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411th BSB HEIDELBERG

SPILL PREVENTION AND RESPONSE PLAN

(SPRP)

SLUG PREVENTION PLAN (SPP)

November 2003

APPROVALS

This Spill Prevention and Response Plan (SPRP) addresses spill prevention, control, and response specific to 411th Base Support Battalion of Heidelberg (BSB Heidelberg) POL and HS use, generation, transport, storage, handling, and disposal.

This SPRP must be updated at least once every 5 years, or more frequently as information/data contained in the plan changes.

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411TH BSB HEIDELBERG SPILL PREVENTION AND RESPONSE PLAN

RECORD OF REVISIONS

The SPRP must be reviewed and updated at least every 5 years or when there are significant changes to operations in accordance with Section C18.3.1 of FGS Chapter 18, Spill Prevention and Response Planning. To fulfill this requirement, the following table is provided for tracking revisions to this plan.

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1 INTRODUCTION

This Spill Prevention and Response Plan (SPRP) has been developed for 411th BSB Heidelberg. The BSB Commander is responsible for the overall content and effectiveness of this plan. If the BSB Commander designates someone other than himself to be responsible for this spill plan, he must be competent and qualified.

1.1 PURPOSE

The SPRP satisfies the requirement to develop and implement a spill prevention and response plan contained in German FGS Section 18.3.1, *Plan Requirements*. Each of the components of this SPRP corresponds to German FGS requirements, as documented in Table 1-1. A copy of the German FGS is included in the Installation Management Agency, Europe Region Office (IMA-EURO) General Requirements Section template.

1.1.1 Slug Prevention Plan

Appendices 7-x have been prepared for each applicable installation of the 411th BSB Heidelberg to satisfy the requirement to develop a Slug Prevention Plan.

1.1.2 Hazardous Waste Contingency Plan

This SPRP contains all the information required to develop a Hazardous Waste (HW) Contingency Plan in accordance with FGS Section 18.3.3 and Section 6.3.6. The following sections of this SPRP must be included in the HW Contingency Plan:

- Section 1.4 Responsibilities
- Section 3 Spill Control and Response
- Section 4.3.4 Involvement of Public Affairs
- Section 6.2 Training Requirements
- Appendices-6-x (POL and Hazardous Substance (HS) Inventory and Spill Prevention Equipment Inventory)
- Appendix-8 (Red Plan)

The Red Plan (Appendix-8) and the installations specific information on “POL and HS Inventory and Spill Prevention Equipment Inventory” (Appendices-6-17) can be used as the portions of the HW Contingency Plan that are pertinent to HWAP ‘facilities and operations’ per FGS Section 6.3.6.2.1.

In accordance with FGS Section 6.3.6.2.1 the HW Contingency Plan should be available in both English and German.

1.2 APPLICABILITY

This SPRP applies to all installations, facilities, units, activities, and organizations associated with the 411th BSB Heidelberg that use, generate, transport, store, handle, or dispose of POL and/or hazardous substances (HS). HS is defined as hazardous material or hazardous waste. This plan is applicable to any BSB activities involving POL and/or HS whether these

activities are on or off the 411th BSB Heidelberg installations. Off-installation activities include any operations outside the BSB or installation boundaries or on property not under U.S. control, such as off-post training activities and maneuvers. In addition, this document is applicable to the activities of other organizations or units outside of the 411th BSB Heidelberg that use training areas on or otherwise operate within the 411th BSB Heidelberg area of responsibility.

This SPRP is applicable to the following installations of the 411th BSB Heidelberg:

Installation	Location	ARLOC (Army Location Code)
Army Airfield (Heidelberg)	Oftersheimer Weg (south Pfaffengrund), Heidelberg	GE 35B
Campbell Barracks	Roemerstrasse, Heidelberg	GE 12F
Community Support Center	Czernyring, Heidelberg	GE 34J
Edingen Radio Receiver Facility	Edingen	GE 19P
Germersheim Army Depot	Germersheim	GE 30J
Golf Course (Heidelberg)	At B 291 Hardtwaldsiedlung, Oftersheim	GE 34F
Hammonds Barracks	Seckenheimer Landstrasse, Heidelberg	GE 33J
Hospital (Nachrichten Kaserne)	Roemerstrasse, Heidelberg	GE 34G
Kilbourne Kaserne	Friedrichsfelder Landstrasse, Schwetzingen	GE 45D
Koenigstuhl Radio Relay Facility	Turmweg, (Königstuhl) Heidelberg	GE 46F
Mark Twain Village	Roemerstrasse, Heidelberg	GE 52L
Patrick Henry Village (PHV), North & South	Speyererstrasse, Heidelberg	GE 654
Patton Barracks	Speyererstrasse, Heidelberg	GE 658
Small Arms Range	At B 291 Hardtwaldsiedlung, Oftersheim	GE 62S
Stem Kaserne	At A 656, Seckenheim	GE 76P
Stocksberg Radio Relay Facility	Gemarkung Loewenstein, Stocksberg	GE 80B
Tompkins Barracks	Friedrichsfelder Landstrasse, Schwetzingen	GE 846

1.3 PLAN DISTRIBUTION

The Red Plan (Appendix 8) has been copied and placed at all smaller facilities where POL and/or HS are stored, for quick reference during spill incidents.

1.4 RESPONSIBILITIES

Responsibilities of BSB personnel for spill control and response are listed below:

1.4.1 Facility Incident Commander (FIC)

The FIC coordinates and directs DoD control and cleanup efforts at the scene of a POL or HS spill due to DoD activities on or near the installation. The responsibilities of this official (who is designated by the Installation Commander) include:

- Directing DoD control and cleanup efforts at the scene of a POL or HS spill due to DoD activities on or near the installation.
- Mobilizing the FRT immediately after a spill is reported if FRT was not directly notified.
- Coordinating with the FRT to accomplish any spill response actions as effectively as possible.
- Directing the cleanup of the stabilized spill material or any residual contamination of soil, water, or equipment.
- Determining of the point at which an emergency no longer exists.
- Providing a written report to the appropriate In-Theater Component Commander and/or Defense Agency and the executive agent and submitting a follow-up written report when:
    - The spill is uncontained,
    - The spill is significant.

1.4.2 Facility Response Team (FRT)

At the 411th BSB, the FRT is comprised entirely of 411th BSB Fire Department Personnel.

Responsibilities include:

- Providing personnel and equipment for emergency situations and significant spills.
- Responding to a spill incident and being responsible for control of the spill and its cleanup.
- Ensuring proper disposal of spill residue of minor spills.
- Maintaining training appropriate to response levels.
- Preparing the spill incident report
- Maintaining an emergency plan that includes information on the nearest German Fire Departments with spill response capability, units, and facilities of German disaster protection services, and U.S. or German agencies or individuals whose expertise or advice may be helpful.

1.4.3 Other Responsibilities

Public Marshal Office (PMO)

- Securing the on-base spill incident area so only rescue vehicles and personnel can access this area

Public Affairs Office (PAO)

- Coordinating with the Chief Public Affairs and the BSB Spill Coordinator on information releases on off-base spills entering a water body, the sewer or the soil or other environmental issues related to an off-base incident.

1.4.3.1 Responsibilities at the DPW

411th BSB Heidelberg Spill Coordinator

The Spill Coordinator is the individual at the DPW EMO primarily responsible for the spill prevention and response program. Responsibilities include:

- Reviewing plans and specifications presented to the DPW EMO concerning spill prevention measures, and helping to develop plans and design standards that meet all requirements of this plan.

- Testing the effectiveness and responsiveness of this SPRP on an annual basis. The test should include all members of the FRT. Any members of the FRT outside the BSB are to be included as necessary.

- Disseminating training information to include provisions contained within this plan.

- Coordinating with German Fire Department, German Police, and appropriate members of the FRT to arrange for control and cleanup of POL and/or HS discharges or spills off installations, which were the responsibility of the BSB.

- Notifying German authorities about on- and off-base spills (see Table 4-1).

- Establishing prearranged agreements with potential German resources (e.g. German disaster protection agency, remediation contractor, etc.) so they are available if a spill exceeds the response capabilities of the installation.

- Recording and evaluating spill reports.

411th BSB Heidelberg Hazardous Waste Emergency Coordinator

Installations that store hazardous waste must designate a prime and alternate person or persons to act as HW Emergency Coordinator for each hazardous waste storage area. Responsibilities include:

- Familiarity with all aspects of this SPRP.

- Familiarity with all installation operations involving HW, the location of all HW records, and the layout of the HW storage area.
- Authority to commit resources for implementing the HW Contingency Plan (see Section 1.1, HW Contingency Plan).

1.4.3.2 Responsibilities at the Units

Unit Commander

Responsibilities include:

- Coordinating with the 411th BSB Heidelberg Commander, EMO, and 411th BSB Heidelberg Fire Department as necessary to ensure effective implementation, review, and testing of this SPRP.
- Coordinating with and assisting the FRT for the cleanup of POL and /or HS releases whenever the unit's area of responsibility is involved; and ensuring that all spills are reported in accordance with this SPRP.
- Ensuring that all personnel are trained and follow procedures for POL and HS handling, emergency response, and clean up.
- Appointing a Prime and Alternate UEC (Unit Environmental Coordinator) with direct responsibility for POL and HS handling.
- Reviewing unit SOPs after a spill occurs to see if changes are needed to prevent a reoccurrence. In addition, provide a written report to the BSB Spill Coordinator if the spill meets the reporting criteria listed in Chapter 4 of this SPRP.

Unit Environmental Coordinator (UEC)

Each installation that stores and handles hazardous substances (hazardous waste and hazardous material) must have a successfully trained (certificate) Prime and Alternate UEC.

Responsibilities of the UEC include:

- Notifying the Facility Incident Commander if the spill is significant. (see section 4.2)
- Ensuring the effective implementation of this SPR plan at the unit level.

Table 1-1 SPRP Regulatory Cross Reference Matrix (*continued*)

Table 1-1 SPRP Regulatory Cross-Reference Matrix

German FGS Section	Description	Applicable SPRP Section	Remarks
4.3.2.1.7	Slug Prevention Plan	Appendices 7-x	
5.3.4	Master Listing and Inventory	Appendices 6-x	
6.3.6	Contingency Plan	Chapter 3 / Appendix 8	
9.3.1	Spill Plans	Appendix 8 / Chapter 3 / Appendix 6	
9.3.4.2	Pipeline SOPs	Appendix 1	
11.3.1.4	Pesticides will be addressed	Appendix 1	
14.3.2.1	PCB items will be addressed	3.1 / 3.3.2 / Appendix 1	
18.3.2.1	Facility Incident Commander (FIC)	3.2 / 3.3 / 4.2 / Appendix 8	
18.3.2.2	General installation information	Appendices 5-x	
18.3.2.3	Inventory of potential spill sites	Appendices 6-x	
18.3.2.4	POL and HS Inventory	Appendices 6-x	
18.3.2.5	Emergency Services Arrangements	Appendix 2 / Appendix 8	
18.3.2.6	Emergency Services Contact List	Appendix 8	
18.3.2.7	Spill Prevention Control Equipment	2.1 / Appendices 6-x	
18.3.2.8	Emergency Equipment	Appendices 6-x	
18.3.2.9	Evacuation Plan	Appendix 2	
18.3.2.10	Spill Prevention Deficiencies	Appendix 4	
18.3.2.11.1	Operations to preclude spills	Appendix 1	
18.3.2.11.2	Inspections	Appendix 3	
18.3.2.11.3	Record-keeping	Chapter 5	
18.3.3.1	Responsibilities	1.4 / Appendix 8	
18.3.3.2	Immediate Response Actions	3.1 / Appendix 8	

Table 1-1 SPRP Regulatory Cross Reference Matrix (*continued*)

German FGS Section	Description	Applicable SPRP Section	Remarks
18.3.3.3	Facility Response Team	3.2 / Appendix 8	
18.3.3.4.2	Procedures for Public Affairs Involvement	4.3.3	
18.3.3.5	Emergency Contact List	Appendix 8	
18.3.3.6	Notification of FIC, Commander and Local Authorities	Appendix 8	
18.3.3.7	Notification Responsibilities	1.4 / Appendix 8	
18.3.3.8	Surveillance Procedures	Appendix 3	
18.3.3.9	Prioritized list of critical resources	Appendices 5-x	
18.3.3.10	Other resources	4.3.2	
18.3.3.11	Cleanup methods	3.4	
18.3.3.12	Procedures for reuse and disposal	3.4.1 / 3.4.2	
18.3.3.13	Health, safety, and fire prevention	Chapter 3	
18.3.3.14	Releasing information	4.3.3	
18.3.4.1	Record-keeping	Chapter 5	
18.3.4.2	Significant spill reporting to FIC	4.2	
18.3.4.3	FIC reporting	Appendix 8	
18.3.4.4	Further notification	4.3.1	
18.3.4.4.1	Baden-Württemberg notification process	4.3 (Table 4-1)	
18.3.4.5	Spill occurrence off-installation	Appendix 8	
18.3.5	Training and Response Drills	Chapter 6	
18.3.6	Removal/Management Contaminated Soil	3.4.1	
18.3.7	Immediate Response Actions	Appendix 8	

Table 1-1 SPRP Regulatory Cross Reference Matrix (*continued*)

German FGS Section	Description	Applicable SPRP Section	Remarks
18.3.8	Off-site pipelines	Appendix 8 (Table A–8.1)	
19.3.9.4	UST Operating Instructions	Appendix 1	

Table 1-2 Locations of SPRP Copies

Installation Name	Facility Name	Building Number	Person Responsible for Plan

2 SPILL PREVENTION

This chapter of the SPRP provides procedures for the prevention of POL and hazardous substance (HS) spills within the 411th BSB Heidelberg's area of control, whether on or off installation. Maps providing drainage patterns along with pertinent information regarding the BSB are included in the installation specific Appendices 5-x. Standard operating procedures (SOPs, Appendix 1) have been implemented to reduce the risk of spills by establishing consistent practices that are less likely to result in the uncontrolled release of POL and HS. Employees that may come in contact with or work with POL and HS are familiar with the building specific Evacuation Plans (example form see Appendix 2) and inspection and surveillance procedures for POL and HS operations (Appendix 3).

All field operations, maneuvers and exercises, whether on- or off-installations, are performed in compliance with this SPRP. The spill prevention and response procedures in this plan are required for activities at local training areas, major training areas, and maneuver rights areas. Many of the prevention and response procedures are modified for field conditions and the temporary nature of operations (i.e., portable secondary containment systems).

IMA-EURO has prepared a guidance handbook, titled *'You Spill, You Dig!'* An Environmental Handbook for Deployment, for spill prevention and response during field operations. The most recent version of this document may be used as a quick reference guide for spill prevention in the field.

2.1 SPILL PREVENTION STRUCTURES AND EQUIPMENT

POL and HS storage containers and devices are constructed of materials that are compatible with the liquids they contain and the conditions at which they are maintained, and are protective of human health and the environment (including water and groundwater).

Flammable/corrosive material storage lockers and buildings are used to store liquid POL and HS. Both devices have been constructed to contain spills on shelves or in a sump built into the device. Corrosive storage lockers typically have plastic-lined shelves to contain releases of corrosive liquids. These devices are closed and locked when not in use to prevent unauthorized transfer of materials. These devices are located on portions of the BSB that are not subject to flooding or those located in Water Protection Zones I or II.

Secondary containment systems (such as spill pallets, berms, and sumps) are sufficiently impervious to retain substances released, with a maximum permeability of 1×10^{-7} centimeters per second. They are capable of holding 10 percent of the liquid volume of all stored packages and movable vessels, and at least 100 percent of the single largest liquid vessel. Open outdoor secondary containment systems have been designed to contain sufficient freeboard for precipitation and product expansion.

Specific spill prevention equipment available at the installations is shown in Table A-6-x.3 of the installation specific Appendices 6-x..

3 SPILL CONTROL AND RESPONSE

This section of the SPRP describes the specific actions that are performed following a POL and/or HS spill within the 411th BSB Heidelberg's area of control, whether on or off the installations.

Initial spill action procedures are addressed in Figure 1 in the Red Plan in Appendix-8. The specific response to a spill will be dictated by site- and incident-specific variables, including the type and volume of the substance released, the media into which the material is released, the weather conditions during the release, and the environment where the material is released. If the identity of the spilled material is known, the Material Safety Data Sheets (MSDSs, readily available in the vicinity of the storage area) will be immediately obtained and checked for specific information including physical/chemical properties, health hazards, and spill response and cleanup procedures.

3.1 INCIDENT EVALUATION

The incident shall first be evaluated to identify actual or potential threats to life or human health. **All fire, explosions, threats thereof, or toxic HS vapors are considered threats to life or human health**. If an actual or potential threat to life or human health is identified, an evacuation shall be initiated. Evacuation plans placed at each building show the site-specific evacuation information. The incident shall be immediately reported to the BSB Fire Department (FRT). Other points of contact are contained in Table A-8.1 (Appendix 8, Red Plan).

Actual and threatened fires and/or explosions shall be eliminated before any other action related to the incident is initiated. Fire/explosion suppression activities will continue throughout the emergency response as determined by the Fire Department.

Fire suppression water and other runoff from burning POL and HS must be immediately controlled. Prevent the spread of these liquids by blocking floor drains, damming flow, or by other means. Collected runoff water must be tested and treated if required.

If the incident does not pose a threat to life or human health, the spill component of the incident shall be evaluated. If the spill is beyond the capability of the person(s) identifying the incident, Figure 1 in the Red Plan (Appendix 8) provides information on immediate response actions.

If the spill is not significant, and of a known substance, it will be cleaned up immediately by appropriately trained personnel. MSDSs will be referenced to identify proper containment, recovery, and storage procedures. Waste materials shall be containerized in ADR (The European Agreement concerning the International Carriage of Dangerous Goods by Road) proofed containers (certified for transportation on roads) for proper future disposal. More information on waste containers, labeling and disposal can be found in the 411th BSB Hazardous Waste Management Plan, Section 3.1 and 6. An incident summary shall be prepared by the FRT and submitted to the EMO for review and maintenance in the spill files.

3.2 SPILL ASSESSMENT

The FRT shall assess the spill to identify the need for immediate government agency notifications (i.e. if a significant spill has occurred), potential future evacuation conditions, and to formulate a control, containment, and recovery plan. If the spill requires resources beyond those possessed by the FRT, then outside government agencies identified in Table A-8.1 (Appendix 8, Red Plan) shall be contacted. Access to the spill area shall be immediately limited to authorized personnel through the use of BSB Military Police.

3.2.1 Determine Safe Actions

Knowledge of the spilled material properties and the prevailing weather conditions are critical components to the determination of safe actions. Any information related to the spilled materials (especially MSDSs) will be reviewed to identify chemical and physical properties, exposure potential, and spill response procedures. The following additional information will be evaluated:

- The predicted migration direction (see installation specific maps in applicable Appendices 5-x) and speed of materials being released (see installation specific Tables A-6-x.2), incident-specific evacuation routes, safe distances, and places of refuge.
- A safe way to approach the spill and stage response equipment, vehicles and personnel.
- Appropriate personal protective equipment (PPE), including respiratory protection, according to potential exposure risks. (see also the German Operating Instructions placed at workplaces where German employees handling hazardous material)
- Methods to monitor and mitigate any fire and safety hazards to response personnel or neighboring communities from vapors, gases, dusts, or free product throughout the entire response. This may include the use of explosion-proof pumps and non-sparking recovery equipment.
- Areas to be secured, as well as decontamination areas for personnel and equipment.
- Potential medical needs. Identify hospital(s) needed to assist with medical emergencies during response.

3.2.2 Stopping Spills

Once safe actions have been identified, the spill and spread of materials shall be stopped or slowed. The method used to stop the spill source will be determined by the physical conditions causing the spill. This may involve closing a valve, deactivating a pump, up-righting an overturned container, plugging a leaking container, or transferring a container's contents to another container.

Depending on the availability of personnel, spill containment activities will either be performed during or following actions to stop the spill source. Containment activities will be prioritized according to potentially impacted resources, based partially on the following ordered list.

1. Drinking water sources
2. Wastewater treatment plants (see installations specific Appendices 7-x)
3. Water or other habitats designated as sensitive or ecologically critical (consult installations specific Appendices 5-x to identify critical water resources and other special areas of concern that must be protected in the event of a spill)
4. Other surface waters (see installations specific Appendices 5-x)
5. Soil
6. Air

Spill containment actions will be dictated by the surface upon which the material has been spilled. On paved or other hardened surfaces, booms and/or berms shall be placed at the leading edge of the spill to attempt to stop or delay the spill advance. To prevent environmental contamination, spills shall be contained on or directed to impervious surfaces as much as possible. On unpaved surfaces, trenches may be used to stop or delay the spill advance, and may also be used as a recovery location. Nearby floor drains, catch basins, or other liquid conduits shall be immediately

blocked by any method available to prevent releases from reaching underground conduits, including sewers.

Emergency response actions conducted by the FRT will be terminated when the immediate danger of the spill and its potential for spreading have been brought under control. Demobilization of the FRT should include decontamination of personnel and equipment, restoring equipment and supplies for future use, and returning personnel, equipment, and supplies to designated areas. See the FRT action list in Figure 2 in the Red Plan.

3.3 SPILL CLEANUP

The cleanup of the stabilized spill material or any residual contamination of soil, water, or equipment will be directed by the FIC, and/or the German authorities. The determination of the point at which an emergency no longer exists is subject to judgment, but will be confirmed by the FIC. This determination includes ensuring that the spill site is secure from the immediate risk of further discharge.

3.3.1 General Cleanup and Disposal Requirements

The DoD facility, unit, or organization that owns or controls the spill source is responsible for removal and disposal of any contaminated material according to applicable regulations (including DoDI 4715.8, "Environmental Remediation for DoD Activities Overseas"), and returning the spill site to acceptable conditions. Activities shall be conducted in a manner and to a degree to prevent future contamination. If the organization is not able to perform these functions, the local district German authority may do so at DoD reimbursable expense. These functions include, but are not limited to, the following:

1. Remove free product from water, land surfaces, and containments as soon as possible.
2. Implement actions required to decontaminate or control runoff from contaminated surfaces.
3. Collect contaminated materials that can pollute water with booms and other equipment as needed.
4. Collect absorbents, soils, grit, damming materials, and other substances used to control the spill.

The 411th BSB has several Spill Supplies and Emergency Recovery Points where additional dry sweep, absorbant material, boom, and other supply equipment is available:

- Army Airfield (Fire Department, Bldg. 209);
- Germersheim Army Depot, in two garages east of Bldg. 7926;
- Campell Barracks, Bldg. 87;
- Community Support Center, Bldg. 3968;
- Golf Course, Bldg. 4102;
- Patton Barracks, Bldg. 3854
- Tompkins Barracks, Bldg. 4012

More information on the spill supplies and emergency equipement is described in the installation specific Appendices 6-x.

Any surface waters, sediments, soils or groundwater that have become contaminated will be removed or cleaned up according to the German or local environmental cleanup standards which apply to the spilled material and location. The local authorities will be contacted for guidance on conducting any investigations, chemical analyses, and determining the appropriate cleanup standards.

To the extent possible, spill control and cleanup measures will be performed in a manner to allow reclamation and reuse of the spilled material. Unrecoverable POL and HS, contaminated spill recovery materials, and impacted media (i.e., soil) must be appropriately removed and managed as HW until fully characterized. A careful evaluation of the MSDSs and the BSB Hazardous Waste Management Plan will initially be used to properly characterize any waste materials. The characterization will be performed by the appropriate DPW EMO staff or other qualified person. The characterization consists of determining the relevant properties and chemical composition of the waste materials and making a determination based on the HW standards. Contaminated soil and any remaining free product must be analyzed before final disposal. If the material(s) meets HW characterization criteria, the items will be handled and disposed of according to the Hazardous Waste Management Plan.

Non-hazardous wastes will be disposed of through routine waste handling methods. Non-hazardous pesticide wastes will be disposed of according to manufacturer or German regulatory guidelines.

Before the spill site is returned to normal operations, all safety and emergency equipment will be inspected to ensure it is ready for use. All safety hazards and residual contamination will be removed, properly mitigated, or isolated and flagged off.

3.3.2 PCB/T Cleanup and Disposal Requirements

There are no polychlorinated biphenyls and terphenyls (PCB/T) associated with the 411th BSB.

4 SPILL NOTIFICATION AND REPORTING

This section describes the spill notification and reporting procedures that will be executed following spill discovery. The section describes the circumstances under which personnel who are responsible for or respond to a spill are required to notify the various DoD and non-DoD authorities.

4.1 POINTS OF CONTACT

Personnel and organizations listed in Table A-8.1 (Appendix 8, Red Plan) may need to be notified following a POL and HS spill at the 411th BSB Heidelberg. Notifications will be made based on the specific characteristics of the spill.

4.2 SIGNIFICANT SPILLS

The definition of a significant spill/leak of hazardous substance (hazardous waste, hazardous material, POL or water endangering substance) within the 411th BSB Heidelberg is defined as a spill or leak which has or may enter a body of water, sewer system, soil, or cannot be recovered immediately. The GFGS define a significant spill as any uncontained release to the land or water in excess of any of the following quantities:

Substance Spilled	Definition of "Significant" Spill
POL or Liquid / semi-liquid HS	> 400 liters (110 gallons)
Solid POL and HS	> 225 kilograms (500 pounds)
Combinations of POL and liquid, semi-liquid, and solid HS	> 340 kilograms (750 pounds)

Significant spills must be immediately reported to the BSB Fire Department (FRT) and actions taken to eliminate the source and contain the spill.

A spill that is contained within an impervious berm, on a nonporous surface, or inside a building (and does not involve a volatile substance) and does not exceed 400 liters is not considered a significant spill but must still be recovered immediately in accordance with the procedures outlined in the plan.

4.3 NOTIFICATION REQUIREMENTS

This section describes the notification procedures to be followed after a spill has occurred. Figure 3 in the Red Plan consolidates this information into a flow chart. In general, the initial responder or any person discovering an actual or imminent hazardous substance spill should immediately report the incident to his/her immediate supervisor or the Unit Environmental Coordinator (UEC), regardless of the volume of the spill. If both are not available, and the spill is significant, the initial responder has to call the BSB Fire Department. All spills should be cleaned up immediately. If the spill involves HW, the HW Emergency Coordinator (see Table A-8.1) should be notified as soon as possible. In all cases, spill notification should include:

- Name and location of person reporting spill;
- Time of spill;
- Location of spill;
- Type of material spilled;
- Estimated quantity of spill; and
- Any need for medical assistance.

The FIC must prepare a written report to the Commander and/or Defense Agency and Executive Agent for all significant spills.

Table 4-1 provides a list of the specific notification requirements for spills inside a DoD installation, per FGS Section 18.3.4.4.

Table 4-1. Notification Requirements for Spills Inside DoD Installations in the State of Baden-Württemberg

German State	Type of Spill/Release	Authority that must be notified
Baden-Württemberg	Release of water-endangering substances in which the threat of pollution or a hazard to a water body cannot be excluded.	The competent authorities *(for 411th BSB: Amt für Umweltschutz, Landratsamt Rhein-Neckar-Kreis).* If the competent authority cannot be reached, the nearest police station must be notified.

Notification of the German Authorities will be performed by the BSB Spill Coordinator.

4.3.1 Notification Requirements for Spills Outside DoD Installations

The following general notification procedures are followed for spills occurring off the installation, in areas not under U.S. control (FGS Section 18.3.4.5):

- The initial responder notifies German Fire Department (civil: 112). The German Fire Department will control and clean up the spill.
- The initial responder also notifies BSB Spill Coordinator
- The BSB Spill Coordinator notifies the German authorities.

In most cases of HM or HW spills off the installation, German authorities must be notified. All POCs and their telephone numbers are included in Table A-8.1 (Appendix 8, The Red Plan).

4.3.2 Further Notification Requirements

Beyond the initial requirements discussed above, the continued spill notification procedures are largely controlled by the Army's chain of command in a specific situation, as well as the specific requirements of the German or local government authorities. Any incidents or issues occurred during a spill response must be reported the BSB Spill Coordinator to ensure training requirements are kept current.

4.3.3 Non-DoD Resources

The BSB Spill Coordinator identifies and contacts any non-DoD resources whose capabilities, expertise, or advice could be helpful following a spill. If this assistance is requested from German authorities, the German Fire Department is responsible for providing the immediate response. In addition, these non-DoD resources could include German disaster protection agencies, German environmental agency (see Table A-8.1), remediation contractors, or private companies with special cleanup capabilities. The BSB Spill Coordinator must establish prearranged agreements with these potential resources so that they may be available if the spill exceeds the response capabilities of the installation.

4.3.4 Involvement of Public Affairs

The procedures and methods for releasing information in the event of a spill will be determined by the 411th BSB Commander and the Public Affairs Office (PAO). The PAO coordinates with the appropriate BSB and installation personnel and provides information releases and public relations support as needed. The PAO will be the releasing authority to the media for any information regarding the BSB.

5 RECORD-KEEPING

To ensure both the spill prevention program and POL and HS management programs are compliant with applicable regulations, it is essential to generate and retain complete records of spill prevention and response activities. Properly maintained records may also be used to help identify and correct compliance deficiencies or to develop improved procedures or processes for future operations.

Records of the following types of activities related to the spill prevention and response program will be kept:

- Actions taken by the FRT or any other spill response crews;
- Any reportable spill incident, response or cleanup;
- Any reportable fires, injuries, or other emergencies occurring in the POL and HS storage areas;
- Materials inventories (HM);
- Routine or non routine inspections;
- Training activities;
- Waste pickup and disposal;
- Any significant changes to POL and HS storage areas (e.g., removal of connexes, new tank, other type of POL and HS stored); and
- Changes to operating procedures.

When emergency procedures are invoked, the BSB must maintain records of the following nature:

- Documentation of the date, time, location, nature, and extent of the spill incident
- Documentation of the response actions implemented
- Documentation of the cleanup performed
- Documentation of completion of response actions and cleanup, and certification that the impacted area(s) are safe for resumed use/entry.

BSB Spill Coordinator is responsible for collecting, filing and archiving reported spills for at least 3 years after the event which generated the record. Other individuals or offices may be designated to keep a full or partial set of the spill program records, as deemed appropriate.

Facilities that manage HW, including HW accumulation points and storage areas, have additional record-keeping requirements that are specified in the Hazardous Waste Management Plan.

6 TRAINING

6.1 GENERAL

This section summarizes the training requirements for personnel involved in the spill prevention and response program at the 411th BSB Heidelberg. The 411th BSB Heidelberg Commander is responsible for establishing a program to provide the necessary training to spill prevention and response personnel. This training program has been prepared to ensure the effectiveness of spill response personnel and equipment and be sufficient to provide proper responses to spills or releases. The training program includes a review of spill cleanup equipment, response procedures, and personal protective clothing and equipment.

6.2 TRAINING REQUIREMENTS

Personnel responsible for the implementation of this SPRP, including members of the FRT, are trained on the purpose and content of this plan. Spill prevention training or briefings are conducted often enough to ensure personnel responsible for spill prevention and response thoroughly understand this SPRP. These briefings are conducted annually and may be combined with other required annual training. Documentation is maintained as described in Chapter 5 Record-Keeping.

The 411th FRT consists of employees with a thorough knowledge of fire fighting. Beyond their initial training, FRT “refresher training" consists of responding to actual emergencies that occur throughout the year, and the critique conducted afterwards that provide “lessons learned” to improve spill response capabilities. In addition to the actual response the fire department must periodically conduct drills on the various incidents types (e.g. spill to sewer, fires, etc.).

The BSB Spill Coordinator (DPW, EMO) disseminates training information that includes provisions contained within this plan.

7 REFERENCES

Dames & Moore Group, *'You Spill, You Dig!'* An Environmental Handbook for Deployment, U.S. Army Corps of Engineers, Europe District.

North Atlantic Treaty Organization, August 1959 (as amended), *Revised NATO Status of Forces Agreement (SOFA) Supplementary Agreement*, USAREUR.

U.S. Army, Europe (USAREUR) and Seventh Army (Headquarters), December 1993, *USAREUR Regulation 200-1, Environmental Quality, USAREUR Environmental Quality Program.*

_____, November 1991, *Joint Transportation of Hazardous Material, USAREUR Regulation 55-4*.

U.S. Army Europe (Headquarters), August 2002, *Environmental Final Governing Standards, Germany*, Heidelberg, Germany.

U.S. Army (Headquarters) April 1990, *Army Regulation 200-1, Environmental Quality Environmental Protection and Enhancement*, Washington, D.C.

_____, October 1990, *Army Regulation 40-5, Medical Services Preventive Medicine*, Washington, D.C.

U.S. Defense Logistics Agency, January 1999, *Storage and Handling of Hazardous Materials, Defense Logistics Agency Instruction (DLAI) 4145.11*, Fort Belvoir, VA.

_____, November 1994, *Preparing Hazardous Materials for Military Air Shipments* Defense Logistics Agency Manual (DLAM) 4145.3 Washington, D.C.

U.S. Department of Defense (DoD), August 1997, *Defense Materiel Disposition Manual, DoD 4160.21-M*, Washington, D.C.

_____, October 1990, *DoD Hazard Communication Program DoDI 6050.5*, Washington, D.C.

U.S. Department of Defense Overseas Environmental Task Force, October 1992, *Overseas Environmental Baseline Guidance Document.*

GENERAL APPENDICES

Appendix 1 **Standard Operating Procedures to prevent POL and HS spills**

Appendix 2 **Evacuation Plan**

Appendix 3 **Checklists and Forms for Inspection and Surveillance**

Appendix 4 **Spill Prevention and Response Deficiencies and Corrective Action**

Appendix 8 **Red Plan**

APPENDIX 1

STANDARD OPERATING PROCEDURES

TO PREVENT POL AND HS SPILLS

Standard Operating Procedures

Standard operating procedures (SOPs) are used at the BSB to help prevent spills. These procedures consist of a summary of the specific spill prevention requirements contained in the relevant German FGS references and Best Management Practices.

Beyond these procedures, each facility, unit, or organization at the installation also maintains a set of SOPs to cover location-specific needs.

A1.1 HAZARDOUS MATERIALS

The following are selected general spill prevention procedures for hazardous materials storage areas. These and other POL and HM procedures and requirements can be found in greater detail in the FGS Chapter 5.

1. The installation maintains MSDSs for all POL and HS procured, used, or stored.

   Links to web sites containing the 411th BSB MSDS's are as follows:

   http://www.bsbdpw.heidelberg.army.mil/environmentalOffice

   http://www.sigma-aldrich.com/msds.

   The MSDSs have to be provided in English and, if available, also in German, where German empoloyees are handling HM.

2. MSDSs are maintained in locations where POL and HS are stored and/or utilized.

3. In areas where German employees handle hazardous material, German Operating Instructions (Betriebsanweisungen) have to be prepared and placed at the workplaces.

