

MEMORANDUM OF UNDERSTANDING
BETWEEN STATE WATER RESOURCES CONTROL BOARD AND
CALIFORNIA DEPARTMENT OF TRANSPORTATION

This Memorandum of Understanding (MOU) is entered into by the State Water Resources Control Board and the California Department of Transportation (Caltrans), collectively referred to herein as the Parties or individually as Party. Additionally, for purposes of this MOU, “State Water Board” refers to the State Water Resources Control Board; “Regional Water Boards” refers to the Regional Water Quality Control Boards; and “Water Boards” refers to the State Water Board and Regional Water Boards collectively.

I. INTRODUCTION

A. Background

Caltrans is the lead state agency under the California Environmental Quality Act for its projects, many of which require approvals by the Water Boards due to potential impacts to waters of the state. Caltrans and the State Water Board mutually desire to develop more efficient processes for evaluating Caltrans proposed projects and preparing Orders for discharges of dredged or fill material to waters of the state, including waters of the U.S. This MOU is intended to clarify and set out alternate procedures and requirements regarding the submission and review of Caltrans’ applications in accordance with the State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State (Procedures), adopted on April 2, 2019. The effective date of the Procedures is May 28, 2020. This MOU is consistent with footnote 9 of the Procedures. Except as provided herein, the Procedures apply to Caltrans projects submitted on or after May 28, 2020.

This MOU supplements an anticipated Interagency Agreement (IA) between Caltrans and the State Water Board. The purpose of the IA is to provide expedited review of transportation projects, environmental technical assistance, project consultations, and coordination services and allows reimbursement to the State Water Board for work by the State Water Board, the Regional Board, or the Water Boards to review applications for discharges of dredged or fill material to waters of the state and the issuance of any

subsequent Orders. The reimbursement is necessary to augment the staffing of the Water Boards; it is in addition to Caltrans' payment of fees pursuant to California Code of Regulations, title 23, section 2200. If the IA is not timely executed by both Parties, this MOU will be reevaluated and revised to be consistent with the Water Boards' current staffing resources.

B. Scope

This MOU is limited to waste discharge requirements and Clean Water Act 401 water quality certifications (Orders) issued by the Water Boards for Caltrans' proposed discharges of dredged or fill material to waters of the state. No other orders or authorizations issued by the Water Boards are addressed in this MOU. Caltrans understands that it shall enroll in, or apply for, any other necessary authorizations, including National Pollutant Discharge Elimination System permits, as required under state and federal law.

This MOU does not alter Caltrans' or the Water Boards' obligations under the Porter-Cologne Water Quality Control Act, the federal Clean Water Act, the California Environmental Quality Act (CEQA), or any other law. Notwithstanding any other provision in this MOU, the Water Boards will exercise their independent judgment in determining whether and how to approve discharges to all waters of the state, including both waters of the United States and non-federal waters of the state.

This MOU is not legally binding on either Party and does not limit either Caltrans' discretion with respect to management of the transportation system or the Water Boards' discretion with respect to their regulatory authority, nor does it imply that the management or governing bodies of either of the Parties will act in a particular manner other than the processes specifically described herein. Nothing in this MOU creates any legal rights, obligations, benefits, or responsibilities, substantive or procedural, enforceable at law or in equity, by any Party or non-Party.

This MOU will become effective upon signature of both Parties. This MOU shall remain in effect unless terminated in writing by either Party. This MOU may be amended at any time upon written agreement by the Parties.

C. Staffing Needs

All deliverables and timelines detailed below are contingent upon the successful hiring of sufficient Water Board staff, which will take at minimum one (1) to four (4) months from execution of the IA.

D. Fees

Caltrans is responsible for submitting all fees as required by Water Board regulations. The Parties agree that the personnel services provided by the IA and acting under this MOU are in addition to regular fees, and that these services are provided in order to expedite the baseline process supported by the regulatory fees.

