CENTRAL FEDERAL LANDS HIGHWAY DIVISION
INITIAL SCOPING SUMMARY

Project Name:	CA FLAP INY CR2022(1) South Lake Road	**Project Manager:**	Wendy Longley
Interagency Team:	• Inyo County • Inyo National Forest	**Program Fiscal Year:**	TBD
Scoping Estimate Total	**Total Required for Funding: $10,306,000 FY2015** MP 0.00 to MP 6.90		

Scoping Estimate Details (Costs shown in 2015 dollars, with 12% match)

Preliminary Engineering Costs			
	Application	Scoping	Variance
FLAP	$558,624	$822,800	-$264,176
Match	$76,176	$112,200	-$36,024
Total	$634,800	$935,000	-$300,200
Construction Engineering Costs			
	Application	Scoping	Variance
FLAP	$558,624	$889,680	-$331,056
Match	$76,176	$121,320	-$45,144
Total	$634,800	$1,011,000	-$376,200
Projected Construction Costs			
	Application	Scoping	Variance
FLAP	$6,135,360	$7,356,800	-$1,221,440
Match	$836,640	$1,003,200	-$166,560
Total	$6,972,000	$8,360,000	-$1,388,000
Total Cost of Proposed Project			
	Application	Scoping	Variance
FLAP	$7,252,608	$9,069,280	-$1,816,672
Match	$988,992	$1,236,720	-$247,728
Total	$8,241,600	$10,306,000	-$2,064,400

Projected Construction Costs:

YR 2016	$ 8,530,000	YR 2019	$ 9,070,000
YR 2017	$ 8,710,000	YR 2020	$ 9,260,000
YR 2018	$ 8,890,000		

CENTRAL FEDERAL LANDS HIGHWAY DIVISION
INITIAL SCOPING SUMMARY

Project Scope

General Project Description. This project will pulverize and repave 6.9 miles of South Lake Road from the intersection with State Route 168 to South Lake. It includes minor widening (along the first 2.1 miles) to accommodate a Class III bike lane in addition to grading, pulverization of existing pavement, replacement of minor drainage structures, spot repairs to major drainage structures, slope stabilization, rock scaling, placement of crushed aggregate base and asphalt pavement, signing, striping, and other safety-related features.

Highway Design and Safety.

Segment 1 (MP 0.00 to 2.10) existing pavement width varies from 24-27 feet. The proposed typical section is a 22 foot traveled way with 3 foot shoulders. The proposed shoulder width will better accommodate bicycle use while trying to stay on the existing roadway bench.

Segment 2 (MP 2.10 to 5.80) existing pavement width varies from 24-26 feet. The proposed typical section is a 22 foot traveled way with 1 foot shoulders. Segment 2 traverses through private lands, through cuts and steeper drop-offs. The shoulder width was selected to minimize ROW and environmental impacts while staying on the existing bench.

Segment 3 (MP 5.80 to 6.90) existing pavement width varies from 21-22 feet. The proposed typical section is a 20 foot traveled way with 1 foot shoulders. Segment 3 traverses through steep slopes immediately adjacent to Bishop Creek.

The speed limit on the route is currently not posted, with the exception of two locations posted at 25 mph and 15 mph. The project includes proposing a posted speed limit of 45 mph where the route is currently not posted. A speed study is not anticipated at this time.

Crash data has been analyzed and there are several safety countermeasures to reduce the number of crashes. Safety improvements include lowering the posted speed limit, installing curve warning and chevron signs, wider edge line markings, intersection warning signs, adding a left-turn lane at Four Jeffrey campground, pavement widening, ditch reconditioning, and grading to develop clear zone.

Pavement. The proposed pavement section is full depth reclamation with 3” HMA over 6” pulverized base.

Bridge. If the option to replace the Bishop Creek crossings is selected, bridge efforts include design and layout of the new culvert headwalls.

ROW. Initial research indicates there are up to 12 private parcels adjacent to the route. There is a 60’ ROW through the private parcels at the north end. FS thinks there is an SUP with the County. Project would include development of a highway easement deed through Federal lands.

Utilities. There are overhead power lines along the route and poles within the clear zone in many locations. There may be up to 5 poles that may require relocation. There are also FS owned water and sewer lines and phone lines.

Survey. A 4R level topo survey will be conducted for the first 2.1 miles and a 3R level topo survey will be conducted for the remaining 4.8 mile including pullouts, parking areas, driveways, and approach roads.

Geotechnical. Geotechnical investigations are required for pavement design, identifying

subexcavation and roadbed reconditioning locations, and identifying any potential slope scaling locations.

Hydrology/Hydraulics. Drainage work will consist of culvert replacements for roadside drainage culverts that are in poor condition or undersized, ditch grading, and installation of underdrain in seep areas. There are 3 larger Bishop Creek crossings, 2 of which need culvert headwall repairs. These spot repairs are included in the estimate above. An option to replace 2 of these culverts is included for consideration based on the condition of the existing culverts. If culvert replacement is selected, hydraulics analyses will be performed and new culverts will all have headwalls and cut off walls.

Environment and Permits. FHWA anticipates preparing a Categorical Exclusion. Inyo County to complete CEQA (anticipated Mitigated Negative Declaration). Critical resource surveys include wetland and waters of the US delineation, biological and cultural. Impacts to riparian and/or wetland areas are anticipated and no potential mitigation sites were identified on-site. Anticipated permits would include: Section 404 Individual Permit, Seciton 401 Water Quality Certification, NPDES General Construction permit, and an encroachment permit from Caltrans.

Design and Construction Options

The above estimate includes spot repairs to 3 headwalls at the major Bishop Creek crossings. Repairs will address concrete spalls (likely caused by ASR), undercutting and failure of concrete sack headwalls. We considered an option to replace these headwalls, leaving the culverts untouched, however, there is some rust in the culverts and expending funds to replace headwalls without addressing the condition of the culvert was determined to not be a good investment of funds.

The other option is to include complete replacements at 2 of the crossings, conduct hydraulic analyses to size the culverts, and construct headwalls at the inlets and outlets. This option addresses the condition of the culverts and headwalls and will fix the one culvert that has a perched outlet.

The cost to include these culvert replacements is estimated at $200,000.

CENTRAL FEDERAL LANDS HIGHWAY DIVISION
INITIAL SCOPING SUMMARY

Project Schedule			
Responsible Lead	**Product / Service / Role**	**Schedule Finish Date**	**Comments**
FHWA-CFLHD	Project Development and Planning	July 2015	Project Development Plan
FHWA-CFLHD	Project Start	April 2016	Surveys
FHWA-CFLHD	Preliminary Design	November 2016	Develop 30% PS&E
FHWA-CFLHD	Pavement and Geotechnical Investigations and Recommendations	June 2016	Perform site investigations and provide design recommendations
FHWA-CFLHD	Environmental Compliance	October 2016	Categorical Exclusion (CE) completed
FHWA-CFLHD	Intermediate Design	March 2017	Develop 70% PS&E
FHWA-CFLHD	Pre-Final Design	July 2017	Develop 95% PS&E
County	Obtain TCEs and ROW	July 2017	Obtain TCEs and ROW as necessary for construction
FHWA-CFLHD	Final Design	October 2017	Develop the final contract documents (includes a review of NEPA, CEQA, permits, and ROW required for advertisement)
FHWA-CFLHD	Advertise and Award Contract and NTP	FY18 or FY19	Dependent upon FLAP funding and match being in place
FHWA-CFLHD	Final Construction	FY19	Construction Completion Date

Federal Highway Administration
Central Federal Lands Highway Division

SCOPING REPORT

Inyo National Forest

Inyo County

California

CA FLAP INY CR2022(1)

South Lake Road

Prepared By:

CFLHD

June 8, 2015

I. PROJECT DESCRIPTION

A. PROJECT SUMMARY

Description	Comment
General project description and nature of work	**CR 2022(1) South Lake Road is in Inyo County, approximately 15 miles southwest of Bishop, California. The route starts at the intersection with State Route 168 and continues approximately 6.9 miles to South Lake. The limits of the project improvements start at the intersection with State Route 168 and continue 6.9 miles to the end of County maintenance just before the concrete boat ramp. The road is maintained by Inyo County.** **The general scope of this project is proposed as 3R improvements; to pulverize and reclaim the existing pavement and portion of the existing subgrade for use as a new base course and overlay with a new asphalt concrete pavement section on 6.9 miles of South Lake Road, as well as minor widening along the first 2.1 miles. The project includes grading, pulverize existing pavement, minor drainage structures, major drainage structures, slope stabilization, rock scaling, placement of crushed aggregate base and asphalt pavement, signing, striping, and other safety-related features necessary to meet current design practice. Specifically, project elements include:** **1) Segment 1: Rehabilitate and widen the first 2.1 miles from the intersection with State Route 168 (Station 1+00) to the Bishop Creek Lodge and Resort (Station 113+00) to accommodate a Class III shoulder. The proposed roadway section for this segment is 28 feet wide with 11-foot lanes and 3-foot shoulders. The existing paved width along this segment varies from 24-27 feet, with a wider bench width. Minor cuts and fills will be required where the proposed section does not fit within the existing roadway bench. Construction of left-turn lanes into the Four Jeffrey Campground is also included in Segment 1.** **2) Segment 2: Rehabilitate the next 3.7 miles from the Bishop Creek Lodge and Resort (Station 113+00) to just beyond Parcher's Road (Station 308+00). The proposed roadway section for this segment is 24 feet with 11-foot lanes and 1-foot shoulders. The existing paved width along this segment varies from 24-26 feet.** **3) Segment 3: Rehabilitate the remaining 1.1 miles from Parcher's Road (Station 308+00) to the end of the project at Station 364+00. The proposed roadway section for this segment is 22 feet with 10-foot lanes and 1-foot shoulders. The existing paved width along this segment varies from 21-22 feet.** **4) Improvements to paved and unpaved pullouts maintained by the County.**
Major issues and concerns	**No major concerns identified. There were a few items identified during scoping that could have schedule or cost impacts. Those items include:** • **Up to 5 utility poles that may require relocation** • **Narrow existing paved section through the South Fork subdivision area, including 22 mailboxes that would need to be relocated. There is a 60 foot ROW corridor in this area so ROW acquisition is not anticipated.** • **Wetland and riparian impacts will require mitigation. No potential mitigation sites within the project were identified. Mitigation will most likely be off-site and will require 4-5 years of monitoring. We will need early coordination with the CORP and State to discuss mitigation ratios and acceptable plans.** • **There are seeps along the ditch line in Segment 3 that will require underdrain.**
Relevant project history	**May 2015 – CFLHD completed the project scoping in conjunction with Inyo County and**

	Inyo National Forest **March 2015 – selected by CA FLAP PDC into short-list of projects** **Latest roadway projects on the route were completed in 1980 and 1960. INF is currently developing a project to pave the parking lot at the end of South Lake Road.** **Construction of the INF project is anticipated for summer 2015.**

B. ROUTE IDENTIFICATION & EXISTING CONDITIONS

Description	Response	Comment
Road Name and Route ID Number:	**CA FLAP INY CR2022(1) South Lake Road, County Road 2022**	
GPS Coordinates Start	**N37.25653°, W118.57913°**	
GPS Coordinates End	**N37.17188°, W118.56474°**	
Length	**6.9 miles**	
Functional Classification	**Rural Major Collector**	
Posted Speed	**55 mph**	**Route is not posted, therefore is enforced at 55 mph. There are two locations in the middle and near the end of the route that are posted at 25 mph and 15 mph. The County is open to evaluating need for speed reduction.**
Terrain	**Mountainous**	**Elevation ranges from 7,800 feet to 9,800 feet**
Existing Number of Lanes (each direction)	**2 lanes**	

Existing Travel Way Width	**Varies, 10-11 feet**	**For the majority of the route, the roadway width varies from 24-26 feet. The roadway width constricts down to 22 feet for the last 1.1 miles.**
Existing Shoulder Width	**Varies, 1.5-3 feet**	**For the majority of the route, the roadway width varies from 24-26 feet. The roadway width constricts down to 22 feet for the last 1.1 miles.**
Existing Shoulder Type	**Paved**	
Existing Bench Width	**22-28**	
Clear Zone/Roadside Hazards	**0'-3'**	**Hazards include: trees, power poles, rock outcroppings, and steep slopes.**
Major Intersection Roads	**None**	**There are minor campground intersections and residential roads that are located within the project limits.**
Current ADT	**735**	**Inyo County Road Dept. Count – July 1999 for a one week time period. The County will investigate and provide updated data if available.**
Seasonal ADT	**None**	
% Buses		
% Trucks	**2-3%**	**Truck traffic – delivery trucks (along 1st couple miles), SCE (maintenance vehicles), horse trailers to pack station, boats up to lake, estimated truck traffic less than 5% (2-3%)**

II. PROJECT SUMMARY, SCHEDULE, FUNDING, & CONTACTS

A. SUMMARY & SCHEDULE

Description	Response	Description	Response
Type	**3R**	Partner Agency	**Inyo County / Inyo National Forest**
Program Fiscal Year	**2017**	Maintaining Agency	**Inyo County**
PS&E Delivery Year	**2017**	FLMA Unit Name	**Inyo National Forest**
State	**CA**	County	**Inyo**

B. FUNDING

Description	Response	Comment
Main Funding Source	**Federal Lands Access Program (FLAP)**	**88.53% FLAP funds with a 11.47% local match Local match will be Statewide Transportation Improvement Program Funds available in March 2016**
Program Amount	$9,000,000	**Total program amount from CFLHD delivery plan Note: Total project preliminary program amount based on FLAP Application was $8.25M**
Preliminary Construction Estimate (CN)	$8,930,000	**Preliminary Engineers Estimate developed by CFLHD for FY2017 Note: the preliminary CN estimate from the FLAP Application was $7M**

C. PRINCIPAL CONTACTS

Contact and Title	**Wendy Longley, Project Manger**
Agency	**Central Federal Lands**
Phone Number	**720-963-3394**
Email Address	**wendy.longley@dot.gov**

Contact and Title	**Tammy Scholten, Forest Engineer**
Agency	**Inyo National Forest**
Phone Number	**760-873-2487**
Email Address	**tamarascholten@fs.fed.us**

Contact and Title	**Courtney Smith, Transportation Planner**
Agency	**Inyo County**
Phone Number	**760-878-0207**
Email Address	**csmith@inyocounty.us**

Contact and Title	**Chantel Brown, Engineer**
Agency	**Inyo County**
Phone Number	**760-878-0204**
Email Address	**cbrown@inyocounty.us**

III. AVAILABLE DATA, CRASH DATA, & WORK LIMITATIONS

A. AS-BUILTS AND REPORTS

Data	Description
Other (Explain)	**Inyo County provided crash data, including (1) SWITRS data for South Lake Road from 2000-2010, and (2) TIMS Collision Details from 2008. They also provided traffic counts from September 2014.**
Other (Explain)	**INF provided the most recent FEIS for the project area. The FEIS was for the Commercial Pack Stations within the FS and included the pack station on South Lake Road. Document may provide useful data as environmental compliance is initiated.**
Other (Explain)	**INF provided excerpts relevant to South Lake Road from the Inyo National Forest, Forestwide Alternative Transportation Study.**
Other (Explain)	**Inyo County provided an easement deed for the Habegger property and a property ownership list (needs to be confirmed with the assessor prior to sending out project notifications, ROE requests, etc…)**

B. CRASH HISTORY

Data	Response	Comment
Crash History Requested?	**Yes**	**Crash data received on May 21, 2015 from Inyo County. The data indicated one collision on 7-10-2008 on South Lake Road near the intersection of Route 168. Two injured victims driving on wrong side of road collided with fixed object. The Data covered the period between 2004 and 2013. See Appendix A for Safety Analysis of Crash Data 2002-2010.**
Crash History Obtained and Analyzed?	**Yes**	**The crash history indicated only one occurrence. See comment above.**
Anecdotal Crash History?	**Yes**	**Video of the route has been taken during the scoping review and is available for review.**
Will alternate routes (detours/diversions) be provided for during construction?	**No**	**No detour routes available.**
Traffic restrictions during construction?	**No**	**No restrictions outside of our standard holiday SCR. The Everest Challenge uses South Lake for their annual bike event. Coordination with this group will be needed to determine if the event can be moved or if restrictions need to be added into the contract to have a paved surface prior to the event.**

C. WORK LIMITATIONS

Description	Response	Comment
Season and/or Time Restrictions	**Yes**	**Seasonal/weather restrictions, Anticipated winter shutdown mid-November through mid-April**
Designated Staging Area(s)?	**Yes**	**There are several possible locations at** • **The gravel pullout at 28+00 Rt.**

		• **The gravel parking area at 230+00 Rt.** • **The gravel parking area at 252+00 Rt.**
Designated Material Source?	**No**	
Hauling or Load Restrictions	**No**	
Potential Water Sources?	**No**	**Most likely will not provide the contractor a water source. The FS does have water rights to Bishop Creek, however, right now there is no water in the creek. Min flows need to be maintained and limits would need to be included in the contract if it is decided to allow contractor to use FS rights.**

IV. FUNCTIONAL CONSIDERATIONS

A. HIGHWAY DESIGN & SAFETY

Segment 1: 4R Portion of the project

Description	Response	Comment
Road Name and Route ID Number:	**CA FLAP INY CR2022(1) South Lake Road, County Road 2022 Segment 1: From intersection of State Route 168 to Bishop Creek Lodge (2.1 Miles)**	
PROPOSED DESIGN STANDARDS		
Design Vehicle	**Motor Home and Boat Tariler (MH/B)**	
Design ADT	**735**	**Inyo County Road Department Count – July 1999**
Design Speed	**45 mph**	**The design speed will vary through the route as follows:** • **45 mph for Sta. 1+00-106+00 and 117+00-344+00;** • **25 mph for Sta. 106+00-117+00; and** • **15 mph for Sta. 344+00-365+00**
Travel Way Width	**11 feet**	**AASHTO Table 6-5, Meets Standard**
Shoulder Width	**3 feet**	**AASHTO Table 6-5, 3 foot shoulders will be used. This will be a design exception. AASHTO standard is 5 feet.**
Shoulder Type	**Paved**	
Min. Horiz. Radius	**587 feet**	**AASHTO Table 3-7**
Crown	**2%**	**AASHTO Table 4-1**
Superelevation	**8%**	**AASHTO Table 3-15**
Superelevation Runoff	**178 feet**	**AASHTO Table 3-17b**
Min. Vertical Curve (K Value)	**61 crest/79 sag**	**AASHTO Table 6-3 (for Crest and Sag Vertical Curves)**
Maximum Grade	**8%**	**AASHTO Table 6-2 (Rolling Terrain)**
Min. Stopping Sight Distance	**360 feet**	**AASHTO Table 6-3**
Horiz. Clearance to Structure	**N/A**	**There are no structures in Segment 1.**
Min. Clear Zone	**8 feet**	**3 foot shoulder plus 5 foot fore slope. There will be design exceptions, AASHTO standard is 12-14 feet.**
Safety Pavement Edge	**Yes**	
PROPOSED DESIGN FEATURES		
Realignment or grade change required?	**Yes**	**There is one location identified in Segment 1 for minor horizontal alignment shifts: 50+00-57+00 (Four Jeffries Campground Left Turn lane). No vertical alignment adjustments needed.**
Will there be any widening	**Yes**	**The location mentioned above for the left turn lane location. There**

off the existing bench?		**may also be the need for bench widening in Segment 1 to get a 28-foot paved section to fit.**
Will profile be raised due to proposed pavement structural section?	**No**	
Additional work required at intersections or driveways?	**No**	
Exist/Proposed Parking/ Pullouts/Vistas?	**Yes**	**Existing gravel pullouts will have paved aprons (5') and 1-2 major pullouts will be paved entirely. A proposed paved bike parking staging area (approx. 10 stalls) will be located at an existing gravel pullout at 28+00 Rt.**
Exist/Proposed Pedestrian and/or Bicycle Facilities?	**Yes**	**The location for the bike lane will be from 1+00 – 113+00 (Beginning of project to Bishop Creek lodge). Class III bike lane with a 3 foot width.**
Exist/Proposed Roadside Features (gates, shelters, etc)	**No**	
Exist/Proposed Fencing?	**No**	
ADA Accommodations?	**Yes**	**At the proposed bike staging parking area at 28+00, Rt.**
Seeding and Vegetation	**Yes**	**Seeding and revegetation will be required on this contract.**
Special Features (Railroad Crossings, etc…)	**No**	
Architectural or decorative aspects to be incorporated (stone masonry, stone curb, rock facing, etc…)	**No**	
		SAFETY CONSIDERATIONS
Superelevation corrections?	**No**	**No indication for correction.**
Clear Zone and Roadside Hazards	**Yes**	**The hazards (headwalls, trees, rock outcroppings, and steep slopes) will reduce the clear zone from the AASHTO standard. This will be a design exception on the HDS form.**
NPS – Traffic Barrier Inventory recommend improvements?	**No**	
Existing/Proposed Barrier?	**No**	
Proposed signing and supports?	**Yes**	**All existing regulatory signs will be removed and replaced to meet MUTCD Standards. Snow poles will also be removed and replaced with new ones.**
Proposed Pavement Markings	**Yes**	**4" wide markings unless there are specific areas where a 6" marking would help with delineation at curves, etc. This project will use a double yellow and skip centerline stripe and edgeline stripes.**
Exist/Proposed permanent traffic control (special signs, markings ,rumble strips, etc.)	**Yes**	**Edge lines will be installed for the route. Rumble strips will be placed at select locations as needed. The FS recommended placing rumble strips at the Four Jeffries Campground and the last ½ mile narrow section of the route.**
Additional work required to address Sight Distance Issues?	**No**	
Construction Problems from Previous Projects?	**No**	

Will alternate routes (detours/diversions) be provided for during construction?	**No**	**No detours are available for this roadway. It is the only roadway leading in and out of the community. One lane closures are expected for this project.**
Temporary traffic control/traffic restrictions during construction	**No**	
Can the road be closed for construction?	**No**	**It is expected that 30-minute delays will be used on this project.**

Description	Response	Comment
Potential Major Impacts to Cost or Schedule	**No**	
Constructability Concerns	**No**	

Segment 2 and 3: 3R Portion of the project

Description	Response	Comment
Road Name and Route ID Number:	**CA FLAP INY CR2022(1) South Lake Road, County Road 2022 From Bishop Creek Lodge to Intersection at Boat dock (4.8 Miles) Note: Alignment shifts at 50+00-57+00 to avoid wetlands, 4R work**	
PROPOSED DESIGN STANDARDS		
Design Vehicle	**Motor Home and Boat Tariler (MH/B)**	
Design ADT	**735**	**Inyo County Road Department Count – July 1999**
Design Speed	**45 mph**	**The design speed will vary through the route as follows: • 45 mph for Sta. 1+00-106+00 and 117+00-344+00; • 25 mph for Sta. 106+00-117+00; and • 15 mph for Sta. 344+00-365+00**
Travel Way Width	**10-11 feet**	**Matching the existing pavement width.**
Shoulder Width	**1 foot**	**Design exceptions are expected in this 3R portion of the project where the existing pavement width will be matched.**
Shoulder Type	**Paved**	
Min. Horiz. Radius	**587**	**Design exceptions will be required for several curves since the existing alignment will be matched. These curves will receive advanced curve warning signs and advisory speed plaques.**
Crown	**Match existing**	**It is anticipated that the roadway will be a standard pulverize and pave treatment. The existing pavement slope will be kept.**
Superelevation	**Match existing**	**It is anticipated that the roadway will be a standard pulverize and pave treatment. The existing pavement slope will be kept.**
Superelevation Runoff	**Match existing**	**It is anticipated that the roadway will be a standard pulverize and pave treatment. The existing pavement slope will be kept.**
Min. Vertical Curve (K Value)	**Match existing**	**It is anticipated that the roadway will be a standard pulverize and pave treatment. The existing vertical alignment will be kept.**
Maximum Grade	**Match existing**	**It is anticipated that the roadway will be a standard pulverize and pave treatment. The existing grade will be kept.**
Min. Stopping Sight Distance	**Match existing**	**It is anticipated that the roadway will be a standard pulverize and pave treatment. The existing sight distance will be kept.**
Horiz. Clearance to Structure	**3 feet**	**There is a culvert headwall at Sta. 307+00 Rt.**

Min. Clear Zone	**1 foot**	**There are power poles, steep slopes, trees, rock outcroppings, and ditches directly adjacent to the edge of pavement. This will be a design exception. Mitigation for safety will be considered as design progresses.**
Safety Pavement Edge	**Yes**	
PROPOSED DESIGN FEATURES		
Realignment or grade change required?	**Yes**	**There is one location identified in Segment 2 for minor horizontal alignment shifts: 240+00-250+00 (Avoid wetland on left side ditch). No vertical alignment adjustments needed.**
Will there be any widening off the existing bench?	**No**	**The location mentioned above for the wetland location.**
Will profile be raised due to proposed pavement structural section?	**Yes**	**It is anticipated that the roadway will be a standard pulverize and pave treatment. This will raise the pavement roughly the new pavement thickness.**
Additional work required at intersections or driveways?	**No**	**Standard approach aprons will be used where needed.**
Exist/Proposed Parking/ Pullouts/Vistas?	**Yes**	**Existing gravel pullouts will have paved aprons (5') and 1-2 major pullouts will be paved entirely. There are six owned and maintained areas by the Forest Service. These areas will be included in the design. Funding for these areas will need to come from a separate source provided by USFS.**
Exist/Proposed Pedestrian and/or Bicycle Facilities?	**No**	
Exist/Proposed Roadside Features (gates, shelters, etc)	**No**	
Exist/Proposed Fencing?	**No**	
ADA Accommodations?	**Yes**	**Replace existing ADA spots near end of route (319+00-347+00).**
Seeding and Vegetation	**Yes**	**Seeding will be needed where culverts are replaced and on the road shoulders.**
Special Features (Railroad Crossings, etc…)	**No**	
Architectural or decorative aspects to be incorporated (stone masonry, stone curb, rock facing, etc…)	**No**	
SAFETY CONSIDERATIONS		
Superelevation corrections?	**No**	**No indication for correction.**
Clear Zone and Roadside Hazards	**Yes**	**The 1 foot paved shoulder is the only clear zone. Power poles, trees, steep slopes, and a steep ditch foreslope tie directly into the edge of pavement in many locations. Systemic mitigation for safety will be considered as design progresses.**
NPS – Traffic Barrier Inventory recommend improvements?	**No**	
Existing/Proposed Barrier?	**No**	
Proposed signing and supports?	**Yes**	**All proposed sign supports will be breakaway. All existing regulatory signs will be removed and replaced to meet MUTCD Standards. Snow poles will also be removed and replaced with new ones.**

Proposed Pavement Markings	**Yes**	**New striping will match the existing centerline and edgeline markings.**
Exist/Proposed permanent traffic control (special signs, markings ,rumble strips, etc.)	**Yes**	**Rumble strips will be placed at select locations as needed. The FS recommended placing rumble strips at the last ½ mile narrow section of the route.**
Additional work required to address Sight Distance Issues?	**No**	**The new roadway will match existing.**
Construction Problems from Previous Projects?	**No**	
Will alternate routes (detours/diversions) be provided for during construction?	**No**	**No detours are available for this roadway. It is the only roadway leading in and out of the community. One lane closures is expected for this project.**
Temporary traffic control/traffic restrictions during construction	**No**	
Can the road be closed for construction?	**No**	**It is expected that 30-minute delays will be used on this project.**

Description	Response	Comment
Potential Major Impacts to Cost or Schedule	**No**	
Constructability Concerns	**No**	

B. SURVEY

Description	Response	Comment
Existing survey, mapping, and/or control?	**No**	**No survey or mapping is available for the route.**
Special features requiring survey	**No**	
Seasonal restrictions?	**No**	**Seasonal/weather restrictions, Anticipated winter shutdown mid-November through mid-April.**
Describe terrain (slopes, vegetation, etc…)	**The existing terrain is a combination of gentle to steep fill and cuts slopes. The slopes are vegetated with shrubs and trees along with rock outcroppings along the route.**	
Is field survey required?	**Yes**	**The lower portion of the project will require extensive survey, 100 foot wide corridor for about 2.1 miles. The upper portion of the project is about 4.8 miles in length. Survey within this section will include roadway centerline, edge of pavement, driveways and approach roads, and any pullouts. Additionally the proposed bike staging parking lot will require topographic mapping in addition to all the parking lot mapping features.**
Recommended survey	**Ground Survey**	

Description	Response	Comment
Potential Major Impacts to Cost or Schedule	**No**	

C. ENVIRONMENT

Description	Response	Comment
SUMMARY		
Type of NEPA document anticipated	**CE**	**CFL will be the lead in developing the NEPA document. Based on information to date, CFL anticipates preparing a Categorical Exclusion.**
CEQA required (CA Projects)?	**Yes**	**Inyo County will be completing CEQA, anticipated document is a Mitigated Negative Declaration**
NPS - Environmental Screening Form (ESF) required?	**No**	**NA**
Potential use of programmatic agreements?	**Unknown**	**None were identified at the time of scoping**
Public involvement required?	**Yes**	**One public outreach meeting concurrent with the 30% site visit was suggested to notify the public of the project.**
AIR QUALITY		
Non-attainment or maintenance area?	**Yes**	**Inyo county is listed as non-attainment area for PM-10.**
Exempt from conformity requirements?	**Yes**	**40 CFR 93.126 exempt projects. Project falls under exemptions listed in table 2** **http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr93_main_02.tpl**
If conformity applies, is the project included in the STIP or regional TIP?	**No**	**N/A**
Adding or removing lanes, signalization, and/or alignment changes?	**Yes**	**Minor alignment changes are proposed to achieve a wider bench width and to add one turn land. No new signalization is proposed.**
State or local air quality studies required?	**No**	**No state or local requirements were identified.**
BIOLOGICAL RESOURCES		
Local knowledge of federal T&E or candidate species in the area?	**Yes**	**Federal Listed Species: Lahontan Cutthroat Trout, Owens Tui Chub**
Potential for suitable habitat of any listed species in/near the project area?	**Yes**	**Project is outside of the known range for Lahontan Cutthroat Trout and Owens Tui Chub – however potential suitable habitat is found within the project area.**
Designated critical habitat in the project area?	**Yes**	**Higher elevations of the project is within the proposed critical habitat range for Sierra Nevada Yellow-Legged Frog**
Local knowledge of state protected species in the area?	**Yes**	**California List can be found at.** http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/ **A biological assessment will need to be prepared.**

Description	Response	Comment
Adjacent to BLM or USFS land?	**Yes**	**Project is on USFS Land**
BLM or USFS sensitive species the FLMA is concerned about?	**Yes**	**INF provided the following list of species for which there may be habitat within and/or adjacent to the proposed project area and will require analysis to determine if there is any potential effect from the project.** **Northern goshawk, Willow flycatcher, Bald eagle, American marten, Sierra Nevada red fox, and the Apache silverspot butterfly**
Migratory bird nest observed in the project area?	**Unknown**	**No migratory bird nests were observed during the scoping trip. Evaluate migratory bird list and coordinate with USFS Biologists**
Wildlife or aquatic organism passage issues?	**Yes**	**Some culverts were observed to limit upstream passage. Unsure at this time if culverts are in need of replacement.**
Located within 100 miles of the coast?	**No**	**N/A**
Known noxious weed occurrences or concerns regarding noxious weeds?	**No**	**None were observed during scoping. However, assume presence and standard management practices should be implemented.**
Biological resource surveys required?	**Yes**	**Surveys will be required. Look into surveys to be performed by A/E Firm**
Is a BA/BE required?	**Yes**	**A BA will be needed to evaluate federally listed species. A BE will be needed to evaluate USFS sensitive species.**
CULTURAL RESOURCES		
New ground disturbance outside the existing roadway prism?	**Yes**	**Minor grading and cuts/fills are proposed.**
Previously surveyed for cultural resources?	**Unknown**	**Coordinate with USFS cultural staff to determine if surveys have been completed. Assume additional surveys will be needed.**
Evaluated for eligibility for the National Register of Historic Places (NRHP)?	**Unknown**	**Assume structures are eligible. A database search will be completed for the project area.**
Properties (buildings, bridges, trails, etc.) thought to be older than 50 years?	**Yes**	**Assumes roadway and adjacent recreation features are older than 50 years old. Will need to evaluate the road as a potential resource.**
Apparent / unique / suspect structures of possible historical interest?	**Unknown**	**No unique roadway features were identified. Further coordination with USFS cultural staff is needed.**
Tribes who will have an interest in the project?	**Yes**	**Coordinate with USFS for a tribal list**
Traditional Cultural Properties (TCPs) in the area?	**Unknown**	**Unknown at this time**
Cultural resource surveys required?	**Yes**	**Additional cultural studies will be required. An A/E firm will need to be hired to conduct surveys.**
ENERGY		

Description	Response	Comment
Affect energy use as a result of changes to traffic patterns or volumes, or involve speed zone changes?	**Unknown**	**Speed zone changes have been proposed.**
GEOLOGY		
Do discussions with Geotechnical staff indicate any concerns?	**Unknown**	**It is unknown at this time if there are any geotechnical hazards. Discuss with geotech staff.**
Is drilling / exploration anticipated?	**Yes**	**It is unknown at this time if there will be any geotechnical drilling associated with this project. Assume pavement and getotch exploratory borings at a minimum**
HAZARDOUS MATERIAL		
Hazardous sites in the project area?	**No**	**Federal Listing: No Sites** http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/WSOState!OpenView&Start=1&Count=1000&Expand=2#2 **State Listing: No Sites** http://www.calepa.ca.gov/SiteCleanup/CorteseList/
Known or possible hazardous waste on the project ()?	**No**	**No sites were identified by the USFS or observed during the scoping trip**
Structure with potential to contain hazardous material be altered or demolished?	**No**	**No structures are planned to be altered or removed.**
LAND USE / PLANNING		
Require land use actions from FLMA or local jurisdictions?	**Yes**	**A special use permit will be needed if staging or material sources are located outside of the project area. A Highway Easement Deed will be executed as part of the project.**
Concerns regarding consistency with federal, state, or local land use policies or plans?	**No**	**No concerns were identified. Need to confirm the project is not in an Inventoried Roadless Area (IRA).**
Coastal Zone Management Act apply?	**No**	**N/A**
Result in the conversion of prime farmland, unique farmland, or land of statewide or local importance as defined by Farmland Protection Policy Act?	**No**	**No unique or prime farmlands within the project area**
Any other specially designated or protected lands that may be affected?	**Unknown**	**No specially designated or protected lands were identified at scoping.**
NOISE		
Will there be any shift in horizontal or vertical alignment?	**Yes**	**Minor shifts are proposed in select locations.**
Does project increase the number of through travel lanes?	**No**	**No new travel lanes are proposed**
Roadway located on a new alignment?	**No**	**The project proposes minor shifts, but on the same alignment.**

Description	Response	Comment
Removal of topographical features which currently shield receptors?	**No**	**No top features are proposed to be removed.**
Are there buildings/ activity areas within 200 feet of proposed right of way line:	**Yes**	**There are numerous structures in the Bishop Creek area, as well as numerous campgrounds along the route.**
SECTION 4(f)		
Parks, wildlife refuges, historic properties, recreational areas, campgrounds, trails, etc. that may be impacted?	**Yes**	**There are numerous parking areas and trail heads which could be temporarily impacted.**
SECTION 6(f)		
Land & Water Conservation Funds used to acquire parks, or to make improvements, etc.?	**No**	**http://waso-lwcf.ncrc.nps.gov/public/index.cfm** **No 6f properties are located within the project**
SOCIOECONOMICS		
Building displacements or relocations?	**No**	**N/A**
Right of way be required for the project?	**Unknown**	**The project is to be completed on USFS land. However, there may be impacts to private parcels in the Bishop Creek Area.**
Divide or disrupt an established community, or affect neighborhood character or stability?	**Unknown**	**Project involves the reconstruction of an existing corridor and the roadway will remain open during construction.**
Affect minority, elderly, handicapped, low income, transit-dependent, or other specific interest group?	**No**	**Census data:** **http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml** **No specific interest groups were identified.**
VISUAL		
Designated state or federal scenic route?	**No**	**South Lake Road is not designated scenic, however it does abut with Route 168, listed as a State Scenic Highway.**
Major cuts/fills associated with this project?	**No**	**Minor cuts and fills are anticipated**
Bridges or large retaining walls anticipated?	**No**	**No bridges or walls are proposed at scoping**
Affect waterways designated as National Wild and Scenic Rivers?	**No**	**The headwaters of Owens River are listed as Wild and Scenic, but no waters within a 1 mile radius of the project are listed.**
WATERWAYS / WATER QUALITY		
Within FEMA 100-year floodplain?	**Unknown**	**Unable to locate FIRM Panel. Confirm with hydraulics.**
Within FEMA regulated floodway?	**Unknown**	**Unable to locate FIRM Panel. Confirm with hydraulics.**
Water quality impaired stream (303(d) listed) impacted?	**No**	**No 303d listed streams are within the project area.**
Outstanding Resource Waters affected?	**Unknown**	**Project waters were not listed on any outstanding resource waters list**

Description	Response	Comment
Active well impacted?	**Unknown**	**Private wells have not been identified.**
Navigable waterway(s) within the project area?	**No**	**South Bishop Creek is a RPW. South Lake is adjacent to the project and identified as navigable.**
Irrigation ditches impacted?	**Unknown**	**Numerous SCE ditches and gates adjacent to the project area. Will need to coordinate with SCE.**
State or National Wild and Scenic River?	**No**	**The headwaters of Owens River are listed as Wild and Scenic, but no waters within a 1 mile radius of the project are listed.**
WETLANDS AND WATERS OF THE U.S.		
Intermittent streams, ephemeral drainages, or perennial rivers/streams?	**Yes**	**Numerous perennial streams and seeps were identified along the project.**
Wetlands mapped on the Nationals Wetlands Inventory (NWI)?	**Yes**	**Wetlands were mapped on the NWI and observed during the scoping trip.**
Blue line features from the National Hydrographic Datum (NHD)?	**Yes**	**NHD showed numerous blue lines, including the named stream of South Bishop Creek.**
Riparian or wetland vegetation evident from visual inspection?	**Yes**	**Riparian vegetation was observed adjacent to road.**
Delineation of waters of the U.S. including wetlands and other special aquatic sites need to be completed for the project area?	**Yes**	**Delineation will be required due to the numerous resources observed during scoping.**
WILDERNESS		
Occur in or near designated wilderness?	**No**	**There is no wilderness designation immediately adjacent to the project.**

