.**	**June 7, 2013 Delegations**
9/30/1998	New Design for Safety Practice: Roadside Paving	Exceptions to the above must be documented after consultation with the District Maintenance Division Chief and concurrence from the Project Development Coordinator.	delegate	District Approval

Division of Design Policy Updates
Attachment 2

Roles and Responsibilities of Design Coordinators and Design Reviewers

1. The Design Coordinator will be the district's single contact for submittal, review, comments or approvals of Mandatory Fact Sheets, PIDs, Project Reports etc. These submittals will be through the District's Design Office Chief. Design Reviewers may be requested to assist in the review by the Design Coordinator. To avoid conflicting review comments all comments will be made by the Design Coordinator back to the District.

2. Neither the Design Coordinator nor the Design Reviewer will be required to review or concur on Advisory Fact Sheets. Design Reviewers and Design Coordinators are available to provide training and consultation on justification of exceptions to design standards and other design related topics as requested by the districts.

3. Design Reviewers will continue to be available to Districts to assist in difficult design geometrics and training. Design Coordinator's and Design Reviewer's duties will be expanded to include leading process reviews of design processes and products.

Division of Design Policy Updates
Attachment 3

Division of Design Mandatory Design Exception Dispute Resolution Process

1. Pre-elevation: Every effort should be made to resolve disputes between the district and the Division of Design at the lowest possible level.
    a. District Design Office Chief discusses issue with the Coordinator.
    b. District/Region Design manager discusses with District Design Office Chief, staff and PE to determine facts.
    c. District/Region Design manager discusses with the Coordinator.
    d. Coordinator and District/Region Design manager may discuss with other District or Headquarters Design staff.
    e. District/Regional Design manager and the Coordinator discusses with District Director and other District managers.

2. Formal elevation: If there is agreement at the district level and all attempts between the District and the Design Coordinator fail to result in concurrence from the Design Coordinator;
    a. District Director prepares a written justification, to Design Division Chief that includes the signature of the District/Region Design manager.
    b. Headquarters Design Division Chief will:
        i. Attempt to resolve issue at the Division level. If no resolution;
        ii. Appoint a three member team of subject matter experts to review and make a recommendation to Design Division Chief.
        iii. Consider the recommendations of the team and prepare a decision to either support or deny the District Director's request for an exception to the policy or design standard.
        iv. If the Design Division Chief supports the District Director's request, he/she will sign as the approval authority.
    c. District Director can appeal to Chief Engineer with no further appeals.