4. A central database called the Hazardous Material Information Resource System (HMIRS) is available to obtain MSDSs for commonly utilized POL and HS throughout the BSB.

5. Materials are properly secured and segregated to minimize fire, explosion, chemical, and other hazards.

   Any POL and HM storage areas must be located outside of water protection area I and II. In the State of Baden-Württemberg Water Hazard Category D above-ground facilities are not permitted in Water Protection Zone III A.

6. In the State of Baden-Württemberg the following underground facilities are not allowed in Water Protection Zone III A:

   - Contain HS classified as water hazard class (WGK) 1 with a volume of greater than 1,000 m^3
   - Contain HS classified as water hazard class (WGK) 2 with a volume of greater than 10 m^3
   - Contain HS classified as water hazard class (WGK) 3 with a volume of greater than 1 m^3

   At fuel stations underground facilities are allowed in Zone III A up to a total volume of 40 m^3 independent of their water hazard class.

(note: HS can be stored in Water Protection Zone III B, because it is not treated as a real Water Protection Zone based on Baden-Württemberg State law).

7. POL and HS storage areas must be operated to prevent the contamination of water bodies or other detrimental effects (for detailed information see FGS Section C5.3.14).

8. DoD handling requirements in Storage and Handling of Hazardous Materials, Defense Logistic Agency Instruction (DLAI) 4145.11 are followed at all times.

9. Containers with fluid POL and HM must have a secondary containment.

10. Flammable liquid storage is prohibited in the following location:

    - Passageways and thoroughfares;
    - Staircase;
    - Generally accessible hallways;
    - Roof of residential buildings, hospitals, office building and similar buildings as well as in their roof-spaces; and
    - Public restaurant and residences.

11. Automatic fire alarm systems, smoke exhaust methods, fire protection plans, and emergency evacuation plans have been installed and prepared for hazardous materials storage areas.

12. At the 411th BSB, the Hazardous Material Coordinator (e.g., the UEC) for the Unit/Activity must conduct daily inspections (for ASTs) and weekly inspections (HS storage areas) utilizing the "Hazardous Material Coordinator Daily Checklist" prepared by the DPW Environmental Management Office. This inspection provides a listing of specific items that need to be inspected and the frequency that the Hazardous Materials Coordinator must inspect them.

In addition, outdoor storage areas used to store POL and HM comply with the following:

1. Toxic substance storage areas are separated from buildings and adjacent storage areas by walls rated for 90-minute fire resistance. The walls are 1 meter higher than the material.

2. Toxic materials are at least 5 meters from any building doorway.

A1.2 HAZARDOUS WASTE STORAGE PROCEDURES

HW procedures and requirements can be found in the Hazardous Waste Management Plan.

A1.3 BULK STORAGE OF POL IN ABOVE GROUND STORAGE TANKS

The following are selected general spill prevention procedures for POL aboveground storage tanks (ASTs). These and other POL procedures and requirements can be found in greater detail in the German FGS Chapters 5 and 9.

1. AST systems shall not operated if tank piping, fittings and safety devices are not well constructed and in sound condition (see also C 5.3.14.1.1.1 German FGS).

2. AST facilities are daily inspected by a qualified person (note: a unit person that has received HM/HW training and is familiar with the requirements on ASTs; for more information: see 5.2 FGS) prior to use to ensure they are in good condition, and good working order. A record of the inspection is maintained at the unit.

3. Temporarily closed storage facilities are secured so they do not present an environmental or safety hazard.

4. Inspection access is provided for tanks, piping, and fittings, and devices that warn of leaks.

5. Each single–walled AST is located in a containment structure with capacity calculated according to the provisions for water endangering substance (*note: they are capable of holding 10 percent of the liquid volume of all stored packages and movable vessels, or at least 100 percent of the single largest liquid vessel whatever is larger*).

A1.4 MANAGEMENT AND OPERATION OF POL STORAGE FACILITIES

The following are selected general spill prevention procedures for management and operations of POL storage facilities. These and other POL procedures and requirements can be found in greater detail in the German FGS Chapter 9.

1. Facilities are kept in good repair, operated in an orderly manner, and inspected regularly (weekly recommended).

2. Facilities requiring a permit must be inspected by an expert, prior to initial operation and every 5 years thereafter (see German FGS Section C9.3.8.1).

3. Containers filled with fixed line connections are labeled with the allowable operating pressure.

4. Tank trucks have an automatic shut-off device to protect the storage tank against overflow.

5. POL products will not be unloaded near water.

6. Discharges from containments are compliant with applicable standards and do not pollute the environment.

7. Storm water drained from containments is inspected prior to discharge for petroleum sheen. Refer to Appendix-3 of this plan for inspection requirements.

8. Petroleum sheen on discharge waters is removed with absorbent material or an oil-water separator.

9. Water draws from storage tanks is handled as appropriate to the materials and individual installation wastewater discharge requirements.

A1.5 PESTICIDE MIXING AND STORAGE AREAS

The following are selected general spill prevention procedures for pesticide mixing and storage areas. These and other pesticides procedures and requirements can be found in greater detail in the German FGS Chapter 11.

1. Pest management facilities and operations, including mixing and storage areas, comply with design and construction standards in Military Handbook 1028-8A.

2. Pesticide storage areas contain a readily visible current inventory of all items in storage, including items to be disposed of.

3. Pesticide storage areas are regularly inspected (weekly recommended) and secured to prevent unauthorized access.

A1.6 UNDERGROUND STORAGE TANKS

The following are selected general spill prevention procedures for UST operations. Operating instructions *(Betriebsanweisung,* to include an operational monitoring plan, a maintenance plan, and an alarm plan) must developed in both English and German for USTs containing water-endangering substances (see C5.3.7.4 GFGS). For USTs containing flammable liquids, these operating instructions must be displayed at conspicuous locations near the USTs. More detailed information on UST management can be found in German FGS Chapter 19.

1. USTs storing water-endangering substances are prohibited in Water Protection Zone I and II (see German FGS Section C19.3.8).

2. USTs have spill and overflow prevention equipment (for more information see C19.3.4.2 GFGS).

3. Leak detection device must be designed to automatically detect leaks in piping, the walls and floors of containers, and detect leaks above and below the liquid level.

4. Filling and emptying of water endangering substances is supervised. Transfers to or from USTs do not occur until all elements involved in the transfer (including safety procedures and equipment) are in place and functioning properly.

5. Transfers are continuously monitored.

6. Personnel working in the vicinity receive annual training by the EMO on the leak detection system and the alarm plan.

7. Dome shafts are secured so that water and/or unauthorized persons may not enter.

8. Leaking USTs are immediately removed from service (see C19.3.6.3 GFGS).

A1.7 HANDLING OF POL AND HS

The handling of POL and HS refers to their use in work areas, which includes activities after storage and before disposal (i.e., container and/or liquid transfers). DoD Handling Requirements in Storage and Handling of Hazardous Materials, DLAI 4145.1 are followed at all times. POL and HS handling procedures and requirements can be found in greater detail in the German FGS Chapters 5 and 6.

1. Drip pans or absorbent materials are placed at dispensing containers to collect drips or spills.

2. Dispensing areas are located away from catch basins and storm drains.

A1.8 BULK LIQUID LOADING AND UNLOADING PROCEDURES

The following are selected general spill prevention procedures for bulk liquid loading and unloading operations. These and other bulk liquid handling procedures and requirements can be found in greater detail in the German FGS Chapters 5 and 19.

1. The ground surface in the area of filling facilities must be sufficiently stable and impermeable.

2. POL products are unloaded near water only if there are no grounds to believe that there will be drainage problems, water pollution, or POL discharges to a sewer system.

3. Tankers loaded and unloaded in harbors or inner harbors are located where no current runs. The drainage of POLs into waterways is prevented.

4. Transfers of POL are conducted only in approved locations. Transfers on the banks of waterways are avoided, and permitted only if adequate safety systems and protective measures are used.

5. The truck and facility is inspected for proper conditions and leaks before unloading or loading. Hoses and other movable lines are arranged to allow inspection along their entire length. The entire process of filling and emptying tanks is observed by an operator.

6. Load capacity limits for tanks are observed.

7. Transfers of POLs with a flash point less than 55° C are performed in areas specifically designed and prepared for these materials. *(note: also see C5.3.15.3.2.1.2: the fill level shall be visible at all times from the exterior of the tank. This may be achieved by means of level indicators; vapor -air mixtures occurring during filling operations must be vented without danger or the facility must be equipped with a gas equilibrium system; all equipment operated in an explosive atmosphere must be explosion proof; the ground surface in the area of filling facilities must be sufficiently stable and impermeable)*

8. Pipes and hoses used for transfers, loading, and unloading are connected tightly and do not leak during the transfer.

APPENDIX 2

EVACUATION PLAN

EVACUATION PLAN

Evacuation plans have been completed for each building containing POL and/or HS. The completed plans, along with one or more escape route maps, are posted in several conspicuous locations in and around each storage area. Due to its extensive volume this documentation has not been included into SPRP. All evacuation plans and escape route maps are available and maintained by the BSB Fire Department.

Building No. Evacuation Plan

Facility/Location Name:	
Evacuation Signals:	
Primary Evacuation Route:	
Alternate Evacuation Route	
Designated Meeting Place Following Evacuation	
Emergency Telephone Numbers	
Installation or BSB Fire Department:	
German Fire Department:	
Hospital:	
Military Police:	
German Police:	
Facility Incident Commander:	
BSB Spill Coordinator:	
BSB Commander:	
Instructions for Turning Off Power and Water:	
Fire Extinguisher Locations:	
Evacuation Instructions:	

APPENDIX 3

CHECKLISTS AND FORMS FOR INSPECTION AND SURVEILLANCE

Checklist forms are provided in a separate Word file, so that they can be used directly to insert information. Double-click on the icon below to access these checklist forms.

"Checklist Forms.doc"

APPENDIX 4

SPILL PREVENTION AND RESPONSE

DEFICIENCIES AND CORRECTIVE ACTION

Table A-4.1. Spill Prevention and Response Deficiencies and Corrective Action for 411th BSB Heidelberg

Deficiency			Description of Spill Prevention/Response Deficiency	Location and/or Building Number	Corrective Measures Required and Procedures to be Followed for Compliance	Description of Interim Control Measure in Place	Name of Person to whom Reported	Date of Report
Operational	Security System	Other						

Deficiencies identified during the data gathering for this Spill Prevention and Response Plan have been verbally reported to the DPW EMO but have not been documented and, therefore, are not part of the plan.

APPENDIX 8

RED PLAN

The Red Plan

In the event of a spill of POL and hazardous substances (HS) at installations of the 411th BSB Heidelberg, this Red Plan serves as an immediate action tool to initiate the correct response at the earliest possible time. The Spill Prevention and Response Plan (SPRP) reinforces this Red Plan and provides in-depth information on spill prevention, response, notification, and cleanup procedures. The Red Plan is to be used in the early stages of a spill and the user is expected to transition to the SPRP after appropriate notifications and response actions are underway.

Figure 1

IMMEDIATE RESPONSE ACTION LIST FOR SIGNIFICANT SPILL

IF IT IS A MINOR SPILL, CLEAN IT UP IMMEDIATELY!

A minor spill does not: 1) enter or threaten water bodies, sewer, or soil
2) pose a safety or environmental threat.

1. Report the Spill

Call U.S. Fire Department if on-post (117) or off-post (civil: 06221-17-8400).
Report the following:
Initial responder name and location.
Time, location, type/quantity of spill.
Need for emergency medical assistance.

2. Determine Safe Actions

No safe actions may be possible.
What is it, how can it hurt me, and what can I safely do?
Check MSDS for material spilled.
Take safe, no-contact simple actions that may help victims, help threatened people, or stop or contain the spill.

3. Stop the Leak

Do not contact or breathe vapors from material.
Close valves, stop pumps, shut down power, move containers.

4. Control and Contain

Keep the spill from spreading.
Close containment valves.
Put portable containments down.
Put absorbents down.

Figure 2

FACILITY RESPONSE TEAM ACTION LIST

FOR MAJOR SPILLS / EMERGENCIES

Follow the Spill Plan

- Obtain personnel and equipment.
- Determine installation/unit information

Determine Safe Actions

- Evaluate material, hazards, evacuation needs.
- Determine extent, migration, weather.
- Provide personal protective equipment.
- Determine safe actions and set up team.

Rescue and Evacuate

- Determine threatened areas and populations.
- Determine safe distances, safe refuge, evacuation routes.
- Activate evacuation personnel and provide for medical treatment needs.

Protect Humans and Animals

- Suppress airborne hazards: vapors, gas, and dust.
- Notify affected workers, residents.
- Control access to the spill site and threatened areas.

Prevent/Control Fire, Explosions

- Assess existing/potential fires or explosion hazards.
- Exercise caution with POLs and flammables.
- Control ignition sources and fuels.
- Properly handle fire water runoff.

Set Environmental Protection Priorities

- Protect drinking water resources...
- Wastewater Treatment Plants.
- Critical or sensitive ecological areas.

Prevent Material Spread

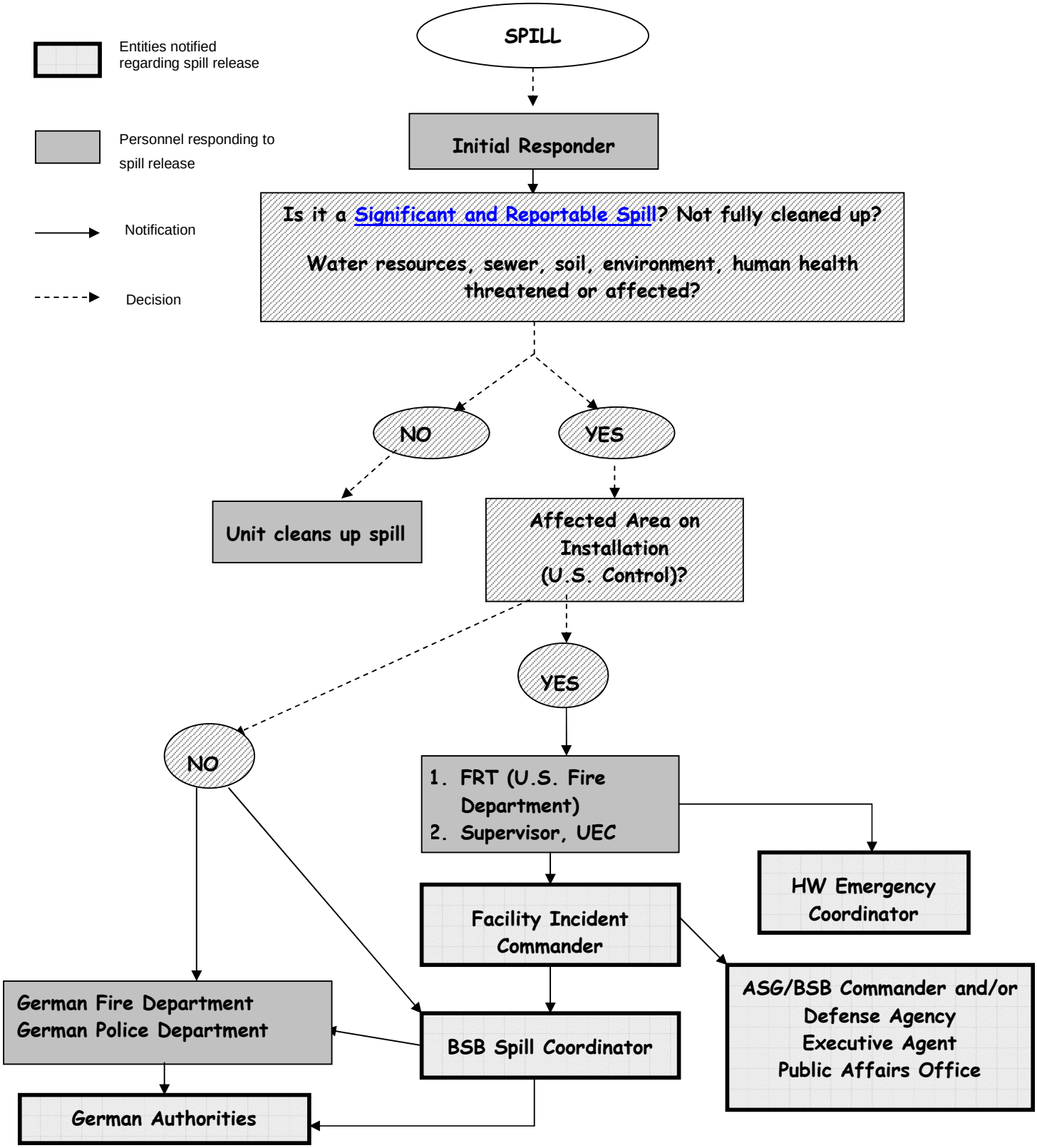
- Stop or slow the release.
- Set up containments, diversions, and surface impoundments.
- Transfer materials to safe storage.

Address Non-Critical Priorities

- Recover human and animal victims.
- Recover property and equipment in immediate danger.
- Prevent property and equipment damage.
- Dispose of spilled materials.

Figure 3

INITIAL SPILL RESPONSE AND NOTIFICATION PROCEDURES



POINTS OF CONTACT

Personnel and organizations to be contacted in the event of a POL or HS spill at the BSB are identified in Table A-8.1.

Table A-8.1. POCs for Spills at 411th BSB Heidelberg

Position/Title	Name of Individual	Organization/ Mailing Address	Telephone No. (Work)	Telephone No. (Mobile)
Facility Incident Commander (FIC) [1, 2]	Daniel Welch	DPW Environmental Management Office Czernyring 13 69115 Heidelberg	DSN: 387-3140 Civil: 06221-4380-3140	0175-7421527
Facility Incident Commander (FIC) Alternate [1]	Albert Amberger	DPW Environmental Management Office Czernyring 13 69115 Heidelberg	DSN: 387-3145 Civil: 06221-4380-3145	
POC for Facility Response Team (FRT) [2]	Lothar Eckrich	BSB Fire Department	(civil) 06221-19-217 DSN: 373-8400/5000 Civil: 06221-17-8400	
BSB or Installation (U.S.) Fire Department	Lothar Eckrich	BSB Fire Department	**117** DSN: 373-8400/5000	
BSB Military Police	--		**DSN: 338-2333/2222** Civil: 06221-678-2333	--
BSB Spill Coordinator (DPW, EMO)	Daniel Welch	BSB DPW Environmental Management Office Czernyring 13 69115 Heidelberg	DSN: 387-3140 Civil: 06221-4380-3140	0175-7421527
German Fire Department	--	--	**112**	--
German Police Department	--	--	**110**	--
Unit Environmental Coordinator (UEC)	See UEC Roster		AEC ListGIS.xls	
HW Emergency Coordinator [(2]	Albert Amberger	DPW Environmental Management Office Czernyring 13	DSN: 387-3145 Civil: 06221-	

Position/Title	Name of Individual	Organization/ Mailing Address	Telephone No. (Work)	Telephone No. (Mobile)
		69115 Heidelberg	4380-3145	
BSB Commander	Lt. Colonel Teeter			
Unit Commanders	See Rosters			
Domestic Wastewater Treatment System	See Table A 8.2			
US Army Hospital Heidelberg	LTC Mickie D. Smith (Chief Logistics Division)	Nachrichten Kaserne Römerstrasse Heidelberg	DSN: 371-2756 Civil: 06221-17-2756	--
Local Hospital Off-Base	--	Evangelisches Krankenhaus Salem Heidelberg	civil: 06221-483-0	--
DPW Utilities	Bernhard Willnauer	BSB DPW Maintenance Branch Czernyring 13 69115 Heidelberg	DSN: 387-3213 Civil: 06221-4380-3213	0175-7241408
Public Affairs Office (PAO)	Peter Dressler	26th ASG Heidelberg	DSN: 373-1400	--
Amt fuer Umweltschutz, Heidelberg	Dr. Hans-Wolf Zirkwitz	Kornmarkt 1 69045 Heidelberg	Civil: 06221-58-18 00	--
Kreisverwaltung Germersheim (Wasserwirtschaftsamt)	Herr Fliehmann	Luitpoldplatz 1. 76725 Germersheim	Civil: 07274-53236	--
Bundesforstamt Rheinland-Pfalz, Bad Kreuznach (for Germersheim)	--	Rheingrafenstr. 35 55543 Bad Kreuznach	Civil: 0671-635-79	--

Key: [1] Also give radio call sign/frequency as appropriate.
[2] Must be able to contact 24 hours per day.

DNA = data not available

Table A-8.2. POCs for Domestic Wastewater Treatement Plants (DWTP) for Spills at 411th BSB Heidelberg

Installation	DWTP	Name of Individual	Telephone No. (Work, civil)
Airfield	Abwasserzweckverband HD Klaerwerk Nord & Wieblingen	Herr Wels Herr Raab	**06221-417443** **06221-417420** **06221-4173**
Campbell	Abwasserzweckverband HD Klaerwerk Nord & Wieblingen	Herr Wels Herr Raab	**06221-417443** **06221-417420** **06221-4173**
Community Support Center	Abwasserzweckverband HD Klaerwerk Nord & Wieblingen	Herr Wels Herr Raab	**06221-417443** **06221-417420** **06221-4173**
Edingen	Klaeranlage Edingen	Herr Zieher	**06203-808216** **06203-3643**
Germersheim	Own waste water treatment plant; no discharge outside	Herr Sternberger	**07274-58842** **0175-7241308**
Golf Course	Closed septic tank – Own small waste water treatment plant	Herr Willnauer Herr Clormann	**06221-4380-3213** **06221-4380-3216**
Hammonds	Klaeranlage Mannheim	Tiefbauamt Mannheim	**0621-2935222**
Hospital	Abwasserzweckverband HD Klaerwerk Nord & Wieblingen	Herr Wels Herr Raab	**06221-417443** **06221-417420** **06221-4173**
Kilbourne	Abwasserzweckverband Schwetzingen	Herr Raepple	**06202-6777** **06202-6778**
Koenigstuhl	Abwasserzweckverband HD Klaerwerk Nord & Wieblingen	Herr Wels Herr Raab	**06221-417443** **06221-417420** **06221-4173**
Mark Twain Village	Abwasserzweckverband HD Klaerwerk Nord & Wieblingen	Herr Wels Herr Raab	**06221-417443** **06221-417420** **06221-4173**
Patton	Abwasserzweck-verband HD Klaerwerk Nord & Wieblingen	Herr Wels Herr Raab	**06221-417443** **06221-417420** **06221-4173**
Patrick Henry Village	Abwasserzweck-verband HD Klaerwerk Nord & Wieblingen	Herr Wels Herr Raab	**06221-417443** **06221-417420** **06221-4173**
Small Arms Range	Closed septic tank – Own small waste water treatment plant	Herr Willnauer Herr Clormann	**06221-4380-3213** **06221-4380-3216**
Stem Kaserne	Klaeranlage Mannheim	Tiefbauamt Mannheim	**0621-2935222**
Stocksberg	Closed septic tank	Mr. Willnauer, Sanitation Branch (BSB DPW)	**06221-4380-3213/3216**
Tompkins	Abwasserzweckverband Schwetzingen	Herr Raepple	**06202-6777** **06202-6778**

APPENDIX 9

MOD "ROUTINE REPORTING OF FUEL SPILLS"

This Memorandum for Distribution on routine reporting process of fuel spills was implemented in August 2003 by DESC.

desc.pdf

INSTALLATION SPECIFIC APPENDICES

APPENDIX 5 **SPRP MAPS AND CORRESPONDING INFORMATION**

APPENDIX 6 **POL AND HS INVENTORY AND SPILL PREVENTION EQUIPMENT INVENTORY**

APPENDIX 7 **SLUG PREVENTION PLAN**

Note:

For each of the 17 Installations of 411th BSB Heidelberg separate Appendices 5, 6 and 7 have been prepared.

A. ARMY AIRFIELD (HEIDELBERG), GE 35B

APPENDIX 5-1

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

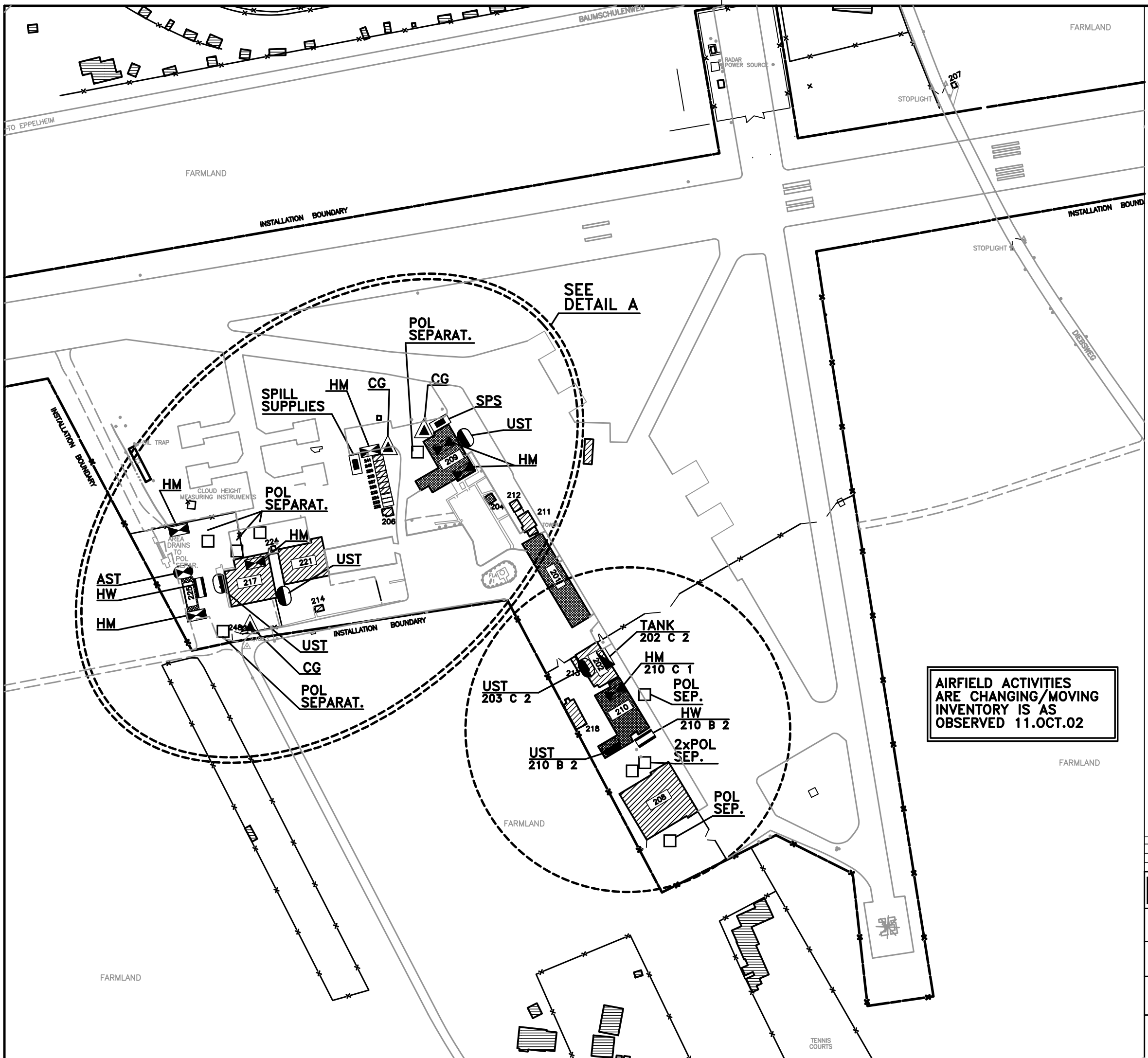
Example: 4020C-1 (only one HMSA in Building 4020)

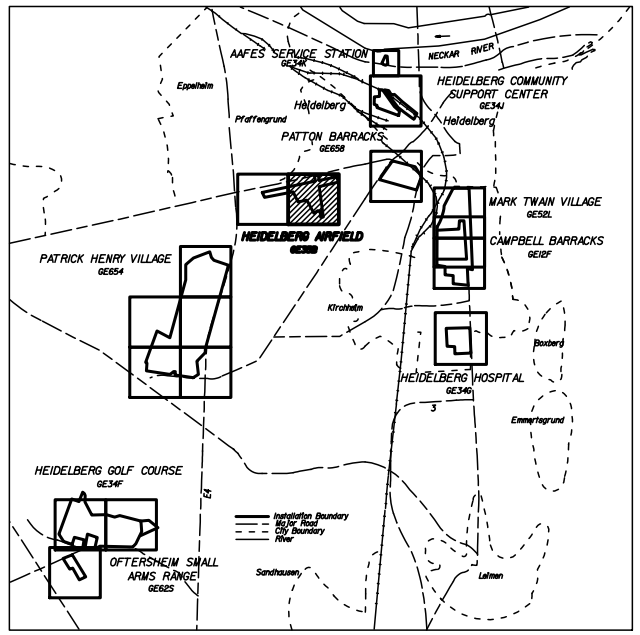
4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

General Information and Environmental Setting

The Army Airfield at Heidelberg is located near the intersection of Diebsweg and Speyererstr, west of Heidelberg and immediately south of Pfaffengrund. The airbase consists of two runways, and various maintenance and administrative buildings. The total area encompasses approximately 17 ha. of land. Tenant units include the 207th Aviation Co. The airfield is in the process of being closed and returned to the Bundesvermoegensamt Current air operations are being transferred to Mannheim and Wiesbaden Army Airbase.

Airfield is a flat area with very limited topographic variance. It is located in the Water Protection Zone III B. Parts of the installation are grassland, the rest is paved. Storm water runoff or any discharge from the main areas of POL and HM storage passes through oil-water separators prior to discharge to the sewer. Ultimately, all discharge from the installation drains to the City operated sewer system. Based on topography and the installation's sewer design, there is minimum potential for major contamination migration. There are no critical surface water or groundwater resources in the vicinity of the installation. Due to the intended closure of this installation the potential environmental impacts are substantially eliminated.





KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK *TANK*
- HAZARDOUS MATERIALS (HM) *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) *BIOLOG. SONDERABFALL*
- BATTERY ROOM *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) *LAGERTANK (OBERIRDISCH)*
- UNDERGROUND STORAGE TANK (UST) *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) *DRUCKGASE*

PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

N

SCALE 1:2000

25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG

GE35B (GY015)
Heidelberg Airfield (East)

SUBMITTED APPROVED DATE

SCALE 1:2000

FILE NO GE35B1

SHEET 01 OF 02

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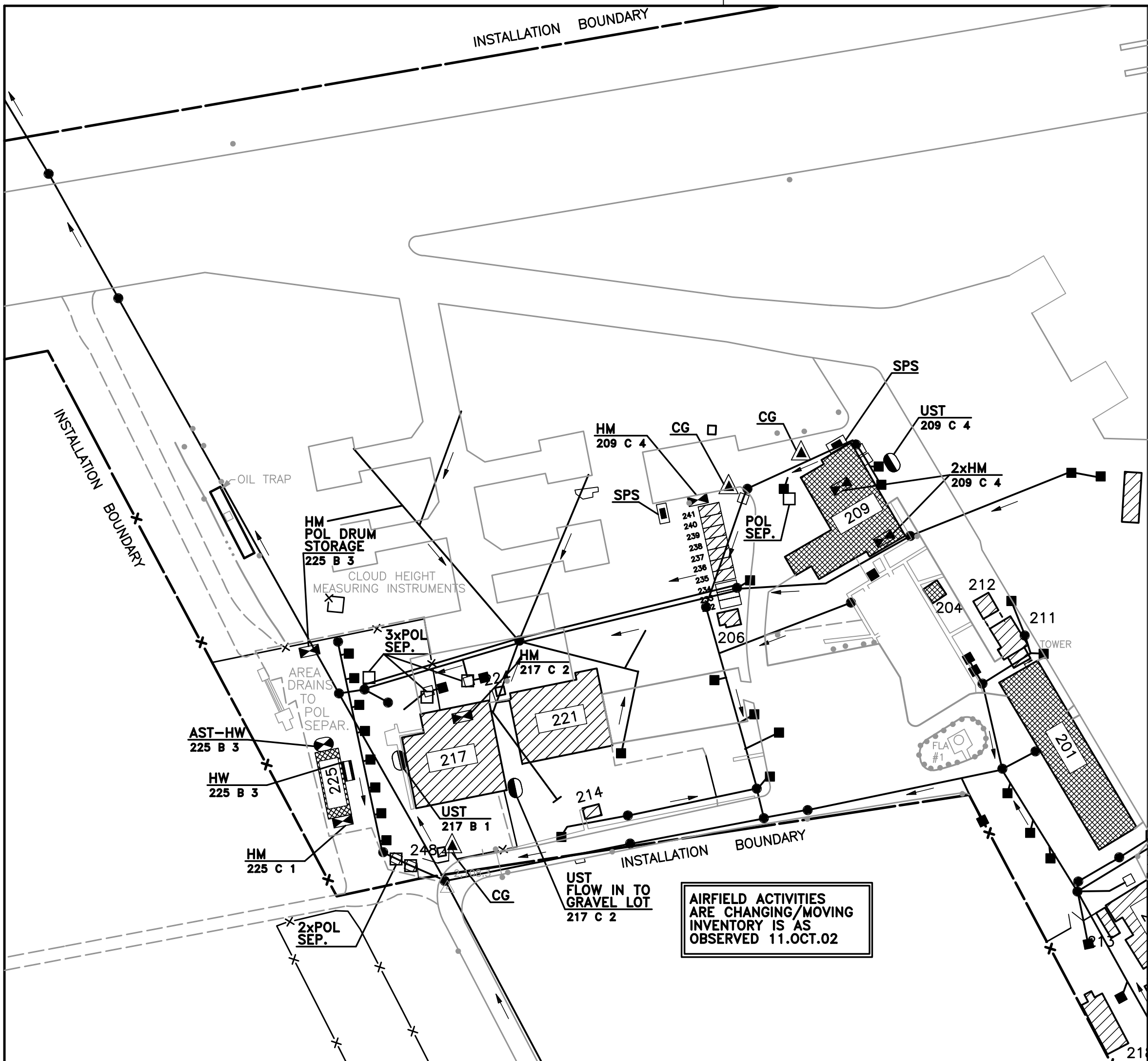

LEGEND
LEGENDE

- GREASE–SEPARATOR / *FETTABSCHEIDER*
- POL–SEPARATOR / *POL–ABSCHEIDER*
- SLUDGE–TRAP / *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) / *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK / *TANK*
- HAZARDOUS MATERIALS (HM) / *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) / *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) / *BIOLOG. SONDERABFALL*
- BATTERY ROOM / *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) / *LAGERTANK (OBERIRDISCH)*
- UNDERGROUND STORAGE TANK (UST) / *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) / *DRUCKGASE*

DIRECTION OF FLOW
- STORM MAIN / *REGENWASSERHAUPTLEITUNG*
- STORM SERVICE / *REGENWASSERANSCHLUSSLEITNG*

DIRECTION OF FLOW
- PAVED DITCH / *ENTWAESSERUNGSGRABEN*
- INLET / *STRASSENEINLAUF*
- SEPARATOR / *ABSCHEIDER*
- GREASE SEPARATOR / *FETTABSCHEIDER*
- MANHOLE OR STILLING WELL / *KANALSCHACHT ODER BRUNNEN*
- LEECHING CESSPOOL / *SENKGRUBE (ABWASSER)*
- HEADWALL / *ENDE GESCHLOSSENER KANAL*
- CLEAN OUT / *REINIGUNGSOEFFNUNG*
- DRAINAGE DIVIDE / *ENTWAESSERUNGSGRENZE*
- OPEN DRAINAGE / *ENTWAESSERUNGSGRABEN (OFFEN)*

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE35B (GY0150)
Heidelberg Airfield (East)
DETAIL A

DESIGNED: RG
DRAWN: RG
CHECKED: UOS
SUBMITTED | APPROVED | DATE
SCALE 1:1000
FILE NO GE35B1A
SHEET 02 OF 02

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A. ARMY AIRFIELD (HEIDELBERG), GE 35B

APPENDIX 6-1

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-1.1 presents the current inventory of units or organizations at Army Airfield, where POL and HS are stored. This inventory is subject to change as the installation is in the process of moving. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-1.1 but not within the following tables A-6-1.2, A-6-1.3 and A 6-1.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-1.1. Facilities/Units/Organizations Storing POL and/or HS at Army Airfield

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
202	DNA	DNA	DNA
209	411th BSB, HD	DNA	Mr. Thorsten Rutsch DSN: 373-8400
210	Ages Support Team, 214th AV CO	DNA	CW2 Barrale DSN: 373-8520
217 (closed)	214th AV CO, Unit 29231	DNA	SGT Bailey DSN: 373-8242/7446
225	214th AV CO, Unit 29231	DNA	SGT Lynn DSN: 373-6719/7730
228	214th AV CO, Unit 29231	DNA	SGT Lynn DSN: 373-6719/7730
242	Fire Department	Fire Department	Mr. Preusler DSN: 373-8400
248	c	DNA	DNA

DNA = data not available
Grey highlighted means that this area might have a potential for a HW/HM slug release. These areas are cross-referenced to the Slug Plan in Appendix 7-1.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-1.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-1. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-1.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-1.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-1.2. POL AND HS INFORMATION FOR ARMY AIRFIELD FOR CRITICAL POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
202	Map 1/2 #202C-2	1xUST, tank	Heating oil	5.5	During filling of UST to the southeast on pavement to a drain connected to an oil/water separator; spill from tank would stay inside building	0.6	UST is equipped with leak detection, oil-water separator, dry sweep, absorbent pads,
209	Map 1/2 #209C-2	1xUST, HM	Flammables, heating oil (UST)	10.0	During filling of UST to the east on paved ground; HM would stay inside the building	0.6	UST is equipped with leak detection, dry sweep, absorbent pads, spill supply station at building
210	Map 1/2 #210C-1	1xUST, HM, HW	Heating oil (UST), flammables (POL, solvents, used paint, used solbvents, used glue)	52.0	During filling of UST to the south on paved ground towards a oil-water separator, spill from HM and HW would stay inside the building/connex	0.6	UST is equipped with leak detection, oil-water separator, dry sweep, absorbent pads

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
217 (closed)	Map 1/2 #217B-1 #217C-2	2xUSTs (HW, HM), HM	Used oil (UST), heating oil (UST), flammables (POL, solvents, paints), corrosives (corrosion removing compound)	16.0	During filling/emptying of USTs to the south on paved ground to an oil-water separator	0.6	USTs are equipped with leak detection, oil-wate separator, dry sweep, absorbent pads

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets), a tank is inside a building (normally containing heating oil for generators)
i.B. = in building

A Spill Supply and Emergency Equipment Recovery Point is at Building 209 (in Connex).