Description	Response	Comment
Potential Major Impacts to Cost or Schedule	**Yes**	**Major impacts include section 401/404 permitting and mitigation, cultural concerns and T&E concerns.**
Constructability Concerns	**No**	**No constructability concerns are identified.**

D. PERMITS

Description		Comment
Section 404 / 401 Permit		
Discharge of dredge or fill into a water of the U.S.	**Yes**	**Large amount of potentially jurisdictional waters were observed immediately adjacent to the roadway during scoping. Avoidance and minimization will be incorporated into the design, however it is assumed that there will be impacts**
Discharge of fill into a perennial river/stream, intermittent stream, or ephemeral drainage?	**Yes**	**Assume there will be a discharge due to the close proximity of waters to the roadway**
Discharge of fill into a pond or lake?	**Unknown**	**Small ponds were observed along the route. Unsure if these will be impacted**

Discharge of fill into a special aquatic site including:?	**Yes**	**Wetlands and riffle/pool complexes were observed immediately adjacent to the route. Assume impacts**
Water diversion needed?	**Yes**	**If cross culverts are to be replaced, a temporary water diversion will be necessary. Diversion compliance will be covered in the 401/404 permitting process.**
Channelization, channel realignment, or channel armoring required?	**Unknown**	**No realignment of streams is proposed. However, armoring may be required in select areas where stream abuts the roadway to protect the embankment**
Qualify for a Nationwide Permit (NWP)?	**Unknown**	**Due to the amount of culvert and ditch work, assume project will require an individual 401 and 404 permit.**
Comply with NWP general conditions?	**Yes**	**Assume project will qualify with general conditions**
Comply with NWP regional conditions?	**Yes**	**Assume project will qualify with all regional conditions**
Cause the loss of less than 1/2 acre of non-tidal waters of the U.S. or 1/3 acre of tidal waters of the U.S.?	**Unknown**	**Assume project will impact >0.5 acre of waters**
Does the project require compensatory mitigation?	**Yes**	**Assume project will require mitigation. Currently, the RWQCB has required mitigation for all impacts, regardless of size. USACE requires mitigation for impacts > 0.10 acre**
Would the project cause the loss of less than 1/10 acre of wetlands?	**Unknown**	**Assume impacts to wetlands, but uncertain at this time the amount of impacts. Assume a PCN will be required.**
Does the project require a LOP or IP for authorization?	**Unknown**	**Unsure of impacts, assume individual permit due to amount of wetlands and streams observed during scoping**
Any Corps-approved mitigation bank or in-lieu fee programs that service the project area?	**Unknown**	**Recent difficulty in finding mitigation banks in this region of California and past mitigation has been performed on site. Discuss possibility of banks with regulators as this may be an option.**
NPDES Permit		
Amount of acreage disturbed?	**> 5 ac**	**Assume >1 acres of disturbance and will require NPDES permit coverage.**
Subject to any state, county or local sediment/erosion management plan (MS4)?	**No**	**The project is not within a MS4. However, the project is within a high risk watershed.**
Subject to a state or basin sediment/erosion management plan?	**Unknown**	**A basin plan has been developed for the region and the project will comply with the conditions of the plan.**
Cooperator willing to assume responsibility for the NPDES Permit upon completion of construction?	**Unknown**	**A NOT will be filed at the completion of the project, and no transfer of the permit should be necessary**
Post-construction BMP requirements?	**Yes**	**Post construction BMPs are required within CA if there is an increase in impervious surface from the original project.**
Other Permits / Authorizations		
FLMA special use permit	**Unknown**	**None were identified**
Staging area permit?	**No**	**Anticipate staging will take place within the project.**
Disposal/waste area permit ?	**Unknown**	**If a waste area is needed and is outside of the project, it will be the contractor's responsibility to obtain all necessary clearances and permits.**

Material source permit?	**Unknown**	**If a borrow source is needed and is outside of the project, it will be the contractor's responsibility to obtain all necessary clearances and permits.**
Asphalt or concrete batch plant permit?	**Unknown**	**Currently assumed as a truck haul project.**
Utility line or buried pipe permit?	**Unknown**	**No additional permit was identified during scoping**
Dewatering permit?	**No**	**Assumes dewatering requirements will be covered in the 404/401 permitting process**
Water rights or appropriation approval?	**Unknown**	**Coordinate with USFS regarding water rights for withdrawals**
Local, County or State air quality permit	**Unknown**	**No air quality permit requirements were identified**
County road access or encroachment permit?	**Yes**	**Encroachment permit will be required from the county.**
State highway access or encroachment permit?	**Unknown**	**Coordinate with CATRANS regarding encroachment**
Stream alteration permit?	**No**	**Stream alteration permits have not been required for federal projects.**
Other	**No**	**No other permits were identified.**

Description	Response	Comment
Potential Major Impacts to Cost or Schedule	**Yes**	**Potential impacts to schedule and cost include 404/401 permitting and mitigation, T&E consultation, and historical/cultural consultation.**
Constructability Concerns	**No**	**Potential difficulty in minimizing impacts to streams/wetlands during construction.**

E. UTILITIES

Description	Response	Comment
Known utilities within project area?	**Yes**	• **Power – Southern California Electric** • **Waterline/Wastewater – Forest service**
Anticipated utility impacts?	**Yes**	**The overhead power lines are located from Bishop Lodge to the end of the project limits (Boat dock intersection) on both sides of the roadway. The utilities within the narrow 3R portion (last ½ mile) will be impacted.**
Existing utility agreements or easements?	**Unknown**	**CFL will need to research this during project development.**
Special considerations or utility impact or relocation?	**Yes**	**New utility lines will need to be placed ahead of or during construction.**
Irrigation ditches?	**No**	

Description	Response	Comment
Potential Major Impacts to Cost or Schedule	**Yes**	**Several utilities lines within the 3R portion of the project will need to be relocated.**
Constructability Concerns	**No**	

F. RIGHT OF WAY

Description	Response	Comment

Existing ROW?	**Yes**	**Segment 1 has a 60' ROW width through the private ownership.**
Additional ROW Required?	**No**	**In Segment 1, area widening for turn lane is in the National Forest. Temporary construction easements may be required**
FLMA Transfer?	**Yes**	**A highway easement deed will be required.**
Private Parcel Acquisition?	**No**	**There are 6 private parcels in Segment 1 and 5 parcels in Segment 2. None are expected to be impacted by the project.**
ROW Fence Requirements?	**No**	
Maintaining Agency involved with Permit to Enter process for field work?	**Unknown**	

Description	Response	Comment
Potential Major Impacts to Cost or Schedule	**No**	**Only major impact would be if private acquisition was required**
Constructability Concerns	**No**	

A. GEOTECHNICAL

Description	Response	Comment
Regional and Local Geological Setting?	**Yes**	**From the beginning of the proposed alignment at the junction with State highway 168 the project traverses several mapped units of Quaternary-Aged alluvial, glacial till and talus deposits which overlie the Lower Paleozoic-aged Bishop Creek Pendant Formation. This formation is comprised of several sediment-derived metamorphic units ranging from micaceous quartzite and peltic hornfels to marble. From here to the end of the project the alignment lies completely within the Lamarck Granodiorite.**
Existing and potential geological hazards	**Yes**	**There is an avalanche zone (1 mile) within the 1st 2 miles – snow coming down once every 10 years on average. Snow flows down the shoot (8-10 feet deep) no rocks come down to road. Caltrans will go in and shoot the slope. Rock fall is not a major issue, one location with small amount of rock fall.**
Nearby faults and seismicity design parameters	**No**	**According to the Caltrans ARS on-line the closest deterministic fault to the project is 4.5 miles away is the Round Valley fault. \ The site will likely be classified as Site Class C with a Maximum Moment Magnitude of 7.0g and a Peak Ground Acceleration of 0.369g. Other faults identified by the CalTrans ARS tool are listed in the table below:**

Fault	Distance	Deterministic @ 0 sec	Probabilistic @ 0 sec	Max Moment Mag
Round Valley	4.5 miles	0.281 g	0.369g	7.5 g
Owens Valley				
Keough Hot Springs	8.4 miles	0.162g	-	7.2g
Independe	9 miles	0.151g		7.1 g

		nce rev 2011
Existing geotechnical structures?	**No**	
Geotechnical Repair Areas	**Yes**	**See "existing potential Geotechnical features". Additionally there is one area that will require minor shoulder stabilization. In one location a spring seep underneath the roadway this may be a suitable location for an underdrain. Minor subexcavation may be warranted but is not anticipated to be a large quantity.**
Surface or groundwater problem areas?	**Yes**	**There is a live spring towards the end of the project that seeps underneath the roadway.**
Subsurface investigation requirements and access	**No**	
Wall Inventory Program recommendations?	**No**	

Description	Response	Comment
Potential Major Impacts to Cost or Schedule	**No**	
Constructability Concerns	**No**	
Summary of geotechnical features/design	**The geotechnical aspects of this project are not major and design will entail slope scaling, possible shoulder stabilization, and one underdrain location.** **Geotechnical drilling is not anticipated as no large cuts, fills, walls, or structures are proposed.**	

B. PAVEMENTS AND MATERIALS

Description	Response	Comment
Pavement construction or maintenance history known?	**Yes**	**The existing pavement was placed in 1980. Maintenance is unknown.**
Pavement distress?	**Yes**	**Appears the roadway has thermal and block cracking with areas of fatigue cracking.**
Are pavement preservation treatments appropriate for segments or the entire project?	**No**	**Not applicable to this project.**
Is pavement rehabilitation appropriate for segments or the entire project?	**No**	
Is pavement reconstruction appropriate for segments or the entire project?	**Yes**	**The roadway appears to be a candidate for a pulverize and overlay approach.**
Will segments or areas of the project have unbound surfacing material (i.e. gravel)?	**No**	**Potential for approach roads to be aggregate surfaced.**
Areas of special concern for pavement design, material	**No**	**At the time of this scoping report, there appear to be no areas of major concern. There were locations of potential shoulder**

selection, and/or follow-up field investigation?		**stabilization noted by the CLFHD staff whom attended the field review. The pavements and geotechnical investigation should provide more insight into these areas.**
Pavement structure depths known or estimated?	**Yes**	**The existing pavement depth is between 3-4 inches.**
Traffic volumes including truck percentages by classification known?	**Yes**	**The county has provided traffic data 1999. The ADT was 735 and the truck percentage was between 2-3%.**
CFL standard specifications and SCRs expected to be used for all material?	**Yes**	

Description	Response	Comment
Potential Major Impacts to Cost or Schedule	**No**	**Cost may be impacted based on the findings of the pavements and geotechnical investigation. These impacts may be to the structural section or to any earthwork. Certain materials may be required for this project. Impacts to the schedule may occur if the investigation is not conducted prior to winter.**
Constructability Concerns	**No**	**None at the time of this Project Delivery Plan.**
Summary of Preliminary Pavement & Materials Recommendations (including unbound surfacing and pavement preservation treatments)	**For the purposes of estimating quantities, a structural section of 4 inches of HMA placed on 6 inches of reclaimed pavement and base course should be assumed. A quantity of imported aggregate base should be assumed for shouldering. New concrete headwalls should also be assumed. Once the field investigation and laboratory testing have been completed, preliminary recommendations can be made.**	
Insert photos below indicating typical pavement condition as well as areas of concern.	  **Pavement Conditions (Mile Posts unknown)**	

C. HYDROLOGY/HYDRAULICS

Description	Response	Comment
Specific state or local design standards requirements	**Yes**	**Low Volume Road based on ADT of 735. Design will be 25-yr flood event.**
Major drainage structures (over 48") being retained?	**Yes**	**Sta. 307+00, 6 foot arch multi-plate culvert - Road will be widened to within ~1 foot of end of pipe. No HW or cutoff wall on downstream side. Pipe is perched ~1 foot on D/S side. Will need to mitigate scour hole undermining pipe.**
Exist/Proposed LWCs?	**No**	
Scour, erosion, deposition of sediment or debris, abrasion or corrosion of structure material at structure inlets or outlets	**Yes**	**Sta. 307+00, undermining of D/S pipe and there is a scour hole, concrete spalls on the U/S HW Sta. 217+00, two large pipes. One is a relief pipe without headwalls or cutoff walls. Main pipe has grout bags acting as a headwall but it is deteriorating and needs repairs or to be replaced with a Concrete headwall to possibly extend to relief pipe.**
Open bottom structures?	**No**	
Fish passage concerns?	**No**	
Channel migration concerns?	**No**	
Within floodplain regulated by FEMA?	**No**	**Stay Dry (FEMA flood hazard locator in Google Earth) shows a big X over Inyo Forest. Assume no floodplain regulation.**
Within 100 miles of coastline?	**No**	
Bridge on project (>= 20')?	**No**	
Condition or performance problems with minor drainage structures?	**Yes**	**Sta. 231+00, 6" culvert will need to be upsized**
Permanent Stormwater quality or quantity treatments required?	**No**	

Description	Response	Comment
Potential Major Impacts to Cost or Schedule	**No**	
Constructability Concerns	**Yes/No**	
Summary of Preliminary Hydraulic Design		

D. STRUCTURES

Culvert #1:

Description	Response	Comment
Existing structures (bridge, retaining wall, tunnel)?	**Yes**	**Sta. 217+00, 6 ft. multi-plate arch culvert and overflow culvert, The multi-plate arch culvert invert may have deteriorated to the point that the replacement of the culvert is warranted. The multi-plate arch culvert conveys a live stream. At the time of the site visit the overflow culvert was dry. Inlet: Concrete bag headwall present. The headwall is missing some of the concrete bags and is undermined. Outlet: Concrete bag headwall present. See Section C. Hydrology/Hydraulics for additional details.**

BRIDGE DESIGN STANDARDS		
Bridge Width		**N/A**
Bridge Loading	**Unknown**	**TBD**
Bridge Railing	**Crash Tested**	**A structural railing meeting TL-3 may be required.**

Description	Comment
Structure as-builts, contract plans, inspection reports, structure ratings, NBIS reports, etc… available?	**Given the type and size of the structure, it is unlikely that anything other than the contract plans is available. Given the limited amount of additional information that the plans may contain, it's not worth the effort at this point in time.**
Determine type and measure span length, bridge width, curb-to-curb width, etc…	**N/A**
Hydraulic conditions including bridge opening (waterway) characteristics, visible scour, deposition of sediment, debris passage, or apparent instabilities around the structure.	**There is some undermining of the inlet headwall. Debris passage does not appear to an issue.**
Foundation conditions including shallow or deep, founding material (rock or soil) and groundwater conditions	**The foundations are most likely shallow and founded on a soil-cobble-boulder mix. The culvert is conveying a live stream so groundwater is present.**
Apparent structure condition.	**As noted previously the culvert invert may have deteriorated to the point that the replacement of the culvert is warranted. And at the inlet, the concrete bag headwall is missing some bags**
Bridge railing, transitions, and existing utilities.	**None.**
Potential structure removal issues, ie. hazardous material (paint), access limitations, etc.?	**It is highly improbable that hazardous materials are present. The access is good. The structure removal issues are those that normally occur when working in a live stream with active public roadway traffic.**
Provide photos of all structures, any apparent deficiencies, and upstream and downstream stream channels.	 **Inlet – Note overflow pipe to the right**

	 **Inlet – Note undermining of the wingwall**  **Outlet**
Document typical roadway section and approach railing. When available, obtain roadway plan and profile sheets, mapping, and ROW limits	**The proposed roadway section for this segment (Station 113+00 to Station 308+00) is 24 feet with 11-foot lanes and 1-foot shoulders. The existing paved width along this segment varies from 24-26 feet. There is no approach railing or other railing.**
Document potential environmental issues and apparent ROW limits	**See C. Environment, Biological Resources**
Posted speed	**There is no posted speed limit.**
Discuss structure design criteria or special design criteria (exceptions to AASHTO LRFD Design Specifications) required by local/state/owner agencies. Include special loading conditions (i.e. snow loads, overload vehicles, etc.) and load rating requirements.	**There is nothing to indicate that there is a need to deviate from AASHTO LRFD Design Specifications**.
Note bridge superstructure and substructure types along the route	**N/A**
Note bridge rail types in the vicinity. Include owner agency preferences and crash test level requirements	**There appear to be at least two feasible options if replacement of the existing multi-plate arch culvert and headwalls is contemplated. One option is to use a structural railing along with transition railing and approach guardrail. The second option is to use long span**

	guardrail along with guardrail terminal sections. The second option would only be feasible if the overflow culvert is removed.
Locate nearest ACI ready mix concrete plants, PCI girder fabrication plant, and AISC structural steel fabrication plants as applicable	**Ready mix concrete plant:** **711 Materials** **906 E Line St** **Bishop, CA 93514** **Phone: 760-872-6781**
Describe work areas adjacent to proposed alignment. Determine available staging areas and potential erection locations	**There are limited work areas adjacent to the roadway at the multi-plate arch culvert location. The use of staged construction with single lane closures appears to be the optimum manner in which to proceed with construction.**
Describe site accessibility including local roadway geometry and local bridge weight limits as it affects member hauling limitations	**Site accessibility is good. Local roadway geometry and local weight limits should have no impact on the structure type selected.**
Discuss road/bridge closure and detour options, with consideration to temporary bridge if necessary. Investigate existing structure for construction staging feasibility	**The use of staged construction with single lane closures appears to be the optimum manner in which to proceed with construction. Given the presence of the overflow culvert at this site, a flow diversion culvert is not needed during construction.**
Consider feasibility of spill through vs. vertical abutment types for the structural layout	**N/A**
Locate possible locations for retaining walls and potential wall types	**N/A**
Consider possible foundation types and semi integral vs. integral abutment types	**N/A**
Address economical structure types to meet the serviceability requirements of the agency or route as they relate to type and volume of traffic	**N/A**
Determine estimated construction season limits and multi-season impacts to project	**Other than avoiding times of high stream flows due to snowmelt and any environmental restrictions, the optimum construction season for the structure work runs from spring through fall**
Determine aesthetic requirements and owner agency special requests	**None at this point.**
Determine maintenance concerns (i.e. chloride use on roads, painting vs. weathering steel, drift issues)	**Stream bed load does not appear excessively high and debris loading does not appear to be an issue so replacement in kind is likely. There is the possibility that multi-plate arch culvert will be upsized based on the results of the hydraulic analysis.**

Description	Response	Comment
Potential Major Impacts to Cost or Schedule	**No**	**Nothing has been identified that could be a potential major impact to the cost or the schedule.**
Constructability Concerns	**No**	**The issues that normally arise when replacing a culvert in a live stream while maintaining public traffic should be expected.**
Summary of Preliminary Structure Design	**Two options are being considered.** **Option 1** • **Removal and replacement of the multi-plate arch culvert in kind. Extending the length and up sizing are possibilities.** • **Removal and replacement of the concrete bag headwall at the inlet and outlet with reinforced concrete headwalls** • **The estimated construction cost is $90,000** **Option 2** • **Localized repairs to the inlet concrete bag headwall** • **Adding riprap at the inlet to address the undermining of the headwall** • **The estimated construction cost is $10,000**	

Culvert #2:

Description	Response	Comment
Existing structures (bridge, retaining wall, tunnel)?	**Yes**	**Sta. 307+00, 6 ft. arch multi-plate culvert,** **Culvert: the invert may have deteriorated to the point that the replacement of the culvert is warranted. The culvert conveys a live stream.** **Inlet: Concrete headwall and wingwalls present. The headwall and wingwalls show damage that is consistent with the presence of ASR.** **Outlet: No headwall and no wingwalls; scour hole present. See Section C. Hydrology/Hydraulics for additional details.**
BRIDGE DESIGN STANDARDS		
Bridge Width		**N/A**
Bridge Loading	**Unknown**	**TBD**
Bridge Railing	**Crash Tested**	**A structural railing meeting TL-3 may be required.**

Description	Comment
Structure as-builts, contract plans, inspection reports, structure ratings, NBIS reports, etc… available?	**Given the type and size of the structure, it is unlikely that anything other than the contract plans is available. Given the limited amount of additional information that the plans may contain, it's not worth the effort at this point in time.**
Determine type and measure span length, bridge width, curb-to-curb width, etc…	**N/A**
Hydraulic conditions including bridge opening (waterway) characteristics, visible scour, deposition of sediment, debris passage, or apparent instabilities around the	**At the outlet there is a scour hole that has undermined the multi-plate arch culvert. Debris passage does not appear to an issue.**

structure.	
Foundation conditions including shallow or deep, founding material (rock or soil) and groundwater conditions	**The foundations are most likely shallow and founded on a soil cobble boulder mix. The culvert is conveying a live stream so groundwater is present.**
Apparent structure condition.	**As noted previously the culvert invert may have deteriorated to the point that the replacement of the culvert is warranted. And the inlet, the concrete headwall and wingwalls show damage that is consistent with the presence of ASR.**
Bridge railing, transitions, and existing utilities.	**None.**
Potential structure removal issues, ie. hazardous material (paint), access limitations, etc.?	**It is highly improbable that hazardous materials are present. The access is good. The structure removal issues are those that normally occur when working in a live stream with active public roadway traffic.**
Provide photos of all structures, any apparent deficiencies, and upstream and downstream stream channels.	 **Inlet**  **Outlet – Note scour hole and undermining of culvert**

Inlet Headwall – Note deteriorated concrete

Inlet Wingwall – Note condition of concrete

Downstream Channel

	 **Upstream Channel**
Document typical roadway section and approach railing. When available, obtain roadway plan and profile sheets, mapping, and ROW limits	**The proposed roadway section for this segment (Station 113+00 to Station 308+00) is 24 feet with 11-foot lanes and 1-foot shoulders. The existing paved width along this segment varies from 24-26 feet. There is no approach railing or other railing.**
Document potential environmental issues and apparent ROW limits	**See C. Environment, Biological Resources**
Posted speed	**There is no posted speed limit.**
Discuss structure design criteria or special design criteria (exceptions to AASHTO LRFD Design Specifications) required by local/state/owner agencies. Include special loading conditions (i.e. snow loads, overload vehicles, etc.) and load rating requirements.	**There is nothing to indicate that there is a need to deviate from AASHTO LRFD Design Specifications.**
Note bridge superstructure and substructure types along the route	**N/A**
Note bridge rail types in the vicinity. Include owner agency preferences and crash test level requirements	**There appear to be at least two feasible options. One option is to use a structural railing along with transition railing and approach guardrail. The second option is to use long span guardrail along with guardrail terminal sections.**
Locate nearest ACI ready mix concrete plants, PCI girder fabrication plant, and AISC structural steel fabrication plants as applicable	**Ready mix concrete plant:** **711 Materials** **906 E Line St** **Bishop, CA 93514** **Phone: 760-872-6781**
Describe work areas adjacent to proposed alignment. Determine available staging areas and potential erection locations	**There are limited work areas adjacent to the roadway at the multi-plate arch culvert location. The use of staged construction with single lane closures appears to be the optimum manner in which to proceed with construction.**
Describe site accessibility including local roadway geometry and local bridge weight limits as it affects member hauling limitations	**Site accessibility is good. Local roadway geometry and local weight limits should have no impact on the structure type selected.**

Discuss road/bridge closure and detour options, with consideration to temporary bridge if necessary. Investigate existing structure for construction staging feasibility	**The use of staged construction with single lane closures appears to be the optimum manner in which to proceed with construction. A minor realignment of the channel would allow the construction of the new culvert alongside the existing culvert, which would eliminate the need for a flow diversion culvert and the associated costs.**
Consider feasibility of spill through vs. vertical abutment types for the structural layout	**N/A**
Locate possible locations for retaining walls and potential wall types	**N/A**
Consider possible foundation types and semi integral vs. integral abutment types	**N/A**
Address economical structure types to meet the serviceability requirements of the agency or route as they relate to type and volume of traffic	**N/A**
Determine estimated construction season limits and multi-season impacts to project	**Other than avoiding times of high stream flows due to snowmelt and any environmental restrictions, the optimum construction season for the structure work runs from spring through fall**
Determine aesthetic requirements and owner agency special requests	**None at this point.**
Determine maintenance concerns (i.e. chloride use on roads, painting vs. weathering steel, drift issues)	**Stream bed load does not appear excessively high and debris loading does not appear to be an issue so replacement in kind is likely. There is the possibility that multi-plate arch culvert will be upsized based on the results of the hydraulic analysis.**

Description	Response	Comment
Potential Major Impacts to Cost or Schedule	**No**	**Nothing has been identified that could be a potential major impact to the cost or the schedule.**
Constructability Concerns	**No**	**The issues that normally arise when replacing a culvert in a live stream while maintaining public traffic should be expected.**
Summary of Preliminary Structure Design	**Two options are being considered.** **Option 1** • **Removal and replacement of the multi-plate arch culvert in kind. Extending the length and up sizing are possibilities.** • **Removal of the overflow culvert.** • **Removal and replacement of the concrete headwall and wingwall at the inlet.** • **Adding a concrete headwall and wingwalls at the outlet.** • **The estimated construction cost is $85,000** **Option 2** • **Localized repairs to the concrete bag headwall at the inlet** • **Adding riprap at the inlet to address the undermining of headwall** • **The estimated construction cost is $10,000**	

V. TECHNOLOGY AND INNOVATION INITIATIVES

Complete the following table and discuss Every Day Counts technology and innovation initiatives (www.fhwa.dot.gov/everydaycounts/) that can be suitably deployed on this project. Provide justification for those EDC initiatives that do not apply or were not considered

BRIDGES (http://www.fhwa.dot.gov/accelerating/innovation.cfm)		
Description	**Applicable to Project?**	**Justification**
Geosynthetic Reinforced Soil – Integrated Bridge System	**No**	**No structures within the project limits.**
Prefabricated Bridge Elements and Systems	**No**	**No structures within the project limits.**
Slide-in Bridge Construction	**No**	**No structures within the project limits.**
Composite bridge decking for moveable bridges	**No**	**No structures within the project limits.**
Fully precast bridge bents for use in seismic regions	**No**	**No structures within the project limits.**
Full depth ultra-high performance concrete waffle bridge panels	**No**	**No structures within the project limits.**

CONSTRUCTION (http://www.fhwa.dot.gov/accelerating/innovation.cfm)		
Description	**Applicable to Project?**	**Justification**
Three-Dimensional Modeling	**No**	**The Three Dimensional Modeling initiative does not lend itself to this project, due to the limited length of roadway to be modeled. Most of the project is 3R.**
Alternative Technical Concepts	**No**	**This project does not involve highly technical processes or procedures.**
Construction Manager/General Contractor	**No**	**CM/GC is not a good fit for this type of project.**
Design Build	**No**	**There is not a current need to accelerate the design phase of this project.**

OPERATIONS (http://www.fhwa.dot.gov/accelerating/innovation.cfm)		
Description	**Applicable to Project?**	**Justification**
Adaptive Signal Control	**No**	**A corridor of signalized intersections is not in the scope of this work.**
Making Work Zones Better	**No**	**This project's ADT of 775 does not warrant the use of these high volume methods.**

PAVEMENT (http://www.fhwa.dot.gov/accelerating/innovation.cfm)

Description	Applicable to Project?	Justification
Aggregate Image Measurement System 2	**No**	**Not believed applicable to or to be within the scope of this project.**
Asphalt Binder Cracking Device	**No**	**Not believed applicable to or to be within the scope of this project.**
Intelligent Asphalt Compaction Analyzer	**No**	**Not believed applicable to or to be within the scope of this project.**
Intelligent Compaction and Construction	**Yes**	**Contractor has the option of using this**
Precast Concrete Pavement Systems	**No**	**Not believed applicable to or to be within the scope of this project.**
Warm Mix Asphalt	**Yes**	**Contractor has the option of using warm mix.**

PLANNING / ENVIRONMENT (http://www.fhwa.dot.gov/accelerating/innovation.cfm)		
Description	**Applicable to Project?**	**Justification**
Enhanced Technical Assistance with ongoing EIS	**No**	**The project is projected to be covered under a Categorical Exclusion**
Clarifying the Scope of Preliminary Design	**Yes**	**Scope of preliminary design**
Expanding the Use of Programmatic Agreements	**No**	**No programmatic agreements were identified at scoping.**
Flexibilities in Utility Accommodation and Relocation	**No**	**Coordinate with Right-of-way about utility relocations.**
Geospatial Data Collaboration	**Yes**	**GIS data will be shared between partners and regulatory agencies.**
Implementing Quality Environmental Documentation	**Yes**	**The principles of quality environmental documentation will be implemented in this project.**
Locally Administered Federal-aid Projects	**No**	**Project is FLAP funded.**
Planning and Environmental Linkages	**Unknown**	**No planning and environmental linkages were identified during scoping.**
Programmatic Agreements	**Unknown**	**None were identified at scoping**
Use of In-Lieu Fee and Mitigation Banking	**Unknown**	**No mitigation banks were identified.**

SAFETY (http://www.fhwa.dot.gov/accelerating/innovation.cfm)		
Description	**Applicable to Project?**	**Justification**
All Weather Pavement Marking System	**No**	**Not believed applicable to or to be within the scope of this project.**
Automated Pavement Marker	**No**	**Not believed applicable to or to be within the scope of this project.**
High Friction Surfaces	**No**	**Not believed applicable to or to be within the scope of this project. Safety data does not indicate a need for this.**
Intersection and Interchange Geometrics	**No**	**Not believed applicable to or to be within the scope of this project. Traffic volumes do not warrant this.**
Road Safety Audits	**No**	**Not believed applicable to or to be within the scope of this project.**

SAFETY (http://www.fhwa.dot.gov/accelerating/innovation.cfm)		
Description	**Applicable to Project?**	**Justification**
		Traffic accidents are low and do not indicate a need for this.
Safety Edge	**Yes**	**Safety Edge will be used on this project.**

SAFETY PRODUCT PERFORMANCE EVALUATIONS (http://www.fhwa.dot.gov/accelerating/innovation.cfm)		
Description	**Applicable to Project?**	**Justification**
Sequential Dynamic Curve Warning System	**No**	**Traffic and accident data does not indicate a need for this.**

INNOVATION DEPLOYMENT (http://www.fhwa.dot.gov/accelerating/innovation.cfm)		
Description	**Applicable to Project?**	**Justification**
Training on How to Accelerate Deployment ("Leap Not Creep")	**No**	**These initiatives do not apply to project specific activities.**
EDC Exchange	**No**	**These initiatives do not apply to project specific activities.**
Communities of Practice	**No**	**These initiatives do not apply to project specific activities.**
Webinars	**No**	**These initiatives do not apply to project specific activities.**
Showcases	**No**	**These initiatives do not apply to project specific activities.**

[List potential new, emerging, innovative, and underused technologies identified as potentially beneficial to the project other than those from the tables above. These ideas may come from a variety of other programs such as the FHWA's Turner Fairbanks Highway Research Facility including its Research Partnership Programs www.fhwa.dot.gov/research/, FHWA's Highways for Life www.fhwa.dot.gov/hfl or other FHWA programs; the Transportation Research Board's (TRB) Strategic Highway Research Program 2 (SHRP2). Consult the Functional Team Leads for new, ready to implement technologies appropriate for the project. Identify any EDC initiatives that can be incorporated in this project using the following table. Provide justification below the table for not considering each specific initiative]

CA FLAP INY CR 2022(1)
South Lake Road

SAFETY ANALYSIS OF CRASH DATA

2002-2010

Federal Highway Administration
Central Federal Lands Highway Division
Federal Lands Access Program

6/17/2015

I. General Route Information

State:	California
County:	Inyo
Route Number:	CR 2022
Route Description:	Primary access to recreation (hiking, camping, biking), public and private property
Approximate Mileposts:	MP 0.00 to MP 6.9
Functional Classification:	Rural Major Collector in Mountainous Terrain
Project Length:	Approximately 6.9 miles
Speed Limit:	Not Posted. CA: 55 mph unless otherwise posted. Two curve locations with 25 mph and 15 mph advisory speeds. Design speed is 45 mph.
Lane Width:	MP 0.0 to MP 2.1 – 22’ lane; 3’ shoulders MP 2.1 to MP 5.8 – 22’ lane; 1’ shoulders MP 5.8 to MP 6.9 – 20’ lane; 1’ shoulders
Traffic Volume:	735 ADT (2015); 2-3% Trucks
Bicycle Facility:	Class III – 3’ shoulder
Route Location:	See Figure 1

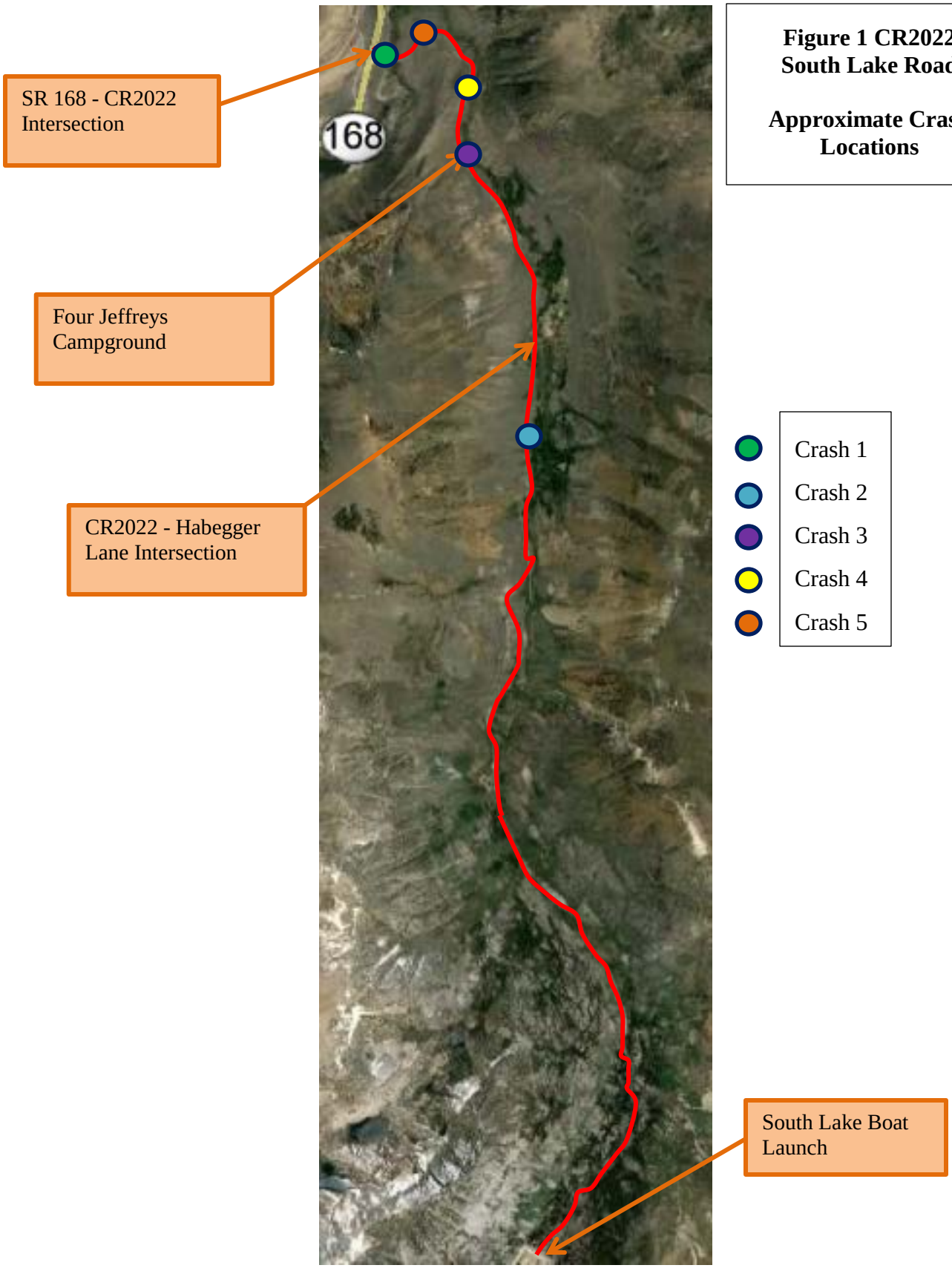

Figure 1 CR2022 South Lake Road

Approximate Crash Locations

II. Analysis

CFLHD requested crash data for the previous 10 years. Inyo County Public Works provided crash data from 2002 through 2008. During this 7-year time period, 5 crashes were reported along the 6.9 miles of South Lake Road. See Figure 1. There were no crashes reported during 2004, 2005, 2007, 2009, and 2010. This report will aid in the determination of potential crash patterns, and ultimately provide a basis to develop safety recommendations and countermeasures for crash mitigation.

The data set breaks out the crash severity, number of vehicles, number of occupants, vehicle type, weather, crash type (Road Departure, Sideswipe, Rollover, Head-on, and Angle), time of day, violations, road surface conditions, and light conditions. See Appendix A for a synopsis of the data set.

However, the data does not provide GPS coordinates or Mile Post (MP) designation. Therefore, the location of each crash must be estimated by distance and direction from the nearest intersection as shown in the data set. While not all information is available, there are inferences and conclusions which can be drawn from the data. The following is a summary of the known data.

A. Crash Severity

Crashes are categorized by the level of severity. Severe crashes include fatal crashes and crashes that result in at least one injury. There were 5 total crashes reported involving 7 vehicles with a total of 8 occupants. There were no fatalities. Of the 5 crashes, there were 2 injury crashes; 1 crash involved 3 injuries of severity level 4 (Injury - Visible), and 1 crashed involved 2 injuries at severity level 3 (Injury – Complaint of Pain). Of the 5 crashes, 3 were Property Damage Only (PDO) crashes. There were no pedestrian-related, bicycle-related, or motorcycle crashes reported during this time period. Figure 2 illustrates the breakout of crash severity.

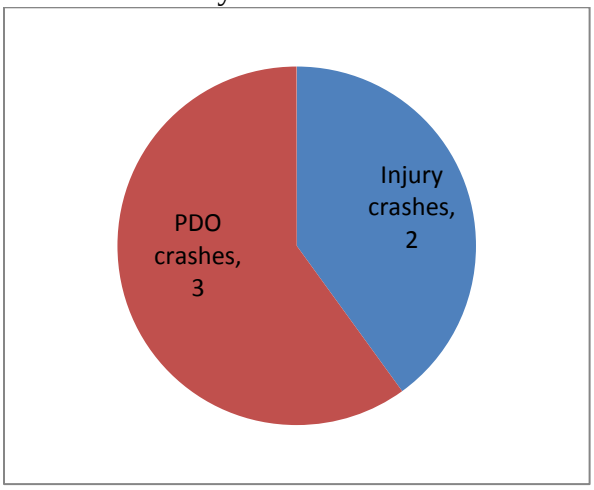

Figure 2 Crash Severity

The data set reveals that there were two crashes in 2002. Crash #1 occurred in the morning of July19th. This crash was a PDO crash involving two vehicles near the intersection of South Lake Road and Route 168. Crash #2 occurred in early evening of

August 31st. This crash was a single-vehicle PDO crash located approximately ½-mile from Habegger Lane.

