

**STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL**

In the Matter of:)	Docket No. HSA-RAO 06-07-150
)	
Georgia-Pacific Corporation –)	
Fort Bragg Sawmill)	SITE INVESTIGATION AND
90 West Redwood Avenue)	REMEDICATION ORDER
Fort Bragg, California)	
Mendocino County)	
)	
Respondent:)	
)	
Georgia-Pacific Corporation)	Health and Safety Code
P.O. Box 105605)	Sections 25355.5(a)(1)(B),
Atlanta, GA 30348-5605.)	25358.3(a), 58009 and 58010
)	

I. INTRODUCTION

1.1 Parties. The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) issues this Site Investigation and Remediation Order (Order) to Georgia-Pacific Corporation, a Georgia corporation doing business in California (Respondent) and whose corporate headquarters address is 133 Peachtree Street, NE, Atlanta, Georgia 30303-1808.

1.2 Property/Site. This Order applies to the property located at 90 West Redwood Avenue, Fort Bragg, Mendocino County, California 95437. The property consists of approximately 415 acres and is identified by Mendocino County Assessor's Parcel numbers (APNs) 008-010-26-00, 008-020-09, 008-053-32, 008-053-33, 008-053-34-00, 008-151-22, 008-161-08, 018-010-67-00, 018-020-01, 018-030-42-00, 018-040-52-00, 018-120-43, 018-120-44, 018-430-01-00, 018-430-02-00, 018-430-07-00, and 018-430-08-00. A map showing the Property and site location is attached as Exhibit A. This Order applies to the property and the areal extent of contamination that resulted from activities on the property (hereinafter, the "Site").

1.3 Permitting Status. No permits from DTSC currently exist for the property located at 90 West Redwood Avenue, Fort Bragg, Mendocino County, California 95437.

1.4 Jurisdiction. This Order is issued by DTSC to Respondent pursuant to its authority under Health and Safety Code sections 25358.3(a), 25355.5(a)(1)(B), 58009 and 58010.

Health and Safety Code section 25358.3(a) authorizes DTSC to take various

actions, including issuance of an order, upon DTSC's making certain determinations because of a release or a threatened release of a hazardous substance.

Health and Safety Code section 25355.5(a)(1)(B) authorizes DTSC to issue an order establishing a schedule for removing or remedying a release of a hazardous substance at a site, or for correcting the conditions that threaten the release of a hazardous substance. The order may include, but is not limited to requiring specific dates by which the nature and extent of a release shall be determined and the site adequately characterized, a remedial action plan prepared and submitted to DTSC for approval, and a removal or remedial action completed.

Health and Safety Code section 58009 authorizes DTSC to commence and maintain all proper and necessary actions and proceedings to enforce its rules and regulations; to enjoin and abate nuisances related to matters within its jurisdiction which are dangerous to health; to compel the performance of any act specifically enjoined upon any person, officer, or board, by any law of this state relating to matters within its jurisdiction; and/or on matters within its jurisdiction, to protect and preserve the public health.

Health and Safety Code section 58010 authorizes DTSC to abate public nuisances related to matters within its jurisdiction.

1.5 Polanco Act Process. On January 8, 2007, the City of Fort Bragg Redevelopment Agency adopted Resolution No. R131-2007, authorizing the use of the Polanco Act (California Health and Safety Code sections 33459-33459.8) for the project area. The project area is a portion of the Site. DTSC will serve as the environmental oversight agency for the City of Fort Bragg Redevelopment Agency's remediation of the project area.

II. FINDINGS OF FACT

DTSC hereby finds:

2.1 Liability of Respondent. Respondent is a responsible party or liable person as defined in Health and Safety Code section 25323.5. Georgia-Pacific Corporation owns the property, and has owned the property since 1973. Respondent operated a lumber production facility onsite from 1973 until 2002.

2.2 Physical Description of Site. The Respondent's Fort Bragg Sawmill Facility is located along the coastline in the city of Fort Bragg, Mendocino County, California (Exhibit A). The Site is approximately 415 acres and is located west of Highway One. Noyo Bay is the southern boundary. Open coastline lies to the north, the city of Fort Bragg to the east, and the Pacific Ocean to the west. Exhibit B is a map of the Facility Layout with Building and Pond Locations. Exhibit C is a map of the Respondent facility layout with the Operable Unit designations. DTSC has divided the Site into Operable Units (OUs) as follows:

2.2.1 Upland Zone (OU1): OU1 is the elevated land beginning from the inland edge of the Coastal Trail and Parkland Zone (OU-A described below) and moving inland. The majority of historic sawmill facility operations occurred within OU1. OU1 may be further divided to address specific contaminants or remedial concerns. OU1 is currently subdivided into "offsite" non-industrial (OU-B), northern (OU-C), southern (OU-D), and ponds / park (OU-E). The "offsite" non-industrial portion of the Site (OU-B) will be evaluated as three separate units that will be subject to an evaluation in accordance with the requirements set forth in the All Appropriate Inquires Final Rule (ASTM E1527-05). The Upland Zone means the following APNs: 008-010-26-00, 008-020-09, 008-053-32, 008-053-33, 008-053-34-00, 008-151-22, 008-161-08, 018-010-67-00, 018-020-01, 018-030-42-00, 018-040-52-00, 018-120-43, 018-120-44, 018-430-01-00, 018-430-02-00, 018-430-07-00, and 018-430-08-00.

2.2.2 Coastal Trail and Parkland Zone (OU-A) means an approximately 100 to 110-foot pathway that traverses portions of the following APNs primarily along the top of the coastal bluff: 008-010-26-00, 008-020-09, 018-430-01-0-0, 018-430-02-00, 018-430-07-00, and 018-120-44. In addition, OU2 includes an approximately 30-acre parkland area located within the western portions of APNs 018-430-01-0-0 and 018-430-02-00. This zone also includes the coastal cliffs. On October 13, 2006, DTSC observed vestiges of the historic burn pits and illegal burn dumps from onsite operations on the vertical cliff surfaces.

2.3 Site History. The sawmill at Fort Bragg began operations in 1885. The northern portion of the current property was owned by Union Lumber Company until title was transferred to Boise Cascade Lumber Company in 1969, and then to Respondent in 1973. Over the course of the 117 years of operations, the facility expanded to the current 415 acres. On August 8, 2002, lumber production operations ceased. Prior to the plant closure, logs were received, unloaded, and stored in the log storage areas. Logs were then removed from inventory, debarked, and milled. Milled lumber was then shipped green, kiln dried, or air dried on site. Finished lumber was transported by rail or flatbed trailers. Bark and wood refuse were transported by truck, conveyer, or pneumatic system to the power plant where they were burned to generate steam for electricity. Historically, the facility operations were conducted in the sawmills, planer buildings, a fence plant, a power plant, lumber storage areas, and various maintenance facilities.

2.4 Hazardous Substances Found at the Site. Highest Hazardous Substance Levels Found at Respondent Fort Bragg Sawmill Site: 2003-2006 (Exhibit D) lists the highest reported soil and groundwater contaminant concentrations detected onsite to date.

2.4.1 Ecology & Environment, Inc., completed a Preliminary Assessment Report (PA Report) under USEPA oversight in 1989. The PA report described wastewater sampling from a hydraulic debarker onsite in 1983 that contained up to 0.75 parts per million of cyanide (15 times the allowable limit permitted in the Regional Water Quality Control Board's Waste Discharge Requirements for the Site).

2.4.2 TRC completed A Phase II Environmental Site Assessment Report on behalf of Respondent in May 2004. Contaminant levels detected in soil include lead up to 320 milligrams per kilogram of soil (mg/kg) and diesel-range petroleum hydrocarbons (TPH-diesel) up to 6800 mg/kg. Contaminant levels detected in groundwater include tetrachloroethene (PCE) up to 10 micrograms per liter ($\mu\text{g/L}$), trichloroethylene (TCE) up to 7.0 $\mu\text{g/L}$, and antimony up to 130 $\mu\text{g/L}$.

2.4.3 TRC completed a Site Assessment Report on behalf of Respondent in October 2004. Contaminant levels detected in soil include lead up to 400 mg/kg, and diesel-range petroleum hydrocarbons (TPH-Diesel) up to 24,000 mg/kg.

2.4.4 Acton Mickelson Environmental, Inc., completed a Dioxin Sampling and Analysis Report on behalf of Respondent in July 2006. Contaminant levels detected include dioxins up to 16.6 picograms per gram of soil (pg/g) in soil, 991 pg/g in ash stockpile samples, 1730 pg/g in pond sediments, and 14.02 picograms per liter (pg/L) in groundwater.

2.4.5 A Data Transmittal Report was completed August 14, 2006. Contaminant levels detected in soil include motor oil range petroleum hydrocarbons (TPH-Motor Oil) up to 10,000 mg/kg, benzo(a)anthracene up to 13 mg/kg, benzo(a)pyrene up to 18 mg/kg, benzo(b)fluoranthene up to 27 mg/kg, benzo(k)fluoranthene up to 17 mg/kg, lead up to 4,200 mg/kg, and antimony up to 1,300 mg/kg. Contaminant levels detected in groundwater include diesel range petroleum hydrocarbons up to 3.3E+06 $\mu\text{g/L}$, benzene up to 5.6 $\mu\text{g/L}$, toluene up to 11 $\mu\text{g/L}$, 1,1-dichloroethane up to 47 $\mu\text{g/L}$, cis-1,2-dichloroethylene up to 15 $\mu\text{g/L}$, tetrachloroethylene (PCE) up to 8.8 $\mu\text{g/L}$, and trichloroethylene (TCE) up to 12 $\mu\text{g/L}$.

2.5 Health Effects. The health effects of the hazardous substances listed in Section 2.4 are described further in Exhibit E. Summaries are based on Toxicological Profiles published in April 2003 by the U.S. Department of Health and Human Services' Agency for Toxic Substances and Disease Registry (ATSDR) and on the Pocket Guide to Chemical Hazards published by the National Institute for Occupational Safety and Health (NIOSH) in October 2003.

2.6 Routes of Exposure.

2.6.1 People working at the Site could be exposed to contaminants via dermal contact or via inhalation of volatile or dust-borne contaminants. Field activities could expose workers, nearby residents and/or business employees to contamination via dermal contact or via inhalation of contaminants either from soil or groundwater.

2.6.2 Contaminated groundwater, sediments, or surface water runoff may migrate off the property and into the Pacific Ocean. Sensitive species may be exposed to contaminants via contact, inhalation, and/or ingestion of contaminated water and/or plants.

2.7 Public Health and/or Environmental Risk.

2.7.1 The public potentially at risk includes those people who work at or visit the Site and persons who otherwise come in contact with, inhale or ingest contaminated air,

soil, sediments, or groundwater. People who could come into contact with contamination at the Site include people working at adjacent businesses and recreational users who come onto the properties. Access is restricted by fencing and a security guard at the public entrance, so that only employees and authorized visitors are permitted on-site. Transients are also known to trespass onto this Site and could come in direct contact with contamination. On-site groundwater is not used as drinking water.

2.7.2 The property includes a series of ponds (nine total) which ultimately discharge into the Pacific Ocean (Exhibit B). Four of the ponds were used for wastewater management, two served as fire protection ponds, and the remaining three ponds were generally used as a water source to assist with onsite lumber milling operations and for storm water collection purposes.