II. DISPUTE RESOLUTION

The dispute resolution process is intended to resolve issues quickly and to maintain constructive working relationships. Nothing in this section precludes any other approaches to dispute resolution. All methods of dispute resolution, including elevation, are available at any point during the submission or review of Caltrans applications on a voluntary basis. Projects requiring action that are nearing timeframe deadlines mandated by statute will be elevated to the next level of management of both Parties to determine appropriate steps for meeting those deadlines and the construction schedule. Resolution should be sought at the lowest level but elevated as necessary. The intent is for dispute resolution to be handled at the Caltrans district level with the permitting Water Board.

Where disputes regarding the implementation of this MOU cannot be amicably resolved by the permitting Water Board and Caltrans staff, this MOU affords the following methods for dispute resolution.

A. Informal Notice

At any time during the collaboration, the Parties should verbally communicate pending problems or potential issues as early as possible. If an elevation appears likely, the Parties should begin framing an elevation briefing paper and scheduling an elevation meeting.

B. Representatives for Elevation

When the permitting Water Board or Caltrans initiates an elevation, the Parties should provide the name(s) and contact information of the executive and legal representatives who have been identified to represent the respective agencies.

C. Briefing Paper

A cooperatively prepared briefing paper is a key component of the elevation. The Party that initiated elevation will send the briefing paper to the representatives identified in Section II.F along with a draft agenda at least ten (10) calendar days prior to the elevation. The briefing paper should clearly communicate the issue at hand from both Parties' point of view, present possible alternatives, and discuss any advantages or disadvantages to those alternatives.

D. Elevation Process

Convening an elevation requires the permitting Water Board and Caltrans to:

1. Notify and schedule the representatives who will resolve the dispute and the staff who will brief them;
2. Coordinate, develop, and distribute an elevation briefing paper; and
3. Arrange for and identify funding for a neutral facilitator, if necessary.

The elevation process may be initiated by the Water Boards or Caltrans and is not a substitute for attempted resolution of issues by staff at the working level. However, if staff cannot resolve conflicts, disputes should be elevated through appropriate levels of management at both Parties. If an elevation is initiated, but resolution is reached prior to the elevation meeting, the permitting Water Board or Caltrans will send notification to the other Party that the issue is resolved, and the elevation meeting will not be required. The formal elevation process, including mid-level and senior-level elevation, should occur within sixty (60) calendar days of receipt of written notification to initiate elevation. Resolutions elevated to senior management or higher should be documented via written communication (i.e., email or report, if warranted) and available for future reference.

III. APPLICATION SUBMITTAL AND REVIEW UNDER THE PROCEDURES

Caltrans and the Water Boards will identify opportunities for development of streamlined or tailored processes related to Orders regarding the discharge of dredged or fill

material to improve predictability, efficiency, and consistency of the permitting process. Specifically both Parties will work to develop tools and improve processes that enable Caltrans to reduce project delivery time, better communicate workload priorities, address and protect environmental resources early in the development of transportation actions, avoid conflicts during project development, provide sufficient information to the Water Boards for timely analysis of project effects, improve development of appropriate mitigation and minimization measures and save staff time and resources for both Parties through improved and more predictable agency coordination.

A. Alternatives Analysis

Under the Procedures, unless an exemption applies, an applicant is required to submit an alternatives analysis to determine whether the proposed project is the Least Environmentally Damaging Practical Alternative (LEDPA) for individual Orders. To facilitate efficient application submittal and review, this MOU addresses the process by which Caltrans may satisfy the alternatives analysis requirement. Specifically, this MOU addresses: (1) the alternatives analysis process for Caltrans projects that have a final CEQA environmental document prior to the effective date of the Procedures (May 28, 2020); (2) Caltrans projects that inherently cannot be located in an alternate location and therefore need to complete a Tier 2 alternatives analysis, unless project qualifies for a Tier 1 analysis or is exempt; and (3) general coordination regarding the alternatives analysis.