In 2003, Crash #3 was a multiple-vehicle crash at the Four Jeffreys Campground intersection involving two vehicles with three occupants injured, each at severity level 4, which occurred in the late afternoon of June 21st.

In 2006, Crash #4 was a single-vehicle PDO crash approximately ¾-miles from Route 168 which occurred in mid-afternoon of July 27th.

In 2008, Crash #5 was a single-vehicle crash resulting in 2 injuries, each at severity level 3, which occurred in the evening of July 10th. The crash occurred approximately 1600' from Route 168.

Figure 3 indicates that 3 of the 5 crashes involved one vehicle.

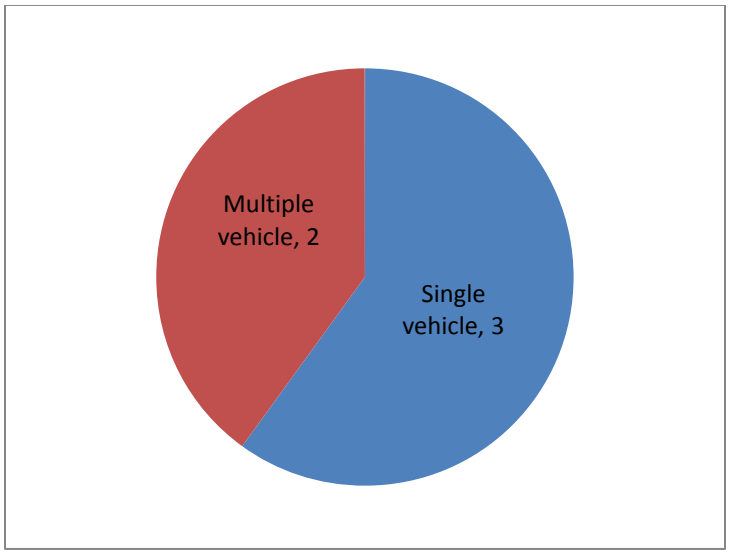

Figure 3 Single vs Multiple Vehicle Crashes

Figure 4 summarizes the crash circumstances. The data indicate that of the two multiple-vehicle crashes, both involved the vehicles hitting broadside. Of the three single-vehicle crashes, two involved the vehicle hitting a fixed object and one involved hitting an animal.

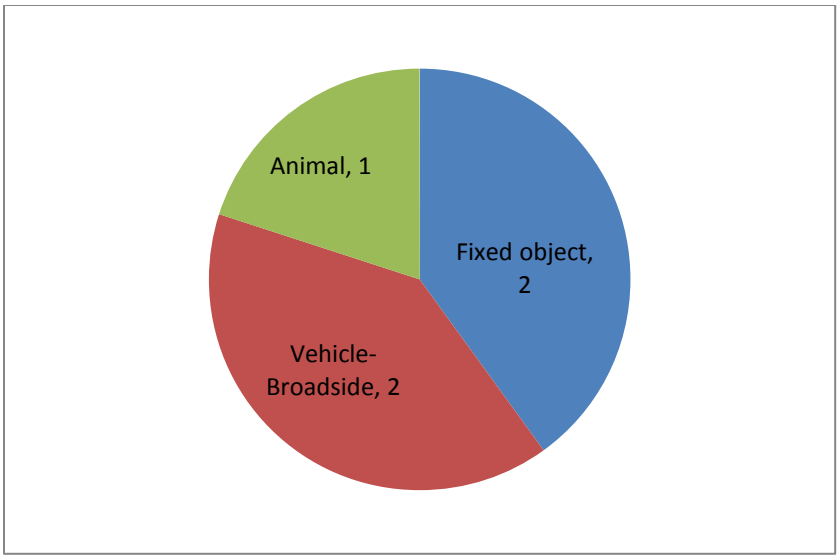

Figure 4 Crash Circumstances

B. Road Alignment

Road alignment geometry was not indicated in the crash data set from Inyo County. However, the road is curvilinear, and traverses through a mountainous, partially forested environment. There are steep cut/fill side slopes and areas with narrow shoulders.

C. Collision Factors

Driver violations were cited in 4 of the 5 crashes. The four driver violations included speeding, right-of-way (yield) violation, turning violation, and wrong-way violation. See Figure 5.

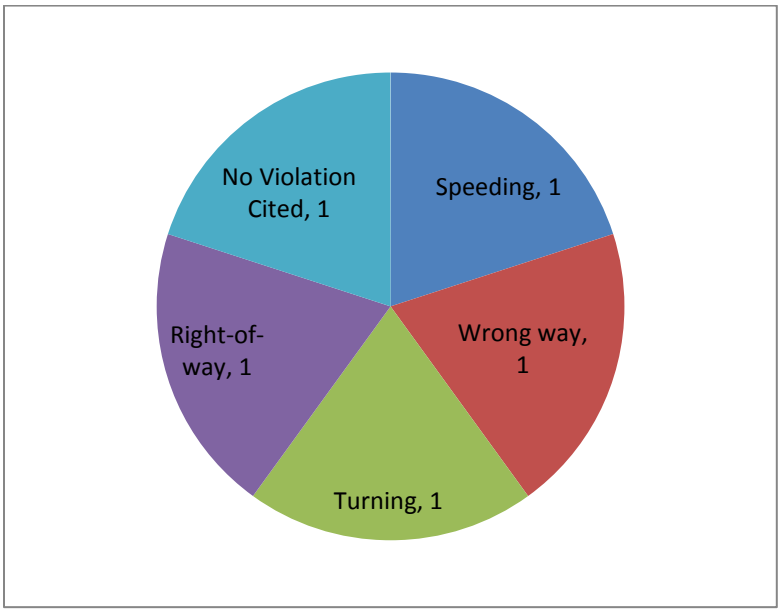

Figure 5 Cited Violations

Daylight hours and Dry road conditions were cited in 3 of the crashes. Daylight hours and Wet road conditions were cited in 1 crash. Dusk hours and Dry road conditions were cited in 1 crash. See Figure 6.

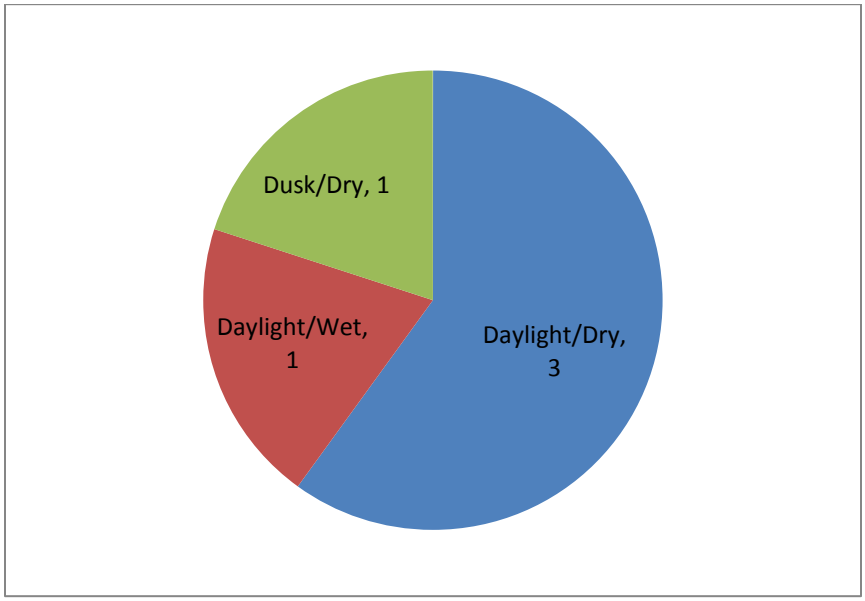

Figure 6 Daylight/Dusk vs Dry/Wet Road

III. Summary and Potential Mitigation

During the 9-year period from 2002 through 2010, 5 crashes were reported. This represents 1.8 crashes per year. Of the 5 crashes, 60% were Property Damage Only, and 40% of the total crashes involved at least one injury. Single vehicle crashes account for 60% of the total crashes. Driver behavior was cited in 80% of the total crashes. Vehicles striking a fixed object were reported in 40% of the total crashes. Crashes occurring during daylight hours and dry road surface conditions were reported in 60% of the total crashes.

The crashes are widely dispersed and the data set is limited, and as such, it is not practical to define 'hot spots' along the route. However, there are mitigation strategies which can be considered for the entire route to reduce the potential for crashes.

- Curve warning signs and chevron signs provide advance notification in areas where there are long tangent sections of roadway followed by curvature.
- Wider edge line markings and edge line rumble strips are suitable systemic countermeasures to consider for a roadway with narrow shoulders and curvilinear alignment.
- Intersection warning signs at high-volume areas such as the Four Jeffreys Campground and at Route 168 can provide additional warning for motorists.
- Turn lane for Four Jeffreys Campground.

APPENDIX A

SOUTH LAKE ROAD CRASH SUMMARY - DATA SYNOPSIS

Crash Number	Date	Time	Primary Route	Secondary Route	Distance	Direction	A= Cloudy; B= Clear	Property Damage Only	Severity Level: 3= Visible injury; 4= Complaint of pain	Fatalities	No. of people / severity level	Violations: 3= Speed; 5= Wrong way; 8= Turning; 9= Right of way; 18= Other than driver	N= Not Hit & Run	D= Broadside; E= Hit object; F= Overturn	Object hit: C= Other vehicle; H= Animal; I= Fixed object	A= Dry pavement; B= Wet pavement	H= No unusual conditions	A= Daylight; B= Dusk/Dawn	A= Passenger car; B= Passenger car w/ Trailer
1	7/19/2002	0630	SOUTH LAKE RD	RT 168	1	S	A	1	0	0	0	9	N	D	C	A	H	A	A
2	8/31/2002	1751	SOUTH LAKE RD	HABEGGER LN	2640	S	A	1	0	0	0	18	N	E	H	A	H	A	-
3	6/21/2003	1600	SOUTH LAKE RD	FOUR JEFFREYS CAMPGROUND	0	-	A	0	4	0	3	3	N	D	C	A	H	A	A
4	7/27/2006	1430	SOUTH LAKE RD	RT 168	3696	S	B	1	0	0	0	8	N	E	I	B	H	A	A
5	7/10/2008	1800	SOUTH LAKE RD	RT 168	1584	S	B	0	3	0	2	5	N	F	I	A	H	B	B

SCOPE OF WORK

CA FLAP INY CR2022(1)
South Lake Road
Scoping/Preliminary Design/Final Design

Federal Highway Administration
Central Federal Lands Highway Division

June 8, 2015

I. GENERAL INFORMATION

A. INTRODUCTION

This Scope of Work (SOW) is to perform final design and environmental clearance services including roadway, hydraulics, survey, geotech, and pavement engineering design, as well as project management services towards delivery of a 100% PS&E for proposed improvements to South Lake Road, a two lane paved major collector roadway accessing the Bishop Creek canyon and South Lake in the Inyo National Forest. South Lake Road starts at the intersection with State Route 168 and continues approximately 6.9 miles to South Lake.

B. PROJECT SUMMARY

CR 2022(1) South Lake Road is in Inyo County, approximately 15 miles southwest of Bishop, California. The route starts at the intersection with State Route 168 and continues approximately 6.9 miles to South Lake. The limits of the project improvements start at the intersection with State Route 168 and continue 6.9 miles to the end of County maintenance just before the concrete boat ramp. The road is maintained by Inyo County.

The general scope of this project is proposed as 3R improvements; to pulverize and reclaim the existing pavement and portion of the existing subgrade for use as a new base course and overlay with a new asphalt concrete pavement section on 6.9 miles of South Lake Road, as well as minor widening along the first 2.1 miles. The project includes grading, pulverize existing pavement, minor drainage structures, major drainage structures, slope stabilization, rock scaling, placement of crushed aggregate base and asphalt pavement, signing, striping, and other safety-related features necessary to meet current design practice. Specifically, project elements include:

1) Segment 1: Rehabilitate and widen the first 2.1 miles from the intersection with State Route 168 (Station 1+00) to the Bishop Creek Lodge and Resort (Station 113+00) to accommodate a Class III shoulder. The proposed roadway section for this segment is 28 feet wide with 11-foot lanes and 3-foot shoulders. The existing paved width along this segment varies from 24-27 feet, with a wider bench width. Minor cuts and fills will be required where the proposed section does not fit within the existing roadway bench. Construction of left-turn lanes into the Four Jeffrey Campground is also included in Segment 1.
2) Segment 2: Rehabilitate the next 3.7 miles from the Bishop Creek Lodge and Resort (Station 113+00) to just beyond Parcher's Road (Station 308+00). The proposed roadway section for this segment is 24 feet with 11-foot lanes and 1-foot shoulders. The existing paved width along this segment varies from 24-26 feet.
3) Segment 3: Rehabilitate the remaining 1.1 miles from Parcher's Road (Station 308+00) to the end of the project at Station 364+00. The proposed roadway section for this segment is 22 feet with 10-foot lanes and 1-foot shoulders. The existing paved width along this segment varies from 21-22 feet.
4) Improvements to paved and unpaved pullouts maintained by the County.

A scoping meeting and field visit was completed in May 2015, reviewing the tentative project elements and issues associated with the project. Attendees from CFLHD, the County, and Forest participated, and helped identify the improvements that are detailed in a Scoping Report, which formed the basis for this Scope of Work.

II. WORK REQUIRED

A. PROJECT DEVELOPMENT PLANNING

No work under this task order. Project Development Planning activities provided under previous task order.

B. PROJECT MANAGEMENT

Project Management (P6 Activity PM)

Step 1. Project Management oversight. Typical activities include, but are not limited to, the following:

- Identify the project requirements and determine complexity of the work, technical activities, schedules and resources
- Discuss and coordinate project requirements designated project team contacts
- Prepare and maintain project design files & supporting documentation for correspondence, reports, design details and calculations of quantities that are included in the plans.
- Update Project Development Plan (PDP)
- Develop and maintain a CPM Project Schedule (such as Microsoft Project CPM)
  - Identify the deliverable item due dates, milestones, reviews, and meetings, that ensures meeting the completion date objective
  - Identify all critical tasks in meeting the completion date
  - This schedule will be used to coordinate activities, meetings, and delivery dates

Deliverables for Project Management

- Initial CPM Schedule and Revised Schedules

Project Management During Acquisitions (P6 Activity PMA)

Step 1. Project Management support during acquisition. Typical activities include, but are not limited to, the following:

- Coordination with acquisitions
- Response to bidder questions

C. ENVIRONMENT

The intended use of this Environmental Scope of Work is for categorical exclusions and environmental assessments only. EIS documents follow a difference process and require significant changes to this document.

Environmental Scoping (P6 Activity E0)

Develop agreements establishing roles, responsibilities, and partnering methods during initial coordination with agencies. Identify potential resource issues or concerns based on preliminary

information, research, and coordination. Develop draft purpose and need, and alternatives. Initiate coordination with stakeholders, tribes, and the public.

Assumptions for E0 Activity:

- **FHWA CFL is the lead agency for the NEPA process.**
- **A Categorical Exclusion is assumed for NEPA Compliance**
- **Inyo County will be the lead agency for CEQA compliance**
- **Environmental commitments including best management practices (BMPs) for air quality, water quality, and cultural resources will be incorporated into the project description. Timing restrictions and other avoidance measures will be incorporated into project construction in order to avoid adverse effects to biological resources. The implementation of a traffic control plan will be assumed as part of project construction.**
- **The project team will consist of FHWA-CFL, Inyo Nation Forest, Inyo County.**
- **The purpose and need statement from the application will be revised, as appropriate, to reflect the current scope of work.**
- **One informal public outreach meeting will be conducted in conjunction with the 30% field review. This scope assumes minimal to no public controversy.**

Step 1. Perform Preliminary Partner Agency Coordination

- Establish Interagency (SEE) Team
  - Create Project Contacts List for environmental activities
  - Define Environmental Roles and Responsibilities

Step 2. Conduct Preliminary Environmental Research

- Conduct initial research on all resource areas
  - Identify resources that have potential impacts or that do not fall within project area or have no potential for impacts
  - Complete the table below to document scope of work assumptions for all resources, and/or the work anticipated.

Resource	Action or Assumption
Air Quality	**No adverse effect** - Inyo County is listed as non-attainment for PM-10. The project falls under the exemption list in Table 2 of 40 CFR 93.126 exempt projects.
Coastal Areas	**Not applicable**
Cultural Resources	**No adverse effect** - For purposes of this scope, it is assumed to historic resources are present. Archeological resources, if found, are assumed to not be adversely affected; therefore, no extensive archeological testing or data recovery plan is included. If these elements are necessary, additional funding, effort and schedule impacts are possible. No subsurface testing for archeological resources is assumed.
Farmlands	**No impact.** There are no farmlands present.
Floodplains	**Unknown – Coordinate with Hydraulics about floodplains.**
Geology/Soils	**Unknown – Wet soils and possible subgrade issues were identified. Coordinate with Geotech.**
Hazardous Substances	**No adverse effect** – A desktop search and field reconnaissance did not indicate any hazmat concerns. No hazardous material studies are included in this scope. An updated database review will be conducted at time of preliminary design.

<table>
<tr><td>Land Use</td><td>No effect – There are no acquisitions or relocations required for the project. The project is consistent with local and regional plans. Temporary staging would require a Special Use permit from USFS.</td></tr>
<tr><td>Noise</td><td>No effect - This is assumed a Type III project; therefore, no noise evaluation is required.</td></tr>
<tr><td>Noxious Weeds</td><td>No effect – Noxious weeds are assumed present. These would be managed with a standard noxious weed specification that would be consistent with the INF's Vegetation Management Plan.</td></tr>
<tr><td>Recreation</td><td>No adverse effect – The roadway would remain open during construction with minor construction delays. All recreation areas along the corridor would remain accessible.</td></tr>
<tr><td>Right-of-way</td><td>No effect – All work occurs in existing right-of-way. No new right-of-way would be required.</td></tr>
<tr><td>Section 4(f) Properties</td><td>Limited impact - The road accesses a USDA Forest Service Recreation Area, which is a Section 4(f) resource. Access disruption, including short-term closures may be needed. Construction will occur during busy summer months</td></tr>
<tr><td>Section 6(f) Properties</td><td>No effect – No 6(f) properties present</td></tr>
<tr><td>Social Economic Resources</td><td>No effect – No low income or minority populations would be affected by the project</td></tr>
<tr><td>T&E and Sensitive Species</td><td>No adverse effect – A habitat survey will be performed for listed species and will include a nest survey for potential MBTA. Informal consultation with USFWS is assumed and a BA/BE will be prepared.

The following species list was generated from the IPAC and USFS sensitive species. Further species may be added for consideration.
<table>
<tr><th>Scientific Name</th><th>Common Name</th><th>USFWS</th><th>USFS</th><th>State</th></tr>
<tr><td>Gila bicolor snyderi</td><td>Owens tui chub</td><td>E</td><td></td><td></td></tr>
<tr><td>Oncorhynchus clarki henshawi</td><td>Lahontan cutthroat trout</td><td>T</td><td></td><td></td></tr>
<tr><td>Rana sierrae</td><td>Sierra Nevada Yellow-legged from</td><td>CH</td><td></td><td></td></tr>
<tr><td>Accipiter gentilis</td><td>Northern goshawk</td><td></td><td>S</td><td></td></tr>
<tr><td>Empidonax traillii</td><td>Willow flycatcher</td><td></td><td>S</td><td></td></tr>
<tr><td>Haliaeetus leucocephalus</td><td>Bald eagle</td><td></td><td>S</td><td></td></tr>
<tr><td>Martes Americana</td><td>American marten</td><td></td><td>S</td><td></td></tr>
<tr><td>Vulpes vulpes necator</td><td>Sierra Nevada red fox</td><td></td><td>S</td><td></td></tr>
<tr><td>Speyerica Nokomis apacheana</td><td>Apache silverspot butterfly</td><td></td><td>S</td><td></td></tr>
</table></td></tr>
<tr><td>Utilities</td><td>No adverse effect – There are minimal anticipated impacts for existing utilities. Utility poles in the upper sections of the roadway may need to be relocated.</td></tr>
<tr><td>Vegetation</td><td>No adverse effect – Tree removal is likely in limited areas where trees occur in the clear zone. Re-seeding will adhere to INF vegetation management plan.</td></tr>
<tr><td>Visual Quality</td><td>No adverse effect – Following construction, project-related improvements would be contained within existing roadway and are unlikely to change the existing visual character of the area. No visual impact assessment is proposed to support NEPA compliance.</td></tr>
<tr><td>Water Quality</td><td>No adverse effect – The project will disturb more than one acre,</td></tr>
</table>

	therefore it is assumed the project will require coverage under the NPDES General Construction Permit. Post-construction BMPs are required per the CGP
Wetlands and Waters of the US	There are potential wetlands and waters of the US present adjacent to the roadway. A delineation will be performed to determine the presence and extent of wetlands and waters of the US adjacent to the roadway. FHWA-CFL will coordinate with the USACE and the Lahontan Water Board to verify the jurisdictional status of the identified features. **It is assumed that an individual permit will be required**.
Wild and Scenic Rivers	**Not applicable**

Step 3. Develop Draft Purpose and Need and Alternative(s)

- Research and collect data to identify key issues
- Draft Purpose and Need statement
  - Distribute (internally to FHWA and externally upon FHWA approval) for review and comment
- Draft Alternative description(s) to be studied

Step 4. Perform Resource Agency, Tribal, and Public Coordination

- Coordinate with other Resource Agencies
  - Identify key issues, potential constraints, opportunities, and past resource surveys conducted
  - Draft resource agency issues for incorporation into environmental document
- Coordinate with Public
  - Develop public mailing list
  - Prepare and Send Public Scoping Letter
  - Arrange for appropriate media notification, and prepare newspaper and other appropriate advertisements
  - Coordinate and attend Public Scoping Meetings (agenda, handouts, exhibits, etc.)
  - Prepare minutes/trip report/action items
- Coordinate with Tribes
  - Develop tribal mailing list
  - Prepare and distribute tribal review package (newsletter or scoping letter, project maps, tribal consultation letter, and newspaper public notice)
  - Address comments from review

Step 5. Provide Environmental Support to the Cross Functional Team

- Attend/Participate in CFT meetings
- Provide technical support
  - Informal meetings, and correspondence
  - Misc. coordination and progress with design/CFT
- Update Environmental Project Controls
  - Review Project Agreement and coordinate changes with the PM
  - Review Scope, Schedule and Budget, and coordinate changes with the PM

Deliverables for E0 Activity:

- SEE team list and contacts
- List and/or table of all resource areas with initial impact assessments

- Draft Purpose and Need statement
- Draft Alternative descriptions
- Draft Resource Agency issues
- Public mailing list
- Public Scoping letter
- Minutes from Public Meeting(s)
- Media notifications (newspaper, advertisements, web page(s))
- Tribal mailing list
- Tribal review package
- Documentation of Scope, Schedule, & Budget modifications

Environmental Compliance Studies (P6 Activity E1)

Determine project specific needs for surveys and studies for resources, and develop a plan for the methods to deliver the studies. Conduct required surveys for resource assessment and prepare resource reports. Perform additional partner, interagency and public involvement activities.

Assumptions for E1 Activity:

- Assume that a Cultural Resources Survey/Study will be required; however, no sub-surface surveys will be required. It is assumed that if eligible archeological resources are identified, they will not be affected. Therefore, no extensive archaeological testing or data recovery plan is included in this scope.
- Assume that a Biological Survey/Study will be required, but no protocol surveys will be needed. If a protocol survey becomes necessary with seasonal timing restrictions, additional schedule delays may occur and additional funding may become necessary.
- Assume that a wetland and Waters of the U.S. delineation is required.
- Assume that permission will be obtained for all necessary areas to be surveyed. If critical areas are unable to be accessed, additional effort may be involved in the form of later re-survey or schedule delay if critical information for consultation and/or analysis is missing.
- Assume that no additional environmental surveys will be required.

Step 1. Develop Delivery Plan for Compliance Studies

- Determine Project Compliance Needs
  - Studies and Report(s)
  - Area(s) for surveys
  - Necessary permits
  - Contact Central Federal Lands Environmental Team Leader for A/E resource specific SOW on requirements for cultural, biological, and Waters of the U.S.
- Determine Method of Delivery (In-house, Partner, or A/E) and notify FHWA
- Acquire A/E services (Prepare SOW, TO, IGE, etc.) Delete bullet if A/E
- Develop Agreements (Reimbursable, Grant, etc.) Delete bullet if A/E

Step 2. Perform Cultural Surveys/Studies and Coordination

- Conduct Cultural Resources research
  - Identify APE
  - Research for known NRHP sites within the project vicinity
  - Prepare letter, and/or document initial SHPO coordination
- Prepare for Survey, Delineation, and Report(s)
  - Obtain access permission to survey private properties and obtain any necessary land management agency (LMA) permits:

- Conduct Surveys, Studies, & Delineations
  - Coordinate with LMA resource staff
  - Conduct research and field work
  - Map resource sites using GPS
  - Review survey data for adequacy, completeness, and for inclusion into environmental document.
- Prepare Cultural Resource Report
  - Prepare DRAFT report
  - Circulate DRAFT within FHWA and externally (after FHWA approval) for review and comment as appropriate
  - Revise and develop FINAL Report
  - Distribute FINAL Report to partners, SHPO/THPO, and tribes
  - Coordinate findings with design for incorporation into plans

Step 3. Perform Biology Surveys/Studies and Coordination

- Conduct T&E Species research
  - Prepare request letter(s), and/or hold consultation
  - Document initial federally listed T&E; state, county or agency listed; or sensitive species data
- Prepare for Survey, Delineation, and Report(s)
  - Obtain access permission to survey private properties and obtain any necessary LMA permits:
- Conduct Surveys, Studies, & Delineations
  - Coordinate with LMA resource staff
  - Conduct research and field work using appropriate protocols (USFWS/NMFS)
  - Map resource sites using GPS
  - Review survey data for adequacy, completeness, and for inclusion into environmental document.
- Prepare Studies Reports
  - Prepare DRAFT reports (BA/BE, Vegetation, Noxious weeds)
  - Circulate DRAFTs within FHWA and externally (after FHWA approval) for review and comment as appropriate
  - Revise and develop FINAL Reports
  - Distribute FINAL Reports to partners and Resource agencies
  - Coordinate findings with design for incorporation into plans

Step 4. Perform Wetland Surveys/Studies, and Coordination

- Prepare for Survey, Delineation, and Report(s)
  - Obtain access permission to survey private properties and obtain any necessary LMA permits
- Conduct Surveys, Studies, & Delineations
  - Establish project limits and survey boundaries
  - Preliminary investigation: Research soil data, Identify drainage features, Research regional wetland delineation requirements
  - Conduct Wetland Delineation: Identify wetland/WUS features , Collect survey data (Photos, GPS, control points, etc.)
- Prepare Delineation Report
  - Prepare DRAFT reports: Prepare GIS information, Develop project maps (location, vicinity, etc.)

- Circulate DRAFTs within FHWA and externally for review and comment as appropriate: Revise and develop FINAL Reports, Coordinate findings with design for incorporation into plans
- Submit delineation and jurisdictional documents to US Army Corp of Engineers

Step 5. Perform Other Environmental Surveys/Studies, and Coordination

- Survey, Delineation, and Report Preparation
  - Obtain access permission to survey private properties and obtain any necessary LMA permits
- Conduct Surveys, Studies, & Delineations
  - Coordinate with LMA resource staff
  - Conduct research and field work
  - Map resource sites using GPS
  - Review survey data for adequacy, completeness, and for inclusion into environmental document.
- Prepare Studies Reports
  - Prepare DRAFT reports
  - Circulate DRAFTs within FHWA and externally (after FHWA approval) for review and comment
  - Revise and develop FINAL Reports
  - Distribute FINAL Reports to partners and Resource agencies (after FHWA approval) for review and comment
  - Coordinate findings with design for incorporation into plans

Step 6. Perform Resource Agency, Tribal, and Public Coordination

- Continue coordination with partners, other agencies, and the public
  - Refine P&N and alternatives
- Refine alternatives to consider and alternatives to eliminate

Step 7. Provide Environmental Support to the Cross Functional Team

- Attend/Participate in CFT meetings
- Provide technical support
  - Informal meetings, and correspondence
  - Misc. coordination and progress with design/CFT
- Update Environmental Project Controls
  - Review Scope, Schedule and Budget, and coordinate changes with the PM

Deliverables for E1 Activity:

- A/E contract documents including: SOW, IGE, purchase request
- Reimbursable Agreement and grant documents including: SOW, IGE, purchase request
- Access permission list(s)
- Survey Data: (Photos, records forms, GPS data, survey limits, maps)
- Draft and Final Resource Report(s): (Cultural, Biological assessment, Biological Evaluation, Wetland Delineation, and/or other)
- Revised Purpose and Need statement
- Revised Alternative descriptions

Document Preparation (P6 Activity E2)

Perform additional studies, research, analyses, and evaluations necessary for document preparation. Use data and analyses to prepare environmental document (draft) for signature.

Assumptions for E2 Activity:

- No direct use, temporary occupancy, or constructive use will occur to potential 4(f) properties. If uses of 4(f) properties are identified, this scope assumes the use would qualify as de minimus.
- No adverse effect would result to historic properties (e.g. No Historic Properties Affected).
- Assume informal consultation with USFWS and CDFW is required. Findings of BA will support a "may affect, but not likely to adversely affect" determination for sensitive species. No formal consultation with USFWS is assumed.
- No archeological sites or NRHP-eligible resources would be affected by the project.
- NEPA environmental document will be prepared by FHWA and will address FHWA NEPA requirements for a CE.
- County will complete CEQA process in-house using NEPA environmental document to support significance determinations.
- The analysis of construction-related air quality and noise will be qualitative and based on published literature. No ambient noise monitoring and modeling of construction-related noise is proposed. No quantification of criteria air pollutants or greenhouse gases is proposed.

Step 1. Finalize Purpose and Need (P&N) and Alternatives

- Circulate within FHWA for review and comment
- Revise and circulate to partner agencies (after FHWA approval) for review and comment as appropriate

Step 2. Perform Additional Studies, Research, Analyses, and/or Evaluations

- Evaluate alternatives and Impacts; interpret and evaluate applicability of all resources to proposed project alternatives
- Incorporate analysis results/data into environmental document.
- Coordinate possible/proposed mitigation measures with Design and Construction
- Coordinate mitigation measures with partner agencies and with affected resource agencies

Step 3. Continue Coordination (w/Tribes, Clients, Partners, Agencies, and Public)

- Write and send letters/emails responding to questions and comments from agencies
- Coordinate with the Cross Functional Team/Design on:
  - Agency and Public concerns with potential to affect/change design
  - Updates to or newly identified resource locations (e.g., wetland delineations, 4(f) property, etc.)
  - Coordination on resources for which alternatives should be evaluated for avoidance, minimization, and/or mitigation of impacts.
  - Coordination on any potential construction restrictions/limitations (e.g., time periods due to T&E species)

Step 4. Conclude Section 106 Consultation

- Cultural Resources-Section 106 Consultation:
  - Make eligibility determinations for alternatives under consideration
  - Coordinate with LMA and obtain written concurrence on determination
  - Draft, Finalize, & Send letter to SHPO on determination of eligibility (DOE) of sites
  - Make effect determinations for alternatives under consideration
  - Coordinate with LMA and obtain written concurrence on determination
  - Draft, Finalize, & Send letter to SHPO on finding of effect (FOE) determination
  - Coordinate with design to address impacts to eligible sites
  - Continue Government-to-Government consultation with Indian Tribes

Step 5. Conclude Section 7 and Sensitive Species Consultations

- T&E species (Section 7 Consultation) and Sensitive Species:
  - Consult with LMA on BE; negotiate appropriate mitigation or timing restrictions
  - Consult with Fish & Wildlife Service on BA; negotiate appropriate mitigation and minimization measures
  - Coordinate with State Wildlife agency as appropriate

Step 6. Prepare Draft Environmental Document

- Prepare draft document and inclusions:
  - Vicinity, Project and/or Study Area Map(s)
  - Commitments/Measures table
  - Resource Report(s)
  - Resource maps (e.g., wetlands, Section 4(f) properties)
  - Concurrence letter(s)

Step 7. Provide Environmental Support to the Cross Functional Team

- Attend/Participate in CFT meetings
- Provide technical support
  - Informal meetings, and correspondence
  - Misc. coordination and progress with design/CFT
- Update Environmental Project Controls
  - Review Scope, Schedule and Budget, and coordinate changes with the PM

Deliverables for E2 Activity:

- Final Purpose and Need statement
- Final alternative descriptions
- Draft environmental commitments
- Agency consultation letters
- Draft environmental document

Environmental Document Approval (P6 Activity E3)

Finalize the environmental document through the process of review and signature, reproduction, and circulation. Conduct Public involvement as necessary for the project.

Assumptions for E3 Activity:

- This scope assumes that the document will be reviewed by FHWA, Inyo County, and INF.
- Inyo County will prepare a CE or MND for the project to comply with CEQA.
- Scope assumes concurrent processing of the NEPA and CEQA documentation to the extent feasible to minimize the duration of the environmental schedule.
- No formal public involvement is proposed following the initial public outreach

Step 1. Perform Draft Document Review

- Internal Review
  - Distribute draft for review
  - Address & Respond to comments, Revise document
- External Review
  - Distribute draft for review
  - Address and respond to comments, revise document

Step 2. Obtain Final Document Signature and Distribute

- Obtain Signature(s)

- Prepare & Distribute signed edition
  - Transmittal Letter(s),
  - Website & public notices,
  - Printing & distribution

Step 3. Provide Environmental Support to the Cross Functional Team

- Attend/Participate in CFT meetings
- Provide technical support
  - Informal meetings, and correspondence
  - Misc. coordination and progress with design/CFT
  - Coordinate Environmental Commitments with CFT
- Update Environmental Project Controls
  - Review Scope, Schedule and Budget, and coordinate changes with the PM

Deliverables for E3 Activity:

- Draft document comment responses
- Signed environmental document (CE or EA)

Environmental Mitigation and Support (P6 Activity E4)

Assess project for changes requiring reevaluation. Review the environmental document including the determinations and measures for the development of a plan to fulfill compliance. Implement required mitigation efforts including coordination on Environmental commitments through final design (from 30% through 100%); coordination with LMA(s), Resource agencies, and others on mitigation work plans; implementing mitigation field work; monitoring implemented mitigation efforts; interim reporting, draft reporting, and final reporting on completed mitigations.

Assumptions for E4 Activity:

- No changes to the project will occur following approval of the NEPA and CEQA documents that would otherwise necessitate reevaluation and additional environmental review.
- INF will provide sources for native seed mixes to support restoration of disturbed areas.
- Mitigation for wetland and/or riparian impacts will be necessary. INF will identify possible mitigation locations. INF will assume mitigation monitoring requirements following construction and provide information to CFL to generate reports for regulators.

Step 1. Review Project for Changes

- Evaluate environmental document, conditions, and design
- Review mitigation measures and/or commitments
- Document reevaluation as necessary

Step 2. Develop Delivery Plan for Mitigation

- Determine Project Mitigation Needs
  - Determine necessary studies and reports
  - Determine permit needs
  - Coordinate preliminary mitigation estimate needs with PM

- Prepare/Review/Revise/Distribute draft mitigation approach letter for review and comment
- Address comments with client agencies, as necessary, and finalize mitigation approach

- Determine Method of Delivery (In-house, Partner, or A/E)
- Acquire A/E Services (Prepare SOW, TO, IGE, etc.)
- Develop Agreements (Reimbursable, Grant, etc.)

Step 3. Finalize Mitigation Commitments and Delivery Plan

- Perform required surveys, studies, and/or report updates
- Complete consultation
- Coordinate with internal and external teams
  - Ensure right-of-way or right-of-entry obtained for mitigation site(s)
  - Coordinate revisions with appropriate cross-functional team members, clients, and regulatory agency

Step 4. Implement and Monitor Mitigation and Commitments

- Perform necessary work and coordination
- Complete and Closeout Mitigation
  - Verify mitigation is complete
  - Document results as necessary (e.g. Tech Memo)

Step 5. Provide Environmental Support to the Cross Functional Team

- Attend/Participate in CFT meetings
- Provide technical support
  - Informal meetings, and correspondence
  - Misc. coordination and progress with design/CFT
- Update Environmental Project Controls
  - Review Scope, Schedule and Budget, and coordinate changes with the PM

Deliverables for E4 Activity:

- Reevaluation documentation as necessary, and/or
- Mitigation Delivery Plan as necessary, and/or
- Mitigation studies and/or reports,

Environmental CFT Support (P6 Activity CFT)

Provide support to CFT after NEPA document is complete.

- Provide support to CFT.

D. PERMITS

Jurisdictional Determination and Permit Approach (P6 Activity EP1.0)

Prior to preparing permit packages, review the Waters of the U.S. Delineation report and determine jurisdictional approach. Delete all steps and tasks below that are performed by FHWA-CFLHD

Assumptions for EP1.0 Activity:

- Assume permanent impacts to jurisdictional wetlands and/or waters of the U.S. will result from project construction.
-

Step 1. Review Waters of the U.S. Delineation and Report

Step 2. Jurisdictional determination and approach
- Preliminary JD
- Approved JD

Step 3. Prepare appropriate JD request

Step 4. Coordinate with CFT
- Coordinate with PM or environment lead on WUS Delineation SOW
- Determine preliminary impacts to jurisdictional waters
- Document avoidance and minimization efforts to jurisdictional waters
- Quantify preliminary impacts for NEPA documentation
- Identify anticipated permit(s)

Deliverables for EP1.0 Activity:
- Jurisdictional determination request
- Table or list of preliminary impacts to jurisdictional waters
- Avoidance and minimization documentation

Develop 404/401 Permit Package (P6 Activity EP1.1)

Assess and establish 404/401 Wetlands and Waters of the US permits as required. Delete all steps and tasks below that are performed by FHWA-CFLHD

Assumptions for EP1.1 Activity:
- Assume an individual Section 404 and Section 401 permit due to project amount of impacts. If impacts can be kept under 0.5 acres of wetlands and/or jurisdictional waters, a Nationwide permit (#14) will be pursued, if required.

