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PUBLIC NOTICE REGARDING COMMENT PERIOD FOR PROPOSED PLAN SITE 40 NAS PENSACOLA FL
10/1/2002
NAS PENSACOLA

Superfund Program
Proposed Plan
Operable Unit 15
Site 40 (Bayou Grande)

Naval Air Station Pensacola
Installation Restoration Program

October 2002

ANNOUNCEMENT OF PROPOSED PLAN

This **Proposed Plan** is for **Operable Unit (OU)** 15, which consists of Site 40 (Bayou Grande) at Naval Air Station (NAS) Pensacola, Florida. This document is issued by the U.S. Navy, the Lead Agency for site activities, and the **U.S. Environmental Protection Agency (USEPA)** and the **Florida Department of Environmental Protection (FDEP),** support agencies. Under its **Installation Restoration Program (IRP),** the Navy encourages community involvement in selecting the alternative for OU 15. This plan provides background information on OU 15, describes the proposed alternative, and outlines the public's role in helping the Navy make a final decision. This document meets the requirements of Section 117(a) of the federal **Comprehensive Environmental Response, Compensation and Liability Act (CERCLA),** also known as **"Superfund".** The box at the bottom of the page explains how Superfund works.

Words that first appear in **bold** print are defined in the glossary, starting on page 7.

Dates to Remember:
MARK YOUR CALENDAR

PUBLIC COMMENT PERIOD:
December 15 - January 30, 2002
The Navy will accept written comments on the Proposed Plan during the comment period.

PUBLIC MEETING:
A public meeting will be held if one is requested from members of the public before the end of the comment period.

For more information, see the Administrative Record kept at the following information repositories:

NAS Pensacola Library
Building 634
M—F: 8 a.m. to 6 p.m.
Sat: 9:30 a.m. to 5 p.m.

John C. Pace Library
University of West Florida
M-Thur: 8 a.m. to 10 p.m.
Fri: 8 a.m. to 6 p.m.
Sat: 10 a.m. to 6 p.m.
Sun: 1 p.m. to 5 p.m.

THE SUPERFUND PIPELINE

Pre-Remedial Response Process:

- Preliminary Assessment
- Site Inspection
- Placement on National Priority List (NPL)

Remedial Response Process:

Remedial Investigation/ Feasibility Study (RI/FS) → Remedy Selection → Remedial Design (RD) → Remedial Action (RA) → Operations & Maintenance (O&M)