Table A-6-1.3. Spill Prevention Equipment for Army Airfield

Location/Building Number	Containment System Type	Construction Material	Capacity
202	1) Double walled tank 2) Building	1) Steel 2) concrete	NA
209	Double walled tank	Steele	NA
210	Double walled tank	Steel	NA
217 (closed)	Double walled tanks	Steel	NA

DNA = data not available
NA = Not applicable

Table A-6-1.4. List of Tanks at Army Airfield

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
202	Nau	5.000	Diesel oil	double	UST	1976
202	Ludwig	300	Diesel oil	double	UST	1995
209	Ludwig	10.000	Heating oil	double	UST	2001
210	Barth	51.800	Heating oil	double	UST	1972
217	Nau	5.000	Used Oil	double	UST	1990
217	Ludwig	10.000	Heating oil	double	UST	1995
228	Thyssen	40 000	JP8	double	UST	1976
228	Thyssen	41 000	JP8	double	UST	1976
228	Rietberg	5 000	Used JP8	double	AST	1987

A. ARMY AIRFIELD (HEIDELBERG), GE 35B

APPENDIX 7-1

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan has been prepared and implemented by the 411th BSB Heidelberg. This Slug Plan has been prepared to:

1. Identify areas where petroleum, oil and lubricants (POL) and /or hazardous substances (HS) may be released at one time in a volume and/or concentration (i.e., "slug") that negatively impacts the ability of the receiving wastewater treatment plant(s) to operate within normal parameters;

2. Identify response procedures to be implemented by personnel after a slug release; and

3. Identify resources available on- and off-site to respond to a slug release.

This plan contains the following elements as required by FGS Chapter 4:

- Section 1.0 – Description of discharge practices, including non-routine batch discharges (FGS Section C4.3.2.1.7.1);
- Section 2.0 – Description of stored chemicals (FGS Section C4.3.2.1.7.2);
- Section 3.0 – Plan for immediately notifying the domestic wastewater treatment system (DWTS) of slug discharges and discharges that would violate prohibitions under this section, including procedures for subsequent written notification within five days (FGS Section C4.3.2.1.7.3);
- Section 4.0 – Necessary practices to prevent accidental spills. This include proper inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of facility site runoff, and worker training (FGS Section C4.3.2.1.7.4);
- Section 5.0 – Proper procedures for building containment structures or equipment (FGS Section C4.3.2.1.7.5);
- Section 6.0 – Necessary measures to control toxic organic pollutants and solvents (FGS Section C4.3.2.1.7.6); and
- Section 7.0 – Proper procedures and equipment for emergency response, and any subsequent plans necessary to limit damage suffered by the treatment facility or the environment (FGS Section C4.3.2.1.7.7).

This plan has been prepared as an appendix to the 411th BSB Heidelberg SPRP. Portions of this plan reference information contained in the SPRP. The office with primary responsibility for maintenance and implementation of this plan is the Department for Public Works, Environmental Management Office.

1.0 DRAINAGE SYSTEM AND DISCHARGE PRACTICES

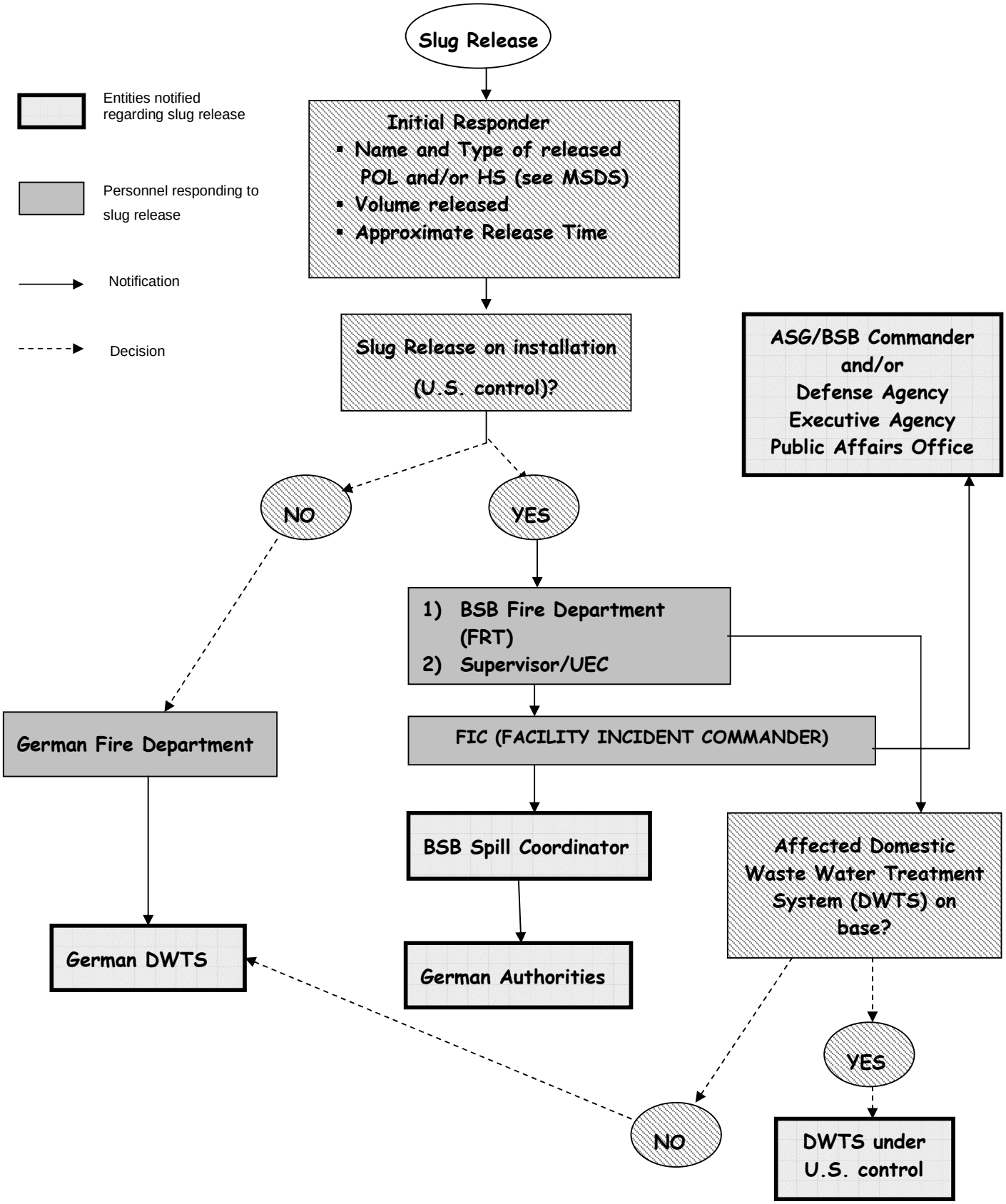
Storm water runoff or any discharge from the main areas of POL and HM storage passes through oil-water separators prior to discharge to the sewer. Ultimately, all discharge from the installation drains to the City operated sewer system.

2.0 SLUG POTENTIAL INVENTORY

Table A-6-1.1 provides specific information for each facility, unit, or organization to identify the locations on the installation that have the potential to release a POL and/or HS slug into the sanitary sewer system. Those facilities, units, or organization with the potential of a POL and/or HS slug release are highlighted. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-1. A description of the stored POL and/or HS is provided in Table A-6-1.2.

3.0 NOTIFICATION OF A SLUG RELEASE

If a slug of POL and/or HS enters the sanitary sewer system, the following actions should be initiated as soon as practicable:



The following personnel and organizations are POCs which (may) need to be contacted in the event of a slug release at Army Airfield:

Table A-7-1.1 POCs for Slug Release at Army Airfield

Position/Title	Name of Individual	Organization/ Mailing Address	Telephone No. (Work)	Telephone No. (Mobile)
Supervisor Installation	DNA	DNA	DNA	
Unit Environmental Coordinator (UEC)	See names in grey highlighted lines in Table A-6-1.1			
BSB Spill Coordinator	Daniel Welch	BSB DPW Environmental Management Office Czernyring 13 69115 Heidelberg	DSN: 387-3140 Civil: 06221-4380-3140	0175-7421527
BSB or Installation Fire Department	Lothar Eckrich	BSB Fire Department	**117**	
DPW Utilities	Bernhard Willnauer	BSB DPW Maintenance Branch Czernyring 13 69115 Heidelberg	DSN: 387-3213 Civil: 06221-4380-3213	0175-7241408
German Fire Department	NA	Fire Department Heidelberg	**112**	NA
Domestic Wastewater Treatment Plant receiving waste water from Army Airfield	Herr Wels Herr Raab	Abwasserzweck-verband Heidelberg Klärwerk Nord&Wieblingen	06221-417-443 06221-417-420	NA
German Authorities (Amt für Umweltschutz)	Dr. Hans-Wolf Zirkwitz	Kornmarkt 1 Heidelberg	Civil: 06221-58-18 00	NA

DNA = data not available

4.0 SLUG RELEASE PREVENTION, CONTROL, AND RESPONSE

Chapter 2 and Appendix 6-1 provide general information on prevention structures and equipment for all types of spills of POL and/or HS. Table A-6-1.3 lists the detailed prevention equipment and Table A-6-1.2 provides the available emergency response equipment at the facility, unit, or organizations handling or storing POL and/or HS. Table-A-7-1.3 provides information on emergency response equipment available for slug releases of POL and HS that can cause damage to domestic wastewater treatment systems (DWTS).

5.0 BUILDING CONTAINMENT STRUCTURES AND EQUIPMENT

This section includes a general description of the types of building containment structures and equipment that are typically used at Army Airfield.

5.1 Building Containment

Building containment construction materials include poured concrete walls, concrete block walls, concrete containment curbs, containment sumps, and trenches. Containment equipment consists of absorbent materials, booms and other barriers or preventive systems. The materials used must be compatible with the released material and sufficiently impervious to contain the spilled material. Containments must also comply with the applicable standards for volume, and precipitation volume.

Containment sumps are tanks and pits that collect gravity drainage and are emptied by gravity or pumped flow. Generally, they consist of a collection tank, level detector, pump, and level-actuated pump control to empty the contents of the receiving tank. Sumps are used in many locations to collect wastewaters for transport to storage or treatment systems. Sumps are used as full or partial containments as appropriate.

Additional operational and maintenance issues that are considered in the design of containments include structural strength and integrity, traffic of equipment and vehicles, leaks from penetration through walls and floors, and leaks from expansion and contraction at joints. Concrete block structures may leak at the joints between blocks, and are subject to damage from the expansion of water that penetrates into the block. Pits and trenches must be properly cleaned to maintain flow and capacity, and grates and covers must be maintained to prevent pedestrian hazards.

5.2 Diversionary Structures

Where containments are not practical, diversions are used to direct drainage as needed. Drainage controls are needed to direct spilled materials to a retention basin, or direct storm water from equipment storage areas. The diverted materials are often diverted through an oil water separator. Diversions can include curbs, trenches, catch basins, or retention ponds that are used to redirect or retain spilled materials. Provisions to return spilled materials to the source facility should be provided where practical.

5.3 Separator Systems

There are several different types of separator systems used at the Army Airfield. For slug releases of POL, oil-water separators are the most effective interceptor systems for slug releases of POL currently in place. Oil-water separators rely on the difference in density between water and POLs, which are generally less dense than water. Oil-water separators are typically rectangular boxes with internal baffles or weirs that operate on a flow-through basis. Free oil, water, and entrained oil droplets are directed to a quiescent compartment that collects oil on top and allows clean water underflow. Emulsified oils may not be separated. Designs may take the form of API separators, plate separators, and multi-stage separators. The operation of oil-water separators requires frequent inspection and maintenance, since the accumulation of oil and sludge can result in the undesired discharge of oil. Oil-water separators should be used as required to prevent the discharge of containment, equipment washdown, tank cleaning, or other oily wastewaters. No cleaning agents are used during cleaning with the high-pressure cleaning equipment. The operating parameters of this cleaning equipment have to be below 60℃ and 60 bar to avoid the generation of stabile emulsions that cannot be separated by an oil-water separator.

It should be noted that transformer fluids and other synthetic oils might not separate from water. In addition, may other commonly used hazardous substances (such as solvents and pesticides) will not be intercepted in an oil/water separator.

Table A-7-1.2 lists the different types of separators used at the Army Airfield.

Table A-7-1.2 Separator Systems at the Army Airfield

Bldg. #	Location	Structure of Separator
208 (washrack)	south of building	POL Separator (NS 6)
	North of building	Two POL Separators (NS 30)
209	West of the building	POL Separator (NS 6)
210	Inside of building	POL Separator (NS 1.5)
217	North of building	two POL Separators (NS 1, NS 3)
	Inside of building	POL Separator (NS 1.5)
	South of building	POL Separator

NS: nominal size

6.0 MEASURES TO CONTROL TOXIC ORGANIC POLLUTANTS AND SOLVENTS

The following measures need to be followed when handling or storing toxic organic pollutants and solvents:

- Storage areas for organic toxic pollutants and solvents must be well lit. Lights must not heat the stored materials, and must be at least 0.5 meters from toxic organic pollutants
- Smoking, open flames, and fires are not permitted in areas where toxic organic pollutants or solvents are stored or handled
- Toxic organic pollutants can not be stored together with flammable materials if they are not separated from each other by e.g., an adequate secondary containment
- Toxic organic pollutants and solvents must be kept in closed packages or containers that do not leak
- Areas where toxic organic pollutants and solvents are stored or handled must be leak proof

7.0 EQUIPMENT FOR EMERGENCY RESPONSE AND SUBSEQUENT PLANS

Table A-7-1.3 provides information on equipment available at Army Airfield for emergency response in case of a POL and/or HS slug release that could potentially cause damage at the Domestic Waste Water Treatment Systems (DWTS).

Table A-7-1.3 Equipment for Emergency Response to Slug Discharges

Facility/Organization/Unit at which Emergency Response Equipment is available	Emergency Response Equipment
Bldgs. 208, 209, 210, 217	POL Separators
BSB Fire Department	Inflatable bladders

B. CAMPBELL BARRACKS, GE 12F

APPENDIX 5-2

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

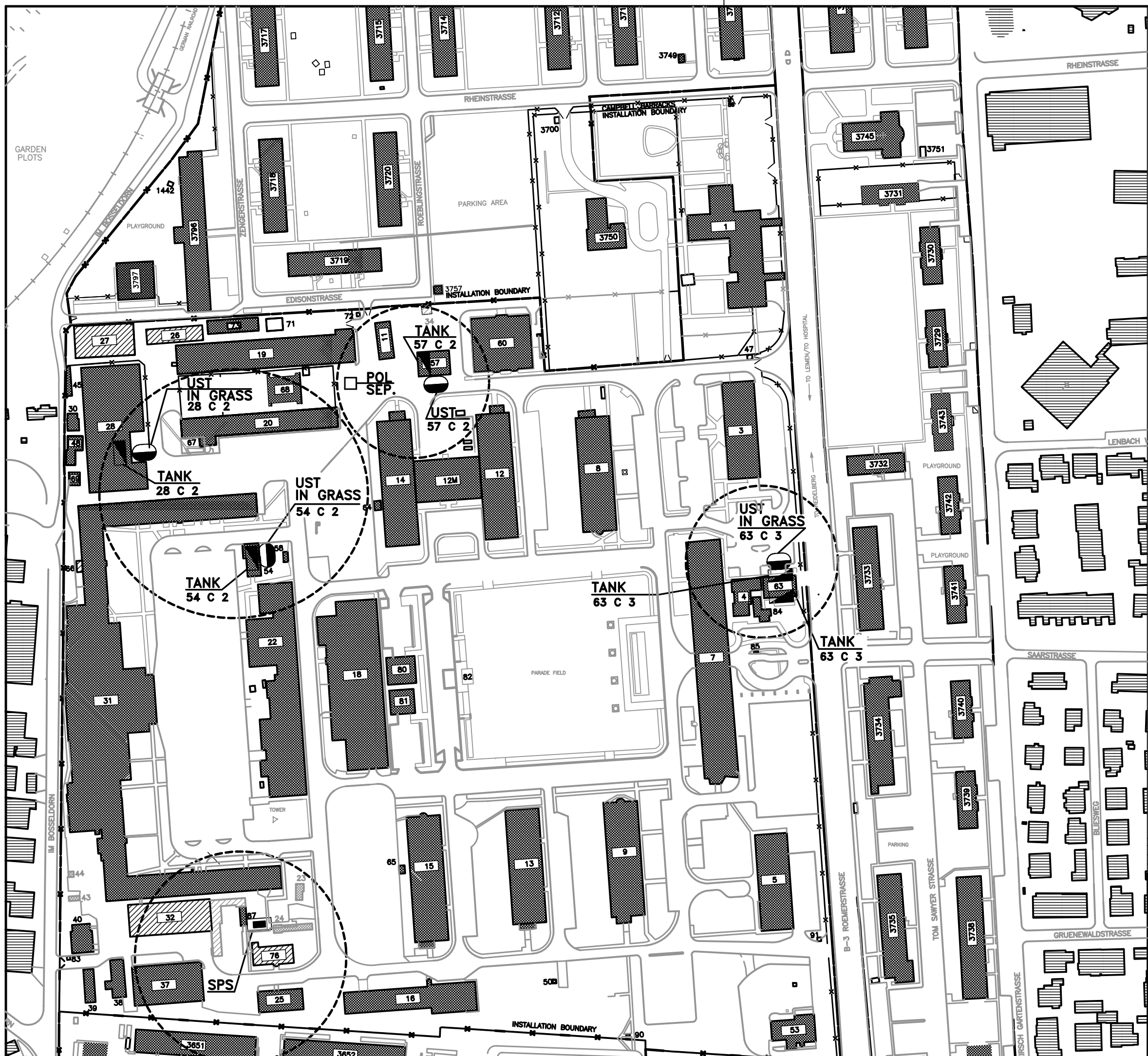
Example: 4020C-1 (only one HMSA in Building 4020)

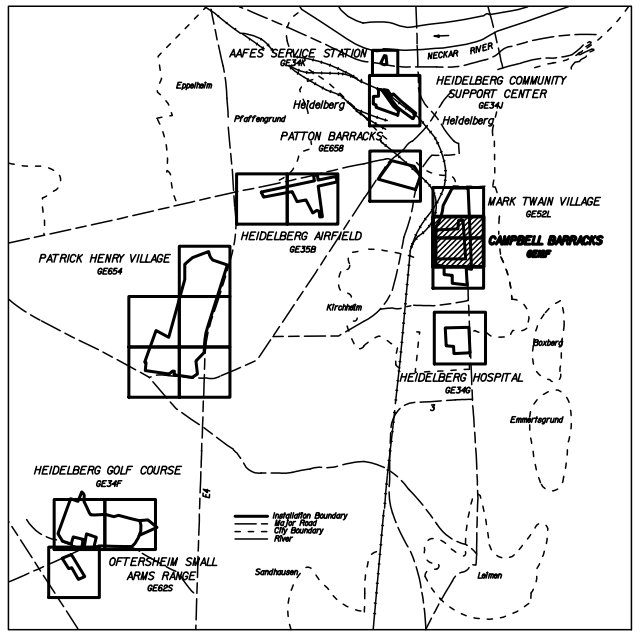
4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

General Information and Environmental Setting

Campbell Barracks is located on Roemerstrasse between Mark Twain Village and Sickingerstrasse. Campbell Barracks serves as the HQ for the USAREUR/7th Army as well as V Corps HQ. The installation consists of about 20 buildings on 22 ha. Tenant units include Detachment A 206th Fin. Bn., 181th Sig. Co., portions of the 302nd MP Co., the Cryptology Support Group, and HHC Joint Headquarters Centre (LANDCENT).

Campbell Barracks is located in a fairly densely packed urban environment. The site is not located within a water protection area. The site is relatively flat and all discharge from the installation drains to the City operated sewer system. Storm water runoff or any discharge from the main areas of POL storage passes through oil-water separators prior to discharging to the sewer. Based on topography and the installation's sewer design there is minimum potential for major contaminant migration. There are no critical surface water or groundwater resources in the vicinity of the installation.





KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK *TANK*
- HAZARDOUS MATERIALS (HM) *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) *BIOLOG. SONDERABFALL*
- BATTERY ROOM *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) *LAGERTANK (OBERIRDISCH)*
- UNDERGROUND STORAGE TANK (UST) *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) *DRUCKGASE*

PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

N

SCALE 1:2000

25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DACA 90–00–D–0017, D.0.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE12F (GY109)
Campell Barracks

DESIGNED: RG
DRAWN: RG
CHECKED: UOS
SUBMITTED | APPROVED | DATE
SCALE 1:2000
FILE NO GE12F01
SHEET 01 OF 01

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B. CAMPBELL BARRACKS, GE 12F

APPENDIX 6-2

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-2.1 presents the current inventory of units or organizations at Campbell Barracks, where POL and HS are stored. This inventory is subject to change as the installation is in the process of moving. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-2.1 but not within the following tables A-6-2.2, A-6-2.3 and A-6-2.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-2.1. Facilities/Units/Organizations Storing POL and/or HS at Campbell Barracks

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
28	DNA	DNA	DNA
54	DNA	DNA	DNA
57	DNA	DNA	DNA
63	DNA	DNA	DNA

DNA = data not available
Grey highlighted means that this area might have a potential for a HW/HM slug release. These areas are cross-referenced to the Slug Plan in Appendix 7-2.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-2.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-2. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-2.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-2.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-2.2. POL AND HS INFORMATION FOR CAMPBELL BARRACKS FOR CRITICAL POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
28	Map 1/1 #28C-2	1xUST, tank	Heating oil	7.6	The manhole (fill point of the UST) is in grass; therefore, spills would penetrate into the soil. Spills outside this area would flow to the north on paved ground.	0.6	UST is equipped with leak detection; dry sweep, absorbent pads (at Bldg. 87)
54	Map 1/1 #54C-2	1xUST, tank	Heating oil	10.6	The manhole (fill point of the UST) is in grass; therefore, spills would penetrate into the soil. Spills outside this area would flow to the east on paved ground.	0.6	UST is equipped with leak detection; dry sweep, absorbent pads (at Bldg. 87)
57	Map 1/1 #57C-2	1xUST, tank	Heating oil	13.2	Spill during filling the UST would flow to the west on pavement to an oil-water separator	0.6	UST is equipped with leak detection, oil-water separator, dry sweep, absorbent pads (at Bldg. 87),

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
63	Map 1/1 #63C-2	1xUST, tank	Heating oil	101.0	The manhole (fill point of the UST) is in grass; therefore, spills would penetrate into the soil. Spills outside this area would flow to the north to the parking lot; filling point is close to the fence at Roemerstrasse on pavement, potential flow to Roemer-strasse	0.6 tons	UST is equipped with leak detection, dry sweep, absorbent pads (at Bldg. 87)

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets), a tank is inside a building (normally containing heating oil for generators)
i.B. = in building

A Spill Supply and Emergency Equipment Recovery Point is at Building 87.

Table A-6-2.3. Spill Prevention Equipment for Campbell Barracks

Location/Building Number	Containment System Type	Construction Material	Capacity
28	1) Double walled tank 2) Building	1) Steel 2) concrete	NA
54	1) Double walled tank 2) Building	1) Steel 2) concrete	NA
57	1) Double walled tank 2) Building	1) Steel 2) concrete	NA
63	1) Double walled tank 2) Building	1) Steel 2) concrete	NA

DNA = data not available
NA = Not applicable

Table A-6-2.4. List of Tanks at Campbell Barracks

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
28	Nau	7.000	Diesel oil	double	UST	1983
28	Ludwig	600	Diesel oil	double	tank	1994
54	Ludwig	10.000	Diesel oil	double	UST	1995
54	Ludwig	600	Diesel oil	double	tank	1995
57	Ludwig	13.000	Diesel oil	double	UST	1996
57	Dehoust	600	Diesel oil	double	tank	1999
63	Adam	100.000	Diesel oil	double	UST	1983
63	Ludwig	1.000	Diesel oil	double	tank	1996

B. CAMPBELL BARRACKS, GE 12F

APPENDIX 7-2

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan has been prepared and implemented by the 411th BSB Heidelberg. This Slug Plan has been prepared to:

4. Identify areas where petroleum, oil and lubricants (POL) and /or hazardous substances (HS) may be released at one time in a volume and/or concentration (i.e., "slug") that negatively impacts the ability of the receiving wastewater treatment plant(s) to operate within normal parameters;

5. Identify response procedures to be implemented by personnel after a slug release; and

6. Identify resources available on- and off-site to respond to a slug release.

This plan contains the following elements as required by FGS Chapter 4:

- Section 1.0 – Description of discharge practices, including non-routine batch discharges (FGS Section C4.3.2.1.7.1);
- Section 2.0 – Description of stored chemicals (FGS Section C4.3.2.1.7.2);
- Section 3.0 – Plan for immediately notifying the domestic wastewater treatment system (DWTS) of slug discharges and discharges that would violate prohibitions under this section, including procedures for subsequent written notification within five days (FGS Section C4.3.2.1.7.3);
- Section 4.0 – Necessary practices to prevent accidental spills. This include proper inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of facility site runoff, and worker training (FGS Section C4.3.2.1.7.4);
- Section 5.0 – Proper procedures for building containment structures or equipment (FGS Section C4.3.2.1.7.5);
- Section 6.0 – Necessary measures to control toxic organic pollutants and solvents (FGS Section C4.3.2.1.7.6); and
- Section 7.0 – Proper procedures and equipment for emergency response, and any subsequent plans necessary to limit damage suffered by the treatment facility or the environment (FGS Section C4.3.2.1.7.7).

This plan has been prepared as an appendix to the 411th BSB Heidelberg SPRP. Portions of this plan reference information contained in the SPRP. The office with primary responsibility for maintenance and implementation of this plan is the Department for Public Works, Environmental Management Office.

1.0 DRAINAGE SYSTEM AND DISCHARGE PRACTICES

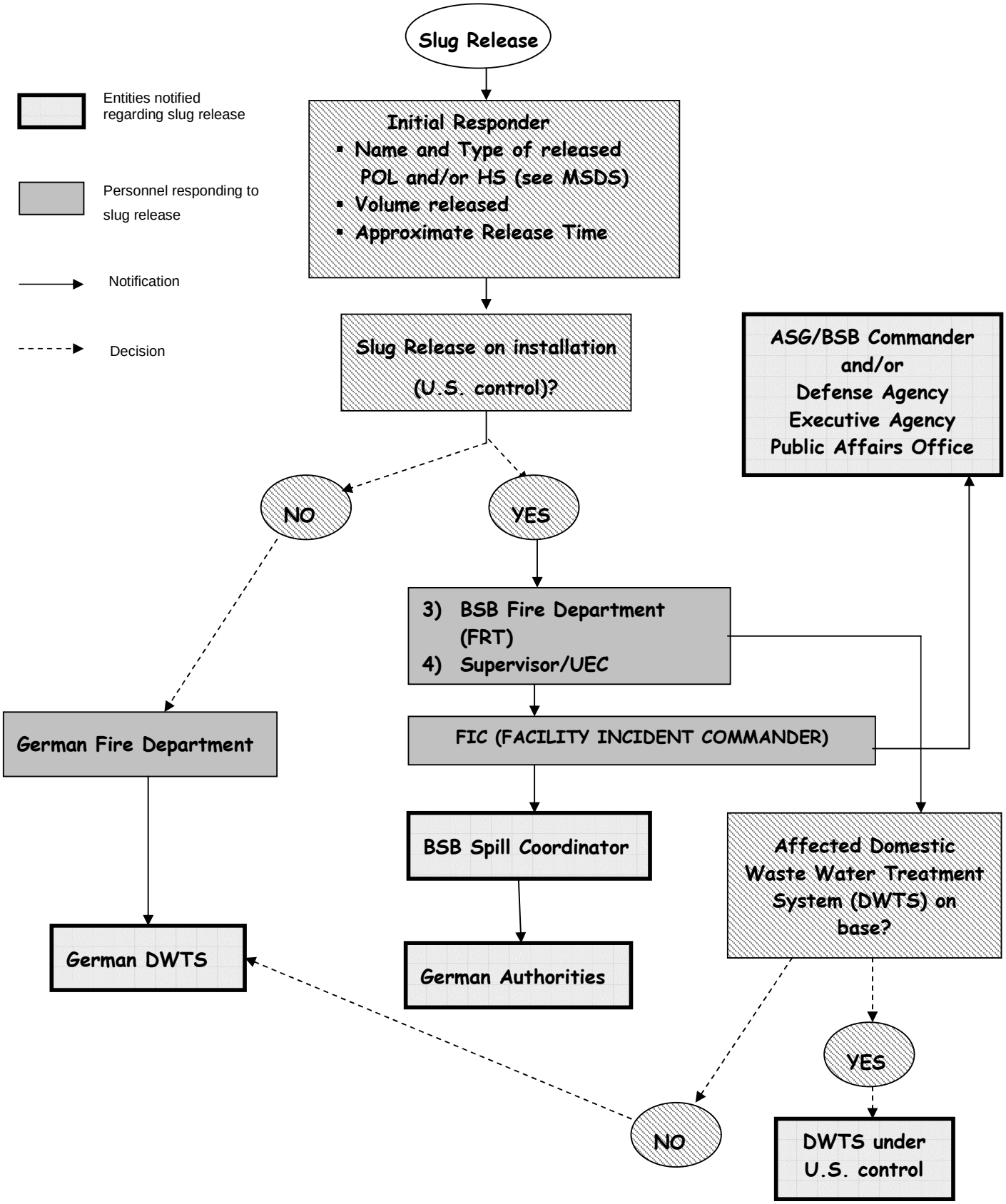
Storm water runoff or any discharge from the main areas of POL storage passes through oil-water separators prior to discharging to the sewer. Ultimately, all discharge from the installation drains to the City operated sewer system.

2.0 SLUG POTENTIAL INVENTORY

Table A-6-2.1 provides specific information for each facility, unit, or organization to identify the locations on the installation that have the potential to release a POL and/or HS slug into the sanitary sewer system. Those facilities, units, or organization with the potential of a POL and/or HS slug release are highlighted. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-2.
A description of the stored POL and/or HS is provided in Table A-6-2.2.

