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STATEMENT OF BASIS FOR CORRECTIVE ACTION A SOLID WASTE MANAGEMENT
UNIT 8 BUILDING 106 POND NSA CRANE IN
5/1/2011
U S NAVY

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT STATEMENT OF BASIS
FOR CORRECTIVE ACTION AT SOLID WASTE MANAGEMENT UNIT #08/17 -
BUILDING 106 POND
NAVAL SUPPORT ACTIVITY CRANE
CRANE, INDIANA**

INTRODUCTION

The purpose of this Statement of Basis (SB) is to present the proposed corrective measure to address groundwater contamination at SWMU #08/17 (SWMU 8) and to invite public comment on this proposal. This SB provides SWMU 8 background information and explains the reasons for proposing this corrective measure. Various investigations were conducted at SWMU 8 from 1973 to 2010 as part of multi-SWMU investigations. This document summarizes information that can be found in greater detail in the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) (Tetra Tech, 2008a), Corrective Measures Proposal (CMP) (Tetra Tech, 2008b), Interim Measures Report (Tetra Tech, 2010), and other documents contained in the Administrative Record for NSA Crane. Persons interested in reviewing the RFI Report, CMP Report, Interim Measures Report, or report summaries and the justification for the proposed remedy (recorded in this SB) may view these documents at the Indiana Department of Environmental Management (IDEM) office listed below or on compact disk at the Bedford Public Library.

FACILITY NAME AND DESCRIPTION

This SB applies to SWMU 8, which is located in the Load and Fill Area and occupies 5.8 acres near the western boundary of Naval Support Activity (NSA) Crane, approximately midway between the northern and southern boundaries of the facility (Figure 1). SWMU 8 contains Buildings 106 and 107 and the remediated and backfilled Building 106 Pond, a former surface pond located east of Building 106. The pond covered an area of approximately 2,550 square feet (0.06 acre) and was surrounded by trees and a fence. The area east and northeast of the former pond is wooded, and

there is an open grassy area south of the former pond. SWMU 8 consists of several buildings in which various projectile overhaul and box-refinishing processes occurred. A former Industrial Wastewater Treatment Facility (Building 2961) was located south of the former Building 106 Pond.

In the mid-1970s, Building 106 was used for applying a zinc phosphate coating to projectiles and also included a caustic wash cleaning process, trichloroethene (TCE) degreasing unit, and hydrochloric acid wash. Prior to 1972, Building 106 untreated process wastewaters were pumped to the unlined Building 106 Pond. After 1972, the Building 106 Pond was connected to a neutralization treatment system that discharged to the sanitary sewer. Building 107 was originally used to refinish wooden and metal boxes. The metal boxes were cleaned with TCE; the wooden boxes were treated with pentachlorophenol (PCP). The boxes were painted in paint booths within Building 107.

Overflow and floor drainage from Buildings 106 and 107 processes containing volatile organic compounds (VOCs) including TCE and 1,1,1-trichloroethane, PCP, paint residue, and heavy metals flowed into the Building 106 Pond along with oily wastewater from leaking compressors. Release of chlorinated organic compounds and other contaminants from the pond has been determined to be the source of groundwater contamination at SWMU 8. Currently, equipment repair operations are intermittently performed in Buildings 106 and 107.

In 2007, a Voluntary Interim Measures (VIM) was performed to remove contaminated pond water, pond sidewall soil (soil along the sides of the pond), and sediment from the Building 106 Pond. Samples were collected from the boundary of the excavation to confirm that contaminated sediment and soil had been removed satisfactorily. Upon completion of VIM activities, the excavated area, including the pond, was backfilled with clean soil.

Contamination from Building 106 Pond sidewall soil, sediment, and water, especially VOCs, has adversely affected groundwater,

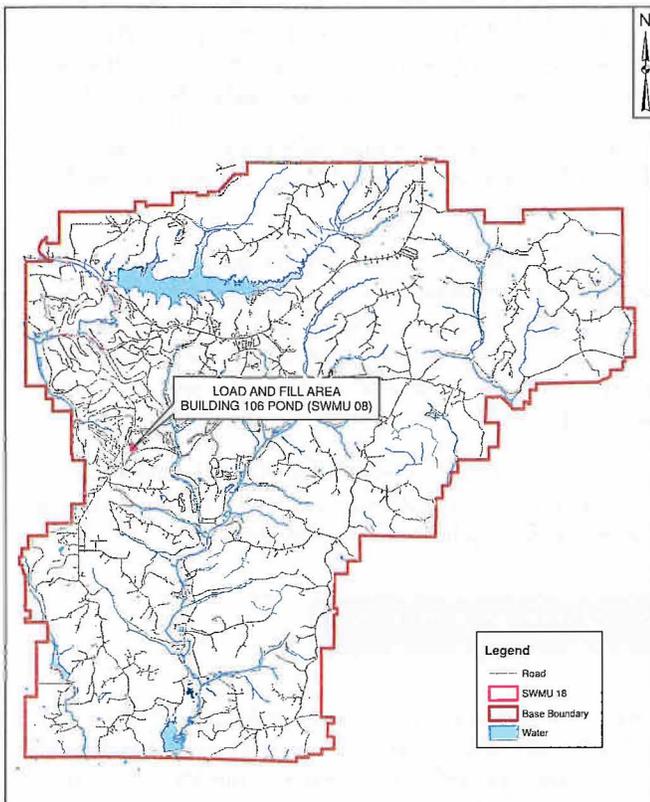


Figure 1: SWMU 8 Site Location Map

presenting a human health risk if groundwater were to be used in the future as a drinking water source. The source of groundwater contamination was removed during the 2007 VIM, and the degree and extent of groundwater contamination at SWMU 8 is limited. The primary groundwater contaminants are chlorinated VOCs and 1,4-dioxane (a semivolatile organic compound [SVOC]). Remaining site soil is no longer contaminated because contaminated pond sidewall soil was excavated and disposed of off site during the 2007 VIM. Additionally during the 2007 VIM, the pond water was removed, appropriately treated, and discharged to the NSA Crane Wastewater Treatment Plant, and the area of the former Building 106 Pond was backfilled with clean soil. As determined during the human health risk assessment (HHRA) conducted as part of the CMP, concentrations of VOCs and metals pose potentially unacceptable risks to human health if groundwater from the site were used in the future as a drinking water source. Under current site conditions, risks for all site media are acceptable for all site receptors. As stated above, future use of groundwater as drinking water may cause unacceptable human health risks, and a corrective action is required to address these potential risks.

SCOPE OF CORRECTIVE ACTION

Long-term monitoring (LTM) and land use controls (LUCs) are the proposed corrective action for groundwater in the shallow (Upper Pennsylvanian water-bearing zone [Puz]), intermediate (Middle Pennsylvanian water-bearing zone [Pmz]), and deep (Lower Pennsylvanian water-bearing zone [Plz]) aquifers within the SWMU 8 LUC Boundary 1 (Figure 2). LTM and LUC details will be developed in the Corrective Measures Implementation Plan (CMIP), which is where the design of the remedy and the measures of its effectiveness will be described. Based on the corrective action objectives of preventing human exposure to groundwater with contaminant concentrations associated with unacceptable risk and complying with regulatory criteria, media cleanup standards (MCSs) were developed for the groundwater chemicals of concern (COCs) from the CMP Report and are presented in the Table 1.

As part of proposed remedy, it will be necessary to protect human health by implementing LUCs. The LUC objectives are as follows:

- Prohibit the development and use of the Building 106 properties within the LUC Boundary 1 for residential or otherwise unrestricted use.
- Maintain the integrity of any current or future remedial system or monitoring system (e.g., monitoring wells).

When COC concentrations less than or equal to MCSs are achieved, the remediation process will be considered complete.

TABLE 1

COC	Groundwater MCS (µg/L)			
	Puz	Pmz	Plz	Basis
Volatile Organics				
1,1,1-Trichloroethane	NA	200	NA	1
1,1,2-Trichloroethane	NA	5	NA	1
1,1-Dichloroethene	7	7	NA	1
cis-1,2-Dichloroethene	NA	70	NA	1
Trichloroethene	5	5	NA	1
Vinyl chloride	2	2	NA	1
Metals				
Aluminum	10,500	NA	NA	2
Arsenic	10	NA	NA	1
Iron	3,110	3,110	3,110	2
Manganese	243	243	243	2
Nickel	NA	730	NA	3
Vanadium	9.8	NA	NA	2

- 1 Maximum Contaminant Level (40 Code of Federal Regulations 141).
 - 2 Default Residential Closure Level (IDEM, 2006).
 - 3 Calculated based on site-specific risk.
- µg/L micrograms per liter.
NA Not applicable; not a COC for this groundwater zone.

ANTICIPATED IMPACTS OF CLEANUP ON THE LOCAL COMMUNITY

The corrective action, LTM, and LUCs, would be protective of human health and the environment. Natural degradation of contaminants would protect human health by reducing the concentrations of VOCs, SVOCs, and possibly metals.

Monitoring would protect human health and the environment by verifying the progress of groundwater remediation, warning of potential contaminant migration.

LUCs would protect human health by preventing exposure to contaminated groundwater as long as contaminant concentrations are greater than MCSs. LUCs would also prevent access to and/or use of contaminated groundwater within the SWMU 8 LUC Boundary 1 (Figure 2) until MCSs (cleanup goals) are achieved throughout that area.

If at any time it is determined that the LUCs and monitoring are not sufficient to effectively protect human health and the environment, a more active approach would be considered.

PUBLIC PARTICIPATION

Comments on this corrective action proposed in this SB will be taken for 30 days. The commencement and conclusion dates of the 30-day comment period will be posted on the NSA Crane website (http://www.navsea.navy.mil/nswc/crane/community/Pages/Environmental_Restoration.aspx). Members of the public may

