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APPENDICES

APPENDIX A

Assessment of Biological Resources, City of Redding, Eastside Parallel Interceptor Sewer Project.
January 2000, Northstate Resources, Inc.

1.0 INTRODUCTION**1.1 Introduction and Regulatory Guidance**

This document is an Initial Study for the Eastside Parallel Sanitary Sewer Interceptor Project [Eastside Parallel Interceptor] in the City of Redding. The Initial Study, along with supporting environmental studies, provides justification for a Mitigated Negative Declaration pursuant to the California Environmental Quality Act (CEQA). This Mitigated Negative Declaration has been prepared in accordance with CEQA (California Public Resources Code Section 21000 *et seq.*) and the State CEQA Guidelines (Title 14 California Code Regulations Section 15000 *et seq.*).

An initial study is conducted by a lead agency to determine if a project may have a significant effect on the environment. In accordance with CEQA Guidelines Section 15063, an EIR must be prepared if an initial study indicates that the proposed project under review may have a potentially significant impact on the environment. A Negative Declaration may be prepared instead, if the lead agency prepares a written statement describing the reasons why the proposed project would not have a significant effect on the environment, and therefore, why it does not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a Negative Declaration shall be prepared for a project subject to CEQA when either:

- a) *The initial study shows there is no substantial evidence, in light of the whole record before the agency, that the proposed project may have a significant effect on the environment, or*
- b) *The initial study identifies potentially significant effects, but:*
 - (1) *Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed negative declaration is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and*
 - (2) *There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.*

If revisions are adopted in the proposed project in accordance with CEQA Guidelines Section 15070(b), a Mitigated Negative Declaration is prepared.

1.2 Lead Agency

The lead agency is the public agency with primary responsibility over a proposed project. Where two or more public agencies will be involved with a project, CEQA Guidelines Section 15051 provides criteria for identifying the lead agency. In accordance with CEQA Guidelines Section 15051(b)(1), “the lead agency will normally be the agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose.” Based on the criteria above, the City of Redding serves as the lead agency for the proposed City of Redding Parallel Eastside Sanitary Sewer Interceptor Project.

1.3 Purpose and Document Organization

The purpose of this Mitigated Negative Declaration is to evaluate the potential environmental impacts of the proposed Eastside Parallel Sanitary Sewer Interceptor Project. Mitigation measures have been placed on the project to reduce or eliminate any identified significant and/or potentially significant impacts.

This document is divided into the following sections:

- **1.0 Introduction** - This section provides an introduction and describes the purpose and organization of this document.
- **2.0 Project Information** - This section provides general information regarding the project. It includes the project title, lead agency and address, contact person, brief description of the project location, general plan land use designations, zoning designations, identification of surrounding land uses, and identification of other public agencies whose review, approval, and/or permits may be required. Also listed in this section is a checklist of the environmental factors that are potentially affected by the project.
- **3.0 Project Description** - This section provides a detailed description of the proposed project.
- **4.0 Evaluation of Environmental Impacts** - This section describes the environmental setting/overview for each of the environmental subject areas, evaluates a range of impacts classified as “no impact,” “less than significant,” “potentially significant unless mitigation is incorporated,” and “potentially significant” in response to the environmental checklist. Each environmental checklist question is discussed and analyzed, and mitigation measures are identified, where appropriate, to mitigate potentially significant impacts to a less than significant level. At the end of each topic section is a list of references and documents consulted during the preparation of this mitigated negative declaration.
- **5.0 Determination** - This section provides the environmental determination for the project, identifying whether a negative declaration, mitigated negative declaration, or environmental impact report will be prepared for the project.
- **6.0 Earlier Analyses** - This section identifies any previous environmental documentation that was used in this document in accordance with the tiering provisions of the CEQA Guidelines, and any significant impact and mitigation information incorporated from the previous documentation.

1.4 Evaluation of Environmental Impacts

Section 4.0, Evaluation of Environmental Impacts, is the analysis portion of this initial study. This section provides an evaluation of the potential environmental impacts of the project. There are 16 environmental issue topics evaluated in Section 4.0 which are taken directly from the CEQA guidelines and include Mandatory Findings of Significance.

Each environmental issue section is organized in the following manner:

The **Environmental Setting** summarizes the existing conditions at the regional, sub-regional and local level, as appropriate, and identifies applicable plans and technical information for the particular issue area.

The **Checklist Discussion/Analysis** provides a detailed discussion of each of the environmental issue checklist questions. The level of significance for each topic is determined by considering the predicted magnitude of the impact. Four levels of impact significance are evaluated in this initial study:

No Impact: No project-related impact to the environment would occur with project development.

Less than Significant Impact: The impact would not result in a substantial and adverse change in the environment. This impact level does not require mitigation measures.

Potentially Significant Unless Mitigation Incorporated: An impact that is “potentially significant” as described below; but with the incorporation of mitigation measure(s) can be reduced to a less than significant level.

Potentially Significant Impact: An impact that may have a “substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project” (CEQA Guidelines Section 15382); however, the occurrence of the impact cannot be immediately determined with certainty.

The **Documentation/References** section identifies documents, figures and graphics, and people contacted during the preparation of this initial study.

2.0 PROJECT INFORMATION

- 1. Project Title:** City of Redding Eastside Parallel Sanitary Sewer Interceptor [Eastside Parallel Interceptor].
- 2. Lead Agency:** City of Redding
Department of Public Works
P.O. Box 496071
Redding, CA 96049-6071
- 3. Contact Person:** Mr. Jerry Aasen, Assistant City Engineer - (530) 225-4175
Ms. Terri Thesken, Associate Planner - (530) 225-4020

4. Project Location:

The project involves the construction of a parallel sanitary sewer interceptor approximately 2.1 miles in length. The Boulder Creek Elementary School is the northern terminus and the southern terminus is just south of Highway 44 (see Figure 2-1, Project Location; Figure 2-2, Stillwater Creek Diversion Area; and a detailed description of the pipeline route provided in Section 3.0, Project Description, including Figure 3-1).

- 5. Project Sponsor:** City of Redding
Public Works Department,
Engineering and Wastewater Utility Divisions
P.O. Box 496071
Redding, CA 96049-6071

- 6. General Plan Designation:** The following General Plan designations have been applied to lands on or immediately adjacent to the proposed alignment for the New Eastside Interceptor:

GWY (Greenway)
R 1.0 (Residential, 1.0 Unit/Acre)
R 3.0 (Residential, 3.0 Units/Acre)
R 3.5 (Residential, 3.5 Units/Acre)
R 4.0 (Residential, 4.0 Units/Acre)
SC (Service Commercial)

- 7. Zoning:** The following zoning districts have been applied to lands on or immediately adjacent to the proposed alignment for the New Eastside Interceptor:

R-1 (Single Family Residential District)
R-1-B20-FP (Single Family Residential, One Dwelling Unit/20,000 Sq. Ft., Flood Plain)
U-F (Unclassified, Site Plan Review) (Open Space)
U-FP (Unclassified, Flood Plain)
U-F-FP (Unclassified, Site Plan Review, Flood Plain) (Open Space)

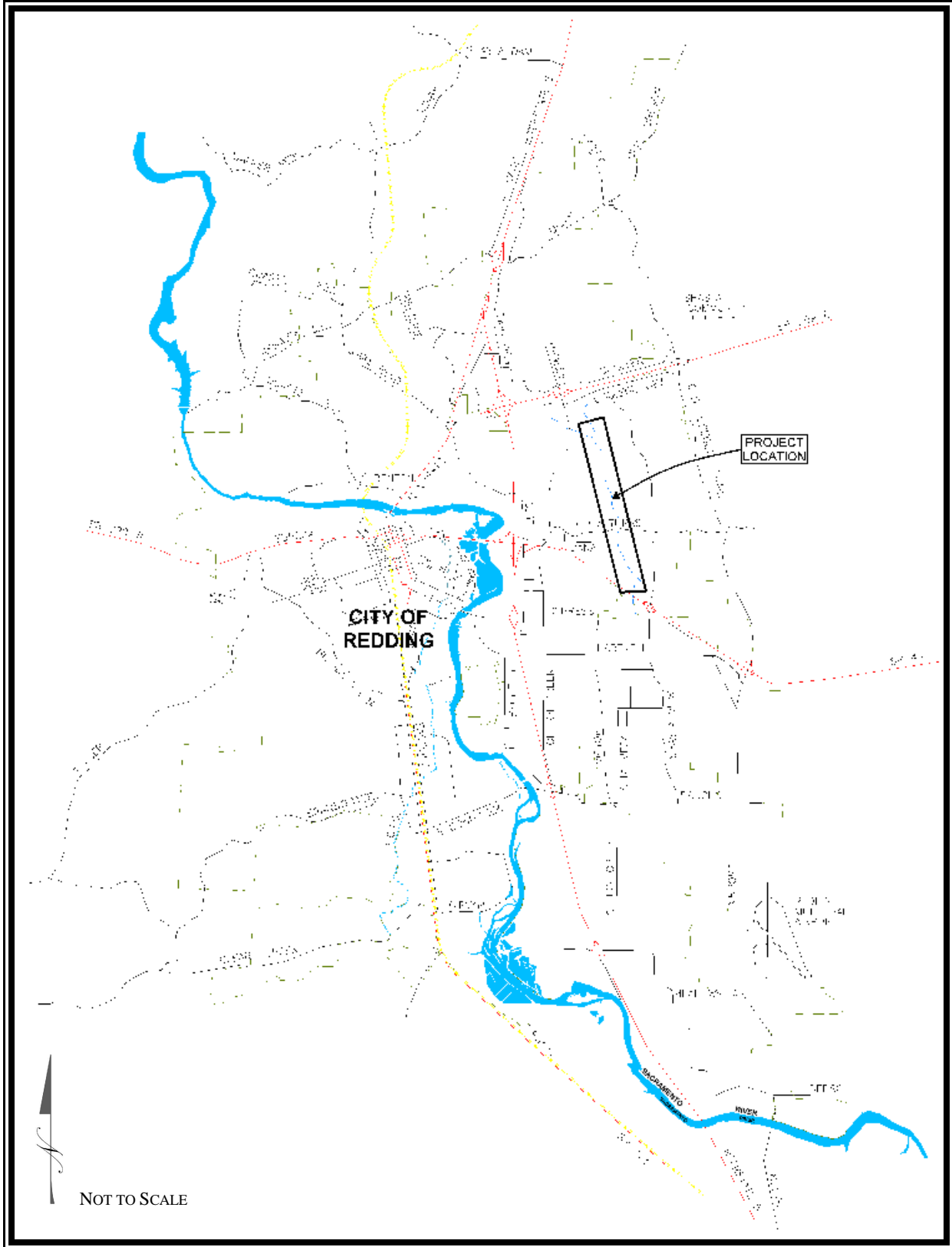


FIGURE 2-1
CITY OF REDDING EASTSIDE SANITARY SEWER INTERCEPTOR
PROJECT LOCATION

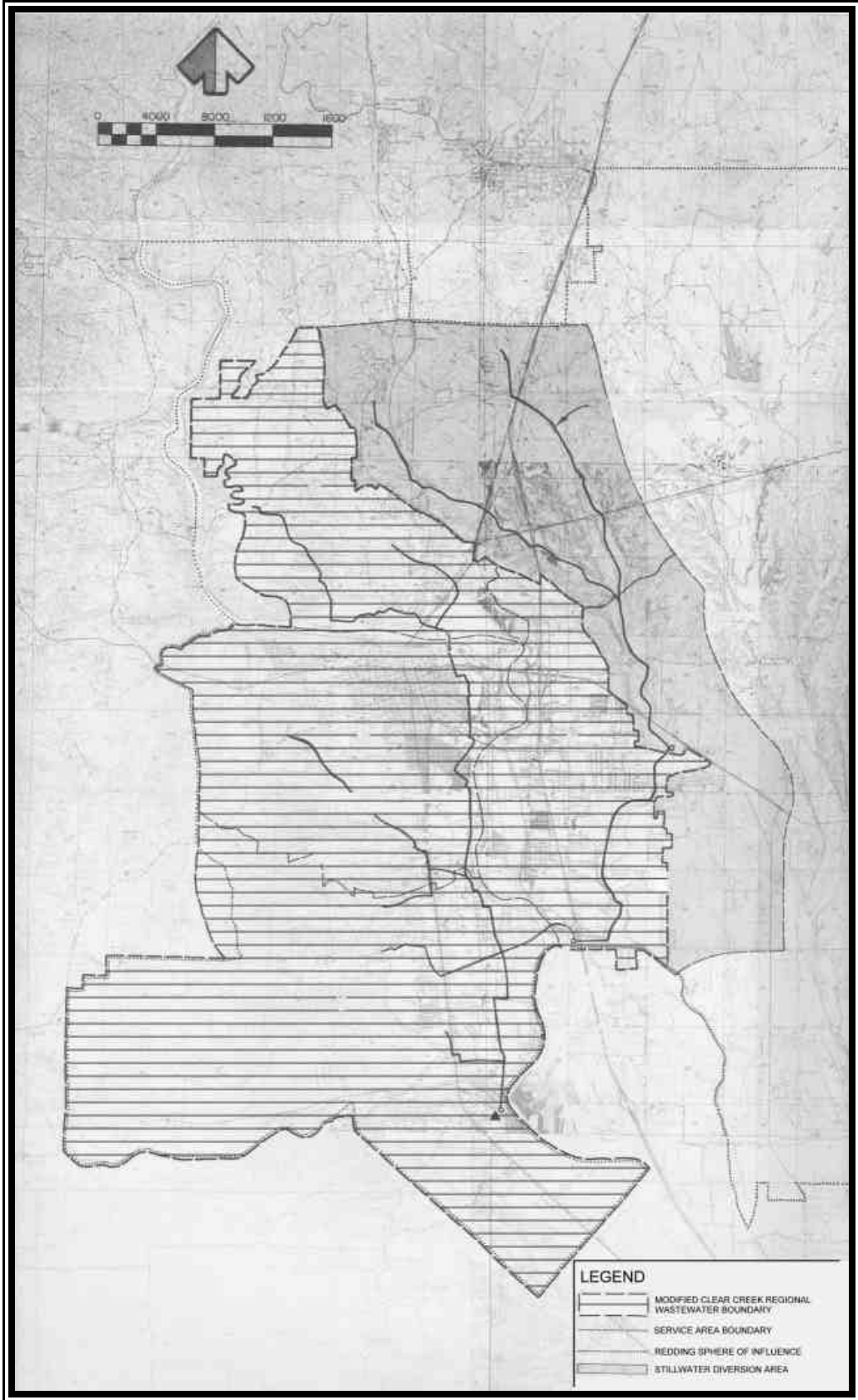


FIGURE 2-2
 CITY OF REDDING EASTSIDE SANITARY SEWER INTERCEPTOR
 STILLWATER DIVERSION AREA

8. Surrounding Land Uses and Settings: (Briefly describe the project's surroundings)

Most of the project alignment is located within an open space area surrounding Boulder Creek and Churn Creek. At the northern terminus of the project is Boulder Creek Elementary School. The project is adjacent to, and in one area runs along the boundary of, residential areas along most of its alignment. Near the southern end of the project, north of Highway 44. The alignment is located along the boundary of a commercial area..

9. Other public agencies whose approval is required: (e.g., permits, financing approval, or participation agreement)

Agencies which have review and approval or permit authority for the project include the following:

- U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (COE) regulates the discharge of dredged or fill material into waters (including wetlands) of the United States under Section 404 of the Clean Water Act. The COE also regulates work in Navigable Waters of the United States under Section 10 of the Rivers and Harbors Act. Areas within the proposed pipeline route that would be under the COE's jurisdiction include major stream crossings, riparian wetlands adjacent to the streams and seasonal wetlands.

The COE regulations describe two categories of permits: individual and general. A general permit means that the COE authorization is issued on a nationwide or regional basis for activities with minimal or cumulative environmental effects. The most well known of the general permits are nationwide permits (NWP). It is expected that two such permits would be required for this project. They are National Permit No. 12 (Utility Line Backfill and Bedding) and National Permit No. 33 (Temporary Construction Access and Dewatering).

- Regional Water Quality Control Board (RWQCB), Central Valley Region

The RWQCB typically requires that a Construction Storm Water Permit (General Permit) be obtained for a project of this size. However, this permit is optional for cities with a population under 100,000 persons. If obtained, typical conditions issued with such a permit include: issuance of a Section 1603 permit from the Department of Fish and Game for all stream crossings, submittal and adherence to an erosion control plan, prohibitions on the release of oils, grease or other hazardous materials, and prohibition of sediment discharge.

The RWQCB also issues a Water Quality Certification under authority of Section 401 of the Clean Water Act. After submittal of a Pre-Construction Notification Package to the COE, the City would need to submit a copy of the Section 404 Notification and appropriate fees directly to the RWQCB to obtain the Section 401 certification or waiver.

- California Department of Fish and Game (CDFG)

Sections 1601-1607 of the California Fish and Game Code require that activities within the bed and bank of a stream, lake and/or river obtain an "Agreement" with CDFG prior to initiating these activities. A Streambed Alteration Permit from CDFG would be required for work at the creek crossings behind Edgewood Drive and the Arroyo Manor subdivision. The agreement will also address all work within the 100-year flood plain, and will be obtained for the entire project area.

- U.S. Fish and Wildlife Service (USFWS)

Coordination with the USFWS is required during review of the City's environmental documentation and the Army Corps of Engineers permit process to review the project's potential to impact wildlife species that are listed as threatened or endangered. This coordination is required under Section 7 of the Endangered Species Act. If endangered species or critical habitat for endangered species are found within the permitted construction impacts of the pipeline project, further consultation to determine how best to avoid impacting the species would be needed.

- California Department of Transportation (Caltrans)

State Highway 44 is a road maintained by Caltrans. An encroachment permit from this agency would be required for work in the area of the Highway 44 bridge over Churn Creek.

- City of Redding

An encroachment permit would be required from the City for crossing Old Alturas Road. In addition, the City has adopted a Tree Preservation Ordinance that encourages the preservation of oak trees greater than six inches diameter at breast height. The project will replace any trees that need to be removed at the ratio required by the ordinance. That ratio is typically 3:1, however the ratio can be modified depending on the health, quality and age of the tree(s) removed. Based on a preliminary assessment, approximately 19 trees could be removed during construction (13 live oaks and 6 valley oaks). It is possible that additional trees will be affected by unforeseen problems with the construction. Under the City's Tree Preservation Ordinance, the 19 trees would require a minimum of 57 trees planted in replacement. Because trees are known to damage sewer lines, it may not be practical to replant all of the trees within the existing easement. Unless the City approves an off-site planting area, additional easements may have to be obtained.

- Local Utility Companies

No specific permits have been identified. However, an agreement between the City and the utility companies would probably be required where the proposed interceptor crosses or otherwise occupies existing utility easements. Ongoing coordination and review of project plans will be necessary to avoid any conflicts with existing or planned utilities.

2.0 PROJECT INFORMATION

- State Department of Health Services, Office of Drinking Water

Although it has been indicated through previous inquiries by staff from CH2MHill that no permits are required by this agency, the Department will review final designs to ensure that the project complies with the appropriate standards. These are contained in Section 64630, Title 22, California Administrative Code, as "California Waterworks Standards" minimum separation requirements for water mains and sewer lines; and the Department of Water Resources Bulletin 74-81 "Water Well Standards: State of California (December 1981)", specifically, Part II. Well Construction, Section 8. Well Location with Respect to Contaminants and Pollutants.

- Federal Emergency Management Agency (FEMA)

FEMA matters are handled by the City of Redding Planning Department. FEMA's primary concern relative to the construction of underground pipelines is that the flood flows of certain rivers or creeks could potentially be altered if scour were to expose the pipeline in the channel. Velocities of creeks to be crossed, as available from FEMA, proper scour protection measures need to be taken. City review on FEMA's behalf would amount to a brief verification that flood flows would be unaffected by the project.

- Shasta County Air Quality Management District

The Shasta County Air Quality Management District (SCAQMD) does not require a permit for the project, but it should be given the opportunity to review the environmental document to ensure that appropriate mitigation to reduce construction related impacts on air quality have been incorporated.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project:

- | | | | |
|---|-----------------------|---|------------------------------------|
| o | Land Use and Planning | ● | Transportation/Circulation |
| o | Public Services | o | Population and Housing |
| ● | Biological Resources | ● | Utilities and Service Systems |
| ● | Geology | o | Energy and Mineral Resources |
| o | Aesthetics | ● | Water |
| ● | Hazards | o | Cultural Resources |
| ● | Air Quality | ● | Noise |
| o | Recreation | ● | Mandatory Findings of Significance |

3.0 PROJECT DESCRIPTION

3.1 Background

The existing Eastside Sanitary Sewer Interceptor [Eastside Interceptor], along with the Sunnyhill Lift Station, was installed by the City of Redding in 1977 to serve the Enterprise and Twin View areas (Figure 2). Flows are carried to the Churn Creek Pump Station, located south of State Highway 44 near the Churn Creek bridge. The Pump Station in turn sends flows to the Stillwater Wastewater Treatment Plant. The existing Eastside Interceptor was designed and constructed for a capacity no larger than the flow created by ten years of anticipated development tributary to the line, in accordance with criteria of the Federal grant that financed the original project. These criteria created an Interceptor with diameters varying from 15 inches to 21 inches. Since completion of the original Eastside Interceptor, twenty years of development has occurred in the service area with no expansion of Interceptor capacity. City crews have found that some sections of 18-inch line adjacent to Boulder Creek School are severely surcharged under peak wet weather flow conditions.

3.2 Description of the Problem

The limited capacity of the Eastside Interceptor was documented in the early 1990s. In 1993, the City of Redding retained CH2M Hill to evaluate the existing Eastside Interceptor in order to determine the appropriate size of a parallel sewer line, and to investigate the environmental and archaeological impacts of construction of the parallel line. The CH2M Hill study had been completed to the point of starting the final design and contract documents. However, due to slower growth than expected and to limited capital budgets, the Eastside Interceptor project was postponed and funding was shifted to higher priority capital projects. In the meantime, development in the Stillwater Creek area to the northeast and the connection of Simpson College have placed additional demands on the Eastside Interceptor capacity. Several new developments in the vicinity are also planning to pump wastewater into the Eastside Interceptor until construction of a Stillwater Interceptor system becomes economically viable. Failure to construct a parallel line could result in direct sanitary sewer overflows at Boulder Creek Elementary School spilling into Churn Creek. Also, future growth in the Enterprise, Twin View and Stillwater tributary basins, consistent with the Redding General Plan, cannot be accommodated.

3.3 Proposed Alignment

The City proposes the construction of a New Eastside Interceptor that parallels the existing Interceptor. **Figure 3-1** Depicts the proposed alignment and other project features. The proposed alignment of the new Interceptor begins on the west bank of Boulder Creek near the Boulder Creek School (**Photo 1**). Approximately 600 feet of the pipeline would need to be installed on school property in order to avoid impacts on wetlands and riparian habitats adjacent to Boulder Creek. The schedule for construction work at the school site would depend upon the provisions of the easement agreement between the Enterprise Elementary

Photo 1 - Northern Boundary of Boulder Creek School



3.0 PROJECT DESCRIPTION

School District and the City of Redding. The District has indicated a preference for work to be conducted between the end of the current school year July 31 and the start of the new school year August 23.

Downstream of the school, the pipeline would continue into a green belt area immediately east of existing homes along Springer Drive (**Photo 2**). Access to the creek exists along Springer Drive approximately at the confluence of Boulder and Churn Creeks. The new pipeline would be placed either within the existing easement or on the eastern boundary of three parcels (APN 117-35-14, -15, -16) in order to avoid impacts on the riparian forest behind Springer Drive. It is expected that some trees and vegetation would be displaced by construction in this area. A permanent and temporary construction easement would be required from the affected property owners, and the easement agreement would dictate the construction requirements and schedule at this location. (**Photo 3**).

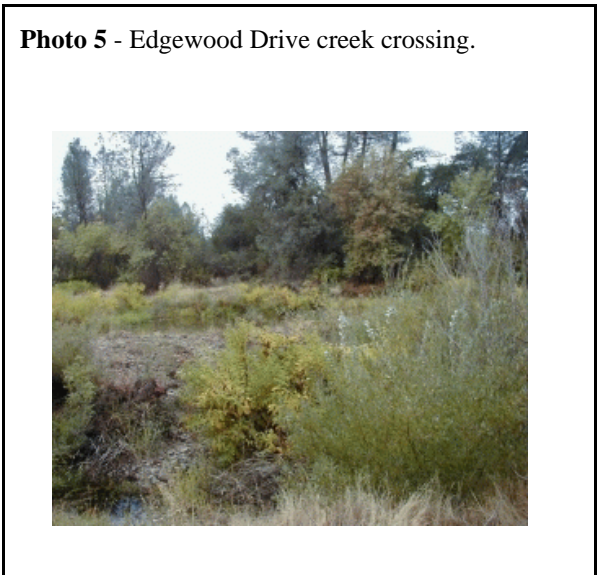
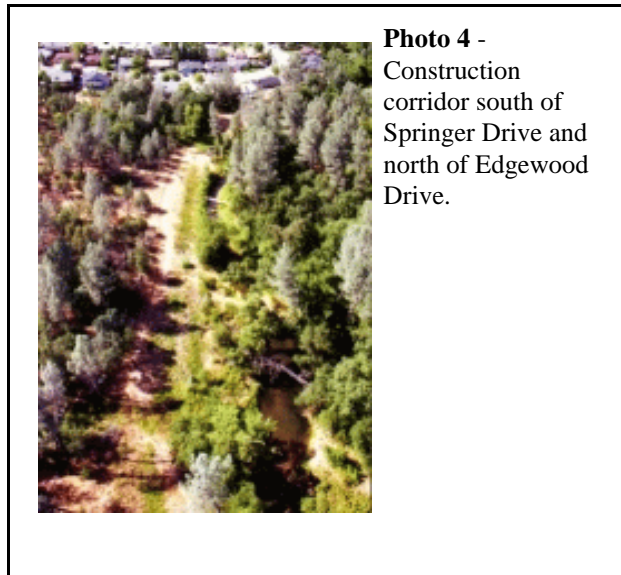
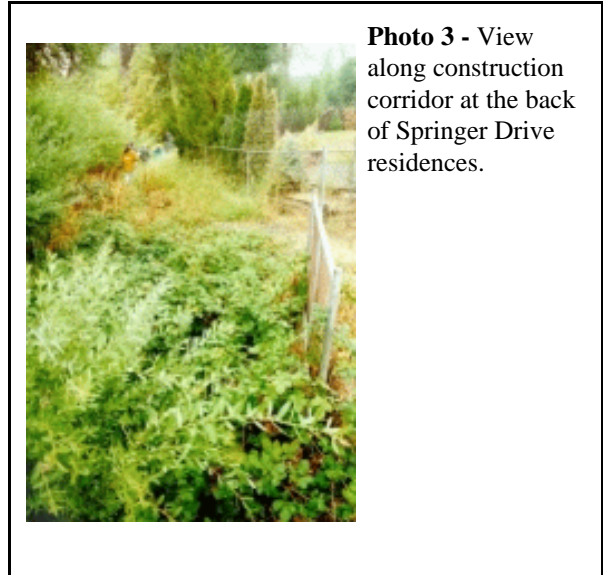
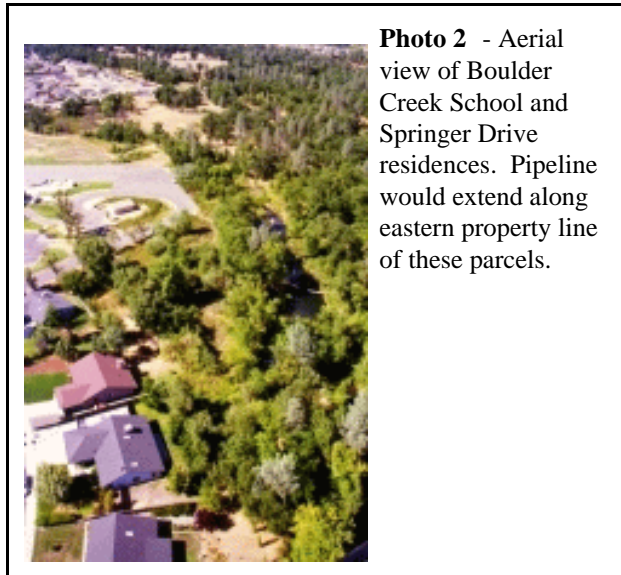


Photo 6 - Pipeline corridor behind residences on Edgewood Drive.



Photo 7 - Aerial view of pipeline corridor behind Edgewood Drive

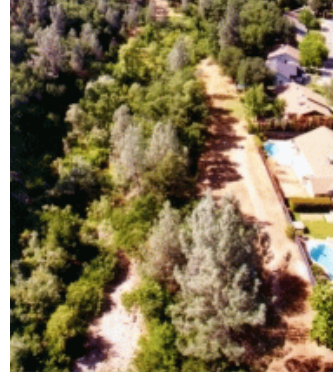


Photo 8 - South side of Old Alturas Road.



From Springer Drive, the pipeline would proceed in a generally south-southeast direction where it crosses the existing pipeline and continues through the riparian corridor of Churn Creek (**Photo 4**). A buried water line operated by the Bella Vista Water District is present in this area, and its location and depth would need to be verified. The pipeline continues downstream through the riparian corridor to where it crosses Churn Creek behind Edgewood Drive (**Photo 5**).

The pipeline would continue south behind homes along Edgewood Drive (**Photo 6**) and proceed along the west side of the existing pipeline through a residential green belt area to Old Alturas Road (**Photo 7**). Access to the existing pipeline exists on

the south side of Old Alturas Road (**Photo 8**). A communication conduit and a 12-inch water line run along the bridge that crosses Churn Creek, and their locations need to be field verified. An existing irrigation well is located adjacent to the pipeline route just north of Old Alturas Road (**Photo 9**).

The pipeline alignment extends southeast from Old Alturas Road through vacant land on the east side of Churn Creek and parallel to the existing pipeline. About one-quarter mile downstream of Old Alturas Road, the route turns toward the southwest and crosses Churn Creek parallel to the existing pipeline. Construction activities at this creek crossing would be similar to those at the creek crossing near Edgewood Drive, including temporary stream diversion (**Photo 10**).

3.0 PROJECT DESCRIPTION



Photo 9 - Domestic well north of Old Alturas Road

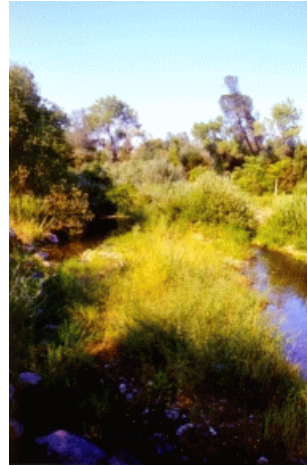


Photo 10 -Creek crossing near Arroyo-Manor.



Photo 11 - Commercial area just north of State Highway 44.

Photo 12 - Project terminates just south of Highway 44



South of the Arroyo Manor subdivision, the pipeline would continue parallel to the existing pipeline through an area adjacent to Churn Creek covered by buckbrush, ceanothus, and manzanita, until it enters a commercial area just north of State Highway 44 (**Photo 11**). Pedestrian access to the creek exists along Arroyo Manor Drive. Based upon preliminary discussions with the property owner at 1587 Victor Avenue (APN 071-300-028), equipment access may be available at this location.

The proposed pipeline would be installed on the west side of the existing pipeline on four commercial properties due to limited construction space available and the steep bank slope adjacent to Churn Creek and Highway 44. These properties are APN 77-33-09, APN 77-33-08, APN 77-33-17 and APN 77-33-18. A

permanent and temporary easement would be required from the property owners. Construction activities would be conducted to minimize disruption to normal business operations.

Additional parking would be provided for parking displaced by construction activities. Temporary fencing, barricades and “open trench” signs would be placed around open-cut trenches at all times during construction. At the end of each workday, the contractor would either backfill trenches or cover open trenches with traffic-rated steel plates prior to leaving the site. Following completion of work, the existing asphalt and fence would be restored to their original condition. The alignment would proceed south of the commercial area through an open space area and under the Highway 44 bridge at Churn Creek to a manhole (SSMH L11-26) immediately south of the bridge, where the project terminates (**Photo 12**). A plan view of the proposed alignment is included at the end of Appendix A.

3.4 Type of Construction

The New Eastside Interceptor would be constructed of vitrified clay pipe (VCP). VCP is considered durable and corrosion-resistant, and it is one of the standard pipeline materials used in the City’s collection system. In those areas where the alignment crosses Churn Creek, the pipeline would be constructed of TR Flex ductile iron pipe with a “Protecto 401” ceramic epoxy lining or equivalent. Manholes would be constructed with standard pre-cast concrete sections on a standard “cast in place” base, with the tops finished with a cast iron ring and 24-inch cover in accordance with City Standard Details. Manholes would be spaced at a maximum of 500 lineal feet on straight runs and at every angle point.

General Construction Methods

Conventional “open-cut” trenching could be utilized for the majority of the excavation along the alignment. However, due to the proximity of both the existing interceptor and numerous environmentally sensitive areas, vertical trenching would be required for a significant portion of the construction, along with additional shoring. In general, trenches will be excavated to a depth of 8 to 10 feet. If groundwater is encountered along the alignment, the contractor would be required to keep the excavation free of water until the pipe has been properly backfilled. A separate bid item for this work would be included in the Contract Specifications. Additional precautions would include the use of clay or bentonite dams along the alignment to prevent water from flowing through the pipe zone and potentially undermining the pipe bedding. At the Old Alturas Road crossing and at the Highway 44 crossing, boring and jacking or tunneling construction methods may be used in place of open-cut trenching to avoid traffic congestion and disturbance of column footings. Based upon a geotechnical investigation by Anderson Consulting Group, tunneling may not be feasible due to caving soil conditions. The boring and jacking method is considered feasible; however, dewatering may be required along the route to enable construction and to reduce caving problems. The City may decide to open trench this crossing but use 24-hour off-peak construction to avoid or lessen delays.

Specific Construction Issues

Construction Near and On School Property

The contractor would be required to complete work at the school within this time period. In order to ensure safety during construction, temporary fencing, barricades and “open trench” signs would be placed around open-cut trenches at all times. Further, at the end of each workday, the contractor would either backfill trenches or cover open trenches with traffic-rated steel plates prior to leaving the site. Following completion

of work, the existing asphalt, turf grass, trees, and irrigation system at the school and the perimeter fence would be restored to their original condition.

Springer Drive Construction

During construction behind Springer Drive, the contractor would be required to work during approved working hours only 7:00 AM to 7:00 PM and to take provisions to minimize the amount of equipment noise and dust generated during work. Temporary fencing, barricades and “open trench” signs would be placed around open-cut trenches at all times during construction. At the end of each workday, the contractor would either backfill trenches or cover open trenches with steel plates prior to leaving the site. Following completion of work, the existing landscaping and fences would be restored to their original condition.

Creek Crossings

The project will entail two crossings of Churn Creek, one to the west of Edgewood Drive and one to the east of Arroyo Manor Drive. Pipeline installation at the creek crossings would be completed by conventional open cut methods. The approximate depth of pipeline at the Arroyo Manor Drive Creek Crossing is ten feet below ground level. The pipeline depth at the Edgewood Drive crossing is expected to be approximately eight feet below ground level. The estimated construction time at each creek crossing is two (2) weeks.

While there are numerous creek crossing methods, the proposed method involves damming up the upstream and downstream sides of the excavation with sand bags and placing a temporary pipe or open conduit across the construction area to convey the water over or around the construction area. If required, submersible pumps would be utilized to pump water from the excavation. The discharge from any dewatering system may need to be pumped into a silt retention basin prior to being allowed back into the creek. Location of any temporary basins will need to be field-verified and approved by the Department of Fish and Game. Because the construction will occur during the dry-weather season, the amount of water is expected to be very low. Creek banks and the streambed would be restored to their original condition upon completion of work in the streambed. This would include both recontouring and revegetation.

Construction Near Existing Hand-dug Well

During the public comment period for the project, representatives of the property owner adjacent to and north of Old Alturas Road on the east side of Churn Creek brought to the City’s attention the existence of a hand-dug well used for irrigation. The well has been in existence for nearly 50 years, and there is little data on the source of the water. The well was in existence when the previous line was installed and has suffered no apparent loss of yield. The proposed new alignment is located approximately 10 feet further away from the well than the existing line. To further avoid impacting the well, the line will be encased in concrete for 25 feet on either side of the well, for a total of 50 feet. In order to prevent washout of the New Eastside Interceptor at this location, the Churn Creek bank may need reinforcing. This would halt the existing erosion problem. The need and extent of this work will be field-verified by Fish and Game.

Safety/Traffic Control

The construction contractor will be required to provide temporary fencing, barricades and “open trench” signs during construction. At the end of each workday, the contractor will either backfill or cover open trenches with traffic-related steel plates prior to leaving the site. For construction in areas within existing

roadway alignments, the City will determine the appropriate traffic control and diversion routes during the activities.

Staging Areas

As shown on **Figure 3-1**, there are two (2) proposed staging areas located along the pipeline route. These areas will be used on a temporary basis to house equipment, material and serve as a meeting area for the construction workers. All of the staging areas are near major roadways and were selected to minimize impact on the surrounding residences. The majority of contract specifications require that the areas be clean of scrap material and debris following construction of the pipeline. This project is subject to the City's noise ordinance regulating construction times. In order to reduce impact to traffic at the Old Alturas Road crossing, the City may require the contractor to work a 24-hour shift or weekends to complete the crossing.

Contract Specifications

The Mitigation Monitoring Program (MMP) will be included as part of the contract specifications circulated for proposals to construct the project. Contract specifications including instructions on how the project will be phased, timing of improvements, types of materials, etc., and are used by contractors in providing written bids for the proposed work. Adherence to the MMP will be a requirement for any contractor working within the project boundaries. The construction manager for the project will be assigned the task of MMP monitoring compliance and will provide progress reports to the City as the project is constructed.

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
--	--------------------------------	--	------------------------------	-----------

1. LAND USE AND PLANNING. Would the proposal:

a) Conflict with general plan designation or zoning?	o	o	o	●
b) Conflict with applicable environmental plans or policies adopted by agencies with jurisdiction over the project?	o	o	●	o
c) Be incompatible with existing land use in the vicinity?	o	o	o	●
d) Affect agricultural resources or operations (e.g. impacts to soil or farmlands, or impacts from incompatible land uses)?	o	o	o	●
e) Disrupt or divide the physical arrangement of an established community (including a low-income or minority community)?	o	o	o	●

ENVIRONMENTAL SETTING / OVERVIEW

The project is located in the eastern Redding area, east of Interstate 5 and between State Highways 299 and 44 [See Figure 2-1]. The character of this area is mostly residential, with some undeveloped lands. However, the Mt. Shasta Mall and other commercial development are located in the southwestern corner of this area. Further east along Highway 44, land between Shasta View Drive and Old Oregon Trail has been designated by the Redding General Plan for a variety of uses - commercial, industrial, office, higher-density residential and "mixed use" (office/residential). Also in this area are Simpson College, located along Highway 299, and the McConnell Foundation property, a mostly open space site along Shasta View Drive.

Most of the land uses in the vicinity of the project are single-family residential, with densities varying from one dwelling unit per acre to four dwelling units per acre. Toward the southern terminus of the project is a commercial area. The northern terminus of the project is located at Boulder Creek Elementary School. The project itself is mostly located along Boulder Creek and Churn Creek, which have been designated as Greenway by the Redding General Plan.

CHECKLIST DISCUSSION / ANALYSIS

1.a

Current General Plan land use designations along the alignment route include primarily Greenway, but also residential land uses ranging from 1.0 to 4.0 units/acre and Service Commercial. The Greenway designation applies to the area along the banks of Boulder Creek and Churn Creek, where most of the project would be located. Most of the land adjacent to the Greenway has been designated for residential uses, except for the Service Commercial area located along State Highway 44. Zoning designations on or adjacent to the project area include the following:

R-1 (single family residential)

R-1-B20-FP (single family residential, 20,000 sq. ft. minimum parcel size, flood plain combining district)

U-F (unclassified, site plan review required)

U-FP (unclassified, flood plain combining district)

U-F-FP (unclassified, site plan review required, flood plain combining district)

Current land use and zoning designations would not change as a result of the project. Since the project would involve the installation of an underground sewer line, and since residential uses in the area would be served by the line, no land use conflicts would result from the proposed project. Therefore, *no impact* associated with general plan designations and zoning is anticipated.

1.b

Potential areas of conflict associated with the project include temporary impacts to air quality, noise, and transportation/circulation that will occur during construction of the project. Other issues include geology and soils, water quality, and biological resources. These aspects of the project are discussed in subsequent sections of this document. Project design has been established, or mitigation proposed, to avoid significant impacts associated with these environmental issues. Therefore, impacts are considered *less than significant*.

1.c

Please refer to 1.a above. The City of Redding is in the process of updating its existing General Plan. Proposed land uses on the Draft Land Use Diagram are similar to those identified on the City's existing General Plan. Construction of the proposed interceptor line is considered compatible with adjacent surrounding land uses, although temporary impacts such as short-term noise increases may occur during construction. Therefore, the project is considered compatible with existing land uses in the vicinity and *no impact* is anticipated.

1.d

Information generated by the California Department of Conservation Farmland Mapping and Monitoring Program has been summarized in the Important Farmland Map (Figure 9-4) within the City of Redding's Draft General Plan Background Report (July 1998). According to the information presented in the Figure, there is no prime farmland in the project area or in the immediate vicinity. Land in the project area has either open space or residential uses, with no significant agricultural activities. Therefore, the project would have *no impact* on agricultural resources or operations.

1.e

The project consists of the installation of an underground sanitary sewer interceptor. The proposal will not result in the disruption or division in the physical arrangement of an established community. Therefore, *no impact* is anticipated.

MITIGATION

None required. [See Page 22].

DOCUMENTATION / REFERENCES

City of Redding Land Use Element and General Plan Diagram (1992).

City of Redding Public Review Draft General Plan (May 31, 1999/June 15, 1999).

City of Redding Draft General Plan Background Report, July 1998.

City of Redding Zoning Ordinance and Map, March 19, 1956 (as amended).

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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2. POPULATION AND HOUSING. Would the proposal:

a) Cumulatively exceed official regional or local populations projections?	o	o	o	●
b) Induce substantial growth in an area either directly or indirectly (e.g. through projects in an undeveloped area or extension of major infrastructure)?	o	o	●	o
c) Displace existing housing, especially affordable housing?	o	o	o	●

ENVIRONMENTAL SETTING / OVERVIEW

A 1990 study of U.S. metropolitan areas by Woods and Poole Economics indicated that the Redding metropolitan area was among the fifty fastest-growing metropolitan areas in the nation. According to the 1990 U.S. Census, the population of Redding was 66,462, which was a 57.9 percent increase over the 1980 population. Since 1990, the City has continued to experience population growth, though at a slower rate. The California Department of Finance has estimated that the City's population in 1999 is 78,675, which is an 18.4 percent increase over the 1990 population. Changes in economic conditions in the Redding area may have been a major factor in the slowdown in population growth, with an economic recession in the early 1990s followed by a slow recovery. The current 1999 population estimate is below a forecast made by Economic Sciences Corporation in a 1990 report for the City. The report, cited in the current Land Use Element, projected a 2000 population of 102,281 and a 2010 population of 135,188.

The California Department of Finance estimates that there are 33,751 housing units in the City in 1999. This represents an increase of 23.9 percent over the 1990 total. Of the 1999 total units, approximately 63.2 percent are single family detached units. Approximately 26.7 percent are multifamily units. Some residential subdivisions are located adjacent to the project area, most notably around Springer Drive, Edgewood Drive and Arroyo Manor Drive.

CHECKLIST DISCUSSION / ANALYSIS

2.a

Hydraulic modeling that was completed to assist with the design of the Eastside Parallel Interceptor was based on future demand information presented in the City's 1992 Stillwater Service Area Master Sewer Plan. The Stillwater Master Plan indicated an annual growth rate in the Twin View and Eastern Enterprise areas of 9.7 percent since 1987, and applied growth rate of 7.9 percent for future projections. This is higher than the City's growth rate of 4 percent for the same five-year period (1987-1991). The Stillwater Master Plan projected service to 14,898 household equivalents (HEs) within the Stillwater Service Area by 2001, and ultimately to 65,335 HEs. Household equivalent is equal to the estimated sewage flow from a typical single

family residence, which the City calculated to be about 300 gallons per day. As of 1991, the Stillwater Service Area served 5,755 HEs. The project, which is described in the Stillwater Master Plan, is intended to accommodate the needs of existing and planned development in the Stillwater Service Area. Because the project would be consistent with population projections contained in the Stillwater Master Plan, *no impact* is anticipated.

2.b

Initially, the proposed interceptor will relieve surcharging experienced by the existing Eastside Interceptor, which if left unaddressed, could potentially create public health and water quality hazards. In the long-term, it will provide additional collection system capacity that will be utilized by new development within the Stillwater Service Area. Future development in the Stillwater Service Area is anticipated and planned for in both the City of Redding General Plan and the 1992 Stillwater Service Area Master Sewer Plan. The project would not induce more growth than is planned for in the aforementioned documents. Therefore, impacts are considered *less than significant*.

2.c

The construction of an underground sewer interceptor within the proposed alignment, while it would pass by some residential development, would not result in the displacement of any housing units. Therefore, *no impact* is anticipated.

MITIGATION

None required.

DOCUMENTATION / REFERENCES

California Department of Finance, City/County Population and Housing Estimates, 1999.

City of Redding Land Use Element and General Plan Diagram (1992).

City of Redding Draft General Plan Background Report, July 1998.

Stillwater Service Area Master Sewer Plan, PACE Engineering, September 1992.

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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3. GEOLOGY. Would the proposal result in or expose people to potential impacts involving:

a) Fault rupture?	o	o	●	o
b) Seismic ground shaking?	o	●	o	o
c) Seismic ground failure, including liquefaction?	o	o	●	o
d) Seiche, tsunami, or volcanic hazard?	o	o	o	●
e) Landslides or mudflows?	o	o	o	●
f) Erosion, changes in topography or unstable soil conditions from excavation, grading or fill?	o	●	o	o
g) Subsidence of the land?	o	o	o	●
h) Expansive soils?	o	o	o	●
i) Unique geologic or physical features?	o	o	o	●

ENVIRONMENTAL SETTING / OVERVIEW

The City of Redding is located at the northern tip of the Sacramento Valley. In the Redding area, the lowland of the Sacramento Valley meets the foothills of the Cascade and the Coast Range. This convergence of topographical features has produced a variety of landscapes in the Redding area, from river plains to canyons and bluff to hilly areas. Figure 2-1 of the Draft Redding General Plan Background Report (July 1998) illustrates the varied topography of the Redding area. Within the project area, there are “benches” (higher land) along both Boulder Creek and Churn Creek, with a broader plain toward the southern end.

Most of the Redding area along the Sacramento River is underlain by alluvial deposits of recent geological times. Further away from the river, the geology is that of nonmarine sedimentary deposits from Pleistocene times. The project area contains alluvial deposits in the area surrounding both Boulder and Churn Creeks, with Pleistocene non-marine deposits located further away from the streams.

The construction of the proposed interceptor itself will not result in the exposure of people to seismic or geologic hazards. However, depending upon its location, future development that is served by the interceptor may be exposed to one or more of the hazards listed above. The pipeline is not proposed to be constructed in the vicinity of any unique or geologic features. Much of the generalized information available regarding seismic and geologic hazards within the Redding Planning Area was developed in a 1995 study conducted by Woodward-Clyde Consultants. Summaries of this study and mapped information have been incorporated into the Draft General Plan Background Report.

CHECKLIST DISCUSSION / ANALYSIS**3.a**

While a number of faults have been found to occur in the Redding region, there are no active faults within 30 miles of the City. The 1994 Fault Activity Map of California, prepared by the California Division of Mines and Geology, indicates that there are no faults within or in the vicinity of the project area. Due to the distance of the proposed interceptor line from an active fault, the potential for the line or future development to be impacted by fault rupture is considered *less than significant*.

3.b

The Woodward-Clyde study evaluated ground-shaking potential for the Planning Area based upon an assessment of the maximum credible earthquake (MCE), crustal effects on seismic wave propagation, and available information and data on the near-surface geology. The MCE selected in the Woodward-Clyde analysis is a random crustal earthquake of magnitude 6 at a distance of 6 to 12 miles from Redding. Woodward-Clyde characterized the potential maximum ground shaking in the Planning Area in terms of peak horizontal ground acceleration expressed in g's (fraction of gravity or the gravitational acceleration constant which equals 980 cm/sec²). Figure 10-1 of the Draft General Plan Background Report depicts ground shaking potential in terms of peak horizontal acceleration. In the area where the proposed interceptor line will be located, the peak horizontal accelerations could range from 0.15 to 0.45g, as most of the area is underlain by alluvial deposits.

Redding is located within Seismic Zone 3 of the Uniform Building Code (UBC) zone classification. Based on their observation and analysis of the MCE for Redding, the consultants believe the UBC requirement that stipulates the use of a Z-factor (equivalent to a peak horizontal acceleration) of 0.30g in building design, generally provides conservative ground motion criteria for the design of new buildings and structures. For critical facilities in the Planning Area, the consultants recommend that site-specific seismic hazards evaluations be conducted. Therefore, impacts associated with seismic ground shaking are considered *potentially significant*. Mitigation has been incorporated that would reduce this impact to less than significant. [M.M.3.2]

3.c

Liquefaction occurs when loosely packed, water-logged sediments lose their strength in response to strong shaking. Soils prone to liquefaction include loose to medium dense sands, gravels, and silts occurring below the water table. The Geologic Map of California, Redding Sheet, indicates that the underlying geology of Churn Creek and Boulder Creek near its confluence with Churn Creek is Holocene alluvium, which has characteristics similar to soils prone to liquefaction.

To assess liquefaction potential in the Planning Area, Woodward-Clyde considered two scenarios. These were a random magnitude 6 crustal earthquake at an epicenter distance of 6 to 12 miles from Redding and a magnitude 7 intraplate earthquake within the subducting Gorda Plate at a depth of about 35 miles beneath Redding. The consultants concluded that, although the peak horizontal accelerations resulting from the first scenario are higher due to the shorter distance to Redding, the second scenario could result in greater liquefaction because of a longer duration of ground shaking. The Woodward-Clyde study rated liquefaction potential based upon soil types. Figure 10-2 of the Draft General Plan Background Report depicts liquefaction potential. Despite its underlying alluvium, the study rated the liquefaction potential in the project area as being low to none. Therefore, liquefaction impacts are considered *less than significant*.

3.d

Volcanic hazards can generally be characterized into three primary groups: flowage phenomena, tephra eruptions, and emission of volcanic gases. Redding is distant enough from the three active Cascade volcanoes (Lassen Peak, Mount Shasta and Medicine Lake) that it is unlikely that the Planning Area would be significantly affected by a volcanic eruption. The proposed interceptor will be buried underneath the ground at an average depth between 6 and 10 feet. Therefore, with regard to volcanic activity, *no impact* is anticipated.

In the case of Mount Shasta, volcanic ash may fall in the northern part of the Planning Area and minor seiches in Shasta Lake could be generated by debris flows into the arms of the lake where its tributaries enter. Seiches are defined as an oscillation of a body of water in an enclosed or semi-enclosed basin that varies in duration and in height. Seiches typically occur as a result of sudden local changes in atmospheric pressure, but they can also be triggered by earthquakes or large landslides entering the body of water. A large earthquake on the Cascadian subduction zone could generate sufficient ground shaking to generate a seiche in both the Whiskeytown Lake and Shasta Lake basins. In the case of Shasta Lake, the downstream dams of Spring Creek and Keswick would regulate this excess flow into the Sacramento River, thereby minimizing any inundation hazard. Furthermore, as previously stated, the proposed interceptor will be buried underneath the ground. *No impact* to the proposed pipeline alignment from seiche is anticipated.

3.e

The U.S.G.S. topographical map for the Enterprise Quadrangle, which contains the project area, indicates that there are some steep embankments near the proposed alignment along Churn Creek, particularly on the west side of the creek between Springer Drive and Old Alturas Road. However, the proposed alignment would avoid the steep areas adjacent to the creek. The pipeline would be installed beneath the surface; therefore, any potential landslides that may occur in the area would not affect the pipeline or its operation. With regard to landslides or mudflows, *no impact* is anticipated.

3.f

According to the documentation, erosion activity within the project area is low to moderate. However, excavation activities will disturb soils and could result in temporary unstable soil conditions. The water table in certain portions of the alignment may be shallow due to its proximity to Boulder and Churn Creeks. The proposed pipeline will be constructed at an average depth of 6 to 10 feet. Therefore, dewatering could be required in several locations. Secondary impacts such as siltation and erosion into creeks also have the potential to occur. Therefore, impacts associated with erosion are considered *potentially significant*. Mitigation has been incorporated that would reduce potential effects to less than significant. [M.M.3.1 - 3.9]

3.g

As part of its Urban Geology Master Plan (1973), the California Division of Mines and Geology rated the potential hazard for subsidence as non-existent in the Redding area. Since that time, no instances of subsidence have been reported in the project area. Therefore, *no impact* is anticipated.

3.h

Certain soils, especially those containing smectite, mixed-layer clay, have the ability to shrink and swell, depending upon the moisture content of the soil. An additional problem in parts of the Sacramento Valley is the presence of gypsum salts within the soil profile. Wetting of the soils can lead to a dissolution and mobilization of these salts, creating soil compaction. Subsequent drying and recrystallization results in soil expansion. Such expansion can cause damage to building foundations, roadways and infrastructure if not

properly mitigated. Gypsum does not appear to be present in significant amounts in the Planning Area. In addition, a geotechnical evaluation conducted for the alignment did not note the presence of expansive soils. Therefore, *no impact* is anticipated.

3.i

There are no unique geologic or physical features located within or near the project area. Therefore, the proposed project would not destroy, cover, or modify any unique geologic or physical features. *No impact* to unique geologic or physical features is expected.

MITIGATION

- MM 3.1** When grading is to be done within 50 feet of a seasonal watercourse or in the 100-year floodplain of a stream, creek or river, the contractor shall obtain a permit from the Public Works Department prior to any clearing, grading, exporting or importing of any earth materials to or from the site (Ordinance 1986, Section 16.40.050, subsections A and B).
- MM 3.2** The contractor shall be required to meet all of the requirements identified in City of Redding Grading Ordinance, (Ordinance No. 1986) including preparation of an interim and final erosion control plan. Permit applications for clearing, grading, filling and excavation shall include all of the information required in the Grading Ordinance, as identified by the Public Works Director. Specific engineering plans that may be required include the following:
- a. Engineering Geological Report (Ordinance 1986, Section 16.40.060, Subsection A(5))
 - b. Soil Engineering Report (Ordinance 1986, Section 16.40.060, Subsection A(6))
 - c. Erosion and Sediment Control Plan (Ordinance 1986, Section 16.40.060, Subsections C, D, and E)
- MM 3.3** During the time period between the 15th day of October and the following 15th day of April, determined to be the period in which heavy rainfall normally occurs in the City, the contractor shall not clear or grade in excess of 250 cubic yards on any single work site if the Public Works Director determines by visual inspection that such work will endanger the public health and safety or is otherwise prohibited by State and Federal regulations (Ordinance 1986 Section 16.40.120 Subsection N).
- MM 3.4** The contractor shall conduct grading and clearing operations in conformance with the applicable permit requirements of the State Department of Fish and Game, the Regional Water Quality Control Board, and all other State and Federal agencies having jurisdiction. (Ordinance 1986 Section 16.40.120 Subsection N).
- MM 3.5** During the period between April 15 and October 15 of each year, the contractor shall implement erosion control measures at the construction site at the end of the day or prior to weekend shutdown periods if the U.S. Weather Service forecasts a 30 percent or greater chance of precipitation. All material necessary to implement the short-term measures shall be on-site prior to the commencement of work (Ordinance 1986, Section 16.40.120, Subsection J).

- MM 3.6** Erosion control methods shall be implemented as necessary by the contractor during construction along the alignment and in the areas of creek crossings. Such methods may include, but are not limited to, straw bales, silt fences, gabions, sedimentation basins, filter strips and any other techniques recommended by resource agencies.
- MM 3.7** The contractor shall ensure that all exposed stock piles and excavated areas are covered or watered at least twice per day [See MM 3.10]. Excavated materials removed during grading operations shall be promptly backfilled and compacting stockpiled soil into trenches and pits to reduce erosion.
- MM 3.8** Grading and excavation activities shall be of a scale such that the work can be completed in a single construction season and shall be limited to the area where installation of the proposed interceptor can be reasonably expected to occur within the same 12-month period (City of Redding Conditions of Approval).
- MM 3.9** If construction of the project will not be completed within a single dry weather season, the contractor shall have in place 50-percent of all long-term erosion control facilities by September 1, 80-percent by October 1, and 100-percent and fully operational by October 15 of any year. All erosion control facilities shall be maintained at a fully operational level by the contractor until May 15 of the following year. Erosion control devices shall be inspected during and between rainfall events, but not less than twice per month. Identified sites experiencing erosion shall be scheduled for corrective action no later than the next day (Ordinance 1986, Section 16.40.120, Subsection J).

In addition, Mitigation Measure 4.2 of Section 4, Water, identifies the preparation of a Project Stormwater Pollution Prevention Plan (SWPPP) that will identify the sources of sediment and other pollutants that affect quality of stormwater discharges. Implementation of this mitigation measure, in addition to those identified above, would assist in reducing impacts associated with erosion and sedimentation in adjacent drainages.

DOCUMENTATION / REFERENCES

City of Redding Draft General Plan Background Report, July 1998.

Woodward-Clyde Consultants. An Evaluation of Seismic Hazards in the Redding Planning Area (July 6, 1995).

City of Redding Seismic Safety Element (1975).

Enterprise Quadrangle 7.5-Minute Series Topographical Map, U.S. Geological Survey, 1957 (photorevised 1969).

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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4. WATER. Would the proposal result in:

a) Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?	o	o	●	o
b) Exposure of people or property to water related hazards such as flooding?	o	o	●	o
c) Discharge into surface waters or other alteration of surface water quality (e.g. temperature, dissolved oxygen or turbidity)?	o	●	o	o
d) Changes in the amount of surface water in any water body?	o	●	o	o
e) Changes in currents, or the course or direction of water movements?	o	●	o	o
f) Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations or through substantial loss of groundwater recharge capability?	o	●	o	o
g) Altered direction or rate of flow of groundwater?	o	●	o	o
h) Impacts to groundwater quality?	o	●	o	o
i) Substantial reduction in the amount of groundwater otherwise available for public water supplies?	o	o	o	●

ENVIRONMENTAL SETTING / OVERVIEW

The proposed alignment traverses through two hydrologic basins - the Boulder Creek and Churn Creek basins. These basins contain the two primary natural surface water features to be encountered by the project - Boulder Creek and Churn Creek. Although most of the adjacent development drains into these creeks, no significant man-made drainage features are located within the project area.

The depth to groundwater in a given area varies, depending upon the characteristics of the soils, the amount of precipitation that has occurred during the year, the time of year or season during which it is encountered, and the topography. A geotechnical investigation of the proposed alignment, conducted by Anderson

Consulting Group (ACG) in November 1999, encountered groundwater as shallow as four (4) feet below the ground surface and as deep as 14 feet.

The rate of groundwater flow depends on factors such as the permeability of the soil, the amount of precipitation that is received during the course of the year, the season during which it is encountered, and the hydraulic head (i.e., the difference in elevation between the water table and the bottom of any trench that is excavated). Based on the presence of shallow groundwater, dewatering systems will likely be needed during construction below planned excavation depths, (ACG, 1999).

The Federal Emergency Management Agency (FEMA) is responsible for the National Flood Insurance Program. FEMA uses a 100-year storm as the basis for its coverage. Most of the flooding information provided by FEMA was prepared in 1985. Substantial development has occurred within that time, resulting in higher flood elevations on most major creek drainages than are reflected on the Flood Insurance Rate Maps. In 1993, the City of Redding undertook a comprehensive study of all major drainage basins in the City to ascertain the effect that development has had on flood levels over the last several years. The document, known as the *Citywide Master Storm Drain Study* or Montgomery Watson Study, was prepared using not only up-to-date land use information, but also computer models based on a storm that occurred in Redding on March 23, 1993. This particular storm represents a known and measured event, rather than the prediction models that are normally used. A comparison was conducted between the FEMA established flood elevations and those resulting from the City's study. In many instances, a higher based flood elevation was established by the City's study. Variations were identified and attributed to two primary factors: urbanization that had occurred since the FEMA maps were prepared, and errors that have been found in FEMA's previous analysis.

In 1994, the Redding City Council took a proactive approach to protect flood-prone areas as determined by the City's study. Policies adopted by the Council require that the base flood elevations of the City's study be used for planning and mitigation purposes if it is more restrictive than the FEMA maps. Portions of the alignment route in the vicinity of creek crossings are located within the established 100-year flood plain for those features.

Domestic water service within the project area is provided by the City of Redding. The majority of the City's water supply is obtained from surface water allocations. The remainder of its supply is provided by wells. Most of the City's wells are located in the Enterprise area, which lies south of the project area. One irrigation well is known to exist within 50 feet of the proposed alignment route.

CHECKLIST DISCUSSION / ANALYSIS

4.a

The proposal involves the installation of an underground sewer interceptor. During construction, the project would result in the temporary disruption of soils. Temporary modification of existing drainage patterns may also result if diversion of any stream or drainage channels is necessary. The project will not increase the amount of impervious surfaces beyond what currently exists. Therefore, absorption rates and the rate and amount of surface water runoff are not expected to be affected. Impacts are considered to be *less than significant*.

Future development served by the Eastside Parallel Interceptor has the potential to create soil disruptions, affect absorption rates, and result in increases in the rate and amount of surface water runoff. The City of

Redding has adopted a Grading Ordinance and requires the submittal of a grading plan for all projects with limited exceptions. Submittal of an Interim and Final Erosion and Sediment Control Plan is also required as part of the grading permit application. The City of Redding Planning Division is required to review each application for a grading permit and provide a determination regarding the appropriate level of environmental review for the project. Standard conditions require that developers design and construct either on-site or off-site detention basins so that no increase in the high-water elevation of downstream creeks or other features will occur. The erosion control plan is required as mitigation measure 3.2 in Section 3 - Geologic Problems.

4.b

The City's Flood Plain Ordinance, identified as Chapter 18.47 of the Zoning Ordinance, establishes uses permitted or excluded from floodplain areas, permit processing procedures, and requires that any development approved adjacent to an identified floodplain must have a finished floor elevation a minimum of one foot above the flood elevation. Minor encroachments into the floodplain may only be allowed as long as they do not increase water velocities or elevations, exceeding adopted thresholds. Installation of the proposed pipeline is estimated to occur at a depth similar to that of the existing pipeline, which has an average cover of 7 to 8 feet. There have been no reports of any flood-related scour problems that have exposed the existing pipe at any creek crossing. Continued implementation of the City's Flood Plain Ordinance will minimize the potential for flood-related impacts on future development. Therefore, impacts are considered to be *less than significant*.

4.c.

Disturbance to soils would occur during construction of the Eastside Parallel Interceptor. Soil disturbance would occur along the alignment and at the proposed creek crossings. Sediment from erosion could enter into the creeks, increasing its turbidity and decreasing water quality. Also, construction activities typically include refueling of construction equipment on site. Minor fuel and oil spills may occur, and there exists the risk of larger releases. Without rapid response and containment, these spills could be potentially toxic to aquatic organisms and wildlife species living in the vicinity of the spills, as well as decrease water quality. These impacts are *potentially significant*.

Both the City and resource agencies with jurisdiction over the project (e.g., California Water Quality Control Board and California Department of Fish and Game) have standard erosion control requirements that control the amount of sedimentation that enters surface waters. Project specifications by Kennedy Jenks require control of potential water pollution. Mitigation measures contained in Section III, Geology and Soils, would also control sedimentation. Additional mitigation has been incorporated that would reduce potential effects to less than significant.

4.d-e

To the extent possible, construction activities which occur in the vicinity of creek crossings would be undertaken when flows within these features are at their lowest levels. Construction of stream crossings is planned for August or September of 2000. However, temporary diversions would likely be necessary. This would entail the damming of the creek and diversion to a conduit that would convey water around the construction area. This would temporarily divert the flow of Churn Creek, where the two creek crossings that are part of the project are located. Although temporary, this impact is considered *potentially significant*. Mitigation has been incorporated that would reduce potential effects to less than significant. [M.M.4.2]

4.f, g

In most locations, the proposed interceptor will be installed at a depth of 8 to 10 feet. Therefore, it is likely that excavation activities could intercept shallow groundwater in a number of locations. Limited and localized changes in the quantity of groundwater, and temporary alterations to the direction, rate and flow of groundwater will result. Surface water may also be encountered at creek crossings.

In areas where groundwater is discovered, pumps will be utilized to temporarily divert the water out of the trench for the proposed pipeline alignment. The water will be directed into temporary impoundments designed to allow the settling of sediment. Clarified water will be released into the storm drainage system after the settling of suspended material has occurred. Water velocity attenuation devices will be incorporated at entrances into the storm drainage system to further minimize erosion and siltation. Impacts to groundwater features are considered *potentially significant*, and mitigation has been incorporated that would reduce potential effects to less than significant,

Installation of the proposed interceptor line will not create a barrier to the long-term flow of groundwater. Some recharge of the groundwater table may also occur through percolation of the diverted water. The condition and use of equipment in areas where ground water is encountered will be carefully monitored to ensure that no hazardous materials or substances are released or inadvertently introduced.

4.h

One agricultural well is located adjacent to the proposed pipeline route approximately 40 feet north of Old Alturas Road. Leakage from the pipeline could contaminate water from the well. The project proposes to fully encase portions of the pipeline within 50 feet of the well with concrete, to prevent leakage. However, the characteristics of the aquifer from which the well draws its water are not entirely known. Leakage from the proposed pipeline outside the encased area could enter the water drawn by the well. Therefore, impacts on well water are considered *potentially significant*. Mitigation has been incorporated that would reduce potential effects to less than significant. [M.M. 4.3]

4.i

The majority of the City of Redding's water supply is provided through surface water allocations. The remainder is provided by wells located primarily within the Enterprise area. Although some pumping of groundwater will occur for trench dewatering, the amount and duration will be limited. No substantial reductions in the amount of groundwater otherwise available for public water supplies will result from the project. Therefore, *no impact* on groundwater supply is anticipated.

MITIGATION

MM 4.1 If groundwater is encountered during excavation activities, the contractor may apply the following dewatering activities:

- a. Pumping into temporary impoundments prior to release into any natural or man-made storm drainage features.
- b. Pumping directly into storm drain inlets or sewers.

Dewatering specifications shall be thoroughly addressed within the contract documents prepared for construction of the project. The specifications shall include acceptable methods and general location of temporary impoundment or other facilities and identify

anticipated discharge locations. The specifications shall be reviewed and approved by the Director of Public Works.

MM 4.2 The contractor shall retain a qualified erosion and sediment control specialist to prepare a Project Stormwater Pollution Prevention Plan (SWPPP) which emphasizes stormwater best management practices (BMPs). The SWPPP is required by the State Water Resources NPDES General Construction Activity Stormwater Permit. The objectives of the SWPPP are to identify the sources of sediment and other pollutants that affect the quality of stormwater discharges and to describe and ensure the implementation of practices to reduce sediment and other pollutants in stormwater discharges. The SWPPP shall include the following elements:

- a. Construction activities which occur in the vicinity of drainage canals and creek crossings will be undertaken when flows within these features are at their lowest levels (June 1 through November 1 of each year) to minimize soil exposure.
- b. When work in a flowing stream is unavoidable, the entire stream flow shall be diverted around or through the work area during construction activities.
- c. Diversion of the water will be completed in accordance with all conditions stipulated by resource agencies including, but not limited to, the California Department of Fish and Game and the Regional Water Quality Control Board (Central Valley Region).
- d. Runoff shall be diverted away from construction areas that have been denuded or otherwise disturbed.
- e. Sediment shall be retained onsite by the proper use of silt fences, hay bales, sedimentation basins, or other structures (refer to MM III.6).
- f. A dredge and holding pond will be used to reduce the amount of silt that is created.
- g. Construction will be accomplished through the use of the bore and jack method as an alternative to excavating within the channels.
- h. All erosion and sediment control facilities shall be inspected routinely by the Public Works Department and maintained until the newly-disturbed ground surfaces are stabilized.

MM 4.3 The well located north of Old Alturas Road near the project shall be sampled by the City prior to construction and then on a semiannual basis for potential contamination for two years after completion. However, it should be noted that this well is only used for irrigation purposes (homeowner responsible for cross-connection control). Testing of samples shall include tests for contaminants whose sources may come from sewage, such as nitrates and nitrites, fecal coliform bacteria and other microbes. Should any contamination be discovered that can be traced to the Eastside Parallel Interceptor, the City shall take appropriate action to stop and to remediate the contamination. Possible actions could include identification of sources of contamination and fixing any structural problems associated with the pipeline.

MM 4.4 All fueling and oil-changing activities associated with project construction shall be limited to the designated staging areas, away from streams and sensitive biological resources.

Implementation of the above noted mitigation measures would reduce the project's water impacts to *less than significant*.

DOCUMENTATION / REFERENCES

USGS Water Resources Investigations Report: Groundwater in the Redding Basin, Shasta and Tehama Counties/ Michael J. Pierce, 1983.

City of Redding Draft General Plan Background Report, July 1998.

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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5. AIR QUALITY. Would the proposal:

- | | | | | |
|--|-----------------------|----------------------------------|-----------------------|----------------------------------|
| a) Violate any air quality standard or contribute to an existing or projected air quality violation? | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b) Expose sensitive receptors to pollutants? | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c) Alter air movement, moisture, or temperature, or cause any change in climate? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| d) Create objectionable odors? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |

ENVIRONMENTAL SETTING / OVERVIEW

The City of Redding is located in the extreme northern end of the Sacramento Valley, which is part of the Sacramento Valley Air Basin. The California Air Resources Board (ARB) has further divided this basin into two planning units, called the Northern Sacramento Valley Planning Area (NSVPA) and the Broader Sacramento Planning Area. These divisions are based on the degree of pollutant transport from one area of the basin to another and the varying degrees of emissions within each area. The NSVPA is comprised of Shasta, Tehama, Glenn, Butte, Colusa, Sutter, and Yuba Counties. The NSVPA is surrounded by the Klamath Mountains and Coast Ranges to the northwest and west, and the Cascade Mountains and the Sierra Nevada to the northeast and east. Coupled with the relatively calm winds and fairly stable atmospheric conditions, the potential for significant air pollution in the NSVPA is considered high.

On a local level, air quality in the Redding metropolitan area is a reflection of the population growth of the region and the surrounding counties and the fact that Redding is a central location for urban demands, including medical, retail, government, education, employment, housing and transportation. Additionally, the northern Sacramento Valley is also subject to significant ozone transport from the Broader Sacramento Planning Area. These factors, coupled with the region’s climate, topography, and forest resources, have caused the air quality of the NSVPA and Redding metropolitan area to be classified as “moderate nonattainment” for ozone and particulate matter. The “moderate” pollution standard is based on health criteria established by the California Clean Air Act.

As required by the Federal Clean Air Act of 1971, the U.S. Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) for six “criteria” air pollutants: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide (SO₂), lead and suspended particulate matter less than 10 microns in diameter (PM₁₀). These standards consist of maximum allowed pollutant concentrations during specified time periods and total emission amounts. Furthermore, these air quality standards are broken down into two types. Primary standards seek to protect human health, while secondary standards are designed to also protect property, the appearance of the air, and resources such as soil, crops, wildlife and vegetation. In June 1997, the EPA adopted new Federal ambient air quality standards for particulate matter less than 2.5 microns in diameter (PM_{2.5}) and a new eight-hour ozone standard. Although these new standards are currently in

effect, the planning process to determine compliance with these standards and development control programs for these standards will not be completed until after the year 2000. In addition, recent court decisions associated with the establishment of these new air quality standards have further inhibited their implementation.

California uses more stringent regulations than the federal government for air pollutant emissions under a program administered by the California Air Resources Board (CARB). These standards are the levels of air quality considered safe, with an adequate margin of safety to protect the public health and welfare. They are designed to protect those “sensitive receptors” most susceptible to further respiratory distress. The CARB has outlined, in the approved 1994 State Implementation Plan (SIP) for ozone, new control strategies that will be developed and implemented over the next decade in California. These new measures will reduce air pollution throughout California and ensure continued progress towards meeting federal standards, as well as progress towards California’s more health-protective standards. With the SIP as the State’s established control strategy for the future, the CARB found that the NSVPA Districts would not be required to prepare a comprehensive plan update for 1997. Rather, districts were directed to focus on implementing their existing control strategies and SIP commitments (NSVAB, 1997, pg. 1).

The air districts in the Northern Sacramento Valley Air Basin (NSVAB) jointly prepared and adopted a uniform 1997 Air Quality Attainment Plan for the purpose of achieving and maintaining healthful air quality throughout the air basin. This triennial update for the NSVAB Air Quality Attainment Plan addresses the progress made in implementing the 1994 plan and proposed modifications to the strategies necessary to attain the California ambient air quality standard for ozone at the earliest practicable date (NSVAB, 1997, pg. 1).

The City of Redding is located within the Shasta County Air Quality Management District (SCAQMD), which is designated by law to adopt and enforce regulations to achieve and maintain ambient air quality standards for criteria pollutants. Among its responsibilities is the development and administration of the County’s Air Quality Attainment Plan (AQAP), which strives to achieve a 5 percent reduction in emissions per year for each nonattainment pollutant. The SCAQMD adopted an AQAP in September 1991 and 1994, and it participated in the jointly prepared NSVAB 1997 Air Quality Attainment Plan, which is designed to work towards achieving the State ozone standard at the earliest practical date.

CHECKLIST DISCUSSION / ANALYSIS

5.a and b

Based upon the City of Redding General Plan Background Report air quality data and ARB ozone and PM10 data, the following conclusions can be made regarding compliance of air quality for the project region:

Particulate Matter:

1. Redding, Shasta County, and the SVAB comply with Federal PM10 annual concentration standards.
2. Redding, Shasta County, and the SVAB comply with Federal PM10 24-hour concentration standards.
3. Redding, Shasta County, and the SVAB comply with State PM10 annual concentration standards.
4. Shasta County and the SVAB routinely do not comply with State PM10 24-hour concentration standards.
5. It cannot be determined at this time if Redding, Shasta County and the NSVAB comply with Federal PM2.5 annual and 24-hour concentration standards.

Ozone:

1. Redding, Shasta County, and the SVAB do not comply with State air quality standards for ozone for 1-hour concentrations.
2. Shasta County is unclassified for Federal ozone concentrations.

One of the intentions of air quality standards is to protect individuals who are sensitive to high levels of air pollution. Sensitive receptors refer to certain groups of people and activities subject to health risks if exposed to air pollution for long periods of time. Schools, hospitals, and convalescent homes are generally considered sensitive receptors. Residential areas adjacent to pollutant sources are also considered sensitive. Sensitive receptors in the project area consist of residences and Boulder Creek Elementary School.

The NSVAB, which includes the Northern Sacramento Valley Planning Area, has been designated as moderate non-attainment by the California Air Resources Board for State ozone concentration standards and non-attainment for State PM10 24-hour concentration standards. At this time, Shasta County has not been classified as non-attainment for any Federal ambient air quality standard and is “unclassified.” Because the project would not adversely affect the timely attainment and maintenance of national air quality standards, the project is not required to meet the Federal General Conformity Rule as identified in the State Implementation Plan (SIP).

Temporary air quality impacts may result from construction activities. The air quality impacts of construction activities would primarily be limited to dust generated by equipment and vehicles. Fugitive dust is emitted during construction activities and by wind over exposed earth surfaces. Grading and earth moving activities comprise the major source of construction dust emissions, but traffic and general disturbances of the soil also generate emissions. Increased dustfall and locally elevated levels of particulate matter (including PM10) are expected effects of construction work. This would only be a short-term impact, and only a limited area would be worked on at any given time. Since work would primarily involve digging trenches for the pipeline, the actual amount of dust emissions would be limited. However, due to existing air quality conditions within the SVAB, especially with regard to PM10, the increased dust emissions resulting from the project are considered *potentially significant*.

The Air Quality Element of the City’s General Plan contains Standard Mitigation Measures (SMMs) for the control of dust emissions. Along with these SMMs, additional mitigation measures have been identified below that would reduce these impacts to a less than significant level.

5.c and d

The project consists of the installation of an underground sanitary sewer interceptor. The proposal will not alter air movement, moisture, temperature, or cause any change in climate. The project would have *no impact* on the climate and significant impacts resulting from objectionable odors are not expected.

MITIGATION

MM 5.1 The applicable Standard Mitigation Measures, as identified in the Air Quality Element of the City’s General Plan, shall be applied during grading and construction activities to control dust and PM10 emissions. These measures may include, but are not limited to, the following:

- a. Apply nontoxic soil stabilizers according to manufacturer's specification to all inactive construction areas (previously graded areas inactive for ten days or more).
- b. All grading operations of a project shall be suspended when winds (as instantaneous gusts) exceed 20 miles per hour as directed by SCAQMD.
- c. Provide temporary traffic control as appropriate during all phases of construction to improve traffic flow (e.g. flag person).
- d. Schedule construction activities that affect traffic flow to off-peak hours.
- e. Water active construction sites at least twice daily as directed by the Public Works Department.
- f. Exposed stockpiles of soil and other backfill material shall be enclosed or covered, and watered twice daily or have soil binders added.
- g. All trucks hauling soil and other loose material shall be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the trailer) in accordance with the requirements of California Vehicle Code Section 23114. This provision is enforced by local law enforcement agencies.
- h. Sweep streets at the end of the day if visible soil materials are carried onto adjacent public paved roads (recommend water sweeper with reclaimed water).
- i. Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip.

MM 5.2 Construction activities shall be designed to reduce carbon monoxide emissions through the following measures:

- a. Vehicle and equipment idling shall be limited to the fullest extent practicable.
- b. Construction activities and the delivery or hauling of project related materials shall be organized to maximize productivity and reduce truck and vehicle trips to the fullest extent practicable.
- c. Equipment used by the city and the contractor for the project shall be maintained in good working order and comply with any applicable standards for pollutant emissions.

MM 5.3 Open burning of cleared vegetation is prohibited. Cleared vegetation should be treated by legal means other than open burning, such as chipping, shredding, or grinding. Such methods shall be noted on improvement plans. At no time shall open burning of materials generated by this project occur at another site.

In addition, mitigation measures in Section III, Geology and Soils, designed to reduce erosion would also contribute to the control of dust. Implementation of the above mitigation measures will reduce the impacts on air quality to *less than significant* level.

DOCUMENTATION / REFERENCES

City of Redding Air Quality Element (February, 1994)

City of Redding Draft General Plan Background Report (1998)

Northern Sacramento Valley Air Basin , 1997 Air Quality Attainment Plan (1997)

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Shasta County General Plan, Air Quality Element (1998)

Shasta County Air Quality Management District (Ken Berryman pers. communication, August 31, 1999;
Mike Kussow, pers. communication, November 8, 1999)

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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6. TRANSPORTATION/CIRCULATION. Would the proposal result in:

a) Increased vehicle trips or traffic congestion?	o	●	o	o
b) Hazards to safety from design features (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	o	o	o	●
c) Inadequate emergency access or access to nearby uses?	o	●	o	o
d) Insufficient parking capacity on-site or off-site?	o	o	o	●
e) Hazards or barriers for pedestrians or bicyclists?	o	o	o	●
f) Conflicts with adopted policies supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	o	o	o	●
g) Rail, waterborne or air traffic impacts?	o	o	o	●

ENVIRONMENTAL SETTING / OVERVIEW

Interstate 5 is the backbone of the City of Redding transportation system. It is a four-lane freeway running in a north-south direction. Interstate 5 is located approximately 1.2 miles west of the proposed Interceptor alignment. Other major highways in the project vicinity include State Highway 299 and State Highway 44. Highway 299 passes north and west of the project area as it leaves downtown Redding, connects with Interstate 5, then goes east of Interstate 5 past Simpson College and Shasta College on its way to Alturas. Highway 44 is an east-west highway that passes by the Mt. Shasta Mall shopping area on its way to Shingletown and Lassen Volcanic National Park, eventually connecting with State Highway 36 west of Susanville. Highway 44 crosses the proposed Interceptor alignment at its southern end. Other significant roadways within the vicinity of the project include Shasta View Drive to the east and Churn Creek Road to the west. Old Alturas Road, an east-west, two-lane roadway, crosses the proposed pipeline alignment.

The City's General Plan has a street classification system for streets and roadways in the Redding area. This system, along with examples located in the vicinity of the project, is described below:

Freeway. A principal arterial corridor that provides for safe and efficient movement of high volumes of traffic at relatively high speeds. Access on a freeway is fully controlled. The portion of State Highway 44 that crosses the project area is classified as a freeway.

Expressway. Similar to a freeway, except that access is not as limited. There are no expressways in the vicinity of the project.

Arterial. Provides for through-traffic movement between areas and across the City and direct access to abutting property. Arterials in the project vicinity include Churn Creek Road, Shasta View Drive, Victor Avenue and Old Alturas Road.

Collector. Provides for traffic movement between major arterials and local streets and direct access to abutting property. Drivers use these streets to travel within and between residential areas and neighborhood commercial areas. There are no collector roadways in the project vicinity.

Local Streets. Drivers travel on these streets only to reach adjacent land uses. Local streets serve residential areas and protect residents from through traffic. Local streets along or adjacent to the proposed alignment include Springer Drive, Edgewood Drive and Arroyo Manor Drive.

CHECKLIST DISCUSSION / ANALYSIS

6.a,c

The project may create a potential for traffic congestion at Old Alturas Road, which crosses the proposed alignment. The proposed methods for construction at Old Alturas Road include open-cut trenching, tunneling, or boring and jacking. A geotechnical investigation conducted by Anderson Consulting Group in November 1999 concluded that tunneling may not be feasible due to caving soil conditions. The boring and jacking method was considered feasible, but dewatering may need to be performed along the route to enable construction and to reduce caving problems.

Kennedy/Jenks Consultants recommended that Old Alturas Road be shut down during construction of the pipeline in that area. Open-cut excavation for crossing Old Alturas Road would take approximately 1-2 days. At the end of each day, the contractor would either backfill or cover open trenches with steel plates prior to leaving the site. Should this recommendation be adopted, nearby streets would likely experience an increase in traffic and possible congestion. Since Old Alturas Road is a major arterial, it is likely to be used frequently by emergency vehicles and would likely be used as a major evacuation route. A shutdown during construction would likely divert emergency vehicles onto other routes. The City may consider a long-day 24-hour work schedule to further reduce impacts. Although these impacts are temporary and would cease after completion of construction, they are considered *potentially significant*. Mitigation has been incorporated that would reduce potential effects to less than significant. [M.M.6.1-3]

6.b, d-f

The project involves the installation of an underground sewer line. Once installed, the new Interceptor would not disrupt traffic flows and would present no barriers to traffic of any kind, including bicycle and pedestrian. The project would not result in the loss of any parking spaces, since the new interceptor would be underground and thus beneath any parking spaces. The project would have *no impacts* on these transportation issues.

6.g

Although the project would be constructed within Churn Creek at two locations, Churn Creek is not used for regular waterborne transportation. Therefore, the project would not disrupt any water transportation. The nearest railroad track is approximately 3.2 miles west of the project area. Benton Airpark and the Redding Municipal Airport are approximately 3.7 and 4.5 miles away respectively, and the project is not within the safety zones of either of these airports. There are *no impacts* to rail, waterborne or air traffic.

MITIGATION

- MM 6.1** The contractor shall prepare a Traffic Management Plan, which will identify haul routes and detour routes as necessary. Haul routes shall take into consideration the most practical means of transporting the earth materials to and from the grading site consistent with the safety and welfare of residents along the routes (Ordinance 1986 Section 16.40.250 Subsection A). The plan shall also identify traffic control measures that will be implemented to ensure safety and avoid unreasonable delays. The plan shall demonstrate minimal access disruptions to business and residential properties at all phases of project construction. Roadway closures shall be allowed only in the event that an alternative route is provided and announced and marked using appropriate signage. The plan shall be reviewed and approved by the City of Redding Public Works Department. As an alternative, the City may prepare the plan for use by the contractor.
- MM 6.2** All public roadways used by the contractor shall be maintained free from all dust, dirt, and debris caused by the construction activities (Ordinance 1986 Section 16.40.250 Subsection B). The contractor shall sweep all public roadways significantly affected by construction activities at least every Friday, and shall sweep affected roadways again once construction work in an area is completed.
- MM 6.3** The contractor shall consult with fire, law enforcement, and emergency services personnel prior to road closures and/or detours to detail any scheduling or other measures that will ensure the clear passage of those services during the entire construction of the project. The City shall notify all emergency dispatch and emergency contact personnel of all construction sites and temporary road closures. The Traffic Management Plan, prepared pursuant to Mitigation Measure VI.1, shall be subject to review and approval by the fire department, police department, and emergency services.

Implementation of the above mitigation measures would reduce impacts associated with traffic congestion and emergency access to a *less than significant* level.

DOCUMENTATION / REFERENCES

Draft Redding General Plan Background Report, July 1998.

“Parallel Eastside Interceptor Sewer.” Draft Technical Memorandum, Kennedy/Jenks Consultants, December 16, 1999.

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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7. BIOLOGICAL RESOURCES. Would the proposal result in impacts to:

a) Endangered, threatened or rare species or their habitats (including but not limited to plants, fish, insects, animals, and birds)?	o	●	o	o
b) Locally designated species (e.g. heritage trees)?	o	●	o	o
c) Locally designated natural communities (e.g. oak forest, coastal habitat, etc.)?	o	●	o	o
d) Wetland habitat (e.g. marsh, riparian and vernal pool)?	o	●	o	o
e) Wildlife dispersal or migration corridors?	o	●	o	o

ENVIRONMENTAL SETTING / OVERVIEW

The following information is based upon a draft Biological Resources Report by North State Resources, issued in January 2000, which is included as Appendix A.

Vegetation within the Boulder Creek/Churn Creek watershed along the project corridor consists mainly of woodlands interspersed with small grassland and mixed chaparral inclusions. Riparian vegetation occupies areas along both the Boulder Creek and Churn Creek stream channels and adjacent floodplains, as well as other areas that have conditions suitable for riparian and wetland plant colonization. Much of the riparian vegetation throughout the project corridor disturbed by construction activities associated with the original Eastside Interceptor, has naturally regenerated. In other portions of the alignment, the existing sewer line is covered or paralleled by a dirt access road, and trees have been removed, creating scattered openings.

Vegetation Habitats

At the northern terminus of the project corridor, the alignment traverses a portion of the Boulder Creek School playing field and parking lot before it parallels the floodplain of Boulder Creek and Churn Creek. North of Old Alturas Road, the alignment crosses Churn Creek and again runs parallel to the creek along an upland bench consisting of oak-foothill pine woodland. Vegetation at the stream crossing consists of dense willow scrub. South of Old Alturas Road, the alignment continues to run parallel with Churn Creek through oak-foothill pine woodland before crossing the creek a second time. Vegetation at this crossing consists of open riparian wetland and scattered willow scrub. Beyond the second crossing, the alignment again runs parallel to the creek on an upland bench that supports oak-foothill pine woodland and mixed chaparral, all the way to the southern terminus of the project.

Seven distinct plant communities are found on or adjacent to the project area:

Annual Grassland - in scattered areas throughout the project area, in openings within woodlands and chaparral or in disturbed areas. Predominant plant species are rigput grass (*Bromus diandrus*), medusa head grass (*Taeniatherum caput-medusae*) and fescues (*Vulpia* spp.).

Seasonal Wetland - highly disturbed by previous ground work. Generally shallow and support minimal vegetation. Predominant plant species are button-celery (*Eryngium articulatum*), toad rush (*Juncus bufonius*), loosestrife (*Lythrum hyssopifolium*), water chickweed (*Montia fontana*) and dwarf plantain (*Plantago pusilla*). Other features support iris rush (*Juncus xiphioides*), curly dock (*Rumex crispus*) and annual bluegrass (*Poa annua*). Ephemeral drainages, another seasonal wetland feature, are both vegetated and unvegetated. Vegetated drainages contain Mediterranean barley (*Hordeum murinum* ssp. *gussoneanum*), perennial ryegrass (*Lolium perenne*), annual bluegrass and curly dock.

Freshwater Emergent Wetland - observed in a localized portion of Boulder Creek north of the parking lot at Boulder Creek School. Predominant plant species include broad-leaved cattail (*Typha latifolia*), rushes (*Juncus patens* and *J. xiphioides*), water cress (*Rorippa nasturtium-aquaticum*), umbrella sedge (*Cyperus eragrostis*) and pond buttercup (*Ranunculus aquatilis* var. *subrigidus*).

Freshwater Seep/Wet Meadow - observed in localized sections along the project corridor, particularly at the base of slopes and in proximity to the Churn Creek floodplain. Predominant plant species within seeps include iris rush, pennyroyal (*Mentha pulegium*) and baltic rush (*Juncus balticus*).

Riparian Wetland/Willow Scrub - occurs sporadically within and along sections of Boulder Creek and Churn Creek. Most prevalent in flatter sections with little bank development, and areas where alluvial deposits have formed islands and shallow gradients to upland areas. Predominant plant species include arroyo willow (*Salix lasiolepis*), narrow-leaved willow (*Salix exigua*) and Oregon ash (*Fraxinus latifolia*). Understory species include iris rush, inflated sedge (*Carex vesicaria*), Himalayan blackberry (*Rubus discolor*) and steam rush (*Juncus patens*).

Mixed Chaparral - in scattered locations along the project corridor, primarily along steeper hillsides in openings and along margins of oak-foothill pine woodland. Predominant species include manzanita (*Arctostaphylos manzanita* and *A. viscida*), buckbrush (*Ceanothus cuneatus*), blue blossom (*Ceanothus thyrsiflorus*), California coffeeberry (*Rhamnus californica*), western redbud (*Cercis occidentalis*) and poison oak (*Toxicodendron diversilobum*).

Oak-Foothill Pine Woodland - prevalent along the entire project corridor. Found primarily along upland benches and adjacent hillsides, but also grades into riparian wetland vegetation in scattered locations. Predominant species include interior live oak (*Quercus wislizenii*), blue oak (*Quercus douglasii*) and foothill pine (*Pinus sabiniana*). At the confluence of Boulder and Churn Creeks, valley oak (*Quercus lobata*), Oregon ash and willows are more abundant and form more of a riparian oak woodland community.

A floristic inventory and special-status plant survey were conducted along the project corridor by CH2M Hill botanists in 1993, in accordance with guidelines developed by the CDFG. The survey identified 18 special-status plant species with the potential to be found in the project corridor. A total of 183 plant species were observed; however, none were special-status plant species. Approximately 35 percent of the observed plant species were non-native, many of which were considered invasive weeds. Wildlife species commonly found

in these vegetation communities are presented Table 2 of the Biological Resources study, presented in Appendix A of this document.

The main hydrologic features within the project area are Boulder Creek and Churn Creek. Both streams support fish species typically found in warm-water streams. These include pumpkinseed (*Lepomis gibbosus*), green sunfish (*Lepomis cyanellus*), largemouth bass (*Micropterus salmoides*), Sacramento squawfish (*Ptychocheilus grandis*), bluegill (*Lepomis microchirus*), white crappie (*Pomoxis annularis*) and a variety of cyprinid (minnow species). Other species known to exist in Churn Creek include brown bullhead (*Ameiurus nebulosus*) and catfish (*Ictalurus* sp.). None of these species are considered sensitive, although they provide an important food source for predators such as river otter, great blue heron and belted kingfisher. Anadromous fish species are not known to occur in either stream, although chinook salmon have been found in Churn Creek at its confluence with the Sacramento River. However, the area further upstream is considered to have marginal habitat for salmon, and species have not been observed in the project area in recent years.

The project would likely be subject to the review and/or permitting processes of the following agencies:

U.S. Army Corps of Engineers. Permits under Section 404 of the Federal Clean Water Act and/or Section 10 of the Rivers and Harbors Act are required for the placement of dredged or fill materials into waters of the United States, including wetlands. Projects are permitted under either individual or general (e.g. nationwide) permits. It is anticipated that the project would be authorized under Nationwide Permit No. 12 (Utility Line Backfill and Bedding) and Nationwide Permit No. 33 (Temporary Construction, Access and Dewatering).

U.S. Fish and Wildlife Service (USFWS)/National Marine Fisheries Service. Since the project would require the issuance of Section 404/Section 10 permits by the Corps of Engineers, formal consultation pursuant to Section 7 of the Federal Endangered Species Act may be necessary. It is anticipated that the project would not result in impacts to federally listed plant, wildlife or fish species.

California Department of Fish and Game (CDFG). Any entity proposing an activity that would substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake designated by the Department of Fish and Game must receive a Stream Alteration Agreement permit from the Department.

Regional Water Quality Control Board (RWQCB). The RWQCB, Central Valley Region, is responsible for enforcing water quality criteria and protecting water resources in the area. The RWQCB controls discharges to surface waters by issuing waste discharge requirements (WDRs) or conditional waivers to WDRs. A request for water quality certification by the RWQCB, including WDR, would be submitted after completion of environmental documentation.

City of Redding. The City adopted a Tree Preservation Ordinance (#1977) in 1991. It encourages the preservation of oak trees with a diameter at breast height (dbh) greater than six inches. The project will need to replace trees at the ratio determined prior to construction.

CHECKLIST DISCUSSION / ANALYSIS**7.a**

A list of special-status wildlife species that could potentially be found in the project area was compiled using data from the California Natural Diversity Database (CNDDDB), consultations with CDFG and USFWS, and biological literature of the region. A total of 30 special-status wildlife with the potential to occur in the area were identified. The likelihood of their occurrence was rated by the following criteria:

Unlikely - Project area and vicinity do not support suitable habitat for species. Project area outside known range of species.

Low Potential - Project area and vicinity provide only limited habitat for species. Project area may be outside known range of species.

Medium Potential - Project area and vicinity provide suitable habitat for species.

High Potential - Project area and vicinity provide suitable habitat for species. Species known to be found in project area.

Of the 30 special-status wildlife species, five were classified as having “Medium” or “High” potential. The project area provides suitable nesting and foraging habitat for Cooper’s hawk (*Accipiter cooperi*), sharp-shinned hawk (*Accipiter striatus*), yellow warbler (*Dendroica petechia*) and yellow-breasted chat (*Icteria virens*). All of these bird species are designated as Species of Concern by the State of California. Warbler and chat nests were not recorded in the project vicinity by the CNDDDB; however, no specific nest surveys were conducted for the project. In addition, Boulder Creek and Churn Creek provide suitable habitat for the northwestern pond turtle (*Clemmys marmorata marmorata*), classified as both a Federal and State Species of Concern and the only wildlife species in the “High Potential” classification. Pond turtles were observed in the creeks by CH2M Hill biologists in 1993. Although none were observed in a subsequent visit to the site in October-November 1999, the species is not generally active at that time of year.

Noise and visual disturbance associated with construction activities occurring during the nesting season (March to July) can disrupt nesting raptors, leading to nest abandonment and nest failure. Removal of oak woodland and riparian vegetation and noise could disturb nesting yellow warblers and yellow-breasted chats. All of these bird species are protected by the Migratory Bird Treaty Act (16 USC 703-711) and the California Fish and Game Code (Sections 3503, 3503.5 and 3513). Essentially, these regulatory provisions consider it unlawful to take, possess or needlessly destroy the nest or eggs of any bird species designated in the Migratory Bird Treaty Act.

Both Churn Creek and Boulder Creek contain pools and significant stretches of calm water, which provide excellent habitat for the northwestern pond turtle. In addition, upland riparian and oak woodland along more secluded portions of the project corridor provide potential nesting habitat for the species. The breeding season for the turtle occurs in late April to early May. Most egg-laying occurs in May and June, but egg-laying has been observed as early as April and as late as August. After hatching and overwintering in the nests, hatchling turtles emerge in the following spring. Construction activities may impact pond turtles directly if vehicles or other heavy equipment is driven within potential nesting areas. Trenching activities within the stream channel at the two Churn Creek crossings could result in the direct loss of turtles. Indirect

impacts may occur to this species if construction results in degradation of aquatic habitat by increasing erosion or sedimentation or reducing water quality.

The impact on the four bird species and the pond turtle species are considered *potentially significant*. Mitigation has been incorporated that would reduce potential effects to less than significant. [M.M. 7.4, 7.5, 7.6, and 7.12]

7.b

A preliminary assessment of oak trees within the project area was conducted by North State Resources in October 1999. The assessment, within a 60-foot to 80-foot wide survey corridor, identified 210 oak trees potentially subject to the City's Tree Preservation Ordinance. The majority of the identified oaks were interior live oak, with several valley oak also observed. Most of the oaks flagged by the survey were under 10 inches dbh. It is not known how many oak trees would actually need to be removed during construction of the project, since the project corridor would only be approximately 40 feet wide. However, based on a preliminary review it has been estimated that 19 mature trees would be affected by the project (13 live oaks and 6 valley oaks). This is considered a *potentially significant impact*. Mitigation has been incorporated that would reduce potential effects to less than significant. [MM 7.1, 7.2 and 7.3] Mitigation measures are consistent with the City's tree preservation ordinance, which states that, oaks with a dbh of 6 inches or greater that must be removed as a result of the project shall be replaced at a minimum 3:1 ratio. Review of the project site and Greenway indicate sufficient area and habitat to replant 57 trees if needed. The actual mitigation ratio will be determined prior to construction.

7.c

The project could have impacts on the oak woodlands adjacent to the project area. Some of these impacts are discussed in 7.b above. Another potential impact is the driving and/or parking of vehicles and construction equipment in areas outside designated staging areas, access routes and the 40-foot wide construction corridor. Unauthorized vehicle access and parking could degrade oak woodlands by driving over oak seedlings. Continued unauthorized driving and parking could result in the compaction of soil under the dripline of oak trees, depriving their root systems of oxygen and causing death of roots. This impact is considered *potentially significant*. Mitigation has been incorporated that would reduce potential effects to less than significant. [M.M. 7.11]

Although riparian vegetation communities are not a locally designated natural community, they are considered sensitive natural communities by the CDFG. Riparian vegetation is present throughout the project alignment, but it is most abundant from Springer Drive south to the proposed Churn Creek crossing north of Old Alturas Road. Based upon field observations, the majority of the riparian vegetation is considered jurisdictional wetland. Such areas are subject to U.S. Army Corps of Engineers regulations concerning wetlands. Up to 0.504 acres of upland riparian vegetation, which is non-jurisdictional, would either be removed or temporarily impacted by project construction activities. The areas where impacts may be most substantial are at the Churn Creek crossings and the segment from Springer Drive to the first Churn Creek crossing north of Old Alturas Road. Also, the driving and/or parking of vehicles and construction equipment in unauthorized areas could degrade riparian areas. Loss of riparian vegetation would be a *significant impact*. Mitigation has been incorporated that would reduce potential effects to less than significant. [M.M. 7.9 and 7.11]

Construction activities can potentially affect water quality and aquatic organisms in Boulder and Churn Creeks. Water quality impacts are discussed in Section IV of this document. Refueling of construction

equipment on location could lead to minor fuel and oil spills. If not contained and cleaned up rapidly, these spills could be potentially toxic to aquatic organisms and wildlife species, their eggs and their young. Erosion caused by construction equipment, boring, trenching, degrading cover and loosening of soils in the vicinity of the creeks may increase the potential for sedimentation. This normally does not directly affect fish and macroinvertebrates unless sedimentation reaches extremely high levels. At these high levels, suspended solids can adversely affect the physiology of aquatic organisms, suppress photosynthetic activity, diminish visibility for predatory species, and disrupt the larval/egg stages of aquatic organisms. Degradation of water quality is considered a *potentially significant impact*. Mitigation has been incorporated that would reduce potential effects to less than significant. [M.M. 4.2 and 4.4]

7.d

A delineation of potential jurisdictional wetlands and other waters of the United States along the proposed alignment was conducted by North State Resources on December 6, 1999. Delineation followed the methodology identified in the 1989 guidelines of the U.S. Army Corps of Engineers. The City has contacted the Corps of Engineers to request field verification of the delineation and to determine the appropriate permits required for placement of fill.

Approximately 1.98 acres of jurisdictional wetland features were mapped within a 40-foot wide study area along the proposed alignment (Appendix A). The total acreage is comprised of the following:

Wetlands

- 0.976 acres of riparian wetland/willow scrub
- 0.78 acres of freshwater seep/wet meadow
- 0.015 acres of freshwater emergent wetland (marsh)
- 0.029 acres of seasonal wetland
- 0.04 acres of seasonal drainage with wetland vegetation

Other Waters of the United States

- 0.128 acres of riverine
- 0.016 acres of seasonal drainage without wetland vegetation

Construction activities are likely to affect jurisdictional wetland features, either temporarily or permanently. Development of portions of the project site could result in the fill of jurisdictional wetlands. The most conservative estimate of the wetland fill would include all of the wetland acreage identified within the project corridor. Also, there is a potential for construction workers to drive and/or park vehicles and construction equipment in areas outside designated staging areas, access routes and construction corridor. This could adversely affect wetland areas. Overall, these impacts are considered *potentially significant*. Mitigation has been incorporated that would reduce potential effects to less than significant. [M.M. 7.7]

7.e

The Boulder Creek and Churn Creek corridors provide important habitat and travel corridors for such species as black-tailed deer, river otter and beaver. The riparian vegetation and adjacent oak woodland and mixed chaparral provides connected habitat within an area significantly fragmented by urbanization. Black-tailed deer feed within the woodland and chaparral, and they utilize the riparian vegetation as cover. River otter

and beaver are commonly found along both creeks. Although none of these species are special-status species, they do provide an aesthetic value for people living in residences adjacent to the creeks.

Construction activities could alter deer foraging and movement patterns, as well as those of river otter and beaver. These changes would be primarily attributed to construction-related noise and trenching activities within the Churn Creek channel, in close proximity to active beaver and otter dens. Although this impact would be temporary, it is considered *potentially significant*. Mitigation has been incorporated that would reduce potential effects to less than significant. [M.M. 7.10]

MITIGATION

MM 7.1 Prior to construction, the City shall retain a certified arborist to conduct a tree survey of the entire project alignment to identify the condition of all oak trees with a dbh of 6 inches or greater which are located within the proposed construction corridor and which are subject to removal. The arborist shall record the following key characteristics: species; diameter; condition/health; and any special considerations.

MM 7.2 Pursuant to the City's tree preservation ordinance, oaks with a dbh of 6 inches or greater that must be removed as a result of the project shall be replaced at a minimum 3:1 ratio. The City Planning Division, depending upon the size and health of oak trees slated for removal, may require an even higher replacement ratio. Selected replacement trees shall be limited to oak species that currently exist on the project site (valley oak and interior live oak). Oak trees shall be planted in groves similar in nature to the oak woodlands currently found along the project corridor. The City shall hire a native vegetation restoration specialist or qualified biologist to prepare a detailed Oak Tree Mitigation and Monitoring Program which includes specific planting techniques, irrigation methods, locations of tree plantings, and success criteria for mitigation. The exact locations for replacement tree plantings shall be determined at the time that oak trees are identified for removal and will be dependent upon the City's ability to acquire an easement for the potential tree replacement site(s) and the availability of water for irrigation. Replaced trees shall be monitored by a qualified biologist semi-annually for a minimum of 5 years to ensure that the total number of surviving replacement trees meets a survival standard of 75 percent at the completion of the monitoring period. An annual monitoring report shall be submitted to the City Planning Division which summarizes the success of the mitigation and provides any necessary remediation measures in the event that the success criteria are not being met.

MM 7.3 Oaks with a dbh of 6 inches or greater which are not removed during construction, as well as all other existing oak trees, shall be flagged prior to construction to ensure preservation. These oak trees shall be preserved and avoided by implementing the following:

- a. Conduct a preconstruction meeting at the project site with pertinent City staff and project contractors to discuss which trees are proposed for removal and preservation, highlighting any potential problematic areas.
- b. No vehicles, construction equipment, mobile offices, or materials should be parked or located within the driplines of oaks that are to be preserved. Driplines of trees should be fenced with snow fencing to exclude vehicle and foot traffic.

- c. No soil surface removal greater than 1 foot in depth should occur within the driplines of oak trees to be preserved. No cuts should occur within 5 feet of their trunks.
- d. No earthen fill greater than 1 foot deep should be placed within the driplines of oak trees to be preserved, or within 5 feet of their trunks.

MM 7.4 The City shall retain a qualified wildlife biologist to conduct a survey for nesting raptors along portions of the project corridor which support suitable raptor nesting habitat within one week of construction activity (i.e., grading). Active raptor nests located within 500 feet of construction activity shall be mapped. The same or a different qualified wildlife biologist shall conduct a survey to identify active yellow warbler and yellow-breasted chat nests within a 100 feet of either side of the project corridor (where feasible and practical) prior to construction activities. This survey may be conducted in conjunction with the raptor nest survey. If no active nests are found, construction may proceed. In the event that an active yellow warbler or yellow-breasted chat nest are observed within or directly adjacent to the project corridor, then mitigation measures (i.e., potential buffer zones) shall be established in consultation with the CDFG, and construction activities shall be prohibited within potential buffer zones until the end of the nesting season (March to early August) or until the young have fledged. A qualified wildlife biologist shall monitor the nest to determine when the young have fledged and submit weekly reports to the CDFG throughout the nesting season. If necessary, identified nest trees may only be removed prior to the onset of the nesting season (March) or after young have fledged (early August).

MM 7.5 If active raptor nests are located on or within 500 feet of an active or scheduled construction activity, then appropriate buffer zones shall be established in consultation with the CDFG, and construction activities shall be prohibited within this buffer zone until the end of the nesting season (late July to early August) or until the young have fledged. A qualified wildlife biologist shall monitor the nest to determine when the young have fledged and submit weekly reports to the CDFG throughout the nesting season.

MM 7.6 If necessary, identified nest trees may only be removed prior to the onset of the nesting season (March) or after young have fledged (late July).

MM 7.7 For potential permanent fill of jurisdictional wetlands associated with the construction of the proposed project, between 1.5 to 2 acres of wetlands would be created for each acre of filled wetland, depending upon the final recommendation made by the Corps of Engineers and CDFG. On-site mitigation is typically encouraged by these two resource agencies and would be conducted if feasible. A Wetland Monitoring Program would be prepared and provided to the ACOE and CDFG for review and approval. The Wetland Monitoring Program would identify the monitoring parameters and success criteria for each parameter. Remediation measures would be identified for conditions where success criteria are not met. The monitoring program would, at a minimum, consist of the filing of an annual report to both agencies for five years. The mitigation would be considered successful if criteria are met for three consecutive years. The City or their appointed agent would maintain the mitigation site in perpetuity. If on-site mitigation is not feasible, then off-site mitigation would be accomplished by purchasing credits at an approved mitigation bank (i.e., Cottonwood Creek Mitigation Bank) at a 2:1 ratio.

- MM 7.8** The following mitigation would be implemented by the contractor along all portions of the alignment where open trench construction and excavation is employed:
- a. Conduct all trenching and construction activities across wetland features during low-flow or dry periods.
 - b. Place sediment curtains upstream and downstream of the construction zone to prevent sediment disturbed during trenching activities from being transported and deposited outside of the construction zone.
 - c. Locate spoil sites such that they do not drain directly into the wetland features. If a spoil site drains into a wetland feature, catch basins would be constructed to intercept sediment before it reaches the wetland feature. Spoil sites would be flattened to reduce the potential for erosion.
 - d. Store equipment and materials away from all wetland features. No debris shall be deposited within 25 feet of the drainages and wetland areas.
 - e. Following pipeline installation, any impacted wetland area would be returned to original grade. Any wetland area left bare following construction would be revegetated using plugs of cattails, rushes, or other native vegetation taken by hand from plants in adjacent wetland.
 - f. In addition, construction shall comply with all provisions attached to permits required for the project that are issued by Federal and State agencies.
- MM 7.9** The City shall implement measures, based on consultation with CDFG, to compensate for impacts to upland riparian vegetation. These measures may include:
- a. If feasible, restore and/or create upland riparian wetland/willow scrub along Churn Creek and Boulder Creek at 1.5 to 1 ratio (typical on-site mitigation ratio). On-site mitigation would require the preparation of a Riparian Mitigation Plan (RMP) by the City or qualified agent of the City prior to construction. The RMP shall include habitat avoidance measures, mitigation site location, planted species list, density of plantings by species, success criteria, monitoring measures, and remedial actions. A planting plan with installation instructions shall be included in the RMP.
 - b. If on-site mitigation is not feasible, the City shall purchase mitigation credits at a 2:1 ratio at an approved off-site mitigation bank (i.e., CDFG's Battle Creek Riparian Conservation Bank).
- MM 7.10** A Biological Monitor shall be present on site during construction activities associated with the two Churn Creek crossings. The Biological Monitor shall survey the waterway immediately prior to construction to determine that active beaver and river otter dens are not present within the construction corridor. The monitor shall continue to monitor for the presence of beaver and otter until construction associated with the two stream crossings is

complete. If an active den is observed within the construction corridor, no construction activities shall occur until den has been evacuated. The intent of this measure is to ensure that no river otters or beavers are harmed as a result of construction activities.

MM 7.11 The City shall include provisions in all construction contracts for the proposed project that prohibit construction employee driving and parking outside of designated areas. All staging areas, access routes, and the construction corridor shall be clearly identified on the construction drawings and flagged in the field. In the event that a staging area, access route, or construction corridor needs to be changed, a qualified biologist shall be retained by the City to determine if the alternate staging area, access route, and/or construction corridor segment is clear of any sensitive biological resources. If no sensitive biological resources are observed, then construction-related activities may proceed without further mitigation. In the event that sensitive biological resources are observed, the biologist shall coordinate with the construction manager to identify an alternate location(s) which are suitable for both construction and resource protection purposes.

MM 7.12 The Biological Monitor should preferably be someone experienced with handling pond turtles. All construction along the proposed sewer alignment must be monitored as pond turtles could occur immediately adjacent to most of the alignment. In the event that a pond turtle or pond turtle nest is observed within the construction corridor, the Biological Monitor shall temporarily halt construction activity to move the pond turtle to a safe location away from construction activity. Should a pond turtle nest be found, the monitor shall adequately flag the site and alert the construction crew of the exact location of the nest. If a nest cannot be avoided, construction shall be halted and the CDFG shall be immediately contacted to determine the appropriate course of action. One potential measure could be the excavation and reburial of the nest at a suitable location outside of the construction corridor by a qualified individual following direction from the CDFG.

Also, Mitigation Measure 4.4 in Section 4, Water, would reduce impacts on aquatic species and their habitats by prohibiting fueling and oil changes in biologically sensitive areas. This would prevent potential spills from occurring in these areas, doing damage to biological resources.

Implementation of the above mitigation measures would reduce impacts associated with biological resources to a *less than significant* level.

DOCUMENTATION / REFERENCES

City of Redding, Draft General Plan, Background Report, July 1998.

North State Resources, Inc. 2000. *Biological Resources Report, Eastside Sewer Interceptor Project*. Redding, California. (Appendix A)

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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8. ENERGY AND MINERAL RESOURCES.

Would the proposal:

- | | | | | |
|---|---|---|---|---|
| a) Conflict with adopted energy conservation plans? | ○ | ○ | ● | ○ |
| b) Use non-renewable resources in a wasteful and inefficient manner? | ○ | ○ | ● | ○ |
| c) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State? | ○ | ○ | ● | ○ |

ENVIRONMENTAL SETTING / OVERVIEW

Mineral extraction has been significant in the Redding area. Gold was mined in extensive dredger operations in the Sacramento River and many of its tributary streams. The residual tailings, along with other gravel deposits, are now an important resource for sand and gravel mining. Mineral deposits in the Redding area include copper, gold, tungsten and gravel. Strata containing natural gas are located in the area around the Redding Municipal Airport. Gravel-bearing deposits exist along Churn Creek, and one such deposit has been identified in the project vicinity, south of Old Alturas Road.

In 1997, the California Division of Mines and Geology published DMG Open File Report 97-03 entitled *Mineral Land Classification of Alluvial Sand and Gravel, Crushed Stone, Volcanic Cinders, Limestone and Diatomite within Shasta County, California*. The primary purpose of the report was to identify the known or inferred mineral potential of lands within Shasta County. This was done to ensure that the mineral potential of land is recognized by local government decision makers and considered before land use decisions are made that could preclude future mining. Land classifications utilized in the DMG report were presented in the form of Mineral Resource Zones. The report placed no Mineral Resource Zones in the project area.

Electricity is supplied by the City of Redding. The City obtains its electricity through purchases from other agencies and generation from its own plants. Natural gas is supplied by Pacific Gas and Electric Company (PG&E). Gasoline and diesel fuel are obtained through numerous private outlets.

CHECKLIST DISCUSSION / ANALYSIS

8.a-b

Construction activities associated with the project would consume energy in the form of motor vehicle fuels that enable vehicles and construction equipment to operate. Such energy consumption is normal for a construction project, and since the project is only approximately 2.1 miles in length, energy consumption is not as significant as similar projects. Once completed, the new interceptor would rely on gravity flow to move wastewater. No new pump station would be required. Overall, impacts on energy consumption would be *less than significant*.

8.c

The *Draft Redding General Plan Background Report* identified one gravel project along Churn Creek in the vicinity of the project (Figure 9-8). Although no mining operations currently exist at that deposit, and the State has not designated a Mineral Resource Zone in that area, the deposit may be used in the future if market demand for gravel makes it economically feasible. The project would at most cut across a minimal portion of the deposit, leaving most of the deposit available for future exploitation. Impacts on this mineral resource are considered *less than significant*.

MITIGATION

None required.

DOCUMENTATION

City of Redding, Draft General Plan, Background Report, July 1998.

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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9. HAZARDS. Would the proposal involve:

a) A risk of accidental explosion or release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation)?	o	●	o	o
b) Possible interference with an emergency response plan or emergency evacuation plan?	o	o	●	o
c) The creation of any health hazard or potential health hazard?	o	o	●	o
d) Exposure of people to existing sources of potential health hazards?	o	o	●	o
e) Increased fire hazard in areas with flammable brush, grass, or trees?	o	o	o	●

ENVIRONMENTAL SETTING / OVERVIEW

As defined in Title 22 of the California Code of Regulations (CCR), a hazardous material is:

A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (CCR, Title 22, Section 66261.10).

Chemical and physical properties that make a substance hazardous include toxicity, ignitability, corrosivity, and reactivity. CCR Title 22, Sections 66261.20-66261.24 define the aforementioned properties. The release of hazardous materials into the environment could potentially contaminate soils, surface water, and groundwater supplies.

Hazardous materials are transported through the Redding area principally by rail and truck. County roads and City streets are used to transport locally-generated wastes from their sources to the regional highway system. A week-long survey of trucks transporting hazardous materials on Interstate 5 was conducted by the California Highway Patrol in 1992. The survey results indicated that such trucks carried mostly gasoline and diesel fuel. Other hazardous materials included liquefied petroleum gas, anhydrous ammonia and paints. The project area is not located near Interstate 5, but State Highway 44 crosses its southern end. It is expected that Highway 44 is used by trucks transporting hazardous materials, although not as frequently as Interstate 5, which is a regional freeway.

Most hazardous materials regulation and enforcement in Shasta County is managed by the Shasta County Environmental Health Division. The duties of this Division include the following:

- a. Reviewing, approving and monitoring “business plans” filed by businesses that use hazardous materials. A business plan includes a listing of the materials, storage facilities, and any particular handling requirements.
- b. Monitoring the installation, removal and leakage of aboveground and underground tanks.
- c. Administering the Waste Generator Treatment Program required by Chapter 6.5 of the California Health and Safety Code.

Large cases involving hazardous materials contamination or violations are referred to the Central Valley Regional Water Quality Control Board (RWQCB) and the State Department of Toxic Substances Control (DTSC). It is not at all uncommon for other agencies to become involved when issues of hazardous materials arise such as the Air Pollution Control District, and both the federal and state Occupational Safety and Health Administrations (OSHA).

The City of Redding adopted a Hazardous Materials Incident Plan in 1993. The plan addresses spills, accidents and releases of hazardous materials within Shasta County. The plan identifies the roles of the various City, County, state and federal agencies in responses to hazardous material incidents. From a practical standpoint, the City is limited to defensive actions. They include isolating and denying entry to the site, having the responsible party remediate the spill, contacting the DTSC if necessary to obtain the assistance of a response and clean-up company, and notifying appropriate agencies as dictated by the circumstances of the incident.

Shasta County adopted a Hazardous Waste Management Plan in 1989. The plan was developed with the assistance of the City of Redding along with other agencies. The goal of the plan is to establish a system for managing hazardous wastes that protects the public health, safety and welfare while maintaining the economic viability of Shasta County. In order to accomplish the goal and objectives, the plan provides an analysis of the current waste stream, projects future waste types and quantities, and reviews existing waste treatment programs. The City is an active participant in the waste recycling component of the plan. The Solid Waste Transfer facility accommodates the collection of motor oil, Freon, paints, antifreeze and similar waste products for recycling.

CHECKLIST DISCUSSION / ANALYSIS

9.a

Construction activities associated with the project typically include refueling and minor maintenance of construction equipment on location, which could lead to minor fuel and oil spills. Potential impacts were discussed in Section 4, Water, and impacts were considered *potentially significant*. Mitigation Measure 4.3 would limit refueling to designated staging areas, reducing potential impacts on the project area itself to a level that is less than significant.

9.b

Construction in the vicinity of Old Alturas Road could possibly close that roadway, making an arterial unavailable for emergency use. Potential impacts are discussed in Section 6, Transportation/Circulation and considered *potentially significant*. Mitigation Measure 6.3 would reduce potential impacts to a level that is *less than significant*.

9.c, d

The State Department of Toxic Substance Control (DTSC) maintains a Hazardous Waste and Substances Sites List (also known as the “Cortese List”), in accordance with California Government Code Section 65962.5. The Cortese List includes data from the CalSites database of hazardous waste sites, the leaking underground storage tank database, and the California Integrated Waste Management Board database of sanitary landfills with evidence of groundwater contamination. The most current Cortese list, from April 1998, indicates that there are no hazardous waste or substance sites in the project area or the immediate vicinity. Given the relatively undeveloped state of the project area and the predominantly residential uses in the vicinity, it is not likely that there are any significant hazardous waste sites that would pose a threat to workers on the project. Since the project is the installation of an underground sewer line, and since the project would occur mostly in an undeveloped area, it is not likely to pose a hazard to people living in the area. Impacts, therefore, are considered *less than significant*.

9.e

The proposal consists of the installation of an underground sanitary sewer interceptor. Once the facility is constructed, it would not result in an increased fire hazard to surrounding areas. Therefore, *no impact* is anticipated.

MITIGATION

No additional mitigation required.

DOCUMENTATION / REFERENCES

Draft Redding General Plan Background Report, July 1998.

State of California, Hazardous Waste and Substances Sites List. Department of Toxic Substances Control, April 1998.

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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10. NOISE. Would the proposal result in:

- | | | | | |
|---|---|---|---|---|
| a) Increases in existing noise levels? | o | ● | o | o |
| b) Exposure of people to severe noise levels? | o | ● | o | o |

ENVIRONMENTAL SETTING / OVERVIEW

Noise is often defined simply as unwanted sound, and thus is a subjective reaction to characteristics of a physical phenomenon. Nevertheless, noise measurements have been developed that reasonably correlate to general public reaction to noise. The Noise Element Guidelines of the State’s Office of Planning and Research require that major noise sources be identified and quantified by preparing generalized noise contours for current and projected conditions. Significant noise sources include traffic on major roadways, railroad operations, airports and representative industrial activities and fixed noise sources.

Within the vicinity of the project area, the major noise sources are State Highway 44, Churn Creek Road, Shasta View Road and Old Alturas Road. State Highway 44, which is a freeway within the project area, generates the most noise of the four roadways. The other three roadways are arterials that generate less noise. Another potential source of noise is Boulder Creek Elementary School. Noise from students and their activities may be significant, although noise measurements have not been taken.

The Noise Element of the City of Redding General Plan establishes noise criteria for various land uses. The standards are based upon a 24-hour average noise descriptor and hourly average noise descriptors for both daytime and nighttime hours. There are also standards for interior noise levels for noise-sensitive land uses.

CHECKLIST DISCUSSION / ANALYSIS

10.a, b

Construction noise impacts are considered short-term impacts in the sense that they occur only during periods of project construction. Earthmoving, materials handling, stationary equipment, and impact equipment and vehicles generate noise during clearing, excavation, grading, roadway, and utility construction operations that would be associated with the proposed project. Actual noise levels generated by equipment and experienced at nearby and adjacent residences during construction would vary, depending upon the number and types of equipment used. Noise could be produced by diesel-powered motor graders, tractors, forklifts, loaders, rollers, asphalt pavers, generators, and flatbed and delivery trucks. Noise would also be generated by the increase in truck traffic on area roadways. The most substantial project-generated noise source would be truck traffic associated with transport of heavy materials and equipment.

Activities involved in construction would generate an increase in noise levels in the immediate project vicinity. The increase in noise due to construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours. Nevertheless, these impacts are considered *potentially*

significant. Mitigation has been incorporated that would reduce potential effects to less than significant. [MM 10.1 and 10.2]

MITIGATION

MM 10.1 Construction activities shall be limited to daylight hours (between 7:00 a.m. and 7:00 p.m.) in areas where sensitive receptors are located. No construction shall be permitted on Sundays and federal holidays (Ordinance 1986 Section 16.40.120 Subsection H).

MM 10.2 In noise sensitive areas, construction equipment, compressors, and generators shall be fitted with heavy duty mufflers specifically designed to reduce noise impacts.

Implementation of the above mitigation measures would reduce impacts associated with noise to a *less than significant* level.

DOCUMENTATION / REFERENCES

Draft Redding General Plan Background Report, July 1998.

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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11. PUBLIC SERVICES. Would the proposal have an effect upon, or result in a need for new or altered government services in any of the following areas:

a) Fire protection?	o	o	o	●
b) Police protection?	o	o	o	●
c) Schools?	o	o	o	●
d) Maintenance of public facilities, including roads?	o	o	o	●
e) Other governmental services?	o	o	o	●

ENVIRONMENTAL SETTING / OVERVIEW

The project area is located within the City limits and receives public services provided by the City. Fire protection services are provided by the Redding Fire Department, and police protection services are provided for by the Redding Police Department. The Redding Department of Public Works maintains the streets and other City infrastructure. Boulder Creek Elementary School is part of the Enterprise Elementary School District.

CHECKLIST DISCUSSION / ANALYSIS

11.a-e

The project involves the installation of an underground sewer line. The project by itself would not generate a demand for additional public services. The project may encourage future development in the eastern area of Redding by providing additional sewer capacity. This, in turn, would generate an increased demand for public services. The additional demand would be generated by the development projects themselves, and their impacts would have to be evaluated on a project-by-project basis. The Redding General Plan plans for this future development, and the project would generate no additional growth beyond that anticipated in the General Plan. Therefore, the project would have *no impact* on public services.

MITIGATION

None required.

DOCUMENTATION / REFERENCES

Draft Redding General Plan Background Report, July 1998.

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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12. UTILITIES AND SERVICE SYSTEMS. Would the proposal result in a need for new systems or supplies, or substantial alterations to the following utilities:

a) Power or natural gas?	o	o	o	●
b) Communications systems?	o	o	●	o
c) Local or regional water treatment or distribution facilities?	o	●	o	o
d) Sewer or septic tanks?	o	o	●	o
e) Storm water drainage?	o	●	o	o
f) Solid waste disposal?	o	o	o	●
g) Local or regional water supplies?	o	o	o	●

ENVIRONMENTAL SETTING / OVERVIEW

The project proposes an improvement to the City's wastewater collection system. This system is composed of two treatment plants, 14 lift stations and approximately 361 miles of interceptor/trunk lines. As of 1995, the two plants had a combined dry weather flow capacity of 12.8 million gallons per day (mgd), which is sufficient for a population of 115,000. In 1995, the combined average dry weather flow was 8.0 mgd.

The New Eastside Interceptor is within the Stillwater Sewer Service Area. The Stillwater Service Area serves most of northeastern and eastern Redding, more specifically the Twin View and Eastern Enterprise areas. The Stillwater Service Area system includes the Stillwater Treatment Plant and the Churn Creek Lift Station. The Stillwater Treatment Plant has a design capacity of 4.0 mgd, and capacity can be expanded up to 8.0 mgd by 2010 as future growth requires. The plant's current design capacity allows it to serve a population of 36,000 or roughly 13,000 residential household equivalents (HEs). A household equivalent is equal to the estimated sewage flow from a typical single-family residence, or approximately 300 gallons per day. In 1995 the Stillwater plant received an average dry weather flow of 1.9 mgd, which translates into approximately 6,334 HEs.

Water supply services in the project area are provided by two agencies. The northern portion of the project area is served by the Bella Vista Water District, while the southern portion is served by the City of Redding. Electrical power is provided by the City of Redding, as is the storm drainage system. The City also collects and disposes of solid waste. Natural gas is supplied by Pacific Gas and Electric Company (PG&E). Pacific Bell provides telephone service, and Viacom Cablevision provides cable television.

CHECKLIST DISCUSSION / ANALYSIS

12.a

The 1992 *Route and Site Selection Report* for the Eastside Interceptor, prepared by CH2M Hill, indicated that the current alignment would not interfere with any power or natural gas lines. Once installed, the sewer line would not require any power to operate, since it is a gravity flow line. Therefore, the project would have *no impact* on power or natural gas.

12.b

The 1992 CH2M Hill report indicated that a major telephone duct runs at the point where the alignment crosses Old Alturas Road. More specifically, a Kennedy/Jenks Technical Memorandum states that a communications conduit runs along the north side of the bridge at Old Alturas Road. This conduit would have to be exposed during construction. However, this should not pose a significant conflict with the installation of the sewer line, and no interruption in telephone service would be required. Impacts on communication systems, therefore, are considered *less than significant*.

12.c

According to the 1992 CH2M Hill report, a 10-inch water line operated by the Bella Vista Water District crosses the proposed alignment approximately due west of the intersection of Edgewood Drive and Tiburon Drive. The depth of this pipeline is currently not known, although it is believed to be buried at the minimum cover of three feet. The location and depth of the water line would have to be verified. A 12-inch City water line crosses the green belt behind Edgewood Drive. The pipe is buried at minimum cover, leaving adequate room for an undercrossing by the Eastside Parallel Interceptor without interference.

At the crossing of Old Alturas Road, a 12-inch water line would have to be exposed. This line runs along the south side of the Old Alturas Road bridge. The exact location of the water line would also need to be verified. The CH2M Hill report concluded that the water line should not pose a significant conflict nor require an interruption in water service. However, due to the lack of knowledge on the location of the Old Alturas Road and the Bella Vista water lines, impacts on water distribution systems are considered *potentially significant*. Mitigation has been incorporated that would reduce potential effects to less than significant. [M.M.12.1]

12.d

By installing the New Eastside Interceptor, surcharging problems experienced near the Boulder Creek School would cease. The new Interceptor would have a greater capacity than the existing interceptor. The existing interceptor, although it would be taken out of regular use, would be retained to serve future growth in the area if required. Thus, the project would improve wastewater collection service and address capacity needs for future service. This impact is considered *less than significant*.

12.e

The 1992 CH2M Hill report indicated that drainage channels entering Churn Creek under the State Highway 44 bridge would be disturbed by project construction. The channels were in need of repair because of erosion problems. The report stated that disturbance during dry weather would not pose a problem, provided that repairs were made before a storm. It is not known what agency is responsible for the maintenance of these channels, nor what the current condition of these channels are. Since the project would disturb these channels, however, impacts are *potentially significant*. Mitigation has been incorporated that would reduce potential effects to less than significant. [M.M.12.2]

12.f, g

The project involves the installation of an underground sewer line. The project would not generate a demand for solid waste services, outside of disposal of waste generated by construction activities. This impact is temporary and would cease with completion of the project. The project would not generate a significant additional demand on water supplies, as it would not require the use of domestic water.

MITIGATION

- MM 12.1** Prior to the start of construction activities in the potentially affected areas, potholing shall be conducted to determine the location and depth of the Bella Vista Water District pipeline line near Edgewood and Tiburon Drives and the water line at the Old Alturas Road bridge. Depending upon the results of the potholing, the project shall be constructed so as not to disrupt services provided by these lines when feasible. Should service on these water lines need to be interrupted, the contractor shall coordinate with the affected utilities on a schedule for shutdown and restart of the lines.
- MM 12.2** The contractor shall repair the portions of the drainage channels near State Highway 44 that are affected by project construction. Where feasible, the contractor shall work in the drainage channels during dry weather. If work is not completed before a storm occurs, the contractor shall employ appropriate erosion control measures within the channels.

Implementation of the above mitigation measures would reduce impacts associated with utilities and service systems to a *less than significant* level.

DOCUMENTATION / REFERENCES

Draft Redding General Plan Background Report, July 1998.

“Environmental Issues, Parallel Eastside Sanitary Sewer Interceptor Route.” Technical memorandum, CH2M Hill, October 1, 1992.

“Parallel Eastside Interceptor Sewer - Predesign Technical Memorandum.” Technical memorandum, Kennedy/Jenks Consultants, December 16, 1999.

Parallel Westside and Eastside Sanitary Sewer Interceptors and New Clear Creek Lift Station - Route and Site Selection Report. CH2M Hill, October 1992.

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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13. AESTHETICS. Would the proposal:

a) Affect a scenic vista or scenic highway?	o	o	o	●
b) Have a demonstrable negative aesthetic effect?	o	●	o	o
c) Create light or glare?	o	o	o	●

ENVIRONMENTAL SETTING / OVERVIEW

The project is located within an open space area surrounding Boulder Creek and Churn Creek. This area contains a variety of plant communities such as riparian growth, wetlands and oak-foothill pine woodland. Section VII, Biological Resources, provides more detailed descriptions of these natural areas. Please also refer to Appendix A of this document.

The City of Redding is located in an area with many scenic vistas. The City is in an area where the Sacramento Valley and the foothills of the Cascade and Klamath mountain ranges meet. This convergence of geographic features creates hill and mountain views north, east and west of the City. In other parts of the City, Mt. Shasta and Lassen Peak, two prominent mountains in the Cascade Range, are visible. The Sacramento River, which flows through the center of the City, add to the aesthetic value of the areas. While the river cannot be seen from the project area, the hills and mountains are visible.

CHECKLIST DISCUSSION / ANALYSIS

13.a

The project involves the installation of an underground sewer line. The project would have *no impacts* on any scenic vistas within the project area, nor would it affect any views from streets or highways in the vicinity.

13.b

Construction of the project may have adverse impacts on aesthetics in the project, mainly from excavations, stockpiling of excavated material, and the presence of construction equipment and other vehicles. These impacts would be temporary and would cease once construction is completed. However, construction activities may generate trash and debris that could be left in the project area, and vehicles could trail dirt onto nearby streets. These impacts can negatively affect the appearance of the area, and thus are *potentially significant*. Mitigation has been incorporated that would reduce potential effects to less than significant.[MM 13.1]

Construction would have more permanent impacts on the landscape. Excavation for the pipeline would leave a line devoid of vegetation on the surface above the new Interceptor. Vegetation would eventually re-establish itself on the line and it would soon not become visible. However, some trees would be removed due to project work, and these cannot be readily replaced. Tree removal would occur within a corridor where

project work would take place, and removal would not result in the loss of established woodland areas. Also, mitigation measures set forth in Section 7, Biological Resources, would reduce aesthetic impacts by requiring tree and vegetation replantings.

13.c

The project involves the installation of an underground sewer line. The project would create no new light or glare sources. *No impacts* are expected.

MITIGATION

MM 13.1 The contractor shall remove all trash and debris generated by project construction activities daily and dispose of the waste in a manner to be directed by the City. All materials stockpiled on the project site shall be removed by the contractor once project work is completed.

In addition, Mitigation Measure 6.2 in Section 6, Transportation/Circulation, requires the contractor to sweep all public roadways affected by construction activities. Implementation of this mitigation measure will reduce potential impacts to a *less than significant* level.

DOCUMENTATION / REFERENCES

North State Resources, Inc. 1999. *Biological Resources Report, Eastside Sewer Interceptor Project*. Redding, California.

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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14. CULTURAL RESOURCES. Would the proposal:

a) Disturb paleontological resources?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
b) Disturb archaeological resources?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
c) Affect historical resources?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
d) Have the potential to cause a physical change which would affect unique ethnic cultural values?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
e) Restrict existing religious or sacred uses within the potential impact area?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

ENVIRONMENTAL SETTING / OVERVIEW

The earliest known inhabitants of the Redding area were a Hokan-speaking people who lived in the area as early as 4500 B.C. Approximately A.D. 200, these people were displaced by Penutian-speaking people. One member of this group, the Wintu tribe, occupied much of the Redding area. The Wintu culture was a hunting and gathering culture based upon three staples: deer, acorns and salmon. Permanent villages were established, but the Wintu also built seasonal camps to exploit available food resources far from their village sites. The Wintu were eventually displaced by white miners and settlers, who initially came to the Redding area after the discovery of gold in 1848.

Five separate surveys for cultural resources were undertaken on adjacent lands which overlap slightly with the proposed alignment. One formally recorded site (CA-SHA-775), a village located on a flat bench above Boulder Creek, was recorded during an archaeological survey for the existing sewer line. The site is located on the opposite side of Boulder Creek from the proposed alignment for the New Eastside Interceptor, and it is outside the project's Area of Potential Effect (APE) for the purposes of Section 106 of the National Historic Preservation Act.

CHECKLIST DISCUSSION / ANALYSIS

14. a-e

In 1992, Jensen and Associates conducted an Archaeological Inventory Survey of the New Eastside Interceptor alignment. The survey included walking a series of zig-zag transects along the corridor. Evidence of prehistoric presence was observed at three locations. Two were represented by worked flakes of basalt, and the other was represented by an unmodified waste flake of obsidian. A thorough inspection in the vicinity of all three flakes failed to identify any additional evidence of prehistoric occupation or activities. The Survey concluded that all three flakes are to be considered "isolates", and no further work or treatment is warranted and none recommended. No evidence of site CA-SHA-775 was observed within

or near the APE for the project. Based upon the results of the Archaeological Inventory Survey, the impacts of the project on cultural resources are *less than significant*.

MITIGATION

While the Archaeological Inventory Survey found no cultural resources within the project area, the findings were based upon an inventory-level surface reconnaissance. The Survey acknowledges the possibility that potentially significant cultural resources currently unknown could be encountered during the course of future development activities. Because of this possibility, the following mitigation measure is recommended:

MM 14.1 In the event that a potential cultural resource is discovered during the course of project construction activities, all work shall cease in the immediate vicinity of the find until a qualified archaeologist examines the site and evaluates the potential significance of the resource. Upon completion of the site examination, the archaeologist shall submit a report to the City describing the significance of the find and making recommendations on its disposition. The City shall implement the recommendations of the report.

DOCUMENTATION / REFERENCES

Jensen and Associates. 1993. *Archaeological Inventory Survey, Phase II - Pedestrian Reconnaissance Involving the Preferred Alternative Corridors for the City of Redding's Eastside and Westside Paralleling Interceptor Lines, Shasta County, California*. Chico, California.

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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15. RECREATION. Would the proposal:

- | | | | | |
|---|---|---|---|---|
| a) Increase the demand for neighborhood or regional parks or other recreational facilities? | o | o | o | ● |
| b) Affect existing recreational opportunities? | o | o | o | ● |

ENVIRONMENTAL SETTING / OVERVIEW

Although the project is located in a open space (Greenway) area along Boulder Creek and Churn Creek, the area has not been developed for park or recreational uses. The project alignment does not go through any parks or recreational facilities. The nearest park to the project area is Bobwhite Park, a 0.43-acre playground area located on Bobwhite Way near Springer Drive. Two other Parks in the vicinity of the project - Whistling Park and Wilson Street Park - are currently undeveloped. The Boulder Creek Elementary School also provides recreational opportunity.

CHECKLIST DISCUSSION / ANALYSIS

15.a, b

The project does not go through any parks or recreational facilities. Therefore, neither construction nor operation of the project would affect any recreational services. Future development that may be encouraged by the project could create an additional demand for park and recreational facilities. The City’s current General Plan makes provision for future parks based upon anticipated future growth. While a portion of the pipeline may traverse the playing fields of the elementary school, the short construction period and below surface nature of the line will not affect the school. Therefore, the project would have *no impact* on recreational issues.

MITIGATION

None required.

DOCUMENTATION / REFERENCES

Draft Redding General Plan Background Report, July 1998.

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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16. MANDATORY FINDINGS OF SIGNIFICANCE.

- | | | | | |
|--|---|---|---|---|
| <p>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?</p> | ○ | ● | ○ | ○ |
| <p>b) Does the project have impacts which 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.)</p> | ○ | ○ | ● | ○ |
| <p>c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</p> | ○ | ○ | ● | ○ |

CHECKLIST DISCUSSION

16.a

Potential impacts on special status species and sensitive habitats were evaluated in Section VII, Biological Resources. It was concluded that the project could have an impact on nesting and foraging habitat for four bird Species of Special Concern and on habitat for the northwestern pond turtle, another Species of Special Concern. The project would also lead to the removal of some oak trees and could affect wetland areas. The Biological Resources section lists several mitigation measures that would reduce all potential impacts to a level that is less than significant. As discussed in Section XIV, Cultural Resources, the project would have no significant impacts on any known cultural resources in the vicinity.

16.b

The construction of the New Eastside Interceptor would increase the collection capacity of the wastewater collection system in the area, thus permitting more development within the area served by the project. Design studies by City staff have estimated that the flow capacity of the new interceptor would be approximately 20 million gallons per day (mgd). Based upon the factor of 300 gallons per day per household equivalent (HE), the pipeline could serve approximately 66,700 HEs.

The Stillwater Service Area Master Plan, prepared by PACE Engineering in 1992, projected that approximately 65,335 HEs would be served at complete buildout of the Stillwater Service Area. This was based upon an estimated annual growth rate of 7.9 percent within the Twin View and Eastern Enterprise areas of the Stillwater Service Area. The Stillwater Master Plan proposes general improvements based upon the theoretical required capacity to serve anticipated development. A New Eastside Interceptor was proposed for calendar years 1992-1994, the time period for improvements needed as soon as possible because existing capacity is less than theoretical required capacity. The new interceptor was not constructed during that time, due in part to slower growth than originally projected. The new interceptor, while providing increased capacity, would not provide more capacity than that planned for in the Stillwater Master Plan. Thus, the project would encourage no more development than that anticipated in the Stillwater Master Plan.

The Land Use Element of the City of Redding General Plan lists the City's Ten-Year Capital Improvements Plan as one of its specific implementation measures. Table A5 in the Land Use Element provides a list of proposed projects for the time period 1991-2001. Among the projects is the Eastside Sewer project. The project, therefore, is consistent with planned growth projections and land uses within the City's General Plan. It would not create any new impacts beyond those anticipated in the Land Use Element. Because of the consistency of the project with the Stillwater Service Area Master Sewer Plan and the City of Redding General Plan, *cumulative impacts are considered less than significant.*

16.c

The project is the installation of an underground sewer line. The project is designed to reduce surcharging, prevent overflows, and to more readily accommodate sewer flows. Thus, the project would not pose a health hazard to any people in the project vicinity. The one potential threat the project may present to human health is its proximity (50 feet) to an agricultural well near Old Alturas Road. The pipeline in that area would be encased in concrete to prevent any leakage. With this measure and testing of the well as proposed in Mitigation Measure 4.3, *impacts are expected to be less than significant.*

5.0 DETERMINATION

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 the mitigation measures described on an attached sheet have been added to the project. 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 the proposed project **MAY** have a significant effect(s) 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, if the effect is a “potentially significant impact or potentially significant unless mitigated. 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, there **WILL NOT** be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project.

Signature

Date

Printed Name

For