3.0 NOTIFICATION OF A SLUG RELEASE

If a slug of POL and/or HS enters the sanitary sewer system, the following actions should be initiated as soon as practicable:



The following personnel and organizations are POCs which (may) need to be contacted in the event of a slug release at Campbell Barracks:

Table A-7-2.1 POCs for Slug Release at Campbell Barracks

Position/Title	Name of Individual	Organization/ Mailing Address	Telephone No. (Work)	Telephone No. (Mobile)
Supervisor Installation	DNA	DNA	DNA	
Unit Environmental Coordinator (UEC)	DNA			
BSB Spill Coordinator	Daniel Welch	BSB DPW Environmental Management Office Czernyring 13 69115 Heidelberg	DSN: 387-3140 Civil: 06221-4380-3140	0175-7421527
BSB or Installation Fire Department	Lothar Eckrich	BSB Fire Department	**117**	
DPW Utilities	Bernhard Willnauer	BSB DPW Maintenance Branch Czernyring 13 69115 Heidelberg	DSN: 387-3213 Civil: 06221-4380-3213	0175-7241408
German Fire Department	NA	Fire Department Heidelberg	**112**	NA
Domestic Wastewater Treatment Plant receiving waste water from Campbell Barracks	Herr Wels Herr Raab	Abwasserzweck-verband Heidelberg Klärwerk Nord&Wieblingen	06221-417-443 06221-417-420	NA
German Authorities (Amt für Umweltschutz)	Dr. Hans-Wolf Zirkwitz	Kornmarkt 1 Heidelberg	Civil: 06221-58-18 00	NA

DNA = data not available

4.0 SLUG RELEASE PREVENTION, CONTROL, AND RESPONSE

Chapter 2 and Appendix 6-2 provide general information on prevention structures and equipment for all types of spills of POL and/or HS. Table A-6-2.3 lists the detailed prevention equipment and Table A-6-2.2 provides the available emergency response equipment at the facility, unit, or organizations handling or storing POL and/or HS. Table-A-7-2.3 provides information on emergency response equipment available for slug releases of POL and HS that can cause damage to domestic wastewater treatment systems (DWTS).

5.0 BUILDING CONTAINMENT STRUCTURES AND EQUIPMENT

This section includes a general description of the types of building containment structures and equipment that are typically used at Campbell Barracks.

5.1 Building Containment

Building containment construction materials include poured concrete walls, concrete block walls, concrete containment curbs, containment sumps, and trenches. Containment equipment consists of absorbent materials, booms and other barriers or preventive systems. The materials used must be compatible with the released material and sufficiently impervious to contain the spilled material. Containments must also comply with the applicable standards for volume, and precipitation volume.

Containment sumps are tanks and pits that collect gravity drainage and are emptied by gravity or pumped flow. Generally, they consist of a collection tank, level detector, pump, and level-actuated pump control to empty the contents of the receiving tank. Sumps are used in many locations to collect wastewaters for transport to storage or treatment systems. Sumps are used as full or partial containments as appropriate.

Additional operational and maintenance issues that are considered in the design of containments include structural strength and integrity, traffic of equipment and vehicles, leaks from penetration through walls and floors, and leaks from expansion and contraction at joints. Concrete block structures may leak at the joints between blocks, and are subject to damage from the expansion of water that penetrates into the block. Pits and trenches must be properly cleaned to maintain flow and capacity, and grates and covers must be maintained to prevent pedestrian hazards.

5.2 Diversionary Structures

Where containments are not practical, diversions are used to direct drainage as needed. Drainage controls are needed to direct spilled materials to a retention basin, or direct storm water from equipment storage areas. The diverted materials are often diverted through an oil water separator. Diversions can include curbs, trenches, catch basins, or retention ponds that are used to redirect or retain spilled materials. Provisions to return spilled materials to the source facility should be provided where practical.

5.3 Separator Systems

There are several different types of separator systems used at the Campbell Barracks. For slug releases of POL, oil-water separators are the most effective interceptor systems for slug releases of POL currently in place. Oil-water separators rely on the difference in density between water and POLs, which are generally less dense than water. Oil-water separators are typically rectangular boxes with internal baffles or weirs that operate on a flow-through basis. Free oil, water, and entrained oil droplets are directed to a quiescent compartment that collects oil on top and allows clean water underflow. Emulsified oils may not be separated. Designs may take the form of API separators, plate separators, and multi-stage separators. The operation of oil-water separators requires frequent inspection and maintenance, since the accumulation of oil and sludge can result in the undesired discharge of oil. Oil-water separators should be used as required to prevent the discharge of containment, equipment washdown, tank cleaning, or other oily wastewaters. No cleaning agents are used during cleaning with the high-pressure cleaning equipment. The operating parameters of this cleaning equipment have to be below 60℃ and 60 bar to avoid the generation of stabile emulsions that cannot be separated by an oil-water separator.

It should be noted that transformer fluids and other synthetic oils might not separate from water. In addition, may other commonly used hazardous substances (such as solvents and pesticides) will not be intercepted in an oil/water separator.

Table A-7-2.2 lists the different types of separators used at the Campbell Barracks.

Table A-7-2.2 Separator Systems at the Campbell Barracks

Bldg. #	Location	Structure of Separator
19	Southeastern corner of the building	POL Separator (NS 50)

NS: nominal size

6.0 MEASURES TO CONTROL TOXIC ORGANIC POLLUTANTS AND SOLVENTS

The following measures need to be followed when handling or storing toxic organic pollutants and solvents:

- Storage areas for organic toxic pollutants and solvents must be well lit. Lights must not heat the stored materials, and must be at least 0.5 meters from toxic organic pollutants
- Smoking, open flames, and fires are not permitted in areas where toxic organic pollutants or solvents are stored or handled
- Toxic organic pollutants can not be stored together with flammable materials if they are not separated from each other by e.g., an adequate secondary containment
- Toxic organic pollutants and solvents must be kept in closed packages or containers that do not leak
- Areas where toxic organic pollutants and solvents are stored or handled must be leak proof

7.0 EQUIPMENT FOR EMERGENCY RESPONSE AND SUBSEQUENT PLANS

Table A-7-2.3 provides information on equipment available at Campbell Barracks for emergency response in case of a POL and/or HS slug release that could potentially cause damage at the Domestic Waste Water Treatment Systems (DWTS).

Table A-7-2.3 Equipment for Emergency Response to Slug Discharges

Facility/Organization/Unit at which Emergency Response Equipment is available	Emergency Response Equipment
Bldg. 19	POL Separator
BSB Fire Department	Inflatable bladders

C. COMMUNITY SUPPORT CENTER, GE 34J

APPENDIX 5-3

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

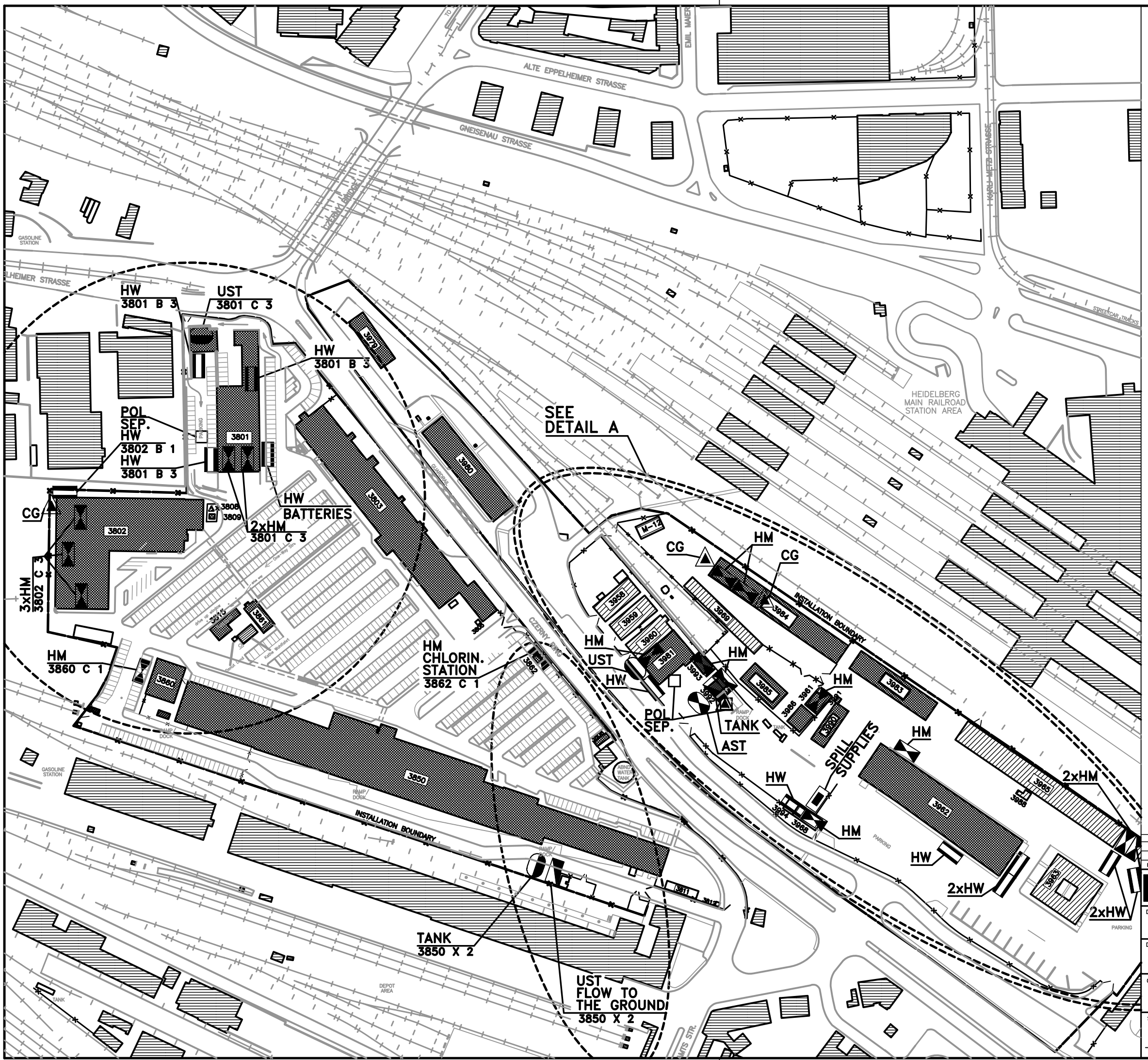
Example: 4020C-1 (only one HMSA in Building 4020)

4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

General Information and Environmental Setting

The Community Center is located along the Czernyring opposite the Heidelberg Hauptbahnhof. The activities there are primarily commercial sales by AAFES with tenant units such as 208th Fin. Bn., Det. B 510th Personnel Services Bn., HHC, 26th ASG. The Department of Public Works facilities are located on the east side of Czernyring with shops and administrative/organizational facilities. The installation consists of 9 ha of property with four major buildings on the west portion and three major buildings with four maintenance buildings on the DPW portion.

The Community Support Center (CSC) is located in an commercial area and a water protection zone III B. In general, the property is flat and has no topographic gradients. Storm water runoff or any discharge from the main areas of POL and HM storage passes through oil-water separators prior to discharging to the sewer. Ultimately, all discharge from CSC drains to the City operated sewer system. Based on topography and the installation's sewer design there is minimum potential for a major contaminant migration. There are no critical surface water or groundwater resources in the vicinity of the installation.


ALTE EPPELHEIMER STRASSE
GNEISENAU STRASSE
EMIL MAIER
HARRY-MILTZ-STRASSE
CZERNY BRIDGE
GASOLINE STATION
HEIDELBERG MAIN RAILROAD STATION AREA
STREETCAR TRACKS
HW 3801 B 3
UST 3801 C 3
HW 3801 B 3
POL SEP. HW 3802 B 1
HW 3801 B 3
CG
3xHM 3802 C 3
HW BATTERIES
2xHM 3801 C 3
HM 3860 C 1
HM CHLORIN. STATION 3862 C 1
SEE DETAIL A
CG
HM
CG
HM
UST
HW
POL SEP.
TANK
AST
HM
HM
SPILL SUPPLIES
HW
HM
HW
2xHM
2xHM
2xHM
TANK 3850 X 2
UST FLOW TO THE GROUND 3850 X 2
INSTALLATION BOUNDARY
INSTALLATION BOUNDARY
PARKING
DEPOT AREA
RAMP/DOCK
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3802
3803
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3880
3883
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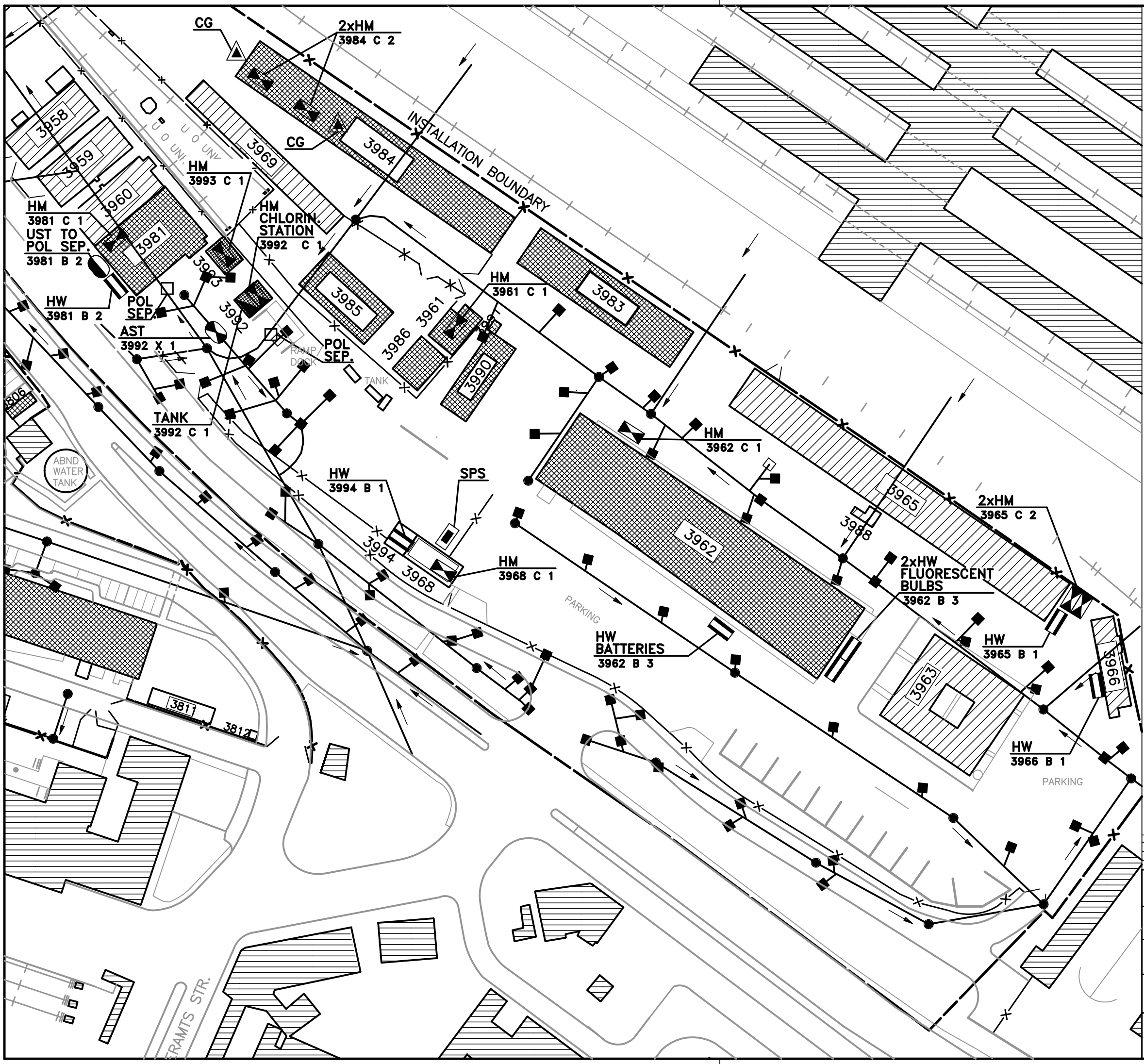


LEGEND
LEGENDE

- GREASE–SEPARATOR / *FETTABSCHEIDER*
- POL–SEPARATOR / *POL–ABSCHEIDER*
- SLUDGE–TRAP / *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) / *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK / *TANK*
- HAZARDOUS MATERIALS (HM) / *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) / *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) / *BIOLOG. SONDERABFALL*
- BATTERY ROOM / *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) / *LAGERTANK (OBERIRDISCH)*
- UNDERGROUND STORAGE TANK (UST) / *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) / *DRUCKGASE*

DIRECTION OF FLOW
- STORM MAIN / *REGENWASSERHAUPTLEITUNG*
- STORM SERVICE / *REGENWASSERANSCHLUSSLEITNG*
- PAVED DITCH / *ENTWAESSERUNGSGRABEN*

DIRECTION OF FLOW
- INLET / *STRASSENEINLAUF*
- SEPARATOR / *ABSCHEIDER*
- GREASE SEPARATOR / *FETTABSCHEIDER*
- MANHOLE OR STILLING WELL / *KANALSCHACHT ODER BRUNNEN*
- LEECHING CESSPOOL / *SENKGRUBE (ABWASSER)*
- HEADWALL / *ENDE GESCHLOSSENER KANAL*
- CLEAN OUT / *REINIGUNGSOEFFNUNG*
- DRAINAGE DIVIDE / *ENTWAESSERUNGSGRENZE*
- OPEN DRAINAGE / *ENTWAESSERUNGSGRABEN (OFFEN)*

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE34J (GY573)
Community Support Center
DETAIL A

SUBMITTED | APPROVED | DATE

SCALE 1:1000
FILE NO GE34J1A
SHEET 02 OF 02

g\proj\SpillPlan\Heidelberg\Design\ Heidelberg\GJ34J\GE34j1A.dgn

Heidelberg\GE34J\GE34J1A.dgn 20.11.2003 14:38:49

C. COMMUNITY SUPPORT CENTER, GE 34J

APPENDIX 6-3

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-3.1 presents the current inventory of units or organizations at Community Support Center (CSC), where POL and HS are stored. This inventory is subject to change as the installation is in the process of moving. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-3.1 but not within the following tables A-6-3.2, A-6-3.3 and A-6-3.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-3.1. Facilities/Units/Organizations Storing POL and/or HS at Community Support Center

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
3801	AAFES	PX	Mr. Fred Bay civil: 0621-479628
3802	AAFES	PX	DNA
3814	DNA	HM Storage	DNA
3860	DNA	DNA	DNA
3862	DNA	Chlorination Station	DNA
3961	411th BSB DPW	HM Storage	Mr. Bernd Verba DSN: 387-3168
3962SE	DNA	Self-Help	Mr. William Spaulding DSN: 387-3232
3962	DNA	Metal Shop	Mr. Ernst Heberling DSN: 387-3167
3965	411th BSB DPW	DPW Supply	MR. McNeal DSN: 370-8389/6382
3966	411th BSB DPW	Paint Shop	Mr. Tony Schreiner DSN: 387-3283
3968	411th BSB DPW	HM Storage	Mr. Albert Amberger DSN: 387-3145

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
3981	BMC	Motor Pool	Mr. Hertlein DSN: 373-6679
3984	DNA	HM Storage	DNA
3992	DNA	Chlorination Station	DNA
3993	DNA	HM Storage	DNA
3994	411th BSB DPW	HW Storage	Mr. Albert Amberger DSN: 387-3145

DNA = data not available
Grey highlighted means that this area might have a potential for a HW/HM slug release. These areas are cross-referenced to the Slug Plan in Appendix 7-3.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-3.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-3. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-3.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-3.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-3.2. POL AND HS INFORMATION FOR COMMUNITY SUPPORT CENTER FOR CRITICAL POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
3801	Map 1/2 #3801B-5 #3801C-2	1xUST (HW), HM, HW	Used Oil (UST), flammables (POL, solvents, brake fluid), toxics (anti-freeze, cleaners), corrosives (sulfuric acid)	11.0	Spill from HM and UST would stay inside building. Outside HW would not spill (solid HW)	0.6	UST is equipped with leak detection; dry sweep, absorbent pads
3814 (south of 3850)	Map 1/2 #3814C-2	1xUST, tank	Heating oil	5.3	Spill during filling UST would flow to the north on pavement	0.6	UST is equipped with leak detection, dry sweep, absorbent pads
3981	Map 1/2 #3981B-2	1xUST (HW), HM, HW	Used Oil (UST), flammables (POL, contaminated rags)	6.0	Spill during emptying could flow to the west to the fence or south to an oil-water separator; the manhole of UST is raised compared to the surrounding, so flow direction could be in any direction. Spill fom HM would stay inside building.	0.6	UST is equipped with leak detection, dry sweep, absorbent pads, oil-water separator

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
3992	Map 1/2 #3992C-2	1xAST, HM	Diesel oil (AST), corrosives (acids, bases), toxics (chlorine)	1.2	Spills during emptying outside AST would flow to the north towards an oil-water separator. Spills foom HM would stay inside bulding.	0.6	AST is doubled walled with leaking detection, dry sweep, absorbent pads, oil-water separator
3994	Map 1/2 #3994B-1	HWSA	Flammables (contaminated bins and rags, spray cans, used POL), reactives (lithium batteries)	1.0	Spills would mainly stay inside this building (one open but fenced side)	0.5	Dry sweep and adsorbant pads

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets), a tank is inside a building (normally containing heating oil for generators)

A Spill Supply and Emergency Equipment Recovery Point is at Building 3968.

Table A-6-3.3. Spill Prevention Equipment for Community Support Center

Location/Building Number	Containment System Type	Construction Material	Capacity
3801	1) Double walled tank 2) Building	1) Steel 2) concrete	NA
3814 (south of 3850)	1) Double walled tank 2) Building	1) Steel 2) concrete	NA
3981	1) Double walled tank 2) Building	1) Steel 2) concrete	NA
3992	1) Double walled tank 2) Building	1) Steel 2) concrete	NA
3994	Building (one side open but fenced)	Concrete floor	NA

DNA = data not available
NA = Not applicable

Table A-6-3.4. List of Tanks at Community Support Center

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
3801	Barth	5.000	Used Oil	double	UST	1976
3814	Adam	5.000	Diesel Oil	double	UST	1982
3814	Ludwig	300	Diesel Oil	double	tank	1995
3965	Nau	5.000	Used Oil	double	UST	1990
3981	Adam	5.000	Used Oil	double	UST	1983
3981	Rietberg	400	Used Oil	double	AST	1990
3992	Schuetz	700	Diesel Oil	double	tank	1994

C. COMMUNITY SUPPORT CENTER, GE 34J

APPENDIX 7-3

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan has been prepared and implemented by the 411th BSB Heidelberg.

This Slug Plan has been prepared to:

7. Identify areas where petroleum, oil and lubricants (POL) and /or hazardous substances (HS) may be released at one time in a volume and/or concentration (i.e., "slug") that negatively impacts the ability of the receiving wastewater treatment plant(s) to operate within normal parameters;

8. Identify response procedures to be implemented by personnel after a slug release; and

9. Identify resources available on- and off-site to respond to a slug release.

This plan contains the following elements as required by FGS Chapter 4:

- Section 1.0 – Description of discharge practices, including non-routine batch discharges (FGS Section C4.3.2.1.7.1);
- Section 2.0 – Description of stored chemicals (FGS Section C4.3.2.1.7.2);
- Section 3.0 – Plan for immediately notifying the domestic wastewater treatment system (DWTS) of slug discharges and discharges that would violate prohibitions under this section, including procedures for subsequent written notification within five days (FGS Section C4.3.2.1.7.3);
- Section 4.0 – Necessary practices to prevent accidental spills. This include proper inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of facility site runoff, and worker training (FGS Section C4.3.2.1.7.4);
- Section 5.0 – Proper procedures for building containment structures or equipment (FGS Section C4.3.2.1.7.5);
- Section 6.0 – Necessary measures to control toxic organic pollutants and solvents (FGS Section C4.3.2.1.7.6); and
- Section 7.0 – Proper procedures and equipment for emergency response, and any subsequent plans necessary to limit damage suffered by the treatment facility or the environment (FGS Section C4.3.2.1.7.7).

This plan has been prepared as an appendix to the 411th BSB Heidelberg SPRP. Portions of this plan reference information contained in the SPRP. The office with primary responsibility for maintenance and implementation of this plan is the Department for Public Works, Environmental Management Office.

1.0 DRAINAGE SYSTEM AND DISCHARGE PRACTICES

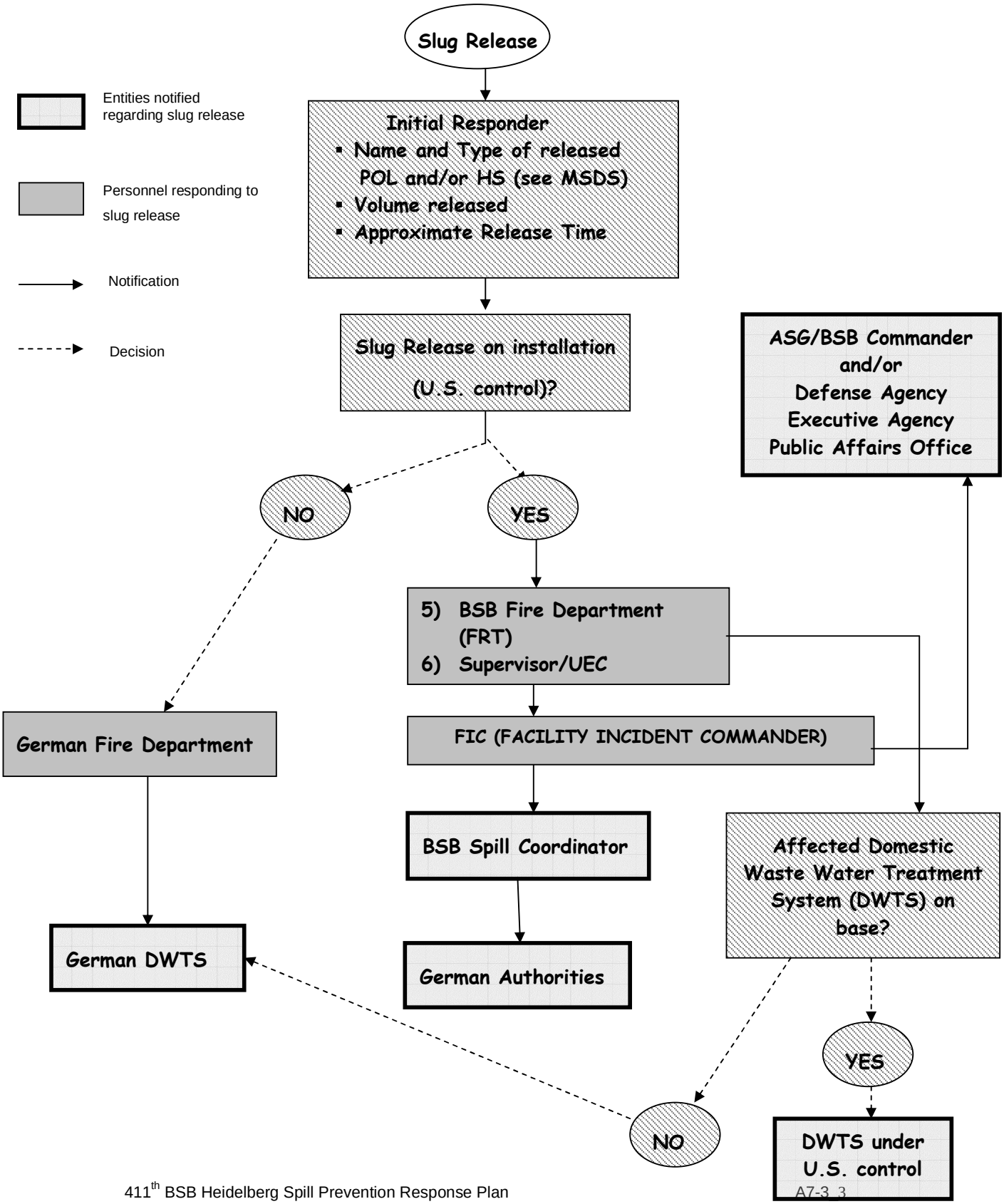
Storm water runoff or any discharge from the main areas of POL and HM storage passes through oil-water separators prior to discharging to the sewer. Ultimately, all discharge from CSC drains to the City operated sewer system.

2.0 SLUG POTENTIAL INVENTORY

Table A-6-3.1 provides specific information for each facility, unit, or organization to identify the locations on the installation that have the potential to release a POL and/or HS slug into the sanitary sewer system. Those facilities, units, or organization with the potential of a POL and/or HS slug release are highlighted. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-3.
A description of the stored POL and/or HS is provided in Table A-6-3.2.

3.0 NOTIFICATION OF A SLUG RELEASE

If a slug of POL and/or HS enters the sanitary sewer system, the following actions should be initiated as soon as practicable:



The following personnel and organizations are POCs which (may) need to be contacted in the event of a slug release at Community Support Center:

Table A-7-3.1 POCs for Slug Release at Community Support Center

Position/Title	Name of Individual	Organization/ Mailing Address	Telephone No. (Work)	Telephone No. (Mobile)
Supervisor Installation	LTC Diane Vanderpot	BSB DPW Environmental Management Office Czernyring 13 69115 Heidelberg	DNA	
Unit Environmental Coordinator (UEC)	See list of names in grey highlighted lines in table A-6-3.1			
BSB Spill Coordinator	Daniel Welch	BSB DPW Environmental Management Office Czernyring 13 69115 Heidelberg	DSN: 387-3140 Civil: 06221-4380-3140	0175-7421527
BSB or Installation Fire Department	Lothar Eckrich	BSB Fire Department	**117**	
DPW Utilities	Bernhard Willnauer	BSB DPW Maintenance Branch Czernyring 13 69115 Heidelberg	DSN: 387-3213 Civil: 06221-4380-3213	0175-7241408
German Fire Department	NA	Fire Department Heidelberg	**112**	NA
Domestic Wastewater Treatment Plant receiving waste water from Community Support Center	Herr Wels Herr Raab	Abwasserzweck-verband Heidelberg Klärwerk Nord&Wieblingen	06221-417-443 06221-417-420	NA
German Authorities (Amt für Umweltschutz)	Dr. Hans-Wolf Zirkwitz	Kornmarkt 1 Heidelberg	Civil: 06221-58-18 00	NA

DNA = data not available

4.0 SLUG RELEASE PREVENTION, CONTROL, AND RESPONSE

Chapter 2 and Appendix 6-3 provide general information on prevention structures and equipment for all types of spills of POL and/or HS. Table A-6-3.3 lists the detailed prevention equipment and Table A-6-3.2 provides the available emergency response equipment at the facility, unit, or organizations handling or storing POL and/or HS. Table-A-7-3.3 provides information on emergency response equipment available for slug releases of POL and HS that can cause damage to domestic wastewater treatment systems (DWTS).

5.0 BUILDING CONTAINMENT STRUCTURES AND EQUIPMENT

This section includes a general description of the types of building containment structures and equipment that are typically used at Community Support Center.

5.1 Building Containment

Building containment construction materials include poured concrete walls, concrete block walls, concrete containment curbs, containment sumps, and trenches. Containment equipment consists of absorbent materials, booms and other barriers or preventive systems. The materials used must be compatible with the released material and sufficiently impervious to contain the spilled material. Containments must also comply with the applicable standards for volume, and precipitation volume.

Containment sumps are tanks and pits that collect gravity drainage and are emptied by gravity or pumped flow. Generally, they consist of a collection tank, level detector, pump, and level-actuated pump control to empty the contents of the receiving tank. Sumps are used in many locations to collect wastewaters for transport to storage or treatment systems. Sumps are used as full or partial containments as appropriate.

Additional operational and maintenance issues that are considered in the design of containments include structural strength and integrity, traffic of equipment and vehicles, leaks from penetration through walls and floors, and leaks from expansion and contraction at joints. Concrete block structures may leak at the joints between blocks, and are subject to damage from the expansion of water that penetrates into the block. Pits and trenches must be properly cleaned to maintain flow and capacity, and grates and covers must be maintained to prevent pedestrian hazards.

5.2 Diversionary Structures

Where containments are not practical, diversions are used to direct drainage as needed. Drainage controls are needed to direct spilled materials to a retention basin, or direct storm water from equipment storage areas. The diverted materials are often diverted through an oil water separator. Diversions can include curbs, trenches, catch basins, or retention ponds that are used to redirect or retain spilled materials. Provisions to return spilled materials to the source facility should be provided where practical.

5.3 Separator Systems

There are several different types of separator systems used at the Community Support Center. For slug releases of POL, oil-water separators are the most effective interceptor systems for slug releases of POL currently in place. Oil-water separators rely on the difference in density between water and POLs, which are generally less dense than water. Oil-water separators are typically rectangular boxes with internal baffles or weirs that operate on a flow-through basis. Free oil, water, and entrained oil droplets are directed to a quiescent compartment that collects oil on top and allows clean water underflow. Emulsified oils may not be separated. Designs may take the form of API separators, plate separators, and multi-stage separators. The operation of oil-water separators requires frequent inspection and maintenance, since the accumulation of oil and sludge can result in the undesired discharge of oil. Oil-water separators should be used as required to prevent the discharge of containment, equipment washdown, tank cleaning, or other oily wastewaters. No cleaning agents are used during cleaning with the high-pressure cleaning equipment. The operating parameters of this cleaning equipment have to be below 60℃ and 60 bar to avoid the generation of stabile emulsions that cannot be separated by an oil-water separator.

It should be noted that transformer fluids and other synthetic oils might not separate from water. In addition, may other commonly used hazardous substances (such as solvents and pesticides) will not be intercepted in an oil/water separator.

Table A-7-3.2 lists the different types of separators used at the Community Support Center.

Table A-7-3.2 Separator Systems at the Community Support Center

Bldg. #	Location	Structure of Separator
3801	West of building	POL Separator (NS 6)
3981	Southeast of building	POL Separator
3992	East of building (wash rack)	POL Separator

NS: nominal size

6.0 MEASURES TO CONTROL TOXIC ORGANIC POLLUTANTS AND SOLVENTS

The following measures need to be followed when handling or storing toxic organic pollutants and solvents:

- Storage areas for organic toxic pollutants and solvents must be well lit. Lights must not heat the stored materials, and must be at least 0.5 meters from toxic organic pollutants
- Smoking, open flames, and fires are not permitted in areas where toxic organic pollutants or solvents are stored or handled
- Toxic organic pollutants can not be stored together with flammable materials if they are not separated from each other by e.g., an adequate secondary containment

- Toxic organic pollutants and solvents must be kept in closed packages or containers that do not leak

- Areas where toxic organic pollutants and solvents are stored or handled must be leak proof

7.0 EQUIPMENT FOR EMERGENCY RESPONSE AND SUBSEQUENT PLANS

Table A-7-3.3 provides information on equipment available at Community Support Center for emergency response in case of a POL and/or HS slug release that could potentially cause damage at the Domestic Waste Water Treatment Systems (DWTS).