Step 1. Determine impacts to jurisdictional waters
- Coordinate with CFT to identify design revisions
- Recalculate avoidance and minimization efforts to jurisdictional waters
- Finalize impacts

Step 2. Coordinate with Federal and State regulatory agencies to obtain permit application requirements
- Determine project specific permit requirements (Federal, State, and Local)
- Prepare memo to file for no permit required

Step 3. Prepare and Submit 404/401 permit applications

Step 4. Receive permits, Coordinate terms & conditions with PM, and electronically archive
- Confirm EP1.2 & EP1.3 activity expiration dates in P6 w/the Project Manager

Deliverables for EP1.1 Activity:
- Table or list of final impacts to jurisdictional waters
- Permit application(s)
- 404/401 permit(s)
- Memo to file for no permit required

Develop Draft NPDES Permit Package (P6 Activity EP2.0)

Determine permit types and then develop SWPPP and NOI. Delete all steps and tasks below that are performed by FHWA-CFLHD.

Assumptions for EP2.0 Activity:

- Assume the project will result in the disturbance of more than 1 acre and coverage under the NPDES General Construction permit will be required.
- Assume FHWA will serve as the legally responsible party for the NPDES permit.
- Assume a draft Stormwater Pollution Prevention Plan (SWPPP) will be prepared by a Qualified SWPPP Developer (QSD).
- Assume the project will be required to meet Risk Type 3 SWPPP requirements.
- Assume post construction BMPs will be required

Step 1. Assess NPDES Permit requirements

- Review project documents (plans, SCRs, NEPA, etc)
- Review applicable stormwater construction general permit
- Write memo to file if no permit is needed

Step 2. Communicate with CFT any conditions that need to be addressed in plans and SCR's

- Monitoring requirements
- Reporting requirements
- Pollution Prevention devices required by permit

Step 3. Prepare NPDES Storm Water Pollution Prevention Plan draft

- Include: narrative, maps, figures, and any other appendices
- Determine area of disturbance and total area
- Determine impervious area before and after construction
- Determine Risk Level (California only)
- Determine receiving water and 303(d) or Tier status

Step 4. Prepare Notice of Intent

Deliverables for EP2.0 Activity:

- Notice of Intent (NOI)
- Draft SWPPP
- Notice of Termination (NOT)

Permits CFT Support (P6 Activity CFT)

Provide support to CFT after Environmental Activities are complete.

- Provide support to CFT.

E. SURVEY

Initial Survey and Mapping (P6 Activity S1)

Perform initial survey work to establish control and initial data for mapping and Right-of-Way. Set Survey Control and perform 4R type Survey for the first (lower) 2.1 miles, 3R type Survey for remaining 4.8 miles including pullouts, parking areas, driveways and approach roads.

Step 1. Mobilize and reconnaissance of project site

- Meet with agency contact or representative
- Perform reconnaissance of project site
  - Identify safety, traffic and private property concerns
- Formulate a *Work Plan*

Step 2. Control Network – Set monuments, determine coordinates & elevations of primary control points

- Research and recover existing NGS, CFLHD or other horizontal and/or vertical control points
- Set control monuments in accordance with the *Work Plan*
- Perform the required measurements
- Analyze and adjust measurements
- Create a *Control Report* and *Control Data Sheet* according to the requirements shown under Deliverables

Step 3. Locate and map utilities according to ASCE Standards (ASCE 38-02);

- Contact locate service to identify utilities to be mapped
- Perform the required measurements to locate the utilities relative to the CFLHD control network
- Review, edit & submit files according to the requirements shown under Deliverables

Step 4. Locate cadastral and private property monuments and other evidence

- Identify aliquot, right of way, property and other monumentation and evidence of possession to be mapped
- Perform the required measurements to locate the evidence relative to the CFLHD control network
- Review, edit & submit files according to the requirements shown under Deliverables

Step 5. Field Reports

- Submit progress reports
- Submit *Final Report*

Step 6. Field Mapping

- Map area as identified in *Work Plan*
- Review, edit & submit files according to the requirements shown under Deliverables

Step 7. Office Mapping

- Prepare TIN, map and contour files according to the requirements shown under Deliverables

~~Step 8. Remote Sensing~~

- ~~Coordinate control and panel locations to provide sufficient control for the remote sensing mission~~
- ~~Prepare TIN, map and contour files according to the requirements shown under Deliverables~~
- ~~See CFLHD Remote Sensing standards and specifications~~

Deliverables for S1 Activity

All services, data and deliverables shall be to CFLHD standards and specifications. Data to be provided in the applicable digital format~~, when possible. The final submittal of all files shall be delivered on a CD/DVD, labeled with the Project Designation, Project Name and Final Submittal, i.e. "CA PFH 112-1(1)", South Fork Smith River, Final Submittal". Progress submittals shall be submitted via CD/DVD.~~ All file names shall begin with the "Project Designation". The remaining characters of the file name shall be descriptive of the data contained in the file. The first line of each file shall be a header describing each field and/or the contents within the file.

- Control Data Sheet files (.xls and .dgn),
- 3D Planimetric mapping file (.map),

- 3D Contour mapping file (.con),
- GEOPAK® TIN files (.tin),
- ~~Developed film roll in film canister for the project and labeled with the completed CFLHD film can label,~~
- ~~Current camera calibration report,~~
- ~~Digital photo index TIFF format (on the delivered CD or DVD) with one hard copy plot of the index provided,~~
- ~~Orthophoto mosaic of the Rectified Digital Imagery at 0.2' pixel size for the entire photo covered area,~~
- ~~All files needed to accurately set and compile 3-D planimetric mapping from the supplied digital imagery in CFLHD's current version of Socet Set ® photogrammetric suite.~~
- 3-D MicroStation design file, containing space line strings and ground shots on designated levels. These space line strings and ground shots depict ~~(in three dimensions)~~ the topography,
- ~~3-D MicroStation design Index file containing layout of all photo models and an outline of the actual compilation area,~~
- ~~An ASCII, text file listing the softcopy photogrammetric data.~~

~~The following data is to be retained by the A/E unless requested by the COR:~~

- ~~Primary Control Point data:~~
  - ~~Raw, unedited field data files in ASCII format,~~
  - ~~A report of the 3D least squares analysis and adjustment of the observations made to establish coordinates for the Primary Control Points,~~
  - ~~The final adjusted coordinates, elevations, and descriptions for the Primary Control Points in an ASCII file formatted as follows: Point Number, Northing (Y), Easting (X), Elevation (Z); Description/Comment.~~

- ~~Field Topographic Mapping Survey data and materials covering the project area:~~
  - ~~Mapping data files shall have one point per line, utilizing the following ASCII format: "Point Number, Northing (Y), Easting (X), Elevation (or numeric placeholder), Mapping P-Code and Connect Codes; Description/Comment,"~~
  - ~~All raw observations (GPS vector data, slope distance, zenith angle, horizontal angles and instrument and target heights) made to establish the control points and existing control checks in digital format.~~
  - ~~The first line of each file shall be a header describing each field within the file,~~
  - ~~The data fields shall be separated with a comma (,) the Connect Code field and the Description/Comment field shall be separated by a semi-colon (;).~~
- ~~Remote sensing data and materials covering the project area:~~
  - ~~Two sets of color contact prints,~~
  - ~~One set of black and white prints to be annotated with control and planimetric features.~~

Survey CFT Support (P6 Activity CFT)

Provide support to CFT after Initial Survey is complete (not including supplemental survey).

- Provide support to CFT.

Alignment Staking for 30% and 70%~~XX%~~ Field Reviews (P6 Activities~~y~~ ~~SCXX~~SC30 and SC70)

Stake the Alignment for the 30~~XX~~% and 70% Field Reviews.

Step 1. Mobilize and Reconnaissance of Project Site

- Meet with agency contact or representative
- Perform reconnaissance of project site
  - Identify safety, traffic and private property concerns
- Formulate a Work Plan

Step 2. Stake Centerline Alignment

- Perform the required measurements to confirm existing CFLHD control points
- Set points on the alignment as directed
- Compare elevations between set centerline points and existing TIN file
- Review, edit & submit files according to the requirements shown under Deliverables

~~Step 3. Perform measurements to confirm aerial photography~~

- ~~Identify areas to be confirmed~~
- ~~Perform the required measurements relative to the CFLHD control network~~
- ~~Review, edit & submit files according to the requirements shown under Deliverables~~

Deliverables for SC30~~XX~~ and SC70 Activit~~y~~ies

All services, data and deliverables shall be to CFLHD standards and specifications. Data to be provided in the applicable digital format~~, when possible. The final submittal of all files shall be delivered on a CD/DVD, labeled with the Project Designation, Project Name and Final Submittal, i.e. "CA PFH 112-1(1)", South Fork Smith River, Final Submittal". Progress submittals shall be submitted via CD/DVD.~~ All file names shall begin with the "Project Designation". The remaining characters of the file name shall be descriptive of the data contained in the file. The first line of each file shall be a header describing each field and/or the contents within the file.

- Staked centerline coordinates data in ASCII format as follows:
  - Point Number,Northing,Easting,Elevation,PCode;Point Descriptor
  - The file shall be comma delimited and have a header record that defines the fields,
  - The extension shall be .nez.

~~The following data is to be retained by the A/E unless requested by the COR:~~

- ~~All raw observations (GPS vector data, slope distance, zenith angle, horizontal angles and instrument and target heights) made to establish the supplemental control points and existing control checks in digital format.~~
- ~~A report of the 3D least squares analysis and adjustment of the observations made to establish coordinates for the Primary Control Points,~~
- ~~Legible copies of all field notes~~

F. HIGHWAY DESIGN

Develop 30% Design (P6 Activity D2)

Assumptions:

- Pulverize and pave existing roadway and widen shoulders
- Pulverize and pave existing pullouts, approaches, and parking areas (only parking areas on South Lake Road)
- New parking area for bike staging area

- New left turn lane (one location)
- No major or minor hydraulics analysis will be performed for culverts
- No vertical design required to pulverize and pave
- No work on parking areas off of South Lake Road
- The Plans for Segment 1 will consist of Plan and Profile Sheets with cross sections. Our normal approach to paying earthwork will be used, either paying for roadway excavation and/or waste by the cubic yard or embankment and/or borrow by the cubic yard.
- The Plans for Segments 2 and 3 will consist of Plan/Plan sheets

Develop and distribute the 30% design. See 30% Development Checklist for more specific details.

Step 1. Roadway Design

- Review survey information (contour and mapping files)
- Gather traffic and accident data and identify any potential problem areas
- Develop/refine/update the Typical Sections for each alternative
- Roadway geometric design for each alternative
- Develop/refine/update horizontal and vertical alignments
- Develop/refine/update planimetric design features (widenings, roadside ditches, guardrail, etc.)
- Develop/refine/update roadway cross sections

Step 2. Secondary Roadway Design

- Develop/refine/update all geometric design for approaches
- Develop/refine/update pullout and parking area design
- Erosion control design/plans will not be developed
- Develop/refine/update utility resolution/conflict plans. Compare the horizontal and vertical alignments with available utility information and determine any locations for potential conflict.

Step 3. Develop preliminary temporary traffic control design for unique or major items.
Assumption:

- No construction phasing. Assume standard one lane closure and one lane at a time construction.

Step 4. Plan Production

- Develop/refine/update plan quantities, summaries and tabulations.
- Print and assemble the 30% plan package accordance with the CFLHD CADD Manual and the 30% Development Checklist. The plan package may be numbered by hand.
  - A Sheets
    - ☒ Title Sheet
    - ☒ Conventional Plan Symbols and Abbreviations
    - ☒ Site Map
    - ☒ Typical Sections
    - ☐ Miscellaneous Typical Section Details
  - B Sheets
    - ☒ Summary of Quantities
    - ☐ Drainage Summary
    - ☒ Grading Summary

☐ Mass Haul Diagram
☒ Miscellaneous Summary Tables for Major Items

- C Sheets
  ☒ Mainline Plan and Profile for Segment 1
  ☒ Mainline Plan/Plan Sheets for Segments 2 and 3
- D Sheets
  ☒ Parking Lot Layout for the bike staging area near the beginning of the project.
- E Sheets
  ☒ Erosion Control Standards and Details
- F sheets
  ☐ Embankment Benching Detail
  ☒ Subexcavation Details
- G sheets
  ☒ Placed Riprap Details
- S Sheets
  ☐ Preliminary Bridge TS&L Sketch(s)
- T sheets
  ☒ Pipe Culvert Standards
  ☒ Drop Inlet Specials (use CALTRANS standard inlet types)
  ☒ Underdrain Details
  ☐ Guardrail Standards
  ☐ Fence and Gate Details
  ☐ Cattleguard Standards
  ☐ Widening for Cattleguard and Gate Detail
  ☒ Temporary Traffic Control Standards
- X sheets
  ☒ Mainline Cross Sections for Segment 1 only. No cross sections for Segments 2 and 3
- Z sheets
  ☐ Culvert Pipe Cross Sections

Step 5. Cross Functional Design Support

- Provide highway design support for preliminary structural design and layout.
- Provide highway design support for hydraulics design.
- Provide highway design support for the environmental process.
  - Review the current environmental documents for the project
  - Become familiar with the policy, impacts, and issues associated with the project
  - Incorporate mitigation measures and commitments from the environmental document into the design
- Assist with identifying and researching the need for permits.

Step 6. Engineer's Estimate

- Develop/update/refine cost estimate for all identified items for each alternative. Calculate quantities and unit price analysis for all identified pay items. Include a contingency for unknown items.

Step 7. Construction Schedule

- Identify the major construction bid items, develop the production rates/durations and develop the construction schedule's calendar.

Step 8. Project Documentation

- Develop/update/refine *Highway Design Standards Form*
- Prepare *30% Design Technical Memorandum*
- Update Designer's Notebook
- Complete the 30% Development Checklist
- Update the electronic file tracker

Design Peer Review & Update 30% Design (P6 Activity D2PRE)

Step 9. Peer Review

- Assemble, print, and distribute PS&E package for peer review. Conduct review and incorporate review comments into PS&E package
- Distribute 30% Plans, Specifications, and Estimate package for an in-office review by the CFT

30% Update for External Review (P6 Activity D2PR)

Step 10. External Review

- Update PS&E from internal review comments
- Print and distribute the 30% package to external agencies
- Prepare draft responses to external reviewers

Deliverables for D2 Activities

Internal Distribution Deliverables

- 30% Plans, Specifications and Estimate for Internal FHWA Distribution
- 30% Internal FHWA Distribution Design Support Documents
  - 30% Development Checklist
  - Updated CPM Construction Schedule
  - 30% Unit Price Analysis
  - Copy of quantity calculations and supporting documentation
  - Draft Highway Design Standards Form
  - Updated Design Technical Memorandum

External Distribution Deliverables

- 30% Plans, Specifications and Estimate for External FHWA Distribution
- 30% External Distribution Design Support Documents
  - CPM Construction Schedule
  - 30% Internal Distribution Comment and Response Form, including responses
  - Draft Highway Design Standards Form
  - Updated Design Technical Memorandum

Develop 70% Design (P6 Activity D3)

Assumptions:

- Roadway cross sections will not be generated for the 3R section of the project (Segments 2 and 3) only for the 4R section (Segment 1)

Develop and distribute (70%) detailed plans specifications and estimate (PS&E) package. See 70% Development Checklist for more specific details

Step 2. Post 30% Field Review

- Produce master redline plan set with field review comments

- Prepare a Comment and Response Form for all comments received (including both redlined plan comments and type written comments). Final responses are not required at this time.
- Produce trip report, including decision and action register. Submit a draft report to FHWA/CFT for comment. Incorporate comments and finalize and distribute the 50% Trip Report.

Step 3. Roadway Design

- Finalize the Typical Sections
- Complete horizontal and vertical alignments (4R Section – Segment 1)
- Complete planimetric design features (widenings, roadside ditches, guardrail, etc.)
- Complete roadway cross section (4R section)

Step 4. Secondary Roadway Design

- Complete all geometric design for approaches
- Complete pullout and parking area design
- Update erosion control design
- Update utility resolution/conflict plans

Step 5. Permanent and Temporary Traffic Control

- Update permanent traffic control signing and striping design
- Update temporary signing, striping, and traffic control plans

Step 6. Plan production

- Update/refine plan and profile sheets & plan and plan sheets
- Complete plan quantities, summaries and tabulations.
- Verify/update all applicable FLH Standard Plans and CFLHD Details to current version
- Complete project specific details and plan sheets including title and site plan sheets
- Print and assemble the 70% plan package accordance with the CFLHD CADD Manual and the 70% Development Checklist. The plan package may be numbered by hand.
  - A Sheets
    - ☒ Title Sheet
    - ☒ Conventional Plan Symbols and Abbreviations
    - ☒ Survey Control Point Listing including Supplemental Control Points
    - ☒ Site Map
    - ☒ Typical Sections
    - ☒ Approach Road Details and Pullout apron details
  - B Sheets
    - ☒ Summary of Quantities
    - ☒ Drainage Summary
    - ☒ Grading Summary
    - ☐ Mass Haul Diagram
    - ☒ Surfacing Summary
    - ☒ Miscellaneous Summary Tables
  - C Sheets
    - ☒ Mainline Plan and Profile for Segment 1
    - ☒ Mainline Plan/Plan for Segments 2 and 3
  - D Sheets
    - ☐ Major Intersecting Road Plan and Profile
    - ☒ Parking Area Plan and Detail Sheets

☐ Retaining Wall Layout Sheets

☒ Box Culvert Layout Sheets or Other Large Culverts needing Headwalls or Special Details. Assume will need these details for the large culvert adjacent to Parcher's Road. Culvert layout to be completed by Design.

- E Sheets
  - ☒ Erosion Control Layout Plan Sheets
  - ☒ Erosion Control Standards and Details
- F sheets
  - ☐ Embankment Benching Details and Specials
  - ☒ Subexcavation Details
- G sheets
  - ☒ Placed Riprap Details and Specials
  - ☐ CFLHD MSE Retaining Wall Details
- S Sheets
  - ☒ Headwall details for the large culvert at Parcher's Road. These details to be completed by Structures.
- T sheets
  - ☐ Concrete Headwall Details
  - ☒ Pipe Culvert Standards
  - ☒ Drop Inlet Specials (CALTRANS standard inlet types)
  - ☒ Underdrain Details
  - ☐ Spillway and Pipe Anchor Typical Details
  - ☐ Guardrail Standards
  - ☐ Fence and Gate Details
  - ☐ Cattleguard Standards
  - ☐ Widening for Cattleguard and Gate Detail
  - ☐ Masonry Specials
  - ☐ Revegetation/Landscaping Plans and Details (Typical Details and Initial Layouts)
  - ☒ Signing and Striping Plans
  - ☒ Signing and Striping Details and Specials
  - ☐ Temporary Traffic Control Plans
  - ☒ Temporary Traffic Control Standards
- X sheets
  - ☐ Cross Section Plan Set Cover Sheet
  - ☒ Mainline Cross Sections for Segment 1 only.
- Y Sheets
  - ☐ Approach Road Cross-Sections
- Z sheets
  - ☒ Culvert Pipe Cross Sections for culverts in Segments 1, 2 and 3.

Step 7. Cross Functional Design Support

- Provide highway design support for structural design and layout
- Provide highway design support for major culvert design
- Provide highway design support for environmental mitigation design and commitments.
- Support/finalize all permits and requirements
- Provide alignments for field review staking
- Coordinate 70% field review with agencies involved

- Prepare travel and draft field review agenda

Step 8. Engineer's Estimate

- Complete the unit price analysis for all pay items and cost estimate

Step 9. Construction Schedule

- Update CPM construction schedule, production rates/durations for all construction items, update calendar, and written narrative discussing critical schedule elements

Step 10. Specifications

- Update the Special Contract Requirements (SCR's). Include all appropriate up-to-date SCR's from the Library of Specifications. Use the Track Changes feature to highlight or redline project specific requirements to facilitate FHWA review

Step 11. Project Documentation

- Complete Highway Design Standards form
- Prepare 70% Design Technical Memorandum
- Update Designer's Notebook
- Complete the 70% Development Checklist
- Update electronic file tracker

Design Peer Review & Update 70% Design (P6 Activity D3PRE)

Step 12. Peer Review

- Assemble, print, and distribute PS&E package for peer review. Conduct peer review and incorporate review comments into PS&E package
- Distribute 70% Plans, Specifications, and Estimate package for an in-office review by the CFT

70% Update and External Review (P6 Activity D3PR)

External client plan review for 70% design. Update PS&E with selected comments from the internal review.

Step 13. External Review

- Update PS&E from internal review comments
- Print and distribute the 70% package to external agencies
- Prepare draft responses to external reviewers

Deliverables for D3 Activities

- 30% Field Review Trip Report

Pre-submittal/Peer Review Distribution Deliverables

- 70% Plans, Specifications and Estimate for Internal FHWA Distribution
- 70% Pre-submittal Design Support Documents
  - 30% Comment and Response Form, including responses
  - 30% Field Review Master redlined plan set (no copy, available for meeting review only)
  - Draft Unit Price Analysis
  - Draft Highway Design Standards Form
  - Draft 70% Design Technical Memorandum

Internal Distribution Deliverables

- 70% Plans, Specifications and Estimate for Internal FHWA Distribution
- 70% Internal FHWA Distribution Design Support Documents

- 70% Development Checklist
- 30% Comment and Response Form, including responses
- Updated CPM Construction Schedule
- 70% Unit Price Analysis
- Final Highway Design Standards Form
- Updated 70% Design Technical Memorandum
- Electronic Files and Tracking Sheet (Design files profile at centerline and cross sections. Updated survey topo/planimetric files when applicable.)

External Distribution Deliverables

- 70% Plans, Specifications and Estimate for External FHWA Distribution
- 70% External Distribution Design Support Documents
  - CPM Construction Schedule
  - 70% Internal Distribution Comment and Response Form, including responses
  - Final Highway Design Standards Form
  - Updated 70% Design Technical Memorandum

Develop 95% Design (P6 Activity D4)

Develop and distribute the final design and preparation of the 95% PS&E package. See 95% Development Checklist for more specific details. Hours for incorporating 70% comments into the plans are in included in applicable items below

Step 2. Post 70% field review

- Produce master redline plan set with field review comments
- Prepare a Comment and Response Form for all comments received (including both redlined plan comments and type written comments). Final responses are not required at this time.
- Produce trip report, including decision and action register. Submit a draft report to FHWA/CFT for comment. Incorporate comments and finalize and distribute the 70% Trip Report.

Step 2. Roadway Design

- Finalize the Typical Sections
- Finalize all horizontal and vertical alignments (4R section)
- Finalize all planimetric design features
- Finalize all roadway cross sections (4R section)

Step 3. Secondary Road Design

- Finalize all geometric design for approaches
- Finalize pullouts and parking area design
- Finalize erosion control design
- Finalize utility relocation and conflict plans

Step 4. Permanent and Temporary Traffic Control

- Finalize permanent traffic control signing and striping design
- Temporary Traffic Control
  - Finalize temporary signing, striping and traffic control plans

Step 5. Plan production

- Standards, Details, Specials and project specific plan sheets
  - Verify/update all applicable FLH Standard Plans and CFLHD Details to current version
  - Finalize project Special Drawings and project specific plan sheets

- Finalize Plan and Profile sheets & Plan and Plan sheets
- Finalize all plan quantities, summaries and tabulations
- Assemble the 95% plan package according to the CFLHD CADD Manual and the 95% Development Checklist.
  - A Sheets
    - ☒ Title Sheet
    - ☒ Conventional Plan Symbols and Abbreviations
    - ☒ Survey Control Point Listing including Supplemental Control Points
    - ☒ Site Map
    - ☒ Typical Sections
    - ☒ Approach Road Details and Pullout apron details
  - B Sheets
    - ☒ Summary of Quantities
    - ☒ Drainage Summary
    - ☒ Grading Summary
    - ☐ Mass Haul Diagram
    - ☒ Surfacing Summary
    - ☒ Miscellaneous Summary Tables
  - C Sheets
    - ☒ Mainline Plan and Profile for Segment 1
    - ☒ Mainline Plan/Plan for Segments 2 and 3
  - D Sheets
    - ☐ Major Intersecting Road Plan and Profile
    - ☒ Parking Area Plan and Detail Sheets
    - ☐ Retaining Wall Layout Sheets
    - ☒ Box Culvert Layout Sheets or Other Large Culverts needing Headwalls or Special Details. Assume will need these details for the large culvert adjacent to Parcher's Road. Culvert layout to be completed by Design.
  - E Sheets
    - ☒ Erosion Control Layout Plan Sheets
    - ☒ Erosion Control Standards and Details
  - F sheets
    - ☐ Embankment Benching Details and Specials
    - ☒ Subexcavation Details
  - G sheets
    - ☒ Placed Riprap Details
    - ☐ CFLHD MSE Retaining Wall Details
  - S Sheets
    - ☒ Headwall details for the large culvert at Parcher's Road. These details to be completed by Structures.
  - T sheets
    - ☐ Concrete Headwall Details
    - ☒ Pipe Culvert Standards
    - ☒ Drop Inlet Specials (CALTRANS standard inlets)
    - ☒ Underdrain Details
    - ☐ Spillway and Pipe Anchor Typical Details
    - ☐ Guardrail Standards
    - ☐ Fence and Gate Details

☐ Cattleguard Standards
☐ Widening for Cattleguard and Gate Detail
☐ Masonry Specials
☐ Revegetation/Landscaping Plans and Details (Typical Details and Initial Layouts)
☒ Signing and Striping Plans
☒ Signing and Striping Details and Specials
☐ Temporary Traffic Control Plans
☒ Temporary Traffic Control Standards

- X sheets
  - ☐ Cross Section Plan Set Cover Sheet
  - ☒ Mainline Cross Sections for Segment 1 only
- Y Sheets
  - ☐ Approach Road Cross-Sections
- Z sheets
  - ☒ Culvert Pipe Cross Sections for culverts in Segments 1, 2 and 3.

Step 6. Cross Functional Design Support

- Provide highway design support for final structural design and layout
- Provide highway design support for final hydraulics design
- Finalize/support environmental mitigation design and commitments
- Support/finalize all permits and requirements

Step 7. Engineer's Estimate

- Finalize the unit price analysis for all pay items and cost estimate for each bid schedule (if more than one)

Step 8. Construction Schedule

- Finalize CPM construction schedule, production rates/durations for all construction items, update calendar, and written narrative discussing critical schedule elements

Step 9. Specifications

- Finalize the Special Contract Requirements (SCR's). Include all appropriate up-to-date SCR's from the Library of Specifications. Use the Track Changes feature to highlight or redline project specific requirements to facilitate FHWA review

Step 10. Project Documentation

- Finalize Highway Design Standards Form
- Prepare 95% Design Technical Memorandum
- Update Designer's Notebook
- Complete the 95% Development Checklist
- Update electronic file tracker
- Prepare a draft Project Engineer's Memo (PE Memo)

Design Peer Review & Update 95% Design (P6 Activity D4PRE)

Step 3. Pre-submittal/Peer Review

- Assemble, print, and distribute PS&E package for review. Conduct peer review and incorporate review comments into PS&E package.
- Distribute 95% Plans, Specifications, and Estimate package for an in-office review by the CFT

95% Update and External Review (P6 Activity D4PR)

Step 4. Update PS&E from internal review comments

Step 5. External Review

- Print and distribute the 95% package to external agencies
- Prepare draft responses to external reviewers

Deliverables for D4 Activities

- 70% Field Review Trip Report

Pre-Submittal/Peer Review Deliverables

- Draft 95% Plans, Specifications and Estimate for Pre-Submittal Review
- 95% Design Support Documents
  - 70% Comment and Response Form, including responses
  - 70% Field review Master redlined plan set (no copy, available for meeting review only)
  - Draft Unit Price Analysis
  - Draft Highway Design Standards Form
  - Draft Design Technical Memorandum

Internal Distribution Deliverables

- 95% Plans, Specifications and Estimate for Internal FHWA Distribution
- 95% Design Support Documents
  - 95% Development Checklist
  - 70% Comment and Response Form, including responses
  - Final CPM Construction Schedule
  - Final Unit Price Analysis
  - Final Highway Design Standards Form
  - Final 95% Design Technical Memorandum
  - Draft Project Engineer's memo

External Distribution Deliverables

- 95% Plans, Specifications and Estimate for External FHWA Distribution
- 95% Design Support Documents
  - 95% Development Checklist
  - 95% Internal Distribution Comment and Response Form, including draft responses
  - Final CPM Construction Schedule
  - Final Highway Design Standards Form
  - Final 95% Design Technical Memorandum
  - 95% External Distribution Comment and Response Form, including draft responses

Develop 100% Design and Contract Development (P6 Activity P2)

Includes revisions to the PS&E as a result of partner agency reviews and approval comments. This is 100% design. See 100% Development Checklist for more specific details.

Step 6. Finalize PS%E

- Incorporate comments and print, compile, and deliver the final PS&E package to FHWA

Step 2. Develop procurement documents and checklists

- PS&E Advertisement Checklist
- Complete 100% Development Checklist

Design Peer Review and Update 100% Design (P6 Activity P2PRE)

Step 7. Peer Review

- Assemble, print, and distribute PS&E package for review. Conduct peer review and incorporate review comments into PS&E package.
- Distribute Final Plans, Specifications, and Estimate package for an in-office review by the CFT

Deliverables for P2 Activities

- 100% Plans, Specifications and Estimate for Internal FHWA Distribution
- 100% Design Support Documents
  - 100% Development Checklist
  - 95% Comment and Response Form, including responses
  - Final CPM Construction Schedule
  - Final Unit Price Analysis
  - Copy of quantity calculations
  - Designer's Notebook
  - Final Highway Design Standards Form (signed)
  - Final Design Technical Memorandum
  - Draft Project Engineer's memo
  - Final Electronic File Tracker
  - All Microstation design files (on CD)
  - All Excel design files (on CD)
  - All Geopak design files (on CD)
  - Geopak Earthwork reports
  - Contact Distribution List (on CD)
  - Final electronic Plans (on CD)
  - PS&E advertisement checklist

Project Engineer's Package (P6 Activity D5)

Assemble Project Engineer's Design Package. See Project Engineer's Notebook checklist for more specific details

Step 8. Complete the Project Engineer's Notebook

- Complete checklist. See the Project Engineer's Notebook checklist for more information
- Finalize Project Engineer's memo
- Assemble Project Engineer's Notebook according to the PE notebook checklist including project documentation.

Deliverables for D5 Activity

- Final PE memo
- Project Engineer's Design Package, including two complete hard copies and three CD's of Staking data

G. RIGHT OF WAY

Preliminary Right of Way Studies (P6 Activity R1)

Perform preliminary right of way research.

Step 1. Assemble preliminary boundary exhibit.

- Using available fieldwork and preliminary research, compile, geo-reference and reconcile field evidence with title information.
- Show existing road and utility easements.
- Show the boundaries between public and private land.
- Show the boundaries of individual private parcels.
- Show major PLSS subdivision lines.

Step 2. Prepare exhibits for public meetings.

- Preliminary boundary exhibits for a route or project.
- Individual parcel exhibits.
- Preliminary exhibits show calculated areas for possible acquisition.

Step 3. Identify required field evidence to complete boundary exhibit.

- Identify field evidence to complete boundary map i.e. monuments, evidence of possession, parol evidence.
- Develop monument descriptions and search coordinates for additional field data collection.
- Determine the need for additional record information that may be acquired locally during the field campaign.

Step 4. Prepare a Summary Report describing the results of the initial research and the need for additional research.

- Prepare a list of affected landowners, utilities, railroads, irrigation ditches, etc. affected by the project.
- Include contact information

Deliverables for R1 Activity

- ~~R1 ROW Preliminary Research Checklist~~
- Documentation obtained from research
- Preliminary electronic boundary map
- Monument descriptions and search coordinates for additional fieldwork
- Summary Report
- List of property owners, utilities, railroads, irrigation ditches, etc. and contact information

~~The following data is to be retained by the A/E unless requested by FHWA:~~

- ~~GLO and BLM cadastral plats~~
- ~~Land management agency plats~~
- ~~Any deeds obtained during research~~

Boundary Mapping (P6 Activity R2)

Compile the title information and property ties into boundary plats, supplemental fieldwork, research, and ownership updates.

Step 1. Update the preliminary boundary map.

- Perform fieldwork as necessary to resolve boundary ambiguities
- Integrate supplemental research ownership data into boundary map.
- Integrate supplemental fieldwork/monument ties into boundary map.

Step 2. Perform a title search to 30 years in the past and research easements to patent.

- Research federal agencies land records.
- Research private property records including court decisions and county road records.
- Research easements to patent.
- Research the basis and limits of prescriptive rights for the road.
- Update property owner information including contacts and associated data.
- Research all the encumbrances, including easements for roads and utilities within the project limits.

Step 3. Compile the title search results and fieldwork into the comprehensive electronic boundary map.

- Prepare a property owner spreadsheet to organize contact information, preliminary area of right of way acquisition, title citations and possible issues affecting acquisition.
- Resolve property boundary locations based on both the record information and field ties to property evidence.
- Update the summary report - include ambiguities and conflicts.
- Recommend areas that may require additional title research and field ties or resolution by the Local Public Agency.
- Prepare the R2 ROW Boundary Compilation Checklist

Deliverables for R2 Activity

- Digital boundary map
- Property owner list with contact information and parcel identifier and information to identify the location of the record in the county data base used to graphically place the parcel in the map
- Summary report of the boundary compilation, including how boundaries were determined, any unresolved boundaries or significant difficulties in resolving boundaries
- ~~Electronic submittal of title information in electronic format~~
- ~~R2 ROW Boundary Compilation Checklist~~

~~The following data is to be retained by A/E unless requested by the COR:~~

- ~~Updated county tax maps and property owner data obtained during R1~~
- ~~Updated GLO and BLM cadastral plats obtained during R1~~
- ~~One set of title records.~~
  - ~~One copy of each parcel file, in separate folders.~~
- ~~Federal land management agency documents pertinent to the project~~

Final Right of Way Plans (P6 Activity R3) – Assume no private acquisition will be necessary

Produce all documents necessary for the acquisition of right of way.

Step 1. Coordinate with acquiring agency for document/recordation requirements.

- Size and format
- Type of land description
- Drafting standards

Step 2. Prepare and submit a process check in accordance with the R3 ROW Documents Checklist.

- Prepare draft plans ~~(First Submittal)~~ in accordance with FHWA standards and R3 ROW Documents Checklist.
- Project proposed right of way lines.

- Develop uniform corridor as much as possible.
- Develop easements to construct and maintain road including temporary access for construction.
- Review for adequate right of way.
- ~~Submit draft plans for review and comment.~~Oversee title reports from consultant
- Incorporate comments and resubmit final plans ~~(Second Submittal)~~.

Step 3. Prepare draft legal descriptions for parcels in accordance with the R3 ROW Documents Checklist.

- Use either metes and bounds descriptions for individual acquisitions or corridor descriptions of the right of way encompassing acquisitions for more than one owner or parcel needed at the preference of the acquiring agency.
- Prepare temporary construction easement descriptions based on station/offset relative to the design alignment.
- ~~Submit for review and comment.~~
- Incorporate comments and resubmit final legal descriptions ~~(Second Submittal).~~

Deliverables for R3 Activity

- ~~Process check~~
- ~~Draft documents including R3 ROW Documents Checklist~~
- Final documents including R3 ROW Documents Checklist
- Copies of transmittals of documents to affected agencies or entities
- Electronic files of all ROW documents

~~**Land Owner Meeting (P6 Activity R2LM)**~~

~~**Assumptions:**~~

- ~~—~~

~~Step 1. Prepare exhibits as necessary and arrange meetings~~
~~Step 2. Meet with land owner(s)~~

~~**Deliverables for R2LM Activity**~~

- ~~None~~

Right of Way Acquisition (Non Federal) (P6 Activity R4)

No private acquisition will be required

~~Collaborate with the Cross Functional Team (CFT), acquiring agency, and landowners to develop considerations and accommodations, design modifications, and/or revisions to the right of way documents.~~

~~**Assumption:** FHWA will perform the following tasks on all projects:~~

~~Step 1. Transmit right of way documents to the acquiring agency.~~
~~Step 2. Meet with landowners, agencies, and others~~
~~Step 3. Provide support and oversight to the acquiring agency regarding acquisition matters.~~
~~Step 4. Provide guidance to the acquiring agency regarding compliance with all acquisition regulations and obtain and utility certifications according to regulatory requirements.~~

~~**Deliverables for R4 Activity**~~

- ~~CFL Right of Way Certification signed by the acquiring agency~~

- ~~Supporting documents including:~~
  - ~~Appraisals~~
  - ~~Appraisal waivers and value finding documentation~~
  - ~~Offer and acceptance letters~~
  - ~~Summary of status of acquisitions~~
  - ~~Documentation of contacts with landowners and acquiring agencies.~~

Letter of Consent (P6 Activity R5)

Collaborate with the CFT, acquiring agency, and governmental agency to develop considerations and accommodations, design modifications, and/or revisions to the right of way documents.

Assumption: FHWA will perform the following tasks on all projects:

Step 1. Transmit documents, environmental clearance and request for consent to a Federal Land Transfer:
- Include a request for rights of entry pending the execution of the Department of Transportation (DOT) easement deed.
- Include a draft DOT easement deed for the route or project for review.
- Request any stipulations from the federal agency.

Step 2. Coordinate design modifications and/or revisions to documents.

Step 3. Negotiate terms and stipulations.
- Coordinate with the acquiring agency regarding acceptance of the deed and specific stipulations requested by the federal agency.

Deliverables for R5 Activity

- Letter of Consent with stipulations and statement allowing right of entry to construct

DOT Highway Easement Deed (P6 Activity R6)

Assumption: FHWA will perform the following tasks on all projects:

Step 1. Prepare the final deed and exhibits that will be recorded determine the signature process required by the grantee.

Step 2. Route the deed, through the appropriate FHWA officials for review, to the Division Engineer for signature.
- Include the statement of legal sufficiency, environmental clearance and the Letter of Consent.

Step 3. Transmit the deed to the grantee for signature and recordation.
- Include a self-addressed envelope with postage paid.
- Request a copy of the signed recorded instrument.

Step 4. Receive a copy of the recorded documents for archiving and send a copy to the federal agency that administers the underlying fee.

Deliverables for R6 Activity

- Fully executed DOT Highway Easement Deed

ROW CFT Support (P6 Activity CFT)

Provide support to CFT after other ROW activities are complete.
- Provide support to CFT.

H. UTILITIES

Refer to CFLHD Utility process and documents on CFL Webpage.

Identify and Locate Utilities (P6 Activity U1) – Assume electric power poles are the only utility to be relocated

Identify the type and location of existing utility facilities within the project limits legal rights or cost liability and the recommended certification level of the information as defined by the CFL Utility Data Quality Matrix. Conduct early coordination with the cooperators and utility owners to identify potential conflicts between utilities and the project.