Final CEQA Environmental Document Prior to the Effective Date of the Procedures

Where Caltrans is the applicant for projects that have achieved the Project Approval and Environmental Document (PA&ED) milestone prior to the May 28, 2020 effective date of the Procedures and have submitted an application for an Order regarding the discharge of dredged or fill material prior to January 1, 2022, the Procedures' alternative analysis sections IV.A.1.g and IV.A.1.h do not apply. Any consideration of alternatives shall be at the discretion of the permitting Water Board consistent with existing practices in place prior to May 28, 2020. The permitting Water Board remains responsible for determining that Caltrans has demonstrated that it has taken appropriate actions to avoid and minimize impacts to waters of the state, consistent with Procedures section IV.B.1.a.

Caltrans Projects that Inherently Cannot Be Located in an Alternate Location

The Procedures establish the level of effort required for an alternatives analysis in three tiers based on the amount of impacts (both permanent and temporary) to waters of the state and the kind of water that is impacted. Any project that inherently cannot be located at an alternate location shall be considered a Tier 2 project (unless impacts qualify the project for a Tier 1 analysis or exemption). Tier 2 projects shall include an analysis of only on-site alternatives. For routine operation and maintenance of existing facilities, analysis of on-site alternatives is limited to operation and maintenance alternatives for the facility.

Projects involving existing highways and roads may be considered limited by location and qualify as a Tier 2 project. Except as described below, a list of Caltrans project types that qualify for Tier 2 analysis based on location limitations is provided in Attachment 1. If a project type is not on the Attachment 1 list but meets the criteria for Tier 2, only an analysis of on-site alternatives would be necessary. Notwithstanding the list of project types in Attachment 1, the State Water Board Executive Director or Chief Deputy Director or Regional Board's Executive Officer or Assistant Executive Officer may determine a project is not inherently limited by location on a case-by-case basis after notifying Caltrans in writing that the project has unique characteristics that warrant additional consideration.

B. General Coordination During Application Processing

Meetings, Conference Calls, Field Reviews

The Water Boards will participate as necessary, or when requested by Caltrans, in application-related coordination meetings, conference calls, field reviews, and site visits. Caltrans will participate as necessary, or when requested by the Water Boards, in application-related meetings, conference calls, field reviews, and site visit. Where practicable, the Party requesting the meeting will coordinate the meeting.

Early Coordination

The Water Boards will be notified of and participate, as appropriate, in Caltrans' scoping, planning and project development meetings and field reviews to provide technical assistance, facilitate application review, identify appropriate Order conditions and ascertain critical issues, key decision points, and potential conflicts as early as possible. Participation includes sharing the most current applicable information to ensure that good transportation decisions result. The level of participation will be

determined by the project's relative priority, as identified by Caltrans, and the Water Boards' current and projected workload of Caltrans priority projects and activities. Caltrans will provide written notice to Water Board Liaisons in advance of required meetings and field reviews, giving as much notice as possible; a minimum of thirty (30) days is preferred. The Water Boards may similarly initiate Caltrans coordination and consultation.

Data Sharing

The Water Boards and Caltrans will share, as appropriate, the most current regulatory and resources information, including Geo Spatial Information (GIS) mapping and data layers, with each other to assist with application review.

Inter-Agency Coordination

The Water Boards will coordinate with staff of other Federal, State, and local agencies, as appropriate, in reviewing Caltrans' environmental documents and federal and state authorizations issued for current or future actions. Caltrans will use its best efforts to facilitate coordination between the Corps, United States Environmental Protection Agency, United States Fish and Wildlife Service, the California Department of Fish and Wildlife, the California Coastal Commission, and the applicable Water Boards based on the jurisdiction and responsibilities of those respective agencies.

IV. SIGNATURES

EILEEN SOBECK, Executive Director
STATE WATER RESOURCES CONTROL BOARD

Date

TOKS OMISHAKIN, Director
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Date

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ATTACHMENT 1 – PROPOSED TIER TWO PROJECT TYPES

Table 1 provides a list of Caltrans project types that, except as specified in SECTION, inherently cannot be located at an alternate location. This list hereafter shall be referred to as "Limited by Location."