Table A-7-3.3 Equipment for Emergency Response to Slug Discharges

Facility/Organization/Unit at which Emergency Response Equipment is available	Emergency Response Equipment
Bldg. 3801, 3981, 3992	POL Separators
BSB Fire Department	Inflatable bladders

D. EDINGEN RADIO RECEIVER FACILITY, GE 19P

APPENDIX 5-4

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

Example: 4020C-1 (only one HMSA in Building 4020)

4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

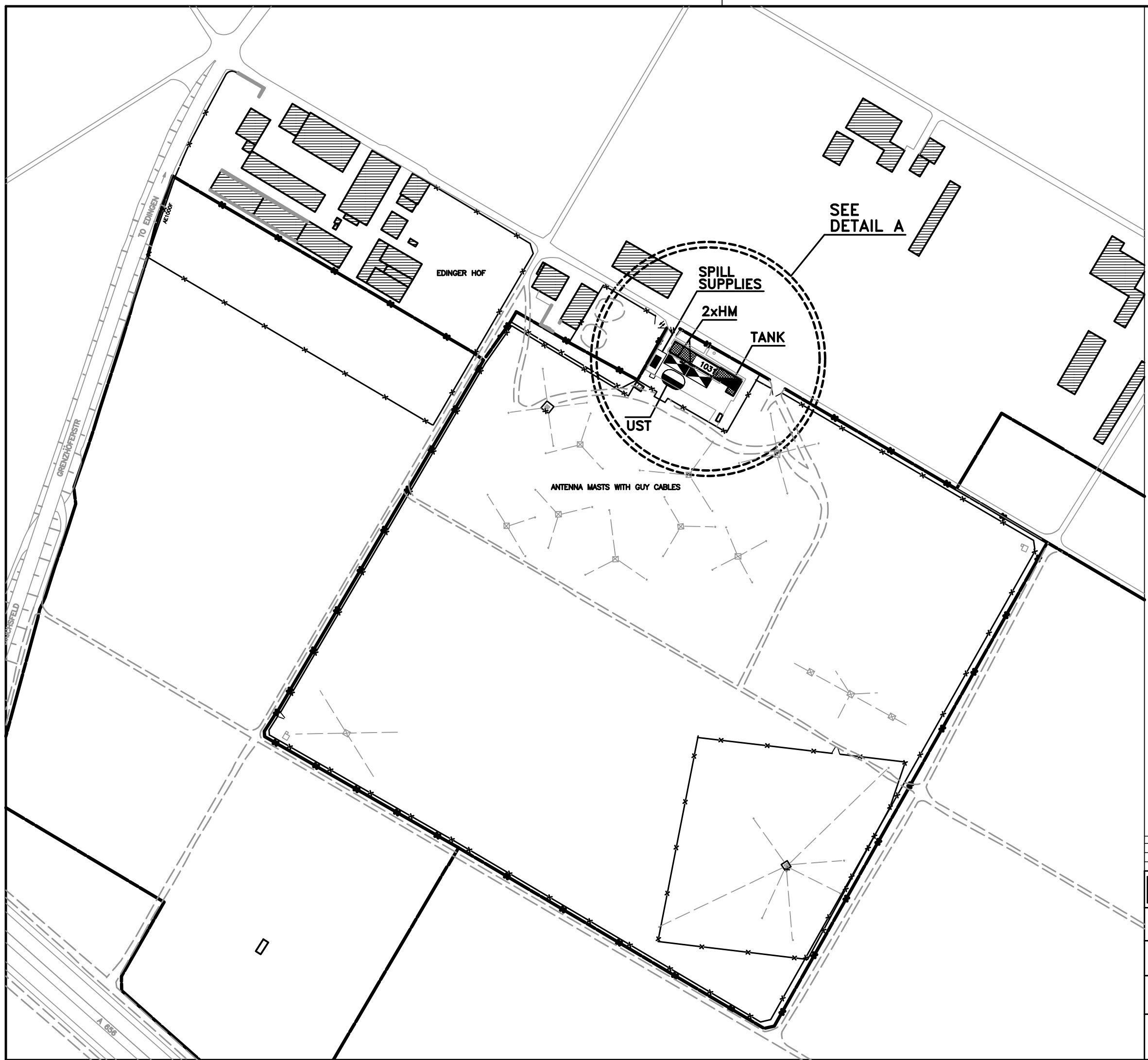
General Information and Environmental Setting

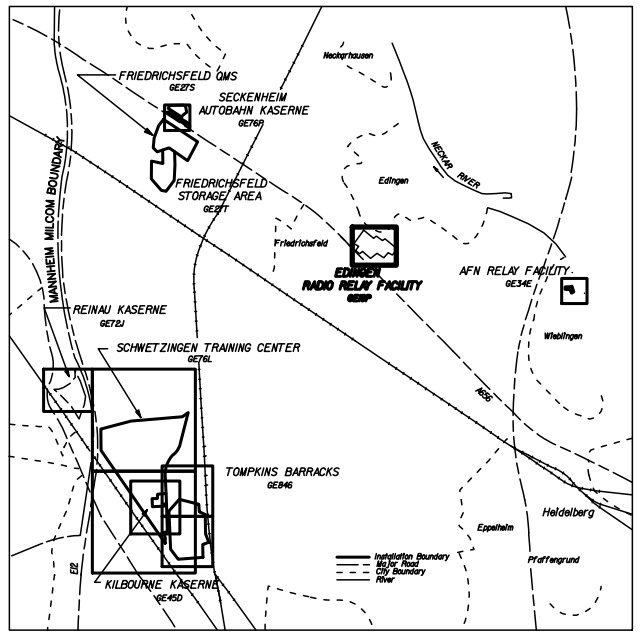
This facility is located in the municipality of Edingen and consists of numerous communication antennas and a single building to support communications. This facility is not continuously occupied. The property is approximately 11 ha and is surrounded by agricultural fields.

The Edingen installation is located in the water protection zone III A. The site is not connected with drainage system to intercept storm water or other exterior drainage, so rainfall or any other discharge are absorbed by the ground. About 300 meters northwest of the installation there is a drinking water well. Most of the property is unpaved ground, therefore there is minimum potential for a major migration

Table A-5.4 Prioritized List of Critical Water and Natural Resources

Name of prioritized Critical Water Resources and Map I.D. Number	Name of Critical Natural Resources and Map I.D. Number
Drinking Water Well	





KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR
  FETTABSCHEIDER
- POL–SEPARATOR
  POL–ABSCHEIDER
- SLUDGE–TRAP
  SCHLAMMFANG
- SPILL SUPPLIES (SPS)
  NOTFALLSET (AUFFANGEQUIPMENT)
- TANK
  TANK
- HAZARDOUS MATERIALS (HM)
  GEFAHRSTOFFE
- HAZARDOUS WASTE (HW)
  SONDERABFALL
- BIOHAZARDOUS WASTE (BW)
  BIOLOG. SONDERABFALL
- BATTERY ROOM
  BATTERIERAUM
- ABOVEGROUND STORAGE TANK (AST)
  LAGERTANK (OBERIRDISCH)
- UNDERGROUND STORAGE TANK (UST)
  LAGERTANK (UNTERIRDISCH)
- COMPRESSED GAS (CG)
  DRUCKGASE

PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

N

SCALE 1:2000

25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE19P
Edingen Radio Receiver Facility

SUBMITTED APPROVED DATE

SCALE 1:2000

FILE NO GE19P01

SHEET 01 OF 02

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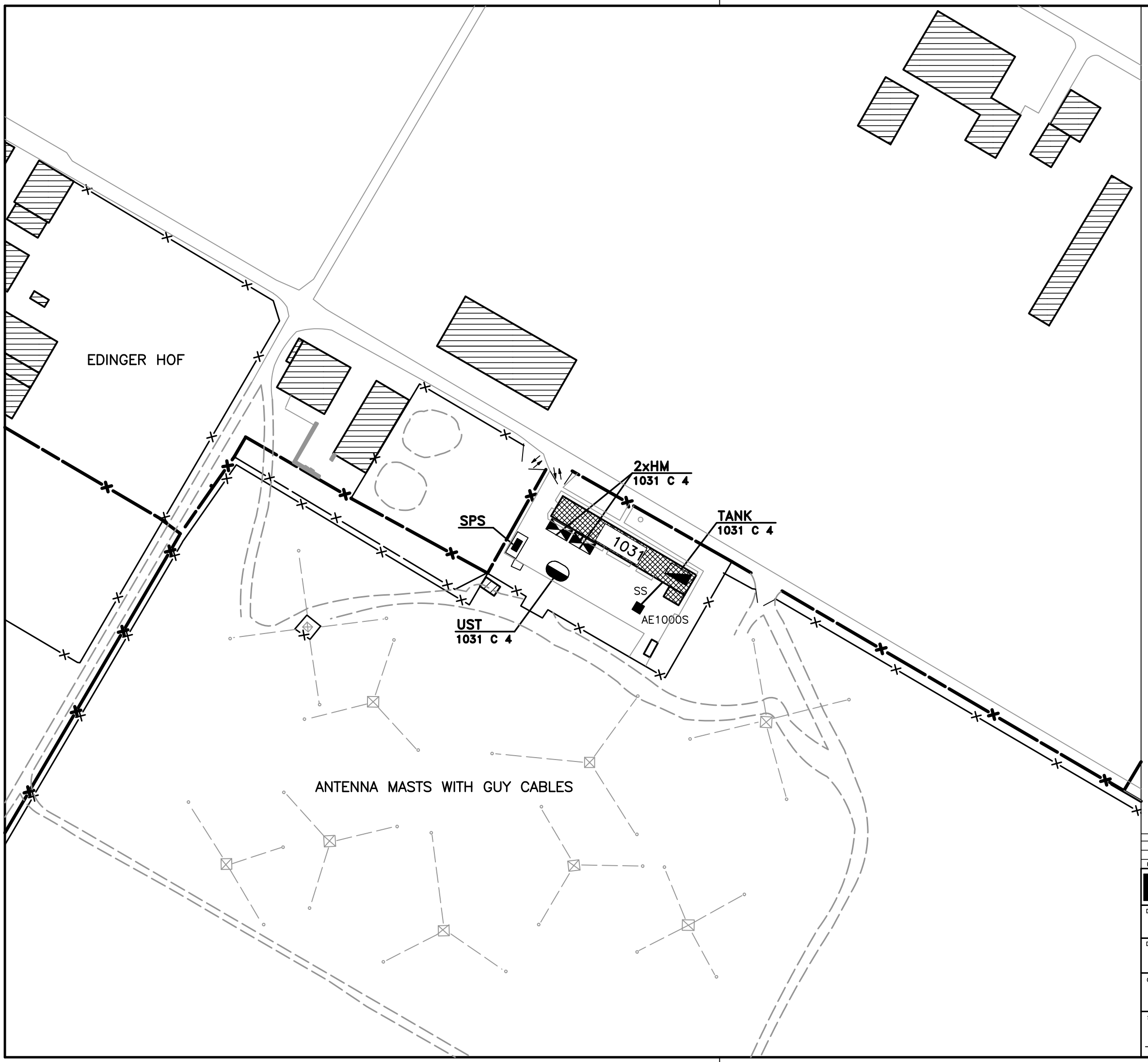

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK *TANK*
- HAZARDOUS MATERIALS (HM) *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) *BIOLOG. SONDERABFALL*
- BATTERY ROOM *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) *LAGERTANK (OBERIRDISCH)*
- UNDERGROUND STORAGE TANK (UST) *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) *DRUCKGASE*

DIRECTION OF FLOW
- STORM MAIN *REGENWASSERHAUPTLEITUNG*
- STORM SERVICE *REGENWASSERANSCHLUSSLEITNG*
- PAVED DITCH *ENTWAESSERUNGSGRABEN*

DIRECTION OF FLOW
- INLET *STRASSENEINLAUF*
- SEPARATOR *ABSCHEIDER*
- GREASE SEPARATOR *FETTABSCHEIDER*
- MANHOLE OR STILLING WELL *KANALSCHACHT ODER BRUNNEN*
- LEECHING CESSPOOL *SENKGRUBE (ABWASSER)*
- HEADWALL *ENDE GESCHLOSSENER KANAL*
- CLEAN OUT *REINIGUNGSOEFFNUNG*
- DRAINAGE DIVIDE *ENTWAESSERUNGSGRENZE*
- OPEN DRAINAGE *ENTWAESSERUNGSGRABEN (OFFEN)*

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE19P
Edingen Radio Receiver Facility
DETAIL A

SUBMITTED | APPROVED | DATE

SCALE 1:1000
FILE NO GE19P1A
SHEET 02 OF 02

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D. EDINGEN RADIO RECEIVER FACILITY, GE 19P

APPENDIX 6-4

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-4.1 presents the current inventory of units or organizations at Edingen Radio Receiver Facility, where POL and HS are stored. This inventory must be updated annually or after any significant changes. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-4.1 but not within the following tables A-6-4.2, A-6-4.3 and A-6-4.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-4.1. Facilities/Units/Organizations Storing POL and/or HS at Edingen Radio Receiver Facility

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
1031	CDR, 181ST SIG CO, MARS	Radio Receiver Facility	SFC Dave Calwell DSN: 370-8332/8137

There is no area that might have a potential for a HW/HM slug release.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-4.2 provides specific POL and HS information for this unit. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-4. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-4.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-4.3 provides information on the prevention equipment that is available at this unit.

TABLE A-6-4.2. POL AND HS INFORMATION FOR EDINGEN RADIO RECEIVER FACILITY FOR CRITICAL POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
1031	Map 1/1 #1031C-4	1xUST (HM), tank, HM	Heating oil, diesel oil, POL	11.0	Manhole is in grass, therefore, spill would penetrate soil. Spill from tank would stay inside building; spill from HM would stay in connex.	0.6	UST is double–walled with leaking detection, dry sweep, adsorbent pads

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets)
i.B. = in building

Table A-6-4.3. Spill Prevention Equipment for Edingen Radio Receiver Facility

Location/Building Number	Containment System Type	Construction Material	Capacity
1031	1) Double walled tank 2) Building 3) Connex	1) Steel 2) Concrete 3) Metal	1) NA 2) NA 3) DNA

DNA = data not available
NA = Not applicable

Table A-6-4.4. List of Tanks at Edingen Radio Receiver Facility

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
1031	Adam	10.000	Diesel Oil	double	UST	1987
1031	Adam	10.000	Heating Oil	double	UST	1987
1031	Ludwig	300	Diesel Oil	double	tank	1995

D. EDINGEN RADIO RECEIVER FACILITY, GE 19P

APPENDIX 7-4

SLUG PREVENTION PLAN

INTRODUCTION

At Edingen Radio Receiver Facility there is no sewer system. Sanitary waste water is collected in a septic tank. A Slug Prevention Plan is not required because no slug release can happen at this installation.

E. GERMERSHEIM ARMY DEPOT, GE 30J

APPENDIX 5-5

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

Example: 4020C-1 (only one HMSA in Building 4020)

4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

General Information and Environmental Setting

This facility is located immediately northwest the municipality of Germersheim adjacent to Lingenfeld. The site consists of about 150 ha of property with in excess of 80 buildings. The primary tenant unit is the V Corps Special Troops Bn. Installation activities involve storage and distribution of various classes of military equipment and wares.

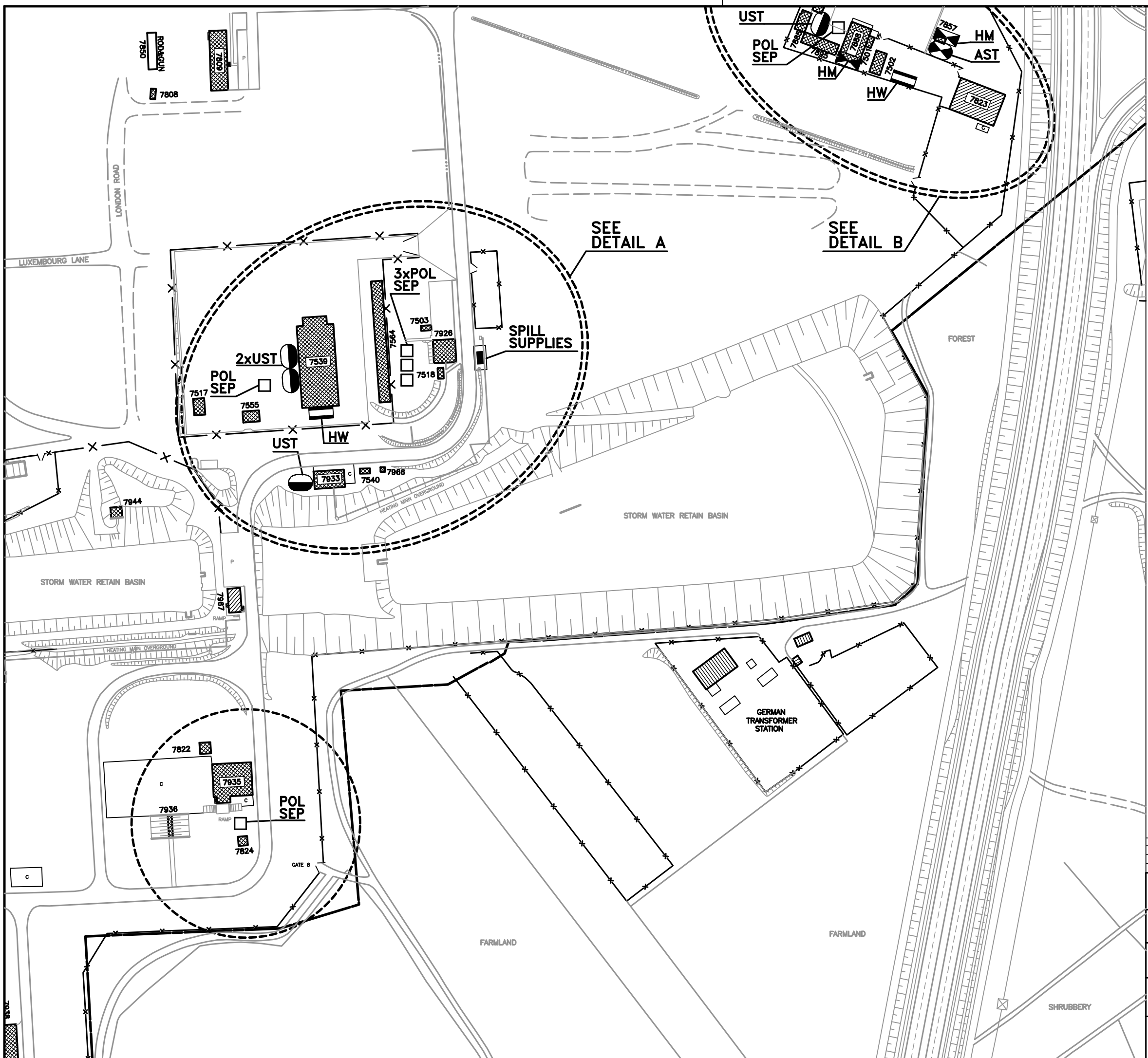
Germersheim is not located in a water protection zone. The site is not connected to a public sewer system, rather, it has its own waste water treatment plant that discharges into two on-site retention ponds. There is no conveyance from the ponds to another natural water resource. The water is reduced by evaporation. During heavy rain fall there is bypass that discharges water into the creek Queich, located about 200 meters south of the installation. In and at the pond numerous plants, fishes, and birds have settled. There is no inventory on the existing species.

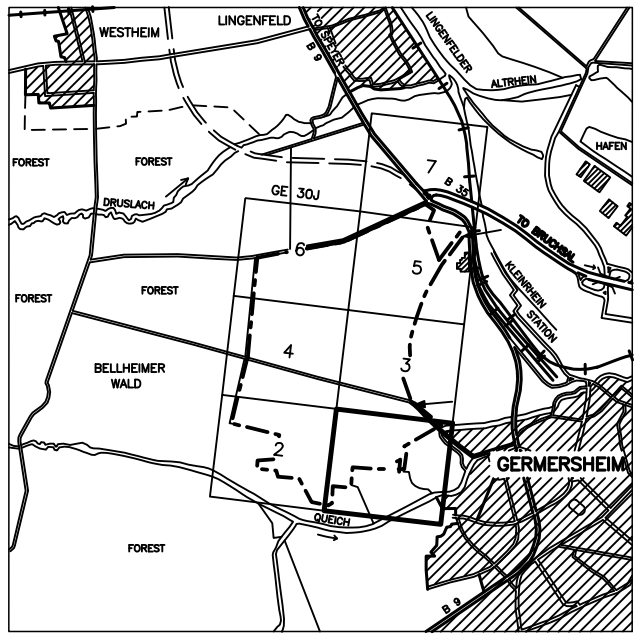
To the north there is the Drusbach Creek at a distance of about 500 meters. The Rhine River is about 1.5 kilometers to the east. There are no drinking water wells located on the property.

Storm water runoff or any discharge from critical areas of potential spills passes through oil-water separators prior to discharging to the on-site sewer system.

Table A-5.5 Prioritized List of Critical Water and Natural Resources

Name of prioritized Critical Water Resources and Map I.D. Number	Name of Critical Natural Resources and Map I.D. Number
Pond at waste water treatment plant	
Creek Queich	
Creek Drusbach	





KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR
  FETTABSCHEIDER
- POL–SEPARATOR
  POL–ABSCHEIDER
- SLUDGE–TRAP
  SCHLAMMFANG
- SPILL SUPPLIES (SPS)
  NOTFALLSET (AUFFANGEQUIPMENT)
- TANK
  TANK
- HAZARDOUS MATERIALS (HM)
  GEFAHRSTOFFE
- HAZARDOUS WASTE (HW)
  SONDERABFALL
- BIOHAZARDOUS WASTE (BW)
  BIOLOG. SONDERABFALL
- BATTERY ROOM
  BATTERIERAUM
- ABOVEGROUND STORAGE TANK (AST)
  LAGERTANK (OBERIRDISCH)
- UNDERGROUND STORAGE TANK (UST)
  LAGERTANK (UNTERIRDISCH)
- COMPRESSED GAS (CG)
  DRUCKGASE

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50 0 100 200 300 FEET

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Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE30J 01
Germersheim Army Depot

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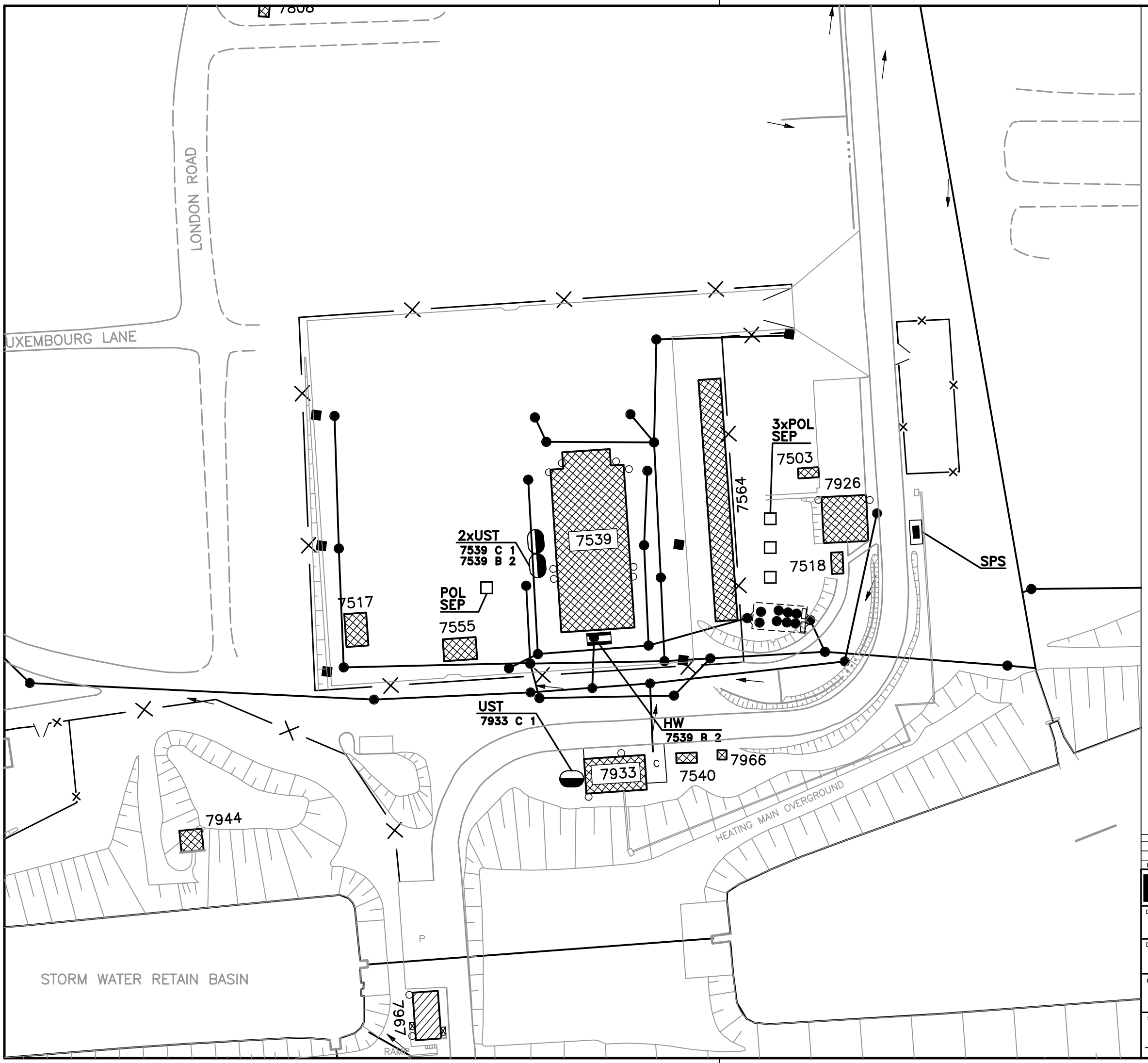

LEGEND
LEGENDE

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- UNDERGROUND STORAGE TANK (UST) *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) *DRUCKGASE*

- DIRECTION OF FLOW — STORM MAIN *REGENWASSERHAUPTLEITUNG*
- STORM SERVICE *REGENWASSERANSCHLUSSLEITNG*
- PAVED DITCH *ENTWAESSERUNGSGRABEN*
- DIRECTION OF FLOW
- INLET *STRASSENEINLAUF*
- SEPARATOR *ABSCHEIDER*
- GREASE SEPARATOR *FETTABSCHEIDER*
- MANHOLE OR STILLING WELL *KANALSCHACHT ODER BRUNNEN*
- LEECHING CESSPOOL *SENKGRUBE (ABWASSER)*
- HEADWALL *ENDE GESCHLOSSENER KANAL*
- CLEAN OUT *REINIGUNGSOEFFNUNG*
- DRAINAGE DIVIDE *ENTWAESSERUNGSGRENZE*
- OPEN DRAINAGE *ENTWAESSERUNGSGRABEN (OFFEN)*

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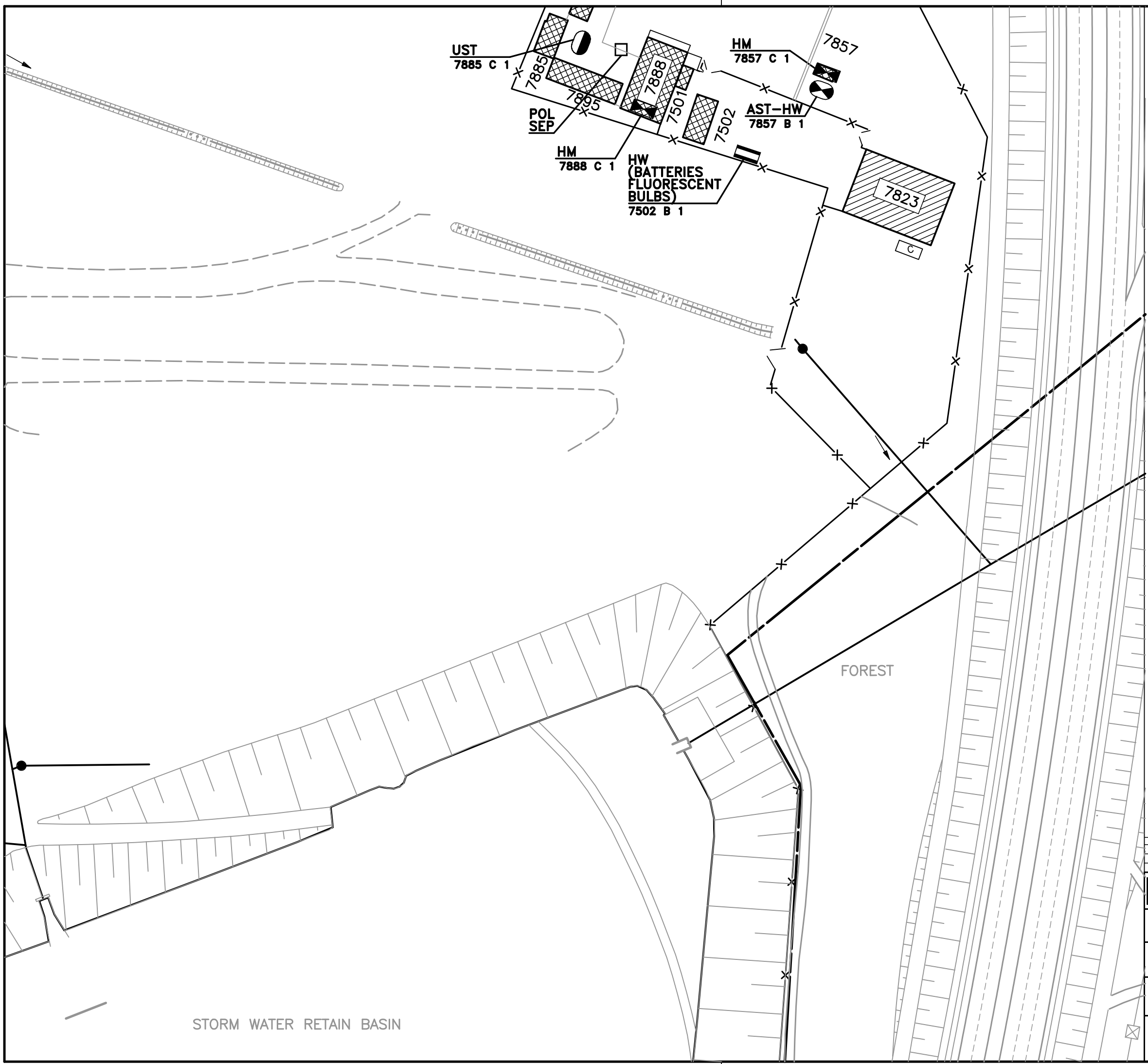

LEGEND
LEGENDE

- GREASE-SEPARATOR / *FETTABSCHEIDER*
- POL-SEPARATOR / *POL-ABSCHEIDER*
- SLUDGE-TRAP / *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) / *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK / *TANK*
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- HAZARDOUS WASTE (HW) / *SONDERABFALL*
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- UNDERGROUND STORAGE TANK (UST) / *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) / *DRUCKGASE*

- STORM MAIN / *REGENWASSERHAUPTLEITUNG* (DIRECTION OF FLOW)
- STORM SERVICE / *REGENWASSERANSCHLUSSLEITNG*
- PAVED DITCH / *ENTWAESSERUNGSGRABEN* (DIRECTION OF FLOW)
- INLET / *STRASSENEINLAUF*
- SEPARATOR / *ABSCHEIDER*
- GREASE SEPARATOR / *FETTABSCHEIDER*
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- HEADWALL / *ENDE GESCHLOSSENER KANAL*
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- OPEN DRAINAGE / *ENTWAESSERUNGSGRABEN (OFFEN)*

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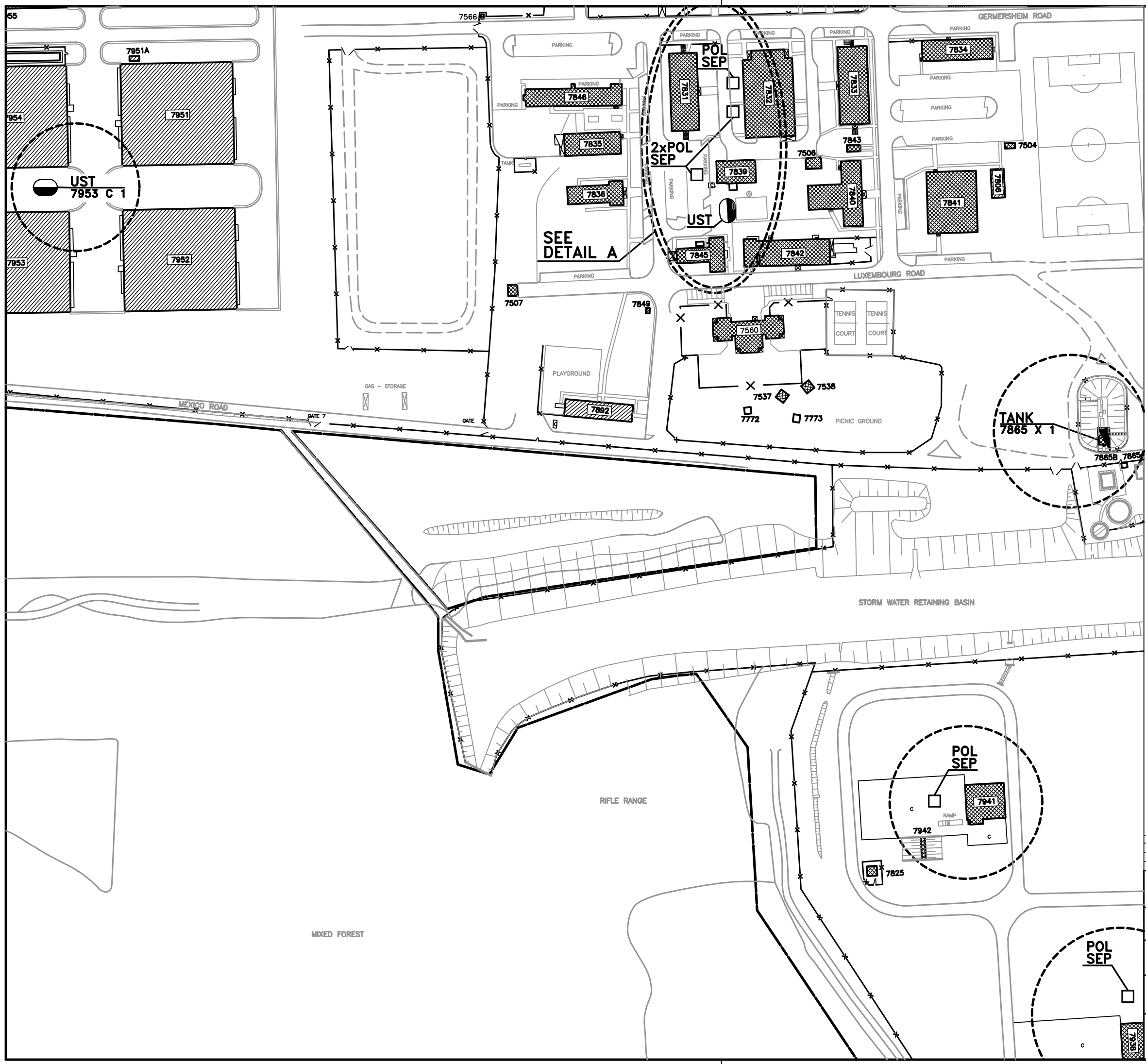