It is assumed that the following utilities are located within the project limits:

- (List known names or types of utilities- see Project Scoping Report)

Step 1. Support the research of existing utility facilities, types and interests completed under the R1 activity.

- Identify type of facility- include all physical utilities: underground, surface and aerial utilities, within the project area.
- Determine cost liability to relocate the facilities.

Step 2. Review the existing utilities mapping completed under the S1 activity, Initial Survey and Mapping section.

Step 3. Initiate early coordination with CFL cooperator, client agency and utility interests to begin identification of facilities, rights and potential conflicts.

- Organize and attend utility/cooperator meetings to identify facilities and issues.
- Develop a list of contacts for each utility that can represent each company regarding location, design accommodation, relocation and cost liability issues associated with their facility.

Step 4. Certify utilities at the recommended CFLHD Utility Data Quality Level.

- Recommend to the Project Manager additional field investigation or research of utilities that would certify the presence and position of utilities at a higher data quality Level.

Step 5. Coordinate recommendations for design modifications to accommodate utilities, as much as practical, to avoid or reduce utility impacts and relocation. Support the development of initial drawings of potential utility conflicts (Completed under the D activity).

Step 6. Prepare utility summary report containing the following:

- Contact list for each utility showing name, address, phone, email address, and area of responsibility.
- List recommendations for additional research or field investigations, including potholing (locating) to justify a higher data quality level.
- Utility coordination meeting minutes and action item list.
- Cost liability issues.

Deliverables for U1 Activity

- Copies of documents (as-built plans, third party mapping, GIS, permits, easements, agreements, etc.) obtained during research
- CFLHD_Utility Data Quality Level Certification
- Utility summary report

Identify Utility/Design Conflicts (P6 Activity U2)

Identify utility/design or utility/construction conflicts and continue coordination with the utility companies to begin development of a Utility Resolution Plan that addresses these conflicts. This activity may also include additional research and investigation to elevate the Quality Level.

Step 1. Perform additional research, field investigation and mapping to support a higher quality level certification, as needed.

Step 2. Support Design to identify utility/design conflicts, develop or revise utility conflict drawings, based on intermediate design and field reviews.

Step 3. Coordinate with cooperators and each utility company:

- Identify associated requirements.
- Resolve cost liability issues.
- Discuss with utility concerns the Utility Resolution Plan.

Step 4. Support the development of a DRAFT Utility Resolution Plan.

Deliverables for U2 Activity

- Copies of additional research and utility mapping on CFLHD coordinate and datum system
- Updated Utility Data Quality Level Certification of utilities at appropriate quality level based on additional data collected.
- Meeting minutes and action item list from conference calls

Utility Conflict Resolution (P6 Activity U3)

Coordinate a plan for utility resolution, coordinating design, construction and utility issues, resolving cost liability issues, developing utility agreements and cooperator certification that for each facility impacted by the project whether the resolution will be either 1) accomplished prior to construction, 2) identified in the PS&E as a coordination requirement of the construction contractor, or (3) included as items of work in the PS&E for the construction contractor to perform.

Step 1. Coordinate the development of a FINAL Utility Resolution Plan.

- Include a copy in the SCR's and PE Notebook.

Step 2. Support the development of construction plan sheets for the PS&E addressing each utility issue, treatment, relocation or installation that is to be constructed directly under the CFLHD contract.

Step 3. Assist in the development of Special Contract Requirements (SCR's), specifications, quantities and cost estimates for all construction related work and coordination required for the project.

Step 4. Develop utility agreements as defined by the Utility Resolution Plan:

- Agreements are to resolve utility conflicts.
- Reimbursable agreements developed according to current CFLHD policy (executed by CFLHD).
- Include copies of each in the SCR's and PE Notebook.

Step 5. Certify utilities according to CFLHD requirements.

- Utility Data Quality Level Certification signed by the designated project specific official.
- Submit Utility Certification (found on CFLHD web site) to the designated project specific official for execution.
- Include copies in the SCR's and PE Notebook.

Step 6. Constructability Review of proposed utility resolutions.

Deliverables for U3 Activity

- Utility Certification
  - An occurrence specific identification of each utility conflict and its resolution
  - Identification of when and how resolutions will be accomplished
  - Copies of all certifications and agreements in PE notebook (Part of D activity)
- Utility related SCR appendices including:
  - Utility agreements
  - Utility Data Quality Level Certification

Utility CFT Support (P6 Activity CFT)

Provide support to CFT after Utility activities are complete.

- Provide support to CFT.

I. GEOTECHNIAL

ASSUMPTIONS

- Geotechnical Drilling will not be necessary as there are no proposed structures, retaining walls, or significant cuts or fills.
- Geotechnical design will entail
  - Scaling recommendations
  - Underdrain recommendations
  - Minor subexcavation locations
  - Minor Shoulder stabilization recommendations
- P6 activities
  - G2-G4

Geotechnical Investigations (P6 Activity G2)

Conduct visual surface investigations for earthwork estimation, embankment foundation design, , material source viability, etc. This activity is assumed to coincide with the 30% CFT site visit.

Step 1. Conduct office study. Typical research shall include but is not limited to the following:

- Project scoping reports
- Historical roadway work
- Geotechnical/geological features
- Structures
- As-builts
- Maintenance records
- Preliminary design criteria
- Also research the project setting, including regional and local geology, annual precipitation, frost depths, seismicity, soil conditions, surface and groundwater conditions, etc.

- Conduct Visual Site investigation during CFT 30% Site visit. Conduct visual investigation during the CFT 30% site visit. Involves verification of assumptions of rockfall locations, underdrain locations, subexcavation and shoulder stabilization areas.
- Compile field notes, field boring/test pit logs, photos, sketches, etc. Photograph all sites of investigation, Draw a cross-sectional sketch (to be included in the G3 "Final Geotechnical Report") showing exploration locations relative to the ditchline, centerline, or other geographical location, and a generalized subsurface profile, including water observations.

Deliverables for G2 Activity

Draft Geotechnical Report (P6 Activity G3)

Conduct geotechnical analyses and prepare a draft final geotechnical report with recommendations for earthwork, structure foundations, landslides and slopes, material sources, special construction requirements, etc.

Step 1. Conduct geotechnical analyses for slopes, cuts, fills, structures, landslides, etc., as required.

- Conduct landslide and slope stability analyses and develop/evaluate slide mitigation and slope design alternatives.
- Conduct rock slope and rockfall analyses and develop/evaluate excavation and mitigation alternatives.
- Conduct shallow foundation and embankment bearing capacity and settlement analyses, and develop/evaluate design alternatives. Develop alternatives to eliminate or minimize excessive settlement in areas of compressible soils.
- Evaluate constructability issues pertaining to geotechnical features within the project, and develop alternative construction options as needed.

Step 2. Prepare and issue a *DRAFT Final Geotechnical Report* incorporating the following:

- Relevant findings per the, G2 Evaluation Memoranda, V1 Pavements Report, and other geotechnical information sources
- Summary of findings from G2 field investigations
- Specific recommendations based on G3 analyses.
  - Present an interpretation of the regional and local geology, seismic conditions, and geographic setting (precipitation, frost depths, etc.).
  - Present details of the investigation plan procedures, methods, and results,. Develop interpretive tables and figures to present the field exploration and lab test data, and how the data were interpreted for analysis and design.
  - .
  - Provide annotated site photographs, general project location maps, and investigation location maps.
  - Present the types and methods of analyses conducted, including tabled input values, criteria, and findings, and append relevant examples.
  - Provide a statement of limitations describing the potential for material type and properties variation between exploration locations, and that explorations were conducted for design purposes only. Draw distinctions between factual and interpreted data and findings.
- Provide specific recommendations for the following:
  - Suitable/unsuitable soils and aggregates by location (including wasting options/locations).
  - Soil and rock shrink/swell properties, station-to-station.
  - Topsoil depths and distribution, station-to-station.

- Rock rippability.
- Subsurface drainage.
- Soil corrosivity and required culvert/structure materials.
- Roadway subex/deep patch repair locations/designs.
- Excavation requirements, including blasting and shoring.
- Cut and fill slope ratios, erosion control, and construction requirements.
- Embankment foundation preparation and construction specifications.
- Landslide mitigation requirements.
- Rockfall mitigation requirements.
- General constructability requirements for all geotechnical features.
- Special Contract Requirements (SCR's).

Step 3. Issue *Interim Geotechnical Memoranda*, as needed, regarding design analyses, preliminary recommendations, technical basis for design, etc. Prepare a *Geotechnical Baseline Report*, according to ASCE guidelines, for inclusion in contract documents

Deliverables for G3 Activity

- *DRAFT Final Geotechnical Report*
- *Interim Geotechnical Memoranda*
- *Geotechnical Baseline Report*

Final Geotechnical Report (P6 Activity G4)

Update, revise and issue the FINAL Geotechnical Report and associated Geotechnical Advisories.

Step 1. Issue *Geotechnical Advisories* and plan notes for the final PS&E package.

Step 2. Update and issue the *FINAL Geotechnical Report*, incorporating the latest geotechnical findings and recommendations, as well as CFLHD review comments and comments from other stakeholders.

Deliverables for G4 Activity

- *Geotechnical Advisories*
- *FINAL Geotechnical Report*

Geotechnical CFT Support (P6 Activity CFT)

Provide support to CFT after Final Geotech Report is completed.

- Provide support to CFT.

J. PAVEMENTS AND MATERIALS

Preliminary Pavement Recommendation (P6 Activity V1)

Complete project initiation, field investigation, materials testing, analysis, and determination of cost effective pavement material, design, and rehabilitation recommendations (as applicable). Communication between the A/E and the CFLHD pavement engineer throughout this activity is essential for successful completion.

In addition to the mainline roads, pavement recommendations for pullouts, parking lots, and overlooks within the project must be included. These pavement recommendations may vary from the mainline road because existing conditions and features may vary (i.e. parking lots may have curb and gutter).

Step 1. Project Initiation

- Gather information (archived reports/files, as-builts, scoping reports, PMS data, maintenance records, traffic data, climate data, etc)
- Develop a *Field Investigation Plan* including the investigation, sampling, and testing plan, schedule, and budget. Submit the plan, schedule, and budget to FHWA
- Assume the following sample and data collection methods for this project:

Sampling / Data Collection	**Depth(s)**	**Interval (total)[1]**	**Offset or Location**
Borings	5'-0"	20	Alt. Lanes.
Cores	depth of pavement	7	Alt. Lanes.
FWD[2]	N/A		
DCP			
Test Pits			
Other (i.e. traffic data)			

[1]Actual quantities or number of samples may go up or down based on field conditions encountered. The task order will be modified, as necessary, to account for changes to the estimate.
[2]Refer to FLH FWD Testing and Analysis Guidelines.

- Assume the following tests/analyses for this project:

Tests / Analysis	**Selected Test(s)**	**Estimated Number of Tests[3]**
<u>Soil Strength / Stiffness</u> -R-Value (AASHTO T 190) -CBR (AASHTO T 193) -Resilient Modulus (AASHTO T 307) -Backcalculation of FWD Data[4] -Correlation of DCP Data (ASTM D 6951)	-R-Value	7
<u>Soil Classification & Gradation</u> -AASHTO M 145 -ASTM 2487 -AASHTO T 27	Classsification, gradation, LL, PI	15
<u>Moisture Content of Soil (in situ)</u> -AASHTO T 255 or T 265	T-255	4
<u>Moisture-Density Relation</u> -AASHTO T 99, method C -AASHTO T 180, method D		

Tests / Analysis	Selected Test(s)	Estimated Number of Tests[3]
Soil Stabilization (evaluate feasibility, application rate, and structural value) -Lime, Cement, and/or fly ash		
Cold In-Place Recycling (CIPR) or Full-Depth Reclamation (FDR): Preliminary Mix Designs (evaluate feasibility, application rate, and structural value)		
Other Testing / Analysis	PH & Resistivity Sulfates and Chlorides	7 4

[3]Actual quantities or number of tests may go up or down based on field conditions encountered. The task order will be modified, as necessary, to account for changes to the estimate.
[4]Refer to FLH FWD Testing and Analysis Guidelines.

Step 2. Obtain additional investigative services (traffic control, drilling rigs, etc.)

- Provide traffic control, as needed and acceptable to the local road agency and in conformance with the MUTCD.

Step 3. Complete field investigation

- Coordinate investigation, coring, and drilling access with the FHWA and the appropriate land owning/management agency. Obtain all necessary subsurface utility clearances and access permits prior to commencing investigations. This may include a preliminary site visit to mark out boring locations and inform 811 for location.
- Perform field investigation per the standards and guidance of the PDDM and supplements. This includes but is not limited to: sampling and logging (including photos); surveying pavement condition and distresses (including photos); identifying potential material sources; identifying special pavement issues (i.e. frost heave); identifying areas for subexcavation, pavement drainage, or other spot repairs; identify obstacles for construction or rehabilitation (i.e. suitability of existing shoulder/bench for minor widening of the roadway).
- Upon completion of the field investigation, submit a brief *Field Investigation Summary Memo* (1-page typically) or E-mail to FHWA that summarizes the investigation.

Step 4. Review and compile field notes, logs, photos, etc.

Step 5. Evaluate and submit samples/data for testing and analysis

- Assure submitted samples are an adequate representation of project conditions.

Step 6. Evaluate results from lab testing, field investigation, and engineering analysis. Determine if additional investigation, testing, or analysis is necessary.

- Coordinate additional work with the FHWA

Step 7. Develop *Preliminary Pavement Recommendations Technical Memo*. This technical memo should include, but not be limited to, the following:

- ESALs for the design life of the pavement
- Effective soil resilient modulus
- Pavement structural design

- Design multiple alternatives, especially on pavement rehabilitation projects
- Economic analysis on design alternatives and a recommended alternative
- Material recommendations
- Special recommendations, spot repairs, or other pertinent information (i.e. subexcavation locations, constructability issues, local material availability, material haul distances, pavement depth variability, steep grades, recommended follow-up investigation, etc.).
- Submit to FHWA for review and comment.

Deliverables for V1 Activity

- *Field Investigation Plan*
- *Field Investigation Summary Memo/E-mail*
- *Preliminary Pavement Recommendations Technical Memo*

Final Pavement Recommendations (P6 Activity V2)

Finalize the pavement recommendations within a comprehensive report.

Step 1. Identify and/or develop needed SCRs related to the pavement structural section.

Step 2. Finalize design recommendations

- Pavement structural design
- Material recommendations
- Spot repair recommendations
- Recommendations / information on potential material sources
- Design exceptions.

Step 3. Develop a *DRAFT Pavement Report* per the PDDM and supplements. The activity includes, but is not limited to, the following:

- Development of a comprehensive report that documents all information, assumptions, and calculations that were gathered and completed during the V1 and V2 tasks
- Completing a QA review
- Submit to FHWA for review and comment

Step 4. Prepare *FINAL Pavement Report*

- Address comments by FHWA
- Submit to FHWA

Deliverables for V2 Activity

- *DRAFT Pavement Report*

Final Pavements Report (P6 Activity V3)

Step 1. Prepare *FINAL Pavement Report*

- Address comments by FHWA
- Submit to FHWA

Deliverables for V3 Activity

- *FINAL Pavement Report* (hard and electronic copies)

Pavements CFT Support (P6 Activity CFT)

Provide support to CFT after Final Geotech Report is completed.

- Provide support to CFT

K. HYDROLOGY/HYDRAULICS

Assumptions: No FEMA Floodplain
No water quality, fish passage, wetland or stream restoration issues

Preliminary Hydraulics Recommendations (P6 Activity H1)

Initial hydrology/hydraulics survey to determine the preliminary structural requirements and water resources impact.

Step 1. Collect existing drainage related data, reports, studies, and other pertinent information. Typical sources include:

- Local and County agencies
- State agencies
- Federal agencies, including applicable land management plans

Step 2. Identify potential floodplain encroachments and channel stability issues.

Step 3. Develop a Hydrologic and Hydraulic Criteria and Computational Methods Technical Memorandum

- Define criteria and computational methods to be used for the hydrologic and hydraulic analyses of ditches, culverts, and bridges, including appropriate design standards and flood frequency
- Provide proposed design criteria for other hydraulic
  - Criteria and methods should be consistent with the PDDM as well as pertinent site-specific considerations.
- Subsequent hydrologic and hydraulic analysis should be conducted based on the approved criteria and computational methods

Step 4. Perform a preliminary hydraulic analysis of existing conditions

- Use the 10-, 50-, and 100-yr events to evaluate potential encroachments and to determine water surface elevations

Step 5. Provide support for permitting

- Determine the ordinary high water (OHW) level and extent
  - In the absence of site-specific guidance, use the 2-yr event for this determination

Step 6. Prepare a *Preliminary Hydraulics Recommendations Report* include, but not limited to, the following:

- Documentation of approved criteria and methods
- Documentation of data collection and site investigation
  - Examination of overall site
  - Existing streams and ditches
  - Existing culverts (size, location, and condition)
- Identification of floodplain encroachment and channel stability issues
- Environmental support
- Documentation of preliminary hydrologic and hydraulic computations
- Electronic files for floodplain analysis

Deliverables for H1 Activity

- Hydrologic and Hydraulic Criteria and Computational Methods Technical Memorandum (Step 4)
- Preliminary Hydraulics Recommendations Report (Step 7)

Draft Hydraulics Report (P6 Activity H2)

Conduct floodplain, preliminary roadway and preliminary bridge hydraulic analyses.

Step 1. Perform preliminary roadway hydraulic analysis

- Perform drainage basin delineations for all cross culvert locations that require design discharges. Calculate peak discharges based on the design criteria and methods previously adopted for roadway drainage crossings. Recommend rehabilitation (e.g., lining), replacements, and extensions, as appropriate, considering culvert condition, hydraulic performance, and cost.
- Design the preliminary type, size, and location of the major culverts (greater than 1200 mm (48")). Use HY8 or equivalent for hydraulic analysis/design. Recommend appropriate end treatments for the major culverts
- Design the preliminary type, size, and location of the minor cross culverts. Use HY8 or equivalent for hydraulic analysis/design for minor culverts in critical situations such as high likelihood of ice or debris, high tailwater, low culvert barrel slope, increased risks to upstream properties, or other site-specific conditions. Minor culverts in non-critical situations may be designed using HY8 or equivalent, inlet control nomographs, or inlet control equations.
- Provide preliminary designs for outlet energy dissipation for all culverts.
- Provide preliminary designs for roadside ditches, including grade control structures and/or temporary/permanent linings to prevent erosion.

Step 2. Develop preliminary designs for special hydraulic features

- Temporary construction related drainage features.

Step 3. Prepare a *Preliminary Hydraulics Report*. The report will provide the necessary hydrologic and hydraulic analysis to complete the preliminary (30%) design. Contents of the report shall follow the guidance in the PDDM in a bound format. In addition the report shall include:

- Maps indicating the general and specific project location including the stream channel(s) to proposed structure locations and drainage basin boundaries.
- Brief discussions, documentation, and summaries of all analysis and design activities (including any assumptions used) and results.
- Detailed hydraulic design recommendations and conclusions.
- Appendices containing copies of any hand or spreadsheet calculations and the input and output data from any computer models used.
- Maps and/or exhibits showing the location and orientation of all cross-sections and cross section plots for all locations.
- Electronic copies of computer input/output files and GIS/DEM files.

Deliverables for H2 Activity

- *Preliminary Hydraulics Report*

Final Hydraulics Report (P6 Activity H3)

Finalize the roadway, bridge and special features analysis and prepare the Final Hydraulics Report.

Step 1. Perform final roadway hydraulic analysis

- Design the final type, size, and location of the major culverts (greater than 1200 mm (48")). Finalize design of end treatments for the major culverts.
- Design the final type, size, and location of the minor cross culverts
- Provide final designs for outlet energy dissipation for all culverts
- Support preparation of culvert cross-sections, including ensuring sufficient cover is provided
- Provide final designs for roadside ditches, including needed grade control structures and protective linings

Step 2. Finalize designs for special hydraulic features

- Temporary construction related drainage features

Step 3. Update the *Preliminary Hydraulics Report* to develop the *DRAFT Hydraulics Report*. Submit to other stakeholders upon request, for review.

Step 4. Incorporate CFLHD review comments, and comments from other stakeholders, and submit a *FINAL Hydraulics Report*.

Deliverables for H3 Activity

- *DRAFT Hydraulics Report*
- *FINAL Hydraulics Report*

Hydraulics CFT Support (P6 Activity CFT)

Provide support to CFT after Final Hydraulics Report is complete.

- Provide support to CFT

L. BRIDGE

Structural Layout (P6 Activity B2)

For the two large culverts located at Station 217+00 and Station 307+00 identified in the Scoping Report, determine the optimum headwall and wingwall replacement configuration. Incorporate any special details or client requests. FHWA- CFLHD and State DOT Standard Drawings will be used to the maximum extent practicable.

Structure Preliminary Layout

Step 1. For each location:

- Review the location data to determine the requirements that will control the headwall and wingwall configuration.
- Determine the headwall and wingwall configurations that satisfy horizontal and vertical clearance criteria. Consider hydraulic opening and potential scour requirements.
- Propose recommended rehabilitation alternative(s) for the existing headwalls and wingwalls.
- Consider environmental constraints.
- Consider restrictions due to site access and transport limitations, and local material availability. Recommend proposed adjustments to profile alignment and grade necessary to optimize the headwall and wingwall configuration.
- Include discussion on major items or issues such as future maintenance that might affect the selection of a preferred alternative.

Step 2. Prepare a TS&L drawing for each headwall and wingwall alternative recommended, including the rehabilitation alternative for the existing headwalls and wingwalls. Incorporate recommendations from the *Preliminary Hydraulic Recommendations* and the *Preliminary Geotechnical Investigation*. Incorporate 30% plan and profile from Roadway Design. Provide headwall and wingwall typical sections and details, including structural railing and aesthetic treatments. Obtain acceptance of the Headwall and Wingwall Preliminary Layout prior to beginning work on Task B3 - Structural Design and Check.

Step 3. Prepare a preliminary cost estimate for each alternative.

Deliverables for B2 Activity

- Headwall and Wingwall Conceptual drawings and preliminary cost estimates (include in 30% package)

Structural Design and Check (P6 Activity B3)

Structural analysis, design, and check of the headwalls and wingwalls. Draft contract plans, prepare special contract requirements, and the engineer's estimate.

70% Structure Design

Step 1. Provide calculations for the structural design of the headwalls and wingwalls. Incorporate recommendations from the *Final Hydraulics Report*, the *Draft Geotechnical Report*, and the *Geotechnical Memoranda* as issued. Annotate design calculations with specific references to the applicable design specification. Perform calculations for all elements including:

- Headwalls and wingwalls
- Railings

70% Structure Drawings

Step 2. Prepare plan sheets for the headwalls and wingwalls. Incorporate recommendations from the *Final Hydraulics Report,* the *Draft Geotechnical Report*, and the *Geotechnical Memoranda* as issued. Provide plan sheets for the following:

- Plan and elevation
- General notes and estimate
- Summary of boring logs (from *Geotechnical Investigation*)
- Headwall and wingwall details
- Aesthetic treatments
- Railing and transition railings
- Reinforcing bar lists
- Existing culvert plans

70% Structure Independent Check

Step 3. Prepare independent design calculations for the headwalls and wingwalls. Check the structural design of all elements as detailed in the 70% Structure Drawings. The independent check will verify design methods, functional requirements, and conformance to the *Structure Design Criteria*. Check calculations shall be annotated with specific references to the applicable design specification sections.

Step 4. Check the 70% Structure Drawings for completeness and accuracy.

70% Structure Quantities and Itemized Cost Estimate

Step 5. Calculate plan item quantities and document the itemized cost estimate
Step 6. Check the 70% Structure Quantities and Itemized Cost Estimate for completeness and accuracy

70% Structure Special Contract Requirements

Step 7. Prepare and check the 70% Structure Special Contract Requirements for completeness and accuracy.

Deliverables for B3 Activity

- 70% Structure Design Calculations and Independent Check
- 70% PS&E

Structural PS&E Revisions (P6 Activity B4)

Complete any necessary revisions to the headwall and wingwall 70% PS&E package.

100% Structural PS&E Supporting Data

Step 1. Complete any necessary revisions to the 70% Structural Design. Provide calculations and independent check calculations for the 100% Structural Design.

100% Structural PS&E

Step 2. Revise 70% Structural Drawings.
Step 3. Revise 70% Structural Special Contract Requirements.
Step 4. Revise 70% Structure Quantities and Itemized Cost Estimate.

Deliverables for B4 Activity

- 100% Structural PS&E and Supporting Data
- 100% Structural PS&E

Bridge CFT Support (P6 Activity CFT)

Provide support to CFT outside of above activities.

- Provide support to CFT

M. MEETINGS AND FIELD REVIEWS

Design Meetings, Plan Reviews, and Field reviews

Step 1. 30% Design Internal CFT Review (D2PRI Activity)
Step 2. 30% CFT Review Meeting (D2PRI Activity)
Step 3. 30% Field Review. It is anticipated that the field review will last 4 days including travel (D2SV Activity)
Step 4. 70% Design Internal CFT Review (D3PRI Activity)
Step 5. 70% CFT Review Meeting (D3PRI Activity)
Step 6. 70% Field Review. It is anticipated that the field review will last 4 days including travel. (D3SV Activity).
Step 7. 95% Design Internal CFT Review (D4PRI Activity)
Step 8. 95% CFT Review Meeting (D4PRI Activity)

Environmental Meetings and Field Reviews

Step 9. Attend Public Meeting (concurrent with 30%)

- See above under 30% field review

Deliverables for Meetings and Field Reviews

- CFT Meeting Minutes

N. QA/QC (A/E Projects ONLY)

No work required – internal delivery

O. PROCUREMENT AND ACQUISITIONS (CFL Internal Projects Only)

Pre-advertisement (P6 Activity Q1)

Step 1. Procurement acquisition, pre-advertisement tasks and preparation such as synopsis & presolicitation

P&A Advertisement Phase (P6 Activity Q2)

Step 1. Amendments, receipts of questions from bidders, coordination of questions, response to questions

P&A Closeout (P6 Activity Q3)

Step 1. Procurement and acquisition award of bid and final close-out of bid activities

II. DELIVERABLES AND SCHEDULE

Milestone Activity Schedule	
Milestone	Completion Date
30% Field Review	April 2016
70% Field Review	August 2016
95% External Review	December 2016
Advertisement	February – March 2017
NTP	April 2017

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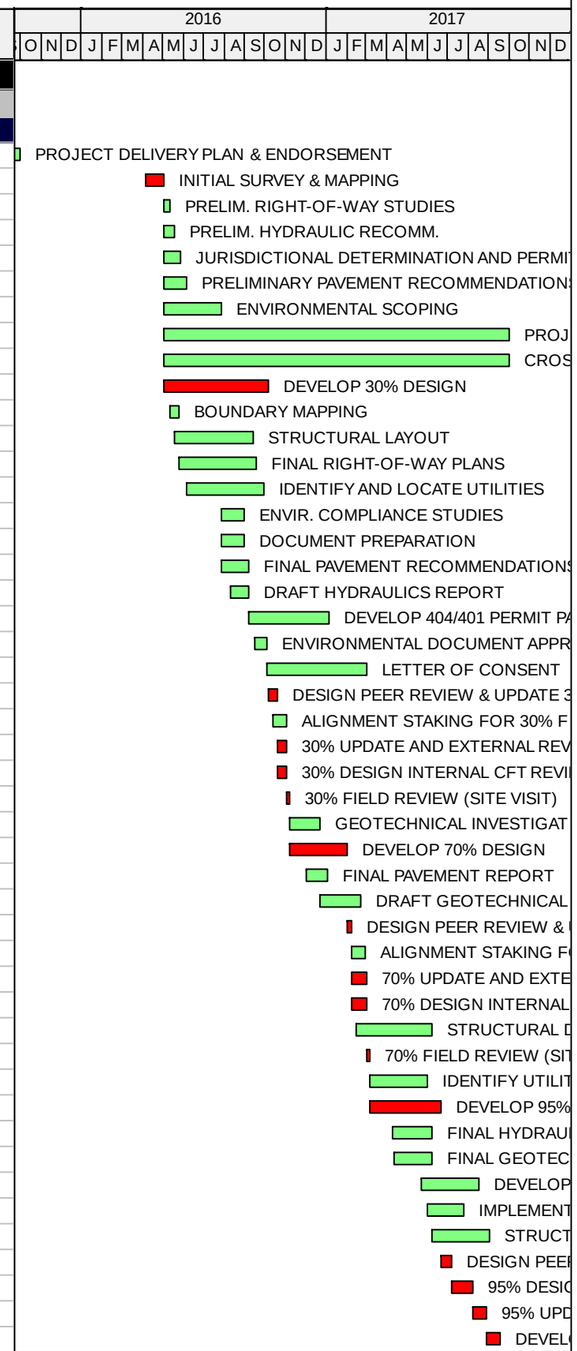
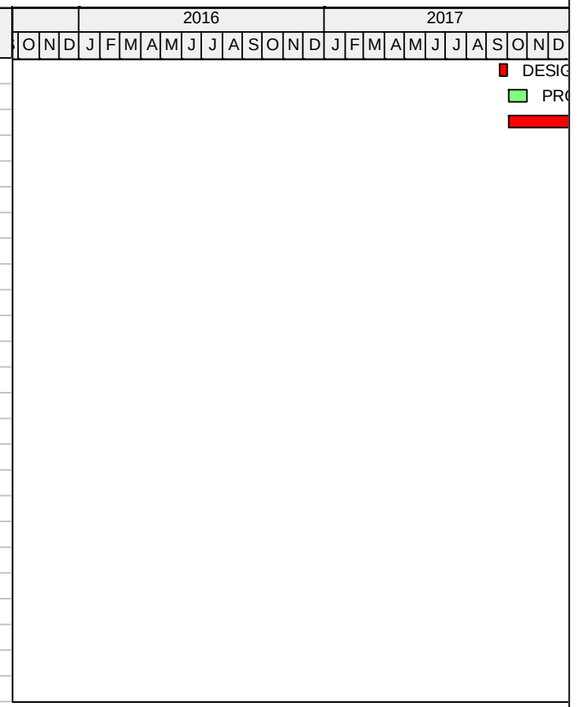
ID	Activity Name	Orig. Dur.	Rem. Dur.	% Compl.	Start	Finish	Total Float	BQ Hours	AQ Hours	RQ Hours	At Cmpl Hrs	Units % Compl.	Primary Resource
Longley, Wendy		1171	1057		09-Apr-15 A	09-Dec-19	0	7361	211	7155	7365	2.86%	
FY2019		1171	1057		09-Apr-15 A	09-Dec-19	0	7361	211	7155	7365	2.86%	
CA FLAP INY CR2022(1) SOUTH LAKE ROAD		1171	1057		09-Apr-15 A	09-Dec-19	0	7361	211	7155	7365	2.86%	
DWP1	PROJECT DELIVERY PLAN & ENDORSEMENT	122	8	99.99%	09-Apr-15 A	30-Sep-15	127	206	211	0	211	99.95%	W-LONG.Longley, Wendy
DWS1	INITIAL SURVEY & MAPPING	19	19	0%	06-Apr-16*	03-May-16	0	520	0	520	520	0%	S-BELL.Bell Jr., Robert L
DWR1	PRELIM. RIGHT-OF-WAY STUDIES	9	9	0%	02-May-16*	13-May-16	92	80	0	80	80	0%	R-BLAIR.Blair, Alan D
DWH1	PRELIM. HYDRAULIC RECOMM.	14	14	0%	02-May-16*	20-May-16	6	44	0	44	44	0%	H-GHELARDI.Ghelardi, Veron
DWEP1.0	JURISDICTIONAL DETERMINATION AND PERMIT APPRC	19	19	0%	02-May-16*	27-May-16	183	28	0	28	28	0%	E-ROTH.Roth, Jason
DWV1	PRELIMINARY PAVEMENT RECOMMENDATIONS	25	25	0%	02-May-16*	06-Jun-16	1	145	0	145	145	0%	M-FELLING.Felling, Jeffrey (F
DWE0	ENVIRONMENTAL SCOPING	61	61	0%	02-May-16*	28-Jul-16	153	156	0	156	156	0%	E-WHITE.White, Doug (FHW/
DWPM	PROJ. MANAGEMENT - (DESIGN)	358	358	0%	02-May-16*	02-Oct-17	5	280	0	280	280	0%	W-LONG.Longley, Wendy
DWCFT	CROSS FUNCTIONAL TEAM SUPPORT	358	358	0%	02-May-16*	02-Oct-17	5	32	0	32	32	0%	W-LONG.Longley, Wendy
DWD2	DEVELOP 30% DESIGN	109	109	0%	03-May-16	06-Oct-16	0	266	0	266	266	0%	D-GUZMN.Guzman, Sebastia
DWR2	BOUNDARY MAPPING	9	9	0%	13-May-16	26-May-16	92	50	0	50	50	0%	R-BLAIR.Blair, Alan D
DWB2	STRUCTURAL LAYOUT	80	80	0%	20-May-16	14-Sep-16	6	14	0	14	14	0%	B-DEPAULA.De Paula, Leowil
DWR3	FINAL RIGHT-OF-WAY PLANS	79	79	0%	26-May-16	19-Sep-16	156	88	0	88	88	0%	R-BLAIR.Blair, Alan D
DWU1	IDENTIFY AND LOCATE UTILITIES	80	80	0%	07-Jun-16	29-Sep-16	149	105	0	105	105	0%	R-BLAIR.Blair, Alan D
DWE1	ENVIR. COMPLIANCE STUDIES	25	25	0%	28-Jul-16	01-Sep-16	153	48	0	48	48	0%	E-WHITE.White, Doug (FHW/
DWE2	DOCUMENT PREPARATION	25	25	0%	28-Jul-16	01-Sep-16	153	112	0	112	112	0%	E-WHITE.White, Doug (FHW/
DWV2	FINAL PAVEMENT RECOMMENDATIONS	29	29	0%	28-Jul-16	08-Sep-16	98	63	0	63	63	0%	M-FELLING.Felling, Jeffrey (F
DWH2	DRAFT HYDRAULICS REPORT	19	19	0%	11-Aug-16	08-Sep-16	42	67	0	67	67	0%	H-GHELARDI.Ghelardi, Veron
DWEP1.1	DEVELOP 404/401 PERMIT PACKAGE	80	80	0%	08-Sep-16	05-Jan-17	112	132	0	132	132	0%	E-ROTH.Roth, Jason
DWE3	ENVIRONMENTAL DOCUMENT APPROVAL	14	14	0%	15-Sep-16	05-Oct-16	144	48	0	48	48	0%	E-WHITE.White, Doug (FHW/
DWR5	LETTER OF CONSENT	100	100	0%	05-Oct-16	03-Mar-17	144	80	0	80	80	0%	R-BLAIR.Blair, Alan D
DWD2PRE	DESIGN PEER REVIEW & UPDATE 30% DESIGN	9	9	0%	06-Oct-16	20-Oct-16	0	32	0	32	32	0%	D-GUZMN.Guzman, Sebastia
DWSC30	ALIGNMENT STAKING FOR 30% FIELD REVIEW	14	14	0%	13-Oct-16	02-Nov-16	4	128	0	128	128	0%	S-JOHNSON.Johnson, Branc
DWD2PR	30% UPDATE AND EXTERNAL REVIEW	10	10	0%	20-Oct-16	03-Nov-16	0	24	0	24	24	0%	D-GUZMN.Guzman, Sebastia
DWD2PRI	30% DESIGN INTERNAL CFT REVIEW	10	10	0%	20-Oct-16	03-Nov-16	0	70	0	70	70	0%	W-LONG.Longley, Wendy
DWD2SV	30% FIELD REVIEW (SITE VISIT)	3	3	0%	03-Nov-16*	08-Nov-16	0	184	0	184	184	0%	W-LONG.Longley, Wendy
DWG2	GEOTECHNICAL INVESTIGATIONS	30	30	0%	08-Nov-16	22-Dec-16	10	66	0	66	66	0%	G-MONARCO.Monarco, Dom
DWD3	DEVELOP 70% DESIGN	56	56	0%	08-Nov-16	01-Feb-17	0	560	0	560	560	0%	D-GUZMN.Guzman, Sebastia
DWV3	FINAL PAVEMENT REPORT	21	21	0%	01-Dec-16	03-Jan-17	185	8	0	8	8	0%	M-FELLING.Felling, Jeffrey (F
DWG3	DRAFT GEOTECHNICAL REPORT	39	39	0%	22-Dec-16	21-Feb-17	10	94	0	94	94	0%	G-MONARCO.Monarco, Dom
DWD3PRE	DESIGN PEER REVIEW & UPDATE 70% DESIGN	5	5	0%	01-Feb-17	08-Feb-17	0	36	0	36	36	0%	D-GUZMN.Guzman, Sebastia
DWSC70	ALIGNMENT STAKING FOR 70% FIELD REVIEW	14	14	0%	08-Feb-17	28-Feb-17	4	128	0	128	128	0%	S-JOHNSON.Johnson, Branc
DWD3PR	70% UPDATE AND EXTERNAL REVIEW	15	15	0%	08-Feb-17	02-Mar-17	0	24	0	24	24	0%	D-GUZMN.Guzman, Sebastia
DWD3PRI	70% DESIGN INTERNAL CFT REVIEW	15	15	0%	08-Feb-17	02-Mar-17	0	76	0	76	76	0%	W-LONG.Longley, Wendy
DWB3	STRUCTURAL DESIGN AND CHECK	80	80	0%	14-Feb-17	08-Jun-17	16	56	0	56	56	0%	B-DEPAULA.De Paula, Leowil
DWD3SV	70% FIELD REVIEW (SITE VISIT)	3	3	0%	02-Mar-17*	07-Mar-17	0	104	0	104	104	0%	W-LONG.Longley, Wendy
DWU2	IDENTIFY UTILITY/DESIGN CONFLICTS	60	60	0%	07-Mar-17	31-May-17	43	65	0	65	65	0%	R-BLAIR.Blair, Alan D
DWD4	DEVELOP 95% DESIGN	76	76	0%	07-Mar-17	22-Jun-17	0	322	0	322	322	0%	D-GUZMN.Guzman, Sebastia
DWH3	FINAL HYDRAULICS REPORT	41	41	0%	11-Apr-17	08-Jun-17	16	37	0	37	37	0%	H-GHELARDI.Ghelardi, Veron
DWG4	FINAL GEOTECHNICAL REPORT	40	40	0%	12-Apr-17	08-Jun-17	16	35	0	35	35	0%	G-MONARCO.Monarco, Dom
DWEP2.0	DEVELOP DRAFT NPDES PERMIT PACKAGE	59	59	0%	24-May-17	17-Aug-17	27	60	0	60	60	0%	E-WHITE.White, Doug (FHW/
DWU3	IMPLEMENT UTILITY RELOCATION PLAN	39	39	0%	31-May-17	26-Jul-17	43	68	0	68	68	0%	R-BLAIR.Blair, Alan D
DWB4	STRUCTURAL PS&E REVISIONS	60	60	0%	08-Jun-17	01-Sep-17	16	20	0	20	20	0%	B-DEPAULA.De Paula, Leowil
DWD4PRE	DESIGN PEER REVIEW & UPDATE 95% DESIGN	10	10	0%	22-Jun-17	06-Jul-17	0	36	0	36	36	0%	D-GUZMN.Guzman, Sebastia
DWD4PRI	95% DESIGN INTERNAL CFT REVIEW	22	22	0%	07-Jul-17	07-Aug-17	0	72	0	72	72	0%	W-LONG.Longley, Wendy
DWD4PR	95% UPDATE AND EXTERNAL REVIEW	15	15	0%	08-Aug-17	28-Aug-17	0	24	0	24	24	0%	D-GUZMN.Guzman, Sebastia
DWP2	DEVELOP 100% DESIGN AND CONTRACT DEVELOPMEI	14	14	0%	29-Aug-17	18-Sep-17	0	102	0	102	102	0%	D-GUZMN.Guzman, Sebastia



Actual Work
Remaining Work
Critical Remaining Work
Milestone

Activities falling with-in the Curtain on the Barchart must be updated by the CFTL.