TABLE 1 – Project Types Limited by Location

PROJECT CLASS	PROJECT TYPE	DEFINITION
Bridge Work		
	Bridge Deck Replacement	Deconstruct old bridge deck and replace with a new deck system. A bridge deck is the roadway portion of a bridge. Bridge decks are typically concrete and may be cast in place. Work may also include work to bridge deck drain features, if present.
	Bridge Deck and Joint Seal Maintenance	On top of bridge deck (roadway) remove old concrete sealant such as mathacrylate (if present) and joint seals, prep surface, place new joint seal material and new deck sealant. Work may include sandblasting roadway to prep surface for concrete sealant.
	Bridge Scour Mitigation	Repair scour damage. Scour is caused by river flow forces eroding material away from bridge abutments and piers. Work may include repair/replacement to components of a bridge's substructure and/or

PROJECT CLASS	PROJECT TYPE	DEFINITION
		replacement of rock slope protection (RSP). The main components of the substructure are abutments, end-bents, piers or interior bents, footings, and piling.
	Paint Bridge	Prep or remove old paint on steel bridge and cover bridge with new paint. Work may include temporary structures attached to bridge to access underside of bridge and protect water source from hazardous material. All or portions of bridge may be wrapped if there is a need for further containment of materials.
	Replace Bridge (capacity increasing)	Remove existing deficient or obsolescent bridge and replace with a new wider bridge with added lanes typically on existing alignment but occasionally directly adjacent if construction method, hydrologic issues, fish passage or other road improvements are a factor.
	Replace Bridge (safety, etc.)	Remove existing deficient or obsolescent bridge and replace with a new bridge typically on existing alignment but occasionally directly adjacent if construction method, hydrologic issues, fish passage or other road improvements are a factor. If existing bridge lane and shoulder width do not meet current FHWA standards, the new bridge may be greater in width to bring the bridge up to current standards.
	Replace Bridge Rails	Remove old bridge rails, a type of guardrail, and replace with new rails that meet current state and federal roadside safety hardware device standards
	Seismic Retrofit (Bridge or Overcrossing)	Bring the safety-standards of an existing bridge up to regulation for seismic events which may include fixing old concrete columns,

PROJECT CLASS	PROJECT TYPE	DEFINITION
		expanding footings, extending driven pile for bridge piers and abutments, and strengthening joints with cable supports and hinge extensions.
	Upgrade Bridge Rails	Make improvements to existing bridge rails to improve facility operation and safety and to meet current state and federal standards.
	Widen Bridge (Capacity Increasing)	On existing alignment widen bridge to add additional lane(s) and accommodate multi-modal traffic (bike, pedestrian, etc.), upgrade to current ADA standards, or provide emergency vehicle pull-over area.
	Widen Bridge (shoulders)	On existing alignment widen bridge to accommodate multi-modal traffic (bike, pedestrian, etc.), upgrade to current ADA standards, or provide emergency vehicle pull-over area
	Wildlife Crossing	Provide an over-or under- crossing that allows for the passage of wildlife. May be species-specific or designed for multiple species use. May be free-span or culvert. Includes fencing, jumpouts and signage.
Road and Surface Work		
	Capital Preventative Maintenance Project (CAP-M)	Preventative road maintenance paving projects to extend the service life of minor-stressed pavement. May include low cost safety/maintenance upgrades such as guardrails, worker safety, sign panels, striping, ADA curb ramp work, and other items which do not require widening or realigning the roadway. Does not include major facility upgrades.

PROJECT CLASS	PROJECT TYPE	DEFINITION
	Gore Paving	A highway gore refers to the triangular piece of land between the main roadway and a ramp. This area may require cement work, paving and line painting maintenance
	Rehabilitate Pavement	Remove and replace damaged pavement.
	Rehabilitate Roadway	Return roadways that exhibit major structural distress to good condition. Work may include addressing pedestrian and bicycle facilities, drainage facilities, lighting, signal controllers, and failing fencing. Critical geometric enhancements and operational improvements may be added to roadway rehabilitation work if such is critical or required by FHWA.
	Road Widening (capacity-increasing)	Adding road lanes to improve level of service and/or increase facility capacity
	Roadway Reconstruction	Replace the entire pavement structure by an equivalent or increased new pavement structure and rebuilding adjacent operational and roadside features. This project occurs when the roadway has become functionally and structurally obsolete. Work does not include substantive changes to the vertical or horizontal highway alignment, adjacent operational or roadside features and it does not include the addition of new lanes.

