REVISED SUMMARY FOR THE SOLVENT RELEASE AREA FEASIBILITY STUDY NAS SOUTH WEYMOUTH MA

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REVISED SUMMARY FOR THE SOLVENT RELEASE AREA FEASIBILITY STUDY
NOVEMBER 7, 2011
FORMER NAVAL AIR STATION SOUTH WEYMOUTH, WEYMOUTH, MA

INTRODUCTION

A revised approach for the Solvent Release Area (SRA) Feasibility Study (FS) was included in the Navy's March 21, 2011 responses to comments received from the U.S. Environmental Protection Agency (EPA) and Massachusetts Department of Environmental Protection (MassDEP) on the draft FS. The approach has subsequently been revised based on numerous BRAC Cleanup Team (BCT) meetings and associated correspondence. Revision 1 of the FS approach (June 1, 2011) was issued on June 6, 2011 by Tetra Tech on behalf of the Navy. In correspondence dated August 25, 2011, the Navy issued responses to EPA and MassDEP comments on the June FS approach (e.g. Revision 1) and appended a summary of the approach for the SRA FS. At the direction of the Navy, Tetra Tech is preparing a revised draft FS; Navy anticipates issuing this document in late November. Key elements of the revised draft FS are discussed below.

The location of the SRA, as currently delineated, is more fully shown on Exhibit A attached hereto. As currently delineated by the Navy, the SRA Site is located within an area designated in the NAS South Weymouth Reuse Plan and Zoning By-Laws as Recreation District (RecD) and Open Space-Weymouth District (OS-W). Recreational and institutional uses and utility construction are permitted in the RecD district, and active and passive recreational uses, utility construction and road construction are permitted in the OS-W district. Recreational development, which will include recreational fields and associated buildings and facilities, is expected to begin immediately following land transfer. Open space areas will be the subject of a public benefit conveyance from the National Park Service. Areas immediately south of the RecD zone are zoned for mixed use development, including residential uses, and are potential downgradient receptors of uncontained groundwater contaminants. For further background information and environmental and risk assessment findings for the SRA Site, please see the August 2010 Final Remedial Investigation (RI) and the August 2010 draft FS.

Navy's human health risk assessment (HHRA) for the SRA Site, which is included in the Draft Final RI, evaluated potential risks to future maintenance workers, current and future adolescent trespassers, future adult and child recreational users, future adult and child residents, and future construction workers. Navy concluded that of these groups, the SRA Site contaminants presented a potential unacceptable risk to future adult and child residents in the form of vapor intrusion into buildings, and construction workers exposed to vapors in narrow deep trenches. The major contributor to risk is PCE in groundwater. An

evaluation of potential risks associated with use of groundwater for irrigation indicated a potential risk to a future resident via the dermal exposure pathway and the vegetable ingestion exposure pathway.

An ecological risk assessment concluded that no adverse effects were predicted to terrestrial receptors, wildlife, aquatic organisms, and terrestrial plants and invertebrates. Some slight impacts to sediment invertebrates were predicted by the ecological risk assessment due to concentrations of PAHs, pesticides, and PCBs detected in sediment. However, Navy concluded that the PAHs and pesticides were not related to the SRA Site, and that the PCB impacts were limited in areal extent. On this basis, Navy determined that there was no significant ecological risk requiring review in the revised draft FS.

REMEDIAL ACTION OBJECTIVES

Remedial Action Objectives (RAOs) are the goals that a cleanup plan must achieve. They are established to protect human health and the environment and to comply with all relevant federal and state regulations. An FS is required to evaluate alternatives to address potential, unacceptable risk posed by the SRA Site. The following RAOs for groundwater and surface water at the SRA Site will be included in the revised draft FS:

RAO No. 1: Prevent the migration of contaminants of concern (COCs) to surface water at concentrations that pose an unacceptable risk to human health.

RAO No. 2: Prevent exposure of building occupants to VOCs resulting from vapor intrusion into future buildings at the Site at concentrations that pose unacceptable risk.

RAO No. 3: Prevent exposure of construction workers during excavation activities to VOCs and COCs in groundwater at concentrations that pose unacceptable risk.

RAO No. 4: Prevent migration of groundwater containing COCs.

ARARS

The applicable or relevant and appropriate requirements (ARARs) and to be considered criteria (TBCs) presented in the draft FS have been revised in response to the change in approach and comments on the draft FS, as applicable.

