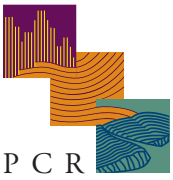
DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

WATERFORD AVENUE BRIDGES AND MULTI-USE PATH PROJECT

TOWN OF MAMMOTH LAKES, CALIFORNIA



OCTOBER 2011

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

WATERFORD AVENUE BRIDGES AND MULTI-USE PATH PROJECT

TOWN OF MAMMOTH LAKES, CALIFORNIA

Prepared For:

Town of Mammoth Lakes
Community Development Department
P.O. Box 1609
Mammoth Lakes, California 93546

Prepared By:

PCR Services Corporation
One Venture, Suite 150
Irvine, California 92618

OCTOBER 2011

Table of Contents

List of Figures

Page

List of Tables

Page

ENVIRONMENTAL CHECKLIST FORM

ENVIRONMENTAL CHECKLIST FORM

1. **Project title:** Waterford Avenue Bridges and Multi-Use Path Project

2. **Lead agency name and address:** Town of Mammoth Lakes
P.O. Box 1609
Mammoth Lakes, California 93546

3. **Contact person and phone number:** Haislip Hayes- Assistant Traffic and Development Review Engineer (760) 934-8989

4. **Project location:** The project includes trail improvements along Waterford Avenue between Old Mammoth Road and the existing Main Path, located on the northern side of Mammoth Creek. Two bridge crossings across Mammoth Creek would be included as part of the trail improvements. No improvements are proposed along North Waterford Avenue. Please refer to Attachment A, *Project Description*, for illustrations of the Project Area.

5. **Project sponsor's name and address:** Same as Lead Agency, above.

6. **General plan designation:** All

7. **Zoning:** All

8. **Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)**

   The Town of Mammoth Lakes ("the Town") is proposing to construct a new segment of the Main Path envisioned in the Town's adopted Trails System Plan and General Bikeway Plan. The new trail segment would close an existing gap in the Main Path from Old Mammoth Road along Waterford Avenue to a segment of the existing Main Path north of Mammoth Creek near North Waterford Avenue. The new trail segment would require construction of two bridge crossings over Mammoth Creek at the northern terminus of Waterford Avenue. The proposed paved multi-use path (MUP) would support pedestrian and bicycle use and could be groomed during winter conditions for cross-country skiing use.

9. **Surrounding land uses and setting: Briefly describe the project's surroundings:**

   The sections of Waterford Avenue that include the proposed MUP improvements are developed with single-family residences along both sides of the street.

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)**
    The following discretionary actions for the project may include, but are not limited to, the following: California Department of Fish and Game (CDFG): Section 1600 Permit; Regional Water Quality Control Board (RWQCB): Section 401 Certification; United States Army Corps of Engineers (ACOE): 404 Permit; Grading, excavation, foundation, and/or associated building permits (Town of Mammoth Lakes), as required; and other permits and approvals by other agencies as deemed necessary.

PURPOSE OF THE INITIAL STUDY

The proposed Waterford Avenue Bridges and Multi-Use Path Project is analyzed in this Initial Study, in accordance with the California Environmental Quality Act (CEQA), to determine if approval of the Project would have a significant impact on the environment. This Initial Study has been prepared pursuant to the requirements of CEQA, under Public Resources Code 21000-21177, of the State CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387) and under the guidance of the Town of Mammoth Lakes. The Town of Mammoth Lakes is the Lead Agency under CEQA and is responsible for preparing the Initial Study for the proposed project.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards/Hazardous Materials	☐ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☒ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Transportation/Traffic	☐ Utilities and Service Systems	☐ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

10-12-11
Date

ELLEN CLARK
Printed Name

TOWN OF MAMMOTH LAKES
For

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

2) A list of "Supporting Information Sources" should be attached, and other sources used or individuals contacted should be cited in the discussion.

3) Impact Columns Heading Definitions:

- "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

- "Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The mitigation measures must be described, along with a brief explanation of how they reduce the effect to a less than significant level.

- "Less Than Significant Impact" applies where the project creates no significant impacts, only Less Than Significant impacts.

- "No Impact" applies where a project does not create an impact in that category. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one proposed (e.g., the project falls outside of a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

4) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   - Earlier Analysis Used. Identify and state where they are available for review.

   - Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   - Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

5) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

6) The explanation of each issue should identify:

   a) The significance criteria or threshold, if any, used to evaluate each question; and

   b) The mitigation measure identified, if any, to reduce the impact to less than significance.

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS – Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURE AND FORESTRY RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire protection regarding the state's inventory of forest land, including the Forest and Range Assessment of and the Forest Legacy Assessment Project; and forest carbon measurements methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project::				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 1220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐
VI. GEOLOGY AND SOILS – Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS – Would the Project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒
VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alternation of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
X. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
XI. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
XII. NOISE – Would the project result in:				
a) Exposure of persons to or generation of noise level in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XIII. POPULATION AND HOUSING – Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒
XV. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐
XVI. TRANSPORTATION/TRAFFIC – Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities??	☐	☐	☐	☒
XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

ATTACHMENT A

PROJECT DESCRIPTION

ATTACHMENT A - PROJECT DESCRIPTION

A. INTRODUCTION

The Town of Mammoth Lakes ("the Town") is proposing to construct a new segment of the Main Path envisioned in the Town's adopted Trails System Plan and General Bikeway Plan. The new trail segment would close an existing gap in the Main Path from Old Mammoth Road along Waterford Avenue to a segment of the existing Main Path north of Mammoth Creek near North Waterford Avenue. The new trail segment would require construction of two bridge crossings over Mammoth Creek at the northern terminus of Waterford Avenue. The proposed paved multi-use path (MUP) would support pedestrian and bicycle use and could be groomed during winter conditions for cross-country skiing use.

B. BACKGROUND

The Town of Mammoth Lakes prepared and circulated for public review (30 days) a Draft Initial Study/Mitigated Negative Declaration (IS/MND) (State Clearinghouse Number 2005011098) for the Recreational Trail Bridge Crossings Mammoth Creek Project in January 2005. The project evaluated in that IS/MND included bridge crossings over Mammoth Creek at the northern terminus of Waterford Avenue. However, the IS/MND did not evaluate the additional MUP segment required to complete the Main Path connection along Waterford Avenue between Old Mammoth Road and the existing Main Path, located on the northern side of Mammoth Creek. To provide a comprehensive and up to date analysis of the potential environmental impacts associated with the proposed MUP and bridge crossings over Mammoth Creek, this Initial Study was commissioned by the Town. This Initial Study evaluates the currently proposed MUP and bridge crossings over Mammoth Creek, and references the environmental analysis contained in the previous IS/MND, where applicable.

C. PROJECT LOCATION AND SURROUNDING USES

The Town of Mammoth Lakes is a destination resort community located in southwestern Mono County on the eastern side of the Sierra Nevada mountain range. The Town lies approximately three miles west of U.S. Highway 395, along State Route 203 as shown on **Figure A-1**, *Regional and Local Vicinity Map*. The project site is located in the southwestern portion of the developed part of Town. The project includes trail improvements along Waterford Avenue between Old Mammoth Road and the existing Main Path, located on the northern side of Mammoth Creek. Two bridge crossings across Mammoth Creek would be included as part of the trail improvements. No improvements are proposed along North Waterford Avenue. The sections of Waterford Avenue that include the proposed MUP improvements are developed with single-family residences along both sides of the street.

D. EXISTING CONDITIONS

Waterford Avenue is relatively flat with elevations ranging from approximately 7,950 to 7,965 feet above mean sea level (amsl). Mammoth Creek, within the project area is located at an elevation of approximately 7,945 feet amsl. Two tributaries of Mammoth Creek cross the project site. Mapped soils within the project

site include soils within the Chesaw family typically found in areas of 5 to 15 percent slopes. The Chesaw series consists of very deep, somewhat excessively drained soils formed in glacial outwash.[1]

Unauthorized foot trails have been created by recreational users in order to cross Mammoth Creek and access existing trails on either side of the creek. In addition, a dirt road crossing the creek was used in the past until approximately 1990 when soil and rocks were placed on the northern and southern sides of the creek to block access to the dirt road. The rocks are still located on both sides of the creek corridor. There are also two water lines approximately five (5) feet apart and a sewer line approximately 10 feet from the closest water line within the creek corridor. The sewer and water lines traverse the project site from North Waterford Avenue across the creek corridor and along Waterford Avenue to Old Mammoth Road. The last line was installed in 1989. A substantial portion of the creek corridor within the project site has been disturbed in the past by the dirt road crossing, as well as excavation and associated access for underground utility construction.

Figure A-2, *Site Photographs*, provides photographic illustrations of the existing conditions within the project area. Photograph No. 1 provides a southerly view from the terminus of Waterford Avenue, south of Mammoth Creek. As shown in Photograph No. 1, no sidewalks or bike paths are currently located along Waterford Avenue south of Mammoth Creek. Photograph No. 2 provides a northerly view towards Mammoth Creek from Waterford Avenue. As shown in Photograph No. 2, the area surrounding Mammoth Creek consists of riparian vegetation. Photograph No. 3 provides a northerly view across Mammoth Creek. Section IV, *Biological Resources*, in Attachment B, *Explanation of Checklist Determinations*, provides a detailed discussion of the plant communities within the project area. In addition to the riparian vegetation near Mammoth Creek, a small amount of disturbed vegetation occurs near the boundary of the creek at the paved ends of Waterford Avenue and North Waterford Avenue. Photograph No. 4 provides a southerly view from North Waterford Avenue of the Main Path and riparian vegetation along the northern bank of Mammoth Creek. The Main Path north of Mammoth Creek is a paved multi-use path used by pedestrians and bicyclists.

Along Waterford Avenue, the zoning is Residential Single Family on the east side of the road and Rural Residential on the west side of the Road. Parcels within the Mammoth Creek corridor are zoned Rural Residential and Resort; the entire creek corridor is also overlain by the Open Space Stream Corridor (OSSC) zoning designation. The General Plan land use designation for the residential uses along Waterford Avenue is Low Density Residential. Parcels within the Mammoth Creek corridor are zoned Resort and Open Space.

E. PROPOSED PROJECT

The Town is proposing to construct a new segment of the Main Path envisioned in the Town's adopted Trails System Plan and General Bikeway Plan.[2] The new trail segment would close an existing gap in the Main Path from Old Mammoth Road along Waterford Avenue to a segment of the existing Main Path, north of Mammoth Creek near North Waterford Avenue. **Figure A-3**, *Site Plan*, illustrates the site plan for the project. Details of the proposed project are provided below.

[1] *General Biological Resources Report for the Waterford Bridges Project, prepared by LSA Associates, January 4, 2010.*

[2] *See Figure 1, Mammoth Lakes Trails System Plan, in the Mammoth Lakes Trails System Master Plan (May 1991). Also, see Figure 4, General Bikeway Plan Map, in the Town of Mammoth Lakes General Bikeway Plan (2008).*

PCR

N

0 400 800 Feet

Regional and Local Vicinity Map

Waterford Avenue Bridges and Multi-Use Path Project

Source: ESRI, 2009; PCR Services Corporation, 2010.

FIGURE

A-1

Photograph 1: Southerly view of Waterford Avenue south of Mammoth Creek.

Photograph 2: Northerly view towards Mammoth Creek from Waterford Avenue. (Note: Pipes shown in picture were temporarily staged at this location.)

Photograph 3: Northerly view across Mammoth Creek.

Photograph 4: Southerly view of main path trail and Mammoth Creek from North Waterford Avenue.

P C R

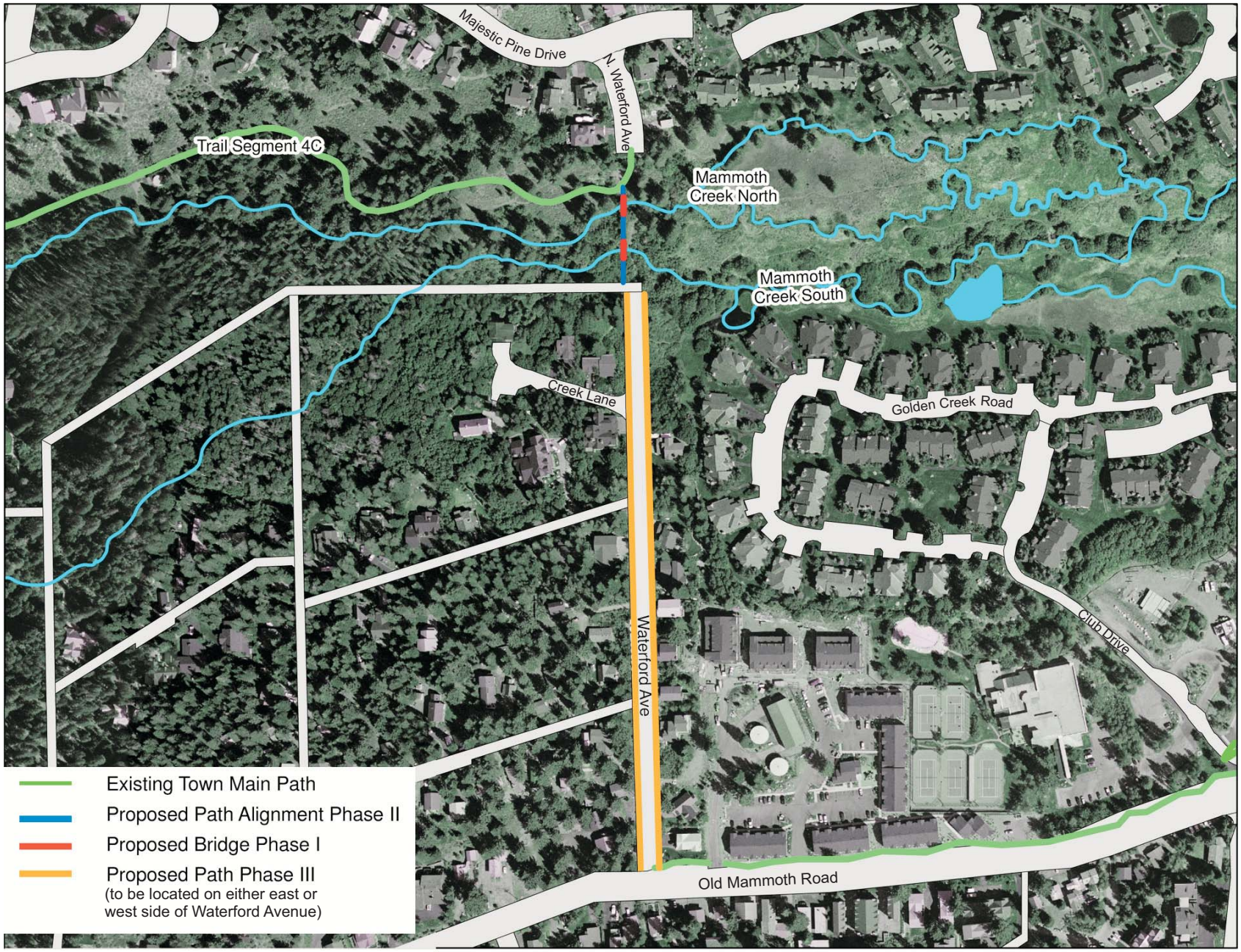
Site Photographs

Waterford Avenue Bridges and Multi-Use Path Project

Source: PCR Services Corporation, 2010.

FIGURE

A-2



PCR

N

0 300 Feet

Site Plan

Waterford Avenue Bridges and Multi-Use Path Project

Source: General Biological Resources Report for the Waterford Bridges Project, Prepared by LSA Associates, January 4, 2010.

FIGURE

A-3

This page intentionally blank.

1. Bridge Improvements

The proposed clear span bridges would consist of engineered and pre-fabricated steel construction. The surface of the bridges would consist of wood decking. The location of the proposed bridges and trail alignment over the Mammoth Creek corridor are shown in Figure A-3 (see "Proposed Bridge Phase I" and "Proposed Path Phase II"). The bridges would be 12-feet wide and could vary from 20 to 40 feet long depending on the locations for the necessary foundations. The bridges would be designated for pedestrian and bicycle use and could be groomed during winter conditions for cross-country skiing use. No private vehicles would be allowed to use the bridges. However, the bridges would be designed to accommodate vehicles for maintenance and emergency services. The bridge abutments would be placed outside of the creek bed and its banks, within upland areas. To ensure that the proposed bridges do not impede or redirect flood flows, or cause erosion damage to abutments and trails, or flooding on upstream and downstream property, the proposed bridges would be designed and constructed to ensure that they are higher than the depth of water (2.5 feet) in the creek during a 100-year storm event.

2. MUP Improvements

The portion of the proposed MUP along Waterford Avenue from Old Mammoth Road to the Mammoth Creek corridor would be an asphalt paved trail. The MUP would be situated on either the east or west side of Waterford Avenue within the Town's right-of-way. The potential locations of the proposed MUP along Waterford Avenue are shown in Figure A-3 (refer to "Proposed Path Phase III"). Currently, on some properties located along both sides of Waterford Avenue, the front yards and driveways encroach into the Town's right-of way. Thus, it could be necessary, in some areas, to remove existing improvements that have been made by private property owners within the Town's right-of-way, such as landscaping and portions of driveways. Within the Mammoth Creek corridor, trail improvements would be provided between the two bridges and on the north side of the creek to connect with the existing Main Path. Near Mammoth Creek, some sections of the trail near or between the bridges may consist of permeable paving stones, in addition to sections with an asphalt paved surface.

F. CONSTRUCTION ACTIVITIES AND SCHEDULE

Construction of the project would occur when funding is available to the Town, but for purposes of this analysis is anticipated to occur in Spring 2012. Construction activities for the project are anticipated to last approximately 3-4 months. Clearing and grubbing of vegetation would take approximately 2-3 weeks. Preparation of the sub-grade and base would take approximately 2-3 weeks. Concrete work and paving would take approximately 2-4 weeks. Other construction activities such as utility relocation would occur intermittently, as needed, throughout the construction process. Typical construction equipment anticipated to be utilized during project construction includes loaders, excavators, dump trucks, rollers, paving and concrete equipment. Construction would occur within the times permitted by the Town's Municipal Code; i.e. up to six (6) days a week (Monday to Saturday) from 7:00 A.M. to 8:00 P.M.

The asphalt paved terminuses of Waterford Avenue and North Waterford Avenue near Mammoth Creek would be used for construction staging. No road closures are anticipated to occur during project construction activities. However, during construction of the MUP along Waterford Avenue, access to private driveways will be unavailable for short periods of time. The proposed bridge crossings and trail alignment within and over the Mammoth Creek Corridor would require approximately 10,000 to 12,000 square feet of

vegetation clearing. It is anticipated that approximately 50 to 15 cubic yards of soil excavation would be required for the bridge foundations. No pile driving would be required for the bridge foundations. As the bridge abutments would be placed outside of the creek bed and its banks, construction of the project would not require stream dewatering or diversion. Given the relatively flat nature of Waterford Avenue and the Mammoth Creek Corridor, the proposed MUP would require minimal fine grading and no export of soils. The Town intends to balance graded soils associated with development of the MUP on site.

During construction, the project would implement best management practices (BMPs) such as: siltation fencing; installation of geotextiles along drainage courses and around storm drain inlets; re-vegetation of disturbed areas; and the construction of temporary desiltation retention areas to control storm and snowmelt water runoff, address erosion impacts, and to prevent siltation and other pollutants from reaching downstream areas. Further, project construction would comply with the Lahontan Regional Water Quality Control Board *Guidelines for Erosion Control in the Mammoth Area* and standards set forth in Town of Mammoth Lake Municipal Code Chapter 12.08 which includes measures to control erosion and sedimentation. Please refer to Section IV, *Biological Resources*, and Section IX, *Hydrology and Water Quality*, in Attachment B for further discussion of BMPs that would be implemented during construction activities to minimize impacts regarding biological resources and water quality within Mammoth Creek.

G. DISCRETIONARY ACTIONS

The following discretionary actions for the project may include, but are not limited to, the following:

- California Department of Fish and Game (CDFG): Section 1600 Permit;
- Regional Water Quality Control Board (RWQCB): Section 401 Certification;
- United States Army Corps of Engineers (ACOE): 404 Permit;
- Grading, excavation, foundation, and/or associated building permits (Town of Mammoth Lakes), as required; and
- Other permits and approvals by other agencies as deemed necessary.

ATTACHMENT B

EXPLANATION OF CHECKLIST DETERMINATIONS

ATTACHMENT B - EXPLANATION OF CHECKLIST DETERMINATIONS

I. AESTHETICS

Would the project:

a. Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. A scenic vista generally provides focal views of objects, settings, or features of visual interest; or panoramic views of large geographic areas of scenic quality, primarily from a given vantage point. Scenic vistas are generally associated with public vantages. A significant impact may occur if the proposed project introduced incompatible visual elements within a field of view containing a scenic vista or substantially altered a view of a scenic vista.

Public views of the site are primarily limited to those experienced by pedestrian and vehicular travelers along Waterford Avenue and trail users along the Main Path. The proposed prefabricated bridges would consist of steel frame construction with wood decking and railings that would be an earth-toned color such as forest green, dark brown, or another similar color to replicate the natural surroundings. The existing vegetation could be considered a positive visual attribute within the project area. The project would require removal of vegetation (riparian habitat) within the creek corridor. However, riparian habitat on either side of the proposed MUP and bride corridor over Mammoth Creek would continue to contribute to the visual character of the area. Further, by removing vegetation as part of the project, new views of the creek itself (water) would become available and by extending the trail with the bridges across the creek the project would make new scenic views of the creek and creek corridor available to trail users. Based on the above, impacts regarding scenic vistas would be less than significant and may be beneficial given the increase in availability of views to and across the Mammoth Creek corridor.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, or other locally recognized desirable aesthetic natural feature within a city-designated scenic highway?

Less Than Significant Impact. The project site is not visible from any Town or State designated scenic highways. Regardless, the project's proposed physical improvements are limited in size and scope and would not involve the removal of scenic resources consisting of trees, rock outcroppings, historic buildings or other important natural features valued for their aesthetic qualities. While vegetation within the creek corridor would be removed as part of the project, this would increase views to and across the Mammoth Creek corridor, which could be considered beneficial. Overall, no substantial damage to scenic resources would occur and impacts to scenic resources would be less than significant.

c. Substantially degrade the existing visual character or quality of the site and its surroundings?

Less Than Significant Impact. Views of the Mammoth Creek corridor from Waterford Avenue and the Main Path consist of dense riparian vegetation. Because of the dense riparian vegetation, views of the creek itself are highly limited. Implementation of the proposed project improvements within the creek corridor would

require removal of existing dense riparian vegetation. As such, the project would alter the existing visual character of the project site within the creek corridor.

The existing vegetation could be considered a positive visual attribute within the project area. Upon removal of vegetation within the creek corridor, riparian habitat on either side of the proposed MUP and bridge corridor over Mammoth Creek would continue to contribute to the visual character of the area. In addition, by removing vegetation as part of the project, new views of the creek itself (water) would become available and by extending the trail with the bridges across the creek the project would make new scenic views of the creek and creek corridor available to trail users. Further, the proposed MUP and bridges would serve as a visual extension of the existing Main Path on the north side of the creek and Waterford Avenue on the south side of the creek. The proposed prefabricated bridges would consist of steel frame construction with wood decking and railings in an earth-toned color that would be compatible with the natural surroundings of the area.

Along Waterford Avenue, the visual character is typical of single-family residential uses in the Town. The proposed MUP would be situated on either the east or west side of Waterford Avenue within the Town's right-of-way. On some properties located along Waterford Avenue where the proposed MUP could be located, the front yards and driveways encroach into the Town's right-of way. Thus, the MUP along Waterford Avenue could require removal of existing improvements in some areas that have been made by private property owners within the Town's right-of-way, such as landscaping and portions of driveways. Given the limited size and scope of the physical improvements associated with the proposed MUP, the project would not create substantial visual conflicts with the existing single-family residential uses along Waterford Avenue.

Based on the above, less than significant impacts regarding visual character or quality of the site and its surroundings would occur with project implementation.

d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. There is no existing lighting within the project site, nor is any lighting proposed as part of the project. In addition, the project would not introduce glare to the area as the proposed improvements would not incorporate any reflective materials that would cause glare. Construction would occur within the times permitted by the Town's Municipal Code; i.e. up to six (6) days a week (Monday to Saturday) from 7:00 A.M. to 8:00 P.M. Thus, construction-related lighting could be utilized intermittently during construction hours in the evening hours. Such construction-related lighting, if necessary, would be short-term in nature and as such is not considered to be a significant impact. Overall, less than significant light and glare impacts would occur with project implementation.

II. AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of

Forestry and Fire protection regarding the state's inventory of forest land, including the Forest and Range Assessment of and the Forest Legacy Assessment Project; and forest carbon measurements methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b. Conflict with the existing zoning for agricultural use, or a Williamson Act Contract?

No Impact (a-b). There are no prime or unique farmlands or other agricultural operations within the project site that would be impacted by implementation of the project. In addition, the project would not conflict with the existing zoning for an agricultural use, or a Williamson Act Contract. Thus, no impact would occur in these regards.

c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 1220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. Project implementation would not result in changes to or cause rezoning of forest land, timber land or timberland zoned for Timberland Production. In addition, the project site does not include areas zoned or utilized for timberland production. Thus, no impact would occur in this regard.

d. Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. No forest land exists in the project site. As such, the project would not result in the loss of forest land or conversion of forest land to non-forest use and no impact would occur in this regard.

e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. As discussed above, the project would not result in a conversion of farmland or forest land to a non-agricultural or non-forest use. No impact would occur in this regard.

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations:

Existing Conditions

The project site is located within the Town of Mammoth Lakes, which is part of the Great Basin Valleys Air Basin (Air Basin) which comprises Inyo, Mono, and Alpine Counties. The climate of the Air Basin is found to be dry with clear skies, excellent visibility, hot summers, and wide fluctuations in daily temperatures. The average minimum temperature is in the upper 20s (degrees Fahrenheit), while the average maximum

temperature is in the mid- to high 50s. Most of the precipitation in this area, approximately 70 percent, occurs between November and February. Spring is the windiest season, with fast-moving northerly weather fronts. During the day, southerly winds result from the strong solar heating of the mountain slopes, causing upslope circulation. Summer winds are northerly at night as a result of cool air draining off the mountainsides. The mean annual wind speed in Mammoth Lakes is less than 11 miles per hour (mph). Mean annual wind speeds just outside of Mammoth Lakes at elevations of 8,900 feet and 7,800 feet above sea level are 21.7 and 11.5 mph, respectively.

The extent and severity of the air pollution problem in the Air Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). The Mono County portion of the Air Basin has a non-attainment status for ozone (State standards only); non-attainment of ozone is associated with the effect of transported pollution from outside of Mono County, rather than local generation of ozone or ozone precursors. All of the Air Basin is designated non-attainment for the PM_{10} State standard.

Although Mono County is categorized as non-attainment for the State ozone standard, there is no ozone implementation plan for attainment in Mono County, nor is one required under State law. As outlined in the 2001 California Air Resources Board (CARB) Ozone transport review, the CARB classifies the contribution of transported pollution from one air basin to another to be either overwhelming, significant, inconsequential, or some combination of the three. The CARB Ozone Transport Review is a statewide assessment of ozone transport between air basins. According to the CARB, ozone levels should improve in the air basin only when substantial mitigation measures are more fully implemented in upwind air basins. Local sources are not considered to have a considerable impact on ambient levels due to the climactic patterns of the eastern slopes of the Sierra Nevada Mountains.

a. Conflict with or obstruct implementation of the AQMP or Congestion Management Plan?

No Impact. The Great Basin Unified Air Pollution Control District (GBUAPCD) is required, pursuant to the CAA, to reduce emissions of criteria pollutants for which the Air Basin is in non-attainment (except for O_3 for reasons stated above). The project would be subject to the Town of Mammoth Lake's Air Quality Management Plan (AQMP), adopted in 1990 consistent with the State Implementation Plan (SIP), which demonstrates how the Mammoth Lakes area would attain and maintain the National Ambient Air Quality Standards (AAQS) for PM_{10}.[1] The AQMP contains a comprehensive list of pollution control strategies directed at reducing five-percent annual emissions and achieving ambient air quality standards. These strategies are developed, in part, based on the air quality impacts associated with the yearly influx of visitors to the Town during the peak winter season. Increases in population and vehicle traffic result in an increase in PM_{10} emissions from wood stoves, fireplaces, and from traffic-related road dust and cinders. During the development of the AQMP, an ad-hoc committee was formed to investigate appropriate control measures for PM_{10}. The final control strategy was adopted by the Mammoth Lakes Town Council on November 7, 1990 and was incorporated in the Town of Mammoth Lakes Municipal Code as Chapter 8.30, *Particulate Emissions Regulations*. The measures included within Chapter 8.30 include a limit of 106,600 vehicle miles traveled (VMT), street sweeping measures, and regulations on wood-burning stoves and fireplaces. Because the project is designed only for pedestrian or bicycle use, and provides for a critical link in the Town's trails

[1] *Air Quality Management Plan for the Town of Mammoth Lakes, Prepared for the PM-10 State Implementation Plan by The Great Basin Unified Air Pollution Control District and the Town of Mammoth Lakes; November 30, 1990.*

system as envisioned in the Town's Trail System Plan and General Bikeway Plan, the project is consistent with the strategy to limit VMT. Further, the project would not require use of cinders for traction during the winter nor would the bridge and trail connection be available for private vehicle use. Because the project would not affect population or employment, it is consistent with the population forecasts for the sub-region as adopted by GBUAPCD and the Town of Mammoth Lakes. In addition, as discussed in Response No. III.b, construction activities associated with the project would comply with applicable GBUAPCD Rules and Regulations to ensure that short-term construction air quality impacts (including fugitive dust) are less than significant. Overall, because the project is consistent with the GBUAPCD's projections and would not conflict with or obstruct implementation of the AQMP, it can be concluded that the project would result in no impact related to implementation of the applicable air quality plans.

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact. The project site is located within the Great Basin Valleys Air Basin, which is characterized by periods of poor air quality. State air quality standards are sometimes exceeded in many parts of the Air Basin, including those monitoring stations nearest to the Project location. The project would contribute to local and regional air pollutant emissions. However, based on the following analysis, implementation of the project would result in less than significant air quality impacts.

Construction Impacts

Short-term air quality emissions would occur during grading and construction operations associated with the project. Temporary air emissions would result from the following activities:

- Particulate (fugitive dust) emissions from grading; and
- Exhaust emissions from the construction equipment and the motor vehicles of the construction crew.

The project's construction activities would include mass grading, fine grading, and construction (includes paving). Construction of the project would occur when funding is available to the Town, but for purposes of this analysis is anticipated to commence as early as Spring 2012 and occur for a duration of four months. This represents a worst-case basis for analysis, as exhaust emission standards improve (become more stringent for new equipment) over time and short-term impacts are based on the intensity of daily or hourly activity, not on the number of days of activity. Mass grading activities would take approximately three weeks and include the clearing and grubbing of vegetation to clear the way for the bridge foundations. The fine site grading phase would take approximately four weeks and include the proposed MUP alignment. The construction phase would occur for the remaining two months which includes construction for the foundation and installation of the pre-fabricated bridges, in addition to paving for the proposed MUP. Typical construction equipment anticipated to be utilized during project construction includes loaders, excavators, dump trucks, rollers, paving and concrete equipment. Construction would occur within the times permitted by the Town's Municipal Code; i.e. up to six (6) days a week (Monday to Saturday) from 7:00 A.M. to 8:00 P.M.

Fugitive dust from grading and construction activities is expected to be short-term and would cease following completion of the proposed improvements. The greatest amount of fugitive dust generated is expected to occur during site excavation and grading. Of particular concern is the amount of PM_{10} and $PM_{2.5}$

generated as a part of fugitive dust emissions. The Air Basin is currently classified as nonattainment for PM_{10}.

The GBUAPCD utilizes a permitting process to regulate emissions resulting from construction activities. The following list shows the rules and regulations that are applicable to the proposed project:

a. GBUAPCD Rule 200-A and 200-B. Permits Required – Before any individual builds or operates anything, which may cause the issuance of air contaminants or the use of which may eliminate, reduce or control the issuance of air contaminants, such person must obtain a written authority to construct and permit to operate from an Air Pollution Control Officer.

b. GBUAPCD Rules 401 and 402, Fugitive Dust and Nuisance - Rule 401 requires that airborne particles remain on the site they originate from under normal wind conditions. Proper mitigation techniques approved by the GBUAPCD must be implemented to ensure that fugitive dust is contained. This does not apply to dust emissions discharged through a stack or other point source. Rule 402 states that any air discharge that may cause injury or detriment, nuisance or annoyance, or damage to any public property or considerable number of people is regulated. This rule discusses all the health and safety issues that may interfere with public and private areas surrounding the site.

Construction activities and emissions would be regulated through the permitting process and with implementation of standard fugitive dust control measures. Under GBUAPCD Rule 200-A and 200B, the Town would apply for a Permit to Construct prior to construction. Per GBUAPCD Rule 401 and 402, the project would be required to control excessive fugitive dust emissions by implementing dust preventive measures. Such measures may include, but are not limited to, the following: watering of excavated or graded areas; halting construction activities during periods of high winds (i.e., greater than 25 mph averaged over one hour) if dust is visibly generated that travels beyond the site boundaries; and watering or covering of materials transported off-site. Compliance with applicable GBUAPCD Rules and Regulations would ensure that short-term construction air quality impacts are less than significant.

Operational Impacts

The project's proposed improvements include a new segment of the Main Path as envisioned in the Town's adopted Trails System Plan and General Bikeway Plan and two bridges designated for pedestrian and bicycle use, but which could be groomed during winter conditions for cross-country skiing use. Based on guidance provided by the GBUAPCD in the AQMP to demonstrate how the Mammoth Lakes area will attain and maintain the National AAQS for PM_{10}, long-term operational impacts are to be analyzed in relation to the 106,600 VMT limit. The project consists of trail enhancements and will not generate net new vehicle trips, as private vehicles would not be allowed to use the bridges. Furthermore, while maintenance and emergency services vehicles may use the bridge, as necessary, such trips would be limited and not exceed the likely reduction in vehicle trips due to the project's improvement to the Town's MUP trail system. Due to the nature of the project, localized operational emissions are expected to be minimal and no further analysis is necessary. Thus, the project would not result in new long-term stationary sources, nor would it result in a significant number, if any, net new vehicular trips. As such, the project would have a less than significant impact on regional air quality.

c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

Less Than Significant Impact. The project would result in short-term emissions related to construction. No increase in long-term emissions would occur with project implementation. Due to the nature and size of the project, regional emissions for those pollutants and precursors for which the Air Basin is non-attainment are expected to be less than significant. In addition, the GBUAPCD has developed a permitting process prior to the construction of any development within the Basin to ensure that construction activities would not result in an exceedance of California AAQS. The GBUAPCD emphasizes the use of control measures during construction activities. As stated in the Response No. III.b, compliance with applicable GBUAPCD Rules and Regulations would ensure that short-term construction air quality impacts are less than significant. Therefore, cumulative construction impacts would be less than significant in this regard.

d. Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. The GBUAPCD does not have numerical thresholds for criteria pollutants to determine whether the project would result in a cumulatively considerable net increase of PM_{10} or O_3 precursors. Although the project site is located in a region that is in non-attainment for ozone and PM_{10}, the emissions associated with the project would not be cumulatively considerable as the project only involves trail enhancement and connectivity. Therefore, impacts would be less than significant in this regard.

Nearby sensitive receptors to the project site include single-family residential uses along Waterford Avenue. As described in Response No. III.b. above, construction and operation of the project would not result in emissions of criteria pollutants in excessive of established thresholds nor would the project expose surrounding sensitive receptors to substantial pollutant concentrations from construction or operational activities associated with the proposed project. Because emissions of toxic air contaminants (TACs) from diesel-powered construction equipment is expected to be minimal, intermittent, and of short duration, the project is not expected to substantially increase ambient concentrations of TACs regionally or locally.

Compliance with applicable GBUAPCD Rules and Regulations would ensure that short-term construction air quality impacts are less than significant. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations. Areas of vehicle congestion have the potential to create CO "hot spots," which have the potential to exceed State standards. As noted previously, the project does not include any long-term traffic generating sources and as such would not increase the intersection capacity utilization (ICU) of nearby intersections such that a CO hotspot analysis is warranted. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations. As such, localized impacts to off-site sensitive receptors would be less than significant.

e. Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. During project-related construction activities, various diesel-powered vehicles and equipment could create minor odors. These odors are not likely to be noticeable beyond the immediate vicinity and would be temporary and short-lived in nature. Therefore, construction odor impacts would be less than significant. Long-term odors are typically associated with industrial projects involving use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes. Odors are also associated with such uses as sewage treatment facilities and landfills. The project

involves no elements related to these types of uses. Therefore, no long-term odor impacts would occur with project implementation.

IV. BIOLOGICAL RESOURCES

This analysis of impacts to biological resources is based on the General Biological Resources Report for the Waterford Avenue Bridges Project (LSA Project No. TML09OJ), prepared by LSA Associates, Inc. on January 4, 2010. This report is included as Appendix B to this document. LSA's evaluation of biological resources impacts included records searches of applicable databases, review of previous reports prepared for the project site, and field surveys to identify existing and potential biological resources. Please refer to the report in Appendix B for further details regarding the methodology utilized by LSA to conduct the biological resources analysis. Additionally, PCR conducted a site inspection of the project site on July 14, 2010, to peer review and verify the LSA findings as being adequate for purposes of preparing this assessment.

Existing Conditions

Vegetation and Disturbance. The majority of the project site within the Mammoth Creek corridor consists of dense riparian vegetation. Common tree and shrub species in the riparian habitat include various willows (S. lucida, S. exigua, S. sp.) and quaking aspen (Populus tremuloides). Common herbaceous species include stinging nettle (Urtica dioica), tufted hairgrass (Deschampsia cespitosa), common yarrow (Achillea millefolium), and fireweed (Epilobium angustifolium).

Upland vegetation north of Mammoth Creek consists of a mixed conifer fir canopy with a basin sagebrush understory. A small amount of disturbed vegetation occurs near the boundary of the site at the paved ends of North Waterford Avenue and Waterford Avenue. Also, as described in Attachment A, Project Description, the corridor has been previously disturbed by unauthorized dirt trails, a dirt road crossing the creek, and water and sewer utility lines.

Along both sides of Waterford Avenue, the area that could be improved with the proposed MUP includes ornamental landscaping and disturbed/developed (i.e., driveways) areas within the Town's right-of-way. Since the proposed MUP would be developed on areas consisting of ornamental landscaping and disturbed/developed areas, no impacts regarding biological resources would occur for the portion of the proposed MUP along Waterford Avenue south of the Mammoth Creek corridor. Thus, the proceeding analysis of impacts to biological resources focuses on impacts within the Mammoth Creek corridor. The area of potential effect to biological resources within the Mammoth Creek corridor is illustrated in **Figure B-1**, *Area of Potential Effect Within Mammoth Creek Corridor*.

Wildlife. Very few wildlife species were observed during the site visits, although it is likely that this creek corridor is used by many animals due to the high quality of the riparian habitat. Wildlife observed in the creek corridor includes lesser goldfinch (Carduelis psaltria) and northern rough-winged swallow (Stelgidopteryx serripennis).

During the bird breeding season (approximately April I through August 31), trees, shrubs, and other vegetation may provide nest sites for migratory birds within the creek corridor. Most birds and their active nests are protected from "take" (meaning destruction, pursuit, possession, etc.) under the Migratory Bird

PCR

N

0 180 Feet

Area of Potential Effect Within Mammoth Creek Corridor

Waterford Avenue Bridges and Multi-Use Path Project

Source: General Biological Resources Report for the Waterford Bridges Project, Prepared by LSA Associates, January 4, 2010.

FIGURE

B-1

This page intentionally blank.

Treaty Act (MBTA) and/or Sections 3503-3801 of California Fish and Game Code. Activities that cause destruction of active nests, or that cause nest abandonment and subsequent death of eggs or young, may constitute violations of one or both of these laws.

Would the project:

a. Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact With Mitigation Incorporated. *Threatened and Endangered Species*. The United States Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) may list species as threatened or endangered under the Federal and State Endangered Species Acts. The USFWS can designate critical habitat that identifies specific areas, either occupied or unoccupied, that are essential to the conservation of a listed species. Critical habitat areas may require special management considerations or protections.

One State-designated endangered wildlife species, the willow flycatcher, has a low potential to nest in riparian habitat within the project site. If present, project construction-related noise and other human activity could have an adverse effect on the foraging, breeding behavior and/or nesting success of this species. Mitigation Measure BIO-1 has been prescribed that requires a survey prior to beginning construction to ensure that any potentially significant impacts to the willow flycatcher are fully mitigated through appropriate conservation measures.

No other threatened or endangered species have the potential to occur in the project site. The site is not within designated critical habitat of any species.

Other Special Interest Species. The CDFG, USFWS, local agencies, and special interest groups, such as the California Native Plant Society (CNPS), maintain lists of species that they consider to be in need of monitoring. Legal protection for these special interest species varies widely.

One special interest wildlife species identified from the region, the Sierra Nevada mountain beaver (*Aplodontia rufa californica*), may be expected to occur in the project vicinity as suitable habitat occurs along Mammoth Creek. The Sierra Nevada mountain beaver is found in mountain streams with dense deciduous riparian vegetation. It is identified as a Federal and State species of special concern. Any impacts to this species by the project would not be substantial due to the small project site and avoidance of impacts directly within the creek. Neither additional surveys nor additional conservation measures for this species are required for the project.

Several special interest plant species are known to occur in the region. Sensitive plant species were surveyed for in early July 2009, which is within the Spring blooming season. No sensitive plant species were found within the bridge/MUP footprint that would be temporarily or permanently impacted.

Nesting Birds. The riparian habitat in the Mammoth Creek corridor may support bird nests protected under the Migratory Bird Treaty Act (MBTA). Disturbing or destroying active nests is a violation of the MBTA. In

addition, nests and eggs are protected under Fish and Game Code Section 3503. The removal of vegetation during the breeding season is considered a potentially significant impact. Thus, Mitigation Measures BIO-2 and BIO-3 have been prescribed that requires a survey for nests to be conducted seven days prior to the beginning of construction activities and avoidance of any active nest. With implementation of the prescribed mitigation measures, impacts to nesting birds would be reduced to a less than significant level.

Overall, with implementation of Mitigation Measures BIO-1 to BIO-3, potentially significant impacts to species identified as a candidate, sensitive, or special status species and nesting birds would be reduced to a less than significant level.

Mitigation Measures

BIO-1 The presence or absence of willow flycatcher species shall be documented based on site-specific surveys conducted by a qualified biologist according to the Willow Flycatcher Survey Protocol for California (Bombay et al. 2000) prior to the beginning of construction activities. This survey protocol requires a minimum of two surveys, one during the period June 15-25 and one during either June 1-14 or June 26-July 15. If this species is found to occupy the project site and/or surrounding habitat within 300 feet of the construction area, the CDFG shall be immediately notified and an application for a California Endangered Species Act Incidental Take Permit (CDFG permit 2081) will be made. The terms and conditions of the incidental take permit shall be determined by the CDFG and shall ensure the following criteria are met: 1) The authorized take is incidental to an otherwise legal activity; 2) The impacts of the authorized take are minimized and fully mitigated; 3) The measures required to minimize and fully mitigate the impacts of the authorized take are roughly proportional in extent to the impact of the taking, maintain the applicant's objectives to the greatest extent possible, and are capable of successful implementation; 4) Adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with the effectiveness of the measures; and 5) Issuance of the permit will not jeopardize the continued existence of a state-listed species.

Specific measures to minimize the take of the species and to mitigate the impacts caused by take shall be set forth in one or more attachments to the permit. If all mitigation and monitoring will not be completed prior to the start of construction activities that will affect willow flycatcher, a trust account or other form of security acceptable to the CDFG shall be established to ensure that funding will be available to carry out mitigation measures and monitoring requirements in the event the applicant fails to complete these activities.

If all surveys required by the protocol guidelines have been performed and willow flycatcher has not been confirmed on the project site or within 300 feet of the construction area, then it shall be concluded that willow flycatcher is not present during the year of the survey and mitigation requirements shall be as per the CDFG Streambed Alteration Agreement (CDFG 1600 permit). If no willow flycatchers are identified on site, then a similar finding and result will occur.

Avoidance measures may include one or more of the following actions: avoidance of the breeding season for the species; the use of muffled construction equipment and/or hand tools to reduce noise trespass on breeding territories; nest monitoring to detect stress in breeding adults; setbacks around nests where construction activities (such as equipment and materials storage) is restricted; and additional measures to be determined during consultation with CDFG.

BIO-2 If project activities are planned to start during the avian nesting season (April I to August 31), nesting bird surveys shall be conducted by a monitoring biologist within one week prior to disturbance to ensure birds protected under the MBTA are not harmed.

BIO-3 If a bird nest is found pursuant to Mitigation Measure BIO-2, the following restrictions on construction activities shall be required between April 1 to August 31 (or until nests are no longer active as determined by the monitoring biologist): (1) clearing limits shall be established with a maximum of 300 feet in any direction from any active bird nest and (2) access and surveying shall not be allowed within 100 feet of any active nest, or as otherwise determined by a qualified biologist. Any encroachment into the 300-/100-foot buffer area around a known active nest shall be allowed only if a qualified biologist determines that the proposed activity shall not disturb the nest occupants.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the City or regional plans, policies, regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact with Mitigation Incorporated. The Army Corps of Engineers (ACOE), under Section 404 of the Federal Clean Water Act, regulates discharges of dredged or fill material into "waters of the United States." These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a connection to interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or it may be indirect (through a connection identified in ACOE displaying an "ordinary high water mark." In order to be considered a 'Jurisdictional wetland" under Section 404, an area must possess hydrophytic vegetation, hydric soils, and wetland hydrology. The CDFG, under Sections 1600 et seq. of the California Fish and Game Code, regulates alterations to lakes, rivers, and streams. A stream is defined by the presence of a channel bed and banks, and at least an occasional flow of water. The Regional Water Quality Control Board (RWQCB) is responsible for the administration of Section 401 of the Clean Water Act, through water quality certification of any activity that may result in a discharge to jurisdictional waters of the U.S. The RWQCB may also regulate discharges to "waters of the State," including wetlands, under the California Porter-Cologne Water Quality Control Act.

The portion of the Mammoth Creek that includes the project site contains two branches of Mammoth Creek, which are subject to jurisdiction by the CDFG, ACOE, and/or RWQCB as well as adjacent wetlands and riparian vegetation subject to jurisdiction by the CDFG and ACOE. The portion of the project site discussed in this analysis contains adjacent wetlands and riparian vegetation. The boundary of the wetlands and riparian

vegetation were delineated in the Wetland Delineation Report prepared by Intrawest.[2] Approximately 0.4 acre of adjacent wetland/riparian vegetation occurs in the portion of the project site and will be permanently or temporarily impacted to accommodate construction of the project.

Compensatory mitigation for riparian communities will be required for ACOE Section 404, RWQCB Section 401 and CDFG Section 1600 permitting. Typically, riparian habitat subject to ACOE, RWQCB and CDFG jurisdiction is mitigated at a minimum mitigation-to-effect ratio of 2:1 for permanent effects and 1:1 for temporary effects (which may include restoration of the temporary impact area to pre-project conditions). This is consistent with ACOE, RWQCB and CDFG guidelines for no net loss of function and value of riparian/riverine habitat (e.g., wetlands). Mitigation may be in the form of habitat restoration and/or enhancement in on- or off-site areas where similar riparian habitat exists. Prior to beginning construction, a Habitat Mitigation and Monitoring Plan (HMMP) should be developed in coordination with the ACOE, RWQCB and CDFG that ensures no net loss of riparian habitat function and value. In addition, as required in processing of the Section 401 with the RWQCB to ensure water quality standards are met , during construction, the project would implement best management practices (BMPs) such as: siltation fencing; installation of geotextiles along drainage courses and around storm drain inlets; re-vegetation of disturbed areas; and the construction of temporary desiltation retention areas to control storm and snowmelt water runoff, address erosion impacts, and to prevent siltation and other pollutants from reaching downstream areas. Further, project construction would comply with the Lahontan Regional Water Quality Control Board *Guidelines for Erosion Control in the Mammoth Area* and standards set forth in Town of Mammoth Lake Municipal Code Chapter 12.08 which includes measures to control erosion and sedimentation.

With implementation of Mitigation Measure BIO-4, impacts to wetlands or other sensitive natural communities would be reduced to a less than significant level.

Mitigation Measures

BIO-4 To mitigate for riparian habitat/vegetation (up to 0.4 acres) permanently or temporarily impacted as a result of project implementation, ACOE Section 404, RWQCB Section 401 and CDFG Section 1600 permits shall be acquired by the Town prior to construction activities. Also, a Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared by the Town in coordination with and approved by the ACOE, RWQCB and CDFG prior to construction in order to discuss compensatory mitigation for impacts to riparian vegetation as required for ACOE, RWQCB and CDFG authorization. Mitigation may be in the form of habitat restoration and/or enhancement on-site or through purchase(s) into agency-approved in-lieu fee agreements or mitigation banks for an off-site area(s) where like or similar riparian habitat exists. The HMMP shall ensure no net loss of riparian habitat functions, values. The HMMP shall include, but may not be limited to, the following requirements:

[2] *Wetland Delineation Report for the Bike and Pedestrian Path at Waterford and Sherwin Street Crossings, prepared by Intrawest, August 2006.*

- A habitat replacement and/or enhancement ratio of at least 2:1 for permanent impacts and 1:1 for temporary impacts to riparian/riverine habitat and wetlands (which may include restoration of the impact area to pre project conditions);
- A success criterion of at least 75 percent cover of native riparian vegetation for replaced habitat; and
- A minimum 3-year establishment period for the replacement habitat, regular trash removal, and regular maintenance and monitoring activities to ensure the success of the mitigation plan.

c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant Impact With Mitigation Incorporated. Please refer to Response No. IV.b, above. As discussed therein, wetlands occur within the project site. Authorization from the ACOE, RWQCB and CDFG will be required prior to work in wetland areas. Per Mitigation Measure BIO-4, an HMMP would be prepared in order to mitigate for permanent and temporary impacts to ACOE, RWQCB and CDFG jurisdictional areas. Additionally, the HMMP would mitigate for impacts to wetlands as required for CEQA. With implementation of Mitigation Measure BIO-4, less than significant impacts would occur to wetlands.

Mitigation Measures

Refer to Mitigation Measure BIO-4. No additional mitigation measures are required.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant Impact. Wildlife movement includes seasonal migration along corridors, as well as daily movements for foraging. Migration corridors may include areas of unobstructed movement of deer, riparian habitat that provides cover for migrating birds, routes between breeding waters and upland habitat for amphibians, and routes between roosting and feeding areas for birds.

Mammoth Creek and its adjacent habitat likely serve as a wildlife corridor for many wildlife species. The project would add a minor disturbance to this wildlife corridor within the project site through the addition of the MUP and bridges. Wildlife movement would likely not be impeded at this location since the paved path would be narrow and would retain surrounding riparian vegetation. Additionally, the site is already disturbed due to multiple unsanctioned existing dirt paths created by pedestrians to access the stream. One objective of the project is to reduce the number of paths and amount of disturbance to the area. Due to the small project size and potential beneficial effects on habitat quality, the project would not substantially limit wildlife movement in the study area. Thus, a less than significant impact would occur in this regard.

e. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)?

Less Than Significant Impact. Local General Plans and development ordinances may include regulations or policies governing biological resources. For example, policies may include tree preservation, locally

designated species survey areas, local species of interest, and significant ecological areas, in particular the Town of Mammoth Lakes General Plan Resource Management and Conservation Element contains a number of policies related to biological resources conservation. The Town's Municipal Code includes regulations regarding tree removal. The project would be implemented in a manner that would be consistent with the General Plan Resource Management and Conservation Element policies and the Municipal Code. Thus, a less than significant impact would occur in this regard.

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. Section 10(a)(2)(A) of the 1973 Federal Endangered Species Act requires the preparation of a habitat conservation plan (HCP) for incidental take of threatened or endangered species when there is no federal agency involvement in a project. The project site is not subject to any adopted habitat conservation plan. Thus, no impact would occur in this regard.

V. CULTURAL RESOURCES

This analysis of impacts to cultural resources is in part based on the *Cultural Resources Assessment for the Waterford Avenue Bridges Project* (LSA Project No. TML0901), prepared by LSA Associates, Inc. on December 14, 2009. This report is included as Appendix C to this document. LSA's evaluation of cultural resources impacts included records searches of applicable databases and field surveys to identify existing and potential biological resources. Please refer to the report in Appendix C for further details regarding the methodology utilized by LSA to conduct the cultural resources analysis.

Would the project:

a. Cause a substantial adverse change in significance of a historical resource as defined in State CEQA §15064.5?

No Impact. The records search results conducted at the California Historical Resource Information System-Eastern Information Center (CHRIS-EIC) failed to indicate the existence of historic buildings or other historic-period resources within the project site or within close proximity to it. The pedestrian survey indicated that there are no built structures older than 50 years in the immediate vicinity which would be impacted by the proposed project. The only structures within immediate proximity to the project site are modern single-family residences. Thus, no impacts regarding historic resources would occur with project implementation.

b. Cause a substantial adverse change in significance of an archaeological resource pursuant to State CEQA §15064.5?

Less Than Significant Impact With Mitigation Incorporated. Results of the cultural resources records search and a pedestrian field survey of the project site revealed that no known resources are located within the project site. However, there are three archaeological sites located within a 0.25-mile radius of the site. In addition, the records search indicated that along the banks of Mammoth Creek there are a total of 40 additional cultural resources including 25 to the east and 15 to the west. This indicates that Mammoth Creek is an area with high potential for cultural resources.

Based on the results of LSA's field survey and research, development of the MUP would not disturb any known cultural resources. Further, because of the limited ground disturbance associated with the MUP, it is not anticipated that unrecorded cultural resources will be disturbed during construction of the MUP at the bridge approaches or along Waterford Avenue.

However, excavation activities associated with the bridge abutments could encounter previously undisturbed soils. Accordingly, given the high sensitivity for prehistoric cultural resources along Mammoth Creek, there is the potential for encountering unknown archaeological resources. This is considered to be a potentially significant impact. Thus, Mitigation Measures CULT-1 and CULT-2 are prescribed to ensure that potentially significant impacts to unknown archaeological resources are reduced to a less than significant level.

CULT-1 A qualified archaeologist shall be retained prior to the commencement of the project. The archaeologist shall monitor excavation activities associated with the bridge abutments. The archaeologist shall be familiar with the archaeological resources in the region.

CULT-2 If archaeological resources are encountered during implementation of the project, ground-disturbing activities shall temporarily be redirected from the vicinity of the find. The archaeologist shall be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find and determine appropriate treatment. The treatment may include the development and implementation of a data recovery investigation or preservation in place. All cultural resources recovered will be documented on California Department of Parks and Recreation Site Forms to be filed with the CHRIS-EIC. The archaeologist shall prepare a final report about the find to be filed with the Town and the CHRIS-EIC, as required by the California Office of Historic Preservation. The report shall include documentation and interpretation of resources recovered. Interpretation will include full evaluation of the eligibility with respect to the National Register of Historic Places and California Register of Historical Resources and CEQA. The report shall also include all specialists' reports as appendices. The Town shall designate repositories in the event that resources are recovered.

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. According to the Town of Mammoth Lakes General Plan EIR, there are no paleontological resources or sites, and no unique geologic features in the Town.[3] The soils within the urban Growth Boundary are glacial till relatively recent volcanic materials. As such, no paleontological resources are expected to occur within the UGB. Based on these considerations, no impacts to paleontological resources are anticipated to occur with project implementation.

d. Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact With Mitigation Incorporated. Results of the cultural resource records search through the CHRIS-EIC did not indicate any known burials within the project site, or within a one-half mile of the project site.

[3] *Town of Mammoth Lakes General Plan EIR, Section 4.14, Cultural Resources. May 2007.*

However, as discussed under Response No. V.b, the project could include excavation into the previously undisturbed native soils which could yield archaeological resources. Thus, Mitigation Measures CULT-1 and CULT-2 are prescribed to ensure that impacts to archaeological resources would be less than significant. Further, if human remains are encountered during construction excavation and grading activities, State Health and Safety Code Section 7050.5 requires that no further disturbance occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be Native American, the coroner would contact the NAHC within 24 hours. The NAHC would then identify the person(s) thought to be the Most Likely Descendent of the deceased Native American, who may make recommendations for means for treatment or disposition, with appropriate dignity, of the human remains and any associated grave goods. If the Native American remains are not adequately identified, the Town would undertake the measures as necessary in accordance with CEQA Guidelines Section 15064.5(e)(2) to ensure that remains are appropriately reburied. Implementation of these regulatory requirements and Mitigation Measures C-1 and C-2 would ensure that potential impacts associated with the disturbance of human remains would be less than significant.

Mitigation Measures

Refer to Mitigation Measures CULT-1 and CULT-2. No additional mitigation measures are required.

VI. GEOLOGY AND SOILS

Would the project:

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. Damage due to surface rupturing is limited to the actual location of the fault line break, unlike damage from ground shaking, which can occur at great distances from the fault. According to the Town's General Plan EIR, the potential for surface rupture in the Town is considered to be low.[4] There are no known Alquist-Priolo Earthquake Fault Zones within the project site. Thus, no impacts regarding fault rupture are anticipated to occur with project implementation.

ii. Strong seismic ground shaking?

Less Than Significant Impact. The project site is located in a seismically active area, as is the case throughout the Town of Mammoth Lakes. Major faults and fault zones characterize the region. However, the project's proposed improvements, including the bridges, would be built in accordance with the requirements of the Uniform Building Code for Seismic Zone IV. Accordingly, the project design and construction would be conducted under the guidance of a California Registered Structural Engineer. The bridges would be designed in accordance with the ground motion parameters that have been calculated for the project site to withstand

[4] *Town of Mammoth Lakes Final General Plan EIR, Chapter, 4.4 - Geology, Seismicity, Soils, and Mineral Resources, May 2007.*

seismic ground shaking from the maximum credible earthquake anticipated to occur at the project site. Further, the project does not involve the construction of habitable structures that would expose people or structures to substantial adverse effects associated with seismic hazards. Thus, despite the seismically active area, impacts associated with seismic ground shaking would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. According to the Town of Mammoth Lakes General Plan EIR, there appears to be little potential for liquefaction within the Town based on surface and subsurface soils characteristics and depths to groundwater.[5] As discussed in Response No. IV.ii, above, the project's proposed improvements, including the bridges, would be built in accordance with the applicable seismic requirements of the California Building Code (CBC). Regardless, as the project consists of bridge features and a MUP, it does not involve construction of habitable structures that would expose people or structures to substantial to adverse effects associated with seismic hazards. Thus, despite the seismically active area, less than significant impacts would occur in this regard.

iv. Landslides?

No Impact. According to the Town of Mammoth Lakes General Plan EIR, landslides are limited to areas with a combination of poorly consolidated material and slopes that exceed 30 percent. There are no slopes in within or adjacent to the project site that exceed 30 percent. Regardless, as the project consists of bridge features and a MUP, it does not involve the construction of habitable structures that would expose people or structures to substantial to adverse effects associated with landslide hazards. Thus, no impact regarding landslides would occur with project implementation.

b. Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Mapped soils within the project site include soils within the Chesaw family typically found in areas of 5 to 15 percent slopes. The Chesaw series consists of very deep, somewhat excessively drained soils formed in glacial outwash.[6] Soils throughout the project site could be sensitive to disturbance from development and exhibit moderate potential. Clearing, grading, and excavation of the project site would expose soils to short-term erosion by wind and water. It is anticipated that the bridge abutments could require between five to 15 cubic yards of soil excavation. In addition, the bridges and connecting paths would require approximately 10,000 – 12,000 square feet of clearing, which would expose soils.

The project would be subject to compliance with the drainage and erosion design standards specified in Municipal Code Section 12.08.090, as applicable. Further, the project would be subject to compliance with the requirements set forth in the National Pollutant Discharge Elimination System (NPDES) Storm Water General Construction Permit for construction activities; refer to Response No. IX.a, below. Following compliance with the requirements for erosion control specified in Code Section 12.08.090 and the NPDES permit, project impacts associated with soil erosion would be less than significant impact.

---

5 *Ibid.*

6 *General Biological Resources Report for the Waterford Bridges Project, prepared by LSA Associates, January 4, 2010.*

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potential result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less Than Significant Impact. As described above, impacts regarding landslides and liquefaction would be less than significant (refer to Response Nos. VI.a.iii-iv). Lateral spreading involves displacement of large blocks of ground down gentle slopes or towards stream channels. Lateral spreading is typically a type of displacement of major concern associated with liquefaction. As described above, liquefaction impacts are considered to less than significant and the project site does not have any know history of significant lateral spreading occurrences. Thus, the potential for lateral spreading is considered to be low. Subsidence is a localized mass movement that involves the gradual downward settling or sinking of the ground, resulting from the extraction of mineral resources, subsurface oil, groundwater, or other subsurface liquids, such as natural gas. The project site is not located within an area of known subsidence associated with oil or ground water withdrawal, peat oxidation or hydro-compaction. Furthermore, the project does not include the extraction of oil or groundwater from aquifers under the project site. As such, the potential for subsidence to occur is low. Based on the above, impacts associated with unstable geology and soils would be less than significant.

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact. Expansive soils are typically associated with fine-grained clayey soils that have the potential to shrink and swell with repeated cycles of wetting and drying. Although not anticipated, expansive soils if encountered within project site would be removed and/or replaced as part of standard construction practices, as necessary, pursuant to the Town of Mammoth Lakes and/or CBC building requirements. Therefore, project implementation would result in less than significant impacts associated with expansive soils and substantial risks to life or property would not occur.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The project would not involve the use of septic tanks or alternative wastewater disposal systems. As such, no impact would occur in this regard.

VII. GREENHOUSE GAS EMISSIONS

Would the project:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance?

Existing Conditions

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation and storms. Greenhouse gases (GHGs) are those compounds in the Earth's atmosphere which play a critical role in determining temperature near the Earth's surface. Increased concentrations of GHGs in the Earth's atmosphere have been linked to global climate change and

such conditions as rising surface temperatures, melting icebergs and snowpack, rising sea levels, and the increased frequency and magnitude of severe weather conditions. Historical records indicate that global climate changes have occurred in the past due to natural phenomena; however some data indicate that the current global conditions differ from past climate changes in rate and magnitude; thus, the current changes in global climate have been attributed to anthropogenic activities by the Intergovernmental Panel on Climate Change (IPCC).[7]

GHGs include carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor (H_2O), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). CO_2 is the most abundant GHG in the atmosphere, and represents 77 percent of total GHG emissions. GHGs are the result of both natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions. In the state of California, the transportation sector is the greatest source of GHG emissions, accounting for 38 percent of total GHG emissions in 2004, the latest year for which data are available.[8]

In response to growing scientific and political concern regarding global climate change, California has recently adopted a series of laws to reduce both the level of GHGs in the atmosphere and to reduce emissions of GHGs from commercial and private activities within the State. In September 2002, Governor Gray Davis signed Assembly Bill (AB) 1493, requiring the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the State.

In September 2006, Governor Arnold Schwarzenegger signed the California Global Warming Solutions Act of 2006, also known as AB 32, into law. AB 32 commits the State to achieving the following:

- A reduction of GHG emissions to 2000 levels by 2010 (which represents an approximately 11 percent reduction from business as usual).
- A reduction of GHG emissions to 1990 levels by 2020 (approximately 30 percent below business as usual).

To achieve these goals, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved.

The Governor's Office of Planning and Research (OPR) has not yet adopted formal significance thresholds; however, it issued a guidance document on June 19, 2008 to provide interim advice to lead agencies regarding the analysis of GHG emissions in environmental documents. The technical advisory suggests three components for CEQA disclosure: quantification of GHG emissions from a project's construction and operation, determination of significance of the project's impact to climate change, and if the project is found to be significant, the identification of suitable alternatives and mitigation measures. The analysis contained

[7] *Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report, The Physical Science Basis, Summary for Policy Makers, 2007.*

[8] *GHG emissions by Sector, 2008.*

herein follows this guidance. CAPCOA released a white paper, entitled *CEQA and Climate Change*, in January, 2008. The white paper examines various threshold approaches available to air districts and lead agencies for determining whether GHG emissions are significant. One of CAPCOA's proposed approaches in the white paper is a "non-zero" threshold of 900 annual metric tons for residential and office projects. This threshold is considered appropriate for this project and will be utilized for determining significance on a project level.

Impact Analysis

Less Than Significant Impact. Section 15064.4 of the *CEQA Guidelines* states "…[a] lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) [u]se a model or methodology to quantify greenhouse gas emissions resulting from a project….; or (2) [r]ely on a qualitative analysis or performance based standards." It was determined that for the proposed project, a quantitative analysis was most appropriate. However, the Town of Mammoth Lakes has not yet established specific quantitative significance thresholds.

Section 15064.7(c) states "when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies…". The CAPCOA released white paper, entitled *CEQA and Climate Change*, in January, 2008 examines various threshold approaches available to air districts and lead agencies for determining whether GHG emissions are significant, including a number of "non-zero" thresholds for land use development projects. In the absence of promulgated numeric thresholds, the most conservative (lowest) threshold suggested by CAPCOA, 900 tons per year, will be used to assess potential impacts from this project.

GHG Emission Impacts

Not all GHGs exhibit the same ability to induce climate change; as a result, GHG contributions are commonly quantified in the equivalent mass of CO_2, denoted as CO_2e. CO_2e allows for comparability among GHGs with regard to the global warming potential (GWP). Mass emissions are calculated by converting pollutant specific emissions to CO_2e emissions by applying the proper global warming potential (GWP) value.[9] These GWP ratios are available from the United States Environmental Protection Agency (USEPA) and published in the California Climate Action Registry (CCAR) Protocol. By applying the GWP ratios, project related CO_2e emissions can be tabulated in metric tons per year. The CO_2e values are calculated for the entire construction period. Construction output values used in this analysis are adjusted to represent a CO_2e value representative of CO_2, CH_4, and N_2O emissions from project construction activities. HFCs, PFCs, and SF_6 are not byproducts of combustion, the primary source of construction-related GHG emissions, and therefore are not included in the analysis. Construction CH_4 and N_2O values are derived from factors published in the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories. These values are then converted to metric tons of CO_2e for consistency.

[9] *CO_2e was developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) 1996.*

Construction

Construction activities associated with the project could commence as early as Spring 2012. It is anticipated that construction of the bridges and trail enhancements would occur over an approximate four month period. The project's construction activities would include mass grading, fine grading, and construction, which includes asphalt paving. Trail improvements will take place intermittently but would not be expected to use large heavy equipment. Emissions were calculated from fossil fuel powered on-site construction equipment and off-site vehicles used to transport construction workers and supplies.

To be consistent with guidance from the GBUAPCD for calculating criteria pollutants from construction activities, GHG emissions from on-site construction activities and off-site hauling and construction worker commuting are considered as project-generated. Construction activities associated with the project are estimated to emit a total of 83 tons of CO_2e over the duration of construction. Results of this analysis are presented in **Table B-1**, *Construction Greenhouse Gas Emissions*, below.

Table B-1

Construction Greenhouse Gas Emissions

Emission Source	CO_2e (Metric Tons)
Construction (Total – Years 2011-2012)	83

Source: PCR Services Corporation, 2010.

Construction emissions of 83 metric tons CO2e per year, are significantly lower than the 900 annual metric ton screening level threshold selected for the project, and are not expected to result in a significant impact at the project level.

Operation

Operation of the project is expected to result in minimal impact in GHG emissions. As the nature of the project is to meet the Town's adopted Trails System Plan and General Bikeway Plan by constructing a new segment of the Main Path and two bridges, the project is not expected to increase emissions in operation. The project is not expected to significantly increase GHG emissions resulting from vehicular trips or energy usage. The project consists of trail enhancements and will not generate net new vehicle trips, as private vehicles would not be allowed to use the bridges, however, maintenance and emergency services vehicles services may use the bridge, as necessary. Emissions from trail maintenance and improvement activities are expected to be negligible, particularly in light of potential reductions in vehicular trips due to the proposed trail improvements. Therefore, due to the nature of the project, operational greenhouse gas emissions are expected to be minimal and no further analysis is necessary.

As such, construction and operation of the project's direct and indirect GHG emissions will have a less than significant impact on the environment, based on the applicable threshold of significance.

Due to the complex physical, chemical and atmospheric mechanisms involved in global climate change, there is no basis for concluding that the project's very small theoretical emissions increase could actually cause a measurable increase in global GHG emissions necessary to influence global climate change. The GHG emissions of the project alone will not likely cause a direct physical change in the environment. It is global emissions in their aggregate that contribute to climate change, not any one source of emissions alone. Therefore, due to the incremental amount of GHG emissions estimated for this project, the lack of any evidence for concluding that the project's GHG emissions could cause any measurable increase in global GHG emissions necessary to force global climate change, and the fact that the project by its nature has the potential to reduce GHG emissions, the project is considered not to hinder the goals of AB32. Conventional cumulative air quality analyses consider related projects; this approach is not appropriate because proximity is irrelevant to the transport and accumulation of GHG in the Earth's atmosphere. Thus, because construction and operation of the project would result in total GHG emissions significantly less than the 900 annual metric ton screening level threshold proposed by CAPCOA, it is not considered to have a significant impact on a cumulative level.

b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. The Town of Mammoth Lakes has not yet developed a Greenhouse Gas Reduction Plan that meets the requirements set forth in the latest OPR guidelines. The Town has not adopted regulations for the purpose of reducing GHGs applicable to this project. As discussed above, the project is not expected to result in a significant increase in GHG emissions and as the project's GHG emissions would be well below the 900 ton threshold proposed by CAPCOA. As a result, the project would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions.

VIII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. Hazardous materials may be used during the construction phase of the project. Hazardous materials that may be used include, but are not limited to, fuels (gasoline and diesel), paints and paint thinners and possibly herbicides and pesticides. Generally these materials would be used in concentrations that would not pose significant threats during the transport, use and storage of such materials. Furthermore, it is assumed that potentially hazardous materials would be contained, stored, and used in accordance with manufacturers' instructions and handled in compliance with applicable standards and regulations, including California Occupational Safety and Health Administration requirements, and Title 8 and 22 of the Code of California Regulations. Accordingly, risks associated with hazards to the public or environment posed by the transport, use or disposal of hazardous materials during construction are considered less than significant due to compliance with applicable standards and regulations.

Over the long-term, the project would not involve facilities that include substantial storage, use, disposal, or generation of hazardous materials or wastes. Maintenance activities may involve the occasional use of hazardous materials. Potentially toxic or hazardous compounds associated with maintenance activities

typically consist of readily available solvents, cleaning compounds, paint, herbicides, and pesticides. These hazardous materials are regulated by stringent federal and state laws mandating the proper transport, use, and storage of hazardous materials in accordance with product labeling. The use and storage of these substances is not considered to present a health risk when used in accordance with manufacturer specifications and with compliance to applicable regulations.

Overall, construction and operation of the project would result in a less than significant impact with regard to routine transport, use, or disposal of hazardous materials relative to the safety of the public or the environment.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. As discussed in Response No. VIII.a, the project would not involve facilities that include substantial storage, use, disposal, or generation of hazardous materials or wastes. Further, existing federal, State and local regulations exist to ensure hazardous materials use, storage, and disposal activities would not result in significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Given the limited use of hazardous materials associated with the project, and anticipated compliance with associated federal, State, and Town regulations and requirements, impacts related to the accidental release of hazardous materials would be less than significant.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. No schools are located within one-quarter mile of the project site.[10] Regardless, as discussed above, the project would not involve facilities that include substantial storage, use, disposal, or generation of hazardous materials or wastes. Further, it is assumed that the limited use of hazardous materials that would occur would be carried out in conformance with manufacture guidelines and applicable federal, State and local regulations that exist to ensure hazardous materials use, storage, and disposal would not result in a significant hazard to the public or the environment, including exposure of school sites to hazardous materials or emissions. No impact would occur in this regard.

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. The EnviroStor Database located on the State of California's Department of Toxic Substances Control website contains a listing of the following types of hazardous waste cleanup sites: federal Superfund sites, State response sites, voluntary cleanup sites, and school cleanup sites. None of these types of sites have been identified on the project site in the EnviroStor Database.[11] Accordingly, project implementation would not be subject to existing hazards from such a site. Thus, no impact would occur in this regard.

[10] *Google Maps, 2010.*

[11] *The EnviroStor Database was accessed on November 20, 2010 at: http://www.envirostart.dtsc.ca.gov/public/.*

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The project is not located within two miles of a public airport or public use airport. The Mammoth Lakes Airport is located approximately seven miles east of the project site. The project is not located within the boundary of any airport land use plan and would therefore not result in a safety hazard for people using the Project site. Thus, no impact would occur in this regard.

f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for the people residing or working in the area?

No Impact. There are no private airstrips in the vicinity of the project site. Therefore, the project would not result in airport-related safety hazards for the people residing or working in the area. No impact would occur in this regard.

g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. Project implementation would not alter any roads or infrastructure comprising emergency response or evacuation routes. In fact, as the proposed bridge crossings could be utilized by emergency vehicles, the project would have a beneficial impact with regards to emergency response.

h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less Than Significant Impact. The Town and surrounding area have been rated as having a very high fire potential. Thus, any development within the Town could be subject to wildland fire hazards. However, implementation of the proposed project would not include habitable structures that could expose people to hazards associated with wildland fires. As part of project construction activities, dense vegetation would be cleared to accommodate the proposed MUP and bridges. Such vegetation removal would have the effect of reducing potential fire fuels within project site. In addition, construction of the project would be subject to compliance with applicable requirements of the Uniform Fire Code, which was amended by the Mammoth Lakes Fire Protection District and adopted as the Town Fire Code, in order to ensure that Fire Code regulations are met. Based on these considerations, project implementation would result in a less than significant impact regarding the exposure of people or structures to a significant risk involving wildland fires.

IX. HYDROLOGY AND WATER QUALITY

Would the project:

a. Violate any water quality standards or waste discharge requirements?

Less Than Significant Impact. The proposed project would result in less than once acre of total disturbance, including both the bridges and MUP components. During construction, the project would

implement best management practices (BMPs) such as: siltation fencing; installation of geotextiles along drainage courses and around storm drain inlets; re-vegetation of disturbed areas; and the construction of temporary desiltation retention areas to control storm and snowmelt water runoff, address erosion impacts, and to prevent siltation and other pollutants from reaching downstream areas. Further, project construction would comply with the Lahontan Regional Water Quality Control Board *Guidelines for Erosion Control in the Mammoth Area* and standards set forth in Town of Mammoth Lake Municipal Code Chapter 12.08 which includes measures to control erosion and sedimentation. As discussed in Response No. IV.b, the project would also be required to ACOE Section 404, RWQCB Section 401 and CDFG Section 1600 permits. The conditions set forth in these permits would further serve to minimize water quality impacts in Mammoth Creek. In addition, as the bridge abutments would be placed outside of the creek bed and its banks, construction of the project would not require stream dewatering, stream diversion or disposal of any wastewater from construction site dewatering. Compliance with the above referenced regulatory requirements would ensure that impacts related to water quality during the construction activities would be less than significant.

During operation, the project would install the proposed bridges and MUP facilities on existing undeveloped vacant land within the Mammoth Creek corridor. In addition, a MUP would be located along Waterford Avenue. The uses of the bridges and MUP would be limited to non-motorized uses (i.e., pedestrians, bikers, and cross-country skiers), with the exception of maintenance and emergency vehicles. The maintenance and emergency vehicles that would utilize the MUP and bridges could introduce small quantities of pollutants on a limited/periodic basis. However, it is unlikely that the quantity of pollutants would be substantial enough to violate any water standards. Otherwise, the project would not result in the introduction of new pollutants into the storm water system that do not currently occur. Thus, water quality impacts during operation of the project would be less than significant.

b. Substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned land uses for which permits have been granted)?

Less Than Significant Impact. Development of the project would result in the creation of impervious and semi-pervious surfaces. An increase in the amount of impervious surfaces can reduce the amount of water that recharges the local groundwater basin. A reduction in aquifer recharge can subsequently result in a depletion of groundwater supplies. However, the increase in the amount of impervious surfaces as a result of implementation of the project is considered insignificant due to the limited surface area of such improvements and therefore significant impacts on the recharge characteristics of the local groundwater basin are not expected. Furthermore, the project does not have the capacity to increase the amount of water consumed regionally through withdrawals from groundwater sources. Therefore, less than significant impacts would occur regarding groundwater supplies or recharge.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

and

d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off site?

Less Than Significant Impact (c-d). The project included development of two bridge structures over Mammoth Creek. As the bridge abutments would be placed outside of the creek bed and its banks, construction of the project would not require stream dewatering or diversion. A Flood Study was prepared for the project by Triad Holmes Associates and is included in Appendix D of this document. According to the Flood Study, during a 100-year storm, the depth of water in the creek branches varies from approximately 1 to 2.5 feet. In the vicinity of the bridge crossings, the depth of water is 2.15 feet in the creek and 0.8 feet in the wetland areas between the two creek branches. Velocities in the vicinity of the bridge crossings are approximately 0.06 feet. The proposed bridge crossings could raise the water surface by 0.06 feet during a 100-year storm. To ensure that the proposed bridges do not substantially impede or redirect flood flows or cause erosion damage to abutments and trails, or flooding on upstream and downstream property, the proposed bridges would be be higher than the depth of water (2.5 feet) in the creek during a 100-year storm event.

Also, as discussed in Response No. IX.a above, compliance with the Town's applicable erosion control regulations and State water quality regulations would ensure that impacts related to water quality, including soil erosion, during construction activities would be less than significant.

Overall, with implementation of the project design features described above, the drainage patterns of the project site would not be substantially altered in a manner which would result in substantial erosion, siltation or flooding on- or off-site. Therefore, impacts related to alteration of drainage patterns associated with project implementation would be less than significant.

e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. As discussed under Response Nos. VIII.c-d, the drainage pattern of the project site would not be substantially altered with implementation of the project and appropriate drainage improvements would be made on-site, as necessary, to contain and direct stormwater flows to the local storm drain system. Given the size of the proposed physical improvements associated with the bridges and MUP, the amount of impervious surfaces under the proposed conditions would not substantially increase the volume of runoff compared to existing conditions. Therefore, the project would not create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems.

Furthermore, as discussed in Response No. IX.a above, compliance with the Town's applicable erosion control regulations and State water quality regulations would ensure that impacts related to water quality would be less than significant. Also, the project does not include land uses that would generate new sources of polluted runoff.

f. Otherwise substantially degrade water quality?

Less Than Significant Impact. As discussed in Response No. IX.a, project implementation would not substantially degrade water quality. As described therein, compliance with applicable water quality regulations would ensure that short- and long-term water quality impacts would be less than significant. In addition, the project does not include land uses that would generate new sources of polluted runoff that would otherwise degrade water quality.

g. Place housing within a 100-year flood plain as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The project would not include the development of housing. Thus, no impact would occur in this regard.

h. Place within a 100-year flood plain structures which would impede or redirect flood flows?

Less Than Significant Impact. As stated in Response No. IX.c-d, the project includes two bridges over Mammoth Creek. To ensure that the proposed bridges do not impede or redirect flood flows, or cause erosion damage to abutments and trails, or flooding on upstream and downstream property, the proposed bridges would be designed and constructed to ensure that they are higher than the depth of water (2.5 feet) in the creek during a 100-year storm event. Thus, a less than significant impact would occur in this regard.

i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The project does not include any habitable structures, such as buildings or housing that would be exposed to flooding impacts. In addition, the proposed bridges structures would be structurally designed to withstand water pressure loads associated with a 100-year storm. As such, no impact would occur in this regard.

j. Inundation by seiche, tsunami, or mudflow?

No Impact. A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank. A tsunami is a great sea wave, commonly referred to as a tidal wave, produced by a significant undersea disturbance such as tectonic displacement of the sea floor associated with large, shallow earthquakes. Mudflows result from the downslope movement of soil and/or rock under the influence of gravity.

The project site is not subject to tsunami hazards. The project is not proposing any habitable structures near a large body of water that would be subject to hazards created by a seiche. The project site is not surrounded by steep hillsides and as such is not subject to mudflow hazards. Regardless, the project does not propose any habitable structures that would expose people or property to adverse hazards in these regards. Thus, no impacts associated with inundation by seiche, tsunami, or mudflows would occur with project implementation.

X. LAND USE AND PLANNING

Would the project:

a. Physically divide an established community?

No Impact. The project by proposing a new segment of the Main Path over Mammoth Creek that would close an existing gap in the Main Path from Old Mammoth Road along Waterford Avenue to a segment of the existing Main Path north of Mammoth Creek near North Waterford Avenue. The new trail segment would increase access between the residential neighborhoods located north and south of Mammoth Creek. Accordingly, no impact related to the physical division of an established community would result from project implementation as it would be beneficial in this regard.

b. Conflict with applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The project is proposing to construct a new segment of the Main Path envisioned in the Town's adopted Trails System Plan and General Bikeway Plan.[12] The new trail segment would close an existing gap in the Main Path from Old Mammoth Road along Waterford Avenue to a segment of the existing Main Path, north of Mammoth Creek near North Waterford Avenue. The proposed MUP, including the bride crossings, is an allowable use within Residential Single Family, Rural Residential, Resort and Open Space Stream Corridor (OSSC) zoning designations and Low Density General Plan land use the designation within the project site.

Overall, the project would be consistent with the with the applicable land use plans, policies, and regulations pertaining to the site and a less than significant impact would occur in this regard.

c. Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. There are no habitat conservation plans or natural community conservation plans that are applicable to the project site and as such. Thus, no impact would occur in this regard.

XI. MINERAL RESOURCES

Would the project:

a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact (a-b). The project site is not located within a mineral resources area identified by the Town's General Plan.[13] Further, implementation of the project would not impede the potential for direct use or

[12] *See Figure 1, Mammoth Lakes Trails System Plan, in the Mammoth Lakes Trails System Master Plan (May 1991). Also, see Figure 4, General Bikeway Plan Map, in the Town of Mammoth Lakes General Bikeway Plan (2008).*

[13] *Refer to Figure 4.4-1, Mineral Resources Map, in the Town of Mammoth Lakes General Plan EIR, March 2007.*

future exploration of mineral resources. Therefore, the project would result in no impact regarding mineral resources.

XII. NOISE

Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact With Mitigation Incorporated. The following analysis evaluates the potential noise impacts at noise-sensitive land uses resulting from construction and operation of the project.

Applicable Noise Regulations

Noise

Chapter 8.16 of the Mammoth Lakes Municipal Code (Town Noise Ordinance) controls unnecessary, excessive and annoying noise in the Town. However, this chapter does not control noise sources that are preempted by other jurisdictions including in-flight aircraft and motor vehicles operating on public rights-of-way. As outlined in Section 8.16.070 of the Town Noise Ordinance and presented in **Table B-2**, *Town Exterior Noise Ordinance Standards*, the Town has established maximum exterior noise levels based on land use zones. Noise levels in excess of the levels indicated in Table B-2 are conditionally permitted, depending on the intensity of the noise and the duration of exposure.[14] The Town Noise Ordinance also states that interior noise levels resulting from outside sources within residential units shall not exceed 45 dBA L_{50} between 7 A.M. and 10 P.M., and 35 dBA L_{50} between 10 P.M. and 7 A.M.[15] If the existing interior or exterior ambient noise level exceeds that permissible within the noise limit categories, the allowable noise exposure standard is increased in five dBA increments in each category as appropriate to encompass or reflect the ambient noise level (Section 8.16.070 and 8.16.080 of the Town Noise Ordinance).

The Town Noise Ordinance identifies specific restrictions regarding construction noise. As outlined in Section 8.16.090 of the Town Noise Ordinance and presented in **Table B-3**, *Town Construction Noise Standards,* the Town has established maximum exterior noise levels from the operation of equipment used in construction, drilling, repair, alteration or demolition work. All mobile and stationary internal-combustion-powered equipment and machinery is also required to be equipped with suitable exhaust and air-intake silencers in proper working order.

[14] *Noise levels may not exceed the exterior noise standard for a cumulative period of more than thirty minutes in any hour; or plus five decibels for a combined period of more than fifteen minutes in any hour; or plus ten decibels for a combined period of more than five minutes in any hour; or plus fifteen decibels for a combined period of more than one minute in any hour; or plus twenty decibels for any period of time (maximum noise level).*

[15] *Noise levels may not exceed the interior noise standard for a cumulative period of more than five minutes in any hour; or plus five decibels for a combined period of more than one minute in any hour; or plus ten decibels for any period of time (maximum noise level).*

Table B-2

Town Exterior Noise Ordinance Standards

Receiving Land Use		Noise Zone Classification[a]		
Maximum Noise Levels (dBA) L50	Time Period	Rural/ Suburban	Suburban	Urban
One and Two Family Residential	10 P.M. to 7 A.M.	40	45	50
	7 A.M. to 10 P.M.	50	55	60
Multiple Dwelling Residential/Public Space	10 P.M. to 7 A.M.	45	50	55
	7 A.M. to 10 P.M.	50	55	60
Limited Commercial/Some Multiple Dwellings	10 P.M. to 7 A.M.	55	55	55
	7 A.M. to 10 P.M.	60	60	60
Commercial	10 P.M. to 7 A.M.	60	60	60
	7 A.M. to 10 P.M.	65	65	65
Light Industrial	Anytime	70	70	70
Industrial	Anytime	75	75	75

[a] *The classification of different areas of the community in terms of environmental* noise *zones shall be determined by the* noise *control officer, based upon assessment of community* noise *survey data. Additional area classifications should be used as appropriate to reflect both lower and higher existing ambient levels than those shown. Industrial* noise *limits are intended primarily for use at the boundary of industrial zones rather than for* noise *reduction within the zone.*

Source: Town Noise Ordinance, Chapter 8.16.070 of Municipal Code.

Ground-Borne Vibration

The Town has established a vibration threshold within the Noise Ordinance. According to Section 8.16.090 of the Ordinance, operating or permitting the operation of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at one hundred fifty feet (forty-six meters) from the source if on a public space or public right-of-way.

Significance Thresholds

Construction Noise

The threshold for construction is based on the Town noise ordinance. Therefore, the project would have a significant impact on noise levels, during construction if:

- *For single-family residential uses, construction noise levels associated with mobile equipment would exceed 75 dBA L_{eq} during the daily hours of 7:00 A.M. to 8:00 P.M. except Sundays and legal holidays.*

Operation Noise

For noise sensitive receptors, based on the Town noise ordinance described above, the project would have a significant noise impact if:

Table B-3

Town Construction Noise Standards

Construction Equipment [a]	Type I Areas Single-Family Residential	Type II Areas Multi-Family Residential	Type III Areas Semi-Residential Commercial [a]	Business Properties
Mobile Equipment [b]				
Daily, except Sundays and legal holidays; 7:00 A.M. to 8:00 P.M.	75 dBA L_{50}	80 dBA L_{50}	85 dBA L_{50}	----
Daily, 8:00 P.M. to 7:00 A.M. and all day Sunday and legal holidays	60 dBA L_{50}	64 dBA L_{50}	70 dBA L_{50}	----
Daily, including Sunday and legal holidays, all hours	----	----	----	85 dBA L_{50}
Stationary Equipment [c]				
Daily, except Sundays and legal holidays; 7:00 A.M. to 8:00 P.M.	60 dBA L_{eq}	65 dBA L_{eq}	70 dBA L_{eq}	----
Daily, 8:00 P.M. to 7:00 A.M. and all day Sunday and legal holidays	50 dBA L_{eq}	55 dBA L_{eq}	60 dBA L_{eq}	----
Daily, including Sunday and legal holidays, all hours	----	----	----	75 dBA L_{50}

[a] *All mobile or stationary internal combustion engine-powered equipment or machinery shall be equipped with suitable exhaust and air intake silencers in proper working order.*

[b] *Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment (e.g., excavator, backhoe, dozer, etc.).*

[c] *Maximum noise levels for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment (e.g., generators, compressors, etc.).*

Source: Town Noise Ordinance, Chapter 8.16.090 of Municipal Code.

- *For one and two family residential uses, operational noise levels would exceed 55 dBA L_{eq} the hours of 7:00 A.M. to 10:00 P.M. and 45 dBA L_{eq} the hours of 10:00 P.M. to 7:00 A.M.*

Existing Conditions

The project site is located in the southwestern portion of the developed part of Town. The project site includes trail improvements along Waterford Avenue between Old Mammoth Road and the existing Main Path, located on the northern side of Mammoth Creek. Along Waterford Avenue, the zoning is Residential Single Family on the east side of the road and Rural Residential on the west side of the Road.

Short-Term Construction Noise

Construction noise is a temporary event and is expected to occur only during daytime hours; such as between the hours of 7:00 A.M. to 8:00 P.M. daily and not expected to occur on Sundays or legal holidays. Construction activities for the project are anticipated to last approximately 3-4 months. Clearing and grubbing of vegetation would take approximately 2-3 weeks. Preparation of the sub-grade and base would

take approximately 2-3 weeks. Concrete work and paving would take approximately 2-4 weeks. Other construction activities such as utility relocation would occur intermittently, as needed, throughout the construction process. Typical construction equipment anticipated to be utilized during project construction includes loaders, excavators, dump trucks, rollers, paving and concrete equipment.

Noise from the construction activities would be generated by heavy equipment including such as a loaders, excavators, dump trucks, rollers, dozer, grader, crane, forklift, and paving and concrete equipment used during various stages of construction operations. Noise levels generated by construction equipment would range from 76 to 81 dBA L_{eq} at a distance of 50 feet from the construction equipment.[16] The nearest residential properties to the proposed bridge construction site are within approximately 70 feet. The nearest residential uses along Waterford Avenue where the MUP would be located are within approximately 50 feet. It is estimated that the maximum bridge construction related noise levels at the nearest residential receptors would be up to 78 dBA. For the MUP construction, the construction activities are limited to clearing and grubbing of vegetation and paving and construction related noise levels would be up to approximately 77 dBA at the residential uses along Waterford Avenue. The construction noise levels would be up to approximately 3 dBA above the allowable 75 dBA noise standard at the nearest single-family residential use from the bridge site and the MUP site.

Noise levels usually diminish at a rate of approximately 6 dBA per doubling of distance. Thus, a noise level of 78 dBA at 70 feet to the nearest residential uses would be about 72 dBA at 140 feet at the center of the bridge construction site. As heavy equipment passes near the project boundary of the bridge construction site, the peak construction noise level at a given moment in time could reach 78 dBA; however, as the equipment travels near the center of the project site, it would be approximately 140 feet from the closest residential uses to the north and generate a much lower noise level of approximately 72 dBA.

Construction activities are expected to occur only during daytime hours as described by *Section 8.16.090 of the Town Noise Ordinance*. However, the construction-period noise levels of the bridge and the MUP construction would likely exceed 75 dBA at the closest single-family residential uses without incorporation of mitigation measures. This is considered a potentially significant impact. Implementation of Mitigation Measures NOISE-1 and NOISE-2 would reduce noise levels by more than 3 dBA such that construction noise levels would be below the 75 dBA threshold. Thus, implementation of the mitigation measures would ensure that potentially significant construction noise impacts are reduced to a less than significant level.

Mitigation Measures

NOISE-1 Noise-generating equipment operated at the project site shall be equipped with the most effective noise control devises, i.e., mufflers, lagging, and/or motor enclosures. All equipment shall be properly maintained to assure that no additional noise, due to worn or improperly maintained parts, would be generated.

NOISE-2 Construction and grading activities shall be scheduled so as to avoid operating several pieces of heavy equipment such as loaders, excavators, dump trucks, dozer, grader, and

[16] *Federal Highway Administration Roadway Construction Noise Model User's Guide, 2006.*

concrete equipment simultaneously (limited to operate maximum 2 pieces of heavy equipment simultaneously).

Operational Noise

The existing noise environment in the project vicinity is dominated by traffic noise from nearby roadways, as well as residential activities. Long-term operation of the project would have a minimal effect on the noise environment in proximity to the project site. Noise generated by the project would result primarily from trail activities along Waterford Avenue. Trail activities would be limited to pedestrians (hikers), bicyclists, and occasional maintenance activities (trucks, power equipment). Private vehicles including recreational vehicles such as ATVs, snowmobiles and off-road motorcycles will not be permitted on the trail. Therefore, the project is not expected to produce noise levels that would exceed established City noise levels. Individual noise nuisances would be addressed through the City's police department.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. The project would be constructed using typical construction techniques. Foundations for the bridge will be excavated and not be driven (pile driving) which typically causes excessive vibration. As such, it is anticipated that the equipment to be used during construction would not cause excessive groundborne noise or vibration. Post-construction on-site activities would be limited to trail uses that would not generate excessive groundborne noise or vibration. As such, ground-borne vibration and noise levels associated with the project would be less than significant.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. The existing noise environment in the project area is dominated by traffic noise from nearby roadways, as well as nearby residential activities. Long-term operation of the project would not have a significant effect on the community noise environment in proximity to the project site. Trail related activities, as discussed in Response No XII.a, would have a less than significant impact on community noise levels. As such, noise impacts in this regard would be less than significant.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact with Mitigation Incorporated. The project would result in a temporary increase in ambient noise near the project site during the construction period. Construction noise impacts are discussed in Response No. XII.a. Noise generated by on-site construction activities would have a less than significant impact on surrounding uses with incorporation of the prescribed mitigation measures.

Mitigation Measures

Refer to Mitigation Measures NOISE-1 and NOISE-2. No additional mitigation measures are required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The project site is not located within an airport land use plan area or within two miles of a public airport or public use airport. Therefore, construction or operation of the project would not expose people to excessive airport related noise levels. No impact would occur in this regard.

f) For a project within the vicinity of a private airstrip, heliport or helistop, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The project site is not located within the vicinity of a private airstrip, or heliport or helistop. Therefore, the project would not expose people residing or working in the project area to excessive noise levels from such uses. No impact would occur in this regard.

XIII. POPULATION AND HOUSING

Would the project:

a. Induce substantial population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. Project implementation would not result in the construction of new homes or businesses. While the project is expected to improve recreational experiences for residents and visitors in the project area, in and of itself, the project is not expected to change the population in the Town in the near- or long-term. Accordingly, the project is not expected to induce substantial population growth directly or indirectly and no impact would occur in this regard.

b. Displace substantial numbers of existing housing necessitating the construction of replacement housing elsewhere?

c. Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?

No Impact (b-c). Project implementation would not displace existing housing. Therefore, no impact would occur to existing housing.

XIV. PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a. Fire protection.

No Impact. Fire protection services are provided by Mammoth Lakes Fire Protection District. The scope of the project would be limited to construction of a MUP and associated bridge crossings over Mammoth Creek.

The project would not generate additional population to the area, either directly or indirectly, nor would project actions require any additional fire protection service over existing conditions. The project would allow for emergency vehicle access over Mammoth Creek. This is considered to be a beneficial impact with regards to fire protection services. Overall, the project would result in no impacts related to fire protection services.

b. Police protection.

No Impact. The Mammoth Lakes Police Department provides police services to the project site. The scope of the project would be limited to construction of a MUP and associated bridge crossings over Mammoth Creek. The project would not generate additional population to the area, either directly or indirectly, nor would project actions require any additional police protection service over existing conditions. The project would allow for emergency vehicle access over Mammoth Creek. This is considered to be a beneficial impact with regards to police protection services. Overall, the project would result in no impacts related to police protection services.

c. Schools.

No Impact. The project does not include land uses that would increase demand for school facilities or services. Thus, no impact regarding schools would occur with project implementation.

d. Parks.

No Impact. The project does not propose any land uses (i.e., residential) that would create a new source of demand for park facilities. It is acknowledged that the MUP would improve access to park facilities and use of parks may incrementally increase. However, the project's MUP not expected to materially change the number of Town residents and visitors foreseen in existing long-range plans. While park use may marginally increase due to improved access, the anticipated increase would not be substantial enough to result in the need for new parks that would cause physical impacts due to the provision of new or physically altered facilities. Therefore, no impact would occur in this regard.

e. Other public facilities.

No Impact. While the project is expected to improve recreational experiences for residents and visitors, in and of itself, the project is not expected to change the population in the Town in the near- or long-term. Accordingly, the project would not result in any substantial increases in demands on other government services or public facilities such as libraries, hospitals, or post offices. Thus, the project would not increase the need for maintenance of these public facilities. No impact would occur in this regard.

XV. RECREATION

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. While the project is expected to improve recreational experiences for residents and visitors in the project area, in and of itself, the project is not expected to change the population in the Town in the near-

or long-term. Thus, there would be no increase in the use of existing neighborhood and regional parks or other recreational such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, no impact would occur in this regard.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less Than Significant Impact. The environmental impacts of the project's components are analyzed throughout this document. As concluded in this document, all potentially significant impacts would be reduced to a less than significant level with implementation of the prescribed mitigation measures.

XVI. TRANSPORTATION/TRAFFIC

Would the project:

a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

b. Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less Than Significant Impact (a-b). There would be a nominal short-term increase in traffic generated during the construction period on the local roadway system. Construction-worker trips would be short-term in nature, limited in number, and would not typically occur during peak hours. The addition of these trips to the existing circulation network would not create a significant traffic impact. In addition, no temporary street or land closures are expected to occur that would result in a change in traffic patterns or capacity that is substantial in relation to the existing traffic load and capacity of the street system during construction activities.

Use of the access road by maintenance or emergency service vehicles of would not generate a long-term source of traffic. As these trips would represent a nominal increase in traffic beyond existing conditions and would be temporary throughout the course of maintaining the bridges and MUP, they would not cause a substantial increase in traffic nor would they contribute to a level of service deficiency established by the county congestion management agency for designated roads or highways. Thus, less than significant traffic impacts would occur with project implementation.

c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The project does not propose any structures that would interfere with air traffic patterns; nor would the project increase use of any airport. Thus, no impact regarding air traffic patterns would occur with Project implementation.

d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The project would not involve the construction or modification of traffic-related improvements utilized by the public vehicles. The bridges and MUP would be designed to provide safe access for maintenance and emergency services vehicles only. Additionally, the project would not involve the construction of any uses that would be considered incompatible with existing roadways. Thus, no impact would occur in this regard.

e. Result in inadequate emergency access?

No Impact. The project would not introduce any new public roadways. Therefore, it would not alter existing traffic patterns. No emergency access roadways would be obstructed by worker vehicles or equipment. Also, the bridges and MUP would be designed to provide emergency access for emergency services vehicles. Thus, the project would result in a beneficial impact with regards to emergency access. Overall, emergency access would be improved with the implementation of the project.

f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Impact. The project is proposing to construct a new segment of the Main Path envisioned in the Town's adopted Trails System Plan and General Bikeway Plan.[17] The new trail segment would close an existing gap in the Main Path from Old Mammoth Road along Waterford Avenue to a segment of the existing Main Path, north of Mammoth Creek near North Waterford Avenue. Thus, the project would support the Town's plans for alternative transportation facilities. No impact would occur in this regard.

XVII. UTILITIES AND SERVICE SYSTEMS

Would the project:

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact. While the Project is expected to improve recreational experiences for residents and visitors in the project area, in and of itself, the project is not expected to change the population in the Town in the near- or long-term. Thus, no new increase in wastewater demand would occur from a change in the Town's population. Accordingly, no impacts would occur in this regard.

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. As discussed in Response No. XVII.a, the project is not anticipated to generate any new wastewater demand and as such, would not require the construction of new wastewater treatment facilities.

[17] *See Figure 1, Mammoth Lakes Trails System Plan, in the Mammoth Lakes Trails System Master Plan (May 1991). Also, see Figure 4, General Bikeway Plan Map, in the Town of Mammoth Lakes General Bikeway Plan (2008).*

Also, as discussed in Response No. XVII.d, the project would not generate a new water demand that would require the construction of new water treatment facilities or expansion of existing facilities. Thus, no impact would occur in this regard.

c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. Any construction activities associated with minor infrastructure improvements, including stormwater facilities, would occur in compliance with the Town's applicable erosion control regulations and State water quality regulations to ensure that impacts related to water quality during construction activities would be less than significant. No other specific drainage facilities are being proposed by the project. Thus, a less than significant impact would occur in this regard.

d. Have sufficient water supplies available to serve the project from existing entitlements and resource, or are new or expanded entitlements needed?

Less Than Significant Impact. As discussed in Response No. IX,a, the increase in the amount of impervious surfaces as a result of project implementation is considered insignificant and is not expected to affect the recharge characteristics of the local groundwater basin. While the project is expected to improve recreational experiences for residents and visitors in the project area, in and of itself, the project is not expected to change the population in the Town in the near- or long-term. In addition, maintenance activities would require periodic use of minimal amounts of water over time. The limited increase in water use associated with maintenance activities would not require new or expanded water entitlements. Based on these considerations, a less than significant impact regarding water supply would occur with project implementation.

e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. As discussed in Response No. XVII.a-b, project implementation would not generate any new wastewater demand and would not require the construction of new or expansion of existing wastewater treatment facilities. Thus, no impact would occur in this regard.

f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

and

g. Comply with federal, state, and local statutes and regulations related to solid waste?

Less Than Significant Impact (f-g). The disposal of removed vegetation and other construction related debris would be insignificant when added to the daily tonnage of refuse disposed at County landfill facilities. The amount of removed materials during construction would be accommodated by the County's disposal facilities. The project would comply with all applicable disposal requirements at the serving landfill(s). Thus, less than significant impacts would occur regarding solid waste disposal.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant Impact. As discussed in Response No. IV.a, potentially significant impacts to the willow flycatcher would be reduced to a less than significant level with implementation of the Mitigation Measure BIO-1. Approximately 0.4 acres of wetland/riparian vegetation would be impacted by the project. However, potentially significant impacts to riparian habitat and wetlands would be reduced to a less than significant level with implementation of the prescribed mitigation measure (BIO-4) and compliance to all applicable regulatory permitting requirements. In addition, the project site could support nesting birds. Impacts to nesting birds would be reduced to a less than significant level with incorporation of the prescribed mitigation measures (BIO-2 and BIO-3) requiring that surveys be conducted for active nests and avoidance of nests, as stipulated by a qualified biologist. The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native nursery sites the movement. Project construction activities do have the potential to contribute sediments to the drainage channel that could affect water quality. However, as discussed in Section IX, *Hydrology and Water Quality*, compliance with applicable water quality regulations would ensure that short- and long-term water quality impacts would be less than significant. In addition, the project does not include land uses that would generate new sources of polluted runoff that would otherwise degrade water quality. The project could significantly impact unknown archaeological and/or paleontological. However, the prescribed mitigation measures (CULT-1 and CULT-2) would reduce these potentially significant impacts to a less than significant level. Due to the limited scope of the project in conjunction with implementation of the prescribed mitigation measures, project implementation would not have the potential degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

b. Does the project have impacts which are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less Than Significant Impact. Due to the limited nature of the project, the project would not involve significant cumulative impacts. By providing the proposed MUP, with the associated bridge crossings, the new trail segment would close an existing gap in the Main Path envisioned in the Town's adopted Trails System Plan and General Bikeway Plan.[18] Thus, the project would have a beneficial impact by improving recreational and alternative transportation opportunities for residents and visitors within the Town. Other

[18] *See Figure 1, Mammoth Lakes Trails System Plan, in the Mammoth Lakes Trails System Master Plan (May 1991). Also, see Figure 4, General Bikeway Plan Map, in the Town of Mammoth Lakes General Bikeway Plan (2008).*

long-term effects are generally isolated to the project site and have been determined to be less than significant.

However, with regards to biological resources, project construction will contribute to the short term incremental loss of riparian habitat in the region, including potential habitat for some special interest species. Cumulative impacts potentially include habitat fragmentation, increased edge effects, increased pedestrian traffic and reduced habitat quality. Preparation of the HMMP as required per Mitigation Measure BIO-4 will reduce impacts related to loss of riparian habitat and habitat quality. Habitat fragmentation will be minimal due to the small width of the proposed pedestrian footpath. Currently several unsanctioned footpaths that have been created by pedestrians attempting to cross the creek occur within the study area. While pedestrian traffic will likely increase in the project area as a result of the project, it will now be confined to a single path. This will likely have beneficial impacts on overall habitat quality and habitat fragmentation in the project area. Additionally, the proposed project has a small footprint that will result in the loss of up to approximately 0.4 acre of riparian habitat within the study area. Therefore, less than significant cumulative effects regarding biological resources as a result of the proposed project are anticipated.

In addition, the Town's Draft Trails System Master Plan (February 2009) includes bicycle facility improvements along Old Mammoth Road to the south of the project site and along North Waterford Avenue and Majestic Pines Drive to the north of the project site. It is possible that construction activities associated with the project and the bicycle facilities could occur simultaneously. Similar to the project, construction activities with the bicycle facilities would occur only during daytime hours as described by *Section 8.16.090 of the Town Noise Ordinance*. Also, construction noise associated with the bicycle facility improvements would take place intermittently, but would not be expected to use large heavy equipment. The project's potential for cumulative noise impacts would occur at residences located along Waterford Avenue and North Waterford Avenue. However, construction-related noise associated with the future bicycle facilities is anticipated to be substantially less than those associated with the project, particularly construction noise by the project within the creek corridor. Further, the project's highest construction noise sources (i.e., improvements within creek corridor) would be greater than 100 feet from the nearest construction activities associated with bicycle improvements along North Waterford Avenue. Based on these considerations, less than significant construction-related cumulative noise impacts would occur with the future bicycle facility improvements. Also, similar to the project, future use of the bicycle facilities would result in a nominal change to ambient noise levels. Thus, operational impacts of the project would not be cumulatively considerable with the bicycle facility improvements.

Overall, although the project may incrementally affect other resources that were determined to be less than significant, the project's contribution to these effects is not considered to be "cumulatively considerable."

c. Does the project have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact. Project implementation would be beneficial to human beings. By providing a MUP across Mammoth Creek, the project would have a beneficial impact by improving recreational and alternative transportation opportunities for residents and visitors within the Town. In addition, the MUP would provide increased emergency access in the project area. All potentially significant impacts would be reduced to a less than significant level through compliance with applicable regulatory requirements and/or implementation of the prescribed mitigation measures. Thus, the project would not cause adverse effects on human beings directly or indirectly.

REFERENCES

California Department of Toxic Substances Control EnviroStor Database. Accessed on November 2, 2010 at: http://www.envirostart.dtsc.ca.gov/public

General Biological Resources Report for the Waterford Bridges Project, prepared by LSA Associates, January 4, 2010.

GHG emissions by Sector, 2008.

Google Maps, 2010.

Great Basin Unified Air Pollution Control District and the Town of Mammoth Lakes; Air Quality Management Plan for the Town of Mammoth Lakes, Prepared for the PM-10 State Implementation Plan, November 30, 1990.

Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report, The Physical Science Basis, Summary for Policy Makers, 2007.

Town of Mammoth Lakes General Bikeway Plan, 2008.

Town of Mammoth Lakes General Plan Final EIR, Chapter, 4.4 - Geology, Seismicity, Soils, and Mineral Resources, May 2007.

Town of Mammoth Lakes General Plan Final EIR, Figure 4.4-1, Mineral Resources Map, March 2007.

Town of Mammoth Lakes Trails System Master Plan, May 1991.

LIST OF PREPARERS

Lead Agency – Town of Mammoth Lakes

Town of Mammoth Lakes
PO Box 1609
Mammoth Lakes, CA 93546
(760) 934-8989

Mr. Haislip Hayes, Assistant Traffic and Development Review Engineer

Ms. Ellen Clark, Senior Planner

Environmental Document Preparation

PCR Services Corporation
One Venture, Suite 150
Irvine, CA 92618

Mike Harden, Principal Planner (Project Manager)

Jay Ziff, Principal/Director of Environmental Planning and Documentation

Heidi Rous, CPP, Principal/Director of Air Quality, Climate and Acoustics Services

Kyle Kim, Ph.D., Senior Acoustic Engineer

Kyle Garcia, Senior Archaeologist

Steve Nelson, Senior Vice President/Director of Biological Services

Denise Kaneshiro, Graphics Specialist

Terry Keelan, Publications Director

APPENDIX A

AIR QUALITY/GREENHOUSE GAS WORKSHEETS

MAMMOTH LAKES: WATERFORD AVENUE BRIDGES AND MULTI-USE PATH PROJECT

Mitigated Negative Declaration

Air Quality Assessment Files

Provided by PCR Services Corporation

December 2010

B-1 Project Construction Emissions

B-2 SCAQMD Rule 403 (Fugitive Dust) Control Requirements

Appendix B-1

- Air Quality Emissions
    - Regional Construction Emissions
        - URBEMIS2007 Output Files
- Greenhouse Gas Emissions
    - Construction GHG Analysis
        - URBEMIS2007 Output Files

Town of Mammoth Lakes
Waterford Avenue Bridges and Multi-Use Path Project

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: V:\ACTIVE PROJECTS\Mammoth- Waterford Bridge MND\URBEMIS\URBEMIS2007- Waterford Bridge.urb924

Project Name: Mammoth Lakes- Waterford Bridge

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/1/2012-3/28/2012 Active	**2.38**	**21.30**	**11.09**	**0.01**	**1.22**	**0.96**	**2.18**	**0.26**	**0.88**	**1.14**	**2,635.92**
Mass Grading 03/01/2012-	2.38	21.30	11.09	0.01	1.22	0.96	2.18	0.26	0.88	1.14	2,635.92
Mass Grading Dust	0.00	0.00	0.00	0.00	1.20	0.00	1.20	0.25	0.00	0.25	0.00
Mass Grading Off Road Diesel	2.15	18.75	9.22	0.00	0.00	0.86	0.86	0.00	0.79	0.79	2,087.74
Mass Grading On Road Diesel	0.20	2.50	0.96	0.00	0.01	0.10	0.11	0.00	0.09	0.10	423.84
Mass Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 3/29/2012-4/26/2012 Active	1.81	15.70	8.56	0.01	1.22	0.81	2.02	0.26	0.74	1.00	2,168.25
Fine Grading 03/29/2012-	1.81	15.70	8.56	0.01	1.22	0.81	2.02	0.26	0.74	1.00	2,168.25
Fine Grading Dust	0.00	0.00	0.00	0.00	1.20	0.00	1.20	0.25	0.00	0.25	0.00
Fine Grading Off Road Diesel	1.60	13.27	6.74	0.00	0.00	0.71	0.71	0.00	0.65	0.65	1,640.25
Fine Grading On Road Diesel	0.19	2.38	0.92	0.00	0.01	0.09	0.11	0.00	0.09	0.09	403.66
Fine Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 4/27/2012-5/28/2012 Active	1.73	11.84	6.64	0.00	0.01	0.80	0.81	0.00	0.74	0.74	1,290.36
Asphalt 04/27/2012-05/28/2012	1.73	11.84	6.64	0.00	0.01	0.80	0.81	0.00	0.74	0.74	1,290.36
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	11.77	5.72	0.00	0.00	0.80	0.80	0.00	0.73	0.73	1,161.87
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.15
Paving Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 5/29/2012-6/29/2012 Active	1.37	11.86	5.96	0.00	0.00	0.61	0.61	0.00	0.56	0.56	1,584.20
Building 05/29/2012-07/01/2012	1.37	11.86	5.96	0.00	0.00	0.61	0.61	0.00	0.56	0.56	1,584.20
Building Off Road Diesel	1.36	11.84	5.55	0.00	0.00	0.61	0.61	0.00	0.56	0.56	1,527.33
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.01	0.02	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.87

Phase Assumptions

Phase: Fine Grading 3/29/2012 - 4/26/2012 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 0.25

Maximum Daily Acreage Disturbed: 0.06

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 95.24

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Mass Grading 3/1/2012 - 3/28/2012 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 0.25

Maximum Daily Acreage Disturbed: 0.06

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 100

Off-Road Equipment:

1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Paving 4/27/2012 - 5/28/2012 - Default Paving Description

Acres to be Paved: 0.06

Off-Road Equipment:

1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Town of Mammoth Lakes- Waterford Avenue Bridges and Multi-Use Path Project

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: V:\ACTIVE PROJECTS\Mammoth- Waterford Bridge MND\URBEMIS\URBEMIS2007- Waterford Bridge.urb924

Project Name: Mammoth Lakes- Waterford Bridge

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/1/2012-3/28/2012 Active	**2.38**	**21.30**	**11.09**	**0.01**	**1.22**	**0.96**	**2.18**	**0.26**	**0.88**	**1.14**	**2,635.92**
Mass Grading 03/01/2012-	2.38	21.30	11.09	0.01	1.22	0.96	2.18	0.26	0.88	1.14	2,635.92
Mass Grading Dust	0.00	0.00	0.00	0.00	1.20	0.00	1.20	0.25	0.00	0.25	0.00
Mass Grading Off Road Diesel	2.15	18.75	9.22	0.00	0.00	0.86	0.86	0.00	0.79	0.79	2,087.74
Mass Grading On Road Diesel	0.20	2.50	0.96	0.00	0.01	0.10	0.11	0.00	0.09	0.10	423.84
Mass Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 3/29/2012-4/26/2012 Active	1.81	15.70	8.56	0.01	1.22	0.81	2.02	0.26	0.74	1.00	2,168.25
Fine Grading 03/29/2012-	1.81	15.70	8.56	0.01	1.22	0.81	2.02	0.26	0.74	1.00	2,168.25
Fine Grading Dust	0.00	0.00	0.00	0.00	1.20	0.00	1.20	0.25	0.00	0.25	0.00
Fine Grading Off Road Diesel	1.60	13.27	6.74	0.00	0.00	0.71	0.71	0.00	0.65	0.65	1,640.25
Fine Grading On Road Diesel	0.19	2.38	0.92	0.00	0.01	0.09	0.11	0.00	0.09	0.09	403.66
Fine Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 4/27/2012-5/28/2012 Active	1.73	11.84	6.64	0.00	0.01	0.80	0.81	0.00	0.74	0.74	1,290.36
Asphalt 04/27/2012-05/28/2012	1.73	11.84	6.64	0.00	0.01	0.80	0.81	0.00	0.74	0.74	1,290.36
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	11.77	5.72	0.00	0.00	0.80	0.80	0.00	0.73	0.73	1,161.87
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.15
Paving Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 5/29/2012-6/29/2012 Active	1.37	11.86	5.96	0.00	0.00	0.61	0.61	0.00	0.56	0.56	1,584.20
Building 05/29/2012-07/01/2012	1.37	11.86	5.96	0.00	0.00	0.61	0.61	0.00	0.56	0.56	1,584.20
Building Off Road Diesel	1.36	11.84	5.55	0.00	0.00	0.61	0.61	0.00	0.56	0.56	1,527.33
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.01	0.02	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.87

Phase Assumptions

Phase: Fine Grading 3/29/2012 - 4/26/2012 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 0.25

Maximum Daily Acreage Disturbed: 0.06

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 95.24

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Mass Grading 3/1/2012 - 3/28/2012 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 0.25

Maximum Daily Acreage Disturbed: 0.06

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 100

Off-Road Equipment:

1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Paving 4/27/2012 - 5/28/2012 - Default Paving Description

Acres to be Paved: 0.06

Off-Road Equipment:

1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 5/29/2012 - 7/1/2012 - Default Building Construction Description

Off-Road Equipment:

Phase: Building Construction 5/29/2012 - 7/1/2012 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

1 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/1/2012-3/28/2012 Active	**2.38**	**21.30**	**11.09**	**0.01**	**1.22**	**0.96**	**2.18**	**0.26**	**0.88**	**1.14**	**2,635.92**
Mass Grading 03/01/2012-	2.38	21.30	11.09	0.01	1.22	0.96	2.18	0.26	0.88	1.14	2,635.92
Mass Grading Dust	0.00	0.00	0.00	0.00	1.20	0.00	1.20	0.25	0.00	0.25	0.00
Mass Grading Off Road Diesel	2.15	18.75	9.22	0.00	0.00	0.86	0.86	0.00	0.79	0.79	2,087.74
Mass Grading On Road Diesel	0.20	2.50	0.96	0.00	0.01	0.10	0.11	0.00	0.09	0.10	423.84
Mass Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 3/29/2012-4/26/2012 Active	1.81	15.70	8.56	0.01	1.22	0.81	2.02	0.26	0.74	1.00	2,168.25
Fine Grading 03/29/2012-	1.81	15.70	8.56	0.01	1.22	0.81	2.02	0.26	0.74	1.00	2,168.25
Fine Grading Dust	0.00	0.00	0.00	0.00	1.20	0.00	1.20	0.25	0.00	0.25	0.00
Fine Grading Off Road Diesel	1.60	13.27	6.74	0.00	0.00	0.71	0.71	0.00	0.65	0.65	1,640.25
Fine Grading On Road Diesel	0.19	2.38	0.92	0.00	0.01	0.09	0.11	0.00	0.09	0.09	403.66
Fine Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 4/27/2012-5/28/2012 Active	1.73	11.84	6.64	0.00	0.01	0.80	0.81	0.00	0.74	0.74	1,290.36
Asphalt 04/27/2012-05/28/2012	1.73	11.84	6.64	0.00	0.01	0.80	0.81	0.00	0.74	0.74	1,290.36
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	11.77	5.72	0.00	0.00	0.80	0.80	0.00	0.73	0.73	1,161.87
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.15
Paving Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 5/29/2012-6/29/2012 Active	1.37	11.86	5.96	0.00	0.00	0.61	0.61	0.00	0.56	0.56	1,584.20
Building 05/29/2012-07/01/2012	1.37	11.86	5.96	0.00	0.00	0.61	0.61	0.00	0.56	0.56	1,584.20
Building Off Road Diesel	1.36	11.84	5.55	0.00	0.00	0.61	0.61	0.00	0.56	0.56	1,527.33
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.01	0.02	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.87

Construction Related Mitigation Measures

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

1 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/1/2012-3/28/2012 Active	**2.38**	**21.30**	**11.09**	**0.01**	**1.22**	**0.96**	**2.18**	**0.26**	**0.88**	**1.14**	**2,635.92**
Mass Grading 03/01/2012-	2.38	21.30	11.09	0.01	1.22	0.96	2.18	0.26	0.88	1.14	2,635.92
Mass Grading Dust	0.00	0.00	0.00	0.00	1.20	0.00	1.20	0.25	0.00	0.25	0.00
Mass Grading Off Road Diesel	2.15	18.75	9.22	0.00	0.00	0.86	0.86	0.00	0.79	0.79	2,087.74
Mass Grading On Road Diesel	0.20	2.50	0.96	0.00	0.01	0.10	0.11	0.00	0.09	0.10	423.84
Mass Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 3/29/2012-4/26/2012 Active	1.81	15.70	8.56	0.01	1.22	0.81	2.02	0.26	0.74	1.00	2,168.25
Fine Grading 03/29/2012-	1.81	15.70	8.56	0.01	1.22	0.81	2.02	0.26	0.74	1.00	2,168.25
Fine Grading Dust	0.00	0.00	0.00	0.00	1.20	0.00	1.20	0.25	0.00	0.25	0.00
Fine Grading Off Road Diesel	1.60	13.27	6.74	0.00	0.00	0.71	0.71	0.00	0.65	0.65	1,640.25
Fine Grading On Road Diesel	0.19	2.38	0.92	0.00	0.01	0.09	0.11	0.00	0.09	0.09	403.66
Fine Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 4/27/2012-5/28/2012 Active	1.73	11.84	6.64	0.00	0.01	0.80	0.81	0.00	0.74	0.74	1,290.36
Asphalt 04/27/2012-05/28/2012	1.73	11.84	6.64	0.00	0.01	0.80	0.81	0.00	0.74	0.74	1,290.36
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	11.77	5.72	0.00	0.00	0.80	0.80	0.00	0.73	0.73	1,161.87
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.15
Paving Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 5/29/2012-6/29/2012 Active	1.37	11.86	5.96	0.00	0.00	0.61	0.61	0.00	0.56	0.56	1,584.20
Building 05/29/2012-07/01/2012	1.37	11.86	5.96	0.00	0.00	0.61	0.61	0.00	0.56	0.56	1,584.20
Building Off Road Diesel	1.36	11.84	5.55	0.00	0.00	0.61	0.61	0.00	0.56	0.56	1,527.33
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.01	0.02	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.87

Construction Related Mitigation Measures

CO_2e[d] (Metric Tons)	
Emission Source	**2012**
CO_2 Emissions	82
CH_4 Emissions	0
N_2O Emissions	0
CO_2e Emissions	83
Amortized (30 years)	3
2004 Statewide Total[c]	479,740,000
Net Increase as Percentage of 2004 Statewide Inventory	**0.00002%**

[a] *Mobile source values were derived using*

[b] *On site construction equipment values were derived using OFFROAD2007 in addition to the California Climate Action Registry General Reporting Protocol; Version 3.0, April 2008.*

c Statewide totals were derived from the CARB Draft California GHG Inventory.

[d] *All CO_2E factors were derived using the California Climate Action Registry General Reporting Protocol; Version 3.0, April 2008.*

Source: PCR Services Corporation, 2010.

Town of Mammoth Lakes- Waterford Avenue Bridges and Multi-Use Path Project

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: V:\ACTIVE PROJECTS\Mammoth- Waterford Bridge MND\URBEMIS\URBEMIS2007- Waterford Bridge.urb924

Project Name: Mammoth Lakes- Waterford Bridge

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (tons/year unmitigated)	0.08	0.65	0.35	0.00	0.03	0.03	0.06	0.01	0.03	0.04	82.33
2012 TOTALS (tons/year mitigated)	0.08	0.65	0.35	0.00	0.03	0.03	0.06	0.01	0.03	0.04	82.33
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.02	0.00	0.28	0.00	0.00	0.00	0.51

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.00	0.00	0.01	0.00	0.00	0.00	0.66

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.02	0.00	0.29	0.00	0.00	0.00	1.17

Appendix B-2

- SCAQMD Rule 403 (Fugitive Dust) Control Requirements

(Adopted May 7, 1976) (Amended November 6, 1992)
(Amended July 9, 1993) (Amended February 14, 1997)
(Amended December 11, 1998)(Amended April 2, 2004)
(Amended June 3, 2005)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

(1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.

(2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.

(3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.

(4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.

(5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

(6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

(7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.

(8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.

(9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.

(10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.

(11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.

(12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.

(13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

(14) DISTURBED SURFACE AREA means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:

(A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

(B) been paved or otherwise covered by a permanent structure; or

(C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.

(15) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.

(16) EARTH-MOVING ACTIVITIES means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.

(17) DUST CONTROL SUPERVISOR means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.

(18) FUGITIVE DUST means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.

(19) HIGH WIND CONDITIONS means that instantaneous wind speeds exceed 25 miles per hour.

(20) INACTIVE DISTURBED SURFACE AREA means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.

(21) LARGE OPERATIONS means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

meters (5,000 cubic yards) or more three times during the most recent 365-day period.

(22) OPEN STORAGE PILE is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.

(23) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.

(24) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.

(25) PM_{10} means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.

(26) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.

(27) RULE 403 IMPLEMENTATION HANDBOOK means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.

(28) SERVICE ROADS are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.

(29) SIMULTANEOUS SAMPLING means the operation of two PM_{10} samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.

(30) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

(31) STABILIZED SURFACE means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.

(32) TRACK-OUT means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(33) TYPICAL ROADWAY MATERIALS means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.

(34) UNPAVED ROADS means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.

(35) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(36) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.

(37) WIND GUST is the maximum instantaneous wind speed as measured by an anemometer.

(d) Requirements

(1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

(A) the dust remains visible in the atmosphere beyond the property line of the emission source; or

(B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.

(2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.

(3) No person shall cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM_{10} monitoring. If sampling is conducted, samplers shall be:

(A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM_{10}.

(B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.

(4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.

(5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.

(A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

(B) Pave the surface extending at least 100 feet and at least 20 feet wide.

(C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).

(6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.

(e) Additional Requirements for Large Operations

(1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:

(A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;

(B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;

(C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

(D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;

(E) identify a dust control supervisor that:

(i) is employed by or contracted with the property owner or developer;

(ii) is on the site or available on-site within 30 minutes during working hours;

(iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;

(iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and

(F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).

(2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).

(f) Compliance Schedule

The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

(1) The provisions of this Rule shall not apply to:

(A) Dairy farms.

(B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.

(C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.

(D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.

(G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.

(H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.

(I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.

(J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:

(i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and

(ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.

(K) sandblasting operations.

(2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:

(A) When wind gusts exceed 25 miles per hour, provided that:

(i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;

(ii) records are maintained in accordance with subparagraph (e)(1)(C).

(B) To unpaved roads, provided such roads:

(i) are used solely for the maintenance of wind-generating equipment; or

(ii) are unpaved public alleys as defined in Rule 1186; or

(iii) are service roads that meet all of the following criteria:

(a) are less than 50 feet in width at all points along the road;

(b) are within 25 feet of the property line; and

(c) have a traffic volume less than 20 vehicle-trips per day.

(C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.

(3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.

(4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:

(A) Blasting operations which have been permitted by the California Division of Industrial Safety; and

(B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.

(5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

(6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.

(7) The provisions of subdivision (e) shall not apply to:

(A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.

(B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.

(C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.

(8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM_{10} pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	✓ Mix backfill soil with water prior to moving ✓ Dedicate water truck or high capacity hose to backfilling equipment ✓ Empty loader bucket slowly so that no dust plumes are generated ✓ Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	✓ Maintain live perennial vegetation where possible ✓ Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	✓ Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	✓ Follow permit conditions for crushing equipment ✓ Pre-water material prior to loading into crusher ✓ Monitor crusher emissions opacity ✓ Apply water to crushed material to prevent dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration ✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	✓ Limit vehicular traffic and disturbances on soils where possible ✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	✓ Grade each project phase separately, timed to coincide with construction phase ✓ Upwind fencing can prevent material movement on site ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	✓ Use tarps or other suitable enclosures on haul trucks ✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ✓ Comply with track-out prevention/mitigation requirements ✓ Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	✓ Apply water to materials to stabilize ✓ Maintain materials in a crusted condition ✓ Maintain effective cover over materials ✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ✓ Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	✓ Dedicate water truck or high capacity hose to screening operation ✓ Drop material through the screen slowly and minimize drop height ✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	✓ Limit size of staging area ✓ Limit vehicle speeds to 15 miles per hour ✓ Limit number and size of staging area entrances/exists
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	✓ Add or remove material from the downwind portion of the storage pile ✓ Maintain storage piles to avoid steep sides or faces

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	✓ Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	✓ Empty loader bucket such that no visible dust plumes are created ✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	✓ Haul waste material immediately off-site

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Unpaved roads/parking lots	19-1 Stabilize soils to meet the applicable performance standards; and 19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
Vacant land	20-1 In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 2
DUST CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY		CONTROL ACTIONS
Earth-moving (except construction cutting and filling areas, and mining operations)	(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR
	(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-moving: Construction fill areas:	(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY		CONTROL ACTIONS
Earth-moving: Construction cut areas and mining operations:	(1c)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c)	Apply chemical stabilizers within five working days of grading completion; OR
	(2d)	Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a)	Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR
	(3b)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR
	(3c)	Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR
	(3d)	Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Unpaved Roads	(4a)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR
	(4b)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR
	(4c)	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a)	Apply chemical stabilizers; OR
	(5b)	Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR
	(5c)	Install temporary coverings; OR
	(5d)	Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

TABLE 3
CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL MEASURES
Earth-moving	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 2, Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice per hour during active operation; OR (3C) Stop all vehicular traffic.
Open storage piles	(1D) Apply water twice per hour; OR (2D) Install temporary coverings.
Paved road track-out	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Table 4
(Conservation Management Practices for Confined Animal Facilities)

SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES
Manure Handling **(Only applicable to Commercial Poultry Ranches)**	(1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d). (1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
Feedstock Handling	(2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
Disturbed Surfaces	(3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR (3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR (3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
Unpaved Roads	(4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR (4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR (4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
Equipment Parking Areas	(5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).

APPENDIX B

BIOLOGICAL RESOURCES REPORT

LSA

LSA ASSOCIATES, INC.
1500 IOWA AVENUE, SUITE 200
RIVERSIDE, CALIFORNIA 92507

951.781.9310 TEL
951.781.4277 FAX

OTHER OFFICES:
IRVINE
PT. RICHMOND
SAN LUIS OBISPO
PALM SPRINGS
FORT COLLINS
BERKELEY
ROCKLIN
SOUTH SAN FRANCISCO
CARLSBAD
FRESNO

January 4, 2010

Mr. Steve Speidel, Principal Planner
Town of Mammoth Lakes
Post Office Box 1609
Mammoth Lakes, California 93546

Subject: General Biological Resources Report for the Waterford Avenue Bridges Project (LSA Project No. TML0901)

Dear Mr. Speidel:

LSA Associates, Inc. (LSA) is under contract to the Town of Mammoth Lakes to provide a biological resources assessment for the DRAFT Parks and Recreation Master Plan and the DRAFT Trail System Master Plan Environmental Impact Reports. As part of this study, LSA has included a reconnaissance-level biological resources survey of a portion of the Waterford Avenue Bridges project over Mammoth Creek. The site is located in Mono County, California, near the center of Section 3, Township 4 South, Range 27 East, as shown on the U.S. Geological Survey (USGS) *Old Mammoth, California* 7.5-minute quadrangle (Figure 1; all figures attached).

The proposed project consists of two bridges spanning Mammoth Creek to connect an existing recreational multi-use path located on the south end of North Waterford Avenue to Waterford Avenue, north of Old Mammoth Road and a paved multi-use pathway. A prior assessment was conducted for this site addressing the portion of the project including the bridges and abutments. However, the prior assessment did not include the pathway approaches to the bridges on either side of Mammoth Creek nor the portion between the two bridges.

In order to assess the approaches, LSA biologists Sarah Barrera (sarah.barrera@lsa-assoc.com) and Wendy Walters visited the site on July 3 and 6, 2009. Ms. Barrera also reviewed the existing *Wetland Delineation Report for the Bike and Pedestrian Path at Waterford and Sherwin Street Crossings* (Intrawest, August 2006). The assessment was conducted for the identification of potential impacts to jurisdictional waters and wetlands and to address compliance with the California Environmental Quality Act (CEQA). The results of the assessment are summarized below.

- The project site is primarily surrounded on all sides by single-family residential development. Vegetation on the site includes riparian scrub associated with Mammoth Creek and a small amount of ruderal vegetation near the existing paved portions of both North Waterford Avenue and Waterford Avenue.
- Mammoth Creek contains jurisdictional waters of the U.S. and adjacent wetlands regulated by the U.S. Army Corps of Engineers (ACOE) and the Regional Water Quality Control Board (RWQCB) as well as jurisdictional streambed of the California Department of Fish and Game

(CDFG). A formal jurisdictional delineation was conducted in 2006 to determine the extent of the potential streambed of CDFG and/or jurisdictional waters of the U.S and adjacent wetlands. Authorization from the ACOE, CDFG, and RWQCB will be required prior to construction activities within and adjacent to Mammoth Creek.

- Approximately 0.4 acre of riparian vegetation characterized by dense willow (*Salix* sp.) thickets as well as quaking aspen (*Populus tremuloides*) and mountain alder (*Alnus incana* ssp. *tenuifolia*) is present on the site. This vegetation provides suitable habitat for riparian bird species including willow flycatcher (*Empidonax traillii*) which is a State-listed endangered species. Focused willow flycatcher surveys should be conducted prior to construction to determine the presence or absence of this species in the project area.
- If project activities are planned during the avian nesting season (approximately April 1 to August 31), nesting bird surveys should be conducted within one week prior to disturbance to ensure birds protected under the Migratory Bird Treaty Act (MBTA) are not harmed.
- No other special-status plant or wildlife species are expected to occur in the project area. No substantial unavoidable project impacts to other special status species are anticipated.

ENVIRONMENTAL SETTING

Existing and Adjacent Land Use

The project site is currently undeveloped and is bisected by Mammoth Creek. The project area is characterized by Mammoth Creek and associated riparian habitat. Unauthorized foot trails have been created by recreational users in order to cross Mammoth Creek and access existing trails on either side of the Creek. The project site is surrounded by residential development and is located between Waterford Avenue and North Waterford Avenue.

Elevation, Topography, and Soils

The site elevation is approximately 8,000 feet above mean sea level. The site is generally flat and level. Two tributaries of Mammoth Creek cross the site. Mapped soils on the site are Chesaw family, 5 to 15 percent slopes. The Chesaw series consists of very deep, somewhat excessively drained soils formed in glacial outwash (*Natural Resources Conservation Service Soil Survey: Benton-Owens Valley Area Parts of Inyo and Mono Counties, Version 6,* 2008).

Vegetation and Disturbance

The majority of the project site consists of dense riparian vegetation associated with Mammoth Creek. Common tree and shrub species in the riparian habitat include various willows (*S. lucida*, *S. exigua*, *S.* sp.) and quaking aspen. Common herbaceous species include stinging nettle (*Urtica dioica*), tufted hairgrass (*Deschampsia cespitosa*), common yarrow (*Achillea millefolium*), and fireweed (*Epilobium angustifolium*).

Upland vegetation north of Mammoth Creek consists of a mixed conifer fir canopy with a basin sagebrush understory. A small amount of disturbed vegetation occurs near the boundary of the site at the paved ends of North Waterford Avenue and Waterford Avenue. A dirt road crossing the creek was

used in the past until approximately 1990 when soil & rocks were placed to block access to the dirt road. There are two water lines 5 feet apart and there is a sewer line 10 feet from the closest water line within the corridor. The last line was installed in 1989. The area has been greatly disturbed by excavation and associated access for underground utility construction.

Wildlife

Very few wildlife species were observed during the site visits, although it is likely that this site is used by many animals due to the high quality of the riparian habitat. Wildlife observed includes lesser goldfinch (*Carduelis psaltria*) and northern rough-winged swallow (*Stelgidopteryx serripennis*).

During the bird breeding season (approximately April 1 through August 31), trees, shrubs, and other vegetation may provide nest sites for migratory birds. Most birds and their active nests are protected from "take" (meaning destruction, pursuit, possession, etc.) under the MBTA and/or Sections 3503–3801 of California Fish and Game Code. Activities that cause destruction of active nests, or that cause nest abandonment and subsequent death of eggs or young, may constitute violations of one or both of these laws.

METHODS

A literature review was conducted to determine the existence or potential occurrence of special interest plant and animal species on or in the vicinity of the project site. Database records for the *Old Mammoth* USGS 7.5-minute quadrangles were searched on July 2, 2009, using the CDFG Natural Diversity Data Base application *Rarefind 3* (version 3.1.0, dated January 4, 2009) and the California Native Plant Society's *Electronic Inventory of Rare and Endangered Vascular Plants of California* (online edition, v7-08d, 2008, http://www.cnps.org/inventory). A current aerial photograph (2008) was reviewed and maps of U.S. Fish and Wildlife Service (USFWS) designated critical habitats were used to determine the locations of critical habitats relative to the project site.

Vegetation communities were mapped by hand onto a 200-scale (1" = 200') aerial photograph. Vegetation community classifications used in this report generally follow the vegetation classifications described in the Town of Mammoth Lakes General Plan Final Program EIR (May 2007) and the U.S. Forest Service CALVEG system.

A field survey was conducted on July 3 and 6, 2009, by LSA biologists Sarah Barrera and Wendy Walters. Notes were made on general site conditions, vegetation, and suitability of habitat for various sensitive elements. All plant and animal species observed during the field survey were noted. Weather conditions were sunny and warm during the site survey. Wind was less than 3 miles per hour.

POTENTIAL JURISDICTIONAL WATERS AND STREAMBEDS

The ACOE, under Section 404 of the Federal Clean Water Act, regulates discharges of dredged or fill material into "waters of the United States." These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a connection to interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or it may be indirect (through a connection identified in ACOE

regulations). The ACOE typically regulates as non-wetland waters of the U.S. any body of water displaying an "ordinary high water mark." In order to be considered a "jurisdictional wetland" under Section 404, an area must possess hydrophytic vegetation, hydric soils, and wetland hydrology. The CDFG, under Sections 1600 et seq. of the California Fish and Game Code, regulates alterations to lakes, rivers, and streams. A stream is defined by the presence of a channel bed and banks, and at least an occasional flow of water. The RWQCB is responsible for the administration of Section 401 of the Clean Water Act, through water quality certification of any activity that may result in a discharge to jurisdictional waters of the U.S. The RWQCB may also regulate discharges to "waters of the State," including wetlands, under the California Porter-Cologne Water Quality Control Act.

According to the 2006 Wetland Delineation Report (Intrawest), the entire Waterford Avenue Bridges project site contains two branches of Mammoth Creek, which are subject to jurisdiction by the CDFG, ACOE, and/or RWQCB as well as adjacent wetlands and riparian vegetation subject to jurisdiction by the CDFG and ACOE. The portion of the project site discussed in this letter report contains adjacent wetlands and riparian vegetation. The boundary of the wetlands and riparian vegetation were delineated in 2006 (Intrawest, 2006). Approximately 0.4 acre of adjacent wetland/riparian vegetation occurs in the portion of the project site discussed in this letter report.

Compensatory mitigation for riparian communities will be required for ACOE Section 404 and CDFG Section 1600 permitting. Typically, riparian habitat subject to ACOE and CDFG jurisdiction is mitigated at a minimum mitigation-to-effect ratio of 2:1 for permanent effects and 1:1 for temporary effects, which is consistent with ACOE and CDFG policies for no net loss of riparian/riverine habitat (e.g., wetlands) standards. Mitigation may be in the form of habitat restoration and/or enhancement in on- or off-site areas where similar riparian habitat exists. Prior to beginning construction, a Habitat Mitigation and Monitoring Plan (HMMP) should be developed in coordination with the ACOE and CDFG that ensures no net loss of riparian habitat value or acreage.

The findings and conclusions presented in this report, including the location and extent of wetlands and other waters subject to regulatory jurisdiction, represent the professional opinion of LSA. These findings and conclusions should be considered preliminary until verified by the ACOE and CDFG.

CEQA COMPLIANCE

Adopted Habitat Conservation Plans

Section 10(a)(2)(A) of the 1973 Federal Endangered Species Act requires the preparation of a habitat conservation plan (HCP) for incidental take of threatened or endangered species when there is no federal agency involvement in a project. The project site is *not subject to* any adopted habitat conservation plan.

Threatened and Endangered Species

The USFWS and CDFG may list species as threatened or endangered under the Federal and State Endangered Species Acts. The USFWS can designate critical habitat that identifies specific areas, either occupied or unoccupied, that are essential to the conservation of a listed species. Critical habitat areas may require special management considerations or protections.

One State-designated endangered wildlife species, the willow flycatcher, has a low potential to nest in riparian habitat within the project site. Focused surveys for this species should be conducted by a qualified biologist according to the *Willow Flycatcher Survey Protocol for California* (Bombay et al. 2000) prior to the beginning of construction activities. This survey protocol requires a minimum of two surveys, one during survey period 2 (June 15–25) and one during either survey period 1 (June 1–14), or survey period 3 (June 26–July 15).

No other threatened or endangered species have the potential to occur in the project area. The site *is not within* designated critical habitat of any species.

Other Special Interest Species

The CDFG, USFWS, local agencies, and special interest groups, such as the California Native Plant Society (CNPS), maintain lists of species that they consider to be in need of monitoring. Legal protection for these special interest species varies widely.

One special interest species identified from the region, the Sierra Nevada mountain beaver (*Aplodontia rufa californica*), may be expected to occur in the project vicinity as suitable habitat occurs in the project area. The Sierra Nevada mountain beaver is found in mountain streams with dense deciduous riparian vegetation. It is identified as a Federal and State species of special concern. Any impacts to this species by the project would not be substantial due to the small project area and avoidance of impacts directly within the creek. *Neither additional surveys nor additional conservation measures for this species will be required for the proposed project.*

Wildlife Movement, Corridors, and Nursery Sites

Wildlife movement includes seasonal migration along corridors, as well as daily movements for foraging. Migrational corridors may include areas of unobstructed movement of deer, riparian corridors providing cover for migrating birds, routes between breeding waters and upland habitat for amphibians, and between roosting and feeding areas for birds.

Mammoth Creek and its adjacent habitat likely serve as a wildlife corridor for many wildlife species. The project would add a minor disturbance to this wildlife corridor within the study area through the addition of an approximately 10' wide paved multi-use path. Wildlife movement would likely not be impeded in this location since the paved path would be narrow and would retain surrounding riparian vegetation. Additionally, the site is already disturbed due to multiple unsanctioned existing dirt paths created by pedestrians to access the stream. One objective of the project is to reduce the number of paths and amount of disturbance to the area. Due to the small project size and potential beneficial impacts to habitat quality, the proposed project *would not substantially limit wildlife movement* in the study area.

Natural Communities of Interest

Riparian habitats, oak woodlands, and vernal pools are among the natural communities of interest to the CDFG.

Substantial riparian vegetation is present in the study area. Up to 0.4 acres of riparian vegetation will be permanently or temporarily impacted to accommodate construction of a paved multi-use path in the study area. An HMMP should be prepared in order to discuss compensatory mitigation for impacts to riparian vegetation as required for ACOE and CDFG authorization. Additionally, mitigation identified in this HMMP will mitigate for impacts to sensitive riparian habitat as required for CEQA. The HMMP should include the following requirements:

- A habitat replacement and/or enhancement ratio of at least 2:1 for permanent impacts and 1:1 for temporary impacts to riparian/riverine habitat and wetlands;
- A success criterion of at least 80 percent cover of native riparian vegetation for replaced habitat; and
- A minimum 3-year establishment period for the replacement habitat, regular trash removal, and regular maintenance and monitoring activities to ensure the success of the mitigation plan.

The HMMP will be subject to ACOE and CDFG approval and may require additional measures in addition to the mitigation discussed above.

No other plant communities that might be considered sensitive are present on the project site.

Wetlands

Wetlands occur within the study area, as discussed in the potential jurisdictional waters and streambeds section above. Authorization from the ACOE and CDFG will be required prior to work in wetland areas. As discussed previously, an HMMP will be prepared in order to mitigate for impacts to ACOE and CDFG jurisdictional areas. Additionally, mitigation identified in this HMMP will mitigate for impacts to wetlands as required for CEQA.

Local Policies and Ordinances Protecting Biological Resources

City and County General Plans and development ordinances may include regulations or policies governing biological resources. For example, policies may include tree preservation, locally designated species survey areas, local species of interest, and significant ecological areas.

There are *no local ordinances* applicable to biological resources and the project *will not be in conflict* with local policies or ordinances protecting biological resources.

Indirect Effects

Indirect impacts to surrounding areas as a result of the project may include, but are not limited to, increased dust, noise, lighting, traffic, and stormwater runoff. Due to the location of the study area adjacent to a substantial waterway, efforts should be taken to control erosion as a result of project

construction. As required by Town of Mammoth Lakes municipal code, a Storm Water Pollution Prevention Plan (SWPPP) will be prepared for the project and Best Management Practices (BMPs) will be implemented to control erosion and surface runoff. Additionally, due to the potential use of the area as a wildlife corridor, lighting should be kept to a minimum. Construction should occur during daylight hours, if possible.

Because of the small scale of the project, loss of habitat is not expected to substantially affect any species. Additionally, since one objective of the project is to reduce the number of paths and amount of disturbance to the area, the beneficial impacts of the project would reduce the negative impacts of loss of habitat. With the application of standard mitigation measures as discussed above, *substantial indirect impacts are not anticipated.*

Cumulative Effects

Cumulative impacts refer to incremental effects of an individual project when viewed in connection with the effects of past projects, current projects, and probable future projects.

Project construction will contribute to the short term incremental loss of riparian habitat in the region, including potential habitat for some special interest species. Cumulative impacts potentially include habitat fragmentation, increased edge effects, increased pedestrian traffic and reduced habitat quality. Preparation of the HMMP as required for ACOE and CDFG authorization will reduce impacts related to loss of riparian habitat and habitat quality. Habitat fragmentation will be minimal due to the small width of the proposed pedestrian footpath. Currently several unsanctioned footpaths that have been created by pedestrians attempting to cross the creek occur within the study area. While pedestrian traffic will likely increase in the project area as a result of the project, it will now be confined to a single path. This will likely have beneficial impacts on overall habitat quality and habitat fragmentation in the project area. Additionally, the proposed project has a small footprint that will result in the loss of up to approximately 0.4 acre of riparian habitat within the study area. Therefore, *significant cumulative effects as a result of the proposed project are not anticipated.*

Recommendations

The following actions are recommended in order to avoid unauthorized project impacts to biological resources:

- If project activities are planned during the avian nesting season (approximately April 1 to August 31), nesting bird surveys should be conducted within one week prior to disturbance to ensure birds protected under the MBTA are not harmed.
- Due to proposed impacts to riparian vegetation, focused surveys for the willow flycatcher should be conducted by a qualified biologist according to accepted survey protocol prior to the beginning of construction activities. This survey protocol requires a minimum of two surveys, one between June 15-25 and one during either June 1-14 or June 26-July 15. Additional measures to avoid impacts to the willow flycatcher will be determined as necessary if this species is found to occupy the project area.

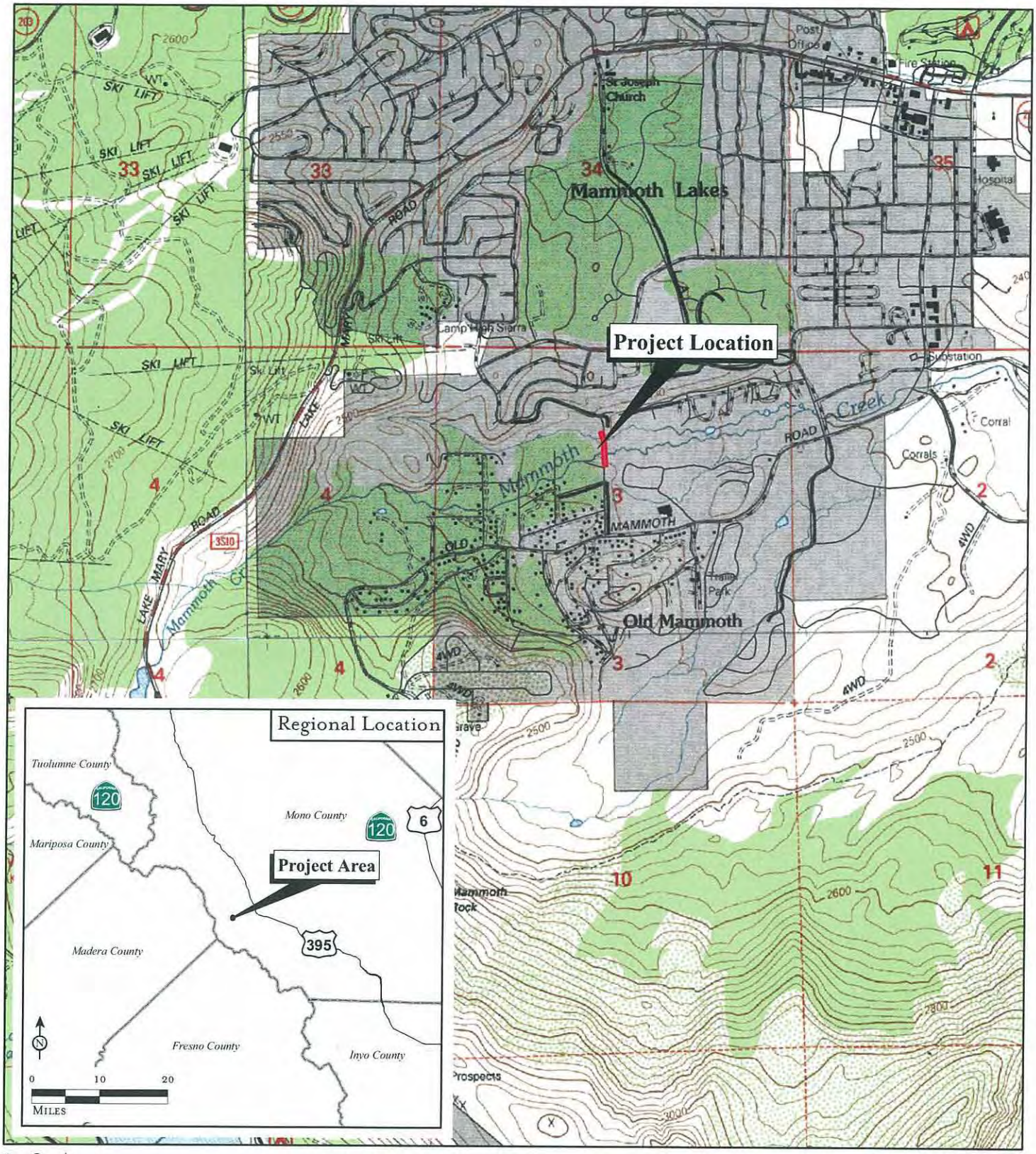
- In order to avoid unauthorized impacts to ACOE and CDFG jurisdictional areas, ACOE Section 404 and CDFG Section 1600 permits must be acquired. A HMMP detailing mitigation and monitoring is generaly required by ACOE and CDFG in order to ensure no net loss of riparian/riverine habitat and wetlands.

Sincerely,

LSA ASSOCIATES, INC.

Sarah Barrera
Biologist

Attachments: 1: Regional and Project Location
2: Waterford Avenue Bridges Map (Aerial)
3: Site Map (Aerial)



LSA

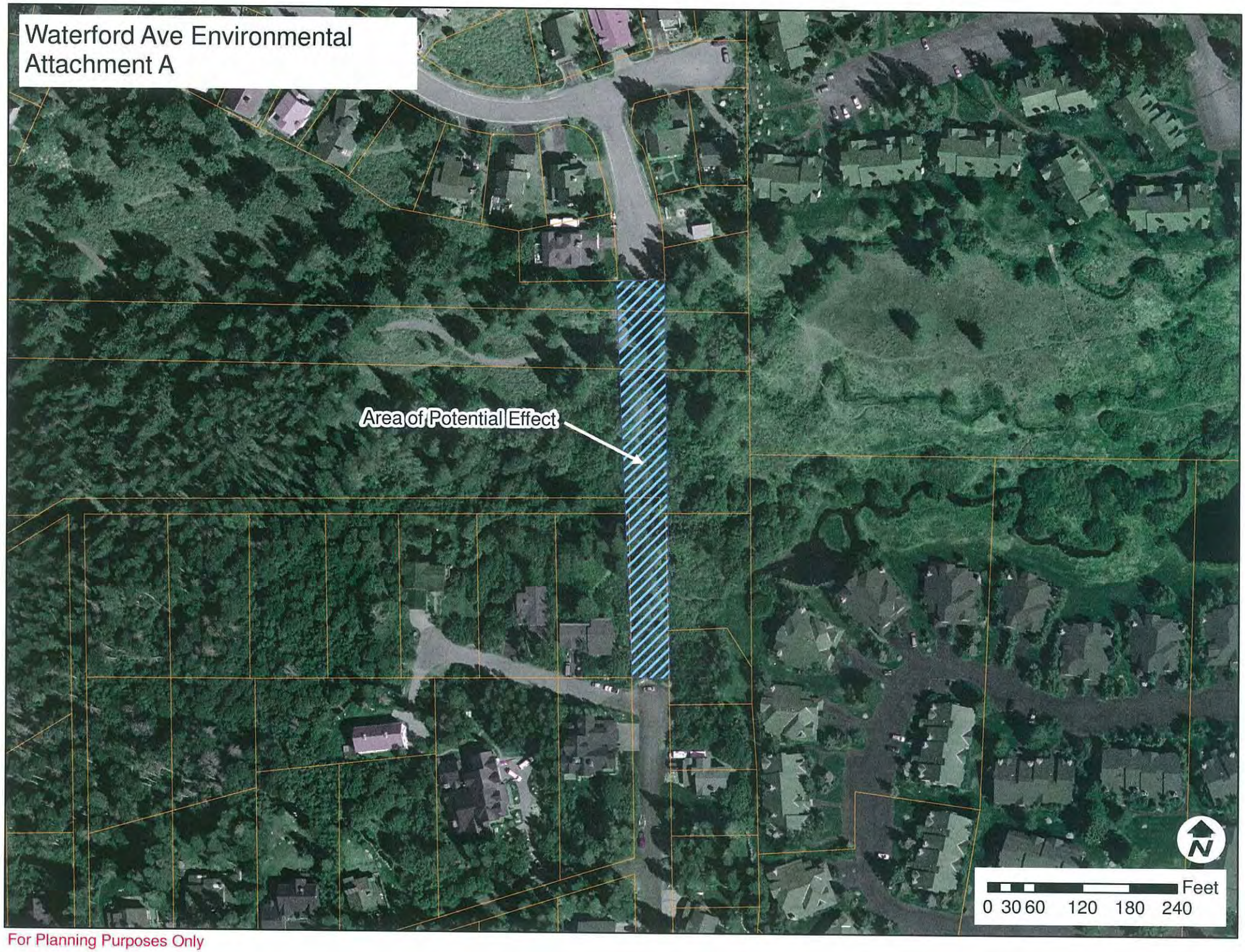
FIGURE 1

Waterford Avenue Bridges
Mammoth Lakes
Biological Resources

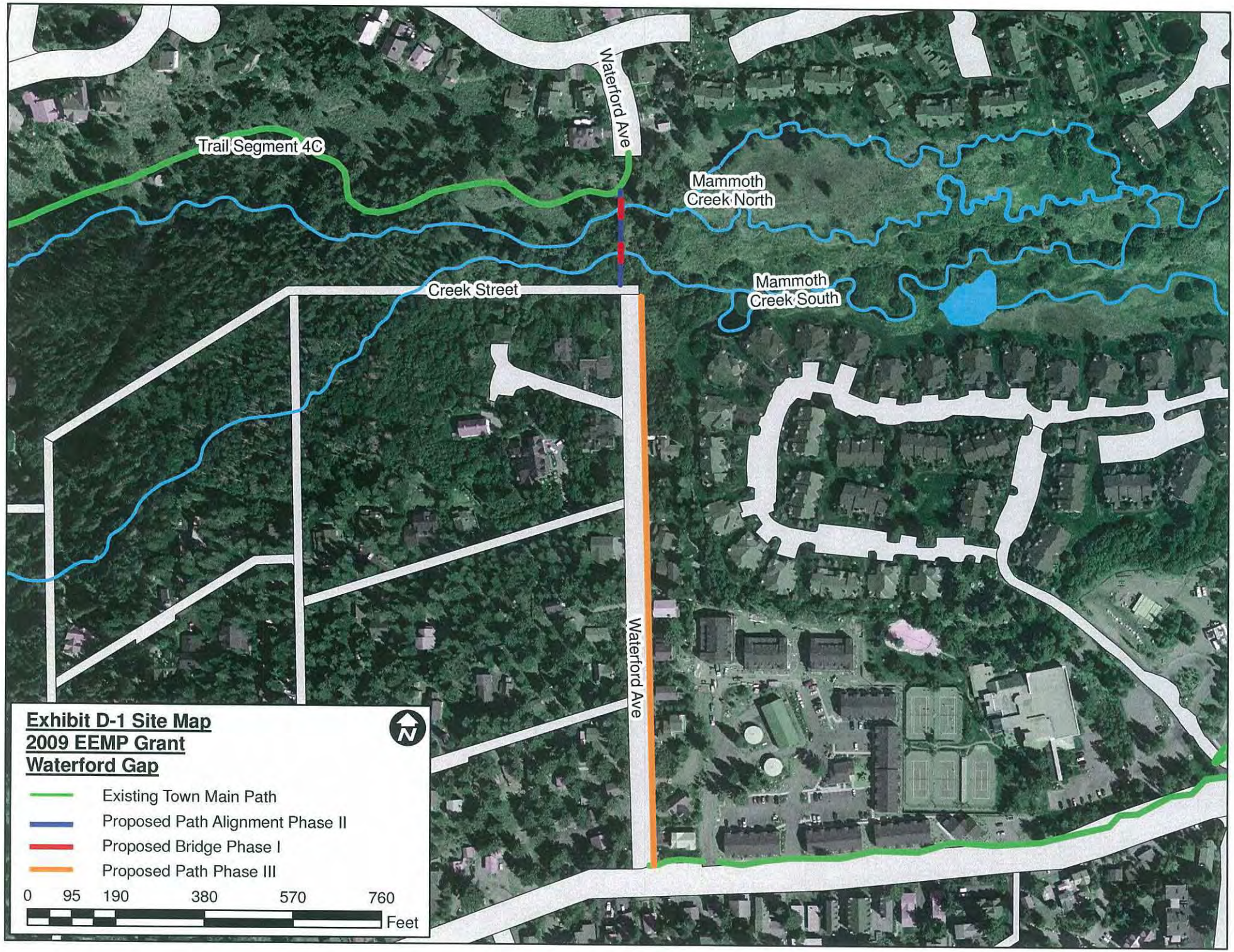
Regional and Project Location

SOURCE: USGS 7.5' Quads: Mammoth Mtn. (1984), Crystal Crag (1984), Bloody Mtn. (1983), Old Mammoth (1983), CA; Mammoth Lakes, 2009.

I:\TML0901\Reports\Bio\fig1_reg_loc_Waterford.mxd (08/28/09)



For Planning Purposes Only


Waterford Ave
Trail Segment 4C
Mammoth Creek North
Creek Street
Mammoth Creek South
Waterford Ave
Exhibit D-1 Site Map
2009 EEMP Grant
Waterford Gap
N
Existing Town Main Path
Proposed Path Alignment Phase II
Proposed Bridge Phase I
Proposed Path Phase III
0 95 190 380 570 760
Feet

APPENDIX C

CULTURAL RESOURCES ASSESSMENT

LSA

LSA ASSOCIATES, INC.
1500 IOWA AVENUE, SUITE 200
RIVERSIDE, CALIFORNIA 92507

951.781.9310 TEL
951.781.4277 FAX

OTHER OFFICES:
IRVINE
PT. RICHMOND
SAN LUIS OBISPO
PALM SPRINGS
FORT COLLINS

BERKELEY
ROCKLIN
SOUTH SAN FRANCISCO
CARLSBAD
FRESNO

December 14, 2009

Mr. Steve Speidel, Principal Planner
Town of Mammoth Lakes
Post Office Box 1609
Mammoth Lakes, California 93546

Subject: Cultural Resources Assessment for the Waterford Avenue Bridges Project (LSA Project No. TML0901)

Dear Mr. Speidel:

LSA Associates, Inc. (LSA) is under contract to the Town of Mammoth Lakes to provide a cultural resources assessment for the Draft Parks and Recreation Master Plan (PRMP) and the Draft Trail System Master Plan (TSMP) Environmental Impact Reports (EIRs). As part of this study, LSA has included a Phase I archaeological survey of a portion of the Waterford Avenue Bridges project over Mammoth Creek. The cultural resource assessment was completed pursuant to California Environmental Quality Act (CEQA). The cultural resources assessment included a record search and field survey of the project area.

The Waterford Avenue Bridges project consists of a 12 foot wide multi-use trail that will connect the Old Mammoth neighborhood with the existing Recreational Trail located north of Mammoth Creek. The property is owned by the Town of Mammoth Lakes. This study includes the southern approach from Waterford Avenue north to the southern bridge, the northern approach from North Waterford Avenue south to the northern bridge, and the area flanked by the two bridges. This study does not include the bridges or abutments. The Waterford Avenue Bridge approaches will consist of the removal of the top, organic, layer of duff and placing a base on top of the existing sediments. Excavation into the soil will only be required to provide a stable base for the trail.. The study area was approximately 40 feet in width and roughly followed the existing pedestrian paths. See Attachments 1-3 for project maps.

A dirt road crossing the creek was used in the past until approximately 1990 when soil & rocks were place to block access to the dirt road. There are two water lines 5 feet apart and there is a sewer line 10 feet from the closest water line within the corridor. The last line was installed in 1989. The area has been greatly disturbed by excavation and associated access for underground utility construction.

METHODS

LSA researcher Rachel Braco conducted a records search at the Eastern Information Center (EIC) located at the University of California, Riverside. The California Historical Resources Information System (CHRIS) cultural resource maps at the EIC were checked for possible prehistoric and historic resources previously recorded within ¼ mile of the project. To supplement the CHRIS data, a review was conducted of the National Register of Historic Places Index and Office of Historic Preservation Directory of Properties. The records search was conducted on June 9, 2009.

An intensive pedestrian-survey for the project was conducted within the proposed study area by archaeologist Curt Duke, M.A., RPA, on July 20, 2009. The survey was conducted by walking transects spaced approximately 3 meters apart and focused on the areas with ground visibility. Where possible, soil profiles were examined for cultural resources and rodent back dirt was checked for cultural remains.

RESULTS

Data from the EIC indicate that there are no previously recorded cultural resources within the study area boundaries. There are three archaeological sites located within the ¼-mile radius search for the study area (see Table A).

Table A: Archaeological Sites Within 0.25 Mile of the Study Area

Archaeological Site	Description/Status	Distance from Study Area
CA-MNO-529	Prehistoric temporary camp site. Artifacts consist of a metate, projectile point, and many obsidian flakes. Recorded by W. Taylor in 1980.	~700 ft. N
CA-MNO-904	Prehistoric low-density lithic scatter. Artifacts consist of hundreds of obsidian flakes. Recorded by J. Burton in 1982.	~400 ft. WNW
CA-MNO-905	Prehistoric high-density lithic scatter. Artifacts consist of thousands of obsidian flakes. Recorded by J. Burton in 1982.	~400 ft. SW

In addition, our research indicates that along the banks of Mammoth Creek there are 40 additional cultural resources to the east (n=25) and west (n=15). This indicates that Mammoth Creek has a high potential for identifying cultural resources.

The field survey indicated that almost the entire project is obscured by dense vegetation. Ground visibility was less than 10 percent. No cultural resources were observed during the field survey; this is likely a result of limited ground visibility.

RECOMMENDATIONS

The project straddles Mammoth Creek, which has known prehistoric and historic cultural resources along its entire course. Mammoth Creek has high sensitivity for prehistoric cultural resources. This is confirmed by the presence of three known prehistoric archaeological sites within 700 feet of the study area.

Based on the results of LSA's field survey and research, development of the proposed project will not disturb any known cultural resources. Further, because of the limited ground disturbance associated with the Waterford Avenue Bridges multi-use trail approaches, it is not anticipated that unrecorded cultural resources will be disturbed.

If the proposed design of the approaches changes to include ground disturbing activities, LSA recommends that an archaeological monitoring program be implemented. The monitoring program shall be managed by an archaeologist who meets the *Secretary of the Interior's Professional Qualification Standards.* The archaeological monitoring program shall include provisions for an in-field archaeological monitor; if any archaeological sites are discovered, assessing the significance of archaeological finds; mitigation measures including archaeological excavation, laboratory analysis, reporting, and curation; and consultation with Indian Tribes for prehistoric sites.

If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify the Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

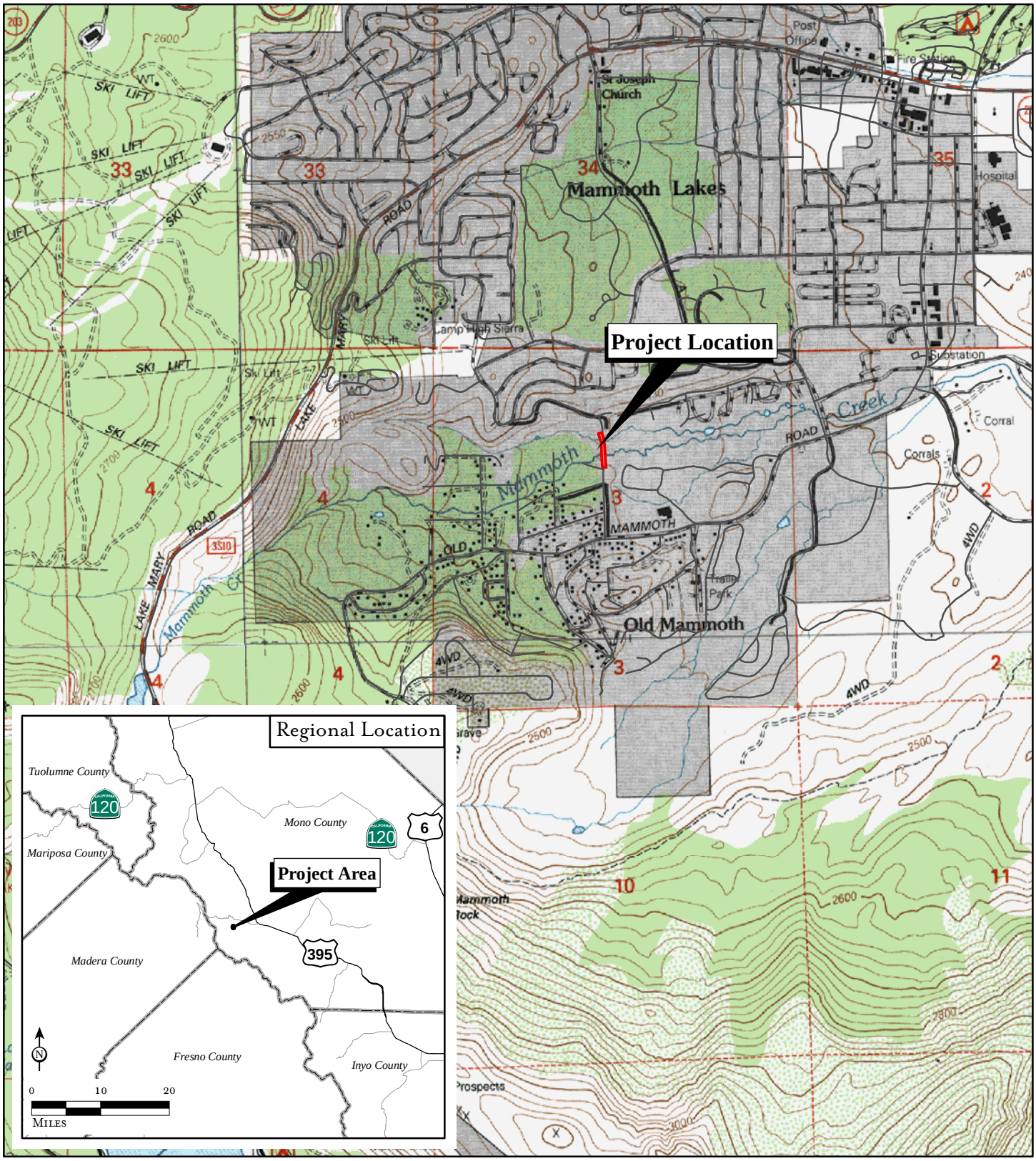
Thank you for the opportunity to assist you on this project. If LSA can be of further assistance, or if you have any questions concerning this letter, please contact me at (951) 781-9310 or curt.duke@lsa-assoc.com.

Sincerely,

LSA ASSOCIATES, INC.

Curt Duke, M.A. RPA
Archaeologist/Principal

Attachments: 1: Project Location Map (USGS)
2: Waterford Avenue Bridges Map (Aerial)
3: Regional Map (Aerial)



LSA

FIGURE 1

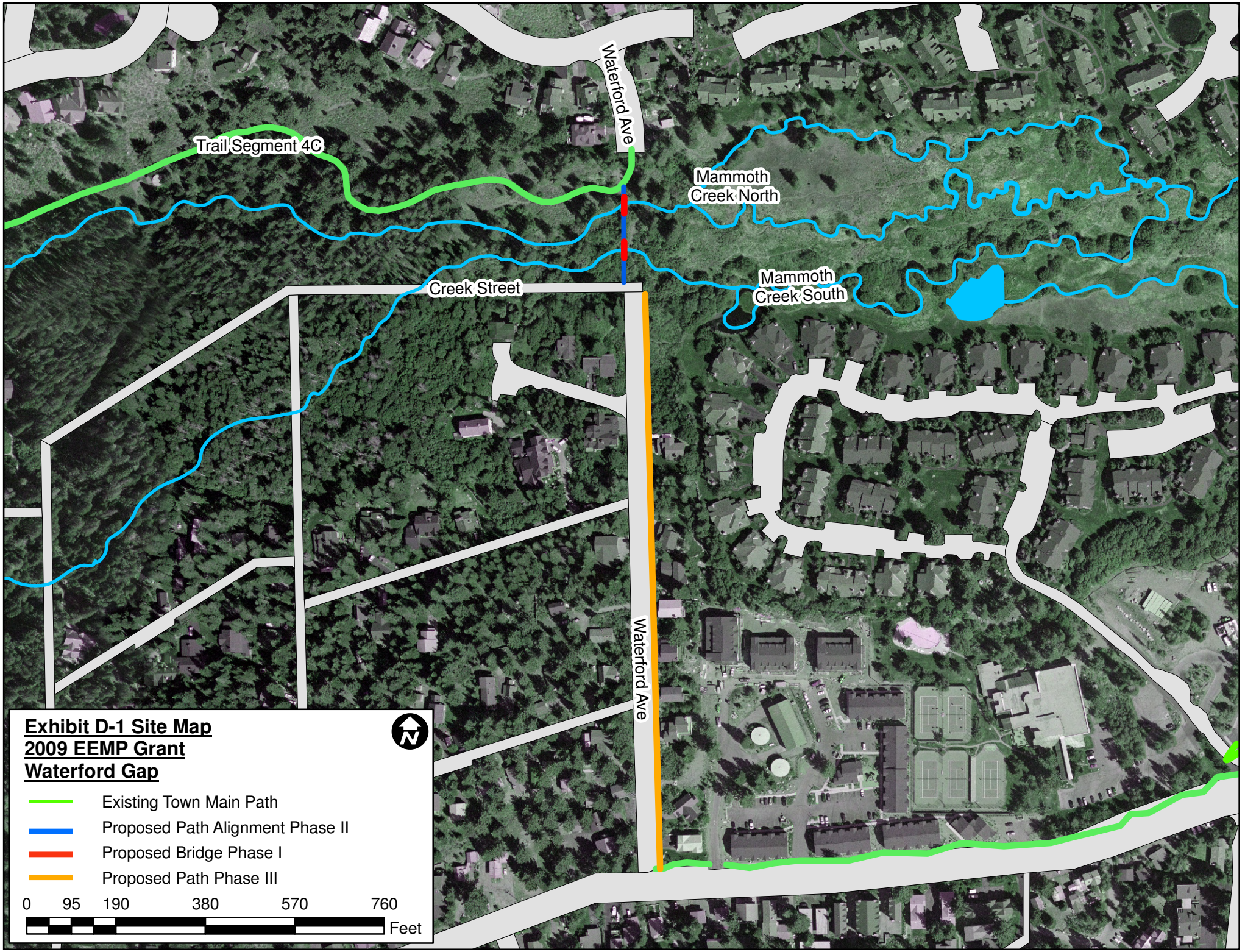
Waterford Avenue Bridges
Mammoth Lakes
Cultural Resources

Regional and Project Location

SOURCE: USGS 7.5' Quads: Mammoth Mtn. (1984), Crystal Crag (1984), Bloody Mtn. (1983), Old Mammoth (1983), CA; Mammoth Lakes, 2009.

I:\TML0901\Reports\Cultural\fig1_reg_loc_Waterford.mxd (08/28/09)

For Planning Purposes Only


Waterford Ave
Trail Segment 4C
Mammoth Creek North
Creek Street
Mammoth Creek South
Waterford Ave
Exhibit D-1 Site Map
2009 EEMP Grant
Waterford Gap
Existing Town Main Path
Proposed Path Alignment Phase II
Proposed Bridge Phase I
Proposed Path Phase III
0 95 190 380 570 760
Feet

APPENDIX D

FLOOD STUDY

Waterford Bridge Crossing
Town of Mammoth Lakes, California

Flood Study

Project 2154

September 2006

Prepared for:
Intrawest
6900 S. McCarran Blvd.
Suite 3000
Reno, NV 89509

Engineer:

Post Office Box 1570
Mammoth Lakes, Ca 93546
Phone: (760) 934-7588
Fax: (760) 934-5619
triad@triadholmes.com
David Laverty, LS, Principal
Tom Platz, RCE, Principal

REGISTERED PROFESSIONAL ENGINEER
PAUL EDWARD ROTEN
56891
Exp. 6-30-2007
CIVIL
STATE OF CALIFORNIA

Paul E. Roten, P.E. C56891

2006 Sep. 18
Date

Flood Study

Waterford Bridge Crossing
Town of Mammoth Lakes, California

INDEX

APPENDIX

Flood Study
Waterford Bridge Crossing

1 - Project

The project is located in the Town of Mammoth Lakes, Mono County, California. The Town of Mammoth Lakes, in cooperation with Intrawest, is proposing to construct two bridges across two parallel branches of Mammoth Creek as a part of a bigger project for increased access to a city-wide bike path.

2 - Objective

The objective of this study is to determine the Hydrologic runoff quantities and size the bridges proposed for the creeks' crossings.

3 – Project Background and Observations

The Waterford Bridge crossing area provides access from Waterford Street to an existing portion of the pedestrian and bike path at Waterford Avenue. The proposed extension of the pedestrian and bike path crosses two branches of Mammoth Creek. An existing water main is located within the same corridor, and the gravel fill covering the water main trench provides an informal footpath through the center of the delineation corridor. The site is dominated by pine and shrub in the upland areas and willow in the wetland. The Mammoth Creek channel is predominately unvegetated.

4 – Assumptions

Runoff quantity of 350 cfs for the storm of 100-year intensity is referenced from the Town of Mammoth Lakes Flood Insurance Study dated September 30, 1992. This information is included in Appendix B.

Wetland delineation and blue line stream are referenced from Wetland Delineation Report prepared by Resource Concepts, Inc. in August 2006.

5 - Calculations

Hydrologic calculations are prepared using the latest version of the Haestad, HecRas (Hydraulic River Analysis) program. These calculations are included in Appendix C.

HecRas Calculations:

- First, runs are made using the existing conditions. The cross sections are entered for the entire length of the reach. Interpolations are made at 50-foot intervals. Fixed amount of 350 cfs is added for the 100-year storm for the reach. A critical depth flow is placed at each end of the reach.
- Then, runs are made using the proposed conditions. The geometric and flow data are the same as in existing conditions, with the exception of 20 and 36 feet long bridges placed at the west creek branch as shown in Appendix A.

7 - Conclusions

During a 100-year storm, the depth of water in the creek branches varies from approximately 1 to 2.5 ft. In the vicinity of the bridge crossings, the depth of water is 2.15 ft in the creek and 0.8 ft in the wetland area between in the two creek branches. Velocities in the vicinity of the bridge crossings are approximately 1.7 ft/s. The proposed bridge crossings raise the water surface by approximately 0.06 ft.

Since a proposed paved bike path is located in the wetland delineated area, mitigation is required. A raised path could reduce the mitigation requirements. The raised path would also allow the bridges to be built above the flood elevation. The bridges shall be structurally designed to withstand the water pressure loads associated with a 100-year storm.

Ongoing maintenance shall include debris removal. Since the velocity of the flood flows are low and there is a significant amount of vegetation upstream of the bridge crossings, we do not believe this site will have a considerable debris issue.

Permits are required for construction in this blueline stream from the Army Corp, RWQCB, and Department of Fish and Games. The drainage calculations performed in this study are for this site only. These results should not be used for any other sites.

Flood Study

Waterford Bridge Crossing

Appendix A

Figures

Flood Study

Waterford Bridge Crossing

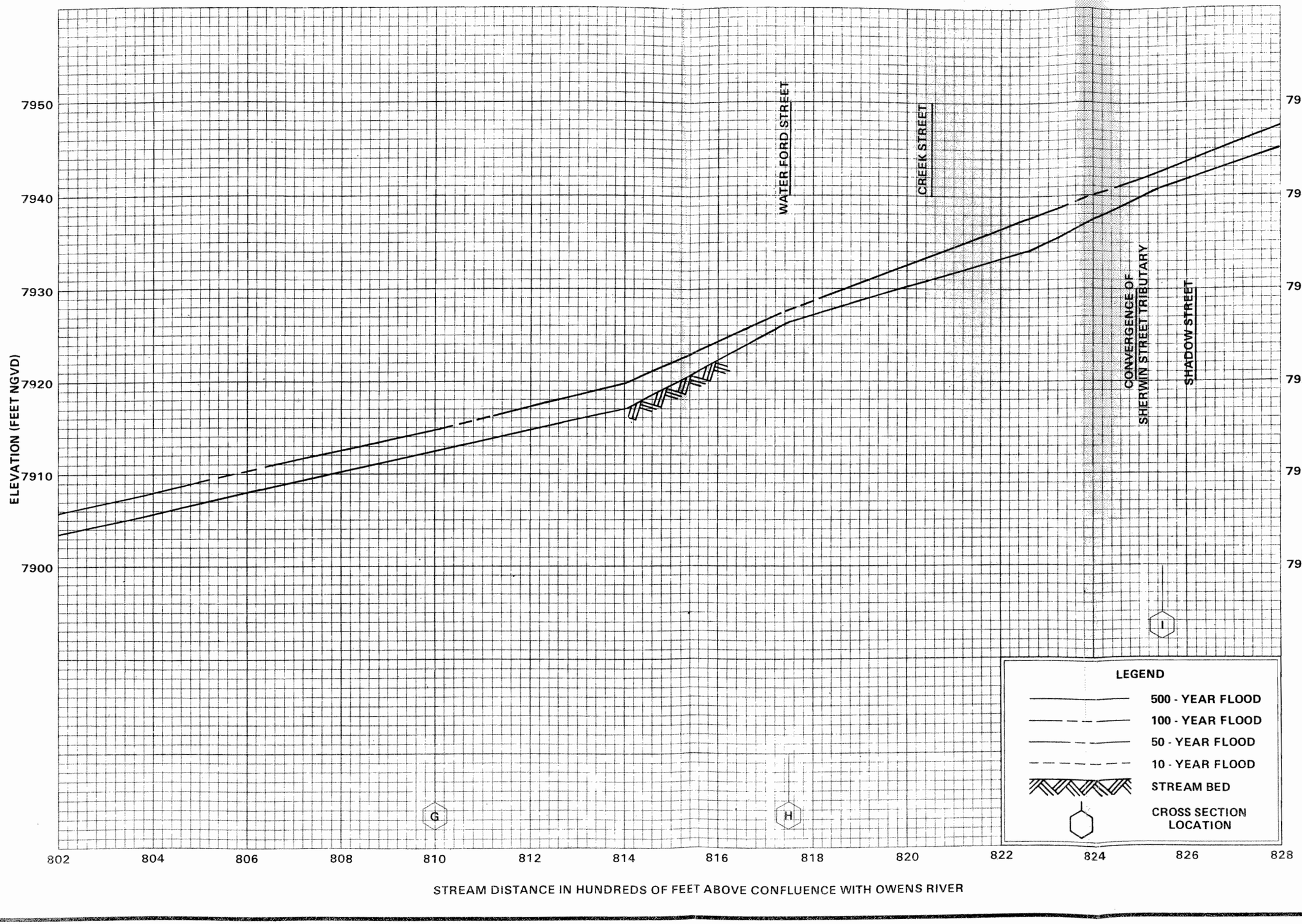
Appendix B

Historic Runoff Quantities
Wetland Delineation

Table 1. Summary of Discharges

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Year[1]	50-Year[1]	100-Year	500-Year[1]
Mammoth Creek:					
650 feet downstream of Old Mammoth Road	13.12			640	
650 feet upstream of Minaret Road	13.00			610	
At Waterford Street	12.51			350	
At Sherwin Road	12.10			210	
Mammoth Creek Tributary:					
At Waterford Street	12.51			95	
Sherwin Creek Tributary:					
At Sherwin Road	12.10			90	

[1]Discharges Not Determined



FLOOD PROFILES

MAMMOTH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWN OF MAMMOTH LAKES, CA
(MONO CO.)

03P

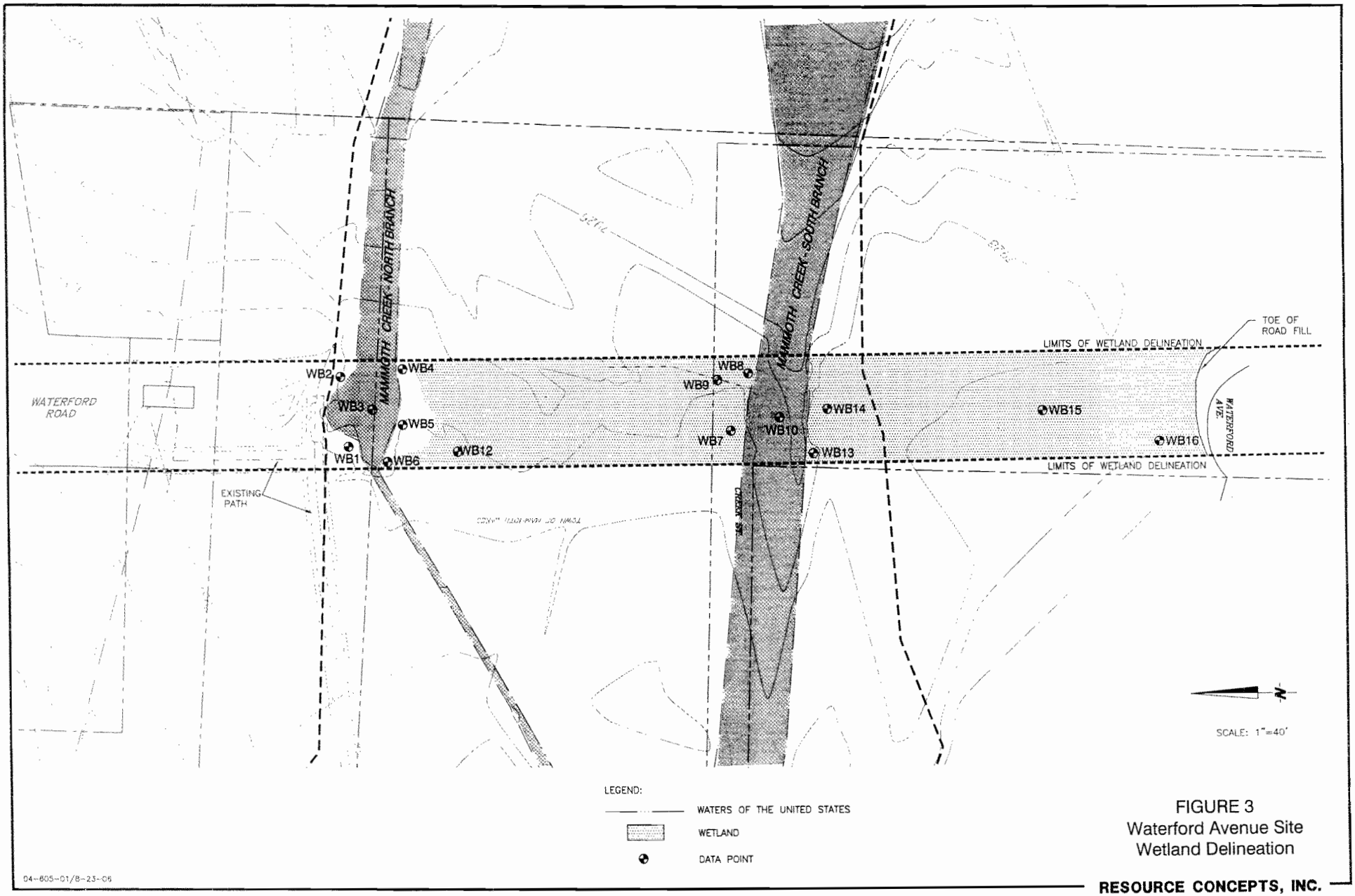


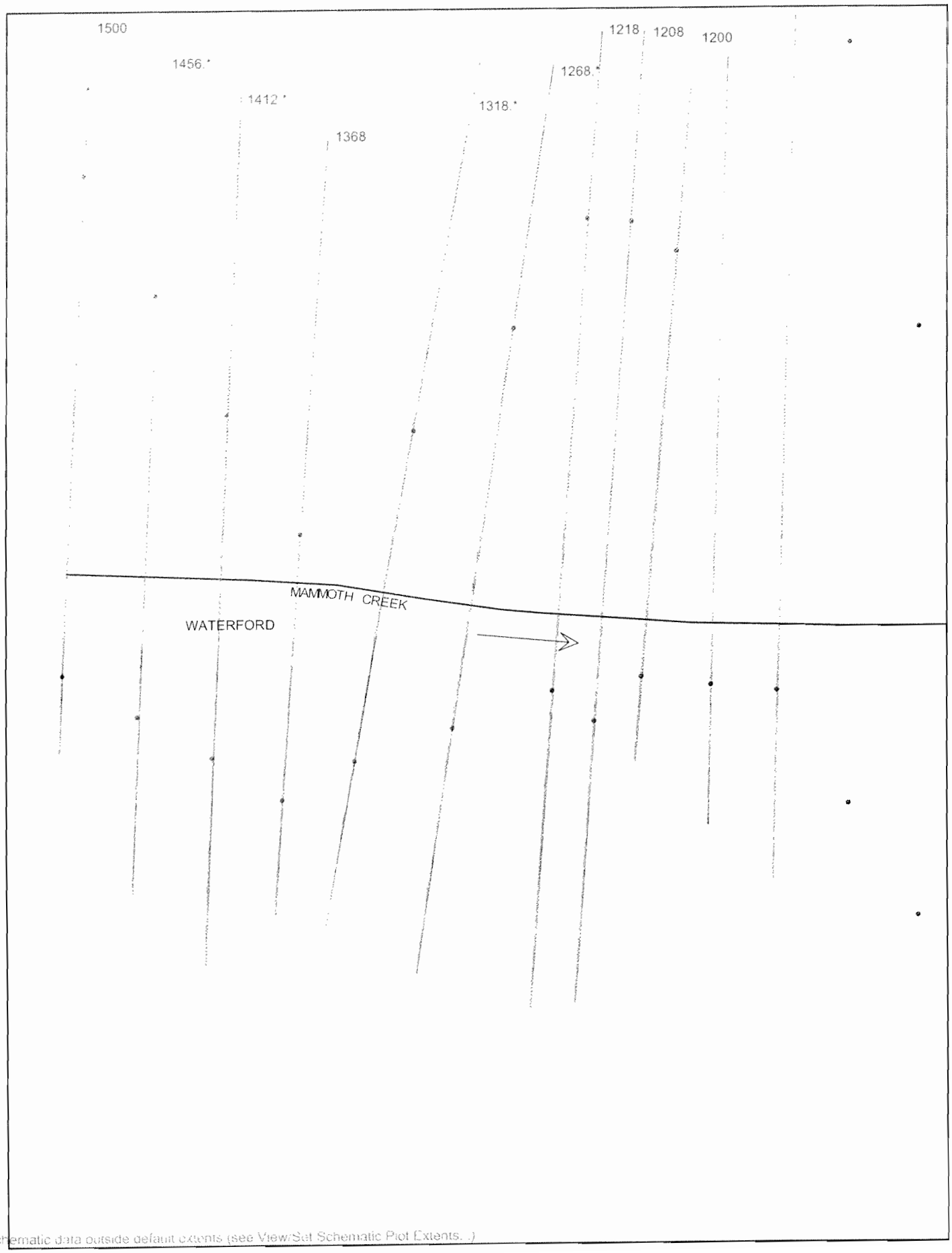
FIGURE 3
Waterford Avenue Site
Wetland Delineation

Flood Study

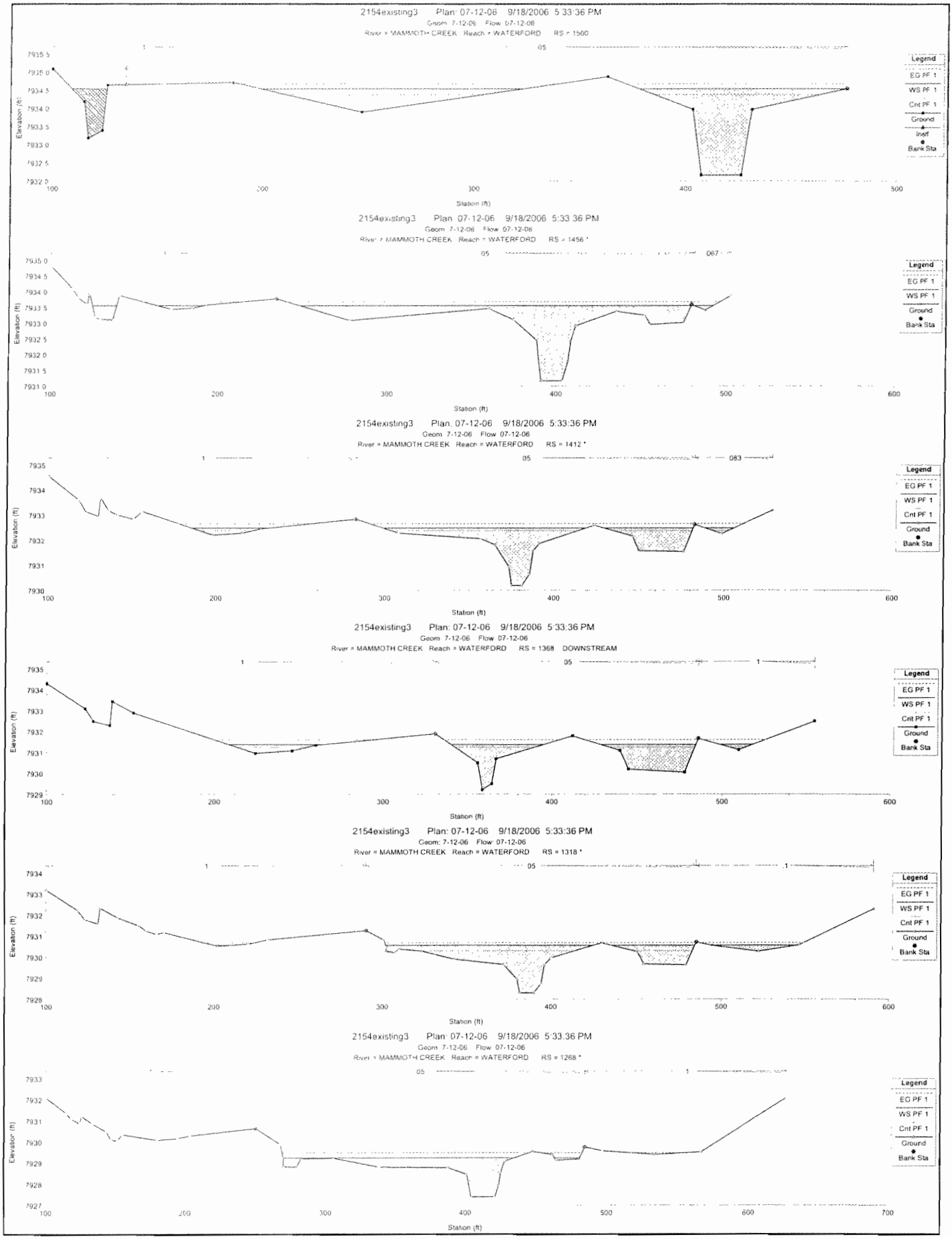
Waterford Bridge Crossing

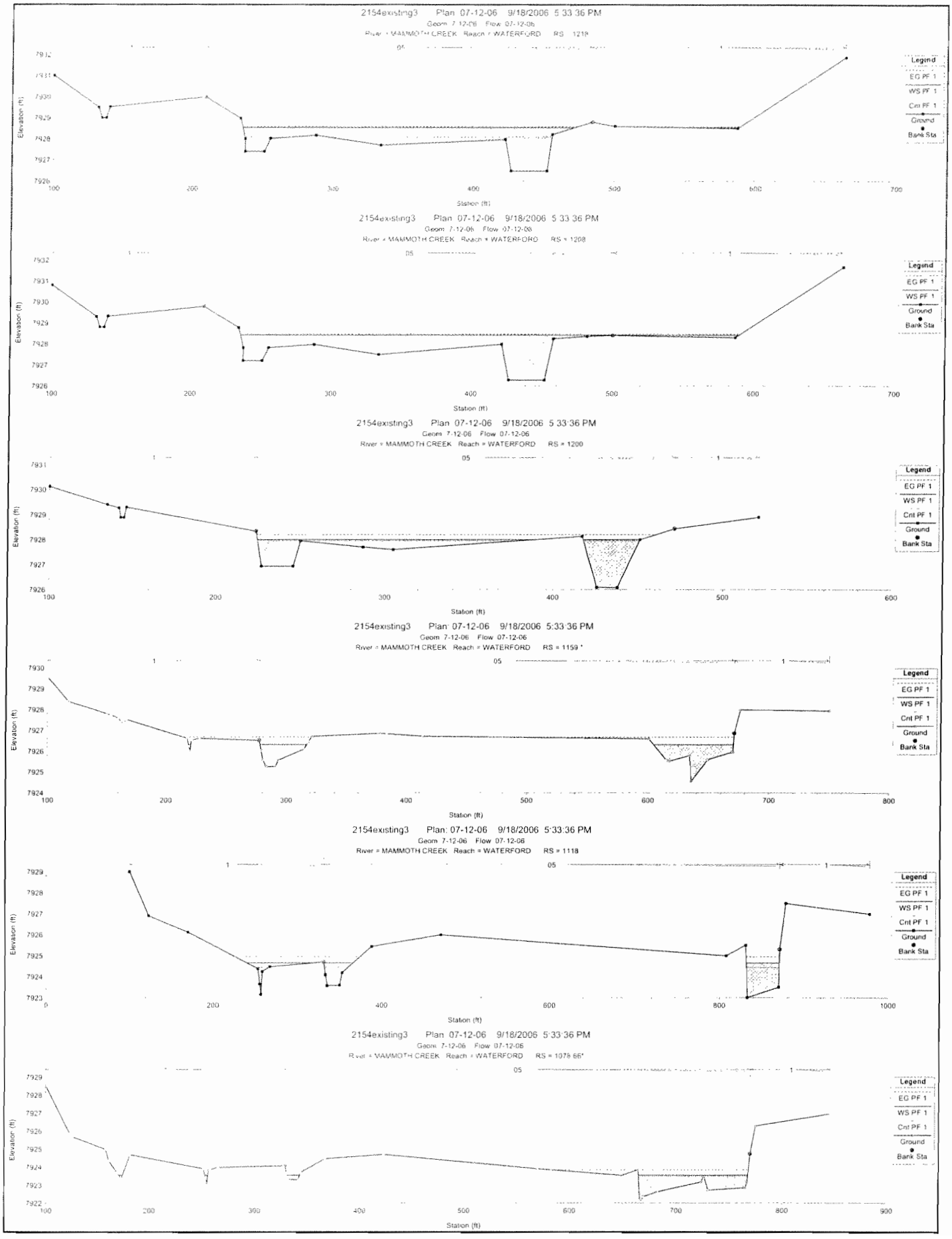
Appendix C

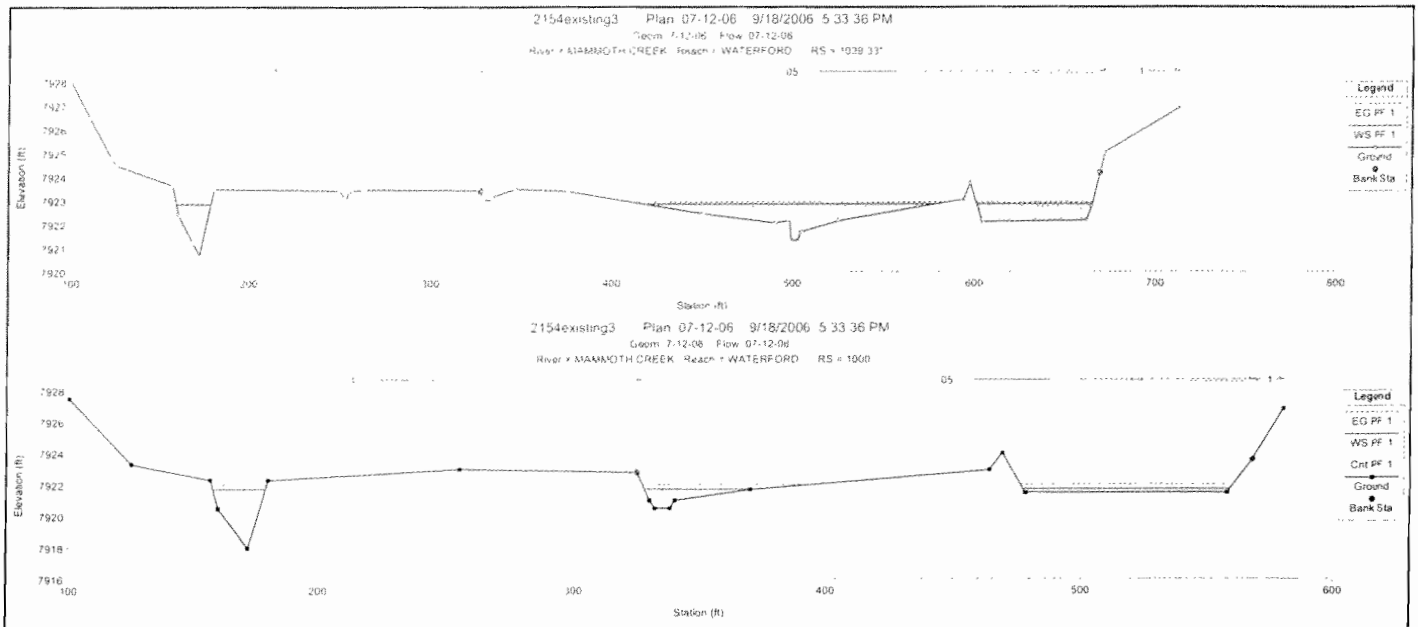
Hydrology Calculations



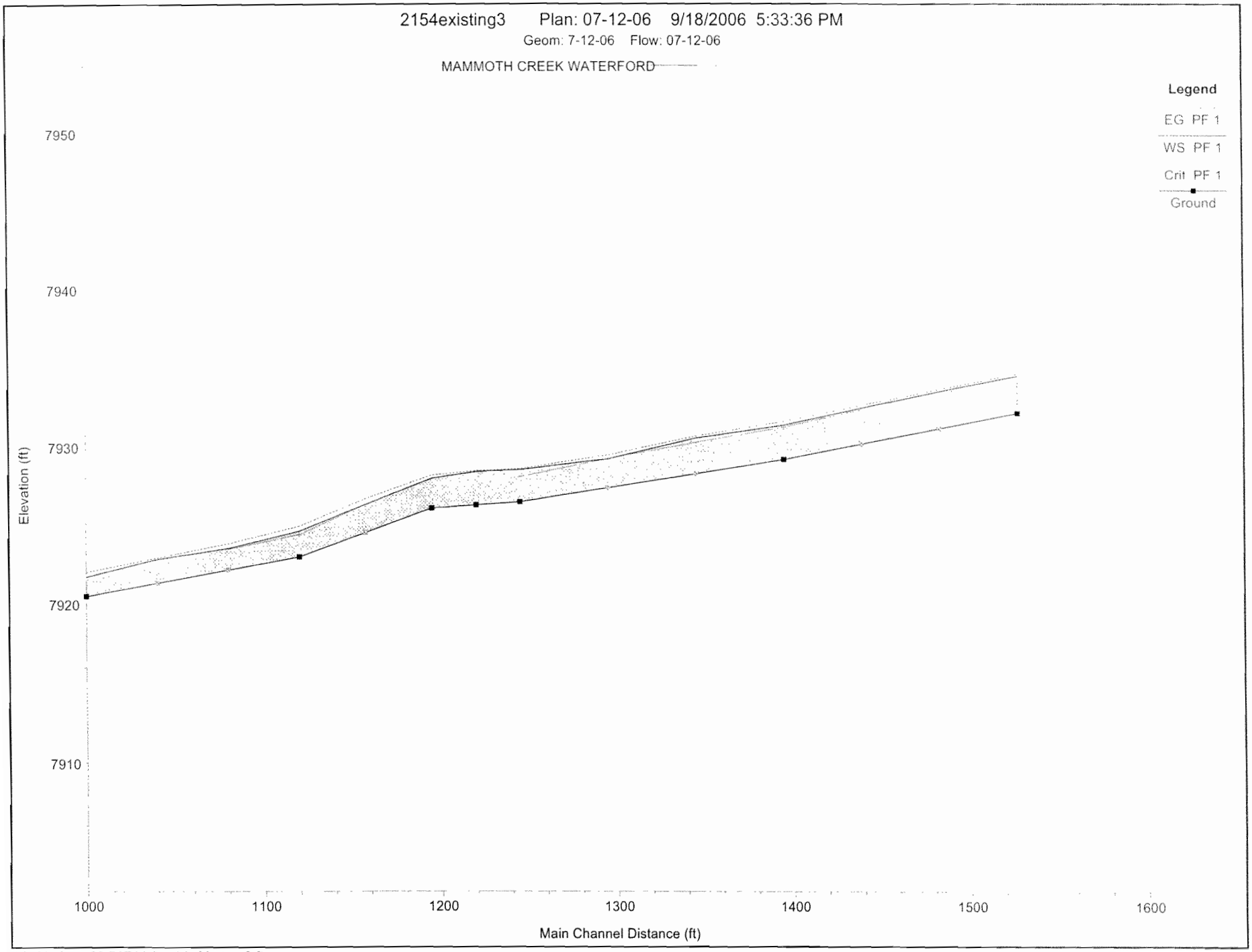
Some schematic data outside default extents (see View/Set Schematic Plot Extents...)

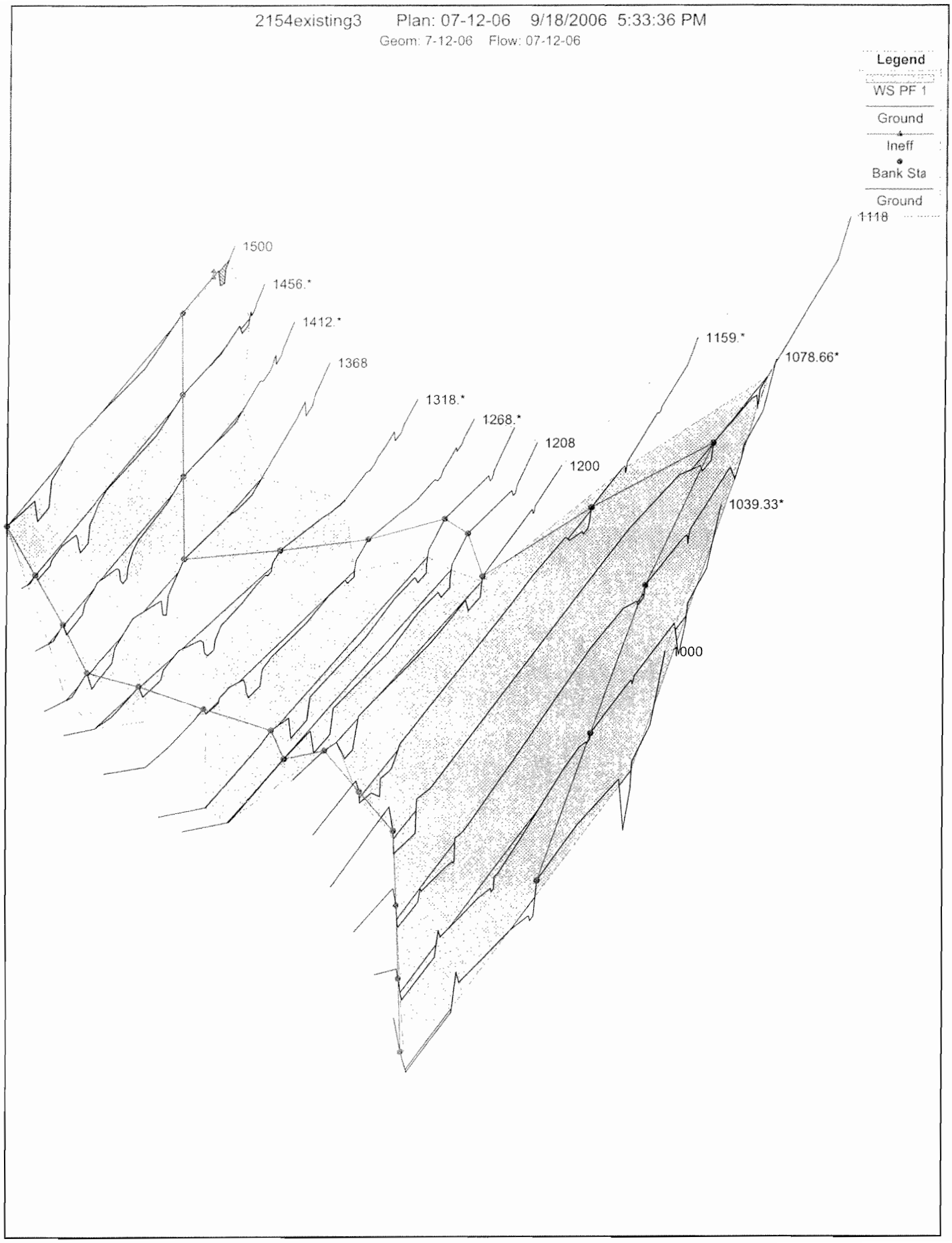

2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1560
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Inef
Bank Sta
Elevation (ft)
Station (ft)
2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1456 *
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1412 *
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1368 DOWNSTREAM
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1318 *
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1268 *
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)


2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1218
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1208
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1200
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1159 *
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1118
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1078.66*
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1939.33*
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta

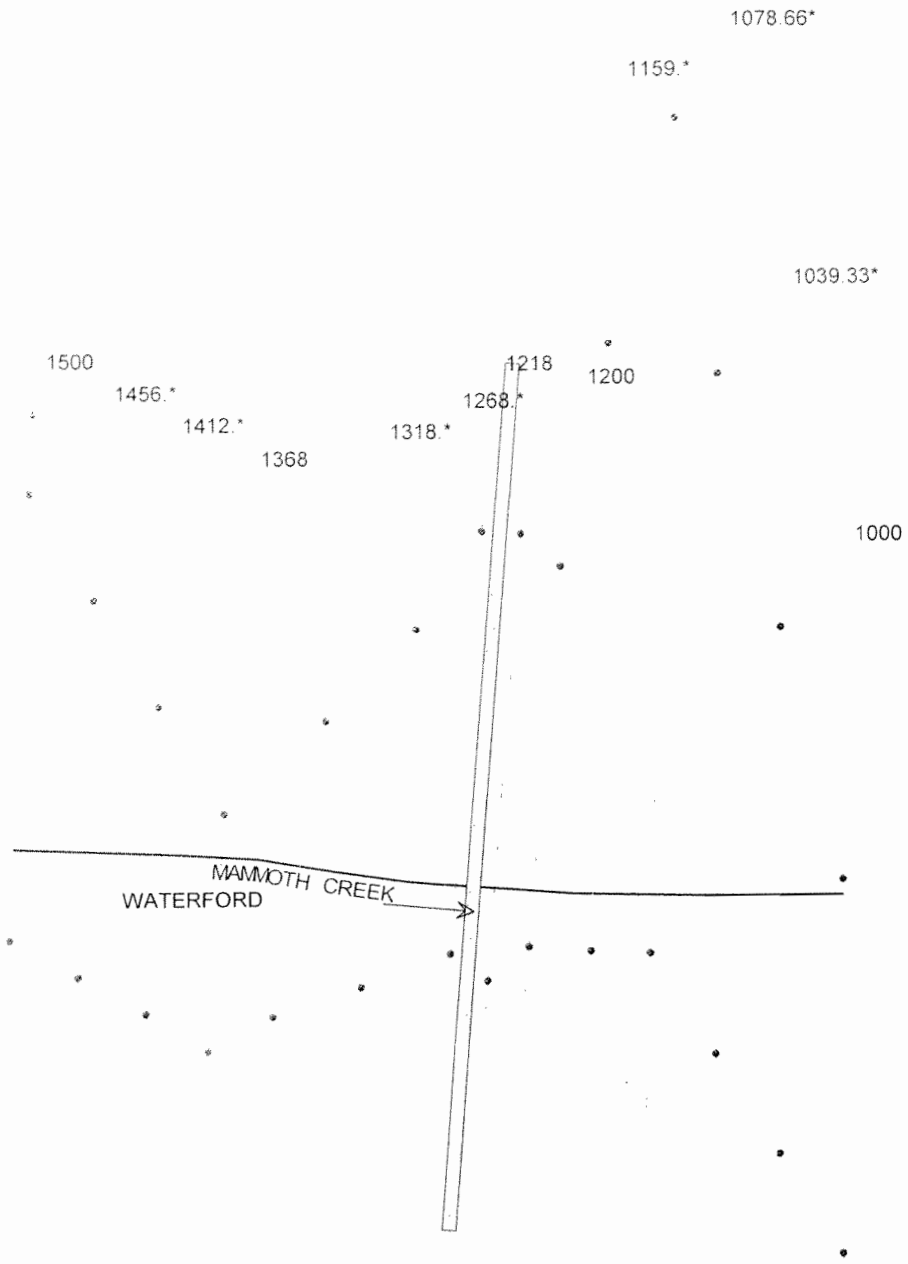
2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1900
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
MAMMOTH CREEK WATERFORD
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
7950
7940
7930
7920
7910
Elevation (ft)
1000
1100
1200
1300
1400
1500
1600
Main Channel Distance (ft)
1 in Horiz. = 69.76744 ft 1 in Vert. = 8 ft

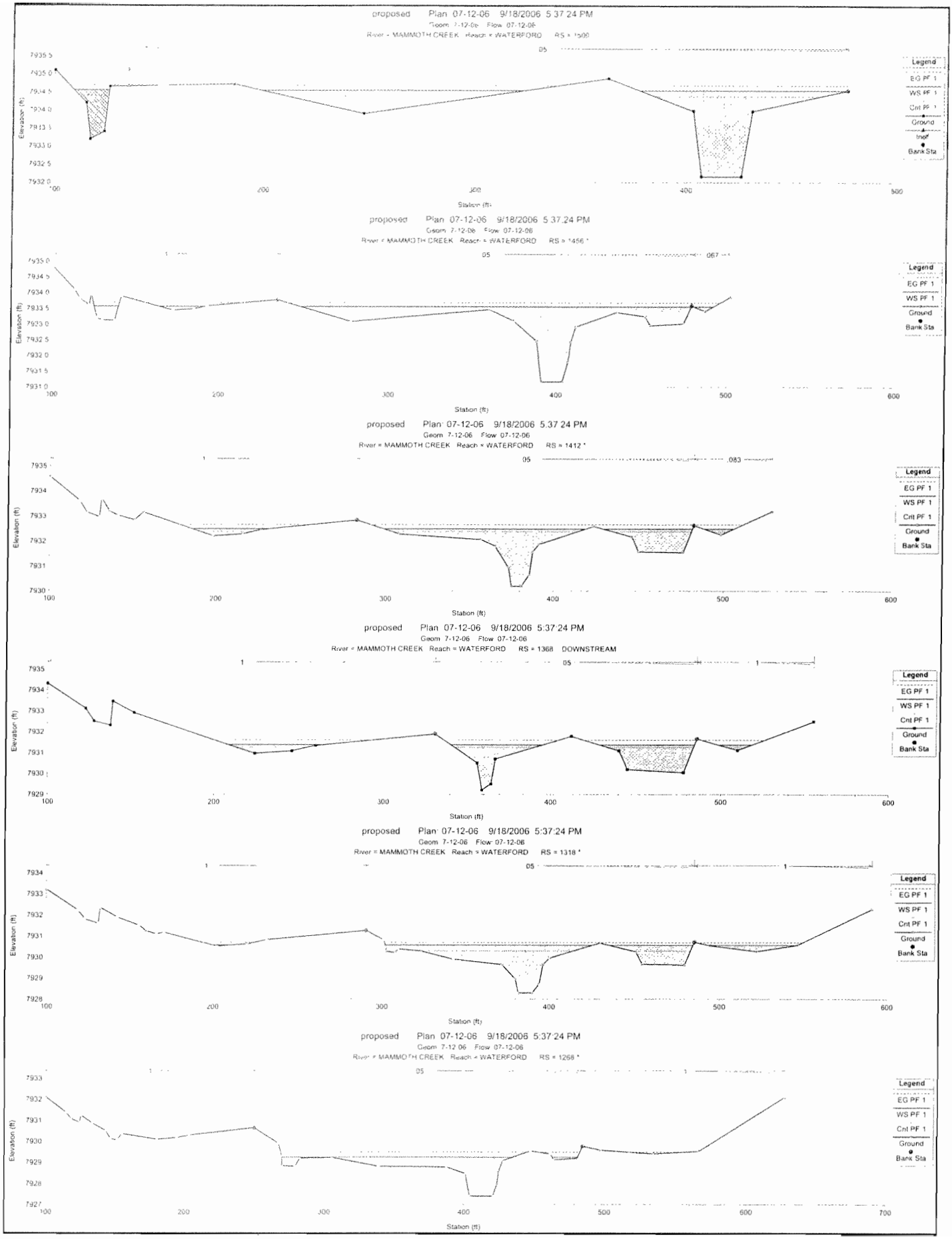

2154existing3 Plan: 07-12-06 9/18/2006 5:33:36 PM
Geom: 7-12-06 Flow: 07-12-06
Legend
WS PF 1
Ground
Ineff
Bank Sta
Ground
1500
1456.*
1412.*
1368
1318.*
1268.*
1208
1200
1159.*
1118
1078.66*
1039.33*
1000

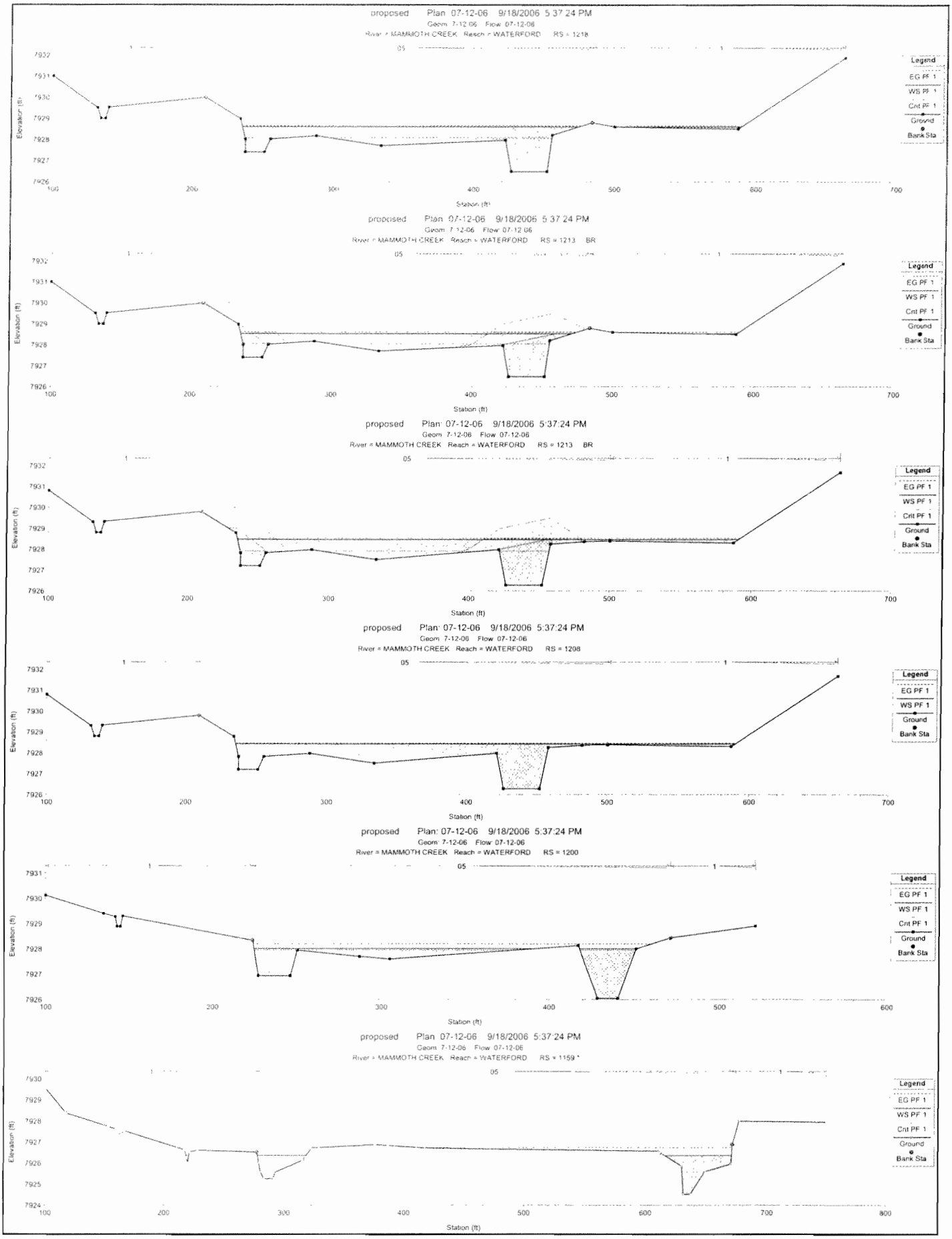
HEC-RAS Plan: 07-12-06 River: MAMMOTH CREEK Reach: WATERFORD Profile: PF 1

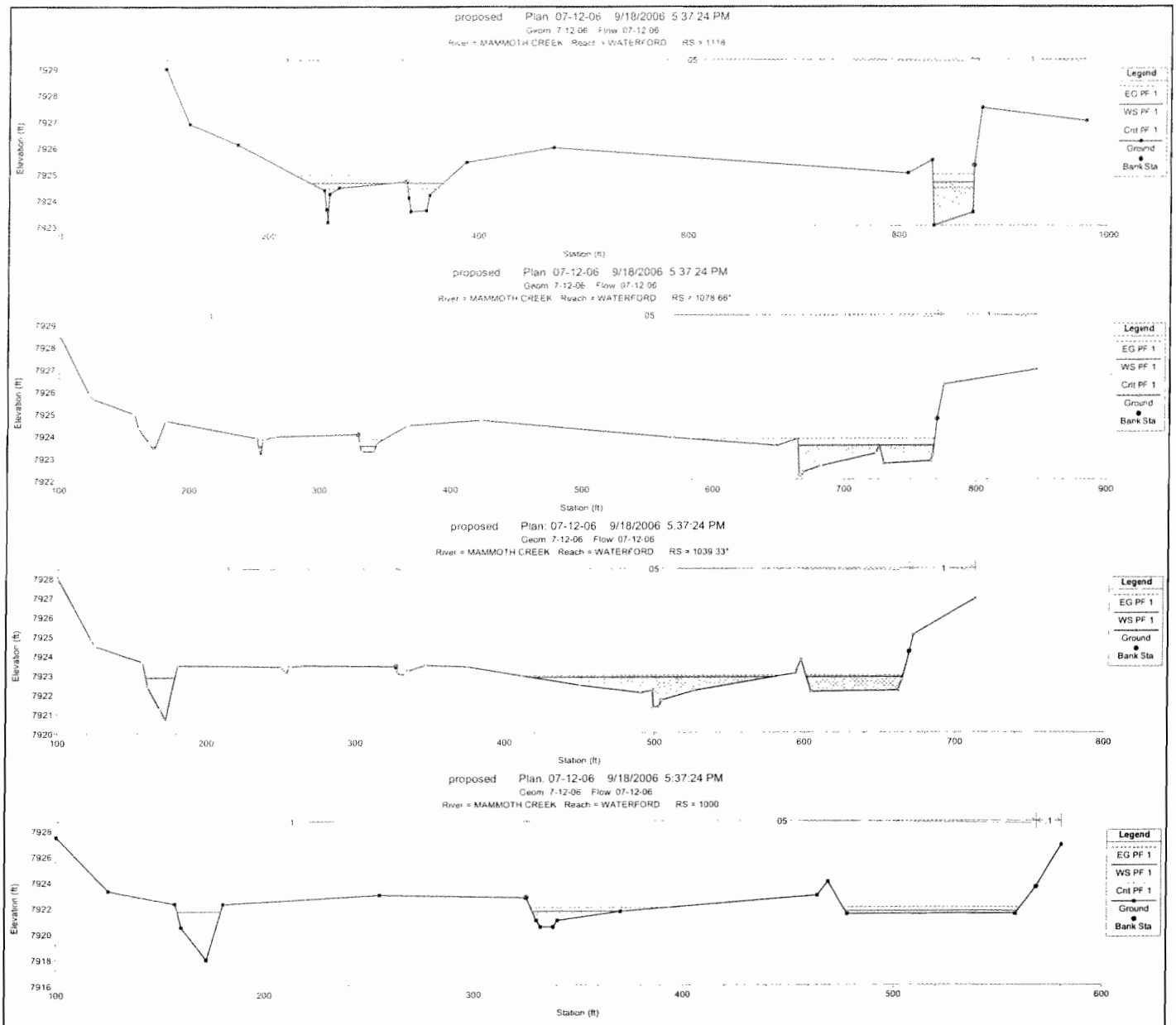
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
WATERFORD	1500	PF 1	350.00	7932.16	7934.55	7934.38	7934.68	0.022363	2.92	119.70	240.88	0.70
WATERFORD	1456.*	PF 1	350.00	7931.17	7933.56		7933.69	0.022766	2.88	127.41	284.89	0.71
WATERFORD	1412.*	PF 1	350.00	7930.19	7932.50	7932.38	7932.66	0.024181	3.28	114.45	238.53	0.75
WATERFORD	1368	PF 1	350.00	7929.20	7931.39	7931.25	7931.61	0.023156	3.83	104.62	189.58	0.76
WATERFORD	1318.*	PF 1	350.00	7928.29	7930.56	7930.29	7930.69	0.014245	2.82	131.02	234.84	0.59
WATERFORD	1268.*	PF 1	350.00	7927.39	7929.24	7929.24	7929.48	0.047479	3.97	88.16	182.74	1.01
WATERFORD	1218	PF 1	350.00	7926.48	7928.55	7928.09	7928.60	0.005079	1.83	192.10	278.55	0.36
WATERFORD	1208	PF 1	350.00	7926.28	7928.43		7928.47	0.004760	1.71	210.40	354.48	0.34
WATERFORD	1200	PF 1	350.00	7926.08	7928.01	7927.96	7928.20	0.036879	3.55	98.63	200.47	0.89
WATERFORD	1159.*	PF 1	350.00	7924.54	7926.33	7926.33	7926.69	0.043015	4.80	73.29	107.57	1.02
WATERFORD	1118	PF 1	350.00	7923.00	7924.66	7924.43	7924.95	0.021191	4.39	92.08	154.36	0.76
WATERFORD	1078.66*	PF 1	350.00	7922.17	7923.55	7923.50	7923.84	0.037502	4.37	80.84	125.99	0.94
WATERFORD	1039.33*	PF 1	350.00	7921.33	7922.86		7922.95	0.013198	2.36	153.25	245.84	0.55
WATERFORD	1000	PF 1	350.00	7920.50	7921.73	7921.73	7922.03	0.045181	3.06	86.99	147.38	0.93



Some schematic data outside default extents (see View/Set Schematic Plot Extents...)


proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1500
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Inef
Bank Sta
proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1456 *
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1412 *
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1368 DOWNSTREAM
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1318 *
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1268 *
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta

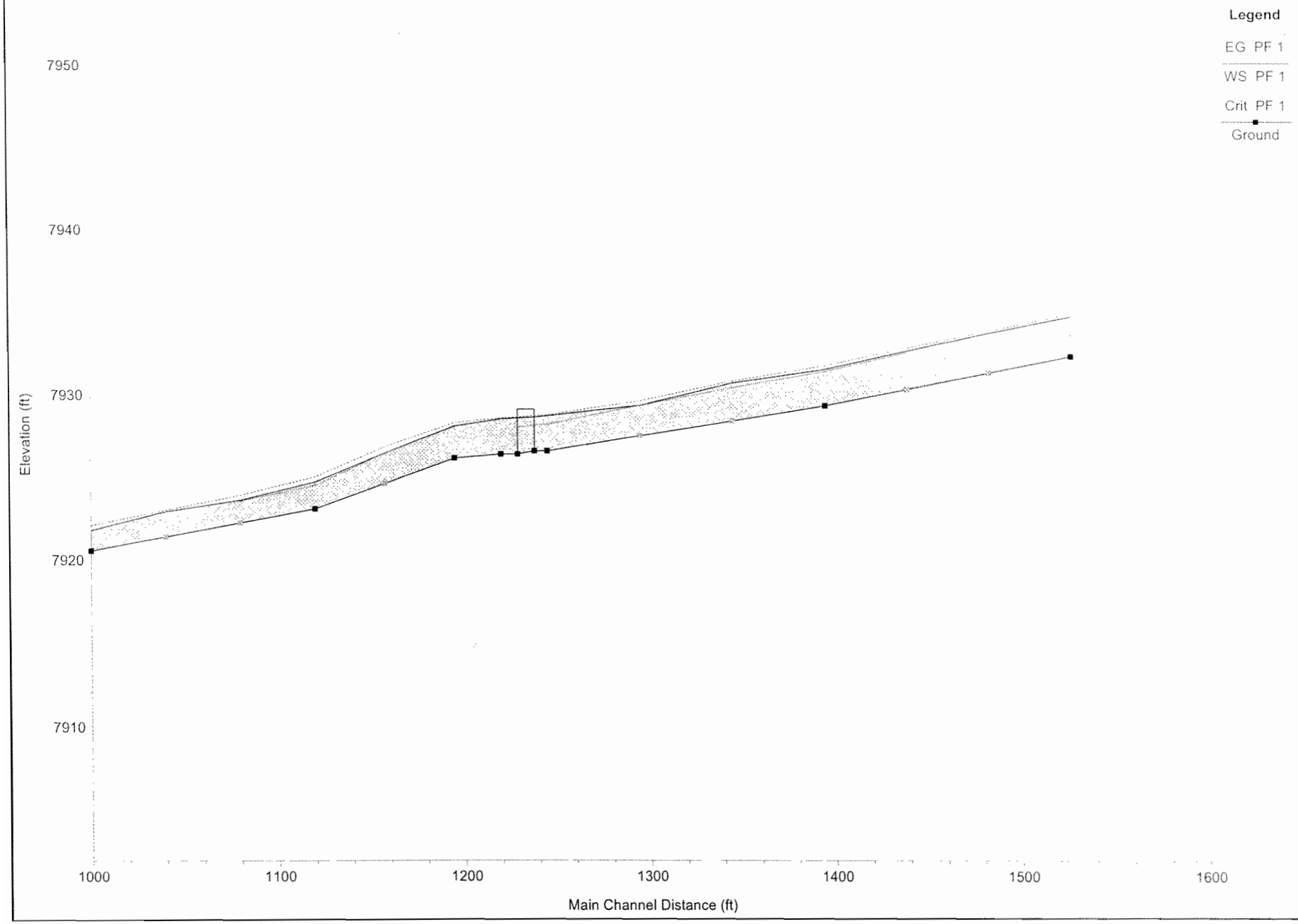

proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1218
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1213 BR
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1213 BR
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1208
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1200
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1159 *
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1118
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1078.66*
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1039.33*
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
River = MAMMOTH CREEK Reach = WATERFORD RS = 1000
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta

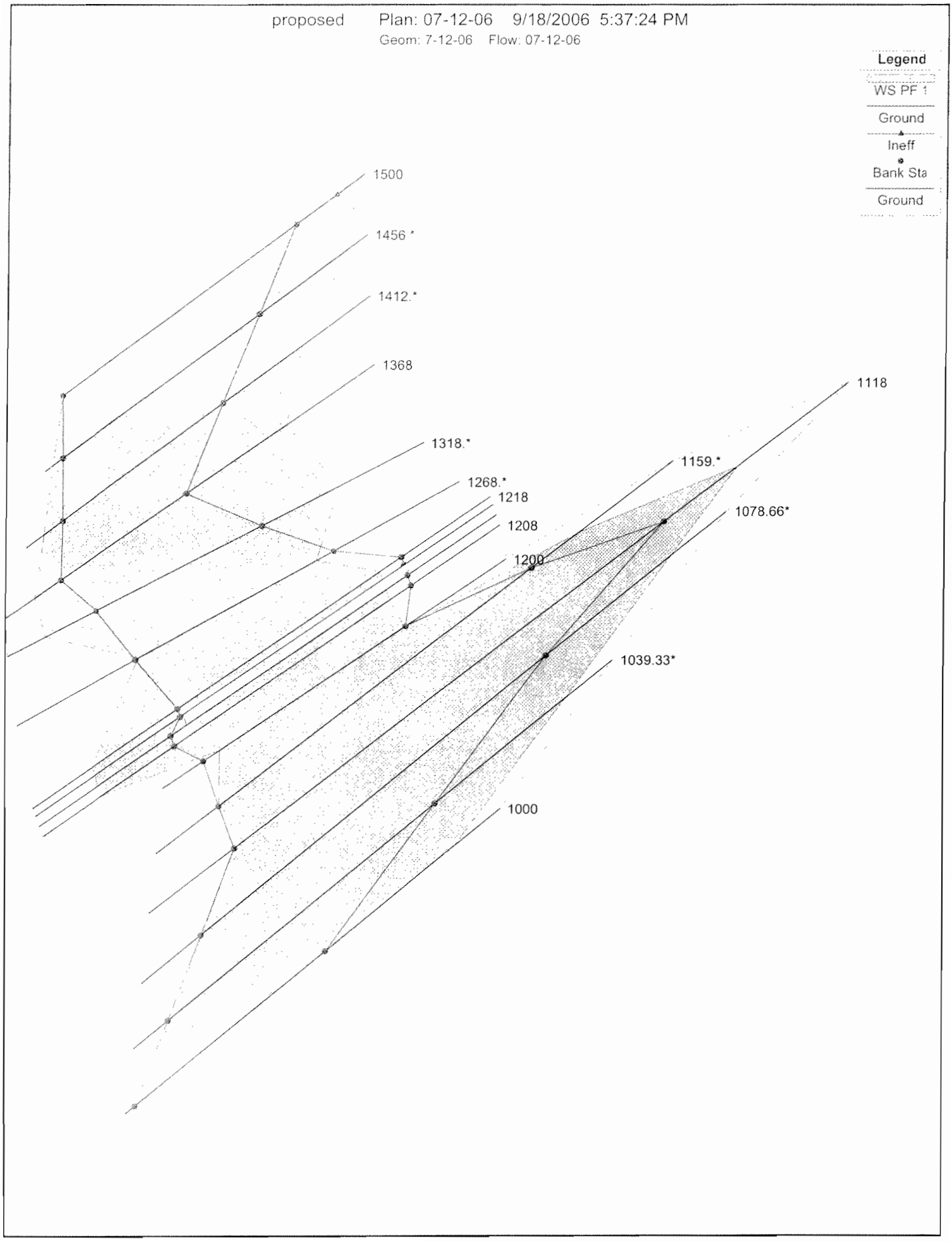
proposed Plan: 07-12-06 9/18/2006 5:37:24 PM

Geom: 7-12-06 Flow: 07-12-06

MAMMOTH CREEK WATERFORD



1 in Horiz. = 69.76744 ft 1 in Vert. = 8 ft


proposed Plan: 07-12-06 9/18/2006 5:37:24 PM
Geom: 7-12-06 Flow: 07-12-06
Legend
WS PF 1
Ground
Ineff
Bank Sta
Ground
1500
1456 *
1412.*
1368
1318.*
1268.*
1218
1208
1200
1159.*
1118
1078.66*
1039.33*
1000

HEC-RAS Plan: 07-12-06 River: MAMMOTH CREEK Reach: WATERFORD Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
WATERFORD	1500	PF 1	350.00	7932.16	7934.55	7934.38	7934.68	0.022363	2.92	119.70	240.88	0.70
WATERFORD	1456.*	PF 1	350.00	7931.17	7933.56		7933.69	0.022766	2.88	127.41	284.89	0.71
WATERFORD	1412.*	PF 1	350.00	7930.19	7932.50	7932.38	7932.66	0.024072	3.28	114.68	238.93	0.74
WATERFORD	1368	PF 1	350.00	7929.20	7931.39	7931.25	7931.61	0.023383	3.85	104.06	188.56	0.77
WATERFORD	1318.*	PF 1	350.00	7928.29	7930.57	7930.29	7930.69	0.013992	2.80	132.06	236.89	0.58
WATERFORD	1268.*	PF 1	350.00	7927.39	7929.24	7929.24	7929.49	0.048855	4.01	87.35	182.49	1.02
WATERFORD	1218	PF 1	350.00	7926.48	7928.61	7928.09	7928.66	0.003954	1.69	212.60	330.36	0.32
WATERFORD	1213		Bridge									
WATERFORD	1208	PF 1	350.00	7926.28	7928.43		7928.47	0.004813	1.72	209.53	354.42	0.35
WATERFORD	1200	PF 1	350.00	7926.05	7928.01	7927.95	7928.20	0.035788	3.52	99.57	200.72	0.88
WATERFORD	1159.*	PF 1	350.00	7924.52	7926.37	7926.37	7926.74	0.041363	4.93	71.42	97.94	1.01
WATERFORD	1118	PF 1	350.00	7923.00	7924.66	7924.43	7924.95	0.021191	4.39	92.08	154.36	0.76
WATERFORD	1078.66*	PF 1	350.00	7922.17	7923.55	7923.50	7923.84	0.037502	4.37	80.84	125.99	0.94
WATERFORD	1039.33*	PF 1	350.00	7921.33	7922.86		7922.95	0.013198	2.36	153.25	245.84	0.55
WATERFORD	1000	PF 1	350.00	7920.50	7921.73	7921.73	7922.03	0.045181	3.06	86.99	147.38	0.93

PCR Irvine
One Venture, Suite 150
Irvine, California 92618
TEL 949.753.7001
FAX 949.753.7002
PCRinfo@pcrnet.com

PCR Santa Monica
233 Wilshire Boulevard, Suite 130
Santa Monica, California 90401
TEL 310.451.4488
FAX 310.451.5279
PCRinfo@pcrnet.com

PCR Pasadena
790 East Colorado Boulevard, Suite 900
Pasadena, California 91101
TEL 626.204.6170
FAX 626.204.6171
PCRinfo@pcrnet.com