▲ Proposed Plan ▲ Record of Decision

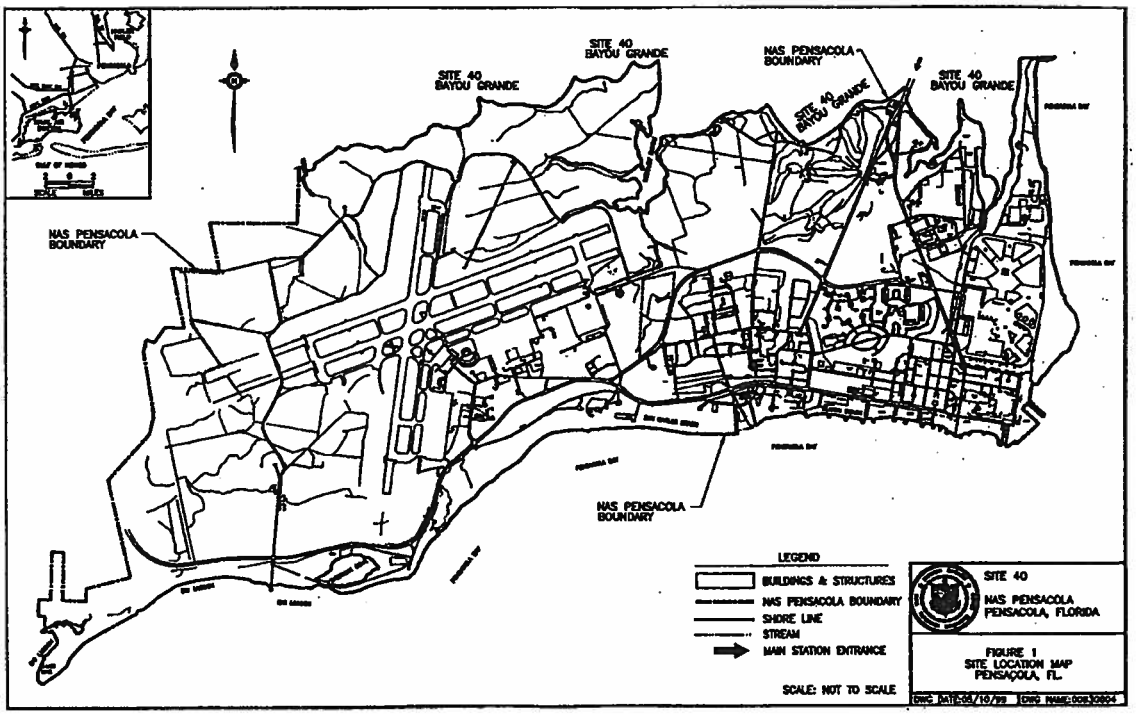


Figure 1 above shows where OU 15 is located. The Navy, along with the USEPA and FDEP, will select a final remedy for the site after reviewing and considering all information submitted during the 45-day public **comment period.** The Navy, in consultation with USEPA and FDEP, may modify the proposed alternative or select another response action based on new information or public comment on the alternative presented in this **Proposed Plan.** The Navy is issuing this Proposed Plan as part of its public participation responsibilities under Section 300.430(f)(2) of the **National Oil and Hazardous Substances Pollution Contingency Plan (NCP).** This Proposed Plan summarizes information that can be found in greater detail in the **remedial investigation (RI)** report and its addendums and other documents contained in the Administrative Record file for this site. The Navy, USEPA, and FDEP encourage the public to review these documents to gain a more comprehensive understanding of the site and Superfund activities.

SITE HISTORY

NAS Pensacola was placed on USEPA's **National Priorities List (NPL)** in December 1989. The federal CERCLA law governs **cleanup** for sites on the NPL. In addition, an environmental permit was issued in 1988 under the **Resource Conservation and Recovery Act (RCRA).** This permit ensures that ongoing activities are environmentally sound and that spills or leaks of hazardous waste and/or their constituents are investigated and cleaned up. The Federal Facilities Agreement, signed in October 1990, outlines NAS Pensacola's regulatory path through these federal laws. OU 15 is one of 17 OUs at NAS Pensacola. The purpose of each OU is defined in the *FY 2003 Site Management Plan* for NAS Pensacola, which is in the Administrative Record.

OU 15 Description

OU 15 represents the 8.5 miles of Bayou Grande's shoreline adjacent to NAS Pensacola, which is itself

part of the greater Pensacola Bay system. The site extends from the western boundary of NAS Pensacola, near Jones Creek, to where Bayou Grande connects with Pensacola Bay at Magazine Point. This portion of Bayou Grande receives (directly or indirectly) storm water runoff from aircraft hangars at Forrest Sherman Field, roads, bridges, parking lots, and the base's A.C. Read Golf Course.

SITE CHARACTERISTICS

The RI for OU 15 took place in several stages, from 1995 through 2001. The results of this investigation and follow-on activities are documented in the January 20, 1999 Final RI Report, the April 24, 2000 RI Report Addendum, and the June 21, 2002 RI Addendum 2. The RI identified the areas most likely to have received contaminants from sources on land, then studied these closely. Because of the different kinds of sediment and water conditions, the site was divided into four "Assessment Zones" (AZs). Major potential sources and pathways were reviewed and studied in the process of this investigation.

RI Findings

The Final RI Report identified contaminants in Bayou Grande from the major contaminant categories listed below:

- *Inorganic compounds* — Typically elemental metals (such as aluminum, manganese, and mercury), but also compounds such as cyanide. Inorganics are naturally occurring compounds that can be toxic in large doses.
- *Volatile organic compounds (VOCs)* — Commonly used in solvents and industrial operations like electroplating and paint stripping.
- *Semivolatile organic compounds (SVOCs)* — Common components of asphalt, coal tar, jet, and diesel fuels.
- *Pesticides* — Used to kill insects, weeds or other pests.
- *Polychlorinated biphenyls (PCBs)* — No longer produced, PCBs were used in electrical equipment and hydraulic fluids.

Generally, the most impacted area was in the southern portion of Redoubt Bayou in AZ-2. Screening values are set out by USEPA and FDEP to provide guidance on where further sampling is required. They are very conservative (protective) but are not cleanup levels.

Assessment Zone 1

AZ-1 is the zone farthest upstream, and includes those portions of the NAS Pensacola shoreline along Bayou Grande from a point near Soldiers Creek to Deepwater Point. Metals, PCBs, pesticides, and SVOCs were detected above screening values. NO KNOWN INDUSTRIAL ACTIVITIES FROM NASP UNDEVELOPED PORTION OF NASP

Assessment Zone 2

AZ-2 extends from Deepwater Point to J. Kee Point and includes Redoubt Bayou. Pesticides, PCBs, and SVOCs were found at levels higher than their screening values. This zone received storm water runoff from hangars at Forrest Sherman field and the NAS Pensacola Public Works Center, which includes sites of known pesticide, PCB, and petroleum contamination. Overall, the most contaminated area of OU 15 was the southern portion of Redoubt Bayou. Redoubt Bayou is a sheltered extension of Bayou Grande, which receives little tidal flushing. Over the years, major storm events have flushed contaminants through storm water conveyance pathways and into the upper end of Redoubt Bayou, where the contaminants have accumulated.

Assessment Zone 3

AZ-3 extends from J. Kee Point to the Navy Boulevard bridge. This zone had the highest SVOC concentrations, which may be due to vehicle traffic and storm water runoff from an adjacent bridge. In addition, metals, pesticides, and PCBs were found at levels higher than screening values. Pesticide application across the golf course may account for the pesticide contamination. Sampling was also focused in the area of the former skeet shooting area (east of the former sanitary landfill). The sampling did not reveal any adverse impact from the skeet shot.

INDICATE ZONES ON MAP

Assessment Zone 4

AZ-4 extends from the Navy Boulevard bridge to the pass which connects Bayou Grande to Pensacola Bay. This includes Woolsey Bayou and portions of Bayou Grande just north of the Navy Yacht Basin (Buddy's Bayou). AZ-4 receives drainage from the Yacht Basin, which receives drainage from many of the former industrial areas of NAS Pensacola. Within the sediment at AZ-4, metals, pesticides, PCBs, and SVOCs exceeded screening values. The SVOC exceedances were likely attributable to a former railroad trestle.

Further sampling was performed in the four zones to assess the amount of excess risk to ecological **receptors** from the contaminants. Results of this sampling are summarized in the ecological risk section.

SCOPE AND ROLE OF THE ACTION

This Proposed Plan addresses environmental action to be considered for OU 15. The purpose of this Proposed Plan is to set forth the alternative that the Navy, with regulatory approval, will select for the site.

SUMMARY OF SITE RISKS

Federal regulations require that a **Baseline Risk Assessment (BRA)** be conducted to determine if an NPL site poses an unacceptable threat, present or future, to human health or the environment. These studies provide a basis for determining whether cleanup is needed and what the cleanup levels should be.

Human Health Risk

OU 15 is currently used for swimming, fishing, and boating activities near NAS Pensacola's Family Picnic Area and at the base sailing facility. Human contact with site sediment and surface water is of short duration; for example, during swimming activities. Seasonal water temperatures limit swimming to the warmer months of the year — generally, May through September — while fishing and crabbing are year-round activities. The Final RI Report for OU 15 studied risk to human health from exposure to contaminants through incidental ingestion of surface water, dermal contact of surface water and sediment, and from fish ingestion. These scenarios evaluated exposure through incidental swallowing of water, eating fish and shellfish caught from the site, and through skin contact with contaminated media. The RI Addendum further evaluated the fish ingestion pathway for recreational and subsistence fishermen.

The BRA identified two valid exposure pathways for human health risk: (1) the incidental ingestion of surface water from recreational activities; and (2) the consumption of seafood collected from the site.

Human Health Risk: Surface Water

The BRA screened surface water data against Federal Ambient Water Quality Criteria (AWQC), which are human health risk-based criteria taken from 40 CFR 131.36, and surface water **preliminary remediation goals (PRGs).** Except for arsenic, no chemical exceeded either screening value. While arsenic was reported in surface water at a concentration above its Federal AWQC, it was not subsequently identified as a contaminant of concern (COC). why?

Human Health: Fish Consumption

The fish ingestion **exposure pathway** at OU 15 was evaluated for recreational and subsistence fishermen. Incremental lifetime cancer risk (ILCR) refers to the cancer risk over and above the background cancer risk of 1 in 4 (as reported by the American Cancer Society) in unexposed individuals. ILCRs are determined by multiplying the intake level with the cancer potency factor. A future child or adult resident's exposure to potential carcinogens is combined for a lifetime weighted average (LWA) to calculate ILCR. The calculated risk probability is typically expressed in scientific notation (e.g., 1E-06). For example, an ILCR of 1E-04 means that one additional person out of 10,000 may be at risk of developing cancer due to excessive exposure at a site if no action is taken. The USEPA acceptable target risk range is 1E-04 to 1E-06 (one in ten-thousand to one in a million). Florida's acceptable risk is 1E-06 (one in a million). Potential concern for noncarcinogenic effects of a single contaminant in a single medium is expressed as the hazard quotient (HQ). By adding the HQs for all

contaminants within a medium or across all media to which a given population may reasonably be exposed, a hazard index (HI) can be generated. The HI provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across media. The HI refers to noncarcinogenic effects and is the ratio for the level of exposure to an acceptable level for a contaminant of potential concern. An HI greater than or equal to 1.0 indicates a potential concern for noncarcinogenic health effects. Table 1 summarizes the total ILCRs and HIs calculated for OU 15 for the fish ingestion pathway. These calculations were derived from whole-body analysis of prey fish (pin fish and killifish) which were caught within the OU 15 area. It was conservatively assumed that prey fish, through food-chain transfer, will convey contaminants to game fish, with human receptors eventually eating the game fish.

Table 1
Fish Ingestion Pathway – Site Incremental Lifetime Cancer Risk and Hazard Indices
OU 15

	Recreational Fishermen		
Index	95th Percentile	Mean	Subsistence Fishermen
HI	0.05	0.01	0.2
ILCR	6E-06	2E-06	3E-05

Notes:
HI = Hazard index.
ILCR = Incremental Lifetime Cancer Risk.

The table shows that the cumulative mean HI for noncarcinogenic effects was below 1 for recreational and subsistence fishermen. For carcinogenic risk to the recreational fisherman, the cumulative mean ILCR was above the 1E-06 threshold level. The RI Addendum explains how this cancer risk was primarily driven by a single Aroclor-1260 concentration detected in the prey fish tissue analyses. Cumulative risk to subsistence fishermen was above 1E-06. However, since subsistence fishing does not occur at or near the site, these risks are not thought to be significant. The Florida Marine Patrol Office indicated that a full bag limit (one redfish and five trout) is an infrequent occurrence in the bayou, and that most boats only catch one redfish or one trout per day in the bayou. Lastly, although the cumulative risks for recreational fishermen are slightly above the regulatory level of 1E-06, these risks are not thought to be significant, because: (1) risk was likely overestimated by using the maximum detected value in prey fish tissues; (2) estimated trophic transfer coefficients were used to determine food-chain transfer of contaminants from prey fish to game fish; (3) the relatively high background concentration of PCBs in Pensacola Bay; and (4) the fact that no allowances were made in the way fish might be prepared by human consumers (i.e., trimming and cooking may reduce the contaminant concentrations in fish prior to consumption).

Ecological Risk

The ecological risk assessment was performed in phases. In Phase I, the sediment distribution was mapped to determine the areas with finer sediments, where contaminants would accumulate. Next, in Phase IIA, sediments were sampled at areas identified for chemical analysis. The detected concentrations were compared to sediment benchmark levels to derive HQs. Locations with HQs above 1 were studied for potential risk. Based on the results of the screening assessment, 10 locations were selected across a contaminant concentration gradient (high, medium and low) to yield a better perspective of risk posed throughout the bayou. The Phase IIB/III assessment was performed to relate contaminant concentrations to specific toxic or bioaccumulative effects. Bioassay results did not show toxicity to bottom-dwelling species such as worms or clams. In addition, impacts to fish were not predicted from the toxicity tests, and few contaminants were detected in the surface water above standards. Differences in species diversity were noted between stations, but may have resulted from natural variability or physicochemical effects. Indicators of a healthy environment were noted at four of the stations. **Bioaccumulation** studies, which assess risk to fish-eating birds did not show excess risk. Aroclor-1260 was the only parameter to indicate excess risk to predatory fish. Samples collected from the Pensacola Bay System by Long, et al., indicate that about one-third of the PCB concentrations in the prey fish may be attributable to background. A background level represents the level of a compound found in the

environment at sites unrelated to known contamination. For these reasons, the Final RI Report found no ecological risk predicted within Bayou Grande from impacts associated with NAS Pensacola.

The RI Addendum 2 presented mercury in sediment and forage fish collected from seven OU 15 Phase II sample locations. Mercury concentrations in sediment were noted to have decreased substantially between 1996 and 2001, when the Addendum 2 samples were collected. The Evans and Engel mercury bioaccumulation model was used to model sediment and forage fish tissue mercury concentrations to estimate the risk to the red drum. The model estimated little risk for this endpoint.

PROPOSED ALTERNATIVE

Based on the distribution of the contamination, the lack of toxicity, and indicators of a healthy environment from the benthic community analyses, the Navy is recommending no further action for OU 15. Evaluation of the nine criteria requirements are not applicable. Because this remedy does not result in hazardous substances onsite above health-based levels, the five-year review does not apply to this action.

COMMUNITY PARTICIPATION

The Navy provides information regarding the cleanup of IRP sites at NAS Pensacola to the public through public meetings, the Administrative Record file for the site, and announcements published in the *Pensacola News Journal.* The Navy, USEPA, and FDEP encourage the public to gain a more comprehensive understanding of OU 15 and the Superfund activities that have been conducted at the site.

The dates for the public comment period and the locations of the Administrative Record files are provided on the front page of this Proposed Plan. If a public meeting is requested before the end of the public comment period, the date, location, and time of the meeting will be appropriately announced in the *Pensacola News Journal.*

For further information on OU 15, please contact Greg Campbell at (850) 452-4611, ext. 122.

GLOSSARY OF TERMS

This glossary defines terms used in this Proposed Plan. The definitions apply specifically to this Proposed Plan and may have other meanings when used in different circumstances.

Baseline Risk Assessment (BRA): A study conducted as a supplement to a remedial investigation to determine the nature and extent of contamination at an NPL site and the risks posed to public health and/or the environment.

Bioaccumulation: Uptake and retention of a chemical by an organism from all surrounding media (i.e., water, food, sediment)

Cleanup: Actions taken to deal with a release or threatened release of hazardous substances that could affect public health and/or the environment. The noun "cleanup" is often used broadly to describe various actions or phases, such as a Remedial Investigation/Feasibility Study.

Comment period: A time for the public to review and comment on various documents and actions taken either by the Department of Defense installation or the USEPA. For example, a comment period is provided when USEPA proposes to add sites to the NPL. A minimum 45-day comment period is held to allow community members time to review the Administrative Record and review and comment on the Proposed Plan.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A federal law (42 U.S.C. §§ 9601 *et seq.*) passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). The act created a special tax that goes into a trust fund, commonly known as "Superfund," to investigate and clean up abandoned or uncontrolled hazardous waste sites. Under the program the USEPA can either: (1) pay for site cleanup when parties responsible for the contamination cannot be located or are unwilling or unable to perform the work; or (2) take legal action to force parties responsible for site contamination to clean up the site or pay back the federal government for the cost of the cleanup.

Exposure Pathway: The route by which contaminants or contaminated media (such as soil) come in contact with people, plants or animals that are considered "receptors." Exposure to contaminants occurs when an exposure pathway is "completed." Without exposure, there is no risk.

Florida Department of Environmental Protection (FDEP): The State regulatory agency whose mission is to protect, conserve and manage Florida's environment and natural resources.

Installation Restoration Program (IRP): A program developed by the Department of Defense (DoD) to identify, assess, characterize, and clean up or control contamination from past hazardous waste disposal operations and hazardous materials spills at DoD facilities.

National Oil and Hazardous Substances Contingency Plan (NCP): The federal regulation that guides the *National Priorities List* program.

National Priorities List (NPL): The USEPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial response using money from the trust fund.

Operable Unit (OU): A discrete action that comprises an incremental step toward comprehensively addressing site problems. The cleanup of a site can be divided into a number of OUs, depending on the complexity of the problems associated with the site.

Preliminary Remediation Goals (PRGs): Concentration goals for individual chemicals in specific medium and land use combinations which are used by risk managers as long-term targets during the analysis and selection of remedial alternatives.

Proposed Plan: A public participation requirement of SARA in which the lead agency summarizes for the public the preferred cleanup strategy and the rationale for the preference, reviews the alternatives presented in a detailed analysis of the RI/FS, and presents any waivers to the cleanup standards of Section 121(d)(4) that may be proposed. The proposed plan must actively solicit public review and comment on all alternatives under agency consideration.

Record of Decision (ROD): A public document that explains which cleanup alternative(s) will be used at NPL sites. The ROD is based on information and technical analysis generated during the RI/FS and consideration of public comments and community concerns.

Receptor: A person or ecological entity exposed to a contaminant relative to the exposure pathway.

Remedial Investigation/Feasibility Study (RI/FS): Investigation and analytical studies usually performed at the same time in an interactive process and together referred to as the "RI/FS." They are intended to: (1) gather the data necessary to determine the type and extent of contamination at an NPL site; (2) establish criteria for cleaning up the site; (3) identify and screen cleanup alternatives for remedial action; and (4) analyze in detail the technology and costs of the alternatives.

Resource Conservation and Recovery Act (RCRA): A federal law that established a regulatory system to track hazardous substances from the time of generation to disposal. The law requires safe and secure procedures to be used in treating, transporting, storing, and disposing of hazardous substances. RCRA is designed to prevent new, uncontrolled hazardous waste sites.

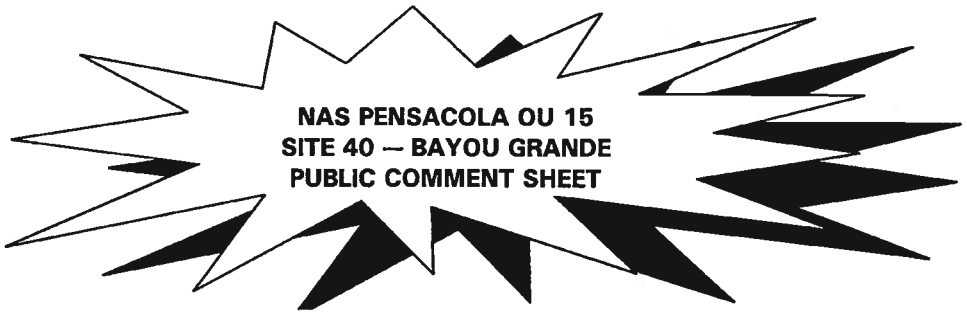
Responsiveness Summary: A summary of oral and written public comments received by the lead agency during a comment period on key documents, along with the response prepared by the lead agency. The Responsiveness Summary, highlighting community concerns for decision-makers, is a key part of the ROD.

Site: A "facility" as defined by Section 101(9) of CERCLA.

Superfund: The trust fund used to investigate and clean up abandoned or uncontrolled hazardous waste sites. Superfund is also commonly used to refer to the Federal CERCLA law.

Superfund Amendments and Reauthorization Act (SARA): This act extensively amends CERCLA or Superfund. SARA's goals include a stepped-up pace of cleanup, increased public participation, and more stringent and better defined cleanup standards, emphasizing remedial actions that permanently and significantly reduce hazardous situations. Remedial actions are generally more extensive than removal actions, usually requiring a NPL listing, a detailed site study, and an analysis of the cost effectiveness of various cleanup options, known as a RI/FS. The act also requires that the USEPA or the state provide public notice and opportunity to comment on any proposed plan for remedial action prior to approval of the plan. In addition to requiring a cost-effective cleanup remedy for a Superfund site, as required by CERCLA, SARA requires that preference be given to remedies that permanently reduce the toxicity, volume, or mobility of the hazardous substances.

U.S. Environmental Protection Agency (USEPA): The Federal agency whose mission is to protect human health and to safeguard the natural environment; air, water, and land; upon which life depends.



USE THIS SPACE TO WRITE YOUR COMMENTS

Your input on the Proposed Plan for OU 15 at NAS Pensacola is important in helping the Navy select a final remedy for the site. You may use the space below to write your comments, then fold and mail. Additional comments may be included with this form.

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Name_____

Address_____

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Phone #_____

NAS PENSACOLA OU 15 (SITE 40 – BAYOU GRANDE)

PUBLIC COMMENT SHEET

Fold on dashed lines, staple, stamp and mail

Place Stamp Here

Name _____
Address _____
City _____ State __Zip ____

Commanding Officer
NAS Pensacola, Code 00500
Attn: Ron Joyner
190 Radford Blvd
Pensacola, Florida 32508-5217

MAILING LIST ADDITIONS/CORRECTIONS

If you would like your name and address placed or corrected on the mailing list for the Installation Restoration Program at NAS Pensacola, please complete this form and return to Harry White, NAS Pensacola Public Affairs Office, Code 00B00, 190 Radford Boulevard, Building 191, Pensacola, Florida 32508-5217.

NAME: _____

ADDRESS: _____

_____

TELEPHONE: _____

AFFILIATION (If any): _____

DEPARTMENT OF THE NAVY

COMMANDING OFFICER
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190 RADFORD BLVD.
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