PROJECT CLASS	PROJECT TYPE	DEFINITION
	Rumble Strips	A rumble strip is placed along a center line or edge line of a road to alert drivers when they drift from their lane. Rumble strips are typically rolled in or milled into existing asphalt pavement or pressed into fresh concrete.
Road Shoulder, Stabilization and Multimodal Work		
	Americas with Disabilities Act (ADA) Infrastructure Compliance Upgrades	Install or modify ADA compliant pedestrian infrastructure elements to support all modes of pedestrian use.
	Add Snow Chain Installation/Removal Area	Install roadside pull-out area for installing or removing vehicle snow-chains during winter events. Includes shoulder work, paving and potentially installing lighting
	Add IT sign	Install electronic messaging signs
	Bike Lane (on-system)	Paved bike path on shoulder of roadway with signs and striping
	Construct Seawall	Sea walls are constructed to protect Caltrans facilities where the sea and associated coastal processes are directly affecting that facility. Most often sea walls are constructed with reinforced concrete, RSP, steel or

PROJECT CLASS	PROJECT TYPE	DEFINITION
		gabions. Sea walls retain soil on the back side and water on the front side.
	Improve Clear Recovery Zone	A clear recovery zone is an unobstructed, traversable roadside area that allows a driver to safely stop or regain control of a vehicle after it has left the roadway. Clear recovery zones are meant to increase the likelihood that a roadway departure results in a vehicle safe recovery rather than a crash and to mitigate the severity of a crash if it does occur. The clear recovery zone width is based on speed, traffic volume, roadside slope and curvature. Examples of clear recovery zone hazards are trees; hazardous drainage facilities elements such as headwalls and deep ditches; and telephone poles. Improving a clear recovery zone typically includes removing trees. Any stormwater or drainage facility work would include reducing clear-recovery hazards. Relocating utility poles typically only occur as a function of some other type of road widening project such as a safety project or the addition of an on-system bike lane, though treating specific utility poles in high-crash or high-risk spot locations would be prioritized.
	Improve or Install Turnouts	A turnout is additional pavement beyond the travel way used for slower-moving traffic to allow following traffic to pass. Typically used on low-volume, rural roadways where farm equipment and other slow-moving vehicles are common. Turnouts may require road widening or improvement of existing road shoulder, paving, striping and sign installation. Sight distance is a factor in the placement of turnouts.

PROJECT CLASS	PROJECT TYPE	DEFINITION
	Improve Sight Distance	Sight distance is defined as the distance needed for drivers to see an object on the roadway ahead and bring their vehicles to a safe stop before colliding with the object or to have enough decision time to safely maintain control of vehicle such as when passing on a two-lane road or arriving at an intersection. Improving sight distances includes both horizontal and vertical alignments. For vertical sight distance this includes improving sight distance at crest vertical curves, sag vertical curves and undercrossings. For vertical curves, this include removing or altering alignment so that physical obstructions such as, backslopes, vegetation, curves, overpass piers, walls are minimized.
	Install Guardrail	Install protective guardrail to deflect vehicles from leaving roadway. Guard rails consist of metal or wood post with a metal beam (MBG) and may be paved for stability or vegetation control purposes.
	Install or Replace Impact Attenuator / Crash Cushions	Impact attenuators are devices intended to reduce damage to structures, vehicles and motorists resulting from a motor vehicle collision and are usually part of a roadside safety system. They are usually placed in front of fixed structures near highways such as gore points, crash barrier introductions (guard rail) or overpass supports. They are designed to absorb the colliding vehicles' kinetic energy and may also be designed to deflect vehicles away from a hazard area.
	Pedestrian Lane (on-system)	Complete streets and other multi-modal programs design or upgrade facilities to provide safe mobility for all users including bicyclists and

PROJECT CLASS	PROJECT TYPE	DEFINITION
		pedestrians. Transportation systems may be upgraded with sidewalks or with adjacent paths protected by a barrier system.
	Permanent Median Barrier	Permanent median barrier systems are constructed to deflect vehicles from crossing into the opposing lane of traffic. Median barriers are typically solid (cement) or of a cable-type construction. A median barrier system may include wildlife crossing features and methods such as periodic openings or gates to allow temporary traffic rerouting and law enforcement, maintenance or emergency vehicles crossings.
	Remove Dead Trees	Fall and remove damaged or dead trees within Caltrans right of way to reduce road falling hazards and fire fuel hazards.
	Retaining Wall	Relatively rigid walls or reinforced soils slopes designed to restrain soil to a slope that it would naturally not keep to (typically a steep, near vertical or vertical slope.) A retaining wall generally include an anchoring system.
	Rockfall Drapery System	Metal mesh and cable-net system designed to prevent upslope falling rocks from entering traveled way. A drapery system may be anchored and may include other elements such as catchment areas.
	Shoreline Embankment Restoration	Restoration work on roads near coasts that are subject to storm tides and wave erosion. Restoration may include damage from coastal erosion, road over-wash during storms and coastal bridge issues including wave-loads on bridge decks.
	Shoulder Widening	Shoulders provide space for such actions as emergency storage of disabled vehicles, maintenance activities, highway enforcement activity,

PROJECT CLASS	PROJECT TYPE	DEFINITION
		crash avoidance, safe-recovery for vehicles, improving stopping-site distance on horizontal curves, and storm-water conveyance. When areas have safety and/or operational deficiencies they may be widened to meet current federal and state standards.
	Sidewalk/curb installation	The placement along a road shoulder of sidewalk, curb and gutter. All pedestrian facilities must meet current ADA standards. Work may include utility relocation and work to private and commercial residence entryways.
	Slope Stabilization (RSP, etc.)	Stabilizing cut slopes to prevent erosion and failure. May include physical elements such as RSP, soil-filled RSP and temporary and permanent seeding and plantings or the installation of a drainage gallery.
	Soil Stabilization	Treating exposed erodible soils with both temporary and permanent vegetation and treatments to prevent instability and erosion.
	Stabilize Cut Slope	Exposed cut slopes above and below highway grade receive both temporary and permanent treatments to prevent slope erosion or failure. Permanent structures may include terracing and other stabilizing features.
	TMS	TMS are the business process and associated tools, field elements and communication system used to manage traffic such as traffic signals at intersections, ramp meters to control traffic flow on freeways, detector technology to monitor traffic speed and volume, changeable message signs, extinguishable message signs.

PROJECT CLASS	PROJECT TYPE	DEFINITION
	Upgrade Guardrail	Replace existing obsolete, damaged, or dysfunctional guardrail with new guardrail. May include upgrades to posts.
	Upgrade Lighting	Installing signals and lights to improve safety and meet current design standards. May include trenching.
	Utility Relocation/Installation	The relocation of overhead or underground utilities. Utility relocation may be initiated by a utility company working in Caltrans right of way which would require an encroachment permit and the utility company would be responsible for all environmental permits or as a direct result of Caltrans maintenance or construction work.
	Vegetation Control	Placement of minor concrete (i.e. under guardrail), native vegetation (transition and rural areas), patterned concrete pavement, and stamped asphalt concrete (Urban/Suburban)
Culvert & Stormwater Drainage Systems		
	Culvert Extension	Extending inlet/outlet of culverts to meet current highway standards or as a result of projects involving road widening or realignment.
	Culvert Lining	Functionally deficient culverts are repaired through the insertion of various types of culvert lining which may include a curing process.
	Culvert Rehabilitation	Fixing a culvert in-situ through various methods in order to extend the life of the existing culvert or repair storm damage.

PROJECT CLASS	PROJECT TYPE	DEFINITION
	Culvert Replacement	Removing an existing culvert system and replacing it with another culvert of similar or larger diameter. Note a culvert system includes inlet and outlet treatments. Rock slope protection (RSP) may either be added or replenished at inlet and outlets. Culvert replacement in fish-bearing streams must consider fish passage standards. Two typical culvert replacement types are cut and cover or jack and bore. Cut and cover culvert replacement involves cutting a trench where the existing culvert is located, removing the existing culvert system, installing a new culvert system and restoring roadway to operational conditions. Jack and bore involves setting up jack and bore equipment at the inlet or outlet of a culvert that pushes out an old culvert and pushes in a new culvert. Work may include site preparation at the inlet or outlet to accommodate jack and bore equipment.
	Culvert Upsize	For hydrologic, maintenance, and environmental reasons (i.e. to improve wildlife crossing or fish passage), an obsolete or deficient culvert may be removed and replaced with a larger culvert or different style of culvert that meets the purpose and need of a given project.
	Drainage Gallery	Pipes installed into hillside that intercept and drain seepage in order to stabilize slopes.
	Restore Fish Passage	Historic fish passage barriers, typically problematic culverts, are removed and replaced with a structure that facilitates fish movement. Structures are vetted through a Fish Passage Advisory Committees

PROJECT CLASS	PROJECT TYPE	DEFINITION
		(FishPAC) and include additional hydrologic design work when necessary.
	Install Energy Dissipators	Energy dissipaters are devices designed to protect downstream areas from erosion by reducing the velocity of flow to acceptable limits.
	Upgrade Drainage System	Poor functioning or obsolete stormwater control-drainage systems may be updated including such features as storm drains, detention basins, rock-lined ditches, new culverts, and culvert inlet/outlet structures. These may be stand-alone projects or part of a road rehabilitation project.
	Upgrade Pumps/Control Systems	Improve existing highway stormwater pump control systems. Stormwater pumping stations are necessary for the removal of stormwater from sections of highway where gravity drainage is impossible or impractical. Work may include upgrade or improvements to conveyance ditches, gutters, inlets and conduits that comprise the collection and outfall systems
Lane, Curve, Intersection and Operational Work		
	Add Turn Lane	Road widening or shoulder work to add a left or right turn lane. Work may also include multi-modal and ADA upgrades and utility relocation.

PROJECT CLASS	PROJECT TYPE	DEFINITION
	Add Climbing, HOV/Express, or Auxiliary Lanes	To improve level of service and safety truck climbing lanes, HOV/ express lanes or other auxiliary lanes may be added to a highway.
	Correct Roadway Profile	Roadway profiles may be corrected both horizontally and vertically to improve safety and operation. Roadway profile work modernizes highway design such as road width and road angle through curves. Profile work also addresses curve safety issues, improves sight distance and may also reduce winter hazard conditions through vegetation daylighting.
	Curve Correction	Older highway systems may have curve designs that pose safety and utility challenges to the traveling public. Curve corrections improve problematic curve radius, improve truck lane/width, address safety issues, and modernize the traveling speed.
	Install Roundabout	Roundabouts promote continuous traffic flow typically without traffic lights. Traffic is not required to stop, only yield. Roundabouts may replace an existing intersection or create a new intersection.
	Intersection Safety Improvements	Intersection safety improvements may include traffic light installation, signage, pedestrian and bike facilities work, and upgrades to meet ADA requirements.
	Operational Deficiencies	Obsolete or deficient structures that impinge on level of service or safety may be addressed at a small or large scale. Earthwork, multi-modal components, stormwater management, and utility relocation may all be included in work.

PROJECT CLASS	PROJECT TYPE	DEFINITION
	STAA Widening (lane & shoulder widening)	Lane and shoulder widening to accommodate longer commercial trucks
	Widen Ramp	Widening and potentially reconfiguring on and off ramp access to state routes. May require modification to existing highway facilities, multi-modal upgrades, and utility relocation.
	Vertical Clearance	Bridge or tunnels with restricted clearances may be upgraded to meet current highway vertical clearance design standards.
Other		
	Install Irrigation System	Install an irrigation system to support highway landscape treatments and mitigation
	Maintenance Facility or Roadside Rest Stop Work	Maintenance facility and roadside rest stop work may include repair, removal, remodel or addition of structures; upgrades to sewer, water and electrical; and landscaping.