Ponds 1 through 4 were treatment settling ponds that received scrubber water from three onsite boilers in the Powerhouse. Boiler scrubber water generated from wet scrubbers that controlled fly ash emissions from burning sawdust and hog fuel used to heat the boilers between the mid-1970s to 1996. Water from Pond 1 flowed into Pond 2, and then Pond 3, where the water was then piped underground to Pond 8. Pond 2 also served as a fire protection pond for the south end of the plant. Pond 4 was installed later (approximately 1996) to increase treatment retention time in order to meet cyanide discharge requirements, and its overflow water feeds into Pond 1. Pond 5 receives water from Pudding Creek (as does Pond 9) and was also used as makeup water for the Powerhouse as needed. Pond 6 is a storm water collection pond, and has a pipe connecting it to Pond 7. Pond 6 also discharges out to the beach and into ocean. Pond 7 was connected directly into the boiler blow-down wastewater stream. Pond 7 received boiler blow-down water and wash water from the Powerhouse that did not evaporate on the dewatering slabs, and is equipped with a pumping station that took water to Pond 1. Pond 8 is the large onsite log pond. Water was taken from this pond to feed the hydraulic debarker. Pond 8 also receives storm water from the City of Fort Bragg via 2 pipes coming in from the east side (approximately 40% of city's storm water). Alder Creek was routed to Pond 8 as well. Pond 8 water eventually flows out over a dam, across the beach, and into the Pacific Ocean. Pond 9 is another firewater pond used as the fire protection system for the north end of the plant whose water originates from Pudding Creek.

The potential exists for contamination from the upland areas to discharge via groundwater or surface water runoff. The risk to the environment includes sensitive species (which may include threatened or endangered species) that may reside on the Site.

III. CONCLUSIONS OF LAW

3.1 Respondent is a responsible party as defined by Health and Safety Code section 25323.5.

3.2 Each of the substances listed in Section 2.4 is a "hazardous substance" as defined in Health and Safety Code section 25316.

3.3 There has been a "release" and/or there is a "threatened release" of hazardous substances listed in Section 2.4 at the Site, as defined in Health and Safety

Code section 25320.

3.4 The actual and threatened release of hazardous substances at the Site may present the conditions set forth in Health and Safety Code section 25358.3(a).

3.5 Response action is necessary to abate a public nuisance and/or to protect and preserve the public health.

IV. DETERMINATION

4.1 Based on the foregoing findings of fact and conclusions of law, DTSC hereby determines that there has been a release and/or there is a threatened release of a hazardous substance at the Site presenting the conditions set forth in Health and Safety Code section 25358.3(a).

4.2 Based on the foregoing findings of fact and conclusions of law, DTSC hereby determines that response action is necessary at the Site because of the release and/or the threatened release of the hazardous substances at the Site.

V. ORDER

Based on the foregoing FINDINGS, CONCLUSIONS, AND DETERMINATION, IT IS HEREBY ORDERED THAT Respondent conduct the following response actions in the manner specified herein, and in accordance with a schedule specified by DTSC as follows:

5.1 All response actions taken pursuant to this Order shall be consistent with the requirements of Chapter 6.8 (commencing with section 25300), Division 20 of the Health and Safety Code and any other applicable state or federal statutes and regulations including but not limited to existing permits for the Facility.

5.1.1 Site Remediation Strategy. The purpose of this Order is to require for the Site: implementation of any appropriate removal actions, completion of a Remedial Investigation (RI), preparation of a baseline human health and Ecological Risk Assessment, preparation of a Feasibility Study (FS), Remedial Action Plan (RAP) or Removal Action Workplan (RAW), preparation of California Environmental Quality Act (CEQA) documents, and Design and Implementation of the remedial actions approved in the RAP or RAW. An overall Site investigation and remediation strategy shall be developed by Respondent in conjunction with DTSC that reflects program goals, objectives, and requirements. Current Site information (memorialized in the Current Condition Report, as further detailed in Section 5.2) regarding contamination sources, exposure pathways, and receptors shall be used in developing this strategy.

An objective of the Site investigations shall be to identify immediate or potential risks to public health and the environment and prioritize and implement response actions using removal actions and operable units, if appropriate, based on the relative risks at the Site. Respondent and DTSC shall develop and possibly modify Site priorities throughout the course of the investigations. If necessary for the protection of

public health and the environment, DTSC will require additional response actions not specified in this Order to be performed as removal actions or separate operable units. Removal actions shall be implemented in accordance with a workplan and implementation schedule submitted by Respondent and approved by DTSC.

For operable unit remedial actions, DTSC will specify the separate and focused remedial phase activities to be conducted as RI/FS, RAP or RAW, Design, and Implementation. The focused activities shall be conducted in accordance with the corresponding remedial phase requirements specified in this Order, but shall only address the area or problem of the operable unit.

5.1.2 Remedial Action Objectives. Based on available information, DTSC has preliminarily determined that the remedial action objectives for the Site shall include:

(a) Existing and potential beneficial uses of groundwater shall be protected. The Regional Water Quality Control Board Basin Plan identifies public water supply as a beneficial use of this aquifer. Therefore, drinking water standards or more conservative values determined by a Risk Assessment shall be remedial action objectives for this Site.

(b) The reasonably foreseeable future land uses of the Site include single family residential, multi-unit residential, mixed-use, commercial, and public park. A public process is currently underway to determine future uses of the project area. Prior to the conclusion of this process, remedial action objectives for contaminated media shall be developed which are protective of flora and fauna in an ecological exposure scenario, as well as adults and children in a residential exposure scenario.

(c) Ecological objectives for seasonal marshes, temporary pools in grassland areas, and the former mill pond area onsite.

5.1.3 Fence and Posting Warning Signs.

1) Within five (5) days of the effective date of this Order, Respondent shall fence and install signs that are visible from the area surrounding the Site and posted at each route of entry into the Site, including those routes likely to be used by unauthorized persons. Such routes of entry include: access roads leading to the Site, and Pacific Ocean shoreline access (including the Soldier Bay, Noyo Bay, and Glass Beach shoreline entry from adjacent MacKerricher State Park to the north and Ocean Front Park to the south) which may provide a route of access to the Site. Signage as to the hazardous conditions onsite shall be posted, at a minimum, in the following locations:

(a) northeast, northwest, and southeast corners of the Respondent property,

(b) all access roads and gated entrances leading to the Site, and

(c) signs posted in all locations along the coastal bluff where historic access to the Site has been known to occur.

A Site Layout map with the minimum posting location requirements is presented in Exhibit F.

2) The signs and fencing shall be constructed of materials able to withstand the elements and shall be continuously maintained for as long as DTSC determines it to be necessary in order to protect public health and safety and the environment. Signs shall be posted with lettering legible from a distance of at least 25 feet and shall state:

CAUTION!
HAZARDOUS SUBSTANCE AREA
UNAUTHORIZED PERSONS KEEP OUT
¡CUIDADO!
ZONA DE RESIDUOS PELIGROSOS
PROHIBIDA LA ENTRADA A
PERSONAS NO AUTORIZADAS
For additional information, contact the
Department of Toxic Substances Control at
(510) 540-2122

5.1.4 Groundwater, Surface Water, and Storm Water Monitoring. Respondent has been conducting onsite groundwater monitoring on a quarterly basis since 2004. However, a comprehensive groundwater, surface water, and storm water monitoring plan has not been submitted to date. Therefore, Respondent shall prepare and submit to DTSC for review and approval a Comprehensive Monitoring Plan within 45 days of the effective date of this Order that describe these ongoing monitoring activities. The Comprehensive Monitoring Plan must include groundwater, surface water, and storm water sampling plans presented as separate stand-alone sections of the document. Sampling schedules, analyses, collection, and reporting procedures must be approved by DTSC and implemented until such times as DTSC amends these requirements. Copies of reports submitted in compliance with these requirements must be sent concurrently to the North Coast Regional Water Quality Control Board and to DTSC. Subsequent groundwater, surface water, and storm water monitoring shall be conducted until DTSC determines it is appropriate to terminate sampling.

5.1.5 Air Monitoring. Respondent shall perform air monitoring activities as required and specified by DTSC during any future remediation activities that may be required.

5.1.6 Site Remediation Strategy Meeting. Respondent, including the Project Coordinator (Section 6.1) and Project Engineer/Geologist (Section 6.2), shall meet with DTSC within 20 days from the effective date of this Order. These discussions will include prior Site investigations and remedial activities, Site risks and priorities; project planning, phasing and scheduling, further remedial activities, remedial action objectives, remedial technologies, and data quality objectives. Results of the discussions will be included in the Current Conditions Report, Section 5.2 of this Order.

5.2 Current Site Conditions. DTSC acknowledges that activities have occurred under the oversight of the North Coast Regional Water Quality Control Board. Previous investigations and removal actions were conducted in phases and address

different portions of the Site. Respondent prepared and DTSC received a Current Site Conditions Report on December 11, 2006. The Current Site Conditions Report evaluated the Coastal Trail and Parkland (OU-A), northern (OU-C), southern (OU-D) and ponds / park (OU-E) Operable Units. DTSC will review of the Current Site Conditions Report, and may require additional information or tasks for any operable unit.

5.2.1 The objectives of the Current Site Conditions Report were to:

- (a) Provide historical information regarding previous uses of the site, including the use, storage, disposal, and release of hazardous substances.
- (b) Determine the nature and full extent of hazardous substance contamination of air, soil, surface water, and groundwater at the Site.
- (c) Identify all actual and potential exposure pathways and routes through environmental media; and
- (d) Determine the magnitude and probability of actual or potential harm to public health, safety, or welfare or to the environment posed by the threatened or actual release of hazardous substances at or from the Site.

5.2.2 Current Site Conditions Report – Content. The Respondent's Current Site Conditions Report must:

- (a) summarize all investigations conducted at the Site to date;
- (b) summarize all removal and remedial actions taken to date;
- (c) provide an inventory of chemicals used on the Site (by name and volume) and identifies all pollution sources on the Site, including chemical storage areas, sumps, underground tanks, utility lines, process lines, and related facilities;
- (d) identify surface and subsurface human-made conduits at the Site that may allow contaminants to migrate laterally off the site or vertically into deeper aquifers;
- (e) compile data collected in previous investigations, along with all removal and remedial actions taken to date, to provide a comprehensive summary of current conditions at the Site;
- (f) include figures that:
 - (1) identify all sample locations along with the type of chemical analysis (e.g., metals, PCBs, VOCs, etc.) identified in a pie chart for each sample location;
 - (2) compare sample concentrations to residential, commercial, recreational and/or ecological screening levels (depending on current and anticipated future use of the area) or appropriate background values for surface and samples collected at depth;
 - (3) identify all areas that were previously excavated (on a single map) that can be overlain on the figures prepared for (2) above; and
 - (4) identify confirmation sample data for all excavated areas.
- (g) identify all response actions required under the RWQCB's Order that may have not been completed;
- (h) identify data gaps taking into account all reasonably foreseeable land

uses,

- (i) identify potentially suitable remedial technologies and recommendations for treatability studies, if applicable; and
- (j) provide historical information regarding previous uses of the Site.

5.2.3 All Appropriate Inquiry Assessments. Within ninety (90) days of the effective date of this Order, Respondent shall submit environmental assessment reports for the “offsite” non-industrial portions of the Site (OU-B) that will be subject to an evaluation in accordance with the requirements set forth in the All Appropriate Inquires Final Rule (ASTM E1527-05). Based on the results of the environmental assessment, DTSC will determine if additional field sampling in OU-B will be necessary.

5.3 Field Sampling

5.3.1 Field Sampling Workplan. Within thirty (30) days of the date of DTSC’s request, Respondent shall prepare and submit to DTSC for review and approval a detailed Workplan and implementation schedule that addresses data gaps identified in the DTSC-approved Current Site Conditions Report. The workplan shall include all the sections and address each component listed below.

