California Regional Water Quality Control Board
San Francisco Bay Regional Water Quality Control Board

Gray Davis
Governor

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Date: JUN 29 2001
File Nos. 2139.3122, 28-0131, 28S0031
28S0032, 28S0033, 28S0008

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Ms. Heather Stanton
Napa County Flood Control and Water
Conservation District
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Certified Mail No.
Return Receipt Requested

SUBJECT: Transmittal of Order No. 01-066 – Updated Site Cleanup Requirements and Rescission of Orders No. 00-107, 00-111, 00-112, 00-113, & 00-116, Former Dillingham Construction, 301 River Street, Former Dillingham Construction, 903 8th Street, North Bay Oil, 477 Oil Company Road, Former Phillips Oil Terminal, 901 8th Street, and Former Texaco Oil Co., 506 Oil Company Road, Napa, California, Napa County.

Dear Mr. Capener, Mr. Sizemore, Mr. Brown, Mr. Simmons, Mr. Thomas, and Ms. Stanton:

Enclosed is Order No. 01-066, updated Site Cleanup Requirements for the subject properti and/or locations. The Order was adopted by the Regional Board in its June 19, 2001 heari

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a l simple ways you can reduce demand and cut your energy costs, see our Web-site at http://www.swrcb.ca.gov.

Should you have any questions please contact Alec Naugle at 510-622-2510, or by e-mail at awn@rb2.swrcb.ca.gov.

Sincerely,

Loretta K. Barsamian
Executive Officer

Stephen A. Hill
Toxics Cleanup Division Chief

Enclosure: Order No. 01-066

cc (w/enclosure): Attached Mailing List

Napa SCR Transmittal letter.doc

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at http://www.swrcb.ca.gov.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 01-066

ADOPTION OF FINAL SITE CLEANUP REQUIREMENTS AND RECISSION OF ORDERS NO. 00-107, 00-111, 00-112, 00-113, & 00-116, FOR

NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
CHEVRON PRODUCTS COMPANY
BAY CITIES OIL MARKETERS, INC.
DILLINGHAM CONSTRUCTION N.A., INC.
TEXACO, INC.
PHILLIPS PETROLEUM COMPANY

For properties located at:

301 RIVER STREET, NAPA, CALIFORNIA
477 OIL COMPANY ROAD, NAPA, CALIFORNIA
901 EIGHTH STREET, NAPA CALIFORNIA
903 EIGHTH STREET, NAPA, CALIFORNIA

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

SITE DESCRIPTION

Consolidated Remedial Action Area

1. The four properties (sites) subject to this Order are located in an industrial/commercial area situated along the east side of the Napa River, south of the City of Napa's downtown area. The properties lie within the construction footprint of a portion of the Napa River/Napa Creek Flood Protection Project referred to as the Consolidated Remedial Action Area (Figure 1). As shown in Figure 1, the Consolidated Remedial Action Area extends from 7th Street in the north, to the Nord Vineyard in the south, and eastward to the existing Napa Valley Wine Train tracks between these points. The Napa River forms the western boundary of the Consolidated Remedial Action Area.

   The Napa River/Napa Creek Flood Protection Project extends over a much larger area and includes widening the Napa River by excavating riverbank soils and constructing marsh plain

and flood plain terraces that may extend as far as 250 feet inland in some areas. Construction will occur in stages, eventually covering a seven-mile stretch.

Pollutant Release Sites

2. There are four properties within the Consolidated Remedial Action Area where discharges of pollution to soil and/or groundwater are known to have occurred. These four properties are collectively referred to as the Pollutant Release Sites and are summarized in Table 1. The site cleanup requirements in this Order are consolidated for these properties because the properties are similarly impacted by petroleum hydrocarbons and because they will each be similarly affected by construction of the Napa River/Napa Creek Flood Protection Project. The consolidated site cleanup requirements in this Order also apply to properties that have been impacted as a result of discharges at the Pollutant Release Sites.

Table 1 Summary of Pollutant Release Sites

Site Designation	Site Name	Site Location
NR-17	Former Dillingham Construction N.A.	301 River St.
NR-18	Former Dillingham Construction N.A.	903 8th St.
NR-19	North Bay Oil Co.	477 Oil Co. Rd.
NR-33	Former Phillips Oil Terminal	901 8th St.

Other Properties Within the Consolidated Remedial Action Area

3. As Figure 1 illustrates, there are several additional properties located within the Consolidated Remedial Action area boundary. Recent investigations have shown that several of these properties have been impacted or are suspected of being impacted with petroleum hydrocarbons or other contaminants. In some cases, pollutant impacts are clearly from offsite, while in other cases, the source of discharge affecting these properties is still unclear. Since the information provided to date does not conclusively identify these properties as being discharge sources, they are not currently subject to this Order, unless new evidence is revealed during excavation and cleanup that these properties are also discharge sources. These other properties are summarized in Table 2 below and are shown on Figure 1.

Table 2 Summary of Other Properties Within the Consolidated Remedial Action Area

Site Designation	Site Name	Site Location
NR-20	Former Mobil Oil Co.	415 Oil Co. Rd.
NR-34	Napa Valley Wine Train	807 8th St.

NR-35	Former Texaco Oil Co.	506 Oil Co. Rd.
NR-36	Former Arco Oil Terminal	100 Oil Co. Rd.
NR-37	Former Exxon Oil Terminal	385 Oil Co. Rd.
--	Napa Valley Wine Train	APNs: 06-220-01, 05-190-12, & 05-180-08
--	Nord Vineyard	South end of Oil Co. Rd.
--	Bradley Property	801 8th St.
--	Newburn/Advanced Auto Body Center	695 River St.
--	Schmitt Property	319 River St.

SITE HISTORY AND OWNERSHIP

Pollutant Release Sites

Former Dillingham Construction N.A., 301 River Street (NR-17)

4. From 1924 to 1971 the Basalt Rock Company (now known as the Dillingham Construction N. A., Inc.) owned the property and owned and operated a bulk fuel facility located at the site. In 1971, Mr. James Palzis bought the property from Basalt Rock Company and opened a real estate agency in the existing building. Since 1986 the building housed administrative offices for a variety of businesses. On March 30, 2001, the Napa County Flood Control and Water Conservation District (District) acquired the property in preparation for the construction of the Flood Protection Project.

   According to a 1992 report prepared by PES Environmental, Inc. (PES) for James Palzis, a 5000-gallon capacity underground storage tank (UST) was removed from the Site on August 1, 1989. The UST reportedly contained gasoline. At the time of the removal, the UST appeared to be rusted and pitted, but no holes were observed. The UST was reportedly operated by the Basalt Rock Company for fueling vehicles. James Palzis reportedly never used the UST after purchasing the property.

   According to a 1992 report prepared by Kleinfelder, Inc. (Kleinfelder) for the U.S. Army Corps of Engineers, Mr. Cecil Matthews, a former employee of the Basalt Rock Company, recalled and reported that tanks located on the roof of the Building had contained diesel fuel and stove oil (a lighter grade oil than diesel). The tanks were filled by pumping the fuel directly from oil barges on the River through the owner's distribution facility west of the site to the tanks on the roof of the building. Mr. Mathews recounted that a spill had occurred once while fuel was being pumped from the barge into Basalt Rock Co.'s tanks.

Additionally, the Board has copies of depositions made by Mr. Walter Frattini, a former Basalt Rock Company employee, regarding a diesel spill that occurred at the site. Mr. Frattini alleges that a Shell employee, during off-loading operation of a petroleum barge, mistakenly pumped diesel into the tanks on top of the building until the tanks overflowed and spilled. The total capacity of the three, rooftop above-ground tanks, was reportedly 51,000 gallons.

In 2001, an investigation performed by Remediation Risk Management (RRM) on behalf of litigating parties for the subject property confirmed the presence of an abandoned concrete UST beneath the existing building slab. In their report, RRM identified the presence of petroleum-hydrocarbon impacted soil and groundwater immediately underlying the concrete tank indicating that the tank is a likely discharge source.

Former Dillingham Construction N.A., 903 8th Street (NR-18)

5. Prior to March 20, 1972, Basalt Rock Co., Inc. (now known as the Dillingham Construction N. A., Inc.) owned and operated the site. Historical site uses include bulk fuel distribution and truck repair. The site was the location of three large aboveground fuel tanks.

   According to an environmental assessment report prepared by Kleinfelder for the U.S. Army Corps of Engineers, large quantities of fuel oil and diesel were stored on-site and spills reportedly occurred during the facility's life of operations. Kleinfelder estimated the total volume of the above ground tanks to be at least 100,000 gallons. On May 31, 2001, the District obtained an order of possession for the property in preparation for the construction of the Flood Protection Project.

North Bay Oil Co., 477 Oil Company Road (NR-19)

6. Standard Oil of California acquired the Site on May 1, 1913, and built and operated a petroleum bulk storage and dispensing facility. Bay Cities Oil Marketers operated the site until 1987, when the facility operation ceased. The following is a list of past owners and their dates of ownership:

Standard Oil of California	- May 1913 to February 1977
Chevron USA	- February 1977 to March 1980
North Bay Oil Company	- March 1980 to March 1984
Schutzky Distributors, Inc.	- March 1984, to July 1986
R&B Partnership	- July 1986 to 2001

   The site is currently used by a towing company. On May 31, 2001, the District obtained an order of possession for the property in preparation for the construction of the Flood Protection Project.

Former Phillips Oil Terminal, 901 8th Street (NR-33)

7. From July 1924 until July 1966, the Site was owned and operated by Associated Oil as a bulk fuel distribution facility. Five aboveground fuel storage tanks ranging from 17,000 to 165,000

gallons in capacity were located on the southern part of the Site. Some time prior to 1966 Tidewater Oil acquired the property from Associated Oil. Tidewater Oil was reportedly acquired by Getty Oil Company, which in turn was acquired by Texaco, Inc.

In July 1966, Phillips Petroleum Company acquired ownership of the property and continued operation of the bulk fuel distribution and aboveground tank facilities. In April 1974, Phillips Petroleum Company removed the five aboveground storage tanks from the property.

The Site was occupied by the following entities from 1974 to the present and is currently vacant:

Bell Products	- 1974 to 1975
Napa County Council of Equal Opportunity	- 1975 to 1977
Consolidated Landscape Services	- 1977 to 1985
Associated Roofing	- 1986 to 1989
Industrial Plumbing	- 1989 to present.

On June 8, 2001, the District acquired the property in preparation for the construction of the Flood Protection Project.

Other Consolidated Remedial Action Area Properties

Former Mobil Oil Co., 415 Oil Company Road (NR-20)

8. This site was used as a bulk fuel storage and transfer facility as early as 1927. At that time, the site was owned by the Mercury Oil Co., and three large aboveground tanks were present. By 1973 the site was owned by the Mobil Oil Co. and an underground storage tank was also present. By 1992, the site was owned by G.M. Edwards and being used as a storage facility for paving materials. The property is currently used by Vintage Contractors, Inc. as a storage facility for special material and equipment used by the tenant to resurface tennis courts. In 2001 the District acquired the property or obtained an order of possession for the property in preparation for the construction of the Flood Protection Project.

   The former Mobil Oil Co. facility at 415 Oil Company Road was formally regulated under Board Order No. 96-131. Extensive investigation work performed pursuant to that Order, failed to demonstrate that past operations at this site had any significant discharges. Little connection was found between the high petroleum impacts to groundwater and the relatively minor impacts of the overlying vadose zone. As a result, in March 2000, Board Order No. 96-131 was rescinded and a No Further Action Letter issued.

Napa Valley Wine Train, 807 8th Street (NR-34)

9. The site is located between the former Phillips Oil Co. Terminal (NR-33) and the former Texaco Oil Co. Terminal (NR-35). In 1927 the site was undeveloped. By 1989, the site had passed through several owners and was purchased by the Napa Valley Wine Train. In 2001 the District acquired the property or obtained an order of possession for the property in preparation

for the construction of the Flood Protection Project. Although groundwater pollution has been recently detected on this site, it is not clear that the property is a source of this pollution, despite the discovery of a "metallic anomaly" located by Texaco consultants during the course of an investigation of their former bulk terminal at 506 oil Company Road.

Former Texaco Oil Co., 506 Oil Company Road (NR-35)

10. In January 1929, Texaco, Inc. acquired ownership of the property. The site was utilized as a bulk oil distribution center until about 1974. Three small vertical tanks and a pump island were located on the property between 1940 and 1974. In June 1980, Clyde and Anavon Anderson acquired the property. In 2001 the District acquired the property or obtained an order of possession for the property in preparation for the construction of the Flood Protection Project. The site is currently used for storage of miscellaneous equipment and material.

    In 1996 the Board issued a No Further Action letter to Texaco for this site, based mainly on data from 3 borings. Subsequent information obtained from the District's consultant indicated that a substantial discharge of petroleum hydrocarbons remained undetected on the site. Specifically, a boring taken on the site showed substantial concentrations of diesel and gasoline in groundwater at levels of 19,000 ug/l and 14,000 ug/l, respectively. As a result of this new information, the Board re-opened the site in October 2000 by issuing Order No. 00-113 to Texaco, Inc. and Clyde and Anavon Anderson. Order No. 00-113 required the Dischargers to complete remedial investigation activities and propose final remedial actions to cleanup petroleum hydrocarbon contamination. Subsequent to issuance of that Order, more detailed field activities implemented by Texaco indicated that groundwater pollution detected at this site most likely originates from an off-site source, probably to the north. As a result, via implementation of this Order, Board Order No. 00-113 is rescinded.

Former Arco Oil Terminal, 100 Oil Company Road (NR-36)

11. In 1925, the site was owned by the Richfield Oil Co. (predecessor to ARCO Oil Co.) who operated a bulk oil distribution facility until 1973. The oil distribution facility contained seven aboveground storage tanks used to store gasoline, diesel and heating oil. By 1974 the site was sold and all tanks removed. As of 1975, the site was occupied by Johnson's Roofing Company.

    In subsequent years, ARCO conducted a series of soil and groundwater investigations. Although the investigations demonstrated that groundwater was significantly impacted on the property, soil data has shown that, in general, discharges at the site into the surface soils and, consequently, the underlying groundwater was not at levels suggestive of being the cause of the high levels of groundwater pollution found there.

    Additionally, ARCO's consultant has provided data showing preferential pathways in the subsurface that suggests pollution emanating from an offsite source, notably from 477 Oil Company Road. Given this information, Board staff issued a No Further Action letter on October 12, 2000.

In 2001 the District acquired the property or obtained an order of possession for the property in preparation for the construction of the Flood Protection Project

Former Exxon Oil Terminal, 385 Oil Company Road (NR-37)

12. From 1934 to 1967 the site was owned by the Standard Oil Co. (subsequently Chevron U.S.A Products Co.) and operated as a bulk fuel storage and distribution facility. From 1967 to 1973 the site was owned by the Humble Oil and Refining Co., which was acquired by Exxon Co. U.S.A. in 1973. The site was sold in 1973 to Bill and Delores Long who operated a roofing company at the site. From 1980 to 1989, a UST was also located on the site.

    In 1993, Kleinfelder Associates investigated the property and prepared a report on the status of soil and groundwater pollution on this property. The report concluded that soil samples taken showed no impact from petroleum hydrocarbons although some hydrocarbon odors were noted during drilling operations, probably due to odors from the equipment or from impacted groundwater beneath the site.

    Subsequent to the above investigation, additional borings were made by the former property owner, Mr. John Euser. Soil sample results from that investigation were all non-detect for petroleum hydrocarbons. As a result, on October 3, 1996, Board staff issued a No Further Action letter for the site, concluding that no significant petroleum discharges had occurred at the site.

    On February 3, 2000, the District's consultant, Montgomery Watson, performed an additional investigation in which soil and groundwater samples were taken. As in the previous investigations, petroleum pollution in soils was found to be insignificant. However, groundwater impacts of TPH diesel to 170,000 ppb and TPH motor oil to 14,000 ppb was discovered. The presence of these elevated concentrations of petroleum hydrocarbons in groundwater might be attributable to off-site sources.

    In 2001 the District acquired the property or obtained an order of possession for the property in preparation for the construction of the Flood Protection Project.

NAPA RIVER FLOOD PROTECTION PROJECT DESCRIPTION

13. The U.S. Army Corps of Engineers (USACE) and the Napa County Flood Control and Water Conservation District (District) are implementing a flood management project known as the Napa River/Napa Creek Flood Protection Project. The Flood Protection Project includes widening the Napa River by excavating soils and constructing marsh plain and flood plain terraces along the river. Flood control improvements will be located through and south of the City of Napa.

    Some of the planned improvements will occur in areas of historical industrial activity, where soil and groundwater contamination has been observed. To address these impacts, the District has prepared a Consolidated Remedial Action Plan for properties, which have discharged these

substances, and for offsite properties that may have been impacted by them that are located in the USACE Contract 2 East Project (Figure 1).

Figure 2 illustrates the Flood Protection Project improvements in the Consolidated Remedial Action Area. As shown on this figure, the marsh plain terrace will be created to extend approximately 150 to 200 feet eastward from the edge of the river channel. The marsh plain terrace will be excavated to a design elevation of 0.7 feet National Geodetic Vertical Datum (NGVD). The present ground surface elevation (at height of the existing levee) is approximately 14 feet and slopes eastward to elevations of about 10 to 12 feet NGVD. The marsh plain terrace is designed to be inundated twice daily and emergent marsh vegetation and habitat are expected to develop.

Inland of the marsh plain terrace, a flood plain terrace will be created extending an additional 50 to 250 feet eastward. The design elevation of the flood plain terrace ranges from 6.7 to 7.2 feet NGVD. The transition zone between the terraces will have no greater than a 3-to-1 slope. The flood plain is expected to develop riparian vegetation and habitat and flood a few times annually. A new levee and floodwall will be constructed on the eastern edge of the flood plain.

As shown in Figure 2, the terrace excavations will necessitate relocation of the Napa Valley Wine Train tracks over and approximate 1500-foot length of track. This relocation will also require the removal of approximately 50 mobile home units. Implementation of flood protection measures is planned to begin in the fall of 2001 with the demolition of buildings. Excavation of petroleum-impacted soils will begin in the spring/summer of 2002. Waste Discharge Requirements currently in place for the Flood Protection Project were issued in Board Order No. 99-074.

PURPOSE AND SCOPE OF ORDER

14. The purpose of this Order is to finalize and consolidate the site cleanup requirements (SCRs) that were adopted in Board Orders No. 00-107, 00-111, 00-112, & 00-116 on October 18, 2000, and to rescind Board Order No. 00-113, that was also adopted at that time. The intent of this Order is to (1) consolidate site cleanup requirements into one Board Order for the Pollutant Release Sites identified in Table 1, and (2) establish final cleanup standards for soil and groundwater contamination that exists at the Pollutant Release Sites and for properties that have been impacted as a result of discharges from the Pollutant Release Sites.

NAMED DISCHARGERS

15. Dillingham Construction N. A., Inc. is named as a Discharger because it is a past owner and operator of the properties and facilities formerly located at 301 River Street and 903 8th Street, where substantial evidence indicates that it discharged pollutants to soil and/or groundwater (see Findings No. 4 & 5).

16. Chevron Products Company and Bay Cities Oil Marketers, Inc. are named as Dischargers because they are past owners and/or operators of the property and the facility formerly located

at 477 Oil Company Road, where substantial evidence indicates that they discharged pollutants to soil and/or groundwater (see Finding No. 6).

17. Phillips Petroleum Company and Texaco, Inc. are named as Dischargers because they are past owners and/or operators of the property and the facility formerly located at 901 Eighth Street, where substantial evidence indicates that they discharged pollutants to soil and/or groundwater (see Finding No. 7).

18. The District is named as a Discharger because it is the current property owner for all the Pollutant Release Sites (Table 1) and had knowledge of the discharges or the activities that caused the discharges, and has the legal ability to prevent the further migration (discharge) of pollutants.

19. Although this Order identifies four properties where at least four separate discharges have occurred, it is not the intent of this Order to hold each of the named dischargers responsible for all pollution in the entire Consolidated Remedial Action Area. Rather, this Order intends to hold each named discharger responsible for the pollution, both on-site and off-site, resulting from the discharge(s) that occurred on the property where each was an owner/operator, or otherwise had or has control over the discharge(s) or further migration of the pollution.

20. If additional information is submitted indicating that any other party(ies) caused or permitted any waste to be discharged on any of the Pollutant Release Sites listed in Table 1 or the other properties shown in Table 2, where the waste entered or threatened to enter waters of the State, the Board will consider adding those parties to this Order. The Board anticipates that such information may come to light as a result of construction and remedial action activities within the Consolidated Remedial Action Area. Some of the properties listed in Table 2 (not currently subject to this Order) are known to be or suspected of being impacted with petroleum hydrocarbons or other contaminants. Since insufficient information exists to identify these properties as being the discharge sources of pollution, they are not currently subject to this Order. However, if new information becomes available that significant pollution discharges to soil/groundwater have occurred at any of these properties, they may be added to this Order.

REGULATORY STATUS

Site Cleanup Requirements (SCRs)

21. In October 2000, Board Orders were adopted for the Pollutant Release Sites (NR-17, NR-18, NR-19, & NR-33). These Orders required the Dischargers to complete remedial investigation activities and propose final remedial actions to cleanup petroleum hydrocarbon contamination. The regulatory status of the four Pollutant Release Sites is summarized in Table 3. Note that Dischargers listed in Table 3 are those identified in the Orders as indicated, and are not necessarily those named in this Order.

Table 3 Regulatory Status of the Pollutant Release Sites

Site Identification	Discharger(s)	Order No.	Issuance/

		No.	Adoption Date
Former Dillingham Construction N.A., 301 River St. (NR-17)	–Dillingham Construction N.A., Inc. –Mr. James Palzis	00-112	October 18, 2000
Former Dillingham Construction N.A., 903 8th St. (NR-18)	–Dillingham Construction N.A., Inc. –Job and Elaine Debruin.	00-111	October 18, 2000
North Bay Oil Co., 477 Oil Co. Rd. (NR-19)	–Chevron Products Co. –Bay Cities Oil Marketers, Inc. –R&B Partnership	00-116	October 18, 2000
Former Phillips Oil Terminal, 901 8th St. (NR-33)	–Phillips Petroleum Co., –Texaco, Inc. –James and Victoria Asbury	00-107	October 18, 2000

Waste Discharge Requirements (WDRs)

22. In September 1999, Board Order No. 99-074 was issued to the USACE and the District establishing waste discharge requirements for the entire Flood Protection Project. Under Order No. 99-074, as a condition of Flood Protection Project approval, the District was required to conduct additional "data gap" investigations, particularly on the parcels with suspected contamination, to fully delineate contamination plumes. Prior to issuance of WDR 99-074, the District and USACE had conducted extensive soil and groundwater surveys on numerous parcels with known contamination. Since then, the District has sufficiently investigated and evaluated parcels with known or suspected contamination within the Consolidated Remedial Action Area.

    The Site Cleanup Requirements in this Order are specific to the Consolidated Remedial Action Area as illustrated in Figures 1 and 2, and are focused on the remedial actions necessary to cleanup the pollution release sites identified in Table 1. The Waste Discharge Requirements in Order No. 99-074 cover the entire seven-mile Flood Protection Project and are much broader in scope. In areas of overlap, the Site Cleanup Requirements in this Order are consistent with Waste Discharge Requirements in Order No. 99-074.

GEOLOGY AND HYDROGEOLOGY

23. The Pollutant Release Sites are located at the southern end of the Napa Valley formed between the Mayacamas Mountains to the west and the Howell Mountains to the east. The Napa Valley is a structurally controlled basin that drains south into San Pablo Bay, the north arm of San Francisco Bay. The Napa River and several tributaries drain Napa Valley. The tidal influences of San Pablo Bay on the Napa River extend to the north of the city of Napa and result in the flow of brackish water throughout the tidal reach. The degree of brackishness varies with seasonal influences. The Napa Valley is alluvium filled and underlain by Pliocene and

Pleistocene age unconsolidated marine and continental sediments and volcanic rocks (USGS, 1960).

24. The principal water-bearing formations identified in the vicinity of the Pollutant Release Sites include Younger Alluvium of Holocene (recent) age, Older Alluvium of Pleistocene age and Sonoma Volcanics of Pliocene age. The Sonoma Volcanics are the oldest of the three units and consist mainly of andesite tuffs and interbedded flows of andesite and basalt. These flows make up the steep cliffs of the Mayacamas and Howell Mountains on either side of the Napa Valley. Although this unit is water bearing, it is considered a poor aquifer with the majority of the water produced from the tuffs. Overlying the Sonoma volcanics are the older and younger alluvium. The older alluvium is composed of lenticular deposits of unconsolidated and poorly sorted clay, silt, sand and gravel and is derived from stream channel and alluvial fan deposited material. The older alluvium is believed to extend to a maximum depth of at least 500 feet, thinning to a feathered edge along the margins of the Napa Valley. The older alluvium is distinguished from the younger alluvium by a characteristically hardpan soil developed at the surface. The younger alluvium consists of interbedded deposits of gravel, sand, silt and peat (locally). The younger alluvium is comprised of channel, flood plain, alluvial fan and salt-marsh deposits. The younger and older alluvium underlie the flood plains and channel of the Napa River and form the principal aquifers in the Napa Valley (USGS 1960).

25. Groundwater within the younger and older alluvium mostly occurs under unconfined conditions although fine-grained material within the older alluvium may locally form semi-confined conditions. Overall groundwater flow is from sides of the valley towards the Napa River and southward down the length of the valley. In the vicinity of the Pollutant Release Sites, groundwater occurs at depths generally ranging from 5 to 15 feet (elevations of approximately 9 to –1 feet NGVD) and varies seasonally. In this area groundwater flow and quality is tidally influenced (USGS 1960). An evaluation of the tidal influence conducted at NR-18 demonstrated that during low tide the groundwater flow direction was to the west, toward the Napa River, and during high tide, the direction of groundwater flow was to the east, away from the Napa River (ARCADIS Geraghty & Miller, July 29, 1998). The data collected indicate that the shallow groundwater is in hydraulic communication with the Napa River.

26. As part of the NR-18 tidal influence evaluation, elevations in Napa River were measured and varied from 3.32 feet NGVD at high tide to –3.37 feet NGVD at low tide. Additional hydrologic analyses conducted by Phillip Williams and Associates (December 1997) showed that the mean higher-high water level (MHHW) in the area was 3.76 feet NGVD and the mean lower-low water level (MLLW) was 2.8 feet NGVD. The estimated 100-year high tides ranged from 5.2 to 5.4 feet NGVD.

27. Based upon Montgomery Watson's review of the available boring logs recorded as part of the subsurface investigations undertaken at the Pollutant Release Sites, the stratigraphy beneath the sites primarily consists of silts and clays. In general, silts and clays were reported from ground surface to the maximum depth investigated (which typically did not exceed approximately 25 feet below ground surface [bgs]). Less frequently, isolated coarse-grained materials such as sands and gravels were identified occurring within the fine-grained silts and clays at varying depths beneath three sites (NR-18, NR-20 and NR-36). To the north at NR-18, clayey sand to

silty sand was identified at depths from 9 to 14 feet (bgs) and ranging from 2 to over 11 feet in thickness. In the area of sites NR-20 and NR-36, an evaluation of the occurrence and thickness of the coarse grained materials within the fine-grained sediments was conducted by Secor on behalf of ARCO. This evaluation identified the presence of sands and gravels occurring at depths generally ranging from 9 to 17 feet and ranging from 1 foot to over 10 feet in thickness (below an approximate water table of 5 feet bgs). The presence of significant thicknesses of coarser-grained soils within the saturated zone may have localized effects on the volume of water that accumulates in excavations during remedial action.

REMEDIAL INVESTIGATION

Soil Contamination Assessment

28. Numerous subsurface investigations have been conducted at the Pollutant Release Sites (Table 1) as well as several of the other properties not subject to this Order (Table 2), but within the Consolidated Remedial Action Area. Based on the previous use of eight of the properties in the project area for bulk fuel storage and/or distribution, the analytical testing for soil and groundwater samples performed during subsurface investigations has focused on petroleum products and petroleum constituents. Accordingly, specific analyses conducted on soil samples have primarily included analyses for petroleum hydrocarbons (total petroleum hydrocarbons quantified as diesel [TPHd], total petroleum hydrocarbons quantified as gasoline [TPHg], total petroleum hydrocarbons quantified as motor oil [TPHo], and benzene, toluene, ethylbenzene, total xylenes and methyl tert butyl ether [BTEX/MTBE]). In addition, analyses for volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs) and metals were also performed by Ecology and Environment, Inc. (per U.S. EPA contract) on soil samples as part of targeted site assessments on properties NR-18, NR-19 and NR-20.

29. In general, the predominant pollutants detected in soil were TPHd and TPHg. The highest concentrations of TPHd were in soil samples collected from properties NR-18, NR-19, NR-20 and NR-36 at concentrations greater than 10,000 milligrams per kilogram (mg/kg). Similarly, the highest concentrations of TPHg were in soil samples collected from properties NR-18, NR-19, NR-20 and NR-36 at concentrations greater than 1,000 mg/kg. In general, detections of TPHd and TPHg were noted to be more extensive at the deeper elevation intervals (elevation intervals 7.2 feet to 0.7 feet NGVD and 0.7 feet to -4.3 feet NGVD). Beneath an elevation of -4.3 feet, no results for TPHd and for TPHg exceeded 1,000 mg/kg.

30. In addition to petroleum hydrocarbons, analyses were also performed for PAH compounds on soil samples collected by Ecology & Environment as part of targeted site assessments on properties NR-18, NR-19 and NR-20. The majority of the detected PAH compounds were those in the range of the low molecular weight PAHs (2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene). Total low molecular weight concentrations greater than 10 mg/kg were reported in one soil sample collected from property NR-19, and two samples collected from property NR-18. These sample locations also represent areas of relatively high levels of TPHd and TPHg in soil.

31. In contrast to the low molecular weight PAH results, there were considerably fewer detections of high molecular weight PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene). Benzo(g,h,j) perylene, dibenz(a,h)anthracene, and indeno(1,2,3-cd) pyrene were not detected above laboratory reporting limits. None of the totals for high molecular weight PAH compounds exceeded 10 mg/kg.

32. Analyses for volatile organic compounds were also conducted on selected soil samples collected as part of the targeted site assessment by Ecology & Environment, Inc. The soil samples were collected from three soil borings located on properties NR-18, NR-19 and NR-20 and from depths ranging from 2 to 17 feet bgs. In addition to petroleum hydrocarbon-related constituents (benzene, toluene, ethylbenzene, xylenes, cyclohexane, methylcyclohexane, isopropylbenzene) and possible laboratory introduced contaminants (methylene chloride, acetone, 2-butanone, chloroform, carbon disulfide), trichlorofluoromethane and tetrachloroethene were detected. Trichlorofluoromethane was reported below laboratory reporting limits in one sample from NR-19 (from a depth of approximately 11 feet) and two samples from NR-20 (from depths of approximately 10 and 15 feet). Tetrachloroethene was detected at or below the laboratory reporting limit in one sample from NR-18 (from a depth of approximately 10 feet) and one sample from NR-20 (from a depth of approximately 10 feet).

33. Soil samples collected by Ecology & Environment on properties NR-18, NR-19 and NR-20 were analyzed for 20 metals. Silver was the only metal not detected above laboratory reporting limits in any soil sample analyzed. Based on available information, metals concentrations at these sites are similar to background levels and their presence does not appear to be related to site historical uses.

Groundwater Contamination Assessment

34. A regional evaluation of the groundwater contamination underlying the Pollutant Release Sites was prepared by Montgomery Watson. Based on their interpretation of the available data, the extent of the groundwater contamination appears to be area-wide as opposed to being confined to each particular property in the project area. It is likely that the groundwater contamination resulted from releases originating from many potential sources located within the various properties and that, because of their close proximity, has migrated across property boundaries and is presently commingled.

35. Free phase liquid hydrocarbons have been reported in groundwater in the northern project area beneath NR-18 and portions of the Napa Valley Wine Train property (APN 06-220-01) and in the southern project area beneath NR-19 and NR-20.

36. All four of the Pollutant Release Sites identified in Table 1 have impacted off-site properties. Table 4 summarizes the known off-site extent of impacts from each of the four release sites. As indicated in Finding Nos. 3 and 21, additional release sources may exist at other properties (Table 2), however there is currently insufficient information to identify other discharge sources. If new information becomes available that significant pollution discharges to soil/groundwater have occurred at any of these properties, they shall be named in this Order and added to Tables 1 and 4.

Table 4 Summary of Off-Site Groundwater Impacts from the Pollutant Release Sites

Source Property & Dischargers	Probable Extent of Impacts
Former Dillingham Construction N.A., 301 River St. (NR-17) –Dillingham Construction N.A., Inc. –Napa County Flood Control and Water Conservation District	Offsite impacts from this property extend west to the former Dillingham Construction N.A. (Basalt Rock) property (903 8th Street) and southwest to the former Phillips Oil Terminal property (901 8th Street), including the Napa Valley Wine Train Parcel (APN 06-220-01). Discharges from these properties are likely commingled.
Former Dillingham Construction N.A., 903 8th St. (NR-18) –Dillingham Construction N.A., Inc. –Napa County Flood Control and Water Conservation District	Offsite impacts from this property extend south to the former Phillips Oil Terminal property (901 8th Street). Discharges from these properties are likely commingled. The groundwater plume originating on this site is also impacting the neighboring properties to the northeast and east, including beneath the existing railroad tracks and the area beneath 301 River Street.
North Bay Oil Co., 477 Oil Co. Rd. (NR-19) –Chevron Products Co. –Bay Cities Oil Marketers, Inc. –Napa County Flood Control and Water Conservation District	Offsite impacts from this property extend as far south as the former Exxon Oil Terminal (385 Oil Co. Rd.). Therefore, groundwater impacts from this site have impacted the former Mobil Oil Co. property (415 Oil Co. Rd.) and the former ARCO Oil Terminal property (100 Oil Co. Rd.).
Former Phillips Oil Terminal, 901 8th St. (NR-33) –Phillips Petroleum Co. –Texaco, Inc. –Napa County Flood Control and Water Conservation District	Offsite impacts from this property extend at least as far south as the Napa Valley Wine Train property (807 8th St.).

INTERIM REMEDIAL MEASURES

Former Dillingham Construction N.A., 903 8th Street (NR-18)

37. In November 1998, Dillingham Construction N. A., Inc. installed three infiltration trenches along the Napa River. They were implemented as an interim remedial measure and designed for the application or infiltration of a mixture of alternate electron acceptors and nutrients to enhance *in-situ* biodegradation of petroleum hydrocarbons. The trenches were completed to a depth of 2 ft bgs. The ARCADIS report on the results of the Second Quarter 1999 groundwater monitoring event indicated that "the most recent application of nutrient mixture into each trench was conducted on April 9, 1999". Results of these analyses indicate that remediation by this method has been of limited success.

North Bay Oil Co., 477 Oil Company Road (NR-19)

38. Chevron Products Company has implemented various interim remedial technologies including groundwater extraction and soil vapor extraction. Additionally, pilot tests for bioventing and in-situ oxidation have been conducted. To date, none of these technologies has demonstrated the capability to satisfactorily degrade the hydrocarbon pollution in the subsurface.

39. In addition to the above removal actions, Chevron discovered documents that indicate a sheet-pile bulkhead system was installed in the late 1940s to early 1950s all along the riverfront at this site. The corrugated metal sheet-pile bulkhead was apparently installed near the low tide mark to depths of 20 ft or more and runs along much of the NR-19 property river frontage. The sheet piling was apparently installed to stabilize the riverbank and is still in place. It has been suggested by Chevron that this feature may inhibit aqueous-phase hydrocarbon migration toward the river.

Former Phillips Oil Terminal, 901 8th Street (NR-33)

40. Approximately 450 cubic yards of soil was excavated as described in the Corrective Action Plan prepared by Cambria, dated March 24, 2000. The actual areas of excavation are unknown, however the confirmation sidewall sample data has been provided to the Board.

FEASIBILITY STUDY

41. The District has prepared a feasibility study for remediation of the Pollutant Release Sites. Excavation with off-site soil treatment and reuse and/or off-site disposal was selected as the preferred remedial alternative for soil cleanup based on the constraints posed by the Flood Protection Project (see Finding No. 13). In-situ technologies were not considered feasible since construction of the Flood Protection Project will necessitate the excavation of soils to almost 14 feet bgs in the marsh plain, and the schedule does not allow sufficient time for in-situ remedies to work.

    Of the soil treatment technologies considered, landfarming was selected as the preferred remedial alternative. Additional technologies, including biopile treatment and low-temperature thermal desorption, were also retained as possible alternatives depending on contaminant levels and treatability study results. Other soil treatment technologies considered included:

    a. In-Situ Biological Treatment
    b. In-Situ Physical/Chemical Treatment
    c. In-Situ Thermal Treatment
    d. Ex-Situ Physical/Chemical Treatment
    e. Ex-Situ Thermal Treatment
    f. Containment

For groundwater cleanup, monitored natural attenuation was selected as the preferred remedial alternative based on constraints imposed by construction of the Napa River/Napa Creek Flood Control Project.

REMEDIAL ACTION PLAN

42. As discussed in Finding No. 13, the District has prepared a Consolidated Remedial Action Plan (RAP) to address cleanup of the properties within the Consolidated Remedial Action Area. The RAP proposes cleanup of the petroleum-impacted sites by excavation, as necessary to construct the marsh plain and flood plain terraces and other flood protection project improvements (see Figure 3). Soils will be characterized prior to excavation to determine if treatment is necessary and disposal/reuse options. A temporary soil treatment unit will be constructed on the Nord Vineyard property (see Figure 4). Treated soils and soils not requiring treatment will be reused at the Gasser property, located immediately east of the Consolidated Remedial Action Area and east of the Napa Valley Wine Train tracks (Figure 4). Floating product will be contained and removed during excavation to the degree practical. Long-term groundwater monitoring will be performed for evidence of natural attenuation. Detailed plans and specifications will be prepared for RAP implementation and Flood Protection Project construction within the Consolidated Remedial Action Area.

Soil Treatment Plan

43. Soils will be placed in the Nord Vineyard for treatment to reduce concentrations of TPH to levels acceptable for reuse or disposal. Bioremediation in the form of landfarming is recommended as the method of treatment for soils impacted with TPHg and TPHd, with alternative treatment (biopiles, tented landfarming, and physical soil processing) reserved as contingency treatment methods, depending on the results of treatability studies. The Nord Vineyard, located on the east side of Napa River, between Imola Avenue and Oil Company Road (see Figure 1), consists of a 13-acre cultivated area, 6.5 acres of which is estimated to be required for treating TPH-impacted soils. The estimated volume of soil to be treated is 31,400 cubic yards (bank volume).

    Five-foot high perimeter soil berms will be constructed around the Nord Vineyard to prevent erosion of impacted soils and subsequent uncontrolled surface water runoff that could potentially impact human, ecological, and aquatic receptors. Excavated non-impacted soils will be used for construction of the perimeter soil berms. Once soil treatment activities are completed, the Nord Vineyard will be excavated to marsh plain and flood plain terraces.

    A site-specific bioremediation treatability study will be conducted to evaluate the appropriate treatment methodology for impacted soils excavated from the marsh plain and flood plain. The study will evaluate and recommend the composition, rate of application, and rate of mixing for any soil amendments that may be applied to the impacted soils. The results of the laboratory treatability study will be used to develop a soil treatment methodology for full-scale implementation at the Nord Vineyard.

The treatment facility is temporary (1 to 2 years) and will include a perimeter soil berm designed to address erosion control and surface runoff concerns, as well as an impervious liner to limit the escape of volatile organic compounds. Treatment area construction and bioremediation efforts will be scheduled to occur over the non-rainy months (generally April through October) to assist with moisture control. The bermed, lined treatment area will be equipped with a leachate control and recovery system (LCRS) to prevent any potential for water runoff from the treatment area. The bottom of the treatment area would be lined with HDPE, a 2 foot layer of sand (to prevent tearing of the liner), and graded to allow any leachate to collect on one side of the treatment cells. Leachate would be collected through a series of perforated PVC pipes drained to a leachate collection sump, and then pumped and conveyed through flexible hosing directly to a temporary holding tank. This water would then be tested for chemicals of concern, and treated/discharged/disposed off site as appropriate.

Soil Reuse/Disposal Plan

44. Excavated material will be transported from the excavation or the staging area (Figure 4), to the areas designated for treatment, reuse, or disposal. Soils meeting the approved reuse or disposal criteria may be transported directly to either one of the proposed reuse or disposal sites: 1) Gasser property for use as fill material, 2) off-site Class II or III landfill, or 3) Mare Island for use as fill material.

The Gasser property is located immediately east of the Napa Valley Wine Train tracks, north of Tulocay Creek and west of Soscol Avenue (Figure 4). The vacant site is surrounded by commercial development on the north and east sides. The southern edge of the site is bound by New Tulocay Creek and along its western edge (on the other side of the railroad tracks) will be the marsh and flood plain terraces created by excavation on the east bank of the Napa River. About 1.9 acres of those floodplain terraces will be located in the northwestern corner of the site, adjacent to the western edge of the relocated railroad tracks. The site is situated on top of imported fill (primarily sediment dredged from the Napa River) and native soil that has resulted in current elevations ranging from 6 to 12 feet NGVD. Because no structures or buildings currently exist on the site, some wetlands have developed in some low areas of the site. The site contains approximately 8.5 acres of jurisdictional wetlands and other waters of the U.S. according to a jurisdictional wetland delineation conducted in 1991 and 1992 (HT Harvey, 1992). These wetlands are seasonal in nature and provide habitat for wetland plants and associated wildlife.

The areas proposed for receiving soil are situated to avoid impacts to existing wetlands. The two reuse sites E-7 (approximately 5 acres) and E-8 (approximately 20 acres) are shown in Figure 4. The reuse sites would result in approximately 21 acres of potentially developable lands that could accommodate approximately 300,000 cubic yards of excavated soils. The soil would be placed up to a design elevation of 17 feet NGVD in accordance with the future commercial/residential mixed-use potential of the site and the Final Supplemental Environmental Impact Statement/Environmental Impact Report (FSEIS/EIR) prepared for the Flood Protection Project. In accordance with the City's land use regulations, this site may be used for mixed residential and commercial use. The criteria proposed for excavated materials placed at the Gasser property assume an end use that could accommodate any type of residential

development. The reuse cells will be built with soil up to 17 feet NGVD, compacted to a density of at least 90 percent, and contain sideslopes of 3:1.

BASIN PLAN AND RESOLUTIONS

45. The Board adopted a revised Water Quality Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The State Water Resource Control Board (SWRCB) and the Office of the Administrative Law (OAL) approved the revised Basin Plan on July 20 and November 13, respectively, of 1995. A summary of regulatory provisions is contained in Section 3912, Title 23 of the California Code of Regulations. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface water and groundwater.

46. SWRCB Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California", requires attainment of background water quality, or the highest quality reasonable if background quality cannot be attained. Cleanup levels other than background must be consistent with the maximum benefit to the people of the State, must not unreasonably affect present and anticipated beneficial uses of the water, and must not exceed applicable water quality objectives.

47. The Basin Plan provides that all groundwaters are considered suitable, or potentially suitable, for municipal or domestic water supply (MUN) and that, in making any exceptions, the Board will consider the criteria referenced in Board Resolution No. 89-39, "Sources of Drinking Water", where:

    (a) The total dissolved solids exceed 3,000 mg/l (5,000 μS/cm, electrical conductivity), and it is not reasonably expected by the Board that the groundwater could supply a public water system, or

    (b) There is contamination, either by natural processes or human activity (unrelated to the specific pollution incident), that cannot reasonably be treated for domestic use using best management practices or best economically achievable treatment practices, or

    (c) The water source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day.

48. SWRCB Resolution No. 92-49, "Policies and Procedures for Investigations and Cleanup and Abatement of Discharges Under Water Code Section 13304", establishes policies and procedures to be used by the Board when (1) determining when a person is required to investigate, cleanup, or abate a discharge, (2) concurring with the Discharger's selection of cost-effective investigation and remedial measures, (3) overseeing implementation of investigation and remedial measures, and (4) determining schedules for investigation and remedial measures.

49. Board Resolution No. 88-160 allows discharges of extracted, treated groundwater from site cleanups to surface waters only if it has been demonstrated that neither reclamation nor discharge to the sanitary sewer is technically and economically feasible.

BENEFICIAL USES OF GROUNDWATER AND SURFACE WATER

Groundwater

50. The Pollutant Release Sites reside within the boundaries of the Napa River Basin, as defined in the Basin Plan. The existing and potential beneficial uses identified for groundwater in this basin, according to the Basin Plan, include:

- Municipal and Domestic Supply (MUN)
- Industrial Process Supply (PROC)
- Industrial Service Supply (IND)
- Agricultural Supply (AGR)

Surface Water

51. The existing and potential beneficial uses for surface water in the Napa River, Napa Creek, San Pablo Bay, and contiguous surface waters, according to the Basin Plan, include:

- Ocean, Commercial, and Sport Fishing (COMM)
- Preservation of Rare and Endangered Species (RARE)
- Water Contact Recreation (REC1)
- Non-Water Contact Recreation (REC2)
- Fish Migration (MIGR)
- Fish Spawning (SPWN)
- Wildlife Habitat (WILD)
- Estuarine Habitat (EST)
- Navigation (NAV)
- Freshwater Replenishment (FRSH)
- Areas of Special Biological Significance (ASBS)

BASIS FOR CLEANUP STANDARDS

52. In accordance with SWRCB Resolution 68-16, groundwater contamination should be cleaned up to background levels (typically non-detect for organics). However, the Board recognizes that it may not always be technologically and/or economically feasible to cleanup some contaminants to background levels at some locations. Therefore, cleanup standards are developed for the protection of applicable existing and potential beneficial uses, where impacts or threats of impacts exist.

53. Based on delineation of soil and groundwater impacts, threats or impacts to both surface water and groundwater exist at the Pollutant Release Sites and the properties that have been impacted

by their discharges. Therefore, cleanup standards are based on protection of existing and potential beneficial uses of surface water and groundwater as identified in Finding Nos. 50 & 51. Reuse/disposal criteria are additionally based on the protection of human health assuming residential use.

The sites addressed by this order are located along the margin of the Napa River flood plain. Surface waters of the Napa River within the vicinity of the sites generally contain high total dissolved solids (TDS) exceeding 3,000 mg/l for most of the year. Such waters do not meet the criteria as a potential source of drinking water pursuant to State Board Resolution 88-63, due to the high total dissolved solids (TDS) content, as indicated in Finding No. 47(a). Additionally, while shallow groundwater within portions of this area may initially produce water with lower TDS, the TDS levels will likely increase with sustained pumping due to saltwater intrusion. Such intrusion would eventually degrade water to the point where it would no longer be considered a potential source of drinking water, pursuant to State Board Resolution 88-63. This being the case, the Board does not consider shallow groundwater in the vicinity of the Consolidated Remedial Action Area to be a potential source of drinking water.

FUTURE CHANGES TO CLEANUP STANDARDS

54. The goal of this remedial action is to restore the beneficial uses of groundwater underlying and adjacent to the site. Results from other sites suggest that full restoration of beneficial uses to groundwater as a result of active remediation at this site may not be possible. If full restoration of beneficial uses is not technologically nor economically achievable within a reasonable period of time, then the Dischargers may request modification to the cleanup standards or establishment of a containment zone, a limited groundwater pollution zone where water quality objectives are exceeded. Conversely, if new technical information indicates that cleanup standards can be surpassed, the Board may decide that further cleanup actions should be taken.

BASIS FOR 13304 ORDER

55. The Discharger has caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.

COST RECOVERY

56. Pursuant to California Water Code Section 13304, Dischargers are hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

57. This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.

NOTICIFICATION AND PUBLIC HEARING

58. The Board has notified the Dischargers and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments.

59. The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED pursuant to the authority in Section 13304 of the California Water Code that the Dischargers, their agents, successors, and assigns, shall comply with the following:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner that will degrade water quality or adversely effect beneficial uses of waters of the State is prohibited.

2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.

3. Activities associated with the investigation and cleanup of subsurface pollution that may cause significant adverse migration of wastes or hazardous substances are prohibited.

B. CLEANUP PLAN AND CLEANUP STANDARDS

1. **Implement Cleanup Plan**: The Dischargers shall implement the cleanup plan described in Finding No. 42.

2. **Soil Cleanup Standards**: The cleanup standards summarized in Table 5 shall be met in soil beneath the Pollutant Release Sites and the adjacent and/or nearby properties that have been impacted as a result of discharges at the Pollution Release Sites, as indicated.

Table 5 Final Cleanup Standards for Soils & Sediments (mg/kg)

Location[1]	TPH-g	TPH-d	TPH-mo	BTEX[3]
Marsh Plain Layer 3 (0.7 to -4.3 ft. NGVD)	ND (< 10)[2]	93[2]	93[2]	2.73 (benzene) 930 (toluene) 13 (ethylbenzene) 358 (xylenes)
Marsh Plain (below -4.3 ft. NGVD)	5000/950[4]	5000/950[4]	5000/950[4]	NA
Flood Plain Layer 2 (7.2 to 0.7 ft. NGVD)	629[3]	518[3]	518[3]	2.73 (benzene) 930 (toluene) 13 (ethylbenzene) 358 (xylenes)

Flood Plain Layer 3 (0.7 to -4.3 ft. NGVD)	5000/950[4]	5000/950[4]	5000/950[4]	NA

[1] See Figure 5 for corresponding locations.
[2] Cleanup standards are set at ambient levels for Napa River dredge sediments. Ambient levels were determined as the 85th percentile concentrations derived from Napa River sediment testing and evaluation reports (Corps 1979; Kleinfelder 1994; Toxscan/Kinnetic Laboratories 1994; MEC 1996). For TPH-mo, the ambient level for TPH-d is used.
[3] Cleanup standards are based on cleanup criteria established for the saltwater ecological protection zone at the San Francisco International Airport in Board Order No. 99-045.
[4] 5000/950 mg/kg are for fine-grained soils (e.g., clays, silts, and fine-grained sands) and coarse-grained soils (e.g., coarse sands and gravel), respectively. These levels are meant to be surrogates for no free product and are based on the American Petroleum Institute (API) guidance for the assessment of underground storage tank releases (API, 1989).

3. **Groundwater Cleanup Standards**: The cleanup standards summarized in Table 6 shall be met in groundwater beneath the Pollutant Release Sites and the adjacent and/or nearby properties that have been impacted as a result of discharges at the Pollution Release Sites, as indicated.

Table 6 Final Cleanup Standards for Groundwater (ug/l)

Location[1]	TPH-g	TPH-d	TPH-mo	BTEX
Marsh Plain Terrace	No Free Product – Rely on Soil Cleanup Standards			
Flood Plain Terrace	3700[2]	640[2]	640[2]	71[2] (benzene) 5000[2] (toluene) 86[2] (ethylbenzene) 2200[2] (xylenes)

[1] See Figure 5 for corresponding locations.
[2] Cleanup standards are based on cleanup criteria established for the saltwater ecological protection zone at the San Francisco International Airport in Board Order No. 99-045.

4. **Soil Disposal/Reuse Criteria**: The criteria summarized in Table 7 shall apply all soil to be disposed/reused at the Gasser property as discussed in Finding No. 44.

Table 7 Soil Disposal/Reuse Criteria for the Gasser Property

Constituent	Napa River Ambient (mg/kg)	Basis
TPH gasoline	ND (<10)	Napa River Ambient[1]
TPH diesel	93	Napa River Ambient[1]
TPH oil	93	Same as TPHd
Total TPH	93	Same as TPHd
Benzene	0.18	Human Health RBSL[2]

Toluene	30	Human Health RBSL[2]
Ethylbenzene	76	Human Health RBSL[2]
Xylene	210	Human Health RBSL[2]

[1] Ambient level for Napa River dredge sediments determined as the 85th percentile concentrations derived from Napa River sediment testing and evaluation reports (Corps 1979; Kleinfelder 1994; Toxscan/Kinnetic Laboratories 1994; MEC 1996).

[2] Human Health Risk-Based Screening Level (RBSLs) for the protection of human health via direct dermal contact, ingestion, and inhalation (US Environmental Protection Agency, Region 9, Preliminary Remediation Goals, 1999, and US Environmental Protection Agency, Region 9, Users Guide for the Johnson and Ettinger Indoor Air Model (1991) for Subsurface Vapor Intrusion into Buildings, 1997).

C. TASKS

1. HYDRAULIC CONTAINMENT, DISCHARGE, AND MITIGATION PLAN

COMPLIANCE DATE: February 15, 2002

Submit a report, acceptable to the Executive Officer, that includes following:

a. A hydraulic control and containment plan that describes how potentially contaminated water will be handled and measures to mitigate petroleum impacts to the Napa River during construction (e.g., soil berms, sheet piles, etc.)
b. A water discharge/reuse plan that describes where and how potentially impacted water will be discharged/disposed (e.g., on-site containment and treatment, POTW discharge, etc.). If discharge to the POTW is not feasible, then the plan should include details on handling and disposing of decant water and appropriate discharge limits.
c. A plan for monitoring and mitigating potential impacts to ecological receptors during construction activities

All of the above plans and specifications shall be approved by the Executive Officer prior to beginning excavation of impacted soils

2. BEST MANAGEMENT PRACTICES PLAN (BMPP) / STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

COMPLIANCE DATE: February 15, 2002

Submit a report, acceptable to the Executive Officer, that details how best management practices will be used to mitigate potential impacts to surface water from storm water runoff due to sedimentation and erosion during and after project construction. The BMPP shall be approved by the Executive Officer prior to beginning excavation of impacted soils.

3. SOIL TREATMENT PLAN

COMPLIANCE DATE: February 15, 2002

Submit a report, acceptable to the Executive Officer, that contains detailed plans and specifications for the design, construction, and operation of the temporary petroleum hydrocarbon soil treatment unit to be located at the Nord Vineyard as proposed in the RAP. The soil treatment plan shall describe how active and passive remediation will be conducted, containment measures, results of treatability studies, criteria for soil acceptance and treatment completion, and soil characterization methods. All plans and specifications for the design, construction, and operation of the temporary soil treatment unit shall be approved by the Executive Officer prior to beginning excavation of impacted soils.

4. **SOIL DISPOSAL PLAN**

COMPLIANCE DATE: February 15, 2002

Submit a report, acceptable to the Executive Officer, that contains detailed plans and specifications for the design and construction of the off-site soil disposal location at the Gasser Property as proposed in the RAP. The soil disposal plan shall describe the soil disposal criteria, characterization methods, and how the criteria and the design of the disposal location are protective of human and environmental health and beneficial uses of surface water and groundwater. All plans and specifications for the design and construction of the soil disposal area shall be approved by the Executive Officer prior to beginning excavation of impacted soils.

5. **POST-CONSTRUCTION MONITORING PLAN**

COMPLIANCE DATE: June 15, 2002

Submit a report, acceptable to the Executive Officer, that details plans for conducting post-construction sediment, groundwater, ecological, and erosion monitoring as specified in the RAP. All post-construction monitoring plans shall be approved by the Executive Officer prior to beginning excavation of impacted soils.

6. **CERTIFICATION OF SOIL TREATMENT UNIT CONSTRUCTION**

COMPLIANCE DATE: May 15, 2002

Submit a report, acceptable to the Executive Officer, certifying that the temporary soil treatment unit is constructed in accordance with all approved plans and specifications. Certification of construction of the temporary soil treatment unit shall be approved by the Executive Officer prior to placement of any soil in the treatment unit.

7. **EVALUATION OF RIVERBANK STABILIZATION MEASURES**

COMPLIANCE DATE: December 15, 2002

Submit a report, acceptable to the Executive Officer, that discusses evaluation of the riverbank stabilization measures to insure their adequacy, and if necessary, proposes additional measures. The USACE's Supplemental General Design Memorandum (SGDM) describes the planned riverbank stabilization measures for the reach of the river to be excavated pursuant to this Order. The stabilization measures were designed based on predicted final marsh plain and flood plain elevations. After the final cleanup, the District and the USACE shall evaluate the riverbank stabilization measures. When considering new measures, biotechnical stabilization measures shall be given highest consideration.

8. **SUMMARY REPORT OF REMEDIAL ACTION RESULTS AND FINDINGS**

COMPLIANCE DATE: December 15, 2002

Submit a report, acceptable to the Executive Officer, that summarizes all relevant results and findings of the remedial actions. The report should include all findings regarding the nature and extent of contamination at the Pollutant Release Sites and the properties that have been impacted by their discharges and the results of all soil characterization and confirmation sampling performed prior to and during excavation. The report should also summarize the disposition of all excavated soil.

9. **POST-CONSTRUCTION CONTINGENCY PLAN**

COMPLIANCE DATE: 30 days after requested by the Executive Officer

Submit a report, acceptable to the Executive Officer, that proposes specific responses to problems identified in the post-construction monitoring program (or by other means) as a result of residual contamination causing or threatening adverse effects on beneficial uses in the project area.

10. **Delayed Compliance**: If the dischargers are delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the dischargers shall promptly notify the Executive Officer and the Board may consider revision to this Order.

D. PROVISIONS

1. **No Nuisance**: The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code Section 13050(m).

2. **Good O&M**: The Dischargers shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.

3. **Cost Recovery**: The Dischargers shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is

enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the Dischargers over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.

4. **Access to Site and Records**: In accordance with California Water Code Section 13267(c), the Dischargers shall permit the Board or its authorized representative:

   a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
   b. Access to copy any records required to be kept under the requirements of this Order.
   c. Inspection of any monitoring or remediation facilities installed in response to this Order.
   d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the Dischargers.

5. **Contractor / Consultant Qualifications**: All technical documents shall be signed by and stamped with the seal of a California registered geologist, a California certified engineering geologist, or a California registered civil engineer.

6. **Lab Qualifications**: All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g. temperature).

7. **Document Distribution:** Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following entities:

   a. California Department of Fish and Game
   b. Napa County Department of Environmental Management
   c. City of Napa Department of Public Works
   d. Napa River/Napa Creek Flood Protection Project Technical Advisory Panel

8. **Reporting of Changed Owner or Operator**: The Dischargers shall file a technical report summarizing any changes in site occupancy or ownership. If portions of the site are divested, a figure must be included that clearly illustrates the divested property location and boundaries relative to the entire site.

9. **Reporting of Hazardous Substance Release**: If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the Dischargers shall report such discharge to the Board by calling (510) 622-2300 during regular office hours (Monday through Friday, 8:00 to 5:00). A written report shall be filed with the Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified. This

reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

10. **Rescission of Existing Order**: This Order supercedes and rescinds Board Orders No. 00-107, 00-111, 00-112, & 00-116. Board Order No. 00-113 is hereby rescinded.

11. **Periodic SCR Review**: The Board will review this Order periodically and may revise it when necessary.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on June 19, 2001.

Loretta K. Barsamian
Executive Officer

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FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT THE NAMED DISCHARGERS AND RESPONSIBLE PARTIES TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13268 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY.

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Attachments:

Figures 1 - 5

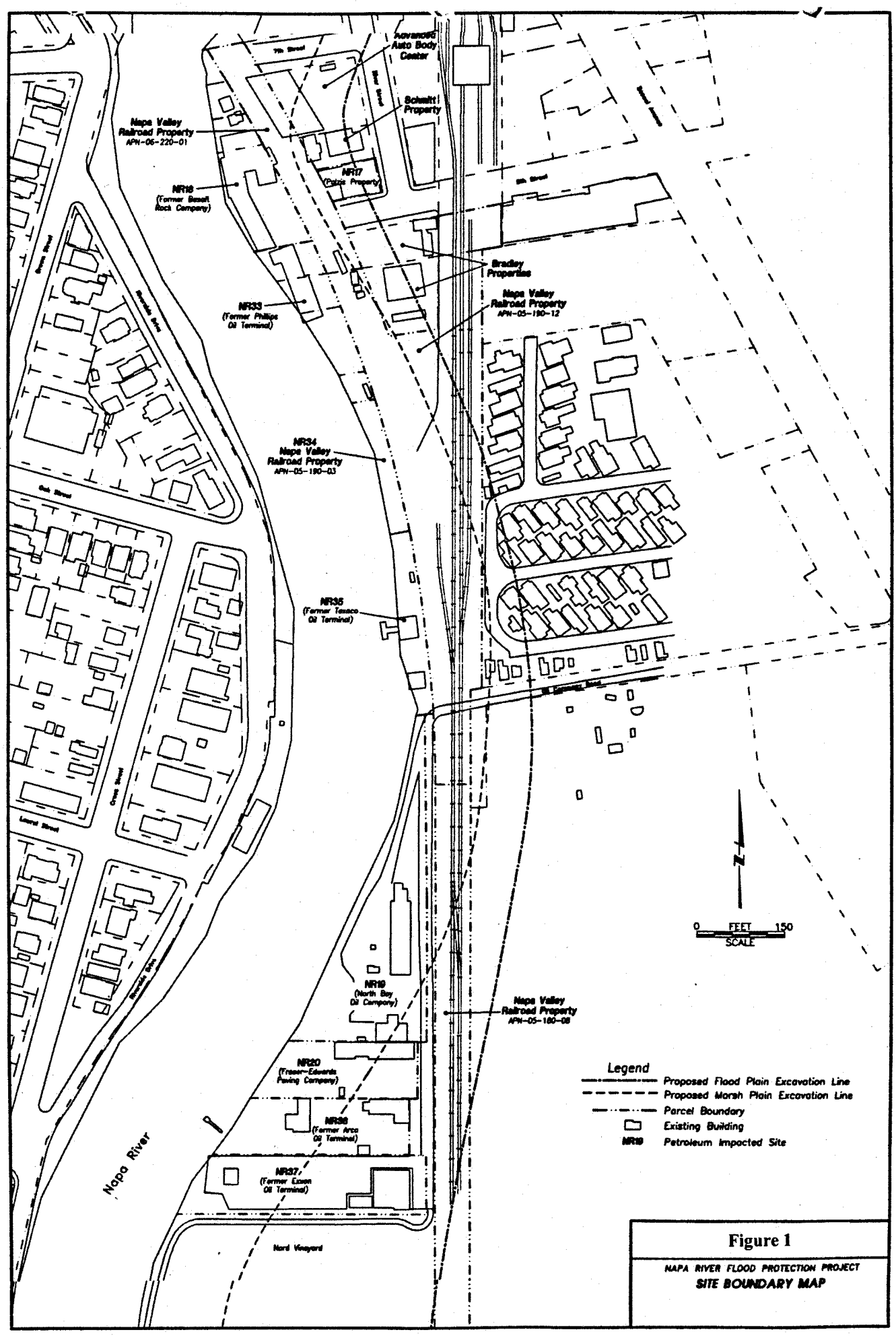


Figure 1

NAPA RIVER FLOOD PROTECTION PROJECT

SITE BOUNDARY MAP

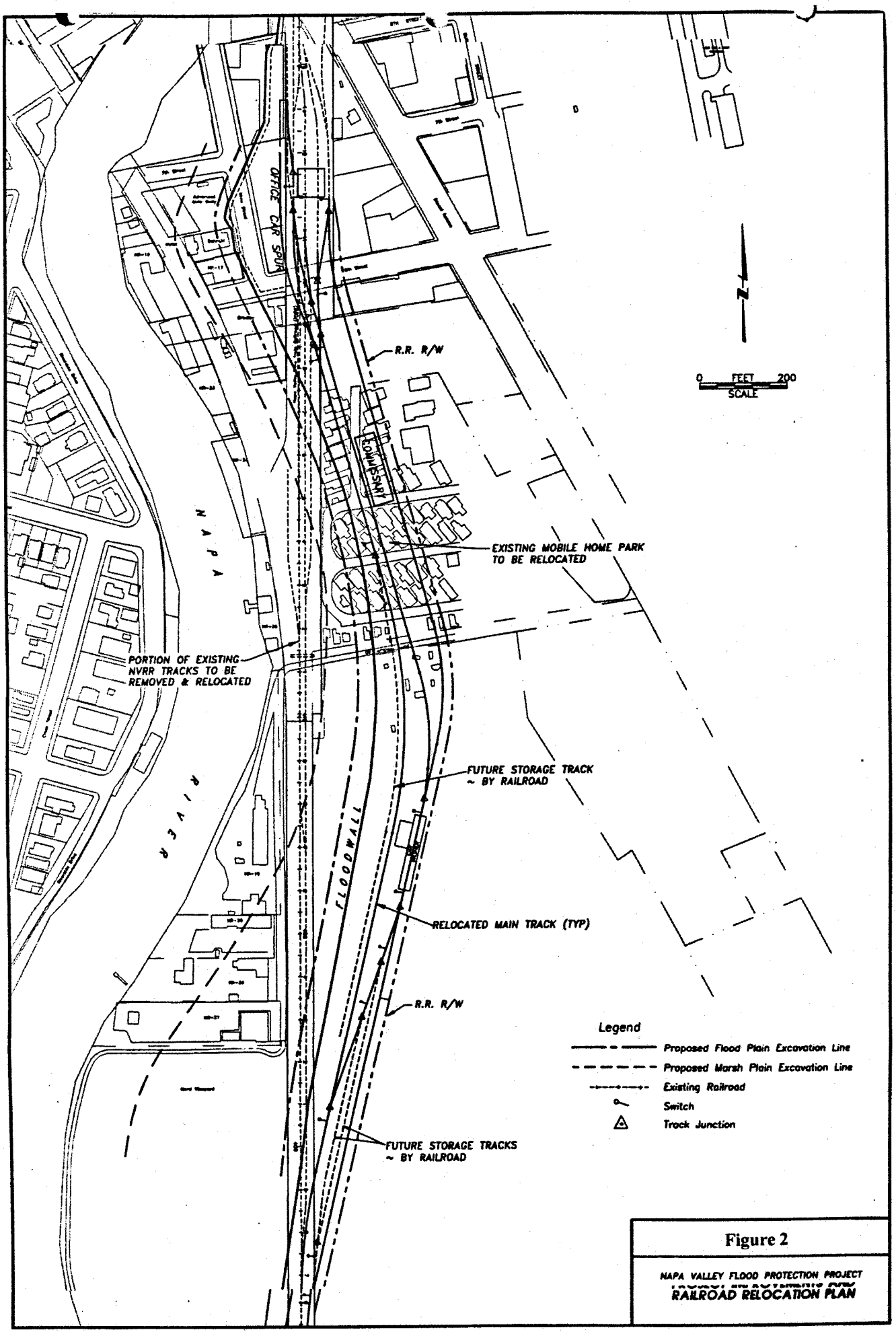
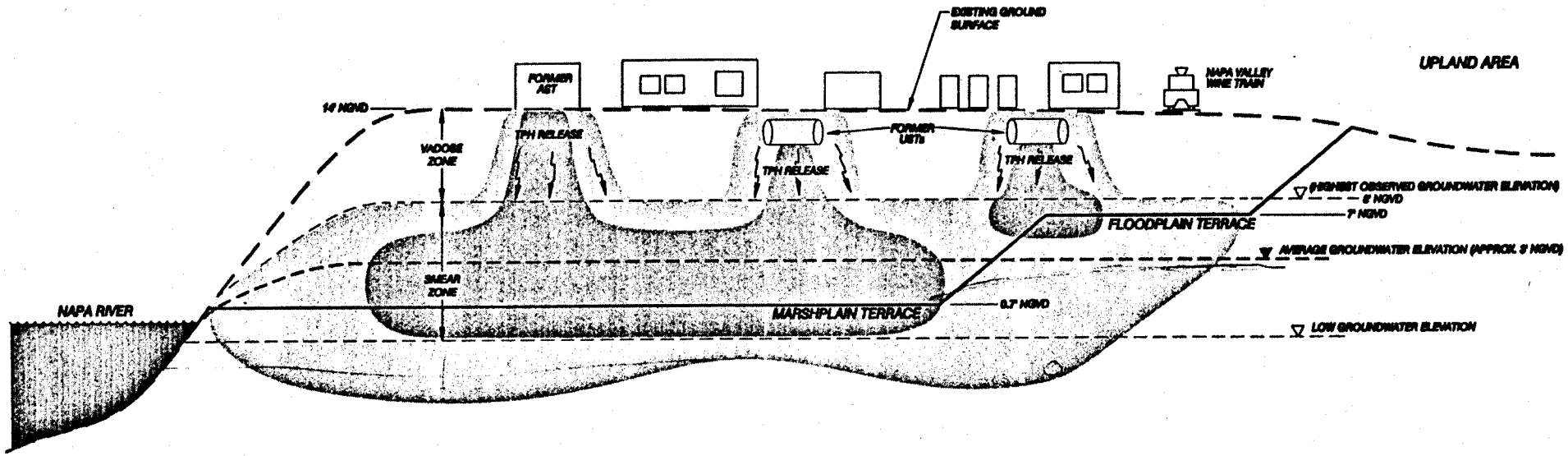


Figure 2

NAPA VALLEY FLOOD PROTECTION PROJECT
RAILROAD RELOCATION PLAN



LEGEND

PETROLEUM-IMPACTED GROUNDWATER AND/OR SOIL

Profile obtained from Plate No. 88, Napa River Cross Sections, Sta 760+00 to 836+00, Napa River/Napa Creek Flood Protection Project, Final Supplemental General Design Memorandum, U.S. Army Corps of Engineers and Napa County Flood Control and Water Conservation District, October 1995.

Figure 3

NAPA RIVER FLOOD PROTECTION PROJECT

CONCEPTUAL CROSS SECTION OF NAPA RIVER FLOOD CONTROL PROJECT

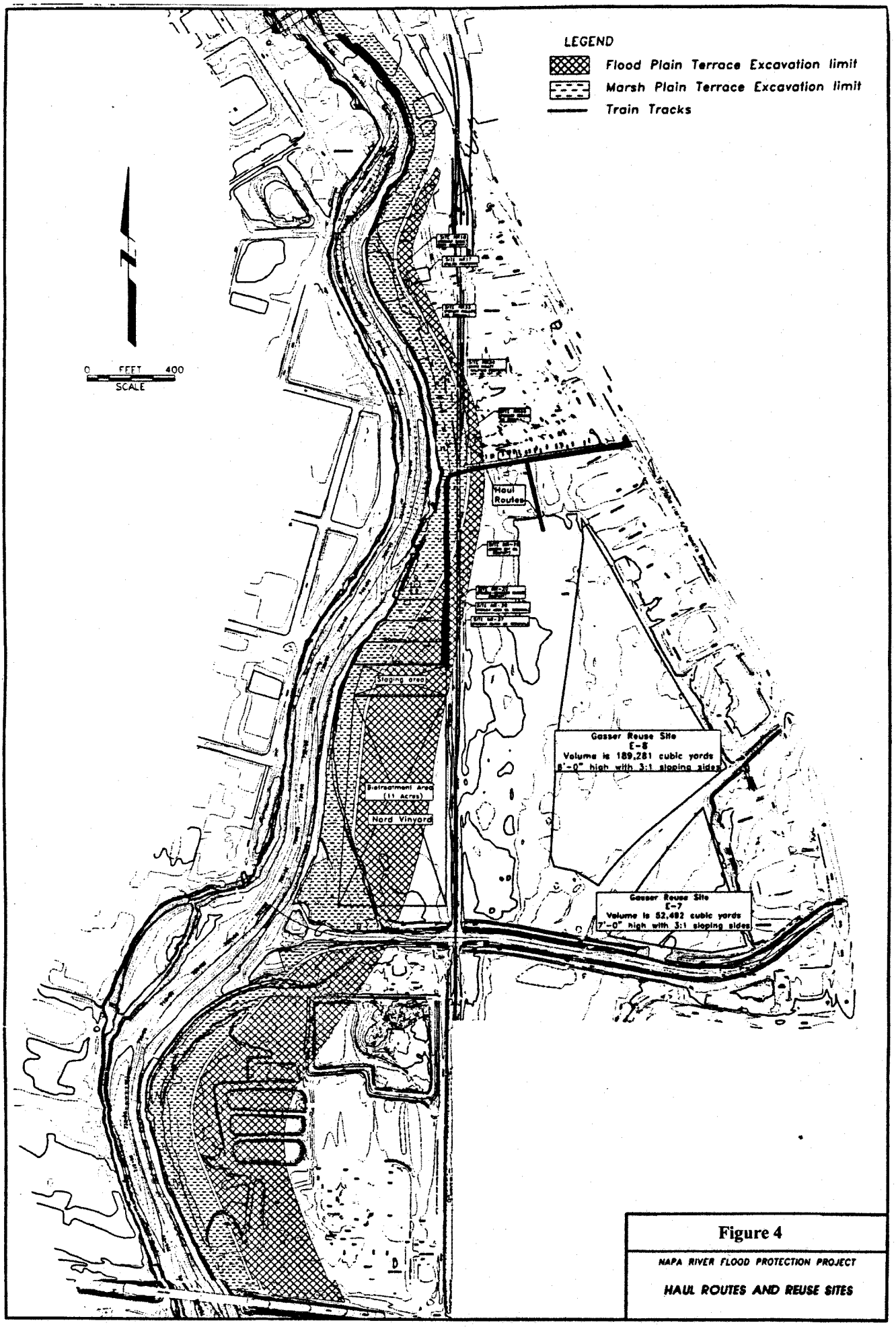
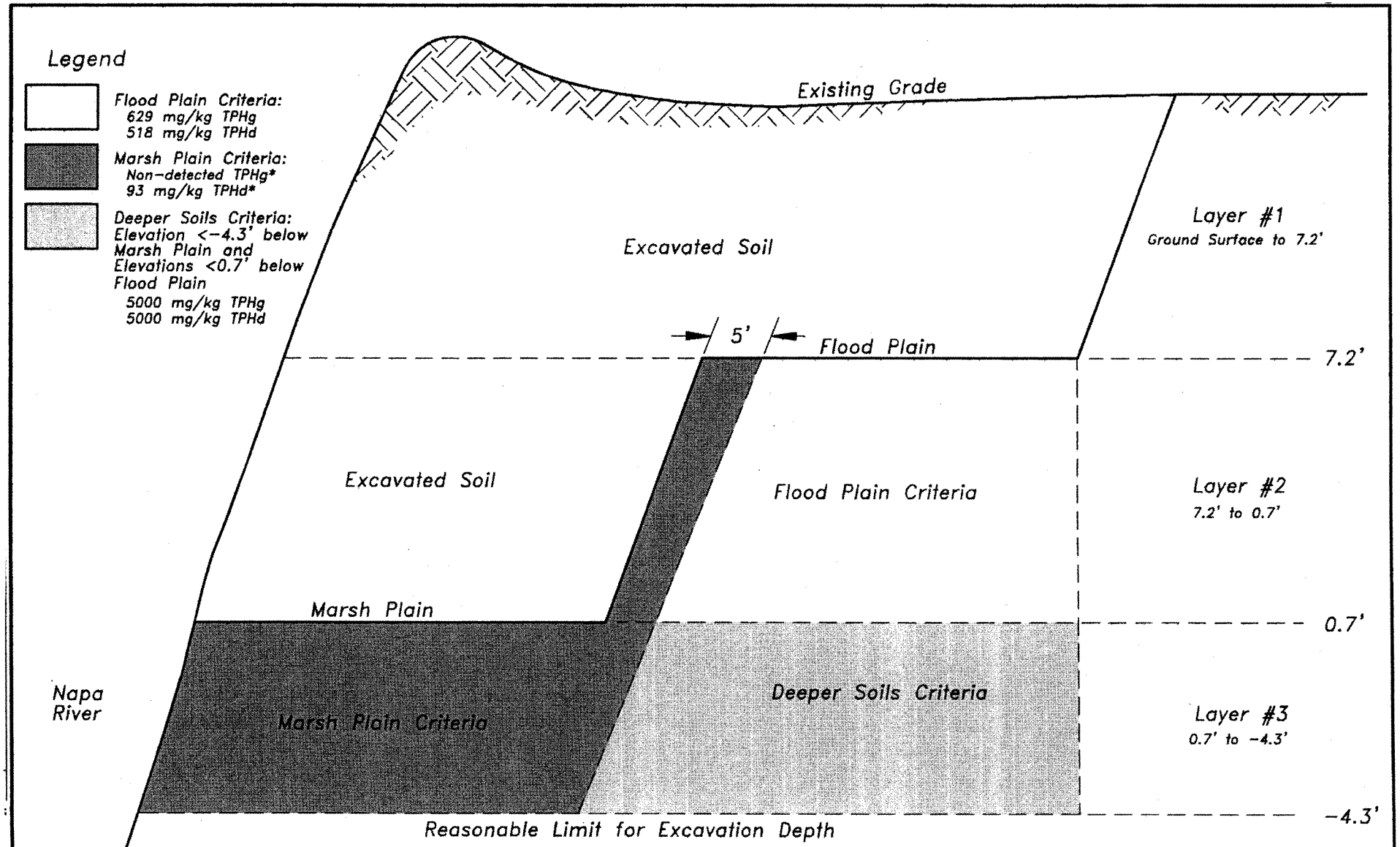


Figure 4

NAPA RIVER FLOOD PROTECTION PROJECT

HAUL ROUTES AND REUSE SITES



Note:
* Marsh Plain Criteria from elevations -2.3' to -4.3' NGVD may be modified to the Flood Plain Criteria shown above.

Figure 5

NAPA RIVER FLOOD PROTECTION PROJECT

CLEANUP CRITERIA FOR SOILS BENEATH THE MARSH PLAIN AND FLOOD PLAIN