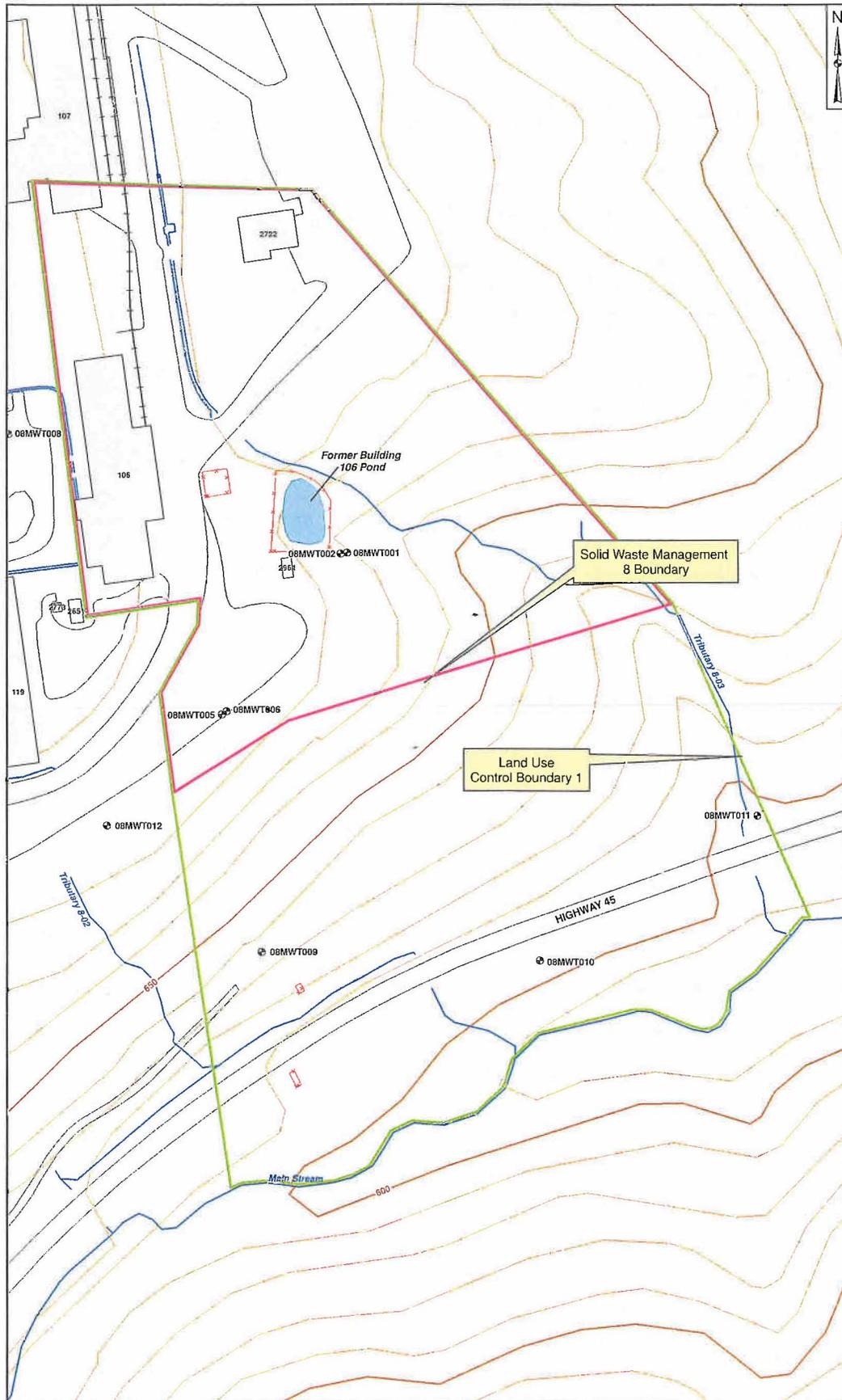


Figure 2: SWMU 8 LUC Boundary

submit written comments to IDEM regarding the proposed remedy. Comments may either be submitted by e-mail to CRANE_RAB@navy.mil or by mail to:

Doug Griffin
Indiana Department of Environmental Management
100 North Senate Avenue Room IGCN 1154
Indianapolis, IN 46204

Written comments concerning this proposal should include the name and address of the writer and the supporting relevant facts upon which the comments are based. Written comments received will be summarized and responses provided to all persons on the facility mailing list. Written comments should be submitted via e-mail or postmarked by the end of the comment period.

Members of the community who are interested in reviewing any of the documents referenced in this SB may view these documents at the IDEM office listed above or on compact disk at the Bedford Public Library.

ACRONYMS

CMIP - Corrective Measures Implementation Plan.

CMP - Corrective Measures Proposal.

COC - chemical of concern.

IDEM - Indiana Department of Environmental Management.

LTM - long-term monitoring.

LUC - land use control.

MCL - Maximum Contaminant Level

MCS - Media Cleanup Standard.

NSA - Naval Support Activity.

PCP - pentachlorophenol.

Plz - Lower Pennsylvanian water-bearing zone

Pmz - Middle Pennsylvanian water-bearing zone

Puz - Upper Pennsylvanian and overburden water-bearing zone

RCRA - Resource Conservation and Recovery Act.

RFI - RCRA Facility Investigation.

SB - Statement of Basis.

SVOC - semivolatile organic compound.

TBC - to be considered.

TCE - trichloroethene.

VIM - Voluntary Interim Measures.

VOC - volatile organic compound.