- (a) The Field Sampling Plan, if applicable, shall include:
 - (1) Sampling objectives, including a brief description of data gaps and how the field sampling plan will address these gaps;
 - (2) Sample locations, including a map showing these locations, and proposed frequency;
 - (3) Sample designation or numbering system;
 - (4) Detailed specification of sampling equipment and procedures;
 - (5) Sample handling and analysis including preservation methods, shipping requirements and holding times; and
 - (6) Management plan for wastes generated.

- (b) Quality Assurance Project Plan (QAPP). The plan shall include:
 - (1) Project organization and responsibilities with respect to sampling and analysis;
 - (2) Quality assurance objectives for measurement including accuracy, precision, and method detection limits. In selecting analytical methods, Respondent shall consider obtaining detection limits at or below potentially applicable legal requirements or relevant and appropriate standards, such as Maximum Contaminant Levels (MCLs) or Maximum Contaminant Level Goals (MCLGs);
 - (3) Sampling procedures;
 - (4) Sample custody procedures and documentation;
 - (5) Field and laboratory calibration procedures;
 - (6) Analytical procedures;
 - (7) Laboratory to be used certified pursuant to Health and Safety Code section 25198;

- (8) Specific routine procedures used to assess data (precision, accuracy, and completeness) and response actions;
- (9) Reporting procedure for measurement of system performance and data quality;
- (10) Data management, data reduction, validation, and reporting. Information shall be accessible to downloading into DTSC's system; and
- (11) Internal quality control.

(c) Health and Safety Plan. A site-specific Health and Safety Plan shall be prepared in accordance with federal (29 CFR 1910.120) and state (Title 8 CCR Section 5192) regulations. This plan should include, at a minimum, the following elements:

- (1) Site Background/History/Workplan;
- (2) Key Personnel and Responsibilities
- (3) Job Hazard Analysis/Summary;
- (4) Employee Training;
- (5) Personal Protection;
- (6) Medical Surveillance;
- (7) Air Surveillance;
- (8) Site Control;
- (9) Decontamination;
- (10) Contingency Planning;
- (11) Confined Space Operations;
- (12) Spill Containment;
- (13) Sanitation;
- (14) Illumination; and
- (15) Other applicable requirements based on the work to be performed.

DTSC's *Interim Draft Site Specific Health and Safety Plan Guidance Document for Site Assessment/Investigation, Site Mitigation Projects, Hazardous Waste Site Work Closure, Post Closure, and Operation and Maintenance Activities* (DTSC, December 2000) can be used as a reference tool.

All contractors and all subcontractors shall be given a copy of the Health and Safety Plan prior to entering the Site. Any supplemental health and safety plans prepared by any subcontractor shall also be prepared in accordance with the regulations and guidance identified above. The prime contractor will be responsible for ensuring that all subcontractor supplemental health and safety plans will follow these regulations and guidelines.

(d) Other Activities. A description of any other significant activities, which are appropriate to address data gaps and information needed so that a baseline risk assessment can be prepared, shall be included.

(e) Schedule. A schedule, which provides specific time frames and dates for completion of each activity and report conducted or submitted under the Field

Sampling Workplan including the schedules for removal actions and operable unit activities.

5.3.2 Field Sampling Implementation. Respondent shall implement the approved field sampling Workplan per the approved schedule found in the Field Sampling Workplan.

5.4 Remedial Investigation (RI) Report. The results of the Field Sampling Workplan shall be prepared and submitted within 45 days of the completion of 5.3.2. This report will serve as the Final Remedial Investigation (RI) Report for the Site. The RI may be performed as a series of focused RIs, if appropriate, based on Site priorities. The purpose of the RI is to collect data necessary to adequately characterize the Site for the purposes of defining risks to public health and the environment and developing and evaluating effective remedial alternatives for foreseeable land uses. Site characterization may be conducted in one or more phases to focus sampling efforts and increase the efficiency of the investigation. Respondent shall identify the sources of contamination and define the nature, extent, and volume of the contamination. Using this information, the contaminant fate and transport shall be evaluated. The RI Report shall contain:

- (a) Site Physical Characteristics. Data on the physical characteristics of the Site and surrounding area shall be collected to the extent necessary to define potential transport pathways and receptor populations and to provide sufficient engineering data for development and screening of remedial action alternatives.
- (b) Sources of Contamination. Contamination sources (including heavily contaminated media) shall be defined. The data shall include the source locations, type of contaminant, waste characteristics, and Site features related to contaminant migration and human exposure.
- (c) Nature and Extent of Contamination. Contaminants shall be identified and the horizontal and vertical extent of contamination shall be defined in soil, groundwater, surface water, sediment, air, and biota. Spatial and temporal trends and the fate and transport of contamination shall be evaluated.

5.5 Interim Removal Actions. Respondent shall undertake removal actions if, during the course of the RI or FS, DTSC determines that they are necessary to mitigate the release of hazardous substances at or emanating from the Site. DTSC may require Respondent to submit a removal action workplan that includes a schedule for implementing the workplan for DTSC's approval. Either DTSC or Respondent may identify the need for interim removal actions.

5.6 Baseline Health and Ecological Risk Assessment. Within 45 days of the submission of the Final RI Report, Respondent shall perform health and ecological (if applicable) risk assessments for the Site that meet the requirements of Health and Safety Code section 25356.1.5(b). Respondent shall submit a Baseline Health and Ecological Risk Assessment Report. The report shall be prepared consistent with U.S. EPA and California Environmental Protection Agency guidance and regulations, including as a minimum: Risk Assessment Guidance for Superfund, Volume 1; Human

Health Evaluation Manual, December 1989; Superfund Exposure Assessment Manual, April 1988; Risk Assessment Guidance for Superfund, Volume 2, Environmental Evaluation Manual, March 1989; Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities (DTSC, September 1993); and all other related or relevant policies, practices and guidelines of the California Environmental Protection Agency and policies, practices and guidelines developed by U.S.EPA pursuant to 40 CFR 300.400 et seq. The Baseline Health and Ecological Risk Assessment Report shall include the following components:

- (a) Contaminant Identification. Characterization data shall identify contaminants of concern for the risk assessment process.
- (b) Environmental Evaluation. An ecological assessment consisting of:
 - (1) Identification of sensitive environments and rare, threatened, or endangered species and their habitats; and
 - (2) As appropriate, ecological investigations to assess the actual or potential effects on the environment and/or develop remediation criteria.
- (c) Exposure Assessment. The objectives of an exposure assessment are to identify actual or potential exposure pathways, to characterize the potentially exposed populations that are likely to come into contact with contaminants at the Site, and to determine the extent of the exposure. Exposed populations may include industrial workers, residents, and subgroups that comprise a meaningful portion of the general population, including, but not limited to, infants, children, pregnant women, the elderly, individuals with a history of serious illness, or other subpopulations, that are identifiable as being at greater risk of adverse health effects due to exposure to hazardous substances than the general population.
- (d) Toxicity Assessment. Respondent shall evaluate the types of adverse health or environmental effects associated with individual and multiple chemical exposures; the relationship between magnitude of exposures and adverse effects; and related uncertainties such as the weight of evidence for a chemical's potential carcinogenicity in humans.
- (e) Risk Characterization. Risk characterization shall include the potential risks of adverse health or environmental effects for each of the exposure scenarios derived in the exposure assessment.

5.7 Feasibility Study (FS) Report. Respondent shall prepare and submit a FS Report to DTSC for review and approval. The FS Report shall be submitted no later than 60 days after DTSC's approval of the Final RI Report. The FS Report shall summarize the results of the FS including the following:

- (a) Documentation of all treatability studies conducted.
- (b) Development of medium specific or operable unit specific remedial action objectives, including legal requirements and other promulgated standards that are relevant.
- (c) Identification of screening of general response actions, remedial technologies, and process options on a medium and/or operable unit specific basis.
- (d) Evaluation of alternatives based on the criteria contained in the NCP

including:

Threshold Criteria:

- (1) Overall protection of human health and the environment.
- (2) Compliance with legal requirements and other promulgated standards that are relevant.

Primary Balancing Criteria:

- (1) Long-term effectiveness and permanence.
- (2) Reduction of toxicity, mobility, or volume through treatment.
- (3) Short-term effectiveness.
- (4) Implementability based on technical and administrative feasibility.
- (5) Cost.

Modifying Criteria:

- (1) State and local agency acceptance.
 - (2) Community acceptance.
- (e) Proposed remedial actions.

5.8 Treatability Studies. Treatability testing will be performed by Respondent if requested by DTSC to develop data for detailed remedial alternatives. Treatability testing is required to demonstrate the implementability and effectiveness of technologies, unless Respondent can show DTSC that similar data or documentation or information exists. The required deliverables are: a workplan, a sampling and analysis plan, and a treatability evaluation report. To the extent practicable, treatability studies will be proposed and implemented during the latter part of Site characterization.

5.9 California Environmental Quality Act (CEQA). DTSC will comply with CEQA for all activities required by this Order that are projects subject to CEQA. Upon DTSC request, Respondent shall provide DTSC with any information that DTSC deems necessary to facilitate compliance with CEQA. The costs incurred by DTSC in complying with CEQA are response costs and Respondent shall reimburse DTSC for such costs pursuant to Section 6.18. The City of Fort Bragg may be the lead agency to the extent that CEQA activities at the Site are combined with the CEQA activities for the City's specific plan for the project area.

5.10 Removal Action Workplan (RAW). If DTSC determines a removal action is appropriate, Respondent will prepare and submit no later than forty-five (45) days after DTSC's approval of the FS, a draft Removal Action Workplan (RAW) in accordance with Health and Safety Code sections 25323.1 and 25356.1. The Removal Action Workplan will include:

- (a) A description of the onsite contamination;

- (b) The goals to be achieved by the removal action;
- (c) An analysis of the alternative options considered and rejected and the basis for that rejection. This should include a discussion for each alternative which covers its effectiveness, implementability and cost;
- (d) Administrative record list;
- (e) A description of the techniques and methods to be used in the removal action, including any excavating, storing, handling, transporting, treating, and disposing of material on or off the site;
- (f) Sampling and Analysis Plan with corresponding Quality Assurance Plan to confirm the effectiveness of the RAW, if applicable;
- (g) A brief overall description of methods that will be employed during the removal action to ensure the health and safety of workers and the public during the removal action. A detailed community air monitoring plan shall be included if requested by DTSC.

In conjunction with DTSC, Respondent shall implement the public review process specified in DTSC's Public Participation Policy and Guidance Manual and Public Participation Plan. DTSC will prepare a response to the public comments received. If required, the Respondent shall submit within fifteen (15) days of the request the information necessary for DTSC to prepare this document.

Following DTSC's finalization of the Responsiveness Summary, DTSC will specify any changes to be made in the RAW. Respondent shall modify the document in accordance with DTSC's specifications and submit a final RAW within 15 days of receipt of DTSC's comments.

If the proposed removal action does not meet the requirements of Health and Safety Code section 25356.1(h), the Respondent will prepare a Remedial Action Plan (RAP) in accordance with Health and Safety Code section 25356.1(c) for DTSC review and approval.

5.11 Remedial Action Plan (RAP). No later than sixty (60) days after DTSC approval of the FS Report, Respondent shall prepare and submit to DTSC a draft RAP. The draft RAP shall be consistent with the NCP and Health and Safety Code section 25356.1. The draft RAP public review process may be combined with that of any other documents required by CEQA. The draft RAP shall be based on and summarize the approved RI/FS Reports, and shall clearly set forth:

- (a) Health and safety risks posed by the conditions at the Site.
- (b) The effect of contamination or pollution levels upon present, future, and probable beneficial uses of contaminated, polluted, or threatened resources.
- (c) The effect of alternative remedial action measures on the reasonable availability of groundwater resources for present, future, and probable beneficial uses.

- (d) Site specific characteristics, including the potential for offsite migration of hazardous substances, the surface or subsurface soil, and the hydrogeologic conditions, as well as preexisting background contamination levels.
- (e) Cost-effectiveness of alternative remedial action measures. Land disposal shall not be deemed the most cost-effective measure merely because of lower short-term cost.
- (f) The potential environmental impacts of alternative remedial action measures, including, but not limited to, land disposal of the untreated hazardous substances as opposed to treatment of the hazardous substances to remove or reduce their volume, toxicity, or mobility prior to disposal.
- (g) A statement of reasons setting forth the basis for the removal and remedial actions selected. The statement shall include an evaluation of each proposed alternative submitted and evaluate the consistency of the removal and remedial actions proposed by the plan with the NCP.
- (h) A schedule for implementation of all proposed removal and remedial actions.

In conjunction with DTSC, Respondent shall implement the public review process specified in DTSC's Public Participation Policy and Guidance Manual. DTSC will prepare a response to the public comments received. If required, the Respondent shall submit within two (2) weeks of the request the information necessary for DTSC to prepare this document

Following DTSC's finalization of the Responsiveness Summary, DTSC will specify any changes to be made in the RAP. Respondent shall modify the document in accordance with DTSC's specifications and submit a final RAP within fifteen (15) days of receipt of DTSC's comments.

5.12 Remedial Design Implementation Plans (RDIPs). After DTSC approval of the final RAP, Respondent shall submit to DTSC for review and approval within sixty (60) days of a request by DTSC or prior to implementing activities under the RAP, a RDIP describing in detail the technical and operational plans for implementation of the final RAP or portion thereof which includes the following elements, as applicable:

- (a) Design criteria, process unit and pipe sizing calculations, process diagrams, and final plans and specifications for facilities to be constructed.
- (b) Description of equipment used to excavate, handle, and transport contaminated material.
- (c) A field sampling and laboratory analysis plan addressing sampling during implementation and to confirm achievement of the performance objectives of the RAP.

- (d) A transportation plan identifying routes of travel and final destination of wastes generated and disposed.
- (e) For groundwater extraction systems: aquifer test results, capture zone calculations, specifications for extraction and performance monitoring wells, and a plan to demonstrate that capture is achieved.
- (f) An updated health and safety plan addressing the implementation activities.
- (g) Identification of any necessary permits and agreements.
- (h) An operation and maintenance plan including any required monitoring.
- (i) A detailed schedule for implementation of the remedial action consistent with the schedule contained in the approved RAP including procurement, mobilization, construction phasing, sampling, facility startup, and testing.
- (j) A community Air Monitoring Plan.

5.13 Public Participation Plan (Community Relations). Respondent shall work cooperatively with DTSC in providing an opportunity for meaningful public participation in response actions. Any such public participation activities shall be conducted in accordance with H&SC §§ 25356.1 and 25358.7 and DTSC's most current Public Participation Policy and Guidance Manual, and shall be subject to DTSC's review and approval.

DTSC is currently is conducting the community survey to develop a Public Participation Plan (PPP). The PPP describes how, under this Order, the public and adjoining community will be kept informed of activities conducted at the Site and how Respondent will be responding to inquiries from concerned citizens. Major steps in developing a PPP are as follows:

- (a) Develop proposed list of interviewees;
- (b) Schedule and conduct community interviews; and
- (c) Analyze interview notes, and develop objectives.

Respondent shall implement any of the public participation support activities identified in the PPP, at the request of DTSC. DTSC retains the right to implement any of these activities independently. These activities include, but are not limited to, development and distribution of fact sheets; public meeting preparations; and development and placement of public notices.

5.14 Land Use Covenant. If the approved remedy in the final RAP includes land use covenants or land use restrictions, pursuant to California Code of Regulations, title 22, section 67391.1, the current owner(s) of the Site shall sign and record land use covenants approved by DTSC within ninety (90) days of DTSC's approval of the final RAP.

5.15 Implementation of Final RAP or Final RAW. Upon DTSC approval of the

RDIP or final RAW, Respondent shall implement the final RAP or final RAW in accordance with the approved schedule in the RDIP or final RAW. Within forty-five (45) days of completion of field activities, Respondent shall submit an Implementation Report documenting the implementation of the Final RAP and RDIP or final RAW.

5.16 Operation and Maintenance (O&M). Respondent shall comply with all O&M requirements in accordance with the final RAP and approved RDIP. Within thirty (30) days of the date of DTSC's request, Respondent shall prepare and submit to DTSC for approval an O&M plan that includes an implementation schedule. Respondent shall implement the plan in accordance with the approved schedule.

5.17 Five-Year Review. Respondent shall review and reevaluate the remedial action after a period of five (5) years from the completion of construction and startup, and every five years thereafter. The review and reevaluation shall be conducted to determine if human health and the environment are being protected by the remedial action. Within thirty (30) calendar days before the end of the time period approved by DTSC to review and reevaluate the remedial action, Respondent shall submit a remedial action review workplan to DTSC for review and approval. Within sixty (60) days of DTSC's approval of the workplan, Respondent shall implement the workplan and shall submit a comprehensive report of the results of the remedial action review. The report shall describe the results of all sample analyses, tests and other data generated or received by Respondent and evaluate the adequacy of the implemented remedy in protecting public health, safety and the environment. As a result of any review performed under this Section, Respondent may be required to perform additional Work or to modify Work previously performed.

5.18 Changes During Implementation of the Final RAP. During the implementation of the final RAP and RDIPs, DTSC may specify such additions, modifications, and revisions to the RDIPs as DTSC deems necessary to protect public health and safety or the environment or to implement the final RAP.

5.19 Stop Work Order. In the event that DTSC determines that any activity (whether or not pursued in compliance with this Order) may pose an imminent or substantial endangerment to the health or safety of people on the Site or in the surrounding area or to the environment, DTSC may order Respondent to stop further implementation of this Order for such period of time needed to abate the endangerment. In the event that DTSC determines that any site activities (whether or not pursued in compliance with this Order) are proceeding without DTSC authorization, DTSC may order Respondent to stop further implementation of this Order or activity for such period of time needed to obtain DTSC authorization, if such authorization is appropriate. Any deadline in this Order directly affected by a Stop Work Order, under this Section, shall be extended for the term of the Stop Work Order.

5.20 Emergency Response Action/Notification. In the event of any action or occurrence (such as a fire, earthquake, explosion, or human exposure to hazardous substances caused by the release or threatened release of a hazardous substance) during the course of this Order, Respondent shall immediately take all appropriate

action to prevent, abate, or minimize such emergency, release, or immediate threat of release and shall immediately notify the Project Manager. Respondent shall take such action in consultation with the Project Manager and in accordance with all applicable provisions of this Order. Within seven days of the onset of such an event, Respondent shall furnish a report to DTSC, signed by Respondent's Project Coordinator, setting forth the events which occurred and the measures taken in the response thereto. In the event that Respondent fail to take appropriate response and DTSC takes the action instead, Respondent shall be liable to DTSC for all costs of the response action. Nothing in this Section shall be deemed to limit any other notification requirement to which Respondent may be subject.

5.21 Discontinuation of Remedial Technology. Any remedial technology employed in implementation of the final RAP or final RAW shall be left in place and operated by Respondent until and except to the extent that DTSC authorizes Respondent in writing to discontinue, move or modify some or all of the remedial technology because Respondent has met the criteria specified in the final RAP or final RAW for its discontinuance, or because the modifications would better achieve the goals of the final RAP or final RAW.

5.22 Financial Assurance. Respondent shall demonstrate to DTSC and maintain financial assurance for operation and maintenance and monitoring. Respondent shall demonstrate financial assurance prior to the time that operation and maintenance activities are initiated and shall maintain it throughout the period of time necessary to complete all required operation and maintenance activities. The financial assurance mechanisms shall meet the requirements of Health and Safety Code Section 25355.2. All financial assurance mechanisms are subject to the review and approval of DTSC.

VI. GENERAL PROVISIONS

6.1 Project Coordinator. Within ten (10) days from the date the Order is signed by DTSC, Respondent shall submit to DTSC in writing the name, address, and telephone number of a Project Coordinator whose responsibilities will be to receive all notices, comments, approvals, and other communications from DTSC. Respondent shall promptly notify DTSC of any change in the identity of the Project Coordinator. Respondent shall obtain approval from DTSC before the new Project Coordinator performs any work under this Order.

6.2 Project Engineer/Geologist. The work performed pursuant to this Order shall be under the direction and supervision of a qualified professional engineer or geologist in the State of California, with expertise in hazardous substance site cleanups in accordance with the California Business and Professions Code sections 6735, 7835, and 7835.1, and other applicable law. Within fifteen (15) calendar days from the date this Order is signed by DTSC, Respondent must submit: a) The name and address of the project engineer or geologist chosen by Respondent; and b) in order to demonstrate expertise in hazardous substance cleanup, the resume of the engineer or geologist, and the statement of qualifications of the consulting firm responsible for the work. Respondent shall promptly notify DTSC of any change in the identity of the Project

Engineer/Geologist. Respondent shall obtain approval from DTSC before the new Project Engineer/Geologist performs any work under this Order.

6.3 Monthly Summary Reports. Within thirty (30) days from the date this Order is signed by DTSC, and on a monthly basis thereafter, Respondent shall submit a Monthly Summary Report of its activities under the provisions of this Order. The report shall be received by DTSC by the 15th day of each month and shall describe:

- (a) Specific actions taken by or on behalf of Respondent during the previous calendar month;
- (b) Actions expected to be undertaken during the current calendar month;
- (c) All planned activities for the next month;
- (d) Any requirements under this Order that were not completed;
- (e) Any problems or anticipated problems in complying with this Order; and
- (f) All results of sample analyses, tests, and other data generated under this Order during the previous calendar month, and any significant findings from these data.

6.4 Quality Assurance/Quality Control (QA/QC). All sampling and analysis conducted by Respondent under this Order shall be performed in accordance with QA/QC procedures submitted by Respondent and approved by DTSC pursuant to this Order.

6.5 Submittals. All submittals and notifications from Respondent required by this Order shall be sent simultaneously to:

Barbara J. Cook, P.E., Regional Branch Chief
Attention: Georgia-Pacific Project Manager
Department of Toxic Substances Control
700 Heinz Avenue
Berkeley, California 94710

North Coast Regional Water Quality Control Board
Attention: Mr. Craig Hunt
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

All reports shall be submitted in one hard (paper) copy and one electronic copy on a compact disc in searchable portable document format (PDF).

6.6 Communications. All approvals and decisions of DTSC made regarding submittals and notifications will be communicated to Respondent in writing by the Site

Mitigation Branch Chief, or his/her designee. No informal advice, guidance, suggestions or comments by DTSC regarding reports, plans, specifications, schedules or any other writings by Respondent shall be construed to relieve Respondent of the obligation to obtain such formal approvals as may be required.

6.7 DTSC Review and Approval.

(a) All response actions taken pursuant to this Order shall be subject to the approval of DTSC. Respondent shall submit all deliverables required by this Order to DTSC. Once the deliverables are approved by DTSC, they shall be deemed incorporated into, and where applicable, enforceable under this Order.

(b) If DTSC determines that any report, plan, schedule or other document submitted for approval pursuant to this Order fails to comply with this Order or fails to protect public health or safety or the environment, DTSC may:

(1) Modify the document as deemed necessary and approve the document as modified; or

(2) Return comments to Respondent with recommended changes and a date by which Respondent must submit to DTSC a revised document incorporating the recommended changes.

(c) Any modifications, comments or other directives issued pursuant to (a) above, are incorporated into this Order. Any noncompliance with these modifications or directives shall be deemed a failure or refusal to comply with this Order.

6.8 Compliance with Applicable Laws. Nothing in this Order shall relieve Respondent from complying with all other applicable laws and regulations, including but not limited to compliance with all applicable waste discharge requirements issued by the State Water Resources Control Board or a California Regional Water Quality Control Board. Respondent shall conform all actions required by this Order to all applicable federal, state and local laws and regulations.

6.9 Respondent Liabilities. Nothing in this Order shall constitute or be construed as a satisfaction or release from liability for any conditions or claims arising as a result of past, current or future operations of Respondent. Nothing in this Order is intended or shall be construed to limit the rights of any of the parties with respect to claims arising out of or relating to the deposit or disposal at any other location of substances removed from the Site. Nothing in this Order is intended or shall be construed to limit or preclude DTSC from taking any action authorized by law to protect public health or safety or the environment and recovering the cost thereof. Notwithstanding compliance with the terms of this Order, Respondent may be required to take further actions as are necessary to protect public health and the environment.

6.10 Site Access. Access to the Site and laboratories used for analyses of samples under this Order shall be provided at all reasonable times to employees,

contractors, and consultants of DTSC. Nothing in this Section is intended or shall be construed to limit in any way the right of entry or inspection that DTSC or any other agency may otherwise have by operation of any law. DTSC and its authorized representatives shall have the authority to enter and move freely about all property at the Site at all reasonable times for purposes including, but not limited to: inspecting records, operating logs, sampling and analytic data, and contracts relating to this Site; reviewing the progress of Respondent in carrying out the terms of this Order; conducting such tests as DTSC may deem necessary; and verifying the data submitted to DTSC by Respondent.

To the extent the Site or any other property to which access is required for the implementation of this Order is owned or controlled by persons other than Respondent, Respondent shall use best efforts to secure from such persons access for Respondent, as well as DTSC, its representatives, and contractors, as necessary to effectuate this Order. To the extent that any portion of the Site is controlled by tenants of Respondent, Respondent shall use best efforts to secure from such tenants, access for Respondent, as well as for DTSC, its representatives, and contractors, as necessary to effectuate this Order. For purposes of this Section, "best efforts" includes the payment of reasonable sums of money in consideration of access. If any access required to complete the Work is not obtained within forty-five (45) days of the effective date of this Order, or within forty-five (45) days of the date DTSC notifies Respondent in writing that additional access beyond that previously secured is necessary, Respondent shall promptly notify DTSC, and shall include in that notification a summary of the steps Respondent has taken to attempt to obtain access. DTSC may, as it deems appropriate, assist Respondent in obtaining access. Respondent shall reimburse DTSC in obtaining access, including, but not limited to, attorneys fees and the amount of just compensation.

6.11 Sampling, Data and Document Availability. Respondent shall permit DTSC and its authorized representatives to inspect and copy all sampling, testing, monitoring or other data generated by Respondent or on Respondent behalf in any way pertaining to work undertaken pursuant to this Order. Respondent shall submit all such data upon the request of DTSC. Copies shall be provided within seven (7) days of receipt of DTSC's written request. Respondent shall inform DTSC at least seven (7) days in advance of all field sampling under this Order, and shall allow DTSC and its authorized representatives to take duplicates of any samples collected by Respondent pursuant to this Order. Respondent shall maintain a central depository of the data, reports, and other documents prepared pursuant to this Order.

6.12 Record Retention. All such data, reports and other documents shall be preserved by Respondent for a minimum of ten years after the conclusion of all activities under this Order. If DTSC requests that some or all of these documents be preserved for a longer period of time, Respondent shall either comply with that request or deliver the documents to DTSC, or permit DTSC to copy the documents prior to destruction. Respondent shall notify DTSC in writing at least six months prior to destroying any documents prepared pursuant to this Order.

6.13 Government Liabilities. The State of California shall not be liable for any injuries or damages to persons or property resulting from acts or omissions by Respondent, or related parties specified in Section 6.24, Parties Bound, in carrying out activities pursuant to this Order, nor shall the State of California be held as party to any contract entered into by Respondent or its agents in carrying out activities pursuant to this Order.

6.14 Additional Actions. By issuance of this Order, DTSC does not waive the right to take any further actions authorized by law.

6.15 Extension Requests. If Respondent is unable to perform any activity or submit any document within the time required under this Order, Respondent may, prior to expiration of the time, request an extension of the time in writing. The extension request shall include a justification for the delay. All such requests shall be in advance of the date on which the activity or document is due.

6.16 Extension Approvals. If DTSC determines that good cause exists for an extension, it will grant the request and specify a new schedule in writing. Respondent shall comply with the new schedule incorporated in this Order.

6.17 Liability for Costs. Respondent is liable for all of DTSC's costs that have been incurred in taking response actions at the Site (including costs of overseeing response actions performed by Respondent) and costs to be incurred in the future.

6.18 Payment of Costs. DTSC may bill Respondent for costs incurred in taking response actions at the Site prior to the effective date of this Order. DTSC will bill Respondent quarterly for its response costs incurred after the effective date of this Order. Respondent shall pay DTSC within sixty (60) days of receipt of any DTSC billing. Any billing not paid within sixty (60) days is subject to interest calculated from the date of the billing pursuant to Health and Safety Code section 25360.1. All payments made by Respondent pursuant to this Order shall be by cashier's or certified check made payable to this "DTSC," and shall bear on the face the project code of the Site (Site 200402) and the Docket number of this Order. Payments shall be sent to:

Department of Toxic Substances Control
Accounting/Cashier
1001 "I" Street, 21st Floor
P.O. Box 806
Sacramento, California 95812-0806

6.19 Severability. The requirements of this Order are severable, and Respondent shall comply with each and every provision hereof, notwithstanding the effectiveness of any other provision.

6.20 Incorporation of Plans, Schedules and Reports. All plans, schedules, reports, specifications and other documents that are submitted by Respondent pursuant to this Order are incorporated in this Order upon DTSC's approval or as modified

pursuant to Section 6.7, DTSC Review and Approval, and shall be implemented by Respondent. Any noncompliance with the documents incorporated in this Order shall be deemed a failure or refusal to comply with this Order.

6.21 Modifications. DTSC reserves the right to unilaterally modify this Order. Any modification to this Order shall be effective upon the date the modification is signed by DTSC and shall be deemed incorporated in this Order.

6.22 Time Periods. Unless otherwise specified, time periods begin from the effective date of this Order and "days" means calendar days.

6.23 Termination and Satisfaction. Except for Respondent obligations under Sections 5.16 Operation and Maintenance (O&M), 5.17 Five-Year Review, 5.22 Financial Assurance, 6.12 Record Retention, 6.17 Liability for Costs, and 6.18 Payment of Costs, Respondent obligations under this Order shall terminate and be deemed satisfied upon Respondent receipt of written notice from DTSC that Respondent has complied with all the terms of this Order.

6.24 Parties Bound. This Order applies to and is binding upon Respondent, and its officers, directors, agents, employees, contractors, consultants, receivers, trustees, successors and assignees, including but not limited to, individuals, partners, and subsidiary and parent corporations. Respondent shall provide a copy of this Order to all contractors, subcontractors, laboratories, and consultants which are retained to conduct any work performed under this Order, within 15 days after the effective date of this Order or the date of retaining their services, whichever is later. Respondent shall condition any such contracts upon satisfactory compliance with this Order. Notwithstanding the terms of any contract, Respondent is responsible for compliance with this Order and for ensuring that its subsidiaries, employees, contractors, consultants, subcontractors, agents and attorneys comply with this Order.

6.25 Change in Ownership. No change in ownership or corporate or partnership status relating to the Site shall in any way alter Respondent's responsibility under this Order. No conveyance of title, easement, or other interest in the Site, or a portion of the Site, shall affect Respondent's obligations under this Order. Unless DTSC agrees that such obligations may be transferred to a third party, Respondent shall be responsible for and liable for any failure to carry out all activities required of Respondent by the terms and conditions of this Order, regardless of Respondent's use of employees, agents, contractors, or consultants to perform any such tasks. Respondent shall provide a copy of this Order to any subsequent owners or successors before ownership rights or stock or assets in a corporate acquisition are transferred.

6.26 Incorporation of Exhibits. By this reference, DTSC incorporates all exhibits attached to this Order.

VII. NOTICE OF INTENT TO COMPLY

7. Not later than 15 days after the effective date of this Order, Respondent

shall provide written notice, in accordance with paragraph 6.5 Submittals of this Order, stating whether or not Respondent will comply with the terms of this Order. If Respondent, or any one of them, do not unequivocally commit to perform all of the requirements of this Order, they, or each so refusing, shall be deemed to have violated this Order and to have failed or refused to comply with this Order. Respondent's (s') written notice shall describe, using facts that exist on or prior to the effective date of this Order, any "sufficient cause" defenses asserted by Respondent under Health and Safety Code sections 25358.3(a) and 25355.5(a)(1)(B) or CERCLA section 107(c)(3), 42 U.S.C. section 9607(c)(3).

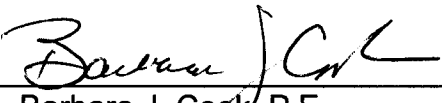
VIII. EFFECTIVE DATE

8. This Order is final and effective five days from the date of mailing, which is the date of the cover letter transmitting the Order to you.

IX. PENALTIES FOR NONCOMPLIANCE

9. Each Respondent may be liable for penalties of up to \$25,000 for each day out of compliance with any term or condition set forth in this Order and for punitive damages up to three times the amount of any costs incurred by DTSC as a result of Respondent's failure to comply, pursuant to Health and Safety Code sections 25359, 25359.2, 25359.4, and 25367(c). Health and Safety Code section 25359.4.5 provides that a responsible party who complies with this Order, or with another order or agreement concerning the same response actions required by this Order, may seek treble damages from Respondent who fail or refuse to comply with this Order without sufficient cause.

DATE OF ISSUANCE: 2/16/2007



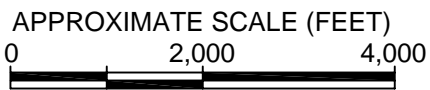
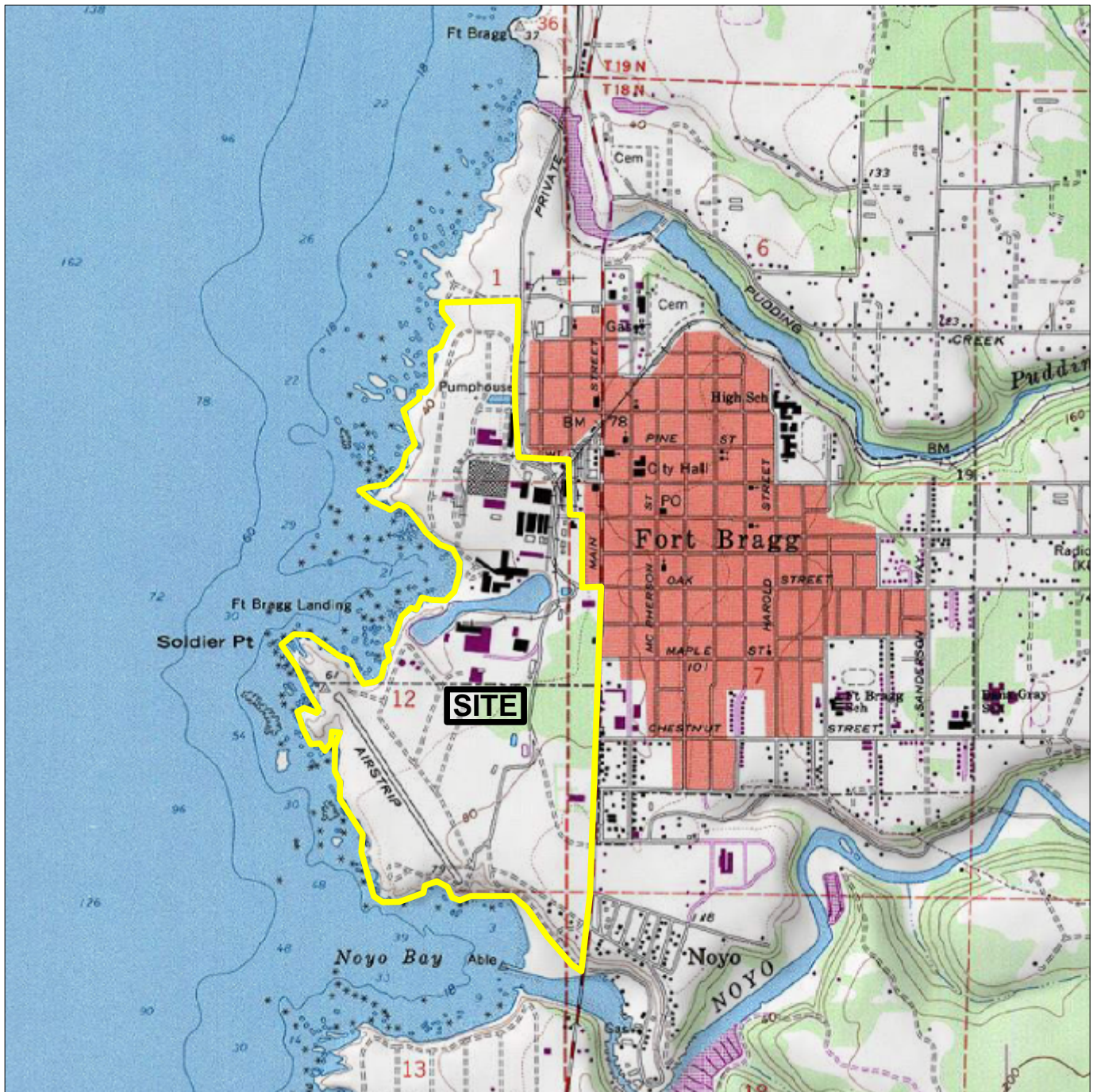
Barbara J. Cook, P.E.
Branch Chief
Department of Toxic Substances Control

cc: Site Mitigation Program
Headquarters, Planning & Policy
Office of Legal Counsel

EXHIBITS

EXHIBIT A	Site Map
EXHIBIT B	Facility Layout Map With Building and Pond Locations
EXHIBIT C	Facility Layout Map With Operable Unit Designations
EXHIBIT D	Highest Hazardous Substance Levels Found at Georgia-Pacific Fort Bragg Sawmill Site 2003-2006
EXHIBIT E	Health Effects of Hazardous Substances Found at Georgia-Pacific Fort Bragg Sawmill Site
EXHIBIT F	Facility Layout Map With Signage Posting Locations

EXHIBIT A:
SITE LOCATION MAP



LEGEND

Approximate site boundary



SOURCE:
National Geographic
USGS Topographic Maps on CD-ROM:
Fort Bragg Quadrangle

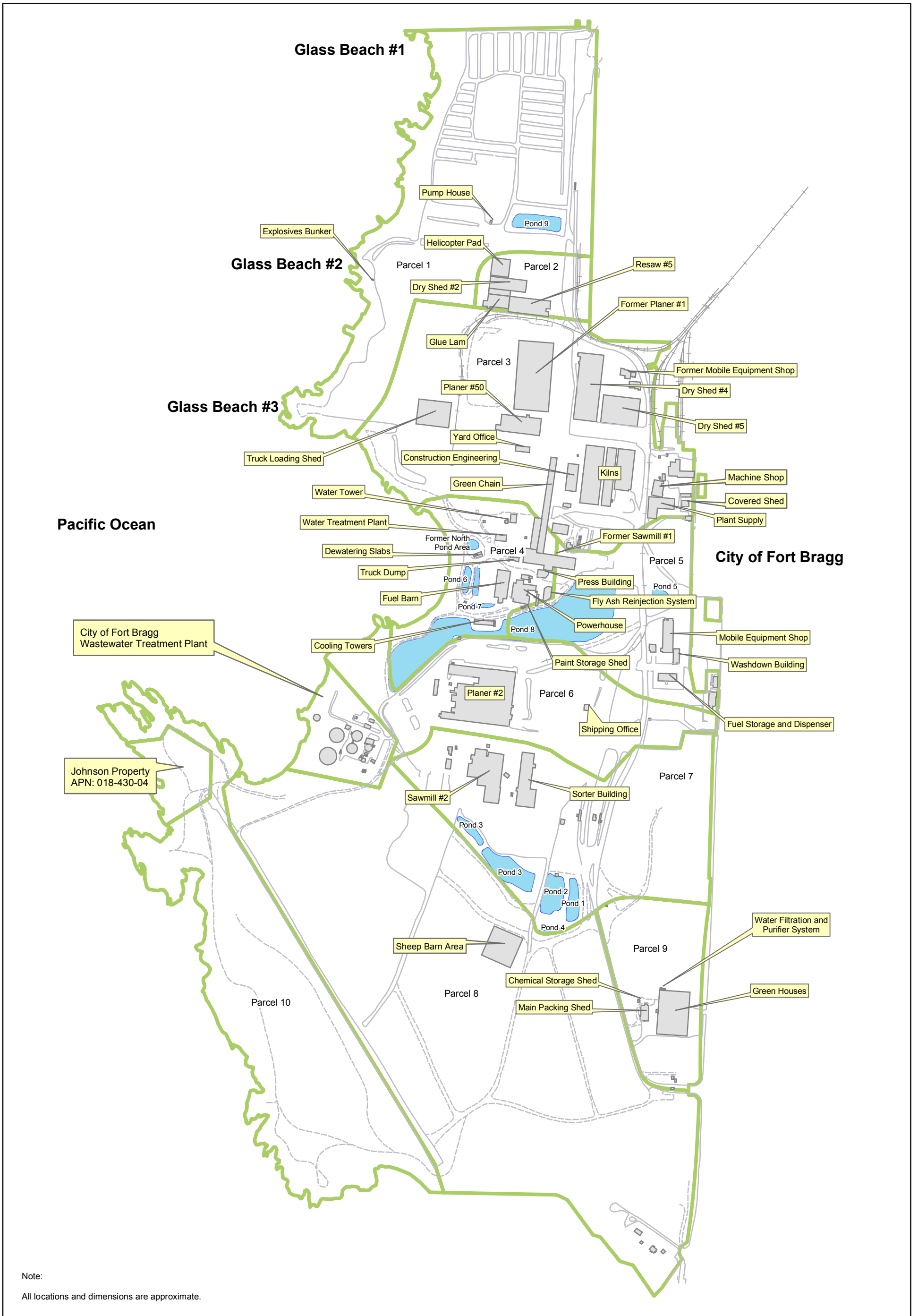


SITE LOCATION MAP
Georgia-Pacific
Former Sawmill Site
90 West Redwood Avenue
Fort Bragg, California



EXHIBIT A

EXHIBIT B:
FACILITY LAYOUT MAP
WITH BUILDING AND POND LOCATIONS



Note:
All locations and dimensions are approximate.

- FACILITY STRUCTURE
- PARCEL BOUNDARY
- POND

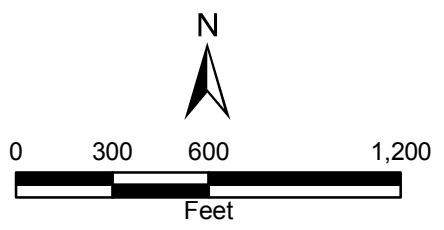
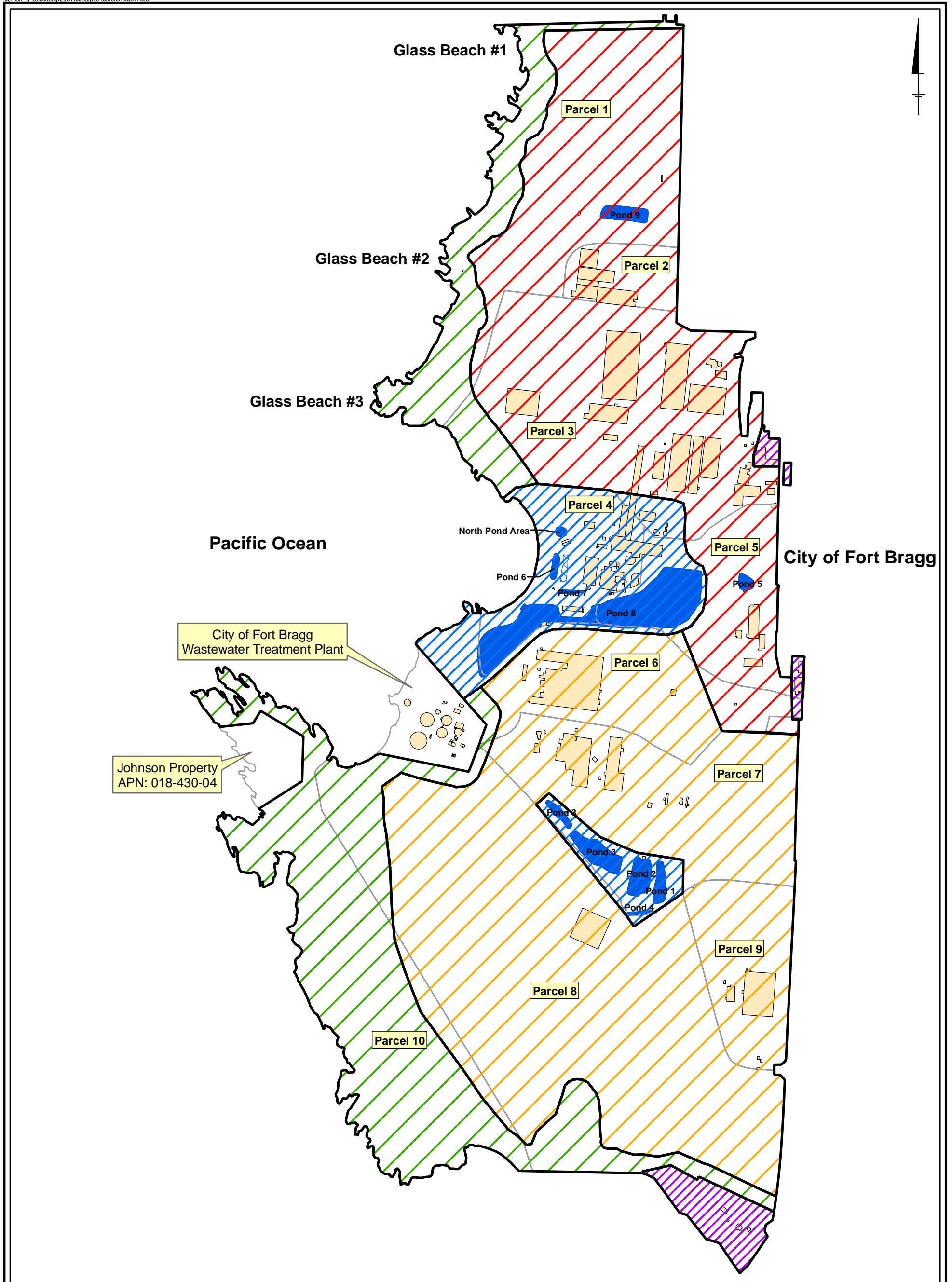


EXHIBIT B
SITE MAP WITH BUILDING LOCATIONS





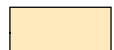




Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

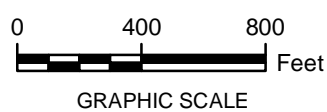
Acton Mickelson Environmental, Inc.
Consulting Scientists, Engineers, and Geologists
5175 Hillsdale Circle #100
El Dorado Hills, California 95762
(916) 939-7550

EXHIBIT C:
FACILITY LAYOUT MAP
WITH OPERABLE UNIT DESIGNATIONS



LEGEND:

- | | | | |
|--|-----------------|---|---------------------------------------|
|  | POND |  | COASTAL TRAIL/PARK ACQUISITION (OU-A) |
|  | FORMER POND |  | "OFFSITE" NON-INDUSTRIAL (OU-B) |
|  | STRUCTURE |  | NORTHERN (OU-C) |
|  | FACILITY PARCEL |  | SOUTHERN (OU-D) |
| | |  | PONDS/PARK (OU-E) |



FORMER GEORGIA-PACIFIC CALIFORNIA WOOD PRODUCTS MANUFACTURING FACILITY
 FORT BRAGG, CALIFORNIA

APPROXIMATE OPERABLE UNIT BOUNDARIES



EXHIBIT
C

EXHIBIT D
Highest Hazardous Substance Levels
Found at Georgia-Pacific Fort Bragg Sawmill Site
2003-2006

Table D1. Highest reported soil contaminant concentrations detected onsite.

Contaminant	Concentration	Screening Level	Sample Number and Detection Date
Lead	4,200 mg/kg†	150 mg/kg*	(DP-3.38 @ 1 foot bgs); 2006
Antimony	1,300 mg/kg	30 mg/kg*	(DP-3.38 @ 1 foot bgs); 2006
TPH-Diesel	24,000 mg/kg	100mg/kg**	(P5-PH6 @ 2.5 feet bgs); 2004
TPH-Motor Oil	16,000 mg/kg	500mg/kg**	(SM-12 @ 2.5 feet bgs); 2004
Benzo(a)anthracene	13 mg/kg	0.62 mg/kg*	(HSA-4.3 @ 2 feet bgs); 2006
Benzo(a)pyrene	18 mg/kg	0.062 mg/kg*	(HSA-4.3 @ 2 feet bgs); 2006
Benzo(b)fluoranthene	27 mg/kg	0.62 mg/kg*	(HSA-4.3 @ 2 feet bgs); 2006
Benzo(k)fluoranthene	17 mg/kg	6.2 mg/kg*	(HSA-4.3 @ 2 feet bgs); 2006
Dioxin	16.6 pg/g	3.9 pg/g*	(DP-3.59 @ 1 foot bgs); 2006

* USEPA Region IX 2004 Preliminary Remediation Goals for Residential Soils (PRGs).

** 2005 Environmental Screening Levels for Shallow Soils (<3m bgs) and Residential Land Use (ESLs).

† Hazardous Waste criteria for Lead is 1,000 mg/kg.

Table D2. Highest reported groundwater contaminant concentrations detected onsite.

Contaminant	Concentration	Screening Level*	Sample Number and Detection Date
Tetrachloroethene (PCE)	10 µg/L	5 µg/L	(P5-23 and P5-27); 2003
Trichloroethene (TCE)	12 µg/L	5 µg/L	(HAS-5.7); 2006
Antimony	130 µg/L	6 µg/L	(P3-33); 2003
Dioxin	14.02 pg/L	30 pg/L	(DP-3.60); 2006
Benzene	5.6 µg/L	1 µg/L	(DP-5.10); 2006
Toluene	11 µg/L	5 µg/L	(DP-5.37); 2006
1,1-dichloroethane	47 µg/L	5 µg/L	(DP-6.7); 2006
cis-1,2-dichloroethylene	15 µg/L	6 µg/L	(DP-5.10); 2006
Tetrachloroethylene (PCE)	8.8 µg/L	5 µg/L	(DP-5.58); 2006
TPH-Diesel	3.3E+06 µg/L	100 µg/L**	(DP-5.13); 2006

* California Department of Health Services Primary Maximum Contaminant Levels (MCLs).

** 2005 Environmental Screening Levels for Shallow Soils (<3m bgs) and Residential Land Use (ESLs).

EXHIBIT E

Health Effects of Hazardous Substances Found at the Georgia-Pacific Fort Bragg Sawmill Site

E.1 Dioxins. The term “dioxins” refers to the class of chemical compounds known as chlorinated dibenzo-*p*-dioxins (CDD). CDDs are widespread in the environment, and most people are exposed to very small background levels when they breathe air, consume food or milk, or have skin contact with materials contaminated with CDDs or chlorinated pesticides/herbicides, which contain CDDs as manufacturing byproducts. Ingestion via food and milk is the most common exposure pathway for the general population. Most studies of health effects of dioxins have focused on 2,3,7,8-CDD because it is one of the most toxic dioxins. The toxicity of the other dioxin CDDs is typically expressed as a fraction of the toxicity attributed to 2,3,7,8-TCDD.

Symptoms of exposure to relatively high levels of 2,3,7,8-TCDD include acne-like lesions called chloracne, red skin rashes, skin discoloration, and excessive body hair. There may be damage to liver function. Exposure to 2,3,7,8-TCDD causes a slight increase in the risk of diabetes and abnormal glucose tolerance and an increased risk of cancer. The EPA has determined that 2,3,7,8-TCDD is a probable human carcinogen.

The results of the oral animal studies suggest that the immune, endocrine and developmental systems are most severely affected. In some animal species, 2,3,7,8-TCDD is especially harmful and can cause death after a single exposure to small amounts. Exposure of animals to non-lethal levels via food can cause weight loss, biochemical/degenerative changes in the liver, hair loss, swelling of the face, and moderate to severe chloracne. Rats and mice that were exposed to small amounts of 2,3,7,8-TCDD in food for a long time developed cancer of the liver and thyroid, and other types of cancer. Exposure to 2,3,7,8-TCDD can cause reproductive damage and birth defects in animals.

E.2 Lead. Lead is listed as a chemical known to the State to cause cancer and reproductive toxicity pursuant to the Safe Drinking Water and Toxic Enforcement Act of 1986. The primary modes of possible exposure to lead are through inhalation of contaminated soils, ingestion of contaminated foods (e.g. fruits, vegetables) or drinking water, and through general skin or eye contact with contaminated soils. Short-term exposure to lead can cause fatigue, sleep disturbance, headache, aching bones and muscles, constipation, abdominal pains, decreased appetite and reversible kidney damage. Chronic lead exposure can lead to irreversible vascular sclerosis, irreversible brain damage, tubular cell atrophy, and interstitial fibrosis. Prolonged exposure at high concentrations may result in progressive kidney damage and possibly kidney failure. Anemia is an early sign of lead poisoning. Exposure to lead can produce neurobiological defects in children such as learning disabilities and behavioral problems. The Center for Disease Control considers children to have an elevated level of lead if the amount of lead in the blood is at least 10 micrograms of lead per deciliter of blood ($\mu\text{g}/\text{dL}$).

E.3 Antimony. The primary modes of possible exposure to antimony are through

ingestion of contaminated soils and groundwater, and through general skin or eye contact with contaminated soils. Common symptoms of exposure to antimony at elevated concentrations include: irritation of the eyes, skin, nose, throat, mouth, coughing, dizziness, headache, nausea, vomiting, stomach cramps, and unable to smell properly. Exposure to antimony at elevated concentrations may affect the eyes, skin, respiratory system, and central nervous system.

E.4 Tetrachloroethene (Perchloroethene, "PCE"). The primary modes of possible exposure to PCE are through inhalation of vapor, ingestion of contaminated soils, and through general skin or eye contact with contaminated soils. Short-term exposure to PCE through ingestion and inhalation may cause nausea, vomiting, headache, dizziness, drowsiness, and tremors. Skin contact with PCE causes irritation and blistering. Liver and kidney toxicity are long-term effects. The dose of PCE that is lethal to 50% of the animals tested (LC₅₀) is 1,750 ppm as tested in rats. PCE is listed as a chemical known to the State to cause cancer pursuant to the Safe Drinking water and Toxic Enforcement Act of 1986.

E.5 Trichloroethene (TCE). TCE is listed as a chemical known to the State to cause cancer pursuant to the Safe Drinking water and Toxic Enforcement Act of 1986. Acute exposure to TCE causes headache, dizziness, vertigo, tremors, irregular heartbeat, fatigue, nausea, vomiting, and blurred vision. TCE vapors may cause irritation of the eyes, nose, and throat. Long-term effects may include liver and kidney damage. The primary modes of possible exposure to TCE are through inhalation of vapor, absorption through the skin resulting from contact with contaminated soils, ingestion of contaminated soils, and through general skin or eye contact with contaminated soils.

The LD₅₀ of TCE is 4.92 ml/kg as tested orally in rats. The lethal concentration (4 hours) in rats is 8,000 parts per million (ppm). Moderate exposures can cause symptoms similar to alcohol inebriation and higher concentrations can have a narcotic effect. Deaths occurring after heavy exposure have been attributed to ventricular fibrillation. Liver injury is not definitely established in occupational exposures. TCE is found to induce hepatocellular carcinomas in National Cancer Institute studies on mice.

E.6 1,1-Dichloroethane (1,1-DCA). The primary modes of possible exposure to 1,1-DCA are through inhalation of vapor, ingestion of contaminated soils, and through general skin or eye contact with contaminated soils. Common symptoms of exposure to 1,1-DCA at elevated concentrations include: irritation of the eyes and respiratory system and central nervous system depression. Exposure to 1,1-DCA at elevated concentrations may affect the eyes, respiratory system, and central nervous system. In addition, 1,1-DCA may be irritating to the skin and mucous membranes, and in high concentrations has caused liver and kidney injury in animals.

E.7 cis-1,2-Dichloroethylene (cis-1,2-DCE). The primary modes of possible exposure to cis-1,2-DCE are through inhalation of vapor and ingestion of contaminated soils or water. Common symptoms of exposure to cis-1,2-DCE at elevated concentrations include central nervous system depression, nausea, vomiting, fatigue, vertigo, cramps, and drowsiness, followed by unconsciousness. Pathological changes to the heart were

observed after rats were exposed to a high concentration (3,000 ppm) of cis-1,2-DCE by inhalation. After short-term exposure by rats via inhalation, effects on blood composition (reduced red blood cells) and pathological liver changes (fatty liver) were also noted.

E.8 Total petroleum hydrocarbons (TPH). Humans may be exposed to TPH through inhalation of vapors, ingestion of contaminated water, food or soil, and skin contact with contaminated soil or water. Health effects from exposure to TPH depend on many factors, including the types of chemical compounds in the TPH, how long the exposure lasts, and the amount of the chemicals contacted. Very little is known about the toxicity of many TPH compounds. Until more information is available, information about health effects of TPH must be based on specific compounds or petroleum products that have been studied.

Petroleum mixtures are often subdivided into "gasolines," "middle distillates," and "residual fuels." Gasolines are defined as petroleum mixtures characterized by a predominance of branched alkanes and aromatic hydrocarbons with carbon ranges of C6 to C12 and lesser amounts of straight-chain alkanes, alkenes and cycloalkanes of the same carbon range. Middle distillates (e.g., kerosene, diesel fuel, jet fuel, "TPH-diesel", etc.) are characterized by a wider variety of straight, branched and cyclic alkanes, polynuclear aromatic hydrocarbons (PAHs) and heterocyclic compounds with carbon ranges of approximately C9 to C25. Residual fuels (e.g., fuel oil Nos. 4, 5, and 6, lubricating oils, "TPH-motor oil," "oil and grease," asphalts, etc.) are characterized by complex, polar PAHs, naphthoaromatics, asphaltenes and other high-molecular-weight, saturated hydrocarbon compounds with carbon ranges that in general fall between C24 and C40.

The compounds in different TPH fractions affect the body in different ways. Some of the TPH compounds, particularly the smaller compounds such as benzene, toluene, and xylene (which are present in gasoline), can affect the human central nervous system. If exposures are high enough, death can occur. When exposure is stopped, the symptoms will go away. However, if someone is exposed for a long time, permanent damage to the central nervous system can occur. Swallowing petroleum products such as gasoline and kerosene causes irritation of the throat and stomach, central nervous system depression, difficulty breathing, and pneumonia from breathing liquid into the lungs. The compounds in some TPH fractions can also affect the blood, immune system, liver, spleen, kidneys, developing fetus, and lungs. Certain TPH compounds can be irritating to the skin and eyes.

E.9 Benzo(a)pyrene. The primary modes of possible exposure to benzo(a)pyrene are through inhalation of contaminated air, ingestion of impacted food and water, and skin contact with contaminated air, water, or soil. The Department of Health and Human Services (DHHS) has determined that benzo(a)pyrene is a known animal carcinogen, the International Agency for Research on Cancer (IARC) has determined that benzo(a)pyrene is probably carcinogenic to humans, and USEPA has determined that benzo(a)pyrene is a probable human carcinogen. Mice fed high levels of benzo(a)pyrene during pregnancy had difficulty reproducing and so did their offspring. The offspring of pregnant mice fed benzo(a)pyrene also showed other harmful effects, such as birth defects and decreased body weight. Human data specifically linking benzo(a)pyrene to a carcinogenic effect are

lacking. There are, however, multiple animal studies in many species demonstrating benzo(a)pyrene to be carcinogenic following administration by numerous routes.

E.10 Benzo(a)anthracene. The primary modes of possible exposure to benzo(a)anthracene are through inhalation of contaminated air, ingestion of impacted food and water, and skin contact with contaminated air, water, or soil. The DHHS has determined that benzo(a)anthracene is a known animal carcinogen, the IARC has determined that it is probably carcinogenic to humans, and USEPA has determined that benzo(a)anthracene is a probable human carcinogen. These determinations are based on no human data and sufficient data from animal bioassays. Benz(a)anthracene produced tumors in mice exposed by gavage, intraperitoneal, subcutaneous or intramuscular injection; and topical application.

E.11 Benzo(b)fluoranthene. The primary modes of possible exposure to benzo(b)fluoranthene are through inhalation of contaminated air, ingestion of impacted food and water, and skin contact with contaminated air, water, or soil. The DHHS has determined that benzo(b)fluoranthene is a known animal carcinogen, the IARC has determined that it is possibly carcinogenic to humans, and USEPA has determined that benzo(b)fluoranthene is a probable human carcinogen. Benzo(b)fluoranthene produced tumors in mice after lung implantation, intraperitoneal or subcutaneous) injection, and skin painting. Although there are no human data that specifically link exposure to benzo(b)fluoranthene to human cancers, benzo(b)fluoranthene is a component of mixtures that have been associated with human cancer. These include coal tar, soots, coke oven emissions and cigarette smoke.

E.12 Benzo(k)fluoranthene. The primary modes of possible exposure to benzo(k)fluoranthene are through inhalation of contaminated air, ingestion of impacted food and water, and skin contact with contaminated air, water, or soil. The DHHS has determined that benzo(k)fluoranthene is a known animal carcinogen, the IARC has determined that it is possibly carcinogenic to humans, and USEPA has determined that benzo(k)fluoranthene is a probable human carcinogen. These determinations are based on no human data and sufficient data from animal bioassays. Benzo(k)fluoranthene produced tumors after lung implantation in mice and when administered with a promoting agent in skin-painting studies. Equivocal results have been found in a lung adenoma assay in mice. Benzo(k)fluoranthene is also mutagenic in bacteria.

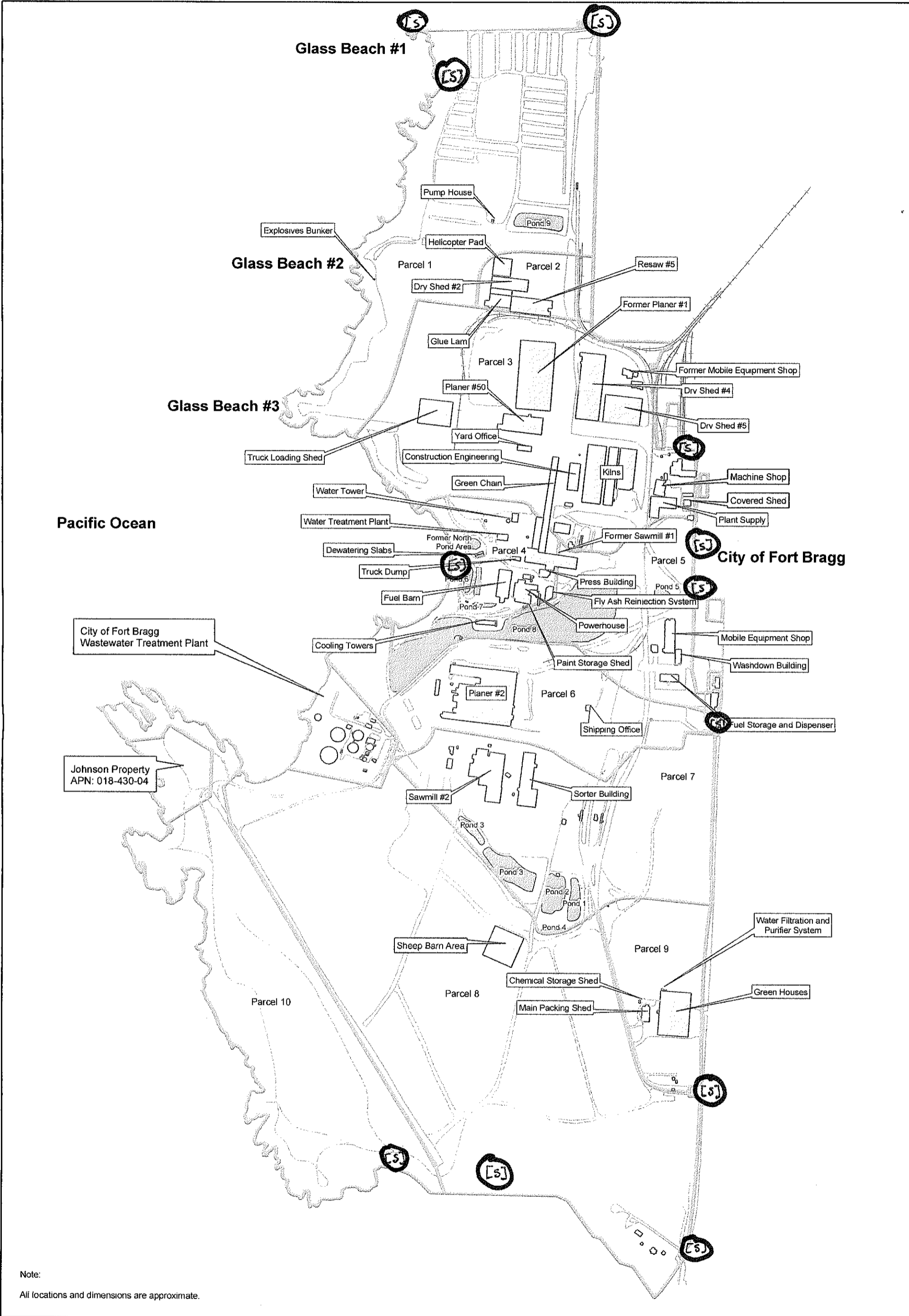
E.13 Benzene. The primary modes of possible exposure to benzene are through inhalation of contaminated air, ingestion of impacted water or food, and skin contact with contaminated air, water, or soil. Breathing very high levels of benzene can result in death, while high levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. Eating or drinking foods containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and death. The major effect of benzene from long-term exposure is on the blood. Benzene causes harmful effects on the bone marrow and can cause a decrease in red blood cells leading to anemia. It can also cause excessive bleeding and can affect the immune system, increasing the chance for infection. Long-term exposure to

high levels of benzene in the air can cause leukemia, particularly acute myelogenous leukemia, often referred to as AML. This is a cancer of the bloodforming organs. The DHHS has determined that benzene is a known carcinogen while the IARC and the EPA have determined that benzene is carcinogenic to humans.




E.14 Toluene. Toluene is listed as a chemical known to the State to cause developmental toxicity pursuant to the Safe Drinking water and Toxic Enforcement Act of 1986. The primary modes of possible exposure to toluene are through inhalation of contaminated air, ingestion of impacted water, and skin contact with contaminated air, water, or soil. Toluene may affect the nervous system. Low to moderate levels can cause tiredness, confusion, weakness, memory loss, nausea, loss of appetite, and hearing and color vision loss. Inhaling high levels of toluene in a short time can cause light-headedness or dizziness. It can also cause unconsciousness, and even death. High levels of toluene may affect the kidneys. Breathing very high levels of toluene during pregnancy can result in children with birth defects and retard mental abilities, and growth.

E.15 Cyanide. The primary modes of possible exposure to cyanide are through inhalation of contaminated air and ingestion of impacted food and water. Some of the first indications of cyanide poisoning are rapid, deep breathing and shortness of breath, followed by convulsions (seizures) and loss of consciousness. These symptoms can occur rapidly, depending on the amount eaten. The health effects of large amounts of cyanide are similar, whether you eat, drink, or breathe it; cyanide uptake into the body through the skin is slower than these other means of exposure. Skin contact with hydrogen cyanide or cyanide salts can irritate and produce sores. Workers who breathed in amounts of hydrogen cyanide as low as 6–10 ppm over a period of years had breathing difficulties, chest pain, vomiting, blood changes, headaches, and enlargement of the thyroid gland. Use of cassava roots as a primary food source has led to high blood cyanide levels in some people in tropical countries. Some of them suffered harmful effects to the nervous system, including weakness of the fingers and toes, difficulty walking, dimness of vision, and deafness, but chemicals other than cyanide also could have contributed to these effects. Cyanide exposure from cassava was linked to decreased thyroid gland function and goiter development; Cyanide produces toxic effects at levels at or greater than 0.05 milligrams of cyanide per deciliter of blood (mg/dL), and deaths have occurred at levels of 0.3 mg/dL and higher (a deciliter equals 100 milliliters).

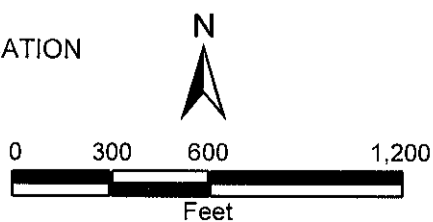
EXHIBIT F
FACILITY LAYOUT MAP
WITH SIGNAGE POSTING LOCATIONS



Note:
All locations and dimensions are approximate.

-  FACILITY STRUCTURE
-  PARCEL BOUNDARY
-  POND

 SIGN POSTING LOCATION



**EXHIBIT F
SIGNAGE POSING LOCATIONS**

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

NOTE:
The signage posting requirements presented above are minimum requirements.