

# Central Federal Lands Highway Division

## Project Schedule and Resource Management

Version (Date): Dec 11, 2003

Activity ID: H2	Activity Title: Intermediate Hydraulic Recommendations
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Activity Definition: Conduct flood plain, preliminary roadway and preliminary bridge hydraulic analyses.

Predecessor Activities (ID's) & Relationships (i.e.: FS, SS, or FF) & Time Lag:	Successor Activities (ID's) & Relationships (i.e.: FS, SS, or FF) & Time Lag:
1. Pred: H1      Rel: FS      Lag: 0	1. Succ: D2      Rel: FF      Lag: 0
2. Pred:            Rel:            Lag:	2. Succ: E2      Rel: FF      Lag: Neg # Days TBD 0
3. Pred:            Rel:            Lag:	3. Succ: H3      Rel: FS      Lag: 0
4. Pred:            Rel:            Lag:	4. Succ:            Rel:            Lag:
5. Pred:            Rel:            Lag:	5. Succ:            Rel:            Lag:
6. Pred:            Rel:            Lag:	6. Succ:            Rel:            Lag:
7. Pred:            Rel:            Lag:	7. Succ:            Rel:            Lag:

Required Activity Tasks:

1. Floodplain Analysis - Assess preliminary structural encroachments; conclude floodplain analysis for existing conditions and offer recommendations.
2. Preliminary Roadway Hydraulics - Complete hydrologic computations; develop techniques for roadway drainage design; complete preliminary culvert design computations, including fish passage design at road culverts; specify other structural needs, including culvert outlet protection, fill slope revetment protection, and inlet devices.
3. Preliminary Bridge Hydraulics - Model existing and proposed bridge waterway hydraulics; estimate bridge span, abutment, and pier geometry for waterway capacity, stability and freeboard requirements; determine bridge structural type, size, and length (TS & L); complete preliminary bridge waterway hydraulics analysis; complete preliminary bridge scour analysis estimate; complete preliminary bridge scour countermeasures analysis.

4. Preliminary Hydraulic Special Features - Develop stream restoration and river training provisions; complete preliminary hydraulic special features analysis.
5. Preliminary Hydraulics Report - Complete preliminary hydraulic report for review and comment; Submit CLOMR to FEMA, if required.