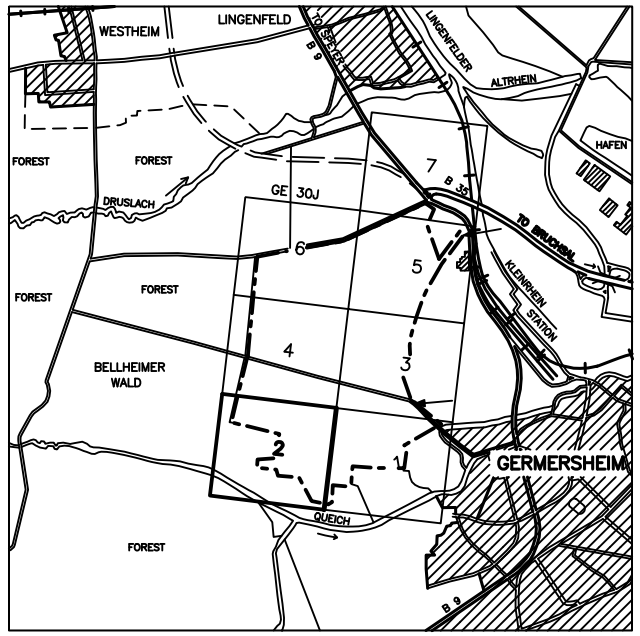

KEY MAP

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- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK *TANK*
- HAZARDOUS MATERIALS (HM) *GEFAHRSTOFFE*
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- UNDERGROUND STORAGE TANK (UST) *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) *DRUCKGASE*

SCALE 1:2000

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50 0 100 200 300 FEET

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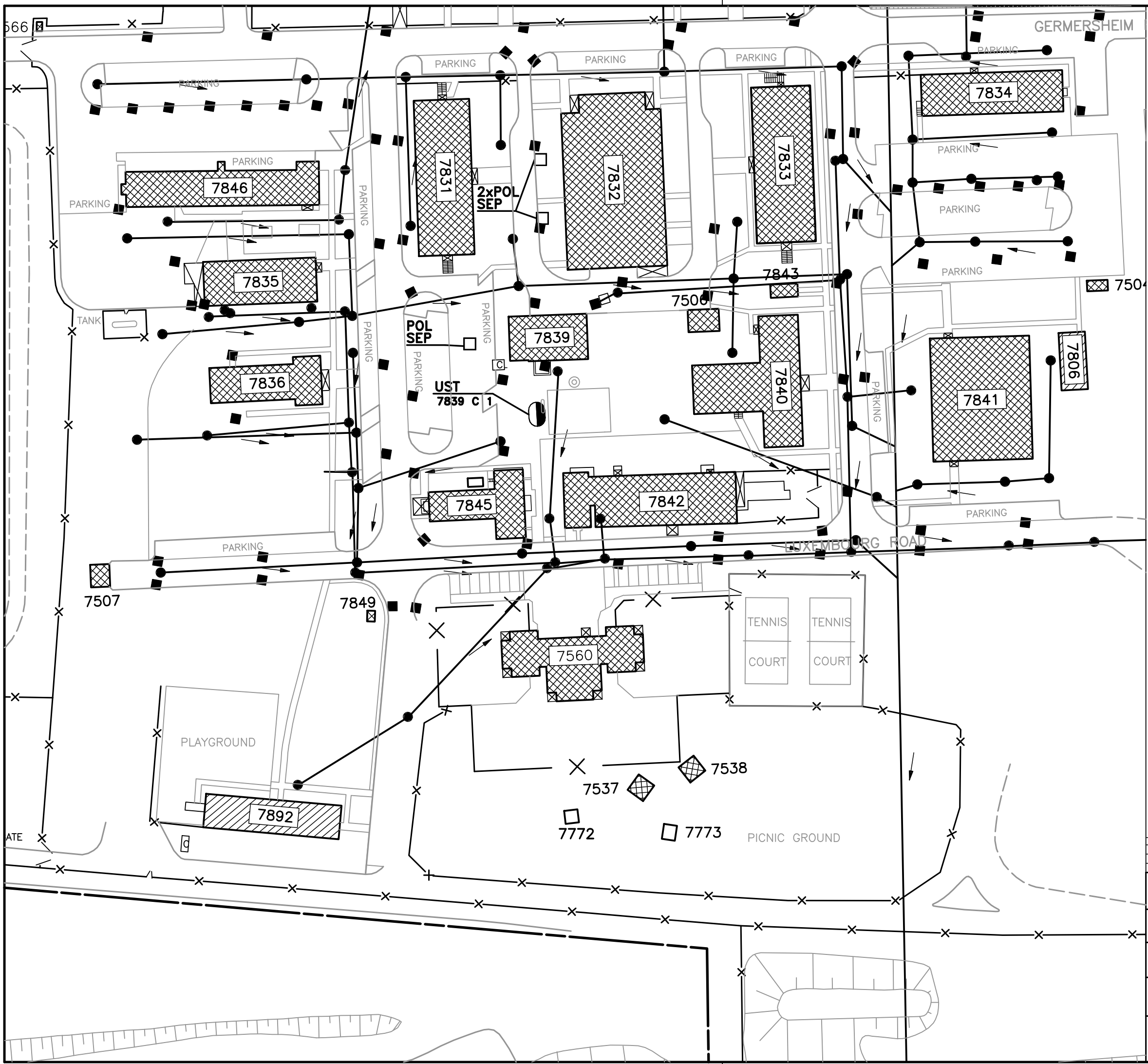

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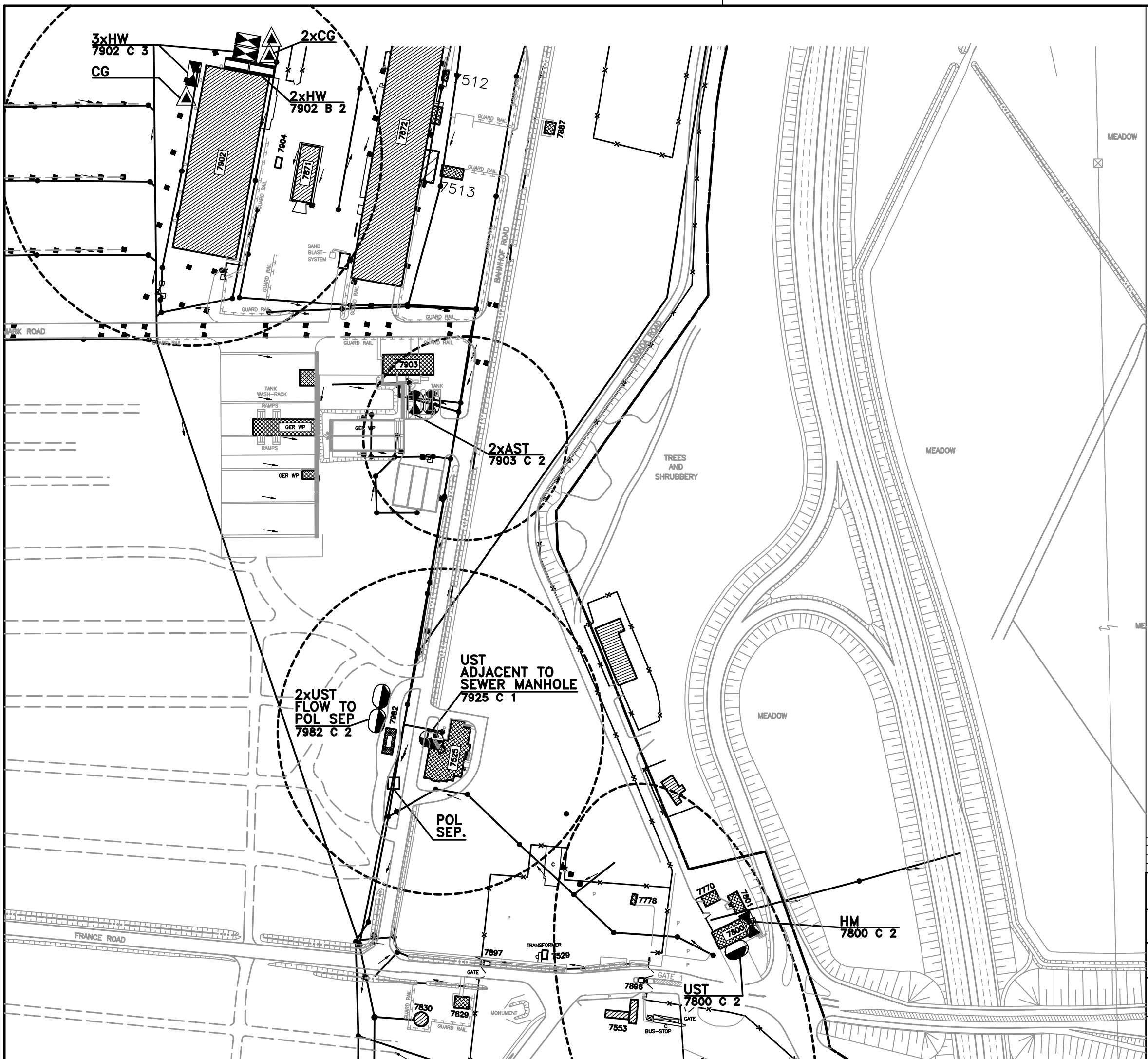

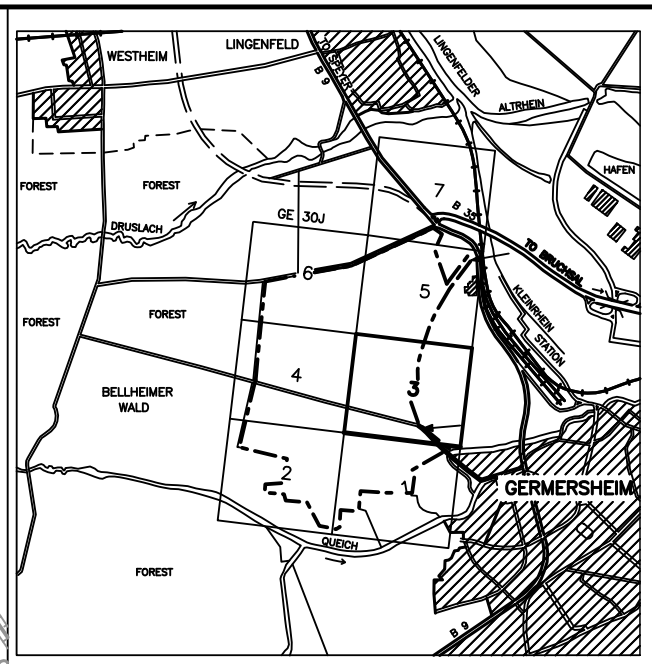

KEY MAP

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PREVAILING WIND

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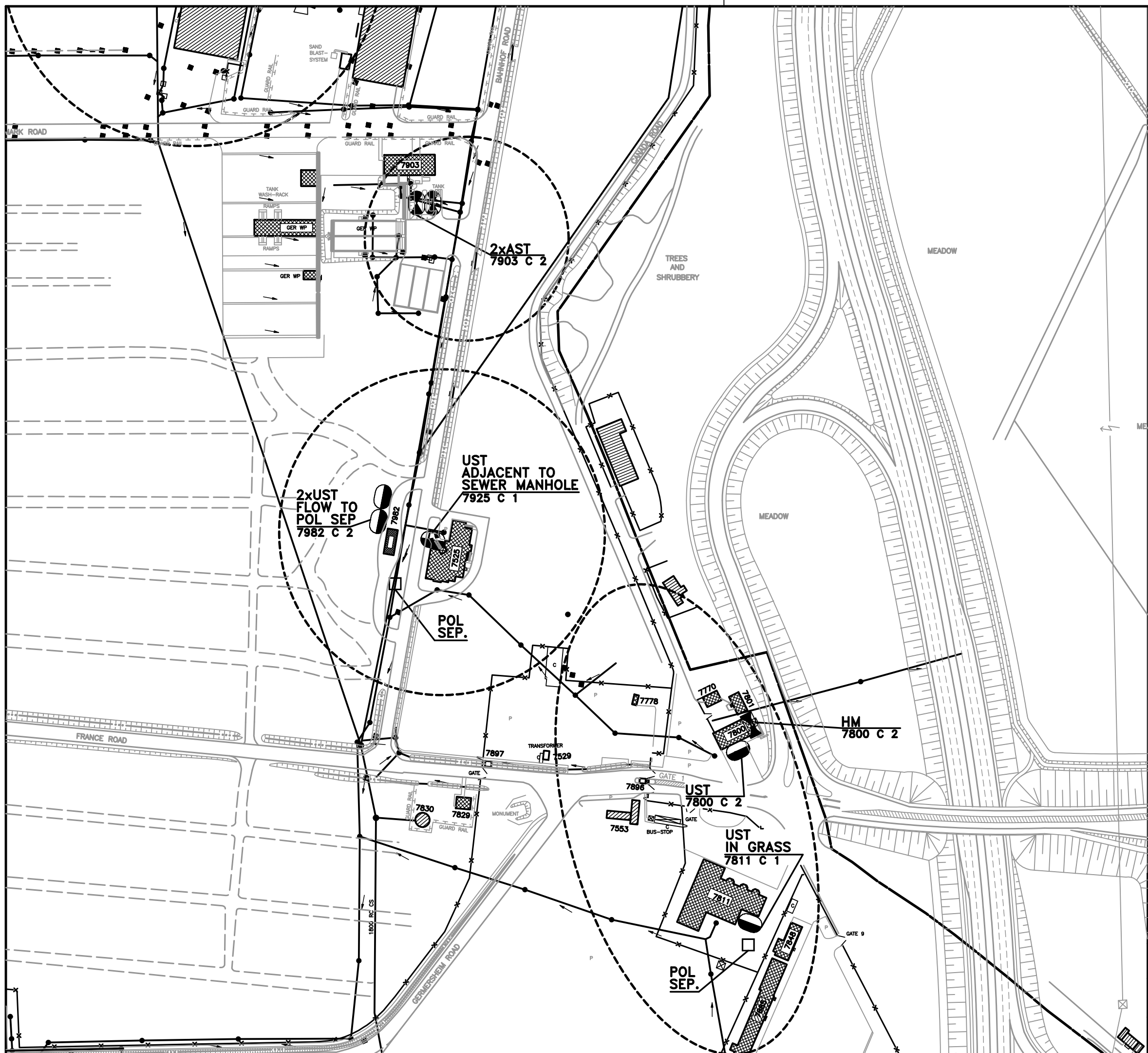

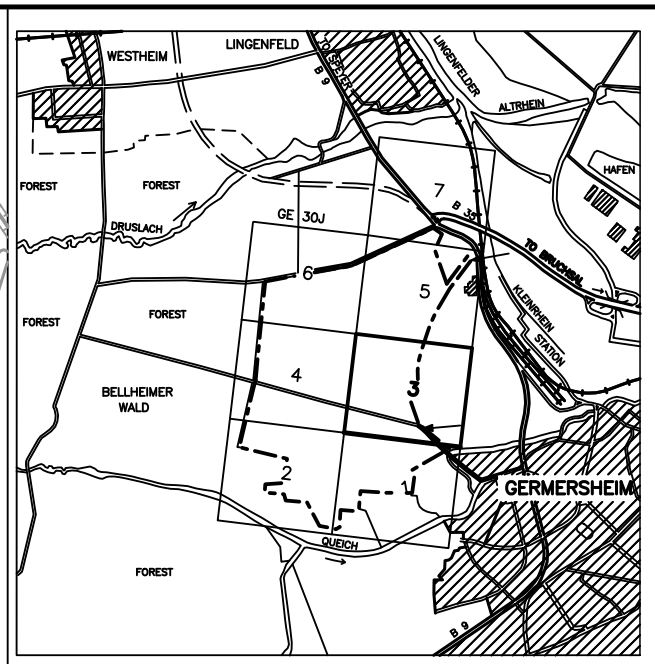

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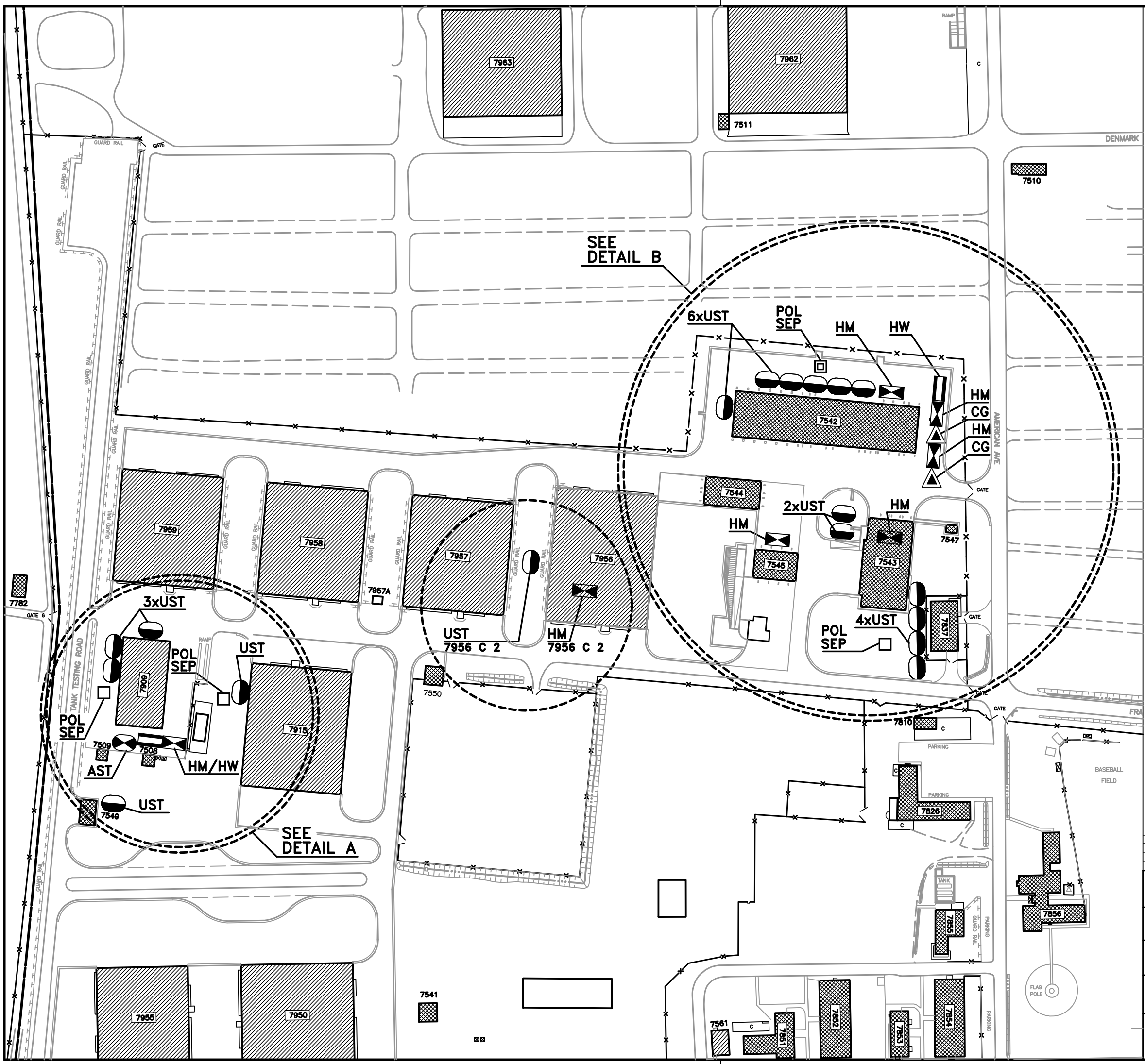

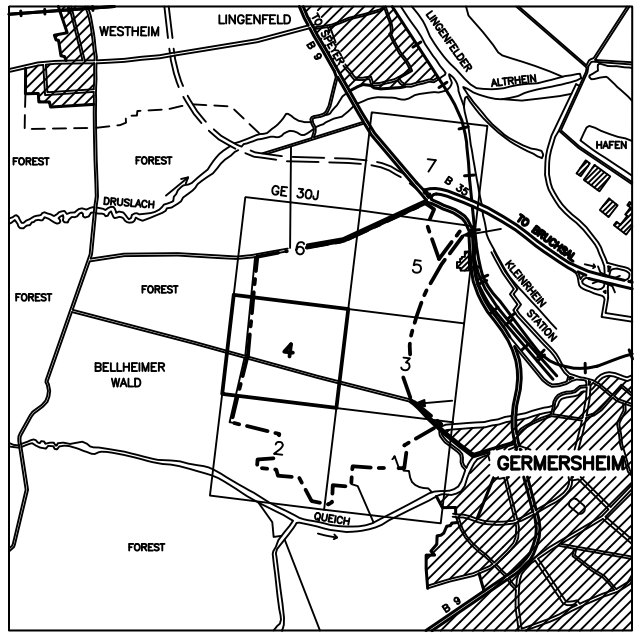

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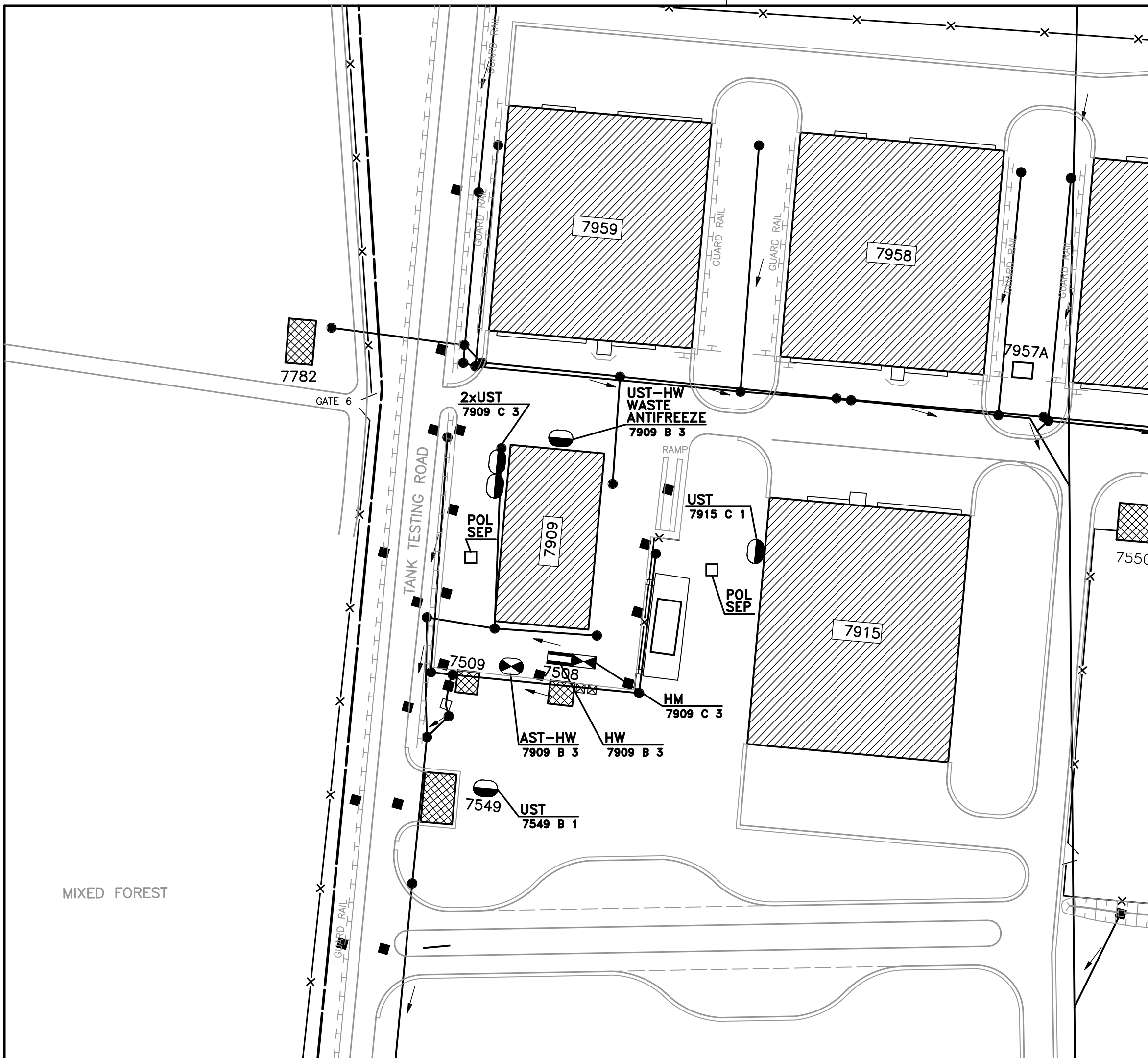

LEGEND
LEGENDE

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- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
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- TANK *TANK*
- HAZARDOUS MATERIALS (HM) *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) *BIOLOG. SONDERABFALL*
- BATTERY ROOM *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) *LAGERTANK (OBERIRDISCH)*
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- COMPRESSED GAS (CG) *DRUCKGASE*

- DIRECTION OF FLOW — STORM MAIN *REGENWASSERHAUPTLEITUNG*
- STORM SERVICE *REGENWASSERANSCHLUSSLEITNG*
- DIRECTION OF FLOW — PAVED DITCH *ENTWAESSERUNGSGRABEN*
- INLET *STRASSENEINLAUF*
- SEPARATOR *ABSCHEIDER*
- GREASE SEPARATOR *FETTABSCHEIDER*
- MANHOLE OR STILLING WELL *KANALSCHACHT ODER BRUNNEN*
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- CLEAN OUT *REINIGUNGSOEFFNUNG*
- DRAINAGE DIVIDE *ENTWAESSERUNGSGRENZE*
- OPEN DRAINAGE *ENTWAESSERUNGSGRABEN (OFFEN)*

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Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE30J 04
Germersheim Army Depot
DETAIL A

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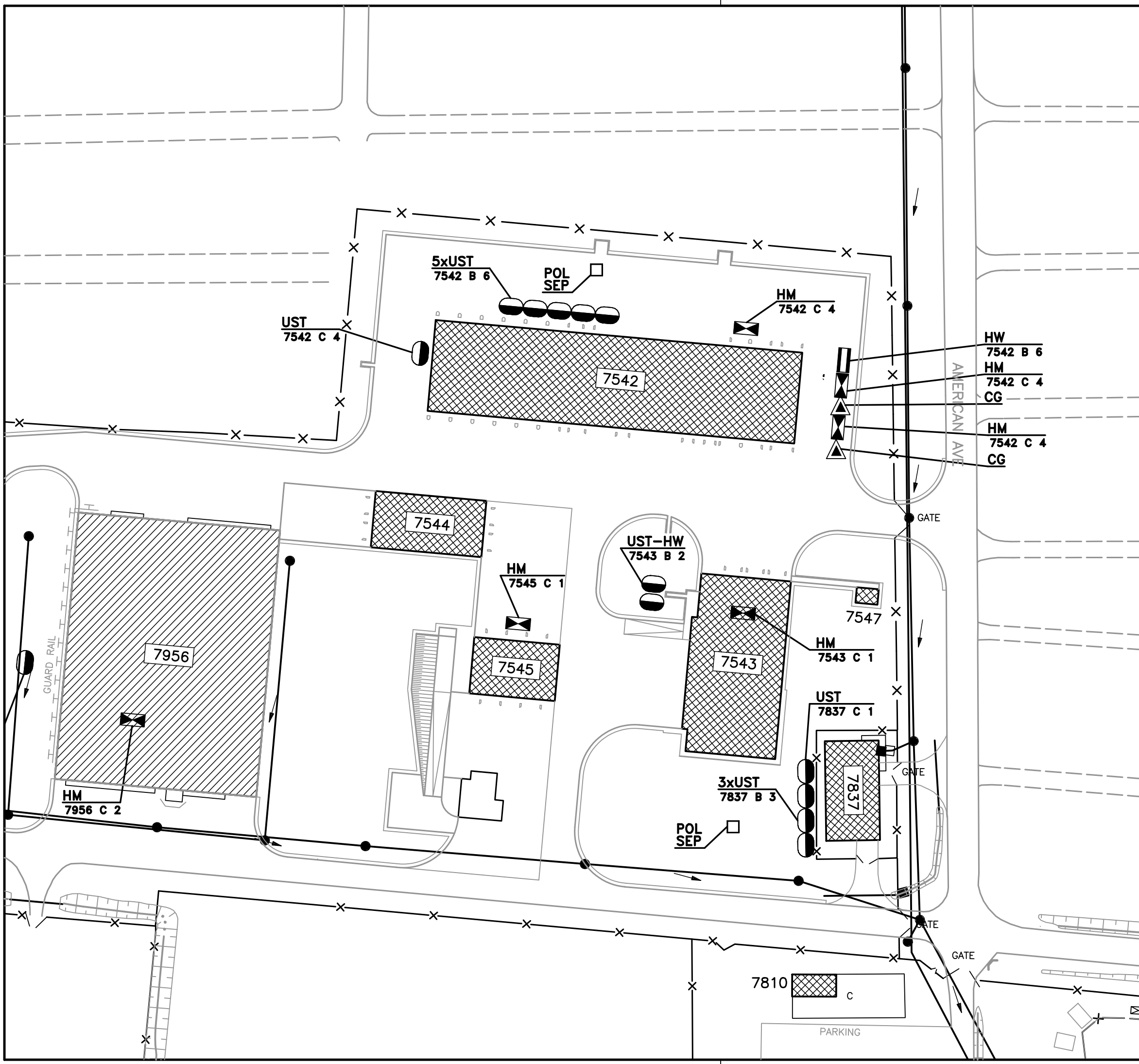

LEGEND
LEGENDE

- GREASE-SEPARATOR / *FETTABSCHEIDER*
- POL-SEPARATOR / *POL-ABSCHEIDER*
- SLUDGE-TRAP / *SCHLAMMFANG*
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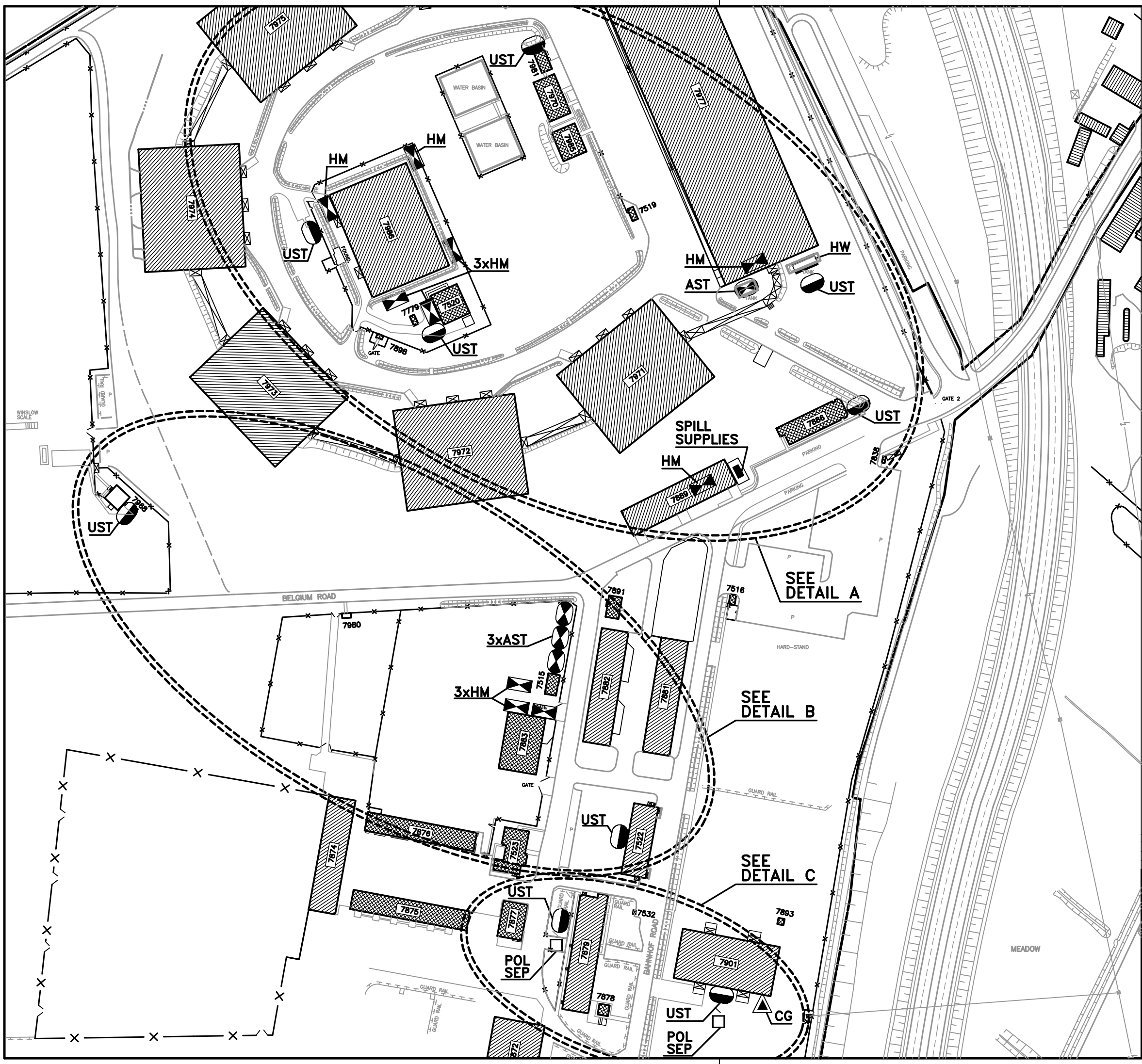

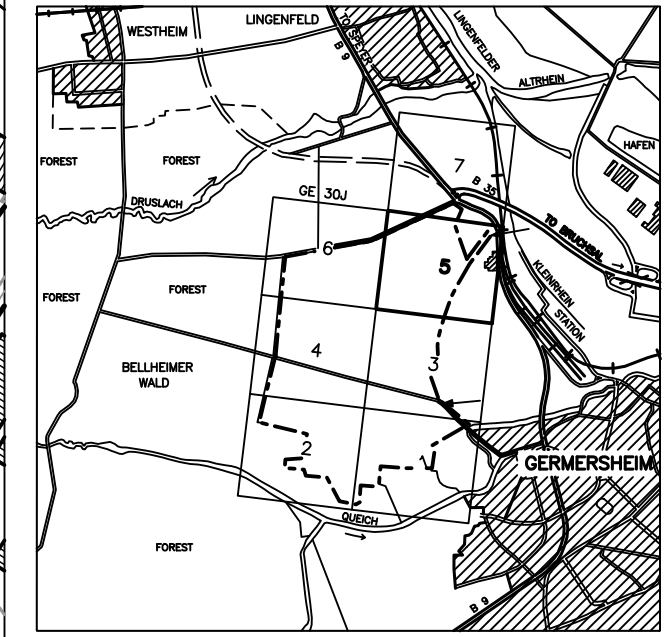

KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
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25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