ID	Activity Name	Orig. Dur.	Rem. Dur.	% Compl.	Start	Finish	Total Float	BQ Hours	AQ Hours	RQ Hours	At Cmpl Hrs	Units % Compl.	Primary Resource
DWP2PRE	DESIGN PEER REVIEW & UPDATE FINAL 100% DESIGN	10	10	0%	19-Sep-17	02-Oct-17*	0	24	0	24	24	0%	D-GUZMN.Guzman, Sebastia
DWD5	PROJECT ENGINEER'S PACKAGE	20	20	0%	03-Oct-17	31-Oct-17	350	80	0	80	80	0%	D-GUZMN.Guzman, Sebastia
DWSHELF	PACKAGE ON SHELF	279	279	0%	03-Oct-17	14-Nov-18	0	0	0	0	0	0%	W-LONG.Longley, Wendy
DWDUU	PROJECT UNSHELVING & UPDATING	20	20	0%	14-Nov-18	13-Dec-18	0	40	0	40	40	0%	W-LONG.Longley, Wendy
DWA1	PROJECT MANAGER DELIVERY DATE (TO ACQUISITION	0	0	0%		12-Dec-18*	0	0	0	0	0	0%	W-LONG.Longley, Wendy
DWQ1	PRE-ADVERTISEMENT	15	15	0%	13-Dec-18	04-Jan-19	0	25	0	25	25	0%	Q-ROGERS.Rogers, Jeremia
DWPMA	PROJECT MANAGEMENT (DURING ACQUISITIONS)	52	52	0%	13-Dec-18	28-Feb-19	5	30	0	30	30	0%	W-LONG.Longley, Wendy
DWA3	FHWA ADVERTISE DATE	0	0	0%		04-Jan-19*	0	0	0	0	0	0%	Q-ROGERS.Rogers, Jeremia
DWQ2	P&A ADVERTISEMENT PHASE	21	21	0%	07-Jan-19	05-Feb-19	16	40	0	40	40	0%	Q-ROGERS.Rogers, Jeremia
DWC1	BID OPENING	0	0	0%	07-Feb-19		0	0	0	0	0	0%	Q-ROGERS.Rogers, Jeremia
DWQ3	P&A CLOSEOUT	13	13	0%	11-Feb-19	28-Feb-19	50	30	0	30	30	0%	Q-ROGERS.Rogers, Jeremia
DWC2	CONTRACT AWARD	0	0	0%		28-Feb-19	0	0	0	0	0	0%	Q-ROGERS.Rogers, Jeremia
DWE4M	ENVIRONMENTAL MITIGATION AND SUPPORT	20	20	0%	01-Mar-19	28-Mar-19	175	25	0	25	25	0%	E-WHITE.White, Doug (FHW/
DWR6	DOT HIGHWAY EASEMENT DEED	90	90	0%	01-Mar-19	08-Jul-19	81	40	0	40	40	0%	R-BELLEN.Bellen, Jeffrey H.
DWCA	CONTRACT ADMINISTRATION	171	171	0%	01-Mar-19	31-Oct-19	5	1536	0	1536	1536	0%	C-WOLFERT.Wolfert, Scott
DWCM	CONSTRUCTION MANAGEMENT	171	171	0%	01-Mar-19	31-Oct-19	0	210	0	210	210	0%	W-LONG.Longley, Wendy
DWC7	FUNCTIONAL SUPPORT DURING CONSTRUCTION	171	171	0%	01-Mar-19	31-Oct-19	19	186	0	186	186	0%	D-GUZMN.Guzman, Sebastia
DWC5	NOTICE TO PROCEED	0	0	0%	15-Mar-19*		0	0	0	0	0	0%	W-LONG.Longley, Wendy
DWEP2.1	OBTAIN NPDES PERMIT	15	15	0%	15-Mar-19	04-Apr-19	51	16	0	16	16	0%	E-WHITE.White, Doug (FHW/
DWEP2.2	MANAGE NPDES PERMIT REQUIREMENTS	100	100	0%	05-Apr-19	26-Aug-19	51	8	0	8	8	0%	E-WHITE.White, Doug (FHW/
DWC6	CONSTRUCTION CONTRACT COMPLETE	0	0	0%		31-Oct-19	0	0	0	0	0	0%	W-LONG.Longley, Wendy
DWEP2.3	NPDES PERMIT CLOSEOUT OR TRANSFER	14	14	0%	01-Nov-19	22-Nov-19	0	8	0	8	8	0%	E-WHITE.White, Doug (FHW/
DWEP1.3	404/401 PERMIT CLOSEOUT/TRANSFER	14	14	0%	01-Nov-19	22-Nov-19	0	6	0	6	6	0%	E-WHITE.White, Doug (FHW/
DWC8	POST CONTRACT COMPLETION/PROJECT WRAP UP	6	6	0%	14-Nov-19	22-Nov-19	0	40	0	40	40	0%	W-LONG.Longley, Wendy
DWC9	FINAL RECORDS CHECK	10	10	0%	22-Nov-19	09-Dec-19	0	20	0	20	20	0%	W-LONG.Longley, Wendy

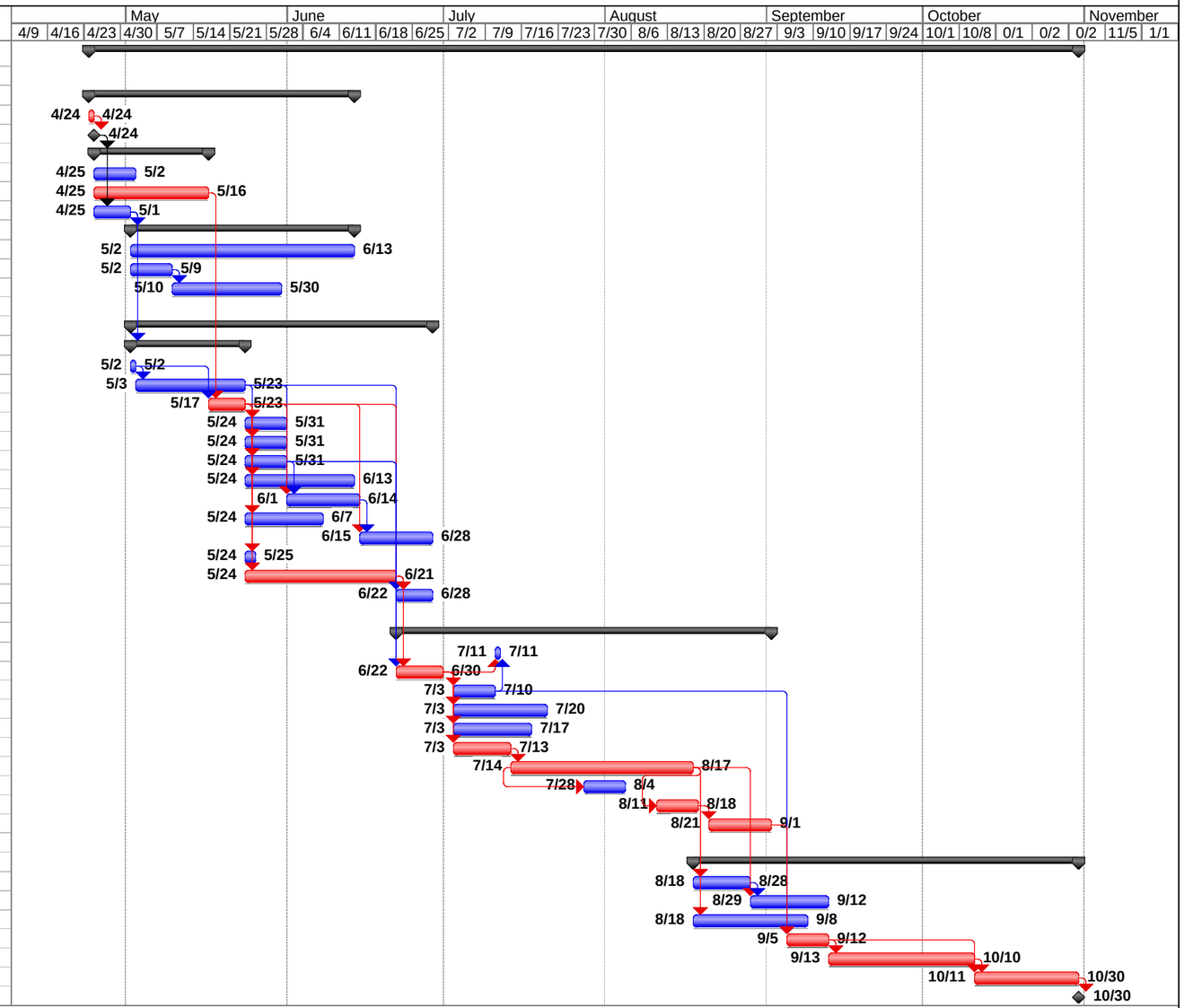


Actual Work
Remaining Work
Critical Remaining Work
Milestone

Activities falling with-in the Curtain on the Barchart must be updated by the CFTL.

CA FLAP INY CR2022(1)
South Lake Road

ID	Task Name	Duration	Start	Finish	Predecessors
1	**South Lake Road CA FLAP INY CR 2022(1)**	**133 days**	**Mon 4/24/17**	**Mon 10/30/17**	
2					
3	**Project Startup**	**36 days**	**Mon 4/24/17**	**Tue 6/13/17**	
4	Pre Construction Meeting	1 day	Mon 4/24/17	Mon 4/24/17	
5	Notice to Proceed	0 days	Mon 4/24/17	Mon 4/24/17	4
6	**Early Submittals**	**16 days**	**Tue 4/25/17**	**Tue 5/16/17**	**5**
7	Submit and Review QC Plan	6 days	Tue 4/25/17	Tue 5/2/17	
8	Submit and Review SWPPP, submit NOI	16 days	Tue 4/25/17	Tue 5/16/17	
9	Onsite Mobilization	5 days	Tue 4/25/17	Mon 5/1/17	5
10	**Onsite Submittals**	**30 days**	**Tue 5/2/17**	**Tue 6/13/17**	**9**
11	Submit Asphalt Mix Design	30 days	Tue 5/2/17	Tue 6/13/17	
12	Drainage cross sections, plots and review	6 days	Tue 5/2/17	Tue 5/9/17	
13	Order and delivery of drainage appurtences	14 days	Wed 5/10/17	Tue 5/30/17	12
14					
15	**Grading and Drainage**	**41 days**	**Tue 5/2/17**	**Wed 6/28/17**	
16	**Survey & Staking**	**16 days**	**Tue 5/2/17**	**Tue 5/23/17**	**9**
17	Verify FHWA Control	1 day	Tue 5/2/17	Tue 5/2/17	
18	Centerline Verification and Staking	15 days	Wed 5/3/17	Tue 5/23/17	17
19	Erosion Control	5 days	Wed 5/17/17	Tue 5/23/17	8,17
20	Removals (strucruresl and obstructions)	5 days	Wed 5/24/17	Wed 5/31/17	19
21	Slope Scaling	5 days	Wed 5/24/17	Wed 5/31/17	19
22	Clearing and Grubbing	5 days	Wed 5/24/17	Wed 5/31/17	19,18
23	Re-alignment (Segment 1)	14 days	Wed 5/24/17	Tue 6/13/17	19
24	Roadway excavation and embankment (Segment 1)	10 days	Thu 6/1/17	Wed 6/14/17	18,19,22
25	Shoulder and Ditch Reconditioning	10 days	Wed 5/24/17	Wed 6/7/17	19
26	Drainage inlets and outlets/spillways	10 days	Thu 6/15/17	Wed 6/28/17	24,19
27	Clean Drainage Structures	2 days	Wed 5/24/17	Thu 5/25/17	19
28	Pipe Culvert Installations	20 days	Wed 5/24/17	Wed 6/21/17	19
29	Placed Riprap	5 days	Thu 6/22/17	Wed 6/28/17	19,22,28
30					
31	**Roadway Construction**	**51 days**	**Thu 6/22/17**	**Fri 9/1/17**	
32	Asphalt Milling	1 day	Tue 7/11/17	Tue 7/11/17	33,34
33	Set Redtops and finish subgrade (Segment 1, 1+00-115+00)	7 days	Thu 6/22/17	Fri 6/30/17	28,18,22
34	Additional Shouldering/Aggregate Base (Widening)	5 days	Mon 7/3/17	Mon 7/10/17	33
35	Pulverization, 6" Depth (Segment 2 & 3)	13 days	Mon 7/3/17	Thu 7/20/17	33
36	Roadway Aggregate, Method 2	10 days	Mon 7/3/17	Mon 7/17/17	33
37	Set Bluetops (Segment 1, 1+00-115+00)	8 days	Mon 7/3/17	Thu 7/13/17	33
38	Superpave Pavement (two lifts)	25 days	Fri 7/14/17	Thu 8/17/17	37
39	Asphalt surface treatments (Tack)	6 days	Fri 7/28/17	Fri 8/4/17	38SS+10 days
40	Asphalt surface treatments (Fog)	6 days	Fri 8/11/17	Fri 8/18/17	38FS-5 days
41	Shouldering	10 days	Mon 8/21/17	Fri 9/1/17	40
42					
43	**Finalization & Minor Items**	**51 days**	**Fri 8/18/17**	**Mon 10/30/17**	
44	Rumble Strips	7 days	Fri 8/18/17	Mon 8/28/17	38
45	Striping & Pavement Markings	10 days	Tue 8/29/17	Tue 9/12/17	38,44
46	Signing, Delineators, & Object Markers	15 days	Fri 8/18/17	Fri 9/8/17	38
47	Seeding and mulching	6 days	Tue 9/5/17	Tue 9/12/17	41,34
48	Clean-up	20 days	Wed 9/13/17	Tue 10/10/17	47
49	Weather delays	14 days	Wed 10/11/17	Mon 10/30/17	47,48
50	Final Inspection	0 days	Mon 10/30/17	Mon 10/30/17	49



Project: CA FLAP INY CR2022(1)
Date: Mon 6/22/15

Task | Milestone | Rolled Up Critical Task | Split | Group By Summary
Critical Task | Summary | Rolled Up Milestone | External Tasks | Deadline
Progress | Rolled Up Task | Rolled Up Progress | Project Summary

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT NUMBER: **CA FLAP INY CR2022(1)**

PROJECT NAME: **South Lake Road**

BUDGET DATE: **October 21, 2013**

Start-Up Page

Please complete the information in the blue cells above and below. Data will be automatically transferred to successive worksheets.

Personnel ==>	Wendy Longley	Sebastian Guzman	Doug White	Jason Roth	Alan Blair	Bob Bell	Dominic Monarco	Veronica Ghelardi	Jeff Felling	Barbara Burke
Wage Rate ====>	$144.70	$130.15	$101.60	$49.14	$176.78	$153.61	$108.40	$150.66	$101.60	$158.26
Personnel ==>	Generic Permits	Generic Design	Laura Girard	Leo Depaula	Jeff Bellen	Kelly Wade	Mike Voth			
Wage Rate ====>	$55.00	$92.00	$135.00	$158.26	$156.40		$200.00			
Personnel ==>	Richard Howard	Brandon Johnson	Brooke Rosener	Rolando Flores	Generic Acquisitions	Scott Wolfert	Khamis Haramy	Leo DePaula	Dana Christensen	Burrnie Robinson
Wage Rate ====>	$100.00	$75.00	$120.00	$85.00	$120.00	$150.00	$150.00	$165.79	$134.61	$122.71
Personnel ==>										
Wage Rate ====>										

Instructions for Use

1) Fill in all Personnel and burdened Rates. Note that up to 40 classifications can be used. If more are needed, use a generic classification and rate (ex. Designer, Grade 11) for multiple staff
2) On the 'Personnel Tab', fill in the Department and the roleof each person.
3) For each discipline/activity tab, select from the pull-down list the appropriate personnel in row 6.
4) For each discipline, add/remove/revise the tasks in column B to match your SOW.
5) Fill in requried information in the meetings, travel, equipment and materials, and task order tabs.

General Notes

1) Rows can be inserted into each worksheet by Home>Insert>Insert SheetROW. Copy the formulas in last column of table from the row above.
2) Do not delete unnecessary worksheets(tabs) from this file! Simply hide the worksheets as needed.
   > To Hide Worksheets: Right click on worksheet tab at bottom>Hide
   > To Unhide Worksheets: Right click on worksheet tab at bottom>Unhide>Select Worksheet you want to unhide
3) To print, select a range of tabs from Summary to end. Each sheet will be numbered sequentially from X to Y. Print the Start and Personnel tabs separately.

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT NUMBER: **CA FLAP INY CR2022(1)**

PROJECT NAME: **South Lake Road**

BUDGET DATE: **21-Oct-2013**

PERSONNEL

Select Personnel	Department	Role
Wendy Longley	PM	
Sebastian Guzman	Design	
Doug White	Environment	
Jason Roth	Environment	
Alan Blair	ROW and Utilities	
Bob Bell	Survey	Survey Manager
Dominic Monarco	Geotechnical	
Veronica Ghelardi	Hydraulics	
Jeff Felling	Materials/Pavements	
Barbara Burke	Safety	
Generic Permits	Permits	
Generic Design	Design	
Laura Girard	Hydraulics	
Leo Depaula		
Jeff Bellen		
Kelly Wade	Environment	
Mike Voth		
Richard Howard	Survey	Surveyor
Brandon Johnson	Survey	Surveyor
Brooke Rosener	Survey	Surveyor
Rolando Flores		
Generic Acquisitions		
Scott Wolfert		
Khamis Haramy		
Leo DePaula		
Dana Christensen		
Burrnie Robinson		

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT NUMBER: **CA FLAP INY CR2022(1)**

PROJECT NAME: **South Lake Road**

BUDGET DATE: **October 21, 2013**

SUMMARY

	Bridge	Design	Env/Permits	Geotech	Hydraulics	ROW/Util	P&A	Survey	Pavements	PM	Depot	TOTAL
PE (Hours)	90	1530	598	195	148	646	125	776	216	1140	2% of PE	5464
PE (Labor Costs)	$12,111.90	$197,603.50	$51,956.80	$21,803.60	$22,250.70	$102,903.54	$15,741.00	$71,939.96	$26,472.00	$151,396.43		$674,179.43
PE (Indirect Costs)			$3,314.00					$10,804.00	$14,098.00	$13,168.00	$14,311.27	$55,695.27
PE Total	$12,111.90	$197,603.50	$55,270.80	$21,803.60	$22,250.70	$102,903.54	$15,741.00	$82,743.96	$40,570.00	$164,564.43	$14,311.27	$729,874.70
Task Orders			$120,000.00			$15,000.00			$20,000.00			$155,000.00
Agreements												
TOTALS	**$12,111.90**	**$197,603.50**	**$175,270.80**	**$21,803.60**	**$22,250.70**	**$117,903.54**		**$82,743.96**	**$60,570.00**	**$164,564.43**	$14,311.27	**$884,874.70**

TOTAL BUDGET

$884,874.70

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT NUMBER: **CA FLAP INY CR2022(1)**

BUDGET DATE: **21-Oct-2013**

PROJECT NAME: **South Lake Road**

BREAKDOWN	P6 Activity	Discipline Code	Hours	Labor Costs	Equipment/ Material Costs	Travel Costs	Task Order Costs	Agreement Costs	Total
ProjectDelivery Planning	Total	W	318	$39,339.01		$4,602.00			$43,941.01
	P1	W	318	$39,339.01					$39,339.01
	P1SV	W				$4,602.00			$4,602.00
Project Management	Total	W	822	$112,057.42		$8,566.00			$120,623.42
	PM	W	280	$40,516.00					$40,516.00
	CFT	W	32	$4,611.04					$4,611.04
	D1PRI	W							
	D1PRI	W							
	D1SV	W							
	D2PRI	W	70	$9,258.54					$9,258.54
	D2SV	W	184	$22,994.00		$5,544.00			$28,538.00
	D2.1PRI	W							
	D2.1SV	W							
	D3PRI	W	76	$10,041.92					$10,041.92
	D3SV	W	104	$14,594.00		$3,022.00			$17,616.00
	D4PRI	W	76	$10,041.92					$10,041.92
	D4SV	W							
	E0SV	W							
	E1SV	W							
	E2SV	W							
	E3SV	W							
	E4SV	W							
	RLMSV	W							
Environment	Total	E	598	$51,956.80		$3,314.00	$120,000.00		$175,270.80
	E0	E	156	$15,849.60					$15,849.60
	E1	E	48	$4,876.80		$3,314.00	$120,000.00		$128,190.80
	E2	E	112	$11,379.20					$11,379.20
	E3	E	48	$4,470.40					$4,470.40

Personnel	Hours	Rate	Labor Cost
Wendy Longley	523	$144.70	$75,678.10
Sebastian Guzman	1,701	$130.15	$221,385.15
Doug White	537	$101.60	$54,559.20
Jason Roth	183	$49.14	$8,992.62
Alan Blair	106	$176.78	$18,738.68
Bob Bell	81	$153.61	$12,442.41
Dominic Monarco	244	$108.40	$26,449.60
Veronica Ghelardi	170	$150.66	$25,612.20
Jeff Felling	201	$101.60	$20,421.60
Barbara Burke	45	$158.26	$7,121.70
Generic Permits		$55.00	
Generic Design	40	$92.00	$3,680.00
Laura Girard	3	$135.00	$405.00
Leo Depaula	32	$158.26	$5,064.32
Jeff Bellen	539	$156.40	$84,299.60
Kelly Wade	4		
Mike Voth	46	$200.00	$9,200.00
Richard Howard	350	$100.00	$35,000.00
Brandon Johnson	342	$75.00	$25,650.00
Brooke Rosener	48	$120.00	$5,760.00
Rolando Flores		$85.00	
Generic Acquisitions	95	$120.00	$11,400.00
Scott Wolfert	84	$150.00	$12,600.00
Khamis Haramy	16	$150.00	$2,400.00
Leo DePaula	32	$165.79	$5,305.28

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT NUMBER: **CA FLAP INY CR2022(1)**

BUDGET DATE: **21-Oct-2013**

PROJECT NAME: **South Lake Road**

BREAKDOWN	P6 Activity	Discipline Code	Hours	Labor Costs	Equipment/ Material Costs	Travel Costs	Task Order Costs	Agreement Costs	Total
	E4	E	14	$1,422.40					$1,422.40
	EP1.0	E	28	$1,375.92					$1,375.92
	EP1.1	E	132	$6,486.48					$6,486.48
	EP2.0	E	60	$6,096.00					$6,096.00
Surveys	Total	S	776	$71,939.96		$10,804.00			$82,743.96
	S1	S	520	$49,539.96		$8,614.00			$58,153.96
	S2	S							
	SC15	S							
	SC30	S	128	$11,200.00		$2,190.00			$13,390.00
	SC50	S							
	SC70	S	128	$11,200.00					$11,200.00
Right of Way	Total	R	408	$65,170.84			$15,000.00		$80,170.84
	R1	R	80	$12,715.80					$12,715.80
	R2	R	50	$7,916.08			$15,000.00		$22,916.08
	R3	R	88	$13,926.24					$13,926.24
	RLM	R							
	R4	R							
	R5	R	80	$12,919.60					$12,919.60
	R6	R	110	$17,693.12					$17,693.12
Utilities	Total	U	238	$37,732.70					$37,732.70
	U1	U	105	$16,625.80					$16,625.80
	U2	U	65	$10,267.90					$10,267.90
	U3	U	68	$10,839.00					$10,839.00
Geotechnical	Total	G	195	$21,803.60					$21,803.60
	G1	G							
	G2	G	66	$7,154.40					$7,154.40
	G3	G	94	$10,522.40					$10,522.40
	G4	G	35	$4,126.80					$4,126.80

Personnel	Hours	Rate	Labor Cost
Dana Christensen	30	$134.61	$4,038.30
Burrnie Robinson	40	$122.71	$4,908.40
Totals	**5,492**		**$681,112.16**

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT NUMBER: **CA FLAP INY CR2022(1)**

BUDGET DATE: **21-Oct-2013**

PROJECT NAME: **South Lake Road**

BREAKDOWN	P6 Activity	Discipline Code	Hours	Labor Costs	Equipment/ Material Costs	Travel Costs	Task Order Costs	Agreement Costs	Total
Pavements	Total	V	216	$26,472.00	$9,000.00	$5,098.00	$20,000.00		$60,570.00
	V1	V	145	$18,963.20	$9,000.00	$5,098.00	$20,000.00		$53,061.20
	V2	V	63	$6,696.00					$6,696.00
	V3	V	8	$812.80					$812.80
Hydraulics	Total	H	148	$22,250.70					$22,250.70
	H1	H	44	$6,613.38					$6,613.38
	H2	H	67	$10,078.56					$10,078.56
	H3	H	37	$5,558.76					$5,558.76
Highway Design	Total	D	1,530	$197,603.50					$197,603.50
	D1	D							
	D1PRE	D							
	D1PR	D							
	D2	D	266	$34,619.90					$34,619.90
	D2PRE	D	32	$3,859.60					$3,859.60
	D2PR	D	24	$3,123.60					$3,123.60
	D2.1	D							
	D2.1PRE	D							
	D2.1PR	D							
	D3	D	560	$72,884.00					$72,884.00
	D3PRE	D	36	$4,227.60					$4,227.60
	D3PR	D	24	$3,123.60					$3,123.60
	D4	D	322	$41,908.30					$41,908.30
	D4PRE	D	36	$4,227.60					$4,227.60
	D4PR	D	24	$3,123.60					$3,123.60
	P2	D	102	$13,275.30					$13,275.30
	P2PRE	D	24	$2,818.40					$2,818.40
	D5	D	80	$10,412.00					$10,412.00
Bridge	Total	B	90	$12,111.90					$12,111.90

Personnel	Hours	Rate	Labor Cost

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT NUMBER: **CA FLAP INY CR2022(1)**

BUDGET DATE: **21-Oct-2013**

PROJECT NAME: **South Lake Road**

BREAKDOWN	P6 Activity	Discipline Code	Hours	Labor Costs	Equipment/ Material Costs	Travel Costs	Task Order Costs	Agreement Costs	Total
	B2	B	14	$1,931.24					$1,931.24
	B3	B	56	$7,489.06					$7,489.06
	B4	B	20	$2,691.60					$2,691.60
Acquisitions	Total	Q	125	$15,741.00					$15,741.00
	Q1	Q	25	$3,000.00					$3,000.00
	Q2	Q	40	$4,800.00					$4,800.00
	Q3	Q	30	$3,600.00					$3,600.00
	PMA	Q	30	$4,341.00					$4,341.00
PE Totals			**5,464**	**$674,179.43**	**$9,000.00**	**$32,384.00**	**$155,000.00**		**$870,563.43**

Personnel	Hours	Rate	Labor Cost

FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION
CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **03-Apr-2015**

PROJECT: **South Lake Road**

B. PROJECT DEV PLANNING			Wendy Longley	Sebastian Guzman	Doug White	Jason Roth	Alan Blair	Bob Bell	Dominic Monarco	Veronica Ghelardi	Jeff Felling	Barbara Burke	Scott Wolfert	Roger Surdahl									Total Hours
WORK ACTIVITY																							
P1	**Project Delivery Plan and Endorsement**	**Step Weight**																					
Step 1	Kick-off Mtg.	22%	4	2	2	2	2	2	2	2	2	2	2										24
Step 2	Scoping Trip Prep		8	4	4	2	2		2	2	2												26
Step 3	Post-scoping Trip Mtg.	22%	4	4	2	2	2	2	2	2	2	2	2	2									28
Step 4	Draft Project Delivery Plan	22%	24	40	2	2	2	2	2	2	2	2	2										82
Step 5	Project Delivery Plan Review Mtg.	22%	2	2	2	2	2	2	2	2	2	2	2	2									24
Step 6	Final Project Delivery Plan	11%	4	8	1	1	1	1	1	1	1	1											20
Step 7	CFT and MB Endorsement		1	1																			2
P1SV	**Scoping Site Visit**																						
Step 1	Scoping Site Visit		32	32	32								16										112
	Subtotal of hours	P1	79	93	45	11	11	9	11	11	11	9	24	4									318
	Salary Rate, per hour		$144.70	$130.15	$51.91	$49.14	$176.78	$153.61	$108.40	$150.66	$101.60	$158.26	$146.38	$173.87									
	Subtotal Labor Costs	P1	$11,431.30	$12,103.95	$2,335.95	$540.54	$1,944.58	$1,382.49	$1,192.40	$1,657.26	$1,117.60	$1,424.34	$3,513.12	$695.48									

TOTAL LABOR COST, (this sheet)	**$39,339.01**	Formula Check	OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

A. PROJECT MANAGEMENT			Wendy Longley									Totals
WORK ACTIVITY												
PM	**Project Management**	**Step Weight**										
Step 1	Project management oversight	100%	280									280
PMA	**Project Management during Acquisitions**											
Step 1	PM support during acquisitions	100%	30									30
	Subtotal of hours	PM	280									280
	Subtotal of hours	PMA	30									30
	Subtotal of hours	W	310									310
	Salary Rate, per hour		$144.70									
	Subtotal Labor Costs	PM	$40,516.00									40516.00
	Subtotal Labor Costs	PMA	$4,341.00									4341.00
	Subtotal Labor Costs	W	$44,857.00									
TOTAL LABOR COST, (this sheet)			**$44,857.00**							Formula Check		OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

C. ENVIRONMENT WORK ACTIVITY			Doug White	Kelly Wade	Jason Roth	Generic Permits						Totals
E0	**Environmental Scoping**	**Step Weight**										
Step 1	Perform Preliminary Partner Agency Coordination	8%	12									12
Step 2	Conduct Preliminary Environmental Research	21%	32									32
Step 3	Develop Draft Purpose and Need and Alternative(s)	26%	40									40
Step 4	Perform Resource Agency, Tribal, and Public Coordination	38%	60									60
Step 5	Provide Environmental Support to the CFT	8%	12									12
E1	**Environmental Compliance Studies**											
Step 1	Develop Delivery Plan for Compliance Studies	17%	8									8
Step 2	Perform cultural Surveys/Studies and Coordination											
Step 3	Perform Biology Surveys/Studies and Coordination											
Step 4	Perform Wetland Surveys/Studies and Coordination											
Step 5	Perform Other Environmental Sureys/Studies and Coordination	33%	16									16
Step 6	Perform resource Agency, Tribal, and Public Coordination	25%	12									12
Step 7	Provide Environmental Support to the CFT	25%	12									12
E2	**Document Preparation**											
Step 1	Finalize Purpose and Need and Alternatives	14%	16									16
Step 2	Perform Additional Studies, Research, Analyses, and/or Evaluations	14%	16									16
Step 3	Continue Coordination (w/Tribes, Clients, Partners, Agencies, and Public)	7%	8									8
Step 4	Conclude Section 106 Consultation	7%	8									8
Step 5	Conclude Section 7 and Sensitive Species Consultations	7%	8									8
Step 6	Prepare Draft Environmental Document	43%	48									48
Step 7	Provide Environmental Support to the Cross Functional Team	7%	8									8

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

C. ENVIRONMENT WORK ACTIVITY			Doug White	Kelly Wade	Jason Roth	Generic Permits						Totals
E3	**Environmental Compliance Approval**											
Step 1	Perform Draft Document Review	42%	16	4								20
Step 2	Obtain Final Document Signature and Distribute	42%	20									20
Step 3	Provide Environmental Support to the Cross Functional Team	17%	8									8
Step 4	Perform Public Involement											
Step 5	Prepare and Review Draft FONSI											
Step 6	Obtain Final Document Signature and Distribute											
Step 7	Prepare Environmental Commitment Summary Table											
E4	**Environmental Mitigation and Support**											
Step 1	Review Project for Changes	14%	2									2
Step 2	Develop Delivery Plan for Mitigation											
Step 3	Finalize Mitigation Commitments and Delivery Plan											
Step 4	Implement and Monitor Mitigation Commitments											
Step 5	Provide Environmental Support to the CFT	86%	12									12
	Subtotal of hours	E0	156									156
	Subtotal of hours	E1	48									48
	Subtotal of hours	E2	112									112
	Subtotal of hours	E3	44	4								48
	Subtotal of hours	E4	14									14
	Subtotal of hours	Total	374	4								378
	Salary Rate, per hour		$101.60		$49.14	$55.00						
	Subtotal Labor Costs	E0	$15,849.60									$15,849.60

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

C. ENVIRONMENT WORK ACTIVITY		Doug White	Kelly Wade	Jason Roth	Generic Permits						Totals
Subtotal Labor Costs	E1	$4,876.80									$4,876.80
Subtotal Labor Costs	E2	$11,379.20									$11,379.20
Subtotal Labor Costs	E3	$4,470.40									$4,470.40
Subtotal Labor Costs	E4	$1,422.40									$1,422.40
Subtotal Labor Costs	Total	$37,998.40									
TOTAL LABOR COST, (this sheet)		**$37,998.40**							Formula Check		OK

FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION
CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

D. PERMITS			Doug White	Jason Roth								Totals
WORK ACTIVITY												
EP1.0	**Jurisdictional Determination and Permit Approach**	**Step Weight**										
Step 1	Review Waters of the US Delineation Report	14%		4								4
Step 2	Jurisdictional determination and approach	29%		8								8
Step 3	Prepare apprpriate JD request	29%		8								8
Step 4	Coordiante with CFT	29%		8								8
EP1.1	**Develop 404/401 Permit Package**											
Step 1	Determine impacts to jurisdictional waters	12%		16								16
Step 2	Coordination with Federal and State regulatory agencies to obtain permit application requirements	24%		32								32
Step 3	Prepare and Submit 404/401 permit applications	61%		80								80
Step 4	Receive permits, coordiatne terms & conditions with PM, and archive	3%		4								4
EP2.0	**Develop Draft NPDES Permit Package**											
Step 1	Assess NPDES Permit requriements	7%	4									4
Step 2	Communicate with CFT any conditions that need to be addressed in plans and SCR's	13%	8									8
Step 3	Prepare NPDES SWPPP draft	67%	40									40
Step 4	Prepare Notice of Intent	13%	8									8
	Subtotal of hours for	EP1.0		28								28
	Subtotal of hours for	EP1.1		132								132
	Subtotal of hours for	EP2.0	60									60
	Subtotal of hours		60	160								220
	Salary Rate, per hour		$101.60	$49.14								
	Subtotal Labor Costs for	EP1.0		$1,375.92								$1,375.92

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

D. PERMITS WORK ACTIVITY	Doug White	Jason Roth								Totals
Subtotal Labor Costs for EP1.1		$6,486.48								$6,486.48
Subtotal Labor Costs for EP2.0	$6,096.00									$6,096.00
Subtotal Labor Costs	$6,096.00	$7,862.40								
TOTAL LABOR COST, (this sheet)	**$13,958.40**							Formula Check		

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

E. SURVEY WORK ACTIVITY			Bob Bell	Richard Howard	Brandon Johnson	Brooke Rosener	Rolando Flores					Totals
S1	**Initial Survey and Mapping**	**Step Weight**										
Step 1	Mobilize and reconnaissance of project site	13%	18	24	24							66
Step 2	Control network	12%	4	30	30							64
Step 3	Locate and map utilities	6%		16	16							32
Step 4	Locate cadastral and private property monuments	11%	8	24	24							56
Step 5	Field reports	2%		8								8
Step 6	Field mapping	46%		120	120							240
Step 7	Office mapping	10%	6			48						54
Step 8												
S2	**Supplemental Surveys**											
	Subtotal of hours for	S1	36	222	214	48						520
	Subtotal of hours for	S2										
	Subtotal of hours		36	222	214	48						520
	Salary Rate, per hour		$153.61	$100.00	$75.00	$120.00	$85.00					
	Subtotal Labor Costs for	S1	$5,529.96	$22,200.00	$16,050.00	$5,760.00						$49,539.96
	Subtotal Labor Costs for	S2										
	Subtotal Labor Costs		$5,529.96	$22,200.00	$16,050.00	$5,760.00						
TOTAL LABOR COST, (this sheet)			**$49,539.96**							Formula Check		OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

E. SURVEY WORK ACTIVITY			Richard Howard	Brandon Johnson								Totals
SC15	**Alignment Staking for 15% Review**	**Step Weight**										
Step 1												
Step 2												
Step 3												
SC30	**Alignment Staking for 30% Review**											
Step 1	Mobilize and reconnaissance of project site	38%	24	24								48
Step 2	Stake centerline alignment	63%	40	40								80
Step 3												
SC50	**Alignment Staking for 50% Review**											
Step 1												
Step 2												
Step 3												
SC70	**Alignment Staking for 70% Review**		24	24								48
Step 1	Mobilize and reconnaissance of project site	63%	40	40								80
Step 2	Stake centerline alignment											
Step 3												
	Subtotal of hours for	SC15										
	Subtotal of hours for	SC30	64	64								128
	Subtotal of hours for	SC50										
	Subtotal of hours for	SC70	64	64								128
	Subtotal of hours		128	128								256
	Salary Rate, per hour		$100.00	$75.00								
	Subtotal Labor Costs for	SC15										
	Subtotal Labor Costs for	SC30	$6,400.00	$4,800.00								$11,200.00
	Subtotal Labor Costs for	SC50										
	Subtotal Labor Costs for	SC70	$6,400.00	$4,800.00								$11,200.00
	Subtotal Labor Costs		$12,800.00	$9,600.00								
TOTAL LABOR COST, (this sheet)			**$22,400.00**							Formula Check		OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

J. HIGHWAY DESIGN WORK ACTIVITY		Select Personnel									Totals
	D1 - Develop 15% Design - Preliminary Line and Grade **Step Weight**										
Step 1	Roadway Design										
Step 2	Secondary Roadway Design										
Step 3	Plan Production										
Step 4	Cross Functionl Design Support										
Step 5	Engineer's Estimate										
Step 6	Project Documentation										
	D1PRE - Design Peer Review & Update 15% Design										
Step 1	Peer review										
	D1PR - 15% Plan Review										
Step 1	Update 15% plan package from internal comments										
Step 2	Prepare for External CFT Review										
	Subtotal of hours for D1										
	Subtotal of hours for D1PRE										
	Subtotal of hours for D1PR										
	Subtotal of hours										
	Salary Rate, per hour										
	Subtotal Labor Costs for D1										
	Subtotal Labor Costs for D1PRE										
	Subtotal Labor Costs for D1PR										
	Subtotal Labor Costs										
TOTAL LABOR COST, (this sheet)									Formula Check		

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

J. HIGHWAY DESIGN			Sebastian Guzman	Generic Design								Totals
WORK ACTIVITY												
	D2 - Develop 30% Design	**Step Weight**										
Step 1	Roadway design	38%	100									100
Step 2	Secondary roadway design	15%	40									40
Step 3	Preliminary temporary and permanent traffic control	2%	4									4
Step 4	Plan Production	30%	80									80
Step 5	Cross functional design support	4%	10									10
Step 6	Engineer's Estimate	3%	8									8
Step 7	Construction schedule	3%	8									8
Step 8	Project documentation	6%	16									16
Step 9												
Step 10												
Step 11												
	D2PRE - Design Peer Review & Update 30% Design											
Step 1	Peer review	100%	24	8								32
	D2PR - 30% Plan Review											
Step 1	External Review	100%	24									24
	Subtotal of hours for	D2	266									266
	Subtotal of hours for	D2PRE	24	8								32
	Subtotal of hours for	D2PR	24									24
	Subtotal of hours		314	8								322
	Salary Rate, per hour		$130.15	$92.00								
	Subtotal Labor Costs for	D2	$34,619.90									$34,619.90

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

J. HIGHWAY DESIGN WORK ACTIVITY		Sebastian Guzman	Generic Design								Totals
Subtotal Labor Costs for	D2PRE	$3,123.60	$736.00								$3,859.60
Subtotal Labor Costs for	D2PR	$3,123.60									$3,123.60
Subtotal Labor Costs		$40,867.10	$736.00								
TOTAL LABOR COST, (this sheet)		**$41,603.10**							Formula Check		OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

J. HIGHWAY DESIGN WORK ACTIVITY			Select Personnel									Totals
	D2.1 - Develop 50% Design	**Step Weight**										
Step 1	Post 30% field review											
Step 2	Roadway design											
Step 3	Secondary roadway design											
Step 4	Permanent and temporary traffic control											
Step 5	Analyze alternatives using IHSDM											
Step 6	Plan Production											
Step 7	Cross functional design support											
Step 8	Engineer's Estimate											
Step 9	Construction schedule											
Step 10	Specifications											
Step 11	Project documentation											
Step 12	Minor hydraulics (Add to SOW as necessary)											
	D2.1PRE - 50% Pre-submittal/Peer Review & Update											
Step 1	Peer Review											
	D2.1PR - 50% Update for External Review											
Step 1	External review											
	Subtotal of hours for D3											
	Subtotal of hours for D3PRE											
	Subtotal of hours for D3PR											
	Subtotal of hours											

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

J. HIGHWAY DESIGN			Sebastian Guzman	Generic Design								Totals
WORK ACTIVITY												
	D3 - Develop 70% Design	**Step Weight**										
Step 1	Post 30% field review	3%	16									16
Step 2	Roadway design	29%	160									160
Step 3	Secondary roadway design	21%	120									120
Step 4	Permanent and temporary traffic control	7%	40									40
Step 5	Plan Production	21%	120									120
Step 6	Cross functional design support	3%	16									16
Step 7	Engineer's Estimate	4%	24									24
Step 8	Construction schedule	1%	8									8
Step 9	Specifications	7%	40									40
Step 10	Project documentation	3%	16									16
	D3PRE - 70% Pre-submittal/Peer Review & Update											
Step 1	Peer review	100%	24	12								36
	D3PR - 70% Update for External Review											
Step 1	External review	67%	24									24
	Subtotal of hours for	D3	560									560
	Subtotal of hours for	D3PRE	24	12								36
	Subtotal of hours for	D3PR	24									24
	Subtotal of hours		608	12								620
	Salary Rate, per hour		$130.15	$92.00								
	Subtotal Labor Costs for	D3	$72,884.00									$72,884.00
	Subtotal Labor Costs for	D3PRE	$3,123.60	$1,104.00								$4,227.60
	Subtotal Labor Costs for	D3PR	$3,123.60									$3,123.60
	Subtotal Labor Costs		$79,131.20	$1,104.00								

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

J. HIGHWAY DESIGN	Sebastian Guzman	Generic Design								Totals
WORK ACTIVITY										
TOTAL LABOR COST, (this sheet)	**$80,235.20**								Formula Check	OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

J. HIGHWAY DESIGN			Sebastian Guzman	Generic Design								Totals
WORK ACTIVITY												
	D4 - Develop 95% Design	**Step Weight**										
Step 1	Post 70% field review	5%	16									16
Step 2	Roadway design	19%	60									60
Step 3	Secondary roadway design	22%	70									70
Step 4	Permanent and temporary traffic control	5%	16									16
Step 5	Plan Production	25%	80									80
Step 6	Cross functional design support	5%	16									16
Step 7	Engineer's Estimate	5%	16									16
Step 8	Construction schedule	2%	8									8
Step 9	Specifications	7%	24									24
Step 10	Project documentation	5%	16									16
	D4PRE - 95% Pre-submittal/Peer Review & Update											
Step 1	Peer review	100%	24	12								36
	D4PR - 95% Update for External Review											
Step 1	External review	100%	24									24
	Subtotal of hours for	D4	322									322
	Subtotal of hours for	D4PRE	24	12								36
	Subtotal of hours for	D4PR	24									24
	Subtotal of hours		370	12								382
	Salary Rate, per hour		$130.15	$92.00								
	Subtotal Labor Costs for	D4	$41,908.30									$41,908.30
	Subtotal Labor Costs for	D4PRE	$3,123.60	$1,104.00								$4,227.60
	Subtotal Labor Costs for	D4PR	$3,123.60									$3,123.60
	Subtotal Labor Costs		$48,155.50	$1,104.00								

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

J. HIGHWAY DESIGN	Sebastian Guzman	Generic Design								Totals
WORK ACTIVITY										
TOTAL LABOR COST, (this sheet)	**$49,259.50**								Formula Check	OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

J. HIGHWAY DESIGN			Sebastian Guzman	Generic Design								Totals
WORK ACTIVITY												
P2	**Develop 100% Design and Contract Development**	**Step Weight**										
Step 1	Finalize PS&E	69%	70									70
Step 2	Develop procurement documents and checklists	31%	32									32
P2PRE	**100% Peer Review & Update**											
Step 1	Peer review	100%	16	8								24
D5	**Assemble Project Engineer's Design Package**											
Step 1	Complete PE Notebook Checklist	100%	80									80
	Subtotal of hours for	P2	102									102
	Subtotal of hours for	P2PRE	16	8								24
	Subtotal of hours for	D5	80									80
	Subtotal of hours		198	8								206
	Salary Rate, per hour		$130.15	$92.00								
	Subtotal Labor Costs for	P2	$13,275.30									$13,275.30
	Subtotal Labor Costs for	P2PRE	$2,082.40	$736.00								$2,818.40
	Subtotal Labor Costs for	D5	$10,412.00									$10,412.00
	Subtotal Labor Costs		$25,769.70	$736.00								
TOTAL LABOR COST, (this sheet)			**$26,505.70**							Formula Check		OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

F. ROW			Alan Blair	Jeff Bellen	Bob Bell							Totals
WORK ACTIVITY												
R1	**Preliminary Right of Way Studies**	**Step Weight**										
Step 1	Assemble preliminary boundary exhibit	49%	4	35								39
Step 2	Prepare exhibits for public meetings	21%	2	15								17
Step 3	Identify required field evidence	15%	2	10								12
Step 4	Prepare Summary Report	15%	2	10								12
R2	**Boundary Mapping**											
Step 1	Update preliminary boundary exhibit	64%		8	24							32
Step 2	Oversee title search by Consultant	20%	4	6								10
Step 3	Prepare comprehensive electronic boundary plat	16%	4	4								8
R3	**Final Right of Way Plans**											
Step 1	Coordinate with acquiring agency for document/recordation requirements	73%	4	60								64
Step 2	Prepare and submit Process Check	14%	2	10								12
Step 3	Prepare DRAFT Legal Descriptions	14%	2	10								12
	Subtotal of hours for	R1	10	70								80
	Subtotal of hours for	R2	8	18	24							50
	Subtotal of hours for	R3	8	80								88
	Subtotal of hours		26	168	24							218
	Salary Rate, per hour		$176.78	$156.40	$153.61							
	Subtotal Labor Costs for	R1	$1,767.80	$10,948.00								$12,715.80
	Subtotal Labor Costs for	R2	$1,414.24	$2,815.20	$3,686.64							$7,916.08
	Subtotal Labor Costs for	R3	$1,414.24	$12,512.00								$13,926.24
	Subtotal Labor Costs		$4,596.28	$26,275.20	$3,686.64							
TOTAL LABOR COST, (this sheet)			**$34,558.12**							Formula Check		OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

F. ROW WORK ACTIVITY			Alan Blair	Jeff Bellen								Totals
RLM	**Right of Way Acquisition (Non-Federal)**	**Step Weight**										
Step 1	Prepare exhibits as necessary and arrange meetings											
Step 2	Meet with land owner(s)											
R4	**Right of Way Acquisition (Non-Federal)**											
Step 1	Transmit ROW documents to acquiring agency											
Step 2	Meet with landowners, agencie, and others											
Step 3	Provide support and oversight to acquiring agency											
Step 4	Provide guidance to acquiring agency regarding compliance and utility cert.											
R5	**Letter of Consent**											
Step 1	Transmit documents to Federal Land Transfer	63%	10	40								50
Step 2	Coordiante design modifications	19%	5	10								15
Step 3	Negotiate terms and stipulations	19%	5	10								15
R6	**DOT Easement Deed**											
Step 1	Prepare final deed and exhibits	64%	10	60								70
Step 2	Route deed for signatures	6%	2	5								7
Step 3	Transmit deed to grantee	21%	8	15								23
Step 4	Archive recorded documents and send to federal agency	9%	4	6								10
	Subtotal of hours for	RLM										
	Subtotal of hours for	R4										
	Subtotal of hours for	R5	20	60								80
	Subtotal of hours for	R6	24	86								110
	Subtotal of hours		44	146								190
	Salary Rate, per hour		$176.78	$156.40								

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

F. ROW WORK ACTIVITY		Alan Blair	Jeff Bellen								Totals
Subtotal Labor Costs for	RLM										
Subtotal Labor Costs for	R4										
Subtotal Labor Costs for	R5	$3,535.60	$9,384.00								$12,919.60
Subtotal Labor Costs for	R6	$4,242.72	$13,450.40								$17,693.12
Subtotal Labor Costs		$7,778.32	$22,834.40								
TOTAL LABOR COST, (this sheet)		**$30,612.72**							Formula Check		OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

G. UTILITIES			Alan Blair	Jeff Bellen								Totals
WORK ACTIVITY												
U1	**Identify and Locate Utilities**	**Step Weight**										
Step 1	Support research	39%	1	40								41
Step 2	Review utility mapping	21%	2	20								22
Step 3	Initiate early coordination	17%	3	15								18
Step 4	Certify utilities	7%	2	5								7
Step 5	Coordinate recommendations for design modifications	11%	2	10								12
Step 6	Utility Summary Report	5%		5								5
U2	**Identify Utility / Design Conflicts**	**Step Weight**										
Step 1	Additional research, field investigation, and mapping	32%	1	20								21
Step 2	Support utility/design conflict drawings	34%	2	20								22
Step 3	Utility coordination	28%	2	16								18
Step 4	DRAFT Utility Resolution Plan	6%		4								4
U3	**Implement Utility Relocation Plan**	**Step Weight**										
Step 1	FINAL Utility Resolution Plan	21%	4	10								14
Step 2	Support development of construction drawings	15%	2	8								10
Step 3	Assist in development of SCR's	21%	2	12								14
Step 4	Develop and execute Utility Agreements	32%	2	20								22
Step 5	Certify utilities	6%		4								4
Step 6	Constructability review of proposed utility resolutions	6%		4								4
	Subtotal of hours for	U1	10	95								105
	Subtotal of hours for	U2	5	60								65
	Subtotal of hours for	U3	10	58								68
	Subtotal of hours for	U	25	213								238
	Salary Rate, per hour		$176.78	$156.40								

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

G. UTILITIES WORK ACTIVITY		Alan Blair	Jeff Bellen								Totals
Subtotal Labor Costs for	U1	$1,767.80	$14,858.00								$16,625.80
Subtotal Labor Costs for	U2	$883.90	$9,384.00								$10,267.90
Subtotal Labor Costs for	U3	$1,767.80	$9,071.20								$10,839.00
Subtotal Labor Costs for	U	$4,419.50	$33,313.20								
TOTAL LABOR COST, (this sheet)		**$37,732.70**							Formula Check		OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

H. GEOTECHNICAL WORK ACTIVITY			Dominic Monarco	Khamis Haramy								Totals
G1	**Preliminary Geotechnical Recommendations**	**Step Weight**										
G2	**Geotechnical Investigation**											
Step 1	Conduct office Study	27%	18									18
Step 2	Conduct Visual Site investigation during CFT 30% Site visit.	73%	48									48
G3	**Draft Geotechnical Report**											
Step 1	Conduct geotechnical analyses	53%	50									50
Step 2	Prepare and issue a DRAFT Final Geotechnical Report	19%	18									18
Step 3	Issue Interim Geotechnical Memoranda	28%	18	8								26
G4	**Final Geotechnical Report**											
Step 1	Issue Geotechnical Advisories and plan notes	51%	18									18

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

H. GEOTECHNICAL WORK ACTIVITY		Dominic Monarco	Khamis Haramy								Totals
Step 2 Update and issue FINAL Geotechnical Report	49%	9	8								17
Subtotal of hours for	G1										
Subtotal of hours for	G2	66									66
Subtotal of hours for	G3	86	8								94
Subtotal of hours for	G4	27	8								35
Subtotal of hours		179	16								195
Salary Rate, per hour		$108.40	$150.00								
Subtotal Labor Costs for	G1										
Subtotal Labor Costs for	G2	$7,154.40									$7,154.40
Subtotal Labor Costs for	G3	$9,322.40	$1,200.00								$10,522.40
Subtotal Labor Costs for	G4	$2,926.80	$1,200.00								$4,126.80
Subtotal Labor Costs		$19,403.60	$2,400.00								
TOTAL LABOR COST, (this sheet)		**$21,803.60**							Formula Check		OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

I. PAVEMENTS			Jeff Felling	Mike Voth								Totals
WORK ACTIVITY												
V1	**Preliminary Pavement Recommendation (3R)**	**Step Weight**										
Step 1	Project initiation	7%	10									10
Step 2	Obtain additional investigative services	6%	8	1								9
Step 3	Complete field investigation	72%	64	40								104
Step 4	Review and compile field notes, logs, photos, etc.	6%	8									8
Step 5	Evaluate and submit samples/data for testing and analysis	3%	4									4
Step 6	Evaluate results from lab testing, field investigation, and engineering analysis	3%	4									4
Step 7	Develop Preliminary Pavement Recommendations Techincal Memo	4%	4	2								6
V2	**Final Pavement Recommendation (3R)**											
Step 1	Identify and/or develop needed SCR's	6%	4									4
Step 2	Finalize design recommendations	13%	8									8
Step 3	Develop a DRAFT Pavement Report	67%	40	2								42
Step 4	Prepare FINAL Pavement Report	14%	8	1								9
V3	**Final Pavement Report**											
Step 1	Assure alignment of pavement report recommendations and PS&E	50%	4									4
Step 2	Answer technical questions during final design stage	50%	4									4
	Subtotal of hours for	V1	102	43								145
	Subtotal of hours for	V2	60	3								63
	Subtotal of hours for	V3	8									8
	Subtotal of hours		170	46								216
	Salary Rate, per hour		$101.60	$200.00								
	Subtotal Labor Costs for	V1	$10,363.20	$8,600.00								$18,963.20
	Subtotal Labor Costs for	V2	$6,096.00	$600.00								$6,696.00
	Subtotal Labor Costs for	V3	$812.80									$812.80
	Subtotal Labor Costs		$17,272.00	$9,200.00								

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

I. PAVEMENTS	Jeff Felling	Mike Voth								Totals
WORK ACTIVITY										
TOTAL LABOR COST, (this sheet)	**$26,472.00**							Formula Check		OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

J. HYDRAULICS			Veronica Ghelardi	Laura Girard								Totals
WORK ACTIVITY												
H1	**Preliminary Hydraulics Recommendations**	**Step Weight**										
Step 1	Collect drainage related data	18%	8									8
Step 2	Identify potential floodplain encroachments and channel stability issues	2%	1									1
Step 3	Develop a Hydrologic and Hydraulic Criteria and Computational Methods Technical Memorandum	2%	1									1
Step 4	Perform preliminary hydraulic analysis of existing conditions	45%	20									20
Step 5	Provide support for permitting	2%	1									1
Step 6	Prepare a Preliminary Hydraulics Recommendations Report	30%	12	1								13
H2	**Darft Hydarulics Report**											
Step 1	Perform preliminary roadway hydraulics	48%	32									32
Step 2	Provide preliminary designs for special hydraulic features	15%	10									10
Step 3	Develop Preliminary Hydraulics Report	37%	24	1								25
H3	**Final Hydraulics Report**											
Step 1	Perform final roadway hydraulics	32%	12									12
Step 2	Provide final design for special hydraulic features	5%	2									2
Step 3	Prepare DRAFT Hydraulics Report	51%	18	1								19
Step 4	Incorporate comments and prepare FINAL Hydraulics Report	11%	4									4
	Subtotal of hours for	H1	43	1								44
	Subtotal of hours for	H2	66	1								67
	Subtotal of hours for	H3	36	1								37
	Subtotal of hours		145	3								148
	Salary Rate, per hour		$150.66	$135.00								
	Subtotal Labor Costs for	H1	$6,478.38	$135.00								$6,613.38
	Subtotal Labor Costs for	H2	$9,943.56	$135.00								$10,078.56
	Subtotal Labor Costs for	H3	$5,423.76	$135.00								$5,558.76
	Subtotal Labor Costs		$21,845.70	$405.00								

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

J. HYDRAULICS	Veronica Ghelardi	Laura Girard								Totals
WORK ACTIVITY										
TOTAL LABOR COST, (this sheet)	**$22,250.70**									

Formula Check OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

K. Bridge			Leo DePaula	Dana Christensen	Burrnie Robinson							Totals
WORK ACTIVITY												
B2	**Structural Layout**	**Step Weight**										
Step 1	Structure Preliminary Layout	14%	2									2
Step 2	Prepare conceptual drawings	71%	2		8							10
Step 3	Prepare preliminary cost estimate for each alternative	14%	2									2
B3	**Structural Design and Check**											
Step 1	Provide calculations for structural design of the headwalls and wingwalls	14%		8								8
Step 2	Prepare plan sheets	43%			24							24
Step 3	Prepare independent design calculations for the headwalls and wingwalls	4%	2									2
Step 4	Check the 70% Structure Drawings for completeness and accuracy.	14%	4	4								8
Step 5	Calculate plan item quantities and document the itemized cost estimate	11%		6								6
Step 6	Check the 70% Structure Quantities and Itemized Cost Estimate for completeness and accuracy	4%	2									2
Step 7	Prepare and Check the 70% SCRs	11%	2	4								6
B4	**Structural PS&E Revisions**											
Step 1	Complete revisions to 70% structure design	30%	2	4								6
Step 2	Revise 70% structural drawings	40%			8							8
Step 3	Revise 70% structural SCR's	10%	2									2
Step 4	Revise 70% structure quantities and itemized cost estimate	20%		4								4
	Subtotal of hours for	B2	6		8							14
	Subtotal of hours for	B3	10	22	24							56
	Subtotal of hours for	B4	4	8	8							20

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

K. Bridge WORK ACTIVITY		Leo DePaula	Dana Christensen	Burrnie Robinson							Totals
Subtotal of hours		20	30	40							90
Salary Rate, per hour		$158.26	$134.61	$122.71							
Subtotal Labor Costs for	B2	$949.56		$981.68							$1,931.24
Subtotal Labor Costs for	B3	$1,582.60	$2,961.42	$2,945.04							$7,489.06
Subtotal Labor Costs for	B4	$633.04	$1,076.88	$981.68							$2,691.60
Subtotal Labor Costs		$3,165.20	$4,038.30	$4,908.40							
TOTAL LABOR COST, (this sheet)		**$12,111.90**							Formula Check		OK

FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION
CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

M. Meetings and Reviews WORK ACTIVITY	Wendy Longley	Sebastian Guzman	Doug White	Jason Roth	Alan Blair	Bob Bell	Dominic Monarco	Veronica Ghelardi	Jeff Felling	Barbara Burke	Leo Depaula	Jeff Bellen	Scott Wolfert								Total Hours
CFT Support																					
CFT									8	24											32
Plan Reviews, Meetings and Site Visits																					
D2PRI 30% internal review/mtg	18	6	6	4		4	6	6	4	4	4	4	4								70
D2SV 30% field visit	40	40	40				40						24								184
D3PRI 70% internal review/mtg	18	16	6	4		4	4	4	4	4	4	4	4								76
D3SV 70% field visit	40	40											24								104
D4PRI 95% internal review/mtg	18	16	6	4		4	4	4	4	4	4	4	4								76
E4SV																					
RLMSV																					
Subtotal of hours	134	118	58	12		12	54	14	20	36	12	12	60								542
Salary Rate, per hour	$144.70	$130.15	$101.60	$49.14	$176.78	$153.61	$108.40	$150.66	$101.60	$158.26	$158.26	$156.40	$150.00								
Subtotal Labor Costs	$19,389.80	$15,357.70	$5,892.80	$589.68		$1,843.32	$5,853.60	$2,109.24	$2,032.00	$5,697.36	$1,899.12	$1,876.80	$9,000.00								

TOTAL LABOR COST, (this sheet) **$71,541.42**

Formula Check OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

O. Procurement and Acquisitions (Q1, Q2, Q3)			Generic Acquisitions									Totals
WORK ACTIVITY												
Q1	**Pre-Advertisement**	**Step Weight**										
Step 1	Pre-advertisement	100%	25									25
Q2	**P&A Advertisement**											
Step 1	P&A Advertisement	100%	40									40
Q3	**P&A Closeout**											
Step 1	P&A closeout	100%	30									30
	Subtotal of hours for	Q1	25									25
	Subtotal of hours for	Q2	40									40
	Subtotal of hours for	Q3	30									30
	Subtotal of hours for											
	Subtotal of hours		95									95
	Salary Rate, per hour		$120.00									
	Subtotal Labor Costs for	Q1	$3,000.00									$3,000.00
	Subtotal Labor Costs for	Q2	$4,800.00									$4,800.00
	Subtotal Labor Costs for	Q3	$3,600.00									$3,600.00
	Subtotal Labor Costs for											
	Subtotal Labor Costs		$11,400.00									
TOTAL LABOR COST, (this sheet)			**$11,400.00**							Formula Check		OK

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

Equipment and Materials		
	P3 Activity Code	Total Cost
Project Management		
Utilities		
Project Development		
Environment		
Surveys		
Right of Way		
Geotech		
Pavements (Lab Testing)	V1	$9,000
Hydraulics		
Highway Design		
Bridge		
Permits		
Meetings and Reviews		
TOTAL EQUIPMENT AND MATERIALS COST		**$9,000.00**

FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(**

PROJECT: **South Lake Road**

BUDGET DATE: **03-Apr-2015**

Travel | Burden Rate | 100%

For Per Diem rates, go to gsa.gov

	P6 Activity	# of People	# of Days	Per Diem (per day)	Per Diem Total	Aifare (Each)	Airfare Total	Car Rental Total (Incl Gas)	Misc. Each (Parking, Mileage, Tolls)	Misc. Total	Total (Including Burden)
Scoping Site Visit (staff from Denver)	P1SV	3	4	$146	$1,533	$500	$1,500	$500	$250	$750.00	$4,283
Scoping Site Visit (Wolfert)	P1SV	1	2	$146	$219				$100	$100.00	$319.00
30% Field Review	D2SV	4	4	$146	$2,044	$500	$2,000	$500	$250	$1,000.00	$5,544.00
70% Field Review	D3SV	2	4	$146	$1,022	$500	$1,000	$500	$250	$500.00	$3,022.00
Pavement/geotech investigations	V1	2	7	$146	$1,898	$1,100	$2,200	$500	$250	$500.00	$5,098.00
Environmental Studies	E1	2	5	$146	$1,314	$500	$1,000	$500	$250	$500.00	$3,314.00
Initial Survey and Mapping	S1	2	30	$146	$8,614						$8,614.00
Alignment staking	SC30	2	8	$146	$2,190						$2,190.00

TOTAL TRAVEL COSTS **$32,384.00**

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FEDERAL HIGHWAY ADMINISTRATION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFL INTERNAL BASELINE BUDGET

PROJECT #: **CA FLAP INY CR2022(1)** BUDGET DATE: **21-Oct-2013**

PROJECT: **South Lake Road**

Task Order Summary	P6 Activity Code (What Activity will it be budgeted to)	P6 Activity Codes (What Activities will it Cover)	Total Estimated Task Order Cost	
Consultant (Cultural Studies)	E1	Step 2	$40,000	
Consultant (Biological Studies)	E1	Step 3	$40,000	
Consultant (Wetland Delineation)	E1	Step 4	$40,000	Current staff has knowldege to perfrom delineation in-house, unsure of availibility
Consultant (Pavement/Geotech Drilling w/TTC)	V1	V1-G2	$20,000	
ROW Consultant (title search)	R2	Step 2	$15,000	
Consultant				
Total Task Order Cost	**$155,000.00**			

Agreement Summary	P6 Activity Code (What Activity will it be budgeted to)	P6 Activity Codes (What Activities will it Cover)	Total Estimated Agreement Cost	
Agency				
Agency				
Agency				
Agency				
Agency				
Agency				
Total Task Order Cost				

FEDERAL LANDS ACCESS PROGRAM
PROJECT MEMORANDUM OF AGREEMENT

Project/Facility Name: CA FLAP INY CR 2022(1) South Lake Road

Project Route: South Lake Road, County Road 2022

State: California

County: Inyo

Owner of Federal Lands to which the Project Provides Access: Inyo National Forest

Entity with Title or Maintenance Responsibility for Facility: Inyo County

Type of Work:

The Central Federal Lands Highway Division (CFLHD) of the Federal Highway Administration (FHWA), in cooperation with Inyo County, and the Inyo National Forest (INF), are proposing improvements to CA FLAP INY CR 2022(1) South Lake Road, a two-lane paved major collector roadway accessing Bishop Creek canyon and South Lake.

CR 2022(1) South Lake Road is in Inyo County, approximately 15 miles southwest of Bishop, California. The route starts at the intersection with State Route 168 and continues approximately 6.9 miles to South Lake. The limits of the project improvements start at the intersection with State Route 168 and continue 6.9 miles to the end of County maintenance just before the concrete boat ramp. The road is maintained by Inyo County.

The general scope of this project is proposed as 3R improvements; to pulverize and reclaim the existing pavement and portion of the existing subgrade for use as a new base course and overlay with a new asphalt concrete pavement section on 6.9 miles of South Lake Road, as well as minor widening along the first 2.1 miles. The project includes grading, pulverize existing pavement, minor drainage structures, major drainage structures, slope stabilization, rock scaling, placement of crushed aggregate base and asphalt pavement, signing, striping, and other safety-related features necessary to meet current design practice.

Specifically, project elements include:

1) Segment 1: Rehabilitate and widen the first 2.1 miles from the intersection with State Route 168 (Station 1+00) to the Bishop Creek Lodge and Resort (Station 113+00) to

accommodate a Class III shoulder. The proposed roadway section for this segment is 28 feet wide with 11-foot lanes and 3-foot shoulders. The existing paved width along this segment varies from 24-27 feet, with a wider bench width. Minor cuts and fills will be required where the proposed section does not fit within the existing roadway bench. Construction of left-turn lanes into the Four Jeffrey Campground is also included in Segment 1.

2) Segment 2: Rehabilitate the next 3.7 miles from the Bishop Creek Lodge and Resort (Station 113+00) to just beyond Parcher's Road (Station 308+00). The proposed roadway section for this segment is 24 feet with 11-foot lanes and 1-foot shoulders. The existing paved width along this segment varies from 24-26 feet.
3) Segment 3: Rehabilitate the remaining 1.1 miles from Parcher's Road (Station 308+00) to the end of the project at Station 364+00. The proposed roadway section for this segment is 22 feet with 10-foot lanes and 1-foot shoulders. The existing paved width along this segment varies from 21-22 feet.
4) Improvements to paved and unpaved pullouts maintained by the County.

A scoping meeting and field visit was completed in May 2015, reviewing the tentative project elements and issues associated with the project. Attendees from CFLHD, the County, and Forest participated, and helped identify the improvements that are detailed in a Scoping Report, which formed the basis for this Scope of Work.

This Agreement does not obligate (commit to) the expenditure of Federal funds nor does it commit the parties to complete the project. Rather, this Agreement sets forth the respective responsibilities as the project proceeds through the project development process.

FEDERAL LANDS ACCESS PROGRAM
PROJECT MEMORANDUM OF AGREEMENT

Parties to this Agreement:

- Inyo County
- Inyo National Forest
- Federal Highway Administration Central Federal Lands Highway Division (FHWA-CFLHD)

The Program Decision Committee approved this project on July 24, 2015
Date

AGREED:

Inyo County — October 13, 2015
Date

Inyo National Forest — 10/15/15
Date

Director, Office of Project Delivery
FHWA-CFLHD — 10/19/15
Date

FEDERAL LANDS ACCESS PROGRAM
PROJECT MEMORANDUM OF AGREEMENT

A. PURPOSE OF THIS AGREEMENT

This Agreement documents the intent of the parties and sets forth the anticipated responsibilities of each party in the development, construction, and future maintenance of the subject project. The purpose of the Agreement is to identify and assign responsibilities for the environmental analysis, design, right-of-way, utilities, acquisition and construction as appropriate for this programmed project, and to ensure maintenance of the facility for public use if improvements are made. The parties understand that any final decision as to design or construction will not be made until after the environmental analyses required under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) are completed (this does not prevent the parties from assigning proposed design criteria to be studied in the NEPA/CEQA process.) Any decision to proceed with the design and construction of the project will depend on the availability of appropriations at the time of obligation and other factors such as issues raised during the NEPA/CEQA process, a natural disaster that changes the need for the project, a change in Congressional direction, or other relevant factors.

If Federal Lands Access Program funds are used for the development or construction of this project, ***Inyo County, California*** agrees to provide a matching share equal to ***12.00%*** of the total cost of the project, as detailed more fully in Sections J and K below.

B. AUTHORITY

This Agreement is entered into between the signatory parties pursuant to the provisions of 23 U.S.C. 204.

C. JURISDICTION AND MAINTENANCE COMMITMENT

Inyo County, California has jurisdictional authority to operate and maintain the existing facility and will operate and maintain the completed project at its expense.

D. FEDERAL LAND MANAGEMENT AGENCY COORDINATION

Inyo County, California has coordinated project development with the ***Inyo National Forest***. The ***Inyo National Forest*** support of the project is documented in a letter from INF to Inyo County dated January 27, 2015. Each party to this agreement who has a primary role in NEPA/CEQA, right-of-way, design, or construction shall coordinate their activities with the ***Inyo National Forest***.

E. PROJECT BACKGROUND/SCOPE

This project will pulverize, and repave 6.9 miles of South Lake Road from State Route 168 to the end of County maintenance and provide minor widening, minor drainage improvements, major drainage structure improvements, improve slope stability as needed, rock scaling, provide

improved signing and striping of the roadway and other safety-related features necessary to meet current design practice.

The purpose of this project is to improve and widen South Lake Road and provide safety enhancements including signing, and striping. The roadway widening will accommodate a Class III bike lane for alternate transportation options in the lower portion of the corridor. This project will provide overall improved access to the Bishop Creek canyon and South Lake within the Inyo National Forest, which are high use and high economic generating Federal Lands destinations.

General Project Description. This project will pulverize and repave 6.9 miles of South Lake Road from the intersection with State Route 168 to South Lake. It includes minor widening (along the first 2.1 miles) to accommodate a Class III bike lane in addition to grading, pulverization of existing pavement, replacement of minor drainage structures, spot repairs to major drainage structures, slope stabilization, rock scaling, placement of crushed aggregate base and asphalt pavement, signing, striping, and other safety-related features.

Highway Design and Safety.
Segment 1 (MP 0.00 to 2.10) existing pavement width varies from 24-27 feet. The proposed typical section is a 22 foot traveled way with 3 foot shoulders. The proposed shoulder width will better accommodate bicycle use while trying to stay on the existing roadway bench.

Segment 2 (MP 2.10 to 5.80) existing pavement width varies from 24-26 feet. The proposed typical section is a 22 foot traveled way with 1 foot shoulders. Segment 2 traverses through private lands, through cuts and steeper drop-offs. The shoulder width was selected to minimize ROW and environmental impacts while staying on the existing bench.

Segment 3 (MP 5.80 to 6.90) existing pavement width varies from 21-22 feet. The proposed typical section is a 20 foot traveled way with 1 foot shoulders. Segment 3 traverses through steep slopes immediately adjacent to Bishop Creek.

The speed limit on the route is currently not posted, with the exception of two locations posted at 25 mph and 15 mph. The project includes proposing a posted speed limit of 45 mph where the route is currently not posted.

Crash data has been analyzed and there are several safety countermeasures to reduce the number of crashes. Safety improvements include lowering the posted speed limit, installing curve warning and chevron signs, wider edge line markings, intersection warning signs, adding a left-turn lane at Four Jeffrey campground, pavement widening, and ditch reconditioning and grading to develop clear zone.

Pavement. The programmed pavement section is full depth reclamation with 3" HMA over 6" pulverized base.

Bridge. If it is determined that the major Bishop Creek crossings need to be replaced, bridge efforts include design and layout of the new culvert headwalls.

ROW. Initial research indicates there are up to 12 private parcels adjacent to the route. There is a 60' ROW through the private parcels at the north end. FS thinks there is an SUP with the County. Project would include development of a highway easement deed through Federal lands.

Utilities. There are overhead power lines along the route and poles within the clear zone in many locations. There may be up to 5 poles that require relocation. There are also FS owned water and sewer lines and phone lines.

Survey. A 4R level topo survey will be conducted for the first 2.1 miles and a 3R level topo survey will be conducted for the remaining 4.8 mile including pullouts, parking areas, driveways, and approach roads.

Geotechnical. Geotechnical investigations are required for pavement design, identifying subexcavation and roadbed reconditioning locations, and identifying any potential slope scaling locations.

Hydrology/Hydraulics. Drainage work will consist of culvert replacements for roadside drainage culverts that are in poor condition or undersized, ditch grading, and installation of underdrain in seep areas. There are 3 larger Bishop Creek crossings, 2 of which need culvert headwall repairs. These spot repairs are included in the cost estimates in this agreement. An option to replace 2 of these culverts is included for consideration based on the condition of the existing culverts. If culvert replacement is determined necessary, hydraulics analyses will be performed and new culverts will all have headwalls and cut off walls. Costs for culvert replacement are estimated and included in the contingency below.

Environment and Permits. FHWA anticipates preparing a Categorical Exclusion. Inyo County to complete CEQA (anticipated Mitigated Negative Declaration). Critical resource surveys include wetland and waters of the US delineation, biological and cultural. Impacts to riparian and/or wetland areas are anticipated and no potential mitigation sites were identified on-site. Anticipated permits would include: Section 404 Individual Permit, Seciton 401 Water Quality Certification, NPDES General Construction permit, and an encroachment permit from Caltrans.

Construction. One construction season is anticipated for this work. The roadway is to remain open during construction with short duration closures as required to construct portions of the project. Single lane closures with pilot cars and appropriate traffic control signing is anticipated.

Additional Forest Service Scope. The project will also include design and construction of Forest Service maintained areas adjacent to South Lake Road, including the bike staging area, Tyee Lakes Trailhead parking, parking areas at LaHuff picnic area and recreation cabins, boat ramp, and dump station. Design and construction will be 100% funded by the Forest Service.

F. PROJECT BUDGET

Project cost for Access Program funds and match funds

Item	Total	Comments
Scoping	$44,000	Estimated scoping costs.
Preliminary Engineering & NEPA (PE)	$891,000	Includes contracting costs.
Construction (CN)	$9,070,000	Assuming FY2019 construction.
Construction Engineering (CE)	$1,011,000	
Subtotal	$11,016,000	
Contingency (10%)	$1,101,600	
Contingency (culvert replacement)	$220,000	Estimated costs if it is determined that the 2 Bishop Creek culvert crossing replacements are necessary.
Total	**$12,337,600**	

Note: Scoping total is projected costs to date for the scoping effort. The PE, CN, and CE costs are estimated from the scoping effort.

Project cost for Forest Service Scope

Item	Total	Comments
Preliminary Engineering & NEPA (PE), Construction (CN), and Construction Engineering (CE)	$270,000	Includes contracting costs, and assumes FY2019 construction.
Total	**$270,000**	

Note: Project cost for Forest Service Scope does not require local match.

G. ROLES AND RESPONSIBILITIES

Responsible Party	Product/Service/Role	Comments
FHWA-CFLHD	• Develop and sign this Project Agreement • Manage project development schedule and preliminary engineering costs • Perform topographic surveys, environmental surveys, and pavement and geotechnical investigations • Be the lead agency for NEPA • Prepare and approve environmental documents and make project decisions based on the NEPA documents • Obtain permits required for Federally constructed projects • Prepare right-of-way plans, legal descriptions, and other documents required for the Inyo County Highway Easement Deed (HED) and any private parcels to be acquired • Conduct value findings or appraisals for Fair Market Values • Prepare the plans, specifications, and estimate (PS&E) • Advertise and award the contract (Bids will not be solicited by FHWA-CFLHD until Inyo County has concurred with the plans and specifications) • Construct the project • Potentially enter into a formal partnering work session and agreement with all parties involved in the construction contract (FHWA-CFLHD, Inyo County, INF, contractor, etc.) • Provide Project Engineer on site for construction administration • Determine the need for any proposed changes to contract documents, evaluate change impacts, coordinate technical reviews as needed, and ensure that the construction meets the requirements intended in the PS&E • Ensure that the contractor will bear all expense of maintaining traffic, other than snow removal and normal state or county maintenance work • Verify adherence to environmental documents • Attend final inspection with Inyo County, and INF, upon completion of construction	

Responsible Party	Product/Service/Role	Comments
Inyo County	• Review and sign this Project Agreement • Attend reviews and meetings • Provide in a timely manner available data including but not limited to traffic, accidents, material sources, construction costs, agreements, other technical data • Review the environmental documents, plans and specifications at each phase of design and provide project development support • Acquire any required state permits prior to advertisement of the project • If necessary, complete a speed survey and necessary determinations to reduce the speed limit to 45 mph in areas currently not posted ***(Station ranges 1+00-106+00 and 117+00-344+00***) • In coordination with the FHWA-CFLHD project manager, ensure that completed plans, specifications, and estimates (PS&E) are consistent with the intended outcome • Provide overall direction regarding policy and administration for the project and concur with the final plans and specifications • Provide ROW and utility information and coordination • Acquire TCEs if necessary. FHWA-CFLHD will develop the TCEs within the Federal lands • Approve value findings or appraisals for Fair Market Values • Prepare offers to landowners • Conduct ROW negotiations as necessary to acquire adequate rights from private • Complete all ROW activities prior to advertisement of the project • Certify that all rights on private property necessary to construct, operate, and maintain the road have been obtained. • Work with the FHWA and the USFS to develop conditions and stipulations acceptable to all parties to allow Inyo County to accept the Highway Easement Deed • Coordinate utility relocations if necessary (Relocations are anticipated) • Sign FHWA-CFLHD Utility and Right of Way certifications • Coordinate with FHWA-CFLHD on NEPA related issues • Be the lead agency for CEQA • Complete all compliance documentation and reviews and approve the CEQA document • Develop a public information plan in coordination with	**All responsibilities listed are in addition to the required 12.00% match.**

Responsible Party	Product/Service/Role	Comments
	FHWA-CFLHD and INF • If required, enter into a formal partnering work session and agreement with all parties involved in the construction contract (FHWA-CFLHD, Inyo County, INF, contractor, etc.) • Designate a representative who will be the primary contact for FHWA-CFLHD's construction staff during construction • Continue to update and implement the public information program • Attend a final inspection with the FHWA-CFLHD, and INF, upon completion of construction • Assume responsibility of the NPDES permit until the Notice of Termination is filed and accepted • Provide long term maintenance and operation of the project upon completion	

Responsible Party	Product/Service/Role	Comments
Inyo National Forest	• Review and sign this Project Agreement • Attend reviews and meetings • Provide in a timely manner available data including but not limited to existing agreements or technical data • Review the environmental documents, plans and specifications at each phase of design and provide project development support • In coordination with the FHWA-CFLHD project manager, ensure that completed plans, specifications, and estimates (PS&E) are consistent with the intended outcome • Provide overall direction regarding Forest policy and administration for the project and concur with the final plans and specifications • Provide a fire plan for incorporation into the Special Contract Requirements • Provide a seed mix for the final seeding mix into the Special Contract Requirements • Provide support to FHWA-CFLHD (respond to question regarding environmental issues), as requested, for the development of environmental documents • Provide funds for the design and construction of Forest Service maintained areas adjacent to South Lake Road, including the bike staging area, Tyee Lakes Trailhead parking, parking areas at LaHuff picnic area and recreation cabins, boat ramp, and dump station. • Coordinate with the Regional Office of the Forest Service and FHWA to issue a Letter of Consent to transfer a Department of Transportation Highway Easement Deed prior to advertisement • Provide a Special Use Permit for any lands within the National Forest used for material sources, or as staging areas for the contractor • Develop a public information program in coordination with FHWA-CFLHD and the County • If required, enter into a formal partnering work session and agreement with all parties involved in the construction contract (FHWA-CFLHD, County, contractor, etc.). • Designate a representative who will be the primary contact for the FHWA-CFLHD's Construction staff • Continue to update and implement the public information program • Attend final inspection with the FHWA-CFLHD and County upon completion of construction	

H. ROLES AND RESPONSIBILITIES—SCHEDULE

Responsible Lead	Product/Service/Role	Schedule Finish Date	Comments
FHWA-CFLHD	Project Development and Planning	July 2015	Project Development Plan
FHWA-CFLHD	Project Start	April 2016	Surveys
FHWA-CFLHD	Preliminary Design	November 2016	Develop 30% PS&E
FHWA-CFLHD	Pavement and Geotechnical Investigations and Recommendations	June 2016	Perform site investigations and provide design recommendations
FHWA-CFLHD	Environmental Compliance	October 2016	Categorical Exclusion (CE) completed
FHWA-CFLHD	Intermediate Design	March 2017	Develop 70% PS&E
FHWA-CFLHD	Pre-Final Design	July 2017	Develop 95% PS&E
County	Obtain TCEs and ROW	July 2017	Obtain TCEs and ROW as necessary for construction
FHWA-CFLHD	Final Design	October 2017	Develop the final contract documents (includes a review of NEPA, CEQA, permits, and ROW required for advertisement)
FHWA-CFLHD	Advertise and Award Contract and NTP	FY18 or FY19	Dependent upon FLAP funding and match being in place

Note: These dates are based on the current Access Program 7 year plan and are dependent upon availability of funding.

FEDERAL LANDS ACCESS PROGRAM
PROJECT MEMORANDUM OF AGREEMENT

I. PROPOSED DESIGN STANDARDS

Final design standards will be determined through the NEPA process.

Criteria		Comments
Standard	AASHTO	AASHTO and local design standards
Functional Classification	Major Collector	
Surface Type	Asphalt	
Design Volume	Current 735 ADT	
Design Speed	45 mph	The design speed will vary through the route as follows: • 45 mph for Sta. 1+00-106+00 and 117+00-344+00; • 25 mph for Sta. 106+00-117+00; and • 15 mph for Sta. 344+00-365+00 Inyo County will complete a speed survey and necessary determinations to reduce the speed limit to 45 mph in areas currently not posted (Station ranges 1+00-106+00 and 117+00-344+00)
Travel Way Width	Segment 1 – 22 feet Segment 2 – 22 feet Segment 3 – 20 feet	
Shoulder Width	Segment 1 – 3 feet Segment 2 – 1 feet Segment 3 – 1 feet	

J. FUNDING

Access Program funds and match funds

Fund Source	Amount	Comments
California Federal Lands Access Program Funds	$10,857,088	88.00%
Local Match – ***Inyo County***	$1,480,512	12.00% Match (Includes $10,000 from original scoping agreement)
TOTAL	**$12,337,600**	

Forest Service funds

Fund Source	Amount	Comments
Inyo National Forest	$270,000	Not subject to match requirement.
TOTAL	**$270,000**	

Note: Funding will be through a reimbursable agreement with the Forest Service. It is anticipated that this agreement will be executed in October 2016.

K. MATCHING SHARE REQUIREMENTS

Local match schedule of payments:

Milestone	Projected Match Requirement	Schedule
Scoping/Preliminary Engineering	$112,200	Tapered match to be utilized until match funding is available (Anticipated by July 31, 2016 but no later than December 31, 2016). At which time, match will be invoiced on expenses to date. Thereafter, invoices will be monthly as expenses are incurred.
Construction/Construction Engineering	$1,209,720	Tapered match to be utilized until match funding is available (Anticipated by July 31, 2017 but no later than December 31, 2018). At which time, match will be invoiced on expenses to date. Thereafter, invoices will be monthly as expenses are incurred.
Contingency	$158,592	Contingency to account for variations in engineering and construction costs. To be invoiced, if needed, at final closeout of the construction contract or at the resolution of any disputes or claims.

During both Preliminary Engineering and Construction, FHWA-CFLHD will provide quarterly reports showing actual costs and projected remaining costs.

Inyo County will provide 12.00% of the total Federal Lands Access Program funding required for the project through construction contract completion, closeout, and resolution of any disputes, in an amount not to exceed $1,480,512.

L. PROJECT TEAM MEMBERS—POINTS OF CONTACT

The following table provides the points of contact for this project. They are to be the first persons to deal with any issues or questions that arise over the implementation of each party's role and responsibility for this agreement. *(This table would list the representatives of the entities that signed the agreement. It may not be the same individuals who signed the agreement. The individuals will be the ones doing the day-to-day tasks to develop the project. Some entities may have more than one member on the team.)*

Name/Title	Organization	Address/Phone Number/Email
Clint Quilter, Public Works Director	Inyo County	(831) 524-3265 cquilter@inyocounty.us
Chantel Brown, Civil Engineer	Inyo County	(760) 878-0204 cbrown@inyocounty.us
Edward Armenta, Forest Supervisor	Inyo National Forest	(760) 873-2400 earmenta@fs.fed.us
Tamara Scholten, Forest Engineer	Inyo National Forest	(760) 873-2487 tamarascholten@fs.fed.us
Wendy Longley, Project Manager	FHWA-CFLHD	(720) 963-3394 Wendy.Longley@dot.gov

M. CHANGES/AMENDMENTS/ADDENDUMS

The agreement may be modified, amended, or have addendums added by mutual agreement of all parties. The change, amendment, or addendum must be in writing and executed by all of the parties.

The types of changes envisioned include, but are not limited to, changes that significantly impact scope, schedule, or budget; changes to the local match, either in type or responsibility; changes that alter the level of effort or responsibilities of a party. The parties commit to consider suggested changes in good faith. Failure to reach agreement on changes may be cause for termination of this agreement.

A change in the composition of the project team members does not require the agreement to be amended.

It is the responsibility of the project team members to recognize when changes are needed and to make timely notification to their management in order to avoid project delivery delays.

N. ISSUE RESOLUTION PROCEDURES MATRIX

Issues should be resolved at the lowest level possible. The issue should be clearly defined in writing and understood by all parties. Escalating to the next level can be requested by any party. When an issue is resolved, the decision will be communicated to all levels below.

FHWA-CFLHD	Inyo County	Inyo National Forest	Time
Project Manager: Wendy Longley	Engineer: Chantel Brown	Forest Engineer: Tamara Scholten	14 days
Gary Strike, Project Management Branch Chief	Public Works Director: Clint Quilter	Forest Supervisor: Edward Armenta	30 days
Michael Davies, Director of Project Delivery	Inyo County Board of Supervisors	Regional Engineer Tyrone Kelley	90 days

O. TERMINATION

This agreement may be terminated by mutual written consent of all parties. This agreement may also be terminated if either the NEPA process or funding availability requires a change and the parties are not able to agree to the change. Any termination of this agreement shall not prejudice any rights or obligations accrued to the parties prior to termination. If Federal Access funds have been expended prior to termination, the party responsible for the match agrees to provide a match in the applicable percentage of the total amount expended on the project prior to the termination.

CA FLAP INY CR2022(1)
South Lake Road
Project Agreement

October 6, 2016

1/4/2017

Nora Gamino – Acting Forest Engineer — Date
Inyo National Forest

1/6/2017

Leslie Boak –Regional Roads Engineer — Date
Pacific Southwest Region (R5), USDA Forest Service

1/9/2017

Wendy Longley – Project Manager — Date
Central Federal Lands Highway Division
Federal Highway Administration

2/1/17

Curtis Scott, Office of Project Delivery — Date
Central Federal Lands Highway Division
Federal Highway Administration

CA FLAP INY CR2022(1)
South Lake Road
Project Agreement

PROJECT HISTORY:

CR 2022(1) South Lake Road is in Inyo County, approximately 15 miles southwest of Bishop, California. The route starts at the intersection with State Route 168 and continues approximately 6.9 miles to South Lake. The limits of the FLAP project improvements start at the intersection with State Route 168 and continue 6.9 miles to the end of County maintenance just before the concrete boat ramp. The road is maintained by Inyo County. Adjacent parking areas and campgrounds are maintained by INF.

The Central Federal Lands Highway Division of the Federal Highway Administration (FHWA-CFLHD), in cooperation with Inyo National Forest (INF), are proposing improvements to (a) existing paved and unpaved areas adjacent to South Lake Road that are maintained by INF, (b) campground loops, and (c) the South Lake trailhead parking area.

INF has requested that FHWA-CFLHD perform engineering services to develop a 100% plans, specifications, and estimate package. Services include design, geotechnical, pavements, and safety engineering, and environmental compliance. FHWA-CFLHD will also advertise and award a construction contract to complete this work and provide contract administration and construction engineering services. Delivery of these services will be in conjunction with the Federal Lands Access Program (FLAP) project on South Lake Road. Advertisement, award, and contract administration are contingent upon the FLAP project also being advertised, awarded, and constructed.

Improvements to (a) existing paved and unpaved areas adjacent to South Lake Road will be funded with CMRD FS funds and are covered under a separate reimbursable agreement. Improvements to (b) campground loops and (c) the South Lake trailhead parking area will be funded with FS FLTP funds and will be covered under this project agreement. Work associated with (a) is not part of this agreement.

PROJECT SCOPE:

(b) Campground Improvements include:

- Forks Campground at approximately Station 5+00 RT – 6” deep full depth reclamation with a 3” deep HACP for the “L” portion of the campground road to the picnic area
- Four Jeffrey Campground at approximately Station 57+00 LT – 6” deep full depth reclamation with a 3” deep HACP for Loops 2 and 3 and the connector road between Loop 1 and 4. Fog seal on the entrance road, and Loops 1 and 4. Gravel spurs for each campsite in Loops 2 and 3 (does not need to meet ADA requirements)
- Mountain Glenn Campground at approximately Station 150+00 LT – reconstruct and widen the existing paved apron to a length of 30’ (6” deep full depth reclamation with 3” HACP)
- Willow Campground at approximately Station 267+00 LT - reconstruct and widen the existing paved apron to a length of 30’ (6” deep full depth reclamation with 3” HACP), roadbed reconditioning (6” depth) with 6” of new surface course aggregate for the entrance road and loop, improvements to the drainage structure (1 assumed)

(c) South Lake Trailhead parking area:

- The South Lake parking areas were reconstructed with a new asphalt pavement, asphalt curbs, and micro surfacing a year ago. The earthwork for the project was acceptable, but there were problems with the asphalt pavement. Based upon the construction photos, the new asphalt pavement was plagued by coarse aggregate segregation on the pavement surface. Micro surfacing was placed to seal voids on the pavement surface. The micro surfacing was placed last October and may not have fully cured. The micro surfacing is "shedding" some aggregate particles which is normal. Our recommendation is to reconstruct all pavement that was not replaced a year ago, as well as, the roadway adjacent to the northern parking stalls.
- Reconstruct the roadway to the South Lake parking areas, and the boat trailer parking area (6" deep full depth reclamation with a 3" deep HACP) and overlay (1" HACP overlay) for the South Lake parking areas.

ROLES, RESPONSIBILITIES AND SCHEDULE:

Responsible Party	Product/Service/Role
FHWA-CFLHD	• Develop and sign the Project Agreement • Manage project development schedule and preliminary engineering costs • Use data from the completed topographic surveys, environmental surveys, and pavement and geotechnical investigations • Identify and evaluate additional survey needs and coordinate with INF if additional data is required • Be the lead agency for NEPA • Prepare and approve environmental documents and make project decisions based on the NEPA documents • Obtain permits required for Federally constructed projects • Prepare the PS&E (using FHWA-CFLHD specifications) • Advertise and award the contract with the campground and South Lake TH as an option to the FLAP roadway project (Bids will not be solicited by FHWA-CFLHD until INF has concurred with the plans and specifications). • Note: the adjacent parking areas will be packaged as part of Schedule A, FLAP project. • Provide contract administration and construction engineering.
Inyo National Forest	• Review and sign this project agreement • Provide funding for scope of work as described above • In coordination with the FHWA Project Manager, ensure that deliverables are consistent with the expected outcome • Coordinate with FHWA-CFLHD in development of NEPA/CEQA

PROJECT TEAM:

US Forest Service:
Nora Gamino
Acting Forest Engineer
Inyo National Forest
Office: (760) 873-2414
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FHWA-CFLHD:
Wendy Longley
Project Manager
FHWA-CFLHD
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Leslie Boak
Acting Regional Roads Engineer
Pacific Southwest Region
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SCHEDULE:

Responsible Lead	Product/Service/Role	Schedule Finish Date	Comments
FHWA-CFLHD	Environmental Compliance	Winter 2016/17	Categorical Exclusion (CE)
FHWA-CFLHD	Intermediate Design	Spring 2017	Develop 70% PS&E
FHWA-CFLHD	Pre-Final Design	Fall 2017	Develop 95% PS&E
FHWA-CFLHD	Final Design	Fall 2017	Develop the final contract documents (final PS&E)
FHWA-CFLHD	Advertise and Award Contract and NTP	Fall 2019	Dependent upon FLAP funding, County match, and FS funding being in place
FHWA-CFLHD	Contract Administration/ Construction Engineering	Summer 2020	
FHWA-CFLHD	Project Closeout	Spring 2021	

PROJECT FUNDING:

Item	Total	Comments
(a) Adjacent Parking Areas PE/CE/CN	**$0**	Covered under separate reimbursable agreement.
(b & c) Campgrounds and SL TH (CN)		
Forks	$67,000	
Four Jeffreys - N	$324,000	
Four Jeffreys - S	$20,000	
Willow	$103,000	
Mtn Glenn	$0	Paved apron only - lumped in with (a)
South Lake TH Parking	$242,000	
(b & c) CN Subtotal	$756,000	Based on construction bids, to be billed during construction
(b & c) PE (approx 10%)	$75,600	Fixed Amount to be billed during construction
(b & c) CE (approx 10%)	$75,600	Fixed Amount to be billed during construction
(b & c) Construction Contingency (approx. 10%)	$75,600	Contingency on CN only
(b & c) PE/CE/CN	**$982,800**	

Note: Costs are estimated from the scoping effort.

Funding Schedule

Responsible Lead	Funding	Fiscal year	Comments
INF	$982,800	Funds to be obligated prior to contract award. Anticipated obligation in FY2020.	FS FLTP funds

ACCEPTABILITY AND CHANGES:

Unless this agreement is modified in writing, it is expected that this project will be delivered within the stated scope, schedule, and budget. If changes are required, the responsible team member will escalate the change needs, with justification for the change, to the Team Leaders. The Team Leaders will assure that additional funds are available to accommodate the change. This agreement may need to be modified if utility relocations are required. It is the responsibility of the project development team to recognize when changes are needed and to make timely notification to management in order to avoid project delivery delays.

ISSUE RESOLUTION ESCALATION MATRIX:

FHWA – CFLHD	**USFS**	**Time**
Project Development Team	Project Development Team	7 days
Project Manager – Wendy Longley	Acting Forest Engineer – Nora Gamino	14 days
Project Management Branch Chief – Gary Strike	Regional Roads Engineer – Leslie Boak	7 days
Director of Project Delivery – Curtis Scott	Regional Engineer – Tyrone Kelley	7 days

Issues should be resolved at the lowest level possible. The issue should be clearly defined in writing and understood by all parties. Escalating to the next level can be requested by any party. When an issue is resolved, the decision will be communicated to all levels below.

CA FLAP INY CR2022(1) South Lake Road Scoping Estimate

Item No. (FP-14)	Item	Description	Unit	Plan Quantity	Bid Quantity	Unit Bid Price	Total	Rnd Total	Remarks
15101-0000	151	Mobilization	LPSM	ALL	ALL	$694,481	$694,481	$695,000	12% of 152-634 Items
15201-0000	152	Survey	LPSM	ALL	ALL	$246,413	$246,413	$247,000	5% of 201-634 Items
15301-0000	153	Contractor Quality Control	LPSM	ALL	ALL	$123,207	$123,207	$124,000	2.5% of 201-634 Items
15401-0000	154	Contractor Testing	LPSM	ALL	ALL	$73,924	$73,924	$74,000	1.5% of 201-634 Items
15501-0000	155	Construction Schedule	LPSM	ALL	ALL	$12,321	$12,321	$13,000	0.25% of 201-634 Items
15701-0000	157	Soil Erosion Control	LPSM	ALL	ALL	$98,565	$98,565	$99,000	2% of 201-634 Items (California)
15802-000	158	Watering for Dust Control	LPSM	ALL	ALL	$58,240	$58,240	$59,000	2% of HMA
20304-1000	203	Removal os Structures and Obstructions	LPSM	ALL	ALL	$50,000	$50,000	$50,000	20 culverts, 25 Regulatory Signs, 85 Snowpoles, 30 Delineators, 2400 lf curb
20402-0000	204	Subexcavation	CUYD	711	800	$75	$60,000	$60,000	2' x 24' x 400
20420-0000	204	Embankment Construciton	CUYD	6,000	6,500	$50	$325,000	$325,000	BOP, Four Jeffrey Turn Lane, Wetland Ditch locations
20442-0000	204	Slope Scaling	CUYD	277	300	$50	$15,000	$15,000	500' L x 30' H x 0.5 (1 ' areas & no scaling areas combined)
30202-2000	308	Roadway Aggregate	TON	3,370	3,500	$50	$175,000	$175,000	shouldering material 3" agg. = 0.75 cf/ft 36400' 139 lb/cf & Turn Lane & Wetland Ditch + 870 Tons (for FS owned areas)
30302-3000	303	Shoulder and Ditch Reconditioning	LNFT	36,400	38,200	$3	$114,600	$115,000	18200' x 2=36,400 ft (50% of Project Length)
30401-1300	303	Full Depth Reclamation Method 1, 6-Inch Depth	MILE	7	7	$58,000	$406,000	$406,000	Pulverizing entire roadway
40101-5600	401	Asphalt Concrete Pavement, Gyratory Mix	TON	17,275	18,200	$160	$2,912,000	$2,912,000	28' x 11200 + 24' x 19500 + 22' x 5700 = 5684 + 8483 + 2273 = 16440 tons + 835 tons (for FS owned areas)
40205-3000	402	Antistrip Additive, Type 3	TON	173	182	$650	$118,300	$119,000	1% of HMA by TON
	411	Fogseal, Prime and Tack	LPSM	ALL	ALL	$240,000	$240,000	$240,000	
60201-0800	602	24-Inch Pipe Culvert	LNFT	1,000	1,100	$200	$220,000	$220,000	20 at 50' each
60210-0800	602	End Section for 24-Inch Pipe Culvert	EACH	40	40	$1,000	$40,000	$40,000	
	622	Equipment and Labor	LPSM	ALL	ALL	$90,000	$90,000	$90,000	Equipment hours, Materials Transfer Vehicle, Technical Services
	625	Seeding and Mulching	ACRE	13.4	15.0	$5,000	$75,000	$75,000	36400 X 8' X 2 Sides /43560=13.4 acre
63401-0000	634	Signing and Pavement Marking	LPSM	ALL	ALL	$87,360	$87,360	$88,000	3% of HMA
63501-0000	635	Temporary Traffic Control	LPSM	ALL	ALL	$246,413	$246,413	$247,000	5% of 201-634 Items
63640-0400	636	Relocate Pole (Overhead Power)	LPSM	ALL	ALL	$200,000	$200,000	$200,000	5 Power Poles to be relocated
64701-1000	647	Mitigation, Environmental	LPSM	ALL	ALL	$250,000	$250,000	$250,000	Includes 5 year monitoring
	999	Performance Incentives				$202,320	$202,320	$203,000	HMA and Roughness
	Bid Item Total 201 - 634						$4,928,260		
	Total for Calculating Mobilization						$5,787,342		

Total	**$7,141,000**
Total with 17% Contingency	**$8,354,970**
Projected Construction Costs YR 2015	$8,360,000
inflation forecast 2.00% YR 2016	$8,530,000
inflation forecast 2.00% YR 2017	$8,710,000
inflation forecast 2.00% YR 2018	$8,890,000
inflation forecast 2.00% YR 2019	$9,070,000
inflation forecast 2.00% YR 2020	$9,260,000

FLAP PROJECT FUNDING PLAN

Project Number:	**CA FLAP INY CR2022(1)**	
Project Name:	**South Lake Road**	
Updated on:	**9/16/2015**	Input data in all cells in yellow.

GENERAL PROJECT INFO		
Project FLAP Match %	**12.00%**	From FundsMap 'Invoice Match Calculator'
Current amount of Match Obligated	**$4,956**	From FundsMap Delphi Cost Detail
Current amount of Match Expended (Previous Match)	**$4,956**	From FundsMap 'Invoice Match Calculator'
Is this project using Toll Credits?	**No**	All funds will come from FLAP (G200) Funds

BUDGET

Phase/Activity	*Actual Obligations (Delphi Cost + Pending Labor)*	*Remaining Costs (LaborRem/PR Rem/NonPR Rem)*	*Total*	*Comment*
PE Internal Labor (510)	**$43,592**	**$692,485**	$736,077	From FundsMap 'Budget Status Page'
PE A/E & POs (551/533)	**$0**	**$155,000**	$155,000	
Construction (CN 540)	**$0**	**$9,340,000**	$9,340,000	
CE Internal Labor (520)	**$0**	**$495,191**	$495,191	
CE A/E (552)	**$0**	**$540,000**	$540,000	
Total	**$43,592**	**$11,222,676**	**$11,266,268**	

PRELIMINARY ENGINEERING

PRs	*Total*	*% of TO/Pos*	*Amount of Macthing Funds on TO/PO*	*Comment*
Scoping	**$0**			Enter all PRs shown in FundsMap for PE. Amount of Matching funds that should be on each Task Order shown.
Preliminary	**$155,000**	100%	**$74,530**	
Final Design	**$0**			
Other (xxx)	**$0**			
Total PRs	**$155,000**		**$74,530**	
Total Projected Labor Costs (only if M10)	**$692,485**	If using M10, Input LaborRem from FundsMap 'Budget Status Page' (do not include actuals).		

FUNDING SOURCES (from Programming)

Funding Source	*Estimated Amount*	*Comment*
FLAP Funding/Agreements (Federal + Local Match)	**$10,996,268**	Obtain from programming. Only need to split funding between funds that are match eligible (Federal and Local Share) and those funds that are not match eligible.
Non-FLAP Funding for PE (Match not required)	**$270,000**	
Non-FLAP Funding for CE/CN (Match not required)	**$0**	

REIMBURSABLE AGREEMENTS

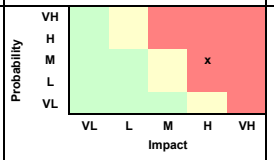
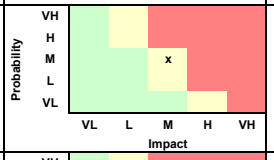
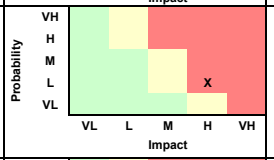
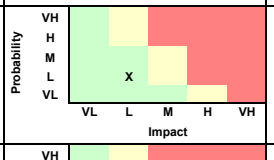
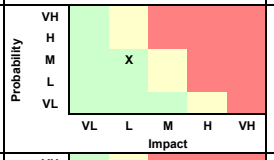
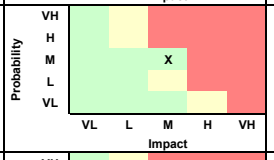
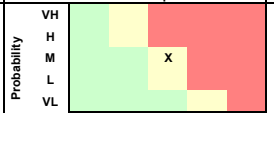
Agency	*Agreement #*	*Match?*	*Amount*	*POP*
INF - Funding for design/construction/admin for FS maintained areas, funds will be available in FY17		No	**$270,000**	
Use FS funds on PE TO or CN (hard to get exact numbers with labor charges)				
Inyo County	DTFH68-15-E-00036 Mod 1	Yes	**$1,480,512**	

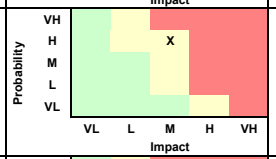
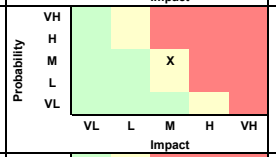
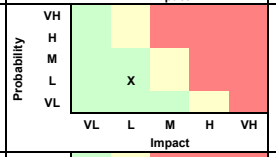
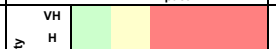
FLAP PROJECT FUNDING PLAN

Project Number:	**CA FLAP INY CR2022(1)**	
Project Name:	**South Lake Road**	
Updated on:	**9/16/2015**	Input data in all cells in yellow.

SUMMARY		
Total Project Costs (Actual + Remaining)	**$11,266,268**	Project total project costs including PE, CE, and CN
Costs that are Match Eligible	**$10,996,268**	Total Project Costs that are Match Eligible (excludes non-FLAP funds (ex. F150, F15E, etc…)
Projected Match Required ($)	**$1,319,552**	Projected Match that will be rquried for the project
Not-to-Exceed Match Funding (from Agreements)	**$1,480,512**	Amount of Match under the current agreement(s)
Variance (NTE Match Funds less Match Required)	**$160,960**	Positive number means you have enough matching funds in your agreements, a negative number means you do not.
Anticipated PE Match Req'd	**$74,529**	Anticiapted matching funds you will need for PE based on match % of projected total PE costs
Anticipated CN/CE Match Req'd	**$1,245,023**	Anticiapted matching funds you will need based on match % of projected total CE/CN costs
Current amount of Match Obligated	**$4,956**	Current amount of match funds obligated to date.
Current Remaining Match Req'd to **Obligate** for Project	**$1,314,596**	To-Date amount of match that still needs to be obligated.
Current amount of Match Expended	**$4,956**	Current amount of match funds expended to date.
Current Remaining Match Req'd to **Expend** for Project	**$1,314,596**	To-Date amount of match that still needs to be expended. Once PE is complete this number will be what should be on the CN PR.
Recommended Match Account for PE	**M51**	If amount of 551/533 funds remaining is greater than the proejcted match requried for PE, use M51 account, else use M10.
Recommended Match Account for CE/CN	**M40**	Always use M40 for match during construction.
% Labor Match Required for remainder of PE	**10.05%**	If using M10 for match during PE, provide this % to the programmer for inclusion in FundsMap. Update thorughout PE.

Risk Management Register for CA FLAP INY CR2022(1) South Lake Road

Risk Identification								Qualitative Risk Assessment				Risk Response Plan		Monitoring and Co	
#	RMP No.	Status	Functional Area	Risk Category	Cause	Effect	Threat or Opportunity	Primary Objective	Probability	Impact	Risk Matrix	Response Strategy	Response Actions	Responsibile Entity	Interval or Milestone Check
1	1	Active	Organization	Uncertainty in match funding	Current scoping estimate indcates construction cost is above the application amount. County will have either have to secure match funds for the additional amount or the PDC will have to allow toll credits.	If match (either by County or toll credits) are not identified, project will not be programmed.	Threat	Cost	Medium	High		Accept	County has indicated it can provide additional match needed.	Project Manager	PDC meeting
2	2	Active	Design	Earthwork/wall quantities	There is potential for variation in earthwork and need for small walls on the project to accommodate widening outside of bench and to stabilize existing failures/erosion and estimates are based on very preliminary assumptions.	Initial project estimates may not reflect actual cost	Threat	Cost	Medium	Medium		Mitigate	Design contigency included in scoping CN estimate of 20%.	Project Manager	At major design milestones
3	3	Active	Design	Clear Zone Issues	Earthwork cut/fill slopes may be necessary to accommodate clear zone.	Determine extents during design. Design exceptions are an option	Threat	Quality	Low	High		Mitigate	Several options exist. Final coordination with the CFT is required to solidify a direction.	Project Manager	At major design milestones
4		Active	Construction	Unidentified utility impacts	Unidentified utilities	Project cost increases	Threat	Cost	Low	Low		Transfer	Contingency plan. Contractor is responsible for coordination.	Utility Engineer	At major design milestones
5		Active	Environment	Permit delays	Permits (404, 401, 1601) or agency actions are delayed or take longer then expected or CEQA is delayed.	Project delayed	Threat	Time	Medium	Low		Mitigate	Early coordination with permit agencies to discuss project impacts and with County to expedite CEQA.	Environmental Engineer	Initiate discussions between 30% and 50%.
6		Active	Environment	Permit delays	Difficulty in finding acceptable mitigation site and coordinating with FS and permit agencies	Project delayed and increase in cost (higher mitigation ratios)	Threat	Time	Medium	Medium		Mitigate	Early coordination with permit agencies and FS. Continuous coordination between environment and design.	Environmental Engineer	Initiate discussions between 30% and 50%.
7		Active	Environment	Cultural Issues/Tribal Involvement	Discovery of archaeological sites or local Tribes having issue with project	Increased project costs and potential delays	Threat	Time	Medium	Medium		Mitigate	Early and often coordination with the tribes and cultural resource surveys early. Implementation of mitigation measures, preferrably prior to	Environmental Engineer	Monthly

			E										award.		
8		Active	Environment	Biological Resource Issues	Difficult/lenghty consultation processes with FWS if species/habitat present.	Increased project costs and potential delays	Threat	Time	High	Medium		Mitigate	Early coordination with agencies to identify reasonable minimization measures, get any required consultation started early.	Environmental Engineer	Monthly
9		Active	Environment	Additional coordination required	Coordination with SCE, FS, local tribes.	Project delayed	Threat	Time	Medium	Medium		Mitigate	Early coordination with stakeholders, clear communication of proposed project.	Environmental Engineer	Monthly
10		Active	Organization	Resource conflicts with other projects	Unanticipated workload in the Division. Functional units overloaded for performing reviews.	Quality deficiencies	Threat	Quality	Low	Low		Avoid	Actively use P6 to identify potential issues in advance.	PM	Monthly
															

Project Risk Assessment

This questionaire will help the Project Team assign a risk level to the project to assist in determining the apprpriate risk acceptance level, oversight by staff (for A/E projects), and quality control procedures.

	Project Number and Name	CA FLAP INY CR2022(1) South Lake Road
	Project Manager	Wendy Longley

	Category		Response	Score	Weight	Subtotal	Comment
1	Estimated Construction Cost (CN)		> $5M	100	20%	20	
2	Estimated Time Until Advertisement		> 1 year	30	17%	5.1	
3	PE Budget Limitations		Limited	100	8%	8	
4	Overall Complexity of Scope		Low	20	5%	1	
5		Highway Design Complexity	Low	40	3%	1.2	
6		Environment Complexity	Medium	60	3%	1.8	
7		Permits complexity	Medium	60	3%	1.8	
8		Survey Complexity	Low	40	1%	0.4	
9		ROW Complexity	Low	40	3%	1.2	
10		Utilities Complexity	Low	40	3%	1.2	
11		Geotech Complexity	Low	40	3%	1.2	
12		Hydraulics Complexity	Low	40	3%	1.2	
13		Pavements Complexity	Low	40	3%	1.2	
14		Structures Complexity	Low	40	3%	1.2	
15		Safety Complexity	Low	40	3%	1.2	
16		Construction Complexity	Low	40	3%	1.2	
17	Partner Agency Risk Tolerance		Medium	50	5%	2.5	
18	Program Risk Tolerance		Medium	50	4%	2	
19	Partner Agency Requirements		None	0	2%	0	
20	Other Risk not Accounted for Above		None	0	5%	0	

Overall Project Risk	53%
Recommended Oversight for A/E Work	Medium
Recommended QC Level for Internal Work	Medium

Recommended OS for A/E Work Definitions

High	Recommend that all functions with complexity of Medium or High provide oversight of A/E work
Medium High	Recommend that most functions with complexity of Medium or High provide oversight of A/E work
Medium	Recommend that all functions with complexity of High provide oversight of A/E work (Medium on an as-needed basis)
Medium Low	Minimal oversight required by the PST for functions with complexity of High
Low	Minimal oversight required by any of the PST (High complexity on an as-needed basis)

Recommended QC Level for Internal Work Definitions

High	TBD
Medium High	TBD
Medium	TBD
Medium Low	TBD
Low	TBD

U.S. Department of Transportation
Federal Highway Administration

Central Federal Lands Highway Division
12300 W Dakota Avenue
Lakewood Co, 80228

CFT PROJECT DELIVERY PLAN ENDORSEMENT

Project Name & Number: CA FLAP INY CR2022(1) South Lake Road

Project Cross-Functional Team Endorsement

I certify that I have been actively engaged during the development of the Delivery Plan; including the Scoping Report, Statement of Work, Budget Worksheet, Primavera Schedule, Project Agreement, Risk & Opportunity Management Plan, and Preliminary Construction Estimate. As the discipline's representative I have contributed to the evaluation of risk to be assumed in the delivery of the project (e.g., scope, schedule, and budget). By signing this endorsement I signify my acceptance of the delivery plan.

CFT Member	*Signature*
Project Manager: Wendy Longley	WENDY M LONGLEY
Bridge: Leo Depaula	Endorsement per email dated 9/14/2015
Design: Sebastian Guzman	Endorsement per email dated 9/16/2015
Environment: Doug White	Endorsement per email dated 9/14/2015
Geotech: Dominic Monarco	Endorsement per email dated 9/23/2015
Hydraulics: Veronica Ghelardi	Endorsement per email dated 9/14/2015
Pavements and Materials: Jeff Felling	Endorsement per email dated 9/14/2015
Permits (404/401): Jason Roth	Endorsement per email dated 9/14/2015
Permits (NPDES): Doug White	Endorsement per email dated 9/14/2015
ROW & Utilities: Jeff Bellen	Endorsement per email dated 9/23/2015
Safety: Barbara Burke	Endorsement per email dated 9/17/2015
Survey & Mapping: Bob Bell	Endorsement per email dated 9/14/2015
Technology Delivery:	Signature Not Required. For Distribution ONLY
Project Controls Analyst:	Signature Not Requried. For Distribution ONLY

- Following CFT endorsement electronically distribute location (link) for delivery plan files to MB
- Following MB Endorsement electronically distribute location (link) for delivery plan files to the CFT (shown above) and PCA to develop baseline in P6

Management Board Endorsement

The Project Delivery Plan is hereby endorsed and development activities may begin.

Project Management Branch Chief	Signature	Date
Gary Strike	Gary Strike	10/21/2015