PRELIMINARY REMEDIATION GOALS

Preliminary remediation goals (PRGs) have been developed for the revised draft FS. The PRGs establish cleanup goals for remedial actions to reduce concentrations of COCs in site media and mitigate unacceptable risks to human health and the environment. Separate PRGs may be developed for the wetland portion of the site, which will not be redeveloped except for limited utility construction, and the portion of the site in the RecD zone, which is south of the EMD and where the recreational development will be located. The revised draft FS will present the calculated PRGs selected for each media based on the following exposure pathways:

- PRGs for groundwater to protect anticipated future receptors under the future land uses for the various areas of the site (i.e., recreation, institutional use, and construction of buildings, roads and utilities in the RecD zone, and open space, recreation and roads in the OS-W zone).

- PRGs for surface water at the SRA Site based on recreational user risk.

- PRGs for the vapor intrusion pathway.

- PRGs for the future construction worker pathway.

REMEDIAL ALTERNATIVES

The revised draft FS will include a detailed evaluation of the five alternatives presented below. These alternatives reflect discussions at BCT meetings and consideration of comments from various parties.

- Alternative G-1 – No Action
- Alternative G-2 – Monitoring, Engineering Controls, and LUCs
- Alternative G-3 – PRB (in overburden upgradient of the EMD), Monitoring, Engineering Controls, and LUCs
- Alternative G-4 – Two PRBs (one in overburden upgradient of the EMD and one at upland edge), Monitoring, Engineering Controls, and LUCs
- Alternative G-5 – Enhanced Bioremediation in overburden (10,000 µg/L PCE) and bedrock source area (~8,000 µg/L PCE) using injection methods, PRB in overburden upgradient of the EMD, Monitoring, Engineering Controls, and LUCs

The common elements of Alternatives G-2 through G-5 are discussed below.

Monitoring: The revised draft FS will include assumptions for the number of monitoring wells, surface water locations and sampling frequency to estimate costs. The monitoring costs developed for the revised draft FS will consider wells located to monitor groundwater both north and south of the EMD as well as groundwater flowing into an active treatment area such as a PRB. The final long-term monitoring well locations and surface water locations in the EMD will be determined during the remedial design (RD) phase for the selected remedy. The design of the groundwater and surface monitoring networks will take into account issues discussed in comments provided to the Navy by EPA, MassDEP and other parties and will be designed to prevent any unreasonable burdens upon or interference with the future land uses. The supplemental time series data collected by the Navy in April and August 2011 will be included in the revised draft FS.

Engineering Controls: The revised draft FS will assume that a fence will be temporarily installed around the western end of the EMD on an interim basis. Once the monitoring shows that the PRGs for surface water have been achieved and no unacceptable risk remains (i.e. the remedy is operating properly and successfully), the fence will be removed.

Land Use Controls: The land use controls (LUCs) assumed in the revised draft FS will take into account the zoning and planned reuse of the SRA Site, as discussed above. As has been discussed at BCT meetings and in related comments and correspondence, the portion of the SRA north of the EMD is zoned as open space and is designated for public benefit conveyance, while the area south of the EMD is zoned for recreational use. Because the SRA Site is not located within a potentially productive aquifer and SSTTDC and LNR have indicated that the potable and irrigation water needs for the redevelopment can be provided by sources other than the groundwater at the SRA Site, future use of groundwater at the SRA Site for drinking water or irrigation are not exposure scenarios that need to be evaluated in the revised draft FS. Rather, a permanent LUC that prevents the use of groundwater at the SRA Site for potable (e.g., drinking water) or irrigation purposes will be employed (which will prevent exposure to COCs in groundwater at concentrations that pose unacceptable risk).

As indicated in the Navy's August 2010 RI for the SRA, shallow groundwater from the SRA discharges to the EMD. Concentrations of COCs detected in shallow groundwater south of the EMD by Navy have been less than Maximum Contaminant Levels (MCL) and are not expected to present a vapor intrusion risk. It is anticipated, therefore, that the EMD will be established as the LUC Compliance Boundary, such that no LUCs (other than the permanent LUC prohibiting installation of drinking water or irrigation extraction wells) will be necessary south of the EMD, thereby allowing the unrestricted development of this area pursuant to the Reuse Plan and Zoning By-Laws. In the area of the site upgradient of the LUC Compliance Boundary (generally north of the EMD), the LUCs identified below and identified in the revised draft FS will be narrowly tailored to the prevention of specific, identified risks and exposure

scenarios identified in the HHRA and revised draft FS, and will be limited in location, duration and scope so as not to unreasonably burden or prohibit reasonably foreseeable uses anticipated by the Reuse Plan and Zoning By-Laws. Details concerning the following controls will be more fully described in the LUC RD, which will be part of the overall RD for the site.