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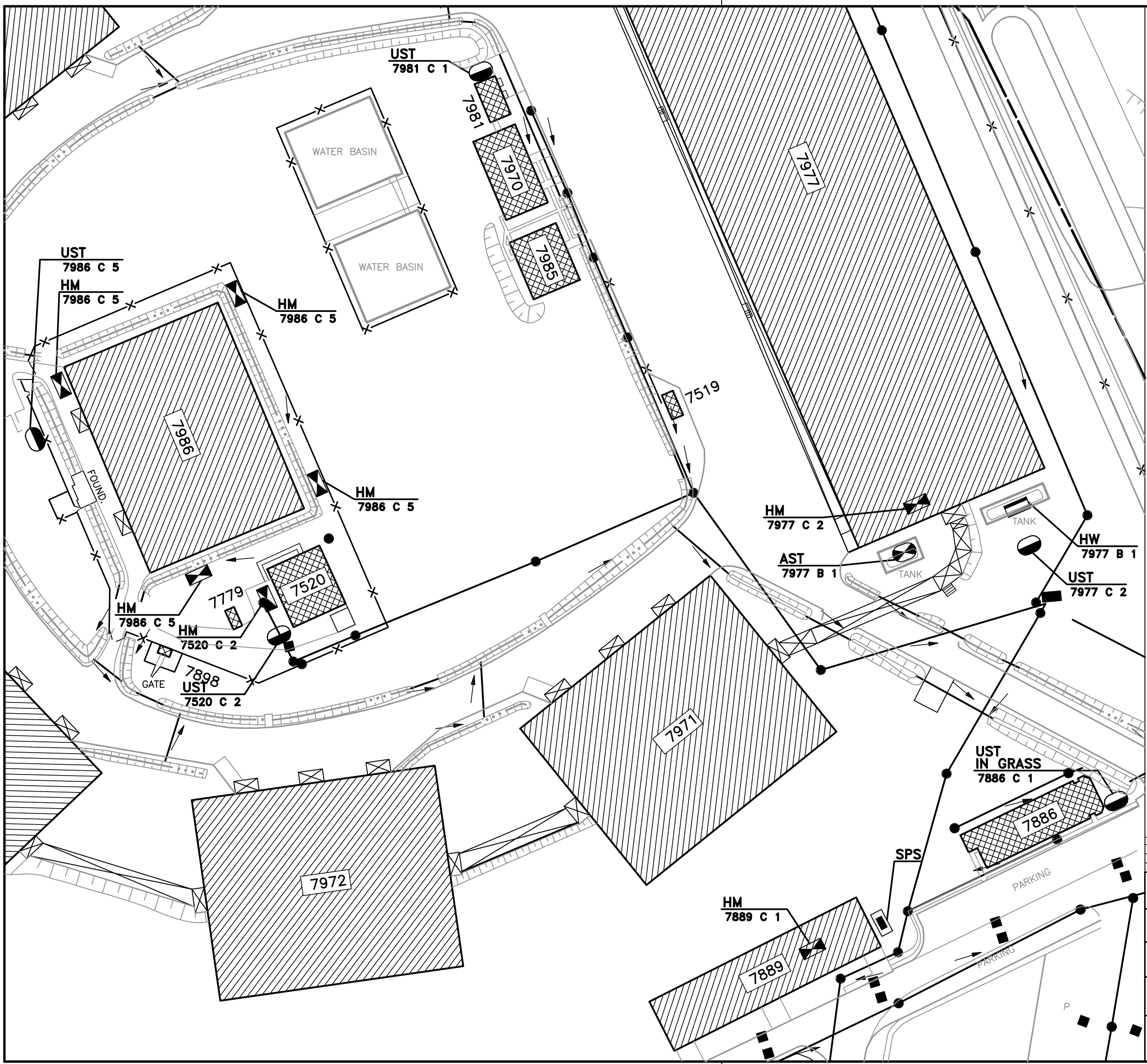

LEGEND
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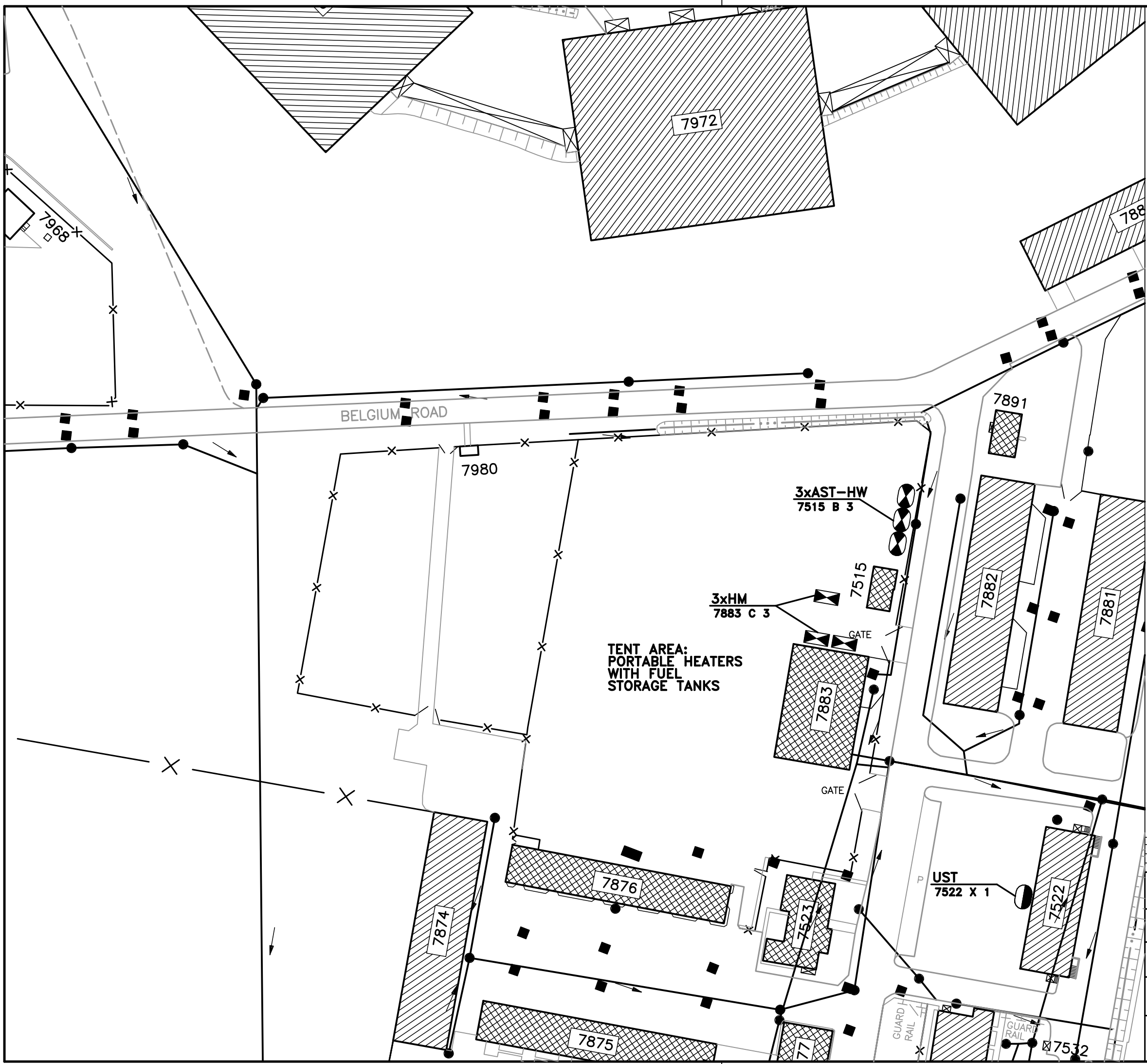

LEGEND
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Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
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DETAIL B

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FILE NO KA30J5B
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LEGEND
LEGENDE

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Slug Prevention Plan

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FARMLAND

FARMLAND

FOREST

GATE 4

7531

7961

WINSLOW SCALE

BELGIUM ROAD

7969

QUARTERMASTER ROAD

RAMP

7987A

7534

7526

7900

SEE DETAIL A

UST

7987B

7533

7527

HM
7988 C 3

CG

HW
7988 B 1

2xUST

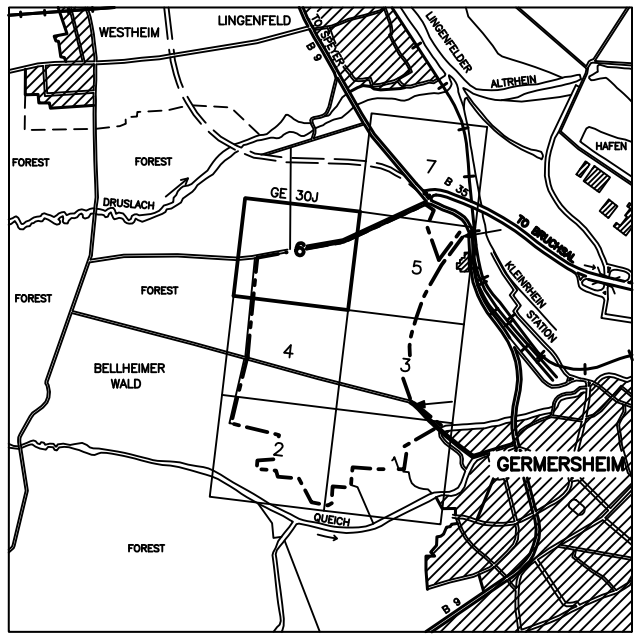
7988

AMERICAN AVE

7764

7535

7989



KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR
  FETTABSCHEIDER
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SCALE 1:2000

25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

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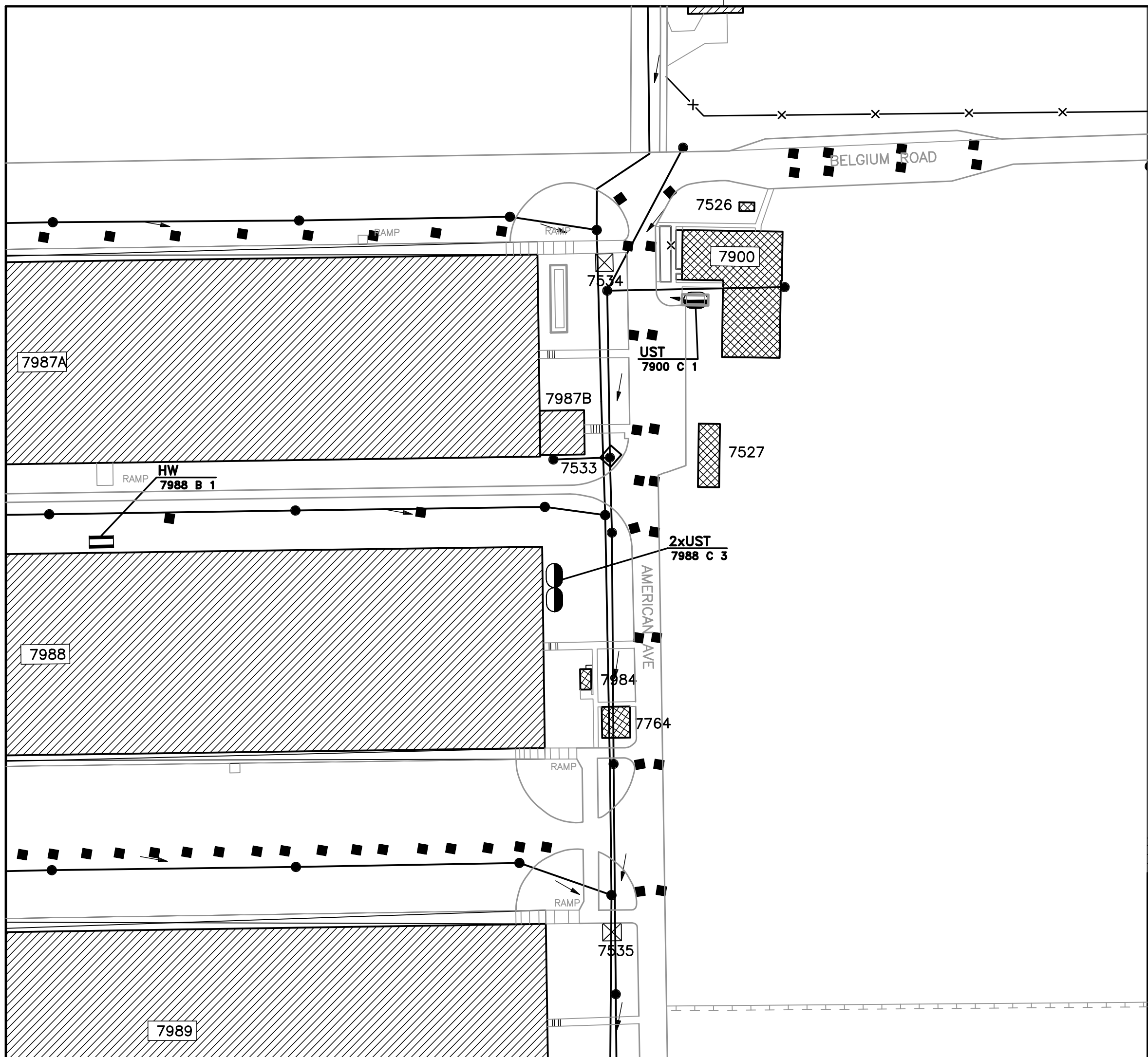

LEGEND
LEGENDE

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APPENDIX 6-5

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-5.1 presents the current inventory of units or organizations at Germersheim Army Depot (GAD), where POL and HS are stored. This inventory is subject to change as the installation is in the process of moving. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-5.1 but not within the following tables A-6-5.2, A-6-5.3 and A-6-5.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-5.1. Facilities/Units/Organizations Storing POL and/or HS at Germersheim Army Depot

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
7502	DNA	DNA	DNA
7515	DNA	DNA	DNA
7520	Defence Distribution Depot Europe	Warehouse	SSG Bo Park DSN: 378-3594/3890
7525	DNA	DNA	DNA
7539	American Consulate	DNA	Tony Freeman DSN: 378-3550
7542	DNA	DNA	Mr. Fred Phillips DSN: 378-3479
7543	DNA	DNA	Mr. Fred Phillips DSN: 378-3479
7545	DNA	DNA	Mr. Fred Phillips DSN: 378-3479
7549	DNA	DNA	DNA
7800	DNA	DNA	DNA
7811	DNA	DNA	DNA
7837	DNA	DNA	DNA
7839	DNA	DNA	DNA

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
7842	DNA	DNA	DNA
7846	DNA	DNA	DNA
7856	DNA	DNA	DNA
7857	DNA	DNA	DNA
7865	DNA	DNA	DNA
7879	DNA	DNA	DNA
7883	DNA	DNA	DNA
7885	411th BSB DPW	DNA	Mr. Guessow DSN: 378-3656
7886	DNA	DNA	DNA
7888	DNA	DNA	DNA
7889	DNA	DNA	DNA
7900	DNA	DNA	DNA
7901	Defence Distribution Depot Europe	Warehouse	SSG Bo Park DSN: 378-3594/3890
7902	DNA	DNA	Mr. Fred Phillips DSN: 378-3479
7903	DNA	DNA	DNA
7909	DNA	DNA	Mr. Fred Phillips DSN: 378-3479
7915	DNA	DNA	DNA
7933	DNA	DNA	DNA
7956	DNA	DNA	DNA

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
7968	DNA	DNA	DNA
7977	Defence Distribution Depot Europe	Warehouse	SSG Bo Park DSN: 378-3594/3890
7981	DNA	DNA	DNA
7982	DNA	DNA	DNA
7986	DNA	DNA	DNA
7988	DECA	DNA	Mr. Jonny Lange DSN: 378-3695/3833

DNA = data not available
Grey highlighted means that this area might have a potential for a HW/HM slug release to the on-base waste water treatment plant. These areas are cross-referenced to the Slug Plan in Appendix 7-5.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-5.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-5. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-5.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-5.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-5.2. POL AND HS INFORMATION FOR GERMERSHEIM ARMY DEPOT FOR CRITICAL POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
7515	Map 12/17 #7515B-3 #7515C-1	3xAST (HW), HM	Used oil (ASTs), POL	11.0	Spills during emptying the ASTs would flow to the west on paved ground. Spills from HM would flow to the north on paved ground	0.6	ASTs are equipped with leak detection, dry sweep, absorbent pads; HM in connex
7520	Map 12/17 #7520C-2	1xUST (HM), HM	Heating oil (UST), flammables (POL)	11.0	Spill during filling UST would flow to the north on paved ground. Spill from HM would stay in Connex.	0.6	UST is equipped with leak detection; dry sweep, absorbent pads
7525	Map 6/17 #7525C-1	1xUST	Heating oil	5.0	Spill during filling the UST would flow to the sewer manhole in the north connected to an oil-water separator	0.6	UST is equipped with leak detection, oil-water separator, dry sweep, absorbent pads
7539	Map 1/17 #7539A-1 #7539B-2	2xUST, HW	Used oil (UST), Antifreeze (UST), flammables (HW)	11.0	Spill during filling the UST could flow to the west on pavement to an oil-water separator	0.6	USTs are equipped with leak detection, oil-water separator, dry sweep, absorbent pads

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
7542	Map 9/17 #7542A-1 #7542B-5 #7542C-4	6xUST (HM,HW), HM, HW	Heating oil (1xUST), HM (flammables, toxic, corrosives), used oil (2xUST), used anti-freeze (1xUST), contaminated fuel (2xUST), HW (used oil, used solvents, contaminated rags, asbestos)	75.0	Spills during filling/emptying the USTs could flow to the north on paved ground to the oil-water separator. Spills from HM and HW to the west on paved ground	0.6	USTs are equipped with leak detection, oil-water separator, dry sweep, absorbent pads
7543	Map 9/17 #7543B-2 #7543C-1	2xUST (HW), HM	Used battery acid (1xUST), used oil (1xUST), POL	7.0	Spills during emptying the USTs would flow to the east on paved ground. Spill from HM would stay inside building.	0.6	USTs are equipped with leak detection, oil-water separator (only for waste oil!), dry sweep, absorbent pads
7549	Map 9/17 #7549B-1	1xUST	Used oil	5.0	Spills during emptying the UST would flow to the west on paved ground.	0.6	UST is equipped with leak detection
7800	Map 6/17 #7800C-2	1xUST, HM	Heating oil (UST), POL	6.0	Spills during filling the UST would flow to the west on paved ground.	0.6	UST is equipped with leak detection, dry sweep, absorbent pads

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
7811	Map 6/17 #7811C-1	1xUST	Heating oil	30.0	Spills during filling the UST would flow on paved ground to the south towards an oil-water separator.	0.6	UST is equipped with leak detection, oil-water separator
7837	Map 9/17 #7837B-3 #7837C-1	4xUST (HM, HW)	Used oil (3xUST), heating oil (1xUST)	10.0	Spills during filling/emptying the USTs would flow to the west on paved ground to an oil-water separator.	0.6	USTs are equipped with leak detection, oil-water separator
7839	Map 4/17 #7839C-1	1xUST	Heating oil	100.0	Spills during filling the UST would flow on paved ground to the northwest towards an oil-water separator.	0.6	UST is equipped with leak detection, oil-water separator
7879	Map 12/17 #7879C-1	1xUST	Heating oil	7.0	Spills during filling the UST would flow on paved ground to the south towards an oil-water separator.	0.6	UST is equipped with leak detection, oil-water separator
7885	Map 1/17 #7885C-1	1xUST	Heating oil	5.0	Spills during filling the UST would flow on paved ground to the east towards an oil-water separator	0.6	UST is equipped with leak detection, oil-water separator, dry sweep, adsorbant pads

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
7886	Map 12/17 #7886C-1	1xUST	Heating oil	10.0	Spills during filling the UST would flow on paved ground to the west	0.6	UST is equipped with leak detection
7900	Map 16/17 #7900C-1	1xUST	Heating oil	10.0	Spills during filling the UST would flow on paved ground to the southwest	0.6	UST is equipped with leak detection
7901	Map 12/17 #7901C-1	1xUST	Heating oil	7.0	Spills during filling the UST would flow on paved ground to the south towards an oil-water separator	0.6	UST is equipped with leak detection, oil-water separator
7903	Map 6/17 #7903C-2	2xAST	Heating oil	100.	Spills during filling the ASTs would flow on paved ground to the north	0.6	ASTs are equipped with leaking detection

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
7909	Map 9/17 #7909A-1 #7909B-2 #7909C-1	3xUST (HM, HW), 1xAST (DNA), HM, HW	Heating oil (UST), used oil (UST), used anti-freeze (UST), HM: flammables (POL) HW: (anti-freeze, dirty rags, spray cans)	32.0	Spills during emptying/filling USTs at the west side of the bldg. would flow to the south on paved ground towards an oil-water separator. Spills from the UST at the northern side of the bldg. would flow to the north.Spills from the HW area and the AST would flow to the north.	1.0	USTs and AST are equipped with leaking detection, oil-water separator, dry sweep, adsorbant pads
7915	Map 9/12 #7915C-1	1xUST	Heating oil	30.0	Spills during filling UST would flow to the west on paved ground towards an oil-water separator	0.6	UST is equipped with leaking detection, oil-water separator, dry sweep, adsorbant pads
7933	Map 1/17 #7933C-1	1xUST	Heating oil	30.0	Spills during filling UST would flow to the west on paved ground	0.6	UST is equipped with leaking detection, spill supply recovery point east of bldg. 7926 in about 150m distance to the east

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
7968	Map 12/17 #7968C-1	1xUST	Heating oil	5.0	Spill during filling UST would flow to the southeast on paved ground.	0.6	UST is equipped with leak detection
7977	Map 12/17 #7977A-1 #7977B-1 #7977C-2	1xUST (HM), 1xAST (DNA), HM, HW	Heating oil (UST), no data available for HM and HW and AST	100.0	Spill during filling UST could flow in all directions on paved ground.	0.6	UST and AST are equipped with leak detection
7981	Map 12/17 #7981C-1	1xUST	Heating oil	10.0	Spill during filling UST would flow to the southwest on paved ground.	0.6	UST is equipped with leak detection
7982	Map 6/17 #7982C-2	2xUST	Diesel fuel, Gas	80.0	Spill during filling USTs would flow to the east on paved ground.	0.6	USTs are equipped with leak detection
7986	Map 12/17 #7986C-5	1xUST, HM	Heating oil (UST), no data available for HM	30.0	Spill during filling USTs would flow to the west on paved ground.	0.6	UST is equipped with leak detection

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
7988	Map 16/17 #7988B-1 #7988C-2	2xUST, HM, HW	Heating oil (2xUST), HM: flammabels (POL, cleaner, thinner), irritant (brake fluid, anti-freeze) HW: no data available	200.0	Spill during filling USTs would flow to the east on paved ground.	0.6	USTs are equipped with leak detection

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets), a tank is inside a building (normally containing heating oil for generators)
i.B. = in building
DNA = Data not available

A Spill Supply and Emergency Equipment Recovery Point is at two garages east of Building 7926 and at Building 7889.

Table A-6-5.3. Spill Prevention Equipment for Germersheim Army Depot

Location/Building Number	Containment System Type	Construction Material	Capacity
7515	1) Double walled tank 2) Connex with secondary containment	1) Steel 2) Metal	1) NA 2) DNA
7520	1) Double walled tank 2) Connex with secondary containment	1) Steel 2) Metal	1) NA 2) DNA
7525	Double walled tank	Steel	NA
7539	Double walled tanks	Steel	NA
7542	Double walled tanks	Steel	NA
7543	1) Double walled tanks 2) Building	1) Steel 2) concrete	1+2) NA
7549	Double walled tank	Steel	NA
7800	Double walled tank	Steel	NA
7811	Double walled tank	Steel	NA
7837	Double walled tanks	Steel	NA
7839	Double walled tank	Steel	NA

Location/Building Number	Containment System Type	Construction Material	Capacity
7879	Double walled tank	Steel	NA
7885	Double walled tank	Steel	NA
7886	Double walled tank	Steel	NA
7900	Double walled tank	Steel	NA
7901	Double walled tank	Steel	NA
7903	Double walled tanks	Steel	NA
7909	Double walled tank	Steel	NA
7915	Double walled tank	Steel	NA
7933	Double walled tank	Steel	NA
7968	Double walled tank	Steel	NA
7977	Double walled tanks	Steel	NA
7981	Double walled tank	Steel	NA

Location/Building Number	Containment System Type	Construction Material	Capacity
7982	Double walled tanks	Steel	NA
7986	Double walled tank	Steel	NA
7988	Double walled tanks	Steel	NA

DNA = data not available
NA = Not applicable

Table A-6-5.4. List of Tanks at Germersheim Army Depot

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
7520	Dehaust	10.000	Heating Oil	double	UST	1985
7525	Behr	5.000	Heating Oil	double	UST	1987
7539	Nau	5.000	Used Oil	double	UST	1988
7539	Nau	5.000	Anti Freeze	double	UST	1988
7542	Nau	1.000	Used Oil	double	UST	1992
7542	Nau	3.000	Used Oil	double	UST	1992
7542	Nau	3.000	Used Anti Freeze	double	UST	1992
7542	Nau	3.000	Contam. Gas	double	UST	1992
7542	Nau	10.000	Contam. Diesel Oil	double	UST	1992
7542	Nau	50.000	Heating Oil	double	UST	1992

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
7542	Nordholz	1.000	Battery Acid	double	UST	1992
7543	Nau	5.000	Used Oil	double	UST	1992
7549	Nau	3.000	Used Oil	double	UST	1992
7800	Dehaust	5.000	Heating Oil	double	UST	1985
7811	Nau	30.000	Heating Oil	double	UST	1988
7837	Nau	1.000	Used Oil	double	UST	1980
7837	Nau	1.000	Used Oil	double	UST	1980
7837	Nau	7.000	Heating Oil	double	UST	1980
7837	Nau	1.000	Used Oil	double	UST	1980
7839	Kraemer	100.000	Heating Oil	double	UST	1988
7842	Deutz	50	Diesel oil	single	tank	1998
7846	Deiniger	50	Diesel oil	single	tank	1991

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
7857	US	2.400	Used Oil	double	AST	1984
7865		50	Diesel Oil	single	tank	
7879	Carolus	7.000	Heating Oil	double	UST	1970
7881	Rietberg	3.000	Used Oil	double	AST	1988
7882	Rietberg	3.000	Used Oil	double	AST	1988
7883	Rietberg	3.000	Anti Freeze	double	AST	1988
7883	Rietberg	3.500	Used Oil	double	AST	1991
7885	Nau	5.000	Heating Oil	double	UST	1971
7886	Dehoust	10.000	Heating Oil	double	UST	1997
7892	Barth	7.000	Heating Oil	double	UST	1982
7900	Nau	10.000	Heating Oil	double	UST	1999
7901	Nau	7.000	Heating Oil	double	UST	1999

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
7903	Adam	50.000	Heating Oil	internal skin	AST	1970
7903	Adam	50.000	Heating Oil	internal skin	AST	1970
7909	Nau	20.000	Heating Oil	double	UST	1999
7909	Rietberg	3.000	Used Oil	double	AST	1988
7909	Unknown	5.000	Used Cooling means	double	UST	1969
7915	Adam	30.000	Heating Oil	double	UST	2002
7926	Rietberg	3.000	Used Oil	double	AST	1988
7926	Rietberg	950	Used Oil	double	AST	1988
7933	Nau	30.000	Heating Oil	double	UST	1987
7968	Adam	5.000	Heating Oil	double	UST	1981
7977	Nau	100.000	Heating Oil	double	UST	1999
7981	Dehaust	10.000	Heating Oil	double	UST	1983

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
7982	Nau	40.000	JP8	double	UST	1993
7982	Nau	40.000	Gasoline	double	UST	1993
7986	Unknown	30.000	Heating Oil	double	UST	1987
7987	Nau	100.000	Heating Oil	double	UST	1999
7988	Nau	100.000	Heating Oil	double	UST	1999
7989	Nau	100.000	Heating Oil	double	UST	1999
ESD Yard	Rietberg	950	contam. gas	double	AST	1987
ESD Yard	Rietberg	3.000	Used Oil	double	AST	1988
ESD Yard	Rietberg	3.500	not used	double	AST	1991
ESD Yard	Rietberg	5.000	not used	double	AST	1987
ESD Yard	Rietberg	5.000	not used	double	AST	1991
ESD Yard	Rietberg	5.000	not used	double	AST	1991

E. GERMERSHEIM ARMY DEPOT, GE 30J

APPENDIX 7-5

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan has been prepared and implemented by the 411th BSB Heidelberg. This Slug Plan has been prepared to:

10. Identify areas where petroleum, oil and lubricants (POL) and /or hazardous substances (HS) may be released at one time in a volume and/or concentration (i.e. "slug") that negatively impacts the ability of the receiving wastewater treatment plant(s) to operate within normal parameters;

11. Identify response procedures to be implemented by personnel after a slug release; and

12. Identify resources available on- and off-site to respond to a slug release.

This plan contains the following elements as required by FGS Chapter 4:

- Section 1.0 – Description of discharge practices, including non-routine batch discharges (FGS Section C4.3.2.1.7.1);
- Section 2.0 – Description of stored chemicals (FGS Section C4.3.2.1.7.2);
- Section 3.0 – Plan for immediately notifying the domestic wastewater treatment system (DWTS) of slug discharges and discharges that would violate prohibitions under this section, including procedures for subsequent written notification within five days (FGS Section C4.3.2.1.7.3);
- Section 4.0 – Necessary practices to prevent accidental spills. This include proper inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of facility site runoff, and worker training (FGS Section C4.3.2.1.7.4);
- Section 5.0 – Proper procedures for building containment structures or equipment (FGS Section C4.3.2.1.7.5);
- Section 6.0 – Necessary measures to control toxic organic pollutants and solvents (FGS Section C4.3.2.1.7.6); and
- Section 7.0 – Proper procedures and equipment for emergency response, and any subsequent plans necessary to limit damage suffered by the treatment facility or the environment (FGS Section C4.3.2.1.7.7).

This plan has been prepared as an appendix to the 411th BSB Heidelberg SPRP. Portions of this plan reference information contained in the SPRP. The office with primary responsibility for maintenance and implementation of this plan is the Department for Public Works, Environmental Management Office.

1.0 DRAINAGE SYSTEM AND DISCHARGE PRACTICES

The site is **not** connected to a public sewer system, rather, it has its own waste water treatment plant that discharges into two on-site retention ponds. There is no conveyance from the ponds to another natural water resource. The water is reduced by evaporation. During heavy rain fall there is bypass that discharges water into the creek Queich, located about 200 meters south of the installation.

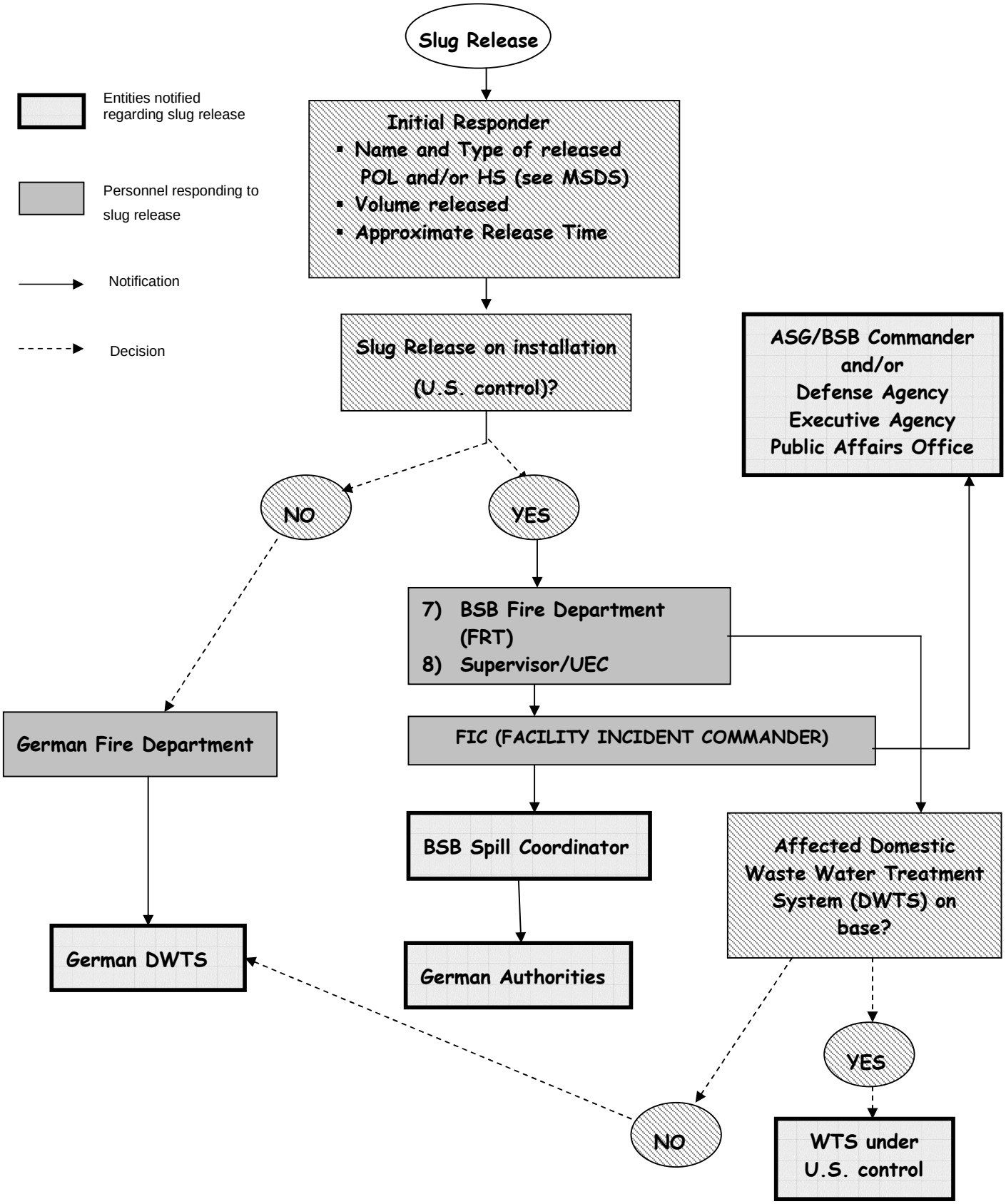
Storm water runoff or any discharge from critical areas of potential spills passes through oil-water separators prior to discharging to the on-site sewer system.

2.0 SLUG POTENTIAL INVENTORY

Table A-6-5.1 provides specific information for each facility, unit, or organization to identify the locations on the installation that have the potential to release a POL and/or HS slug into the sanitary sewer system. Those facilities, units, or organization with the potential of a POL and/or HS slug release are highlighted. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-5.
A description of the stored POL and/or HS is provided in Table A-6-5.2.

3.0 NOTIFICATION OF A SLUG RELEASE

If a slug of POL and/or HS enters the sanitary sewer system, the following actions should be initiated as soon as practicable:



The following personnel and organizations are POCs which (may) need to be contacted in the event of a slug release at Germersheim Army Depot:

Table A-7-5.1 POCs for Slug Release at Germersheim Army Depot

Position/Title	Name of Individual	Organization/ Mailing Address	Telephone No. (Work)	Telephone No. (Mobile)
Supervisor Installation	DNA	DNA	DNA	DNA
Unit Environmental Coordinator (UEC)	See list of names in grey highlighted lines in table A-6-5.1			
BSB Spill Coordinator	Daniel Welch	BSB DPW Environmental Management Office Czernyring 13 69115 Heidelberg	DSN: 387-3140 Civil: 06221-4380-3140	0175-7421527
BSB or Installation Fire Department	Lothar Eckrich	BSB Fire Department	**117**	
DPW Utilities	Bernhard Willnauer	BSB DPW Maintenance Branch Czernyring 13 69115 Heidelberg	DSN: 387-3213 Civil: 06221-4380-3213	0175-7241408
German Fire Department	NA	Fire Department Heidelberg	**112**	NA
On-Base Wastewater Treatment Plant receiving waste water from Germersheim	Mr. Sternberger	DNA	DSN: 378-3842 Civil: 07274-8850	0175-7241308
Kreisverwaltung Germersheim (Wasserwirtschafts-amt)	Herr Fliehmann	Luitpoldplatz 1. 76725 Germersheim	Civil: 07274-53236	--
Bundesforstamt Rheinland-Pfalz, Bad Kreuznach (for Germersheim)	--	Rheingrafenstr. 35 55543 Bad Kreuznach	Civil: 0671-635-79	--

DNA = data not available

4.0 SLUG RELEASE PREVENTION, CONTROL, AND RESPONSE

Chapter 2 and Appendix 6-5 provide general information on prevention structures and equipment for all types of spills of POL and/or HS. Table A-6-5.3 lists the detailed prevention equipment and Table A-6-5.2 provides the available emergency response equipment at the facility, unit, or organizations handling or storing POL and/or HS. Table-A-7-5.3 provides information on emergency response equipment available for slug releases of POL and HS that can cause damage to the on-base wastewater treatment systems (WTS).

5.0 BUILDING CONTAINMENT STRUCTURES AND EQUIPMENT

This section includes a general description of the types of building containment structures and equipment that are typically used at Germersheim Army Depot.

5.1 Building Containment

Building containment construction materials include poured concrete walls, concrete block walls, concrete containment curbs, containment sumps, and trenches. Containment equipment consists of absorbent materials, booms and other barriers or preventive systems. The materials used must be compatible with the released material and sufficiently impervious to contain the spilled material. Containments must also comply with the applicable standards for volume, and precipitation volume.

Containment sumps are tanks and pits that collect gravity drainage and are emptied by gravity or pumped flow. Generally, they consist of a collection tank, level detector, pump, and level-actuated pump control to empty the contents of the receiving tank. Sumps are used in many locations to collect wastewaters for transport to storage or treatment systems. Sumps are used as full or partial containments as appropriate.

Additional operational and maintenance issues that are considered in the design of containments include structural strength and integrity, traffic of equipment and vehicles, leaks from penetration through walls and floors, and leaks from expansion and contraction at joints. Concrete block structures may leak at the joints between blocks, and are subject to damage from the expansion of water that penetrates into the block. Pits and trenches must be properly cleaned to maintain flow and capacity, and grates and covers must be maintained to prevent pedestrian hazards.

5.2 Diversionary Structures

Where containments are not practical, diversions are used to direct drainage as needed. Drainage controls are needed to direct spilled materials to a retention basin, or direct storm water from equipment storage areas. The diverted materials are often diverted through an oil water separator. Diversions can include curbs, trenches, catch basins, or retention ponds that are used to redirect or retain spilled materials. Provisions to return spilled materials to the source facility should be provided where practical.

5.3 Separator Systems

There are several different types of separator systems used at the Germersheim Army Depot. For slug releases of POL, oil-water separators are the most effective interceptor systems for slug releases of POL currently in place. Oil-water separators rely on the difference in density between water and POLs, which are generally less dense than water. Oil-water separators are typically rectangular boxes with internal baffles or weirs that operate on a flow-through basis. Free oil, water, and entrained oil droplets are directed to a quiescent compartment that collects oil on top and allows clean water underflow. Emulsified oils may not be separated. Designs may take the form of API separators, plate separators, and multi-stage separators. The operation of oil-water separators requires frequent inspection and maintenance, since the accumulation of oil and sludge can result in the undesired discharge of oil. Oil-water separators should be used as required to prevent the discharge of containment, equipment washdown, tank cleaning, or other oily wastewaters. No cleaning agents are used during cleaning with the high-pressure cleaning equipment. The operating parameters of this cleaning equipment have to be below 60℃ and 60 bar to avoid the generation of stabile emulsions that cannot be separated by an oil-water separator.

It should be noted that transformer fluids and other synthetic oils might not separate from water. In addition, may other commonly used hazardous substances (such as solvents and pesticides) will not be intercepted in an oil/water separator.

Table A-7-5.2 lists the different types of separators used at the Germersheim Army Depot.

Table A-7-5.2 Separator Systems at the Germersheim Army Depot

Bldg. #	Location	Structure of Separator
7525	Southwestern corner of the building	POL Separator
7539	West of building	POL Separator (NS 130)
7542	North of building	POL Separator
7811	Eastern corner of building	POL Separator
7837	West of building	POL Separator
7839	West of building	POL Separator (NS 3)
7879	West of building	POL Separator
7885	East of building	POL Separator (NS 5)
7901	South of building	POL Separator (NS 6)
7909	West of building	POL Separator (NS 20)
7915	West of building	POL Separator (NS 30)
7926	DNA	POL Separator (NS 40)
7935	DNA	POL Separator (NS 40)
7938	DNA	POL Separator (NS 6)
7941	DNA	POL Separator (NS 40)
7982	DNA	POL Separator (NS 15)

DNA: data not available
NS: nominal size

6.0 MEASURES TO CONTROL TOXIC ORGANIC POLLUTANTS AND SOLVENTS

The following measures need to be followed when handling or storing toxic organic pollutants and solvents:

- Storage areas for organic toxic pollutants and solvents must be well lit. Lights must not heat the stored materials, and must be at least 0.5 meters from toxic organic pollutants
- Smoking, open flames, and fires are not permitted in areas where toxic organic pollutants or solvents are stored or handled
- Toxic organic pollutants can not be stored together with flammable materials if they are not separated from each other by e.g., an adequate secondary containment
- Toxic organic pollutants and solvents must be kept in closed packages or containers that do not leak
- Areas where toxic organic pollutants and solvents are stored or handled must be leak proof

7.0 EQUIPMENT FOR EMERGENCY RESPONSE AND SUBSEQUENT PLANS

Table A-7-5.3 provides information on equipment available at Germersheim Army Depot for emergency response in case of a POL and/or HS slug release that could potentially cause damage at the On-Base Waste Water Treatment Systems.

Table A-7-5.3 Equipment for Emergency Response to Slug Discharges

Facility/Organization/Unit at which Emergency Response Equipment is available	Emergency Response Equipment
Bldg. 7525, 7539, 7542, 7811, 7837, 7839, 7879, 7885, 7901, 7909, 7915, 7926, 7935, 7938, 7941, 7982	POL Separators
BSB Fire Department	Inflatable bladders
South and east of bldg. 7933	Two Storm Water Retention Basin
East of building 7986	Two Water Basins

F. GOLF COURSE (HEIDELBERG), GE 34F

APPENDIX 5-6

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

Example: 4020C-1 (only one HMSA in Building 4020)

4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

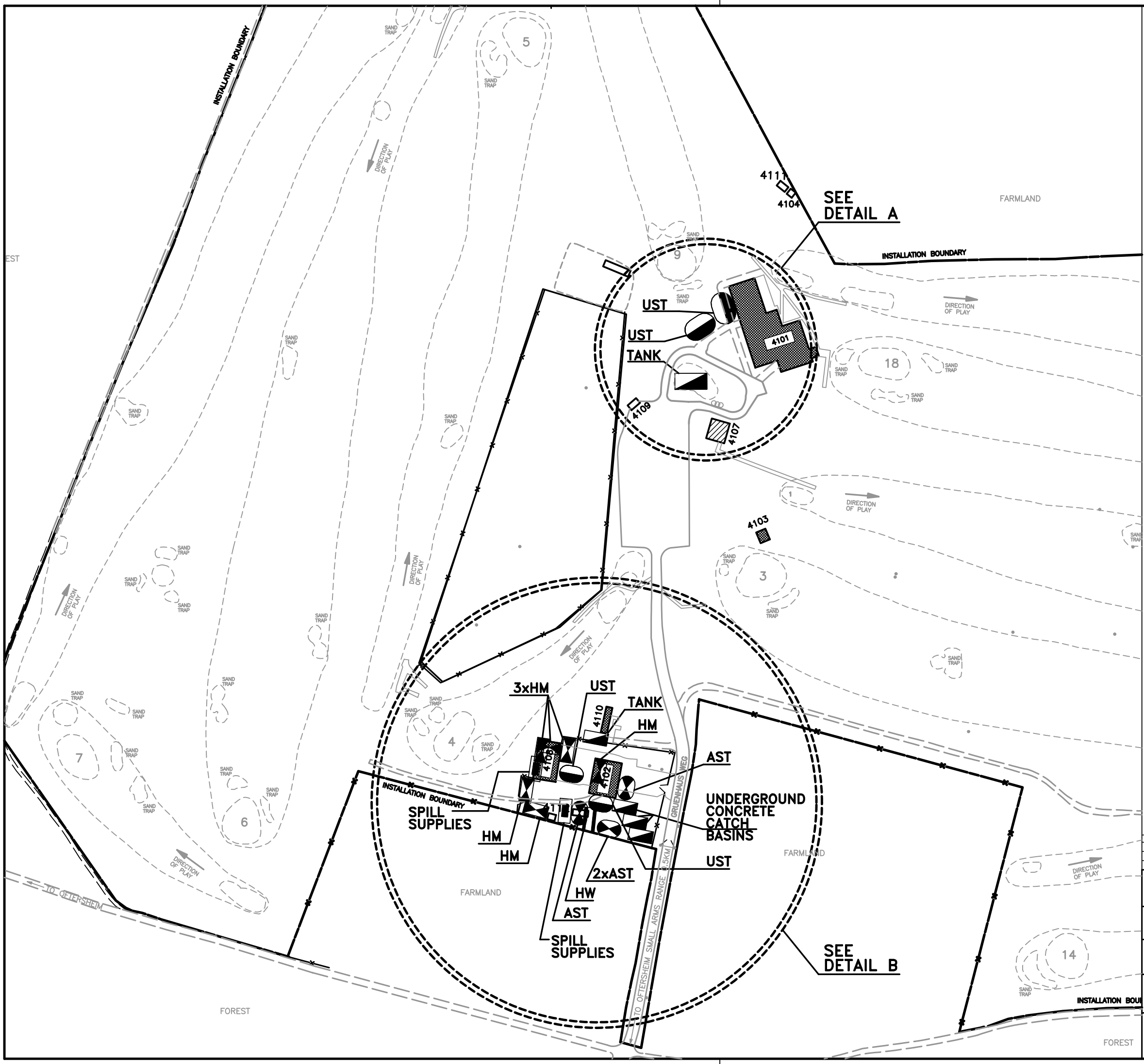
General Information and Environmental Setting

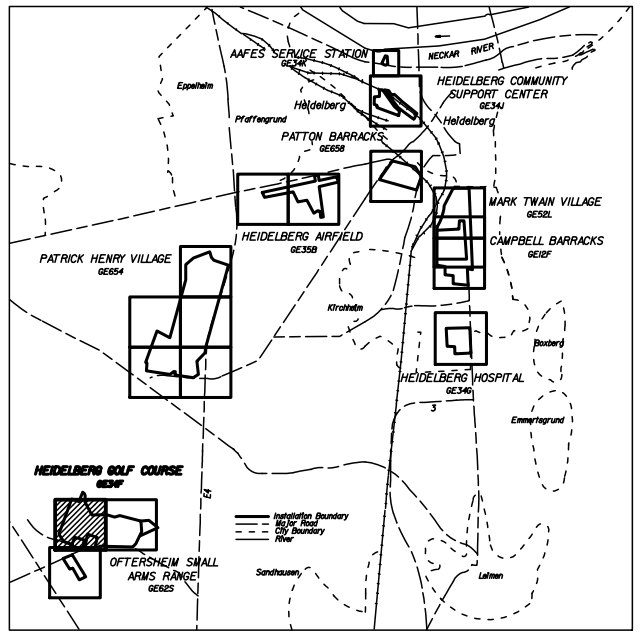
The Heidelberg Golf Course is located south of Oftersheim off Gruenhausweg B 291 Hardtwald. This is an 18 hole golf course with a main Clubhouse building and secondary maintenance buildings. The installation consists of about 65 ha of property located on gently rolling terrain, much of which is man made and surrounded by wooded areas. There are no units stationed there.

Golf Course is located in the water protection zone III A. The installation is **not** connected with any public sewer system. Sanitary and other waste water is collected in septic tanks and treated in its own waste water treatment facility. The treated water is sprayed on the ground. There is a nature protection area about 700 meters to the east of the Clubhouse. The nearest drinking water well is about 1 kilometer to the northwest.

Table A-5.6 Prioritized List of Critical Water and Natural Resources

Name of prioritized Critical Water Resources and Map I.D. Number	Name of Critical Natural Resources and Map I.D. Number
Drinking Water Well (1 km distance to the northwest)	Nature Protection Area (about 700 m to the east)





KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK *TANK*
- HAZARDOUS MATERIALS (HM) *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) *BIOLOG. SONDERABFALL*
- BATTERY ROOM *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) *LAGERTANK (OBERIRDISCH)*
- UNDERGROUND STORAGE TANK (UST) *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) *DRUCKGASE*

PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

SCALE 1:2000

25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE34F (GY308)
Heidelberg Golf Course (West)

DESIGNED RG
DRAWN RG
CHECKED UOS

SUBMITTED APPROVED DATE

SCALE 1:2000
FILE NO GE34F01
SHEET 01 OF 03

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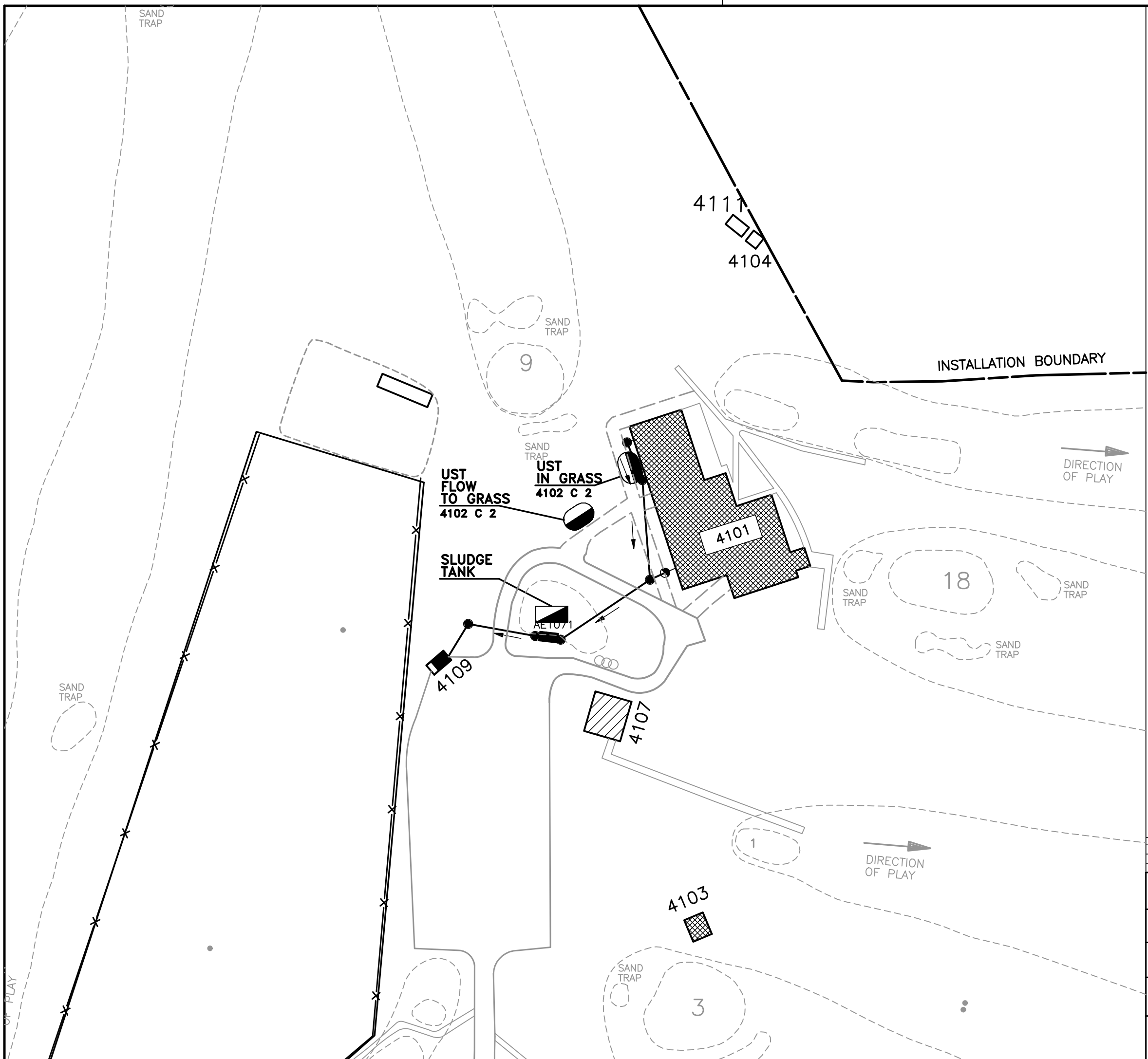

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) *NOTFALLSET (AUFFANGEQUIPMENT)*
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- ABOVEGROUND STORAGE TANK (AST) *LAGERTANK (OBERIRDISCH)*
- UNDERGROUND STORAGE TANK (UST) *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) *DRUCKGASE*

- DIRECTION OF FLOW — STORM MAIN *REGENWASSERHAUPTLEITUNG*
- STORM SERVICE *REGENWASSERANSCHLUSSLEITNG*
- DIRECTION OF FLOW — PAVED DITCH *ENTWAESSERUNGSGRABEN*
- INLET *STRASSENEINLAUF*
- SEPARATOR *ABSCHEIDER*
- GREASE SEPARATOR *FETTABSCHEIDER*
- MANHOLE OR STILLING WELL *KANALSCHACHT ODER BRUNNEN*
- LEECHING CESSPOOL *SENKGRUBE (ABWASSER)*
- HEADWALL *ENDE GESCHLOSSENER KANAL*
- CLEAN OUT *REINIGUNGSOEFFNUNG*
- DRAINAGE DIVIDE *ENTWAESSERUNGSGRENZE*
- OPEN DRAINAGE *ENTWAESSERUNGSGRABEN (OFFEN)*

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE 34F (GY308)
Heidelberg Golf Course (West)
DETAIL A

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

SUBMITTED | APPROVED | DATE

SCALE 1:1000
FILE NO GE34F1A
SHEET 02 OF 03

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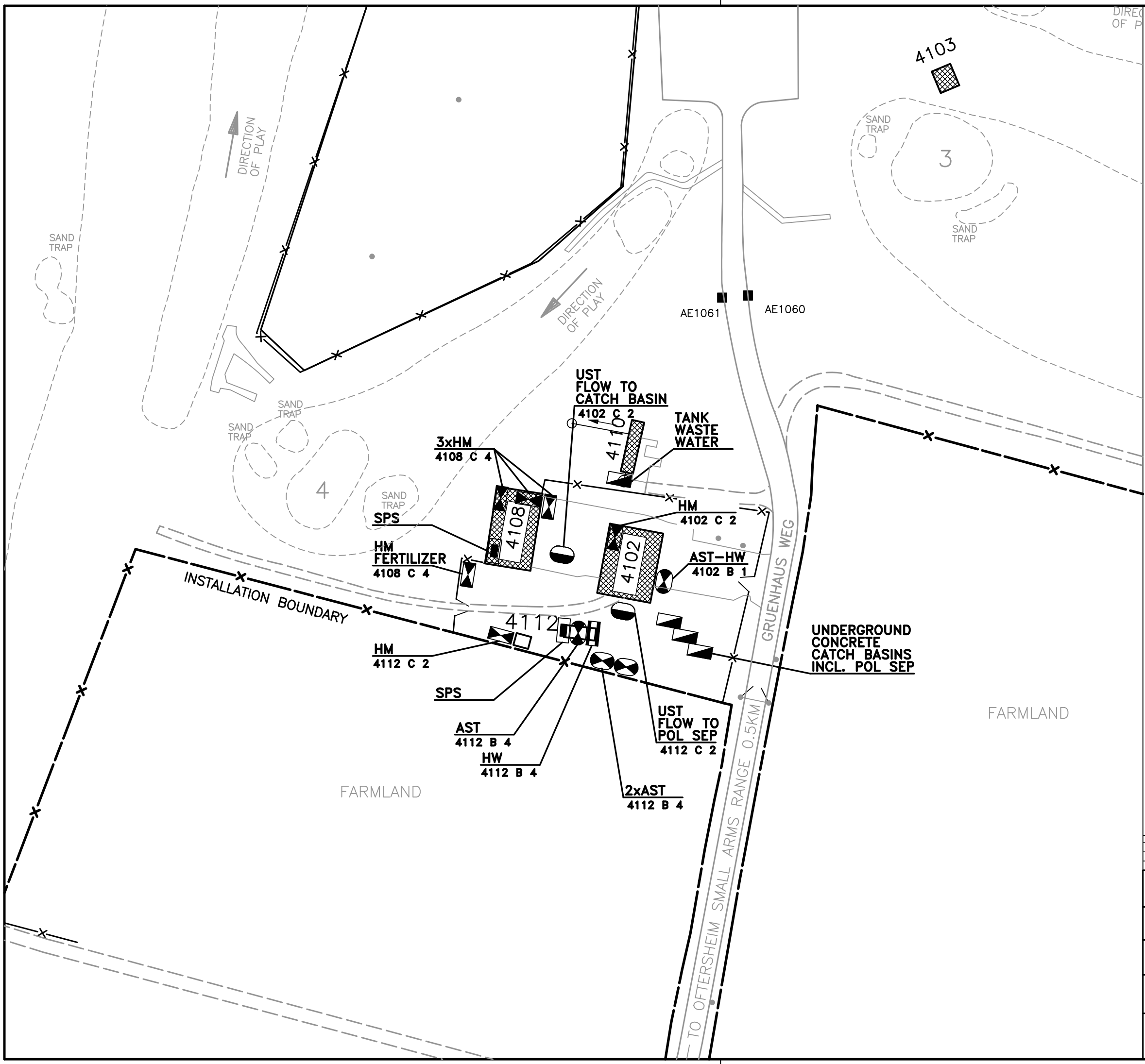

LEGEND
LEGENDE

- GREASE–SEPARATOR / *FETTABSCHEIDER*
- POL–SEPARATOR / *POL–ABSCHEIDER*
- SLUDGE–TRAP / *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) / *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK / *TANK*
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- COMPRESSED GAS (CG) / *DRUCKGASE*

DIRECTION OF FLOW
- STORM MAIN / *REGENWASSERHAUPTLEITUNG*
- STORM SERVICE / *REGENWASSERANSCHLUSSLEITNG*
- PAVED DITCH / *ENTWAESSERUNGSGRABEN*

DIRECTION OF FLOW
- INLET / *STRASSENEINLAUF*
- SEPARATOR / *ABSCHEIDER*
- GREASE SEPARATOR / *FETTABSCHEIDER*
- MANHOLE OR STILLING WELL / *KANALSCHACHT ODER BRUNNEN*
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- HEADWALL / *ENDE GESCHLOSSENER KANAL*
- CLEAN OUT / *REINIGUNGSOEFFNUNG*
- DRAINAGE DIVIDE / *ENTWAESSERUNGSGRENZE*
- OPEN DRAINAGE / *ENTWAESSERUNGSGRABEN (OFFEN)*

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE 34F (GY308)
Heidelberg Golf Course
DETAIL B

SUBMITTED | APPROVED | DATE

SCALE 1:1000

FILE NO GE34F1B

SHEET 03 OF 03

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F. GOLF COURSE (HEIDELBERG), GE 34F

APPENDIX 6-6

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-6.1 presents the current inventory of units or organizations at Golf Course, where POL and HS are stored. This inventory is subject to change as the installation is in the process of moving. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-2.1 but not within the following tables A-6-6.2, A-6-6.3 and A-6-6.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-6.1. Facilities/Units/Organizations Storing POL and/or HS at Golf Course

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
4101	HD Golf Club	Clubhouse, restaurant	Mr. Stuart Yowler civil: 06202-51216
4102	HD Golf Club	Maintenance shop	Mr. Stuart Yowler civil: 06202-51216
4108	HD Golf Club	HM storage	Mr. Stuart Yowler civil: 06202-51216
4112	HD Golf Club	Diesel fuel station	Mr. Stuart Yowler civil: 06202-51216

There is no area that might have a potential for a HM/HW slug release.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-6.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-6. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-6.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-6.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-2.2. POL AND HS INFORMATION FOR CAMPBELL BARRACKS FOR CRITICAL POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
4101	Map 1/3 #4101C-2	2xUST	Heating oil	25.0	The manholes (fill point of the UST) are in grass; therefore, spills would penetrate into the soil. Spills outside this area would flow to the west downhill the street.	0.6	USTs are equipped with leak detection
4102	Map 1/3 #4102B-1 #4102C-2	1xUST (HM), 1xAST (HW), HM	Heating oil (UST), used anti-freeze (AST) HM: flammables (POL, paint)	6.0	Spill during filling the UST would flow to the east on pavement to the underground catch basins. Spills from the AST would flow to the south to the underground catch basins. Spills from HM would stay inside building.	0.6	UST and AST are equipped with leak detection; underground catch basins, dry sweep, absorbent pads (at Bldg. 4112)
4108	Map 1/3 #4108C-4	HM	POL, Fertilizer	2.0	Spills would stay in this shed on concrete floor.	0.4	Dry sweep, adsorbant pads

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
4112	Map 1/3 #4112A-1 #4112B-1 #4112C-2	3xAST (HM, HW), HW	Diesel fuel (AST), Mogas (AST), used oil (AST), HW: no data available	9.0	Spill during filling the ASTs (outside 4112) would flow to the east on pavement to the underground catch basins. Spills from the AST and HW would stay inside 4112.	0.6	ASTs are equipped with leak detection, dry sweep, absorbent pads (in Bldg. 4112)

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets), a tank is inside a building (normally containing heating oil for generators)
i.B. = in building

A Spill Supply and Emergency Equipment Recovery Point is at Building 4102.

Table A-6-6.3. Spill Prevention Equipment for Golf Course

Location/Building Number	Containment System Type	Construction Material	Capacity
4101	Double walled tanks	Steel	NA
4102	1) Double walled tanks 2) Building	1) Steel 2) concrete	1) + 2) NA
4108	Building	Concrete	NA
4112	1) Double walled tanks 2) Building	1) Steel 2) concrete	1) + 2) NA

DNA = data not available
NA = Not applicable

Table A-6-6.4. List of Tanks at Golf Course

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
4101	unknown	5.000	Heating Oil	double	UST	unknown
4101	Nau	20.000	Heating Oil	double	UST	1983
4102	Nau	5.000	Heating Oil	double	UST	1983
4112	Nau	5.000	JP8	double	AST	1977
4112	Ludwig	3.000	Gasoline	double	UST	1996
4112	Rietberg	250	Used Oil	double	AST	1991
4112	Rietberg	80	Used Oil	double	AST	1990
4112	Rietberg	250	Used Oil	double	AST	1991

F. GOLF COURSE (HEIDELBERG), GE 34F

APPENDIX 7-6

SLUG PREVENTION PLAN

INTRODUCTION

Sanitary and other waste water at Golf Course is collected in septic tanks or underground catch basins (max. volume of 24 m^3) and treated in its own waste water treatment facility. The treated water is sprayed on the ground.

In case spills would enter the septic tanks, the content would be disposed of as hazardous waste.

Due to the missing sewer system no Slug Prevention Plan is required.

G. HAMMONDS BARRACKS, GE 33J

APPENDIX 5-7

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

Example: 4020C-1 (only one HMSA in Building 4020)

4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

General Information and Environmental Setting

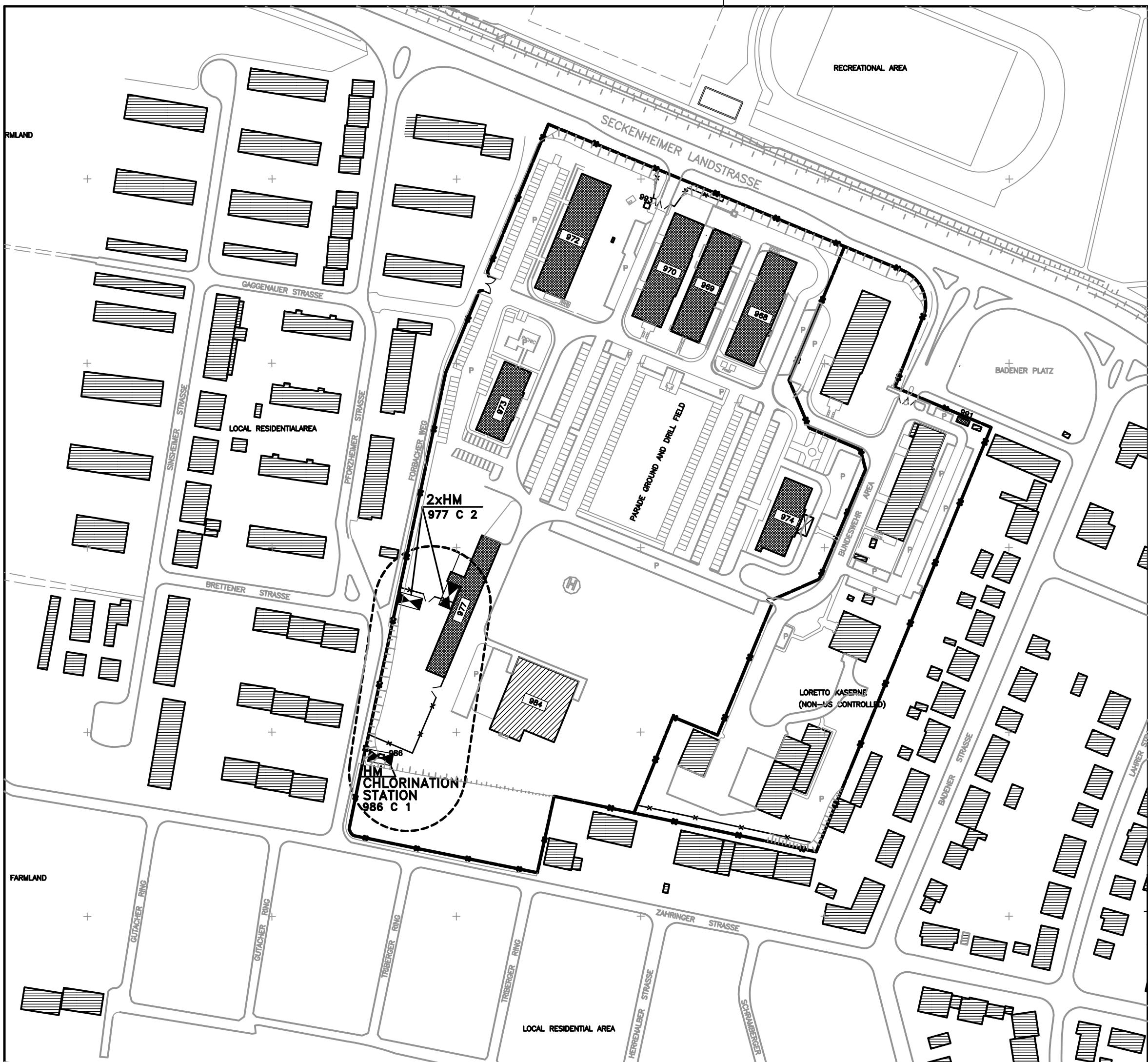
Hammond Barracks is located along Seckenheimer Landstrasse between Badenerstr., Forbacherweg and Zahringerstr. It lies adjacent to a Bundeswehr Kaserne (Lorretto Kaserne) whereby these two installations are bounded by private housing. The installation contains eight major buildings on 11 ha that serves the Contracting Command, AFN Heidelberg and the HQ Army Material Command Europe.

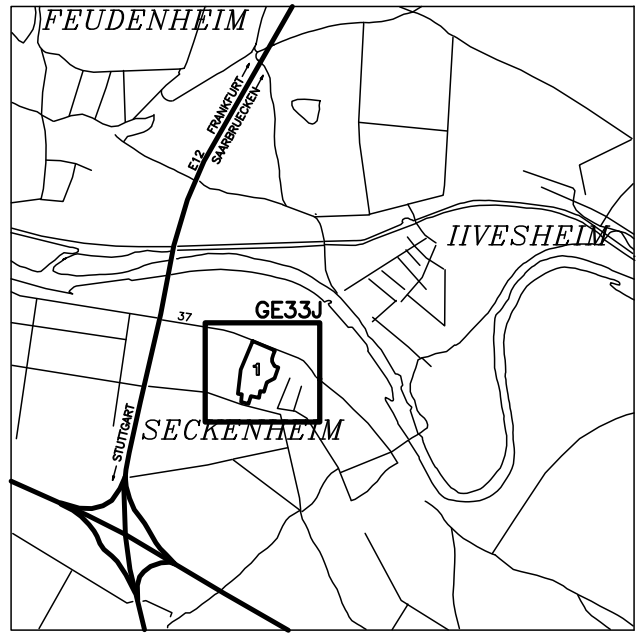
In general, the property is flat and has no topographic gradients. Ultimately, all discharge from Hammonds drains to the City operated sewer system. The Neckar River is located in a distance of about 500 meters to the north. The overall slope of this area is to the Neckar River. Based on topography and the sewer situation there is minimum potential for a major migration. There are no critical surface water or groundwater resources in the direct vicinity of the installation. Abo

ut 800 meters northwest of the property there is a nature protection area at the Neckar River.

Table A-5.7 Prioritized List of Critical Water and Natural Resources

Name of prioritized Critical Water Resources and Map I.D. Number	Name of Critical Natural Resources and Map I.D. Number
	Nature Protection Area (about 800 m northwest) at the Neckar River





KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK *TANK*
- HAZARDOUS MATERIALