

Chapter 9: SUPPLEMENTAL ANALYTICAL REPORTS

Because of the variability in soil types and resource conditions throughout Santa Cruz County, it is difficult to specify in advance what analyses and reports may be required for a given project type. The analytical requirements will always be site-specific. This is why the site visits serve a critical function by providing the opportunity for the resource agencies to assess the site and inform the D/P Project Leads which studies and analyses are going to be required to obtain a permit. Below are some of the *potential* types of analyses and reports that may be required for a particular project.

Biological Studies and Surveys

Biological Surveys: Biological surveys may be required by USFWS or CDFG to determine the potential presence of a listed (threatened or endangered) species in the project area.

Biological Assessments: Consultation with USFWS and NOAA Fisheries may require preparation of a biological assessment that describes the proposed project, a description of the “baseline” biological resources present in the project area, potential project effects to these biological resources, and a description of any protection or mitigation measures proposed to minimize these potential impacts. The biological assessment should include the following:

- A description of the project being proposed
- An analysis of alternatives considered
- A description of the listed species and critical habitat that would be affected
- A description of the existing environmental baseline
- Expected direct, indirect, and cumulative impacts on the species and critical habitat
- Monitoring, success criteria, and reporting proposed
- Adaptive management provisions

County of Santa Cruz Biotic Assessment: The County may require a *biotic report*: (an in-depth study) for projects occurring in areas considered to be “Sensitive Habitat”. The biotic report is separate from any surveys/studies required by other resource agencies and must be written according to County guidelines.

Biotic Review:

If the County determines that the project area is located within a mapped “sensitive habitat” as defined by the County (see Appendix B), it may require additional review of potential effects. The review may consist of one or more of the following:

- A biotic presite: a preliminary site visit by County staff to determine if the site lies within a sensitive habitat
- A biotic assessment: a brief review of on-site biotic resources conducted by a County-contracted biologist
- A biotic report: (an in-depth study) will be required if the biotic assessment indicates that more information is needed. This report will be prepared at the Project Lead’s expense by a professional biologist (the County has a list of approved biologists/revegetation specialists). The biotic report must be written according to County guidelines.

The biotic report will be reviewed by a biologist contracted by the County for this purpose. If the project will impact a State or Federally listed species, review and approval

by the California Department of Fish and Game and/or the US Fish and Wildlife Service will be required.

Wetland Delineations (see Appendix D)

Wetland delineations may be required to ensure compliance with Section 404 of the Clean Water Act. If a potential wetland is located in the project area where work is proposed, a wetland delineation may be required by the USACE. Preliminary delineations (conducted by consultants), which meet the US Army Corps of Engineers' minimum standards may be submitted to the USACE San Francisco District for review and verification to ensure compliance with Section 404 requirements. For projects in the coastal zone, wetland delineations may be based on a one-criteria model (rather than the 3-criteria model used by USACE) as well.

Cultural Resource Assessments

Cultural resources compliance is required under sections 106 and 110 of the National Historic Preservation Act, which require federal agencies to identify and assess the effects of their actions on cultural and historic resources. In order to determine potential impacts to cultural resources, it may be necessary to conduct surveys to determine the potential presence or absence of cultural resources in a project area.

An archeological survey may be required for any project that will:

1. Require a County permit,
2. Result in ground disturbance, and
3. Which will be located within a mapped archeological sensitive area (County of Santa Cruz has this information mapped).

In addition, an archeological survey may be required for any project that will result in ground disturbance within 500 feet of a recorded Native American cultural site.

Hydrology

Various hydrologic studies will likely be required for instream projects, particularly for fish passage projects. For passage projects involving retrofitting, removing, or replacing culverts, a Fish X-ing analysis (see Appendix D) should be completed. For other fish passage projects, at the minimum a longitudinal profile would be required. The following types of information may need to be collected for a particular project site:

1. Basin hydrology
 - a. Flow duration
 - b. Flood flows: annual, 10-year, 50-year floods
 - c. Bankfull discharge
 - d. Discharge during migration period
2. Characteristics of the river:
 - a. Cross sections
 - b. Longitudinal Profile
 - c. Bank details
 - d. Water surface at varying flow conditions
3. Information about the headwater/tailwater relationship at the inlet and outlet of the barrier may be required:
 - i. Vertical difference between the headwater and tailwater
 - ii. Time period

Understanding the hydrology of a wetland is critical for any successful wetland restoration or enhancement project. More extensive hydrology studies will likely be needed for these projects to determine the optimal design options.

Soils and Geology

In general, the County does not require soils engineering (or geotechnical engineering) and engineering geology reports for projects that do not involve the construction of habitable structure, specifically houses (*See Appendix B for examples of when these reports would be required by the County*). The Engineering Geology Report prepared pursuant to County requirements, describes and evaluates the geologic factors such as landslides, faults, seismicity (ground shaking), ground cracking, erosion and other such features that can affect the safety of development at a particular site and to determine how grading activities may be affected by the area's geology.

For instream projects, information such as the type and location of bedrock, characteristics of the riverbed material, and characteristics of the bank material will need to be considered in the project design (independent of County requirements)

Integrated Watershed Restoration Program (IWRP) for Santa Cruz County
IWRP Design & Permitting Coordination Process Guidelines Manual