- An LUC requiring EPA and MassDEP approval of construction dewatering plans prior to excavation activities being conducted, until PRGs are achieved.
- An LUC specifying health and safety procedures to be used by construction workers to prevent unacceptable exposure risks based upon risk-based values, until PRGs are achieved.

Details on the PRB and enhanced bioremediation components of Alternatives G-2 through G-5 will be based on information developed for the revised draft FS.

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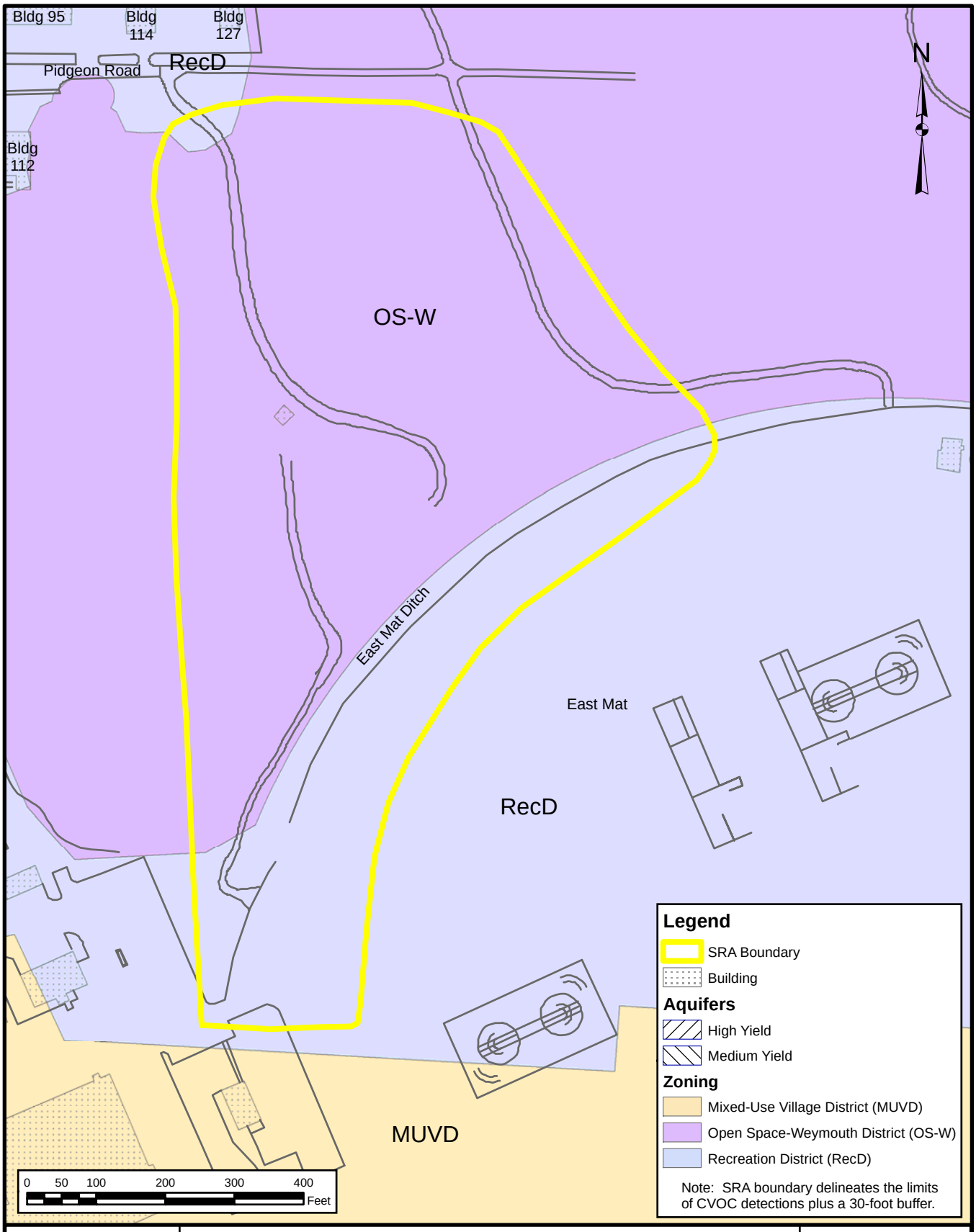

TETRA TECH

SRA
IR SITES, ZONING AND
MASS GIS AQUIFER CLASSIFICATIONS
FORMER NAVAL AIR STATION SOUTH WEYMOUTH
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