REMOVAL ACTION MEMORANDUM
NON-TIME-CRITICAL REMOVAL ACTION
RAMONA BURN DUMP SITE
CLEVELAND NATIONAL FOREST

I. PURPOSE

The Ramona Burn Dump Site ("Site") is a 3.5 acre former solid waste disposal site located on National Forest System lands under the jurisdiction, custody, and control of the U.S. Department of Agriculture, Forest Service ("Forest Service"). The Site is located within the Cleveland National Forest, Palomar Ranger District, San Diego County, California, Assessor Parcel Number (APN) 244-100-17. Figure No 1 shows the general vicinity of the Site and Figure No. 2 shows the site features.

The purpose of this Removal Action Memorandum (AM) is to document the selection of a non-time-critical removal action to address presence of and continued release of heavy metals (antimony, arsenic, barium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, and zinc), dioxins, and furans in soils at the Site. The situation at the Ramona Burn Dump Site (Site) meets the criteria for a non-time-critical removal action under Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

This decision document (Removal Action Memorandum) presents the Forest Service's selected removal response action for the Site, chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. 9601 et seq., and, to the extent practicable, the NCP. The AM is based upon the administrative record for the Site.

This non-time-critical removal action involves no nationally significant or precedent setting issues. This removal action will not establish any precedent for how future response actions will be taken and will not commit the Forest Service to a course of action that could have a significant impact on future responses or resources.

II. SITE CONDITIONS AND BACKGROUND

A. Site Location

The Site is located in San Diego County, in the Palomar Ranger District of the Cleveland National Forest, California. It is in the southeast quarter of the northeast quarter of Section 34, Township 12 south, Range 1 east, San Bernardino Base Meridian, within Assessor Parcel Number 244-100-17. The Site is on National Forest System lands in Wildcat Canyon, Pamo Valley, approximately 4 miles north of the city of Ramona, California. Ramona's population was 20,292 in 2010 (U.S. Census Bureau, 2013). The Site is accessible by two-wheel drive vehicles and is adjacent to Dump Road, a paved private road that provides access to the currently closed Ramona Landfill, which is managed by Ramona Landfill Inc., a subsidary of Allied Waste Industries (Allied Waste).

B. Site Characteristics

The Site is located at an average elevation of 1,600 feet above mean sea level and covers an area of approximately 3.5 acres. The Site is separated from Dump Road by a 4-foot-tall wire fence, which limits public access. An unpaved acess road allows vehicles and pedestrians to access the Site from Dump Road. A locked gate at the main entrance to the Ramona Landfill separates Dump Road from Pamo Road. The area immediately surrounding the Ramona Burn Dump Site is zoned as open space or agricultural under the County's Multiple Species Conservation Program. (County, 2010). Recreational hikers or Forest Service personnel walking the site are the likely potential future users of the Site (Forest Service, 2013).

The Site is located in coastal southern California with warm, dry summers and mild winters. Total average precipitation is about 16.5 inches. The Site is not located within a mapped floodplain (ERRG, 2010). The Site is located within the San Dieguito Watershed (Water Board Hydrogeologic Unit Basin Area 5.41) (Water Board, 2011) in close proximity to and upstream of Santa Ysabel Creek and Lake Hodges and downstream of Sutherland Reservoir. The Site is flanked by two natural drainages that merge east of the Site. Downstream of the Site the drainage becomes an unnamed ephemeral creek that joins Santa Ysabel Creek within 0.5 miles of the Site.

Suitable habitat for the California Gnatcatcher (federally listed species) occurs at the Site pursuant to previous consultations between the Cleveland National Forest and the Carlsbad Office of the U.S. Fish and Wildlife Service. Santa Ysabel Creek has been designated a critical habitat for the federally listed endangered arroyo toad. Within a 4-mile radius there is critical habitat for several other federally listed endangered, threatened, or sensitive species.

C. Operational History

The former Ramona Burn Dump was operated by the County of San Diego (County) for the disposal of trash and rubbish from the community of Ramona and surrounding County areas from approximately 1948 to 1969. The Site was operated under a series of special use permits issued by the Forest Service. The initial permit was issued in 1947 and the last permit was terminated in 1974. The County operated the Site as a part of its burn dump operation located on adjacent private lands. Under the terms of the special use permit, the county was to confine the dumping to constructed pits within the permit area and ashes were to be placed in a separate pit. When the special use permit was terminated on February 2, 1974, waste disposal at the site ceased and the Site was covered by layer of soil. Over the years, in many areas, the soil cover has eroded exposing burn ash and waste debris.

The Site was uncovered following the Witch Creek fire in November 2007, when vegetation in the area was burned off and revealed that the cover material had eroded and exposed burn ash and waste debris at the site. The exposed burn dump area included remnants of a fire pit located on adjacent lands that are now owned and operated as Ramona Landfill by Allied

Waste, as well as historic burn ash and waste debris in the area identified as the Ramona Burn Dump Site on National Forest System lands.

The PA/SI (ERRG, 2010) noted that exposed ash and waste was observed over the entire site area, approximately 2.47 acres. The EE/CA revised the size of the site to 3.5 acres after the site was mapped in 2013 using a global positioning system (GPS) to determine the lateral extent of waste and burn ash. The ash and waste varies from 1 foot to 11 foot deep, with the thickest portions corresponding to what appeared to be two large north-south trending trenches based on historical aerial photographs. Soil cover was less than 1 foot thick over most of the site and several erosional gullies were observed and debris was found in the aforementioned drainages.

D. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

The primary sources of contamination at the Site are waste debris and ash from the burn dump operated by San Diego County from July 1948 through September 30, 1969.

The contaminants of concern - antimony, arsenic, barium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, and zinc (heavy metals) and dioxins and furans - are potential hazardous substances or pollutants or contaminants as defined by Sections 101(14) and 101(33) of the Comprehensive Environmental Response, Compensation, and Liability Act, (CERCLA) as amended, 42 U.S.C. Section 9601(14) and (33).

The USFS completed a Preliminary Assessment/Site Inspection (PA/SI) in 2010 and an Engineering Evaluation/Cost Analysis (EE/CA) in 2014, which characterized the burn site related impacts. Figure 3 shows the location of surface debris and ash found during the site investigations. The data collected from the soils at the Site for the Chemicals of Potential Concern (COPC), heavy metal and dioxin and furan concentrations, compared against the soil cleanup levels the Forest Service developed for the Site are presented in Table 1 below.

TABLE 1: SUMMARY OF COPC CONCENTRATIONS IN SOILS COMPARED TO CLEANUP LEVELS

COPC	Soil Clean- up Level (mg/kg)		Soil Concentration (mg/kg)	
	Eco-SSL	Human Health RSL		
			Min	Max
Antimony	**0.27**	41	ND	7.8
Arsenic*	18	**2.4**	ND	59.5
Barium**	**390**	190,000	85	580
Cadmium	**0.36**	800	ND	8.3
Chromium**	**42**	1,500,000	7.6	110
Cobalt**	**22.8**	30	6.6	39
Copper**	**111**	41,000	27	870
Lead	**11**	800	ND	2300
Nickel	**38**	10,000	2.4	130
Selenium	**0.52**	5,100	ND	352
Zinc**	**51**	310,000	23	6400
TCDD TEQ**	**0.199**	18	0.29	1904

Notes:

Bold - Soil Clean-up Levels are the values that will be used to meet the objectives of this removal action.

* Arsenic - The cleanup level is based on the more stringent human health screening criteria for arsenic (EPA Industrial Screening Levels). All of the other heavy metal COPC's have ecological screening levels (Eco-SSLs) as the more stringent cleanup level (Eco-SSLs in the table are the most stringent value of plants, soil invertebrates, and avian and mammalian wildlife values).

**Background concentration was used as cleanup levels when 3 times the lowest background concentration was a higher concentration than the most stringent of the Eco-SSL or the Human Health RSL.

***TCDD TEQ - Dioxin and furans are expressed as the 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) toxic equivalent quotient (TEQ). (Eco-SSL for mammals was most stringent).

An approximate area of 3.5 acres and an approximate volume of 28,967 cubic yards of contaminated soil above regulatory clean-up levels were estimated to be present at the Site. Figure 4 shows the approximate extent of waste and estimated depths of waste used for the volume estimate.

E. NPL Status

The Ramona Burn Site is not listed on the National Priorities List nor has the Site been proposed for the NPL.

F. Maps, Pictures, and Other Graphic Representations

Figure 1: Site Location Map
Figure 2: Site Features Map
Figure 3: Sample Locations and Screening Results
Figure 4: Waste Extent and Volumes

G. Other Actions to Date

Pursuant to the authority found at 42 U.S.C. Section 9604(a) and in Executive Order 12580, the Forest Service has initiated actions to respond to the above-mentioned release of hazardous substances. The Forest Service has implemented a response in accordance with the NCP non-time-critical removal process, which has included the following:

- *Preliminary Assessment/Site Investigation for Ramona Burn Dump Site, Cleveland National Forest San Diego County, California*, completed in May, 2010 by Engineering/Remediation Resources Group, Inc.
- *Engineering Evaluation/Cost Analysis for the Non-Time-Critical Removal Action Ramona Burn Dump Site, Cleveland National Forest, California*, completed in January, 2014 by Engineering/Remediation Resources Group, Inc.

H. State and Local Authorities Role

This AM will be provided as formal notification to State and Local authorities who otherwise do not, at this time, have an active role in the response actions for the Site. Appropriate County Officials have been kept apprised of Forest plans for the Site through Status Memos and official correspondence.

The Forest Service is conducting response actions at the Site pursuant to its lead agency authority under CERCLA and Executive Order 12580. Pursuant to 42 U.S.C. Section 9621(e) and 40 C.F.R. Section 300.400(e), no Federal, State or local permits are required for the on-site portion of this removal action.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health, or Welfare or the Environment

The release of hazardous substances from erosional features and drainage emanating from the Site supports the determination that it poses threats to public health, welfare and the environment and that it is appropriate to implement the response actions described in this AM. In accordance with Title 40 Code of Federal Regulations, Part 300, Section 415 (40 C.F.R. Section 300.415), the following conditions indicate that removal action is warranted for the Site:

i. Actual or potential exposure to hazardous substances or pollutants or contaminants by nearby human populations, animals, or the food chain;

1. Public Health and Welfare: The concentration levels of arsenic, cobalt, lead, and dioxins and furans above human health clean-up levels in near surface soils found at the Site indicate that the air and soil (inhalation and ingestion) human exposure pathways are complete. The Site is easily accessible by 2 wheel drive vehicles and has the potential to be used by recreational users visiting the Forest and by Forest Service staff and the adjacent landfill employees. Studies have identified the following health effects of exposure to arsenic, cobalt, lead, and dioxin and furans:
    a. Arsenic: Gastrointestinal irritation, neuropathy, skin lesions, vascular disease, and death due to cardiopulmonary collapse (acute dose).
    b. Cobalt: Asthma, pneumonia, skin rashes, nausea, and death due to cardiopulmonary collapse (acute dose).
    c. Lead: Neurological and central nervous system effects and hematological and kidney effects (with higher susceptibility in children).
    d. Dioxins and Furans: Highly toxic and can cause cancer, reproductive and developmental problems, damage to the immune system, and can interfere with hormones.

2. Threats to the Environment: Ecological receptors could become exposed to site contaminants through direct contact with waste debris and burn ash contaminated soils; ingestion of waste debris and burn ash- contaminated soils; and ingestion of contaminated food (e.g., soil-dwelling insects, vegetation).

ii. Actual or potential contamination of drinking water supplies or sensitive ecosystems;

Waste debris have been identified in the two natural drainages flanking the Site and extending down the drainage beyond the Forest Boundary. The two natural drainages merge east of the Site. Downstream of the Site the drainage becomes an unnamed ephemeral creek that joins Santa Ysabel Creek within 0.5 miles of the Site. Surface waters within the Santa Ysabel Creek area have been designated for municipal and domestic water supply beneficial use. Santa Ysabel Creek has been designated as critical habitat for the federally listed endangered arroyo toad. Thus there is the

potential for contamination of drinking water supplies or sensitive ecosystems if the contamination continues to migrate to Santa Ysabel Creek.

iii. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate;

1. Human Health and Welfare: Elevated concentrations of arsenic, cobalt, lead, and dioxins and furans in near surface soils in waste debris and burn ash-contaminated soils that exceed human health screening level thresholds are present in exposed un-vegetated soils at the Site. These contaminated soils are susceptible to migration because of water- and wind-borne influences. Evidence of migration of these waste debris into adjacent drainage areas downstream of the Forest boundary has been documented based on visual inspections.

2. Threats to the Environment: Elevated concentrations of antimony, arsenic, barium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, zinc, dioxin and furans in the waste debris and burn ash-contaminated soils that exceed ecological soil screening levels are present in exposed un-vegetated soils at the Site. These contaminated soils are susceptible to migration because of water- and wind-borne influences. Evidence of migration of these waste debris into adjacent drainage areas downstream of the Forest boundary has been documented based on visual inspections.

iv. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

Waste debris and burn ash contaminants are present in un-vegetated soils at the Site and exposed to the elements. The Site drains to a tributary of Santa Ysabel Creek. Rainfall or other forms of run-off inducing events will tend to spread the contaminated materials further from the site.

B. Availability of Other Appropriate Federal or State Response Mechanisms to Respond to the Release

The Site is located on National Forest System lands under the jurisdiction, custody and control of the U.S. Forest Service, within the boundaries of the Cleveland National Forest. No other federal or state response mechanisms are available to respond to the release.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances, pollutants and contaminants from the Site, if not addressed by implementing the response actions selected in this AM, may continue to present an imminent and substantial endangerment to public health, welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COST

A. Proposed Actions

The proposed actions are integral to a comprehensive effort to address waste debris and burn ash-related human health and environmental impacts in the San Dieguito Watershed. The following objectives, which correspond to Section 300.415(b)(2) of the NCP, have been developed for the site:

- Reduce exposure of humans and wildlife to metals and dioxins and furans in soil and burn ash to acceptable levels.
- Reduce the risk of erosion of contaminated soil and burn ash.

Based on an analysis of the nature and extent of waste debris and burn ash impacted soils and the response objectives listed in the preceding paragraph, the following three alternative actions were evaluated for the Ramona Burn Dump Site:

Alternative 1 - No Action

Alternative 2 - Cap Contaminated Soil and Burn Ash in Place involves capping contaminated soil and burn ash in situ (approximately 3.5 acres), with minimal consolidation and relocation of the waste at the site the cap would cover an area of approximately 3.3 acres. Only Area 10 (shown on Figure 4) would be excavated to a depth of 0.5 foot bgs and placed on top of the main body of the waste. Area 10 is estimated to contain approximately 429 cubic yards of waste material that would require consolidation. A soil cap consisting of at least 2 feet of clean soil, a demarcation layer, and an impermeable 40-mil high-density polyethylene (HDPE) liner with appropriate drainage features[1] would be constructed on top of the entire waste footprint (Figure 4).

Alternative 3 - Consolidate and Cap Contaminated Soil and Burn Ash in Place (Proposed) similar to Alterative 2 in construction and implementation but differs in that contaminated soil and burn ash would be consolidated into a single, and smaller, waste disposal unit prior to being caped in place. Under Alternative 3, approximately 1,536 cubic yards of waste material and contaminated soil would be consolidated into a single waste repository and placed under an approximate 2.6 acre RCRA-compliant cover system. The cover system will be similar to that in Alternative 2 and will consist of a soil cap of at least 2 feet of clean soil, a demarcation layer, and an impermeable 40-mil high-density polyethylene (HDPE) liner with appropriate drainage features constructed on top of the entire waste footprint (Figure 4).

Alternative 4 - Excavation and Offsite Disposal of Contaminated Soil and Burn Ash, all contaminated soil and burn ash would be removed from the site for transportation to an offsite disposal facility. In total, approximately 28,967 bank cubic yards of contaminated soil and burn ash would be disposed of off-site. The contaminated soil and burn ash

[1] The liner system design allows for drainage along the micro spikes in the geotextile.

would be hauled on Pamo Road and then to an appropriately-licensed disposal facility such as South Yuma County Landfill in Yuma, Arizona. Excavated areas would be backfilled with clean soil, and the site would be restored to its original grade.

Alterative 1 was not selected because it would not address the actual or potential imminent and substantial human health and ecological threats posed by the exposed waste debris, burn ash, and burn ash-contaminated soils. Alternatives 2 and 4 were not selected even though they meet all of the removal action objectives and complied with all of the Applicable or Relevant and Appropriate Requirements (ARARs) but are not as cost effective as Alterative 3.

i. Description of Proposed Alternative

Alternative 3 – Consolidate and Cap Contaminated Soil and Burn Ash in Place (Proposed)

The proposed Alternative will consolidate approximately 1,536 cubic yards of waste and contaminated soils from Areas 1 through 10, placed on top of Areas 1 through 5 and 7 through 9, and placed under a compliant solid waste disposal site cover system (Figure 4). The reduced size of the cover system is anticipated to cover approximately 2.6 acres.

This alternative would require an engineering study and design to establish site requirements for the cap, confirm the depth to groundwater beneath the site, and to ensure that all appropriate requirements are met. Engineering controls such as grading, drainage ditches, and culverts would be used where needed to divert water away from the cap and ensure that the repository is not impacted by drainage across the site.

Measures would be implemented to minimize the short-term impacts to unnamed ephemeral creeks on site. Construction activities would be conducted during the dry season, and BMPs would be implemented such that short-term impacts to humans (including site construction workers) and the environment would be minimized.

The soil is classified as California hazardous waste but not RCRA hazardous waste in accordance with Title 22 CCR § 66261 and Title 40 Code of Federal Regulations (CFR) §261.24. Other federal or state requirements for appropriate siting, construction, and long-term inspection and maintenance may apply, however [e.g., regulations for corrective action management units at Title 40 C.F.R. Part 264, Subpart S, and Part 264.552(c)].

ii. Contribution to Long Term Performance

The proposed Alterative would minimize the potential for exposure to metals and dioxins and furans present at the site and would prevent exposure or continued

erosion of waste materials from the site, thereby minimizing the potential for future or continued downstream releases. Appropriately designed and maintained surface water drainage and vegetative maintenance would limit future erosion of the cover materials and reduce the potential for future releases. The HDPE liner would prevent surface water infiltration through waste materials and minimize the potential for leachate development. Future institutional controls, such as placing fences or signs around the cap to reduce the potential for erosion of the cap by site visitors and ensure that permanent vegetation is established, may be required in the engineering design. This alternative would require long-term operation and maintenance (O&M) of the cover to ensure that no release of contaminants occur in the future. An impermeable cap is considered effective at addressing the risks posed to human health and the environment by contaminated soil and burn ash. Contaminated materials would be encapsulated such that exposure of humans or wildlife to waste would be reduced. This alternative would comply with all chemical-, location-, and action-specific ARARs.

iii. Engineering Evaluation/Cost Analysis (EE/CA)

In 2010, the Forest Service completed a site investigation to characterize the waste debris and burn ash impacted soils located within the Ramona Burn Dump located on National Forest System lands. The results of the investigation are presented in the report titled *Final Preliminary Assessment/Site Inspection Report for the Ramona Burn Dump Site Cleveland National Forest, San Diego County, California. May, 2010.* Based on this assessment, the Forest Service conducted an EE/CA.

The analytical data found in the 2010 PA/SI and additional data and components of the identification and analysis of the removal action alternatives found in the report titled *Engineering Evaluation/Cost Analysis for the Non-Time-Critical Removal Action Ramona Burn Dump Site Cleveland National Forest, California January, 2014,* were used to support preparation of this action memorandum.

The EE/CA and administrative record were made available for the required 30-day public comment period per the NCP.

iv. Applicable or Relevant and Appropriate Requirements (ARARs)

ARARs include "applicable" or "relevant and appropriate" requirements.

Applicable Requirements: Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal or State environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. "Applicability" implies that the remedial action or the circumstances at the site satisfy all of the jurisdictional prerequisites of a requirement.

Relevant and Appropriate Requirements: Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site.

The proposed action may attain ARARs under federal or state environmental or facility siting laws. Other federal and state advisories, criteria or guidance may, as appropriate, be considered in formulating the removal action. The recommended non-time-critical removal action will comply with the following ARARs to the extent practicable, considering the exigencies of the situation:

Action-Specific ARARs for this response action are:

- **Resource Conservation and Recovery Act, 42 U.S.C. Sections 6901-6991.** This requirement defines RCRA hazardous waste, requirements for on-site generation of waste.

- **Clean Water Act Section 404, 40 C.F.R. Part 230, 33 C.F.R. Parts 320-330, 40 C.F.R. Part 6, Appendix J**. Regulations to protect waters of the U.S. and wetlands, as defined by EPA and the U.S. Army Corps of Engineers regulations, by prohibiting the discharge of dredged or fill material without a permit, and taking actions to avoid adverse effects, minimize potential harm and preserve and enhance wetlands to the extent practicable.

- **Federal Noxious Weed Act, 7 U.S.C. Section 2801 *et seq*.** Requires efforts to avoid the introduction and spread of identified noxious weeds.

- **California Hazardous Waste Control Law and Hazardous Waste Disposal Regulations; Title 22, CCR 66262.1 to 66263.32 *et seq*.** Requirements for determination of non-RCRA hazardous wastes, non-hazardous waste, and hazardous waste management, including manifesting, record keeping, storage, and packaging procedures for hazardous waste.

- **California Environmental Protection; Title 27, CCR 21090, 20310, 20320, 21142, 21145, and 21150 *et seq*.** Requirements for construction and containment of onsite encapsulation of waste material.

- **Air District Regulations (nuisance and fugitive dust control)**

  Rule 402 - Nuisance
  Rule 403 - Fugitive Dust

Potential Chemical-Specific ARARs for this response action are:

- **EPA Regional Screening Levels.** Provides non-regulatory screening criteria for the protection of human health.

- **EPA Ecological Soil Screening Levels.** Provides non-regulatory screening criteria for the protection of ecological receptors.

Location-Specific ARARs for this response action are:

- **Archeological and Historic Preservation Act, 16 U.S.C. Section 469, 40 C.F.R. 6.301.** Establishes procedures to preserve historical and archeological data that might be destroyed through alteration of terrain as a result of a federal undertaking.

- **Archeological Resources Protection Act of 1979, as amended, 16 U.S.C. Sections 470aa-470mm.** Prohibits unauthorized excavation, removal, damage, alteration or defacement of archeological resources located on public lands.

- **Endangered Species Act, 16 U.S.C. Section 1531 *et seq.*** Defines and provides a means for conserving various species of fish, wildlife, and plants that may be threatened with extinction, and provides for the designation of critical habitats essential to the conservation of a threatened or endangered species. Requires Federal agencies, in consultation with DOI and the National Marine Fisheries Service, to ensure that actions that they authorize, fund or carry out are not likely to jeopardize the continued existence of threatened or endangered species or adversely modify or destroy their critical habitat.

B. Project Schedule

The proposed actions are expected to begin in March 2018 and be completed by November 1, 2018.

C. Estimated Costs

The estimated costs represent an order-of-magnitude estimate with and intended accuracy of +50 to -30 percent accuracy. A summary of cost from the January 2014 EE/CA is listed below:

Capital Cost: Estimated cost for design and implementation:	$1,662,276
Recurring O&M cost for years 1-30 present value:	$ 643,991
Periodic Cost for repairs years 1-30 present value:	$ 359,365
Forest Service Oversight for design and implementation:	$ 14,821
Total in January 2014 dollars	**$2,680,453**
Total in 2017 dollars (i=0.25%, n=3.5 years)	**$2,703,980**

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VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If the response action should be delayed or not taken:

- Hazardous substances will remain as potential human health and ecological threats based on inhalation, ingestion, and dermal contact exposure pathways; and
- Hazardous substances will remain a continuing source of soil contamination.

VII. OUTSTANDING POLICY ISSUES

None have been identified at this time.

VIII. ENFORCEMENT

The Forest Service's research and follow-up research by the Office of the General Counsel (OGC) resulted in the determination of a viable Potential Responsible Party (PRP). An Administrative Settlement Agreement and Order on Consent will be sent to the viable PRP.

IX. DECISION

The Forest Service has CERCLA authority and is the "lead agency" for National Forest System (NFS) lands at non-National Priorities List sites. No other appropriate response mechanisms or authorities are currently available to address this Site.

In compliance with the Forest Service's role in protecting the public health and welfare and the environment, and because the release or threatened releases are on NFS lands under the administration of the Cleveland National Forest, and pursuant to the authority found at 42 U.S.C. Section 5604 (a), Executive Order 12580, and 7 C.F.R. 2.60, the Forest Service undertakes this response action. The response action will be not inconsistent with the NCP.

Approval is hereby given by the Forest Service to conduct a non-time-critical removal action to consolidate and cap in place contaminated soil and burn ash from the Ramona Burn Dump Site on the Cleveland National Forest.

The removal action for the Site was developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. Conditions at the site meet the NCP 40 C.F.R. § 300.415(b) criteria for a removal action. This decision is based upon information contained within the Site's administrative record.

Signature: _____ Date: August 17, 2017

Tyrone Kelley
Director of Engineering
Pacific Southwest Region

References

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Forest Service, 2013. "Cleveland National Forest." Available Online at: <http://www.fs.usda.gov/cleveland>. Accessed October 30.

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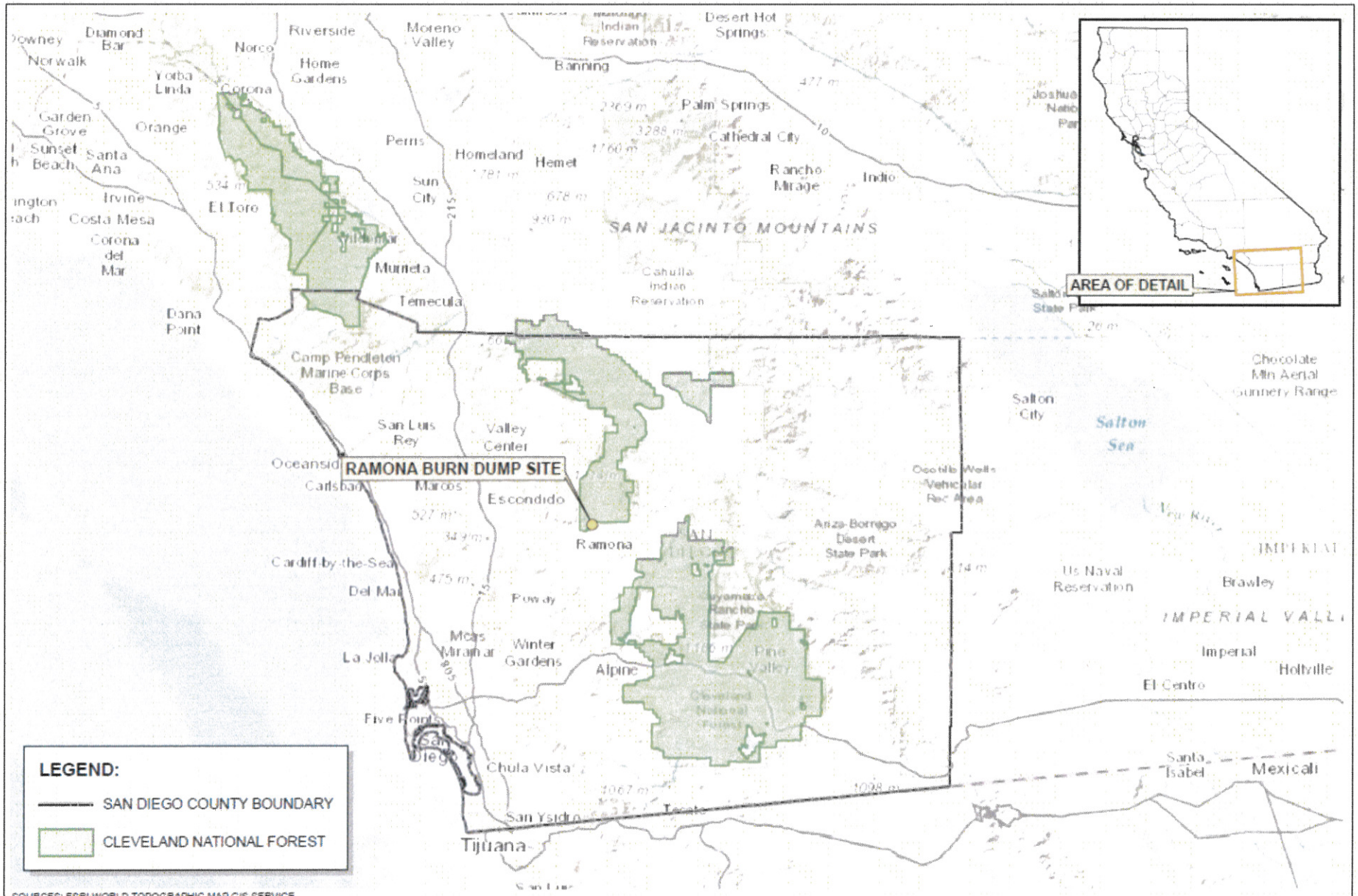
Figures



SOURCES: ESRI WORLD TOPOGRAPHIC MAP GIS SERVICE
COORDINATE SYSTEM: U.S. STATE PLANE, NAD 1983, CALIFORNIA ZONE 6

0 16

SCALE: 1" = APPROX. 16 MILES

ERRG
Engineering/Remediation Resources Group, Inc.
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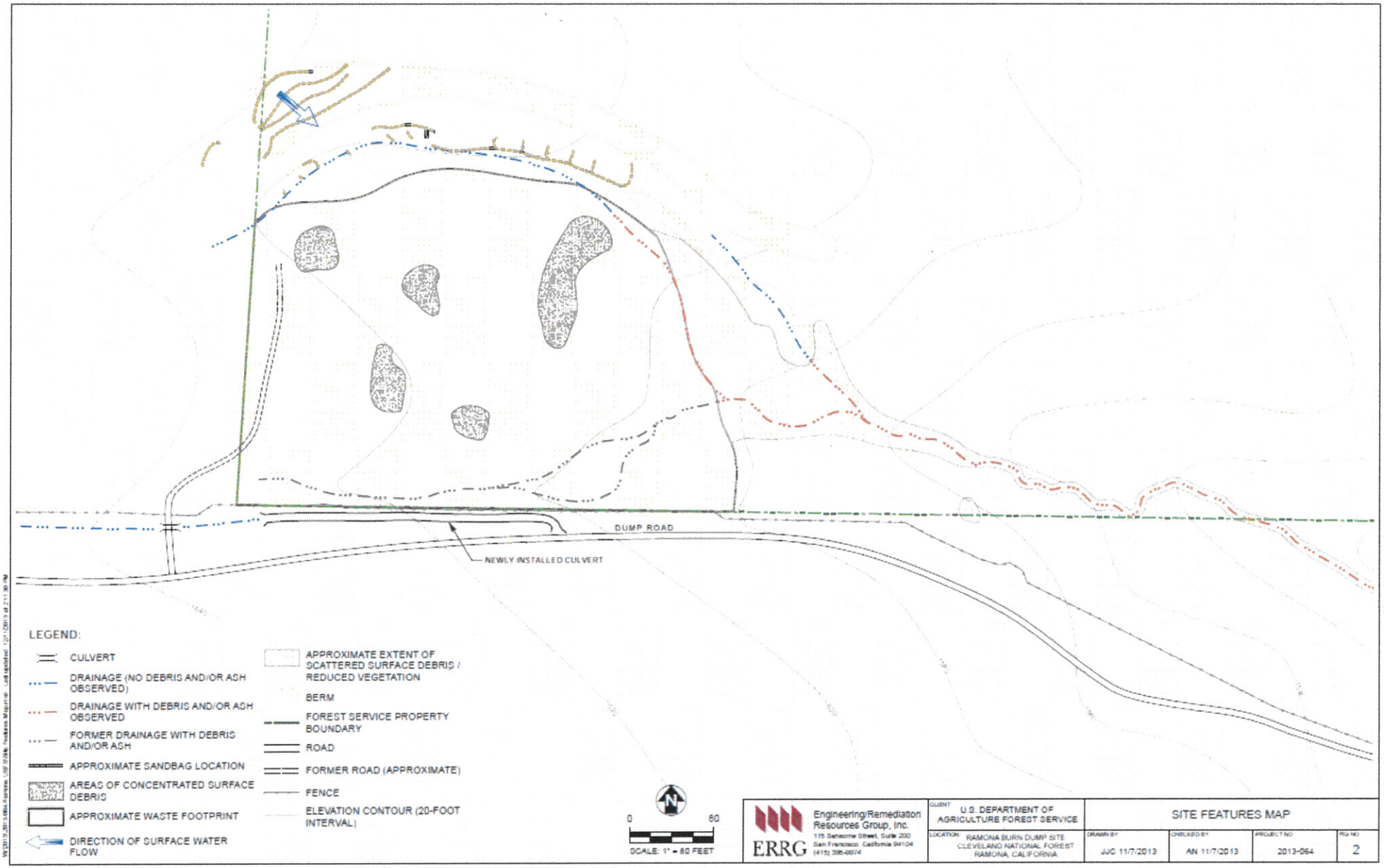
San Francisco, California 94104
(415) 395-9974

CLIENT: U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE	SITE LOCATION MAP			
LOCATION: RAMONA BURN DUMP SITE CLEVELAND NATIONAL FOREST RAMONA, CALIFORNIA	DRAWN BY: JJC 11/27/2013	CHECKED BY: AN 11/27/2013	PROJECT NO: 2013-064	FIG NO: 1


DUMP ROAD
NEWLY INSTALLED CULVERT
LEGEND:
CULVERT
DRAINAGE (NO DEBRIS AND/OR ASH OBSERVED)
DRAINAGE WITH DEBRIS AND/OR ASH OBSERVED
FORMER DRAINAGE WITH DEBRIS AND/OR ASH
APPROXIMATE SANDBAG LOCATION
AREAS OF CONCENTRATED SURFACE DEBRIS
APPROXIMATE WASTE FOOTPRINT
DIRECTION OF SURFACE WATER FLOW
APPROXIMATE EXTENT OF SCATTERED SURFACE DEBRIS / REDUCED VEGETATION
BERM
FOREST SERVICE PROPERTY BOUNDARY
ROAD
FORMER ROAD (APPROXIMATE)
FENCE
ELEVATION CONTOUR (20-FOOT INTERVAL)
N
0
60
SCALE: 1" = 60 FEET
ERRG
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(415) 398-6974
CLIENT
U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE
LOCATION
RAMONA BURN DUMP SITE
CLEVELAND NATIONAL FOREST
RAMONA, CALIFORNIA
SITE FEATURES MAP
DRAWN BY
JJC 11/7/2013
CHECKED BY
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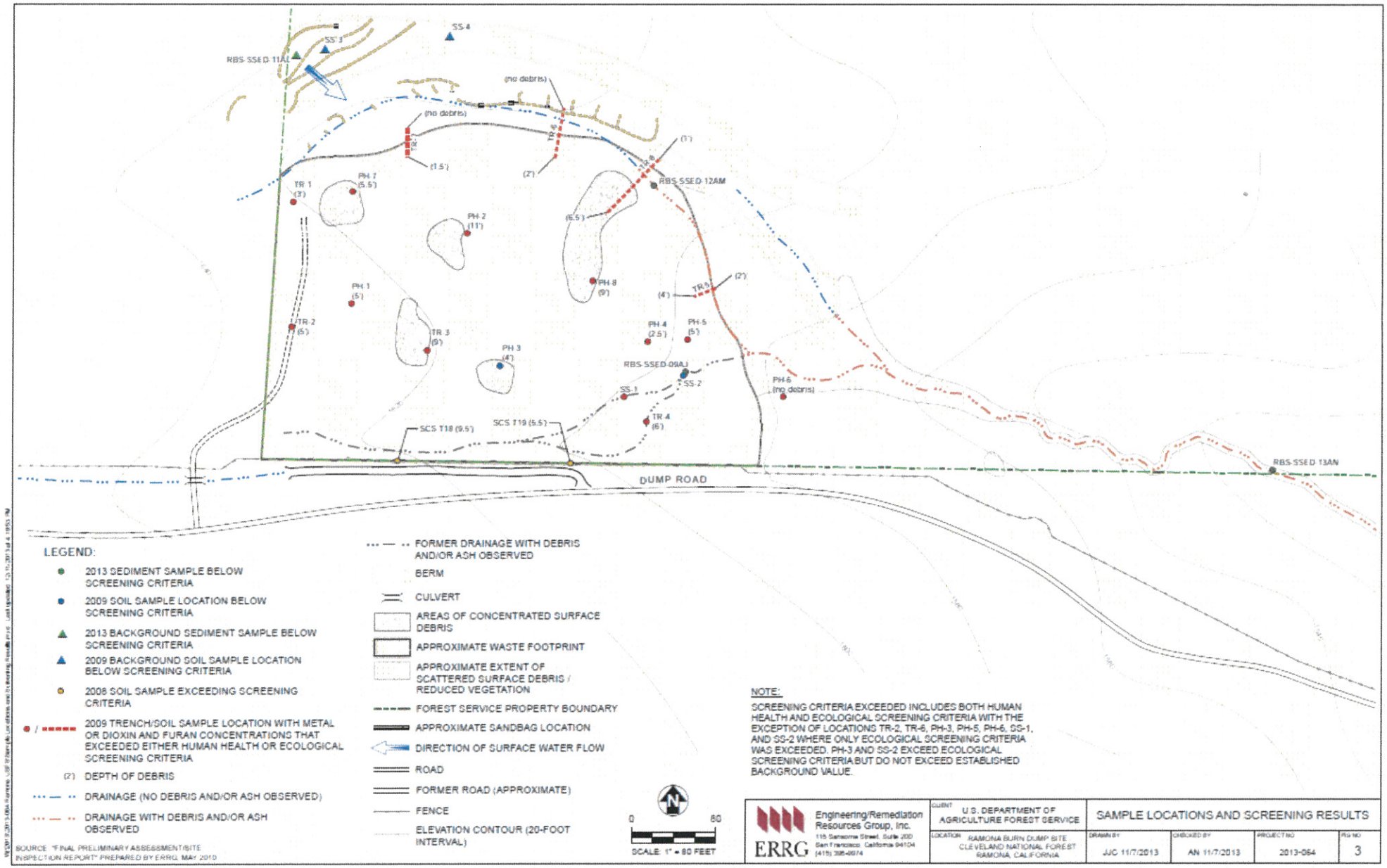
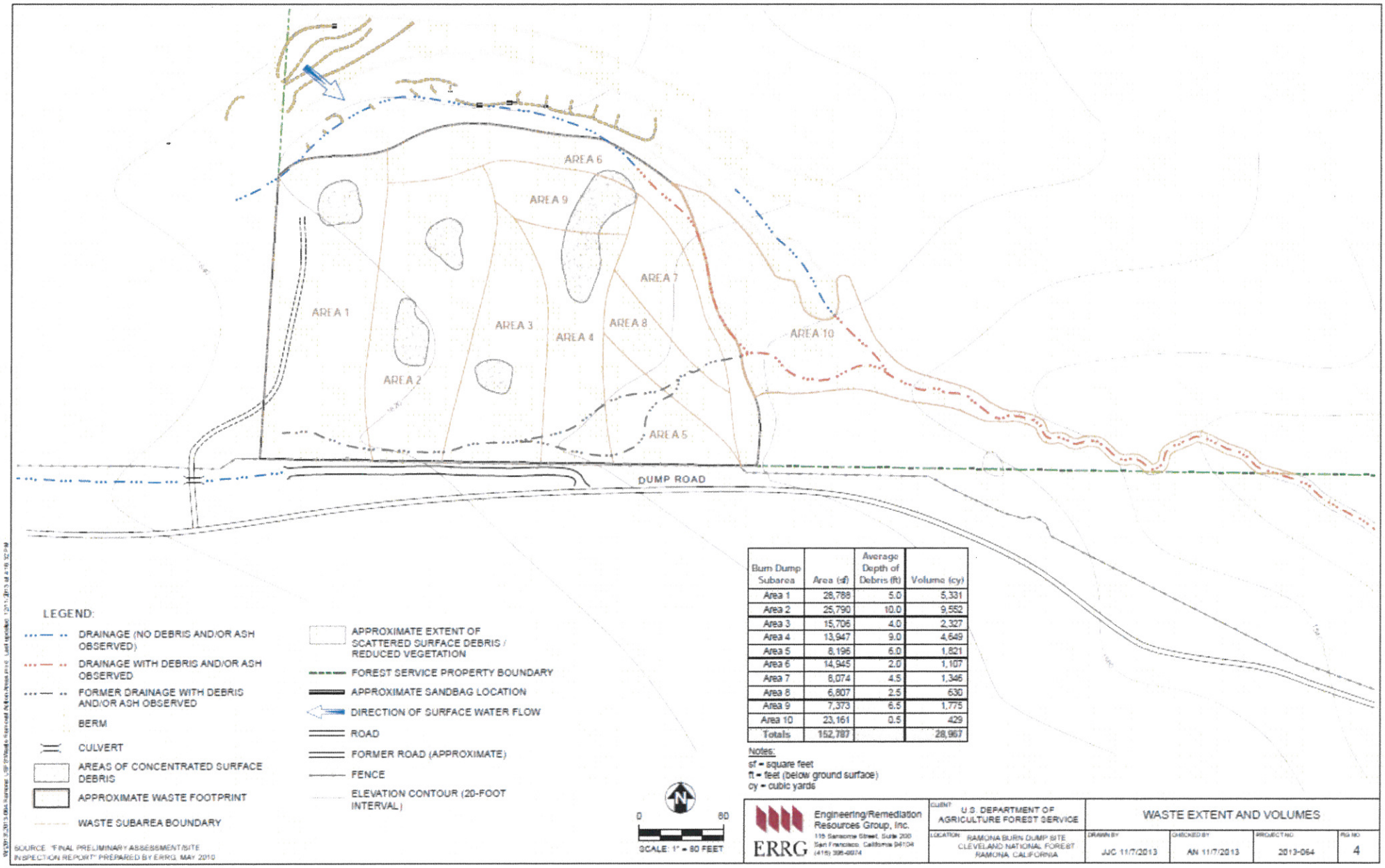
PROJECT NO
2013-064
FIG NO
2


SS-4
SS-3
RBS-SSED-11AL
(no debris)
(no debris)
TR-7
(1.5')
TR-6
(2')
(1')
TR-8
RBS-SSED-12AM
PH-7
(5.5')
TR 1
(3')
PH-2
(11')
(5.5')
PH-8
(9')
TR-5
(2')
(4')
PH-1
(5')
TR-2
(5')
TR 3
(9')
PH 3
(4')
PH-4
(2.5')
PH-5
(5')
RBS-SSED-09AJ
SS-1
SS-2
PH-6
(no debris)
TR 4
(6')
SCS T18 (9.5')
SCS T19 (5.5')
RBS-SSED-13AN
DUMP ROAD
LEGEND:
2013 SEDIMENT SAMPLE BELOW SCREENING CRITERIA
2009 SOIL SAMPLE LOCATION BELOW SCREENING CRITERIA
2013 BACKGROUND SEDIMENT SAMPLE BELOW SCREENING CRITERIA
2009 BACKGROUND SOIL SAMPLE LOCATION BELOW SCREENING CRITERIA
2008 SOIL SAMPLE EXCEEDING SCREENING CRITERIA
2009 TRENCH/SOIL SAMPLE LOCATION WITH METAL OR DIOXIN AND FURAN CONCENTRATIONS THAT EXCEEDED EITHER HUMAN HEALTH OR ECOLOGICAL SCREENING CRITERIA
(2') DEPTH OF DEBRIS
DRAINAGE (NO DEBRIS AND/OR ASH OBSERVED)
DRAINAGE WITH DEBRIS AND/OR ASH OBSERVED
FORMER DRAINAGE WITH DEBRIS AND/OR ASH OBSERVED
BERM
CULVERT
AREAS OF CONCENTRATED SURFACE DEBRIS
APPROXIMATE WASTE FOOTPRINT
APPROXIMATE EXTENT OF SCATTERED SURFACE DEBRIS / REDUCED VEGETATION
FOREST SERVICE PROPERTY BOUNDARY
APPROXIMATE SANDBAG LOCATION
DIRECTION OF SURFACE WATER FLOW
ROAD
FORMER ROAD (APPROXIMATE)
FENCE
ELEVATION CONTOUR (20-FOOT INTERVAL)
SOURCE: "FINAL PRELIMINARY ASSESSMENT/SITE INSPECTION REPORT" PREPARED BY ERRG, MAY 2010
0
60
SCALE: 1" = 60 FEET
NOTE:
SCREENING CRITERIA EXCEEDED INCLUDES BOTH HUMAN HEALTH AND ECOLOGICAL SCREENING CRITERIA WITH THE EXCEPTION OF LOCATIONS TR-2, TR-6, PH-3, PH-5, PH-6, SS-1, AND SS-2 WHERE ONLY ECOLOGICAL SCREENING CRITERIA WAS EXCEEDED. PH-3 AND SS-2 EXCEED ECOLOGICAL SCREENING CRITERIA BUT DO NOT EXCEED ESTABLISHED BACKGROUND VALUE.
ERRG
Engineering/Remediation Resources Group, Inc.
115 Sansome Street, Suite 200
San Francisco, California 94104
(415) 395-0674
CLIENT: U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE
LOCATION: RAMONA BURN DUMP SITE CLEVELAND NATIONAL FOREST RAMONA, CALIFORNIA
SAMPLE LOCATIONS AND SCREENING RESULTS
DRAWN BY: JJC 11/7/2013
CHECKED BY: AN 11/7/2013
PROJECT NO: 2013-064
FIG NO: 3



Burn Dump Subarea	Area (sf)	Average Depth of Debris (ft)	Volume (cy)
Area 1	28,788	5.0	5,331
Area 2	25,790	10.0	9,552
Area 3	15,706	4.0	2,327
Area 4	13,947	9.0	4,649
Area 5	8,196	6.0	1,821
Area 6	14,945	2.0	1,107
Area 7	6,074	4.5	1,346
Area 8	6,807	2.5	630
Area 9	7,373	6.5	1,775
Area 10	23,161	0.5	429
Totals	152,787		28,967

Notes:
sf = square feet
ft = feet (below ground surface)
cy = cubic yards

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ERRG

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LOCATION: RAMONA BURN DUMP SITE CLEVELAND NATIONAL FOREST RAMONA, CALIFORNIA

WASTE EXTENT AND VOLUMES

DRAWN BY	CHECKED BY	PROJECT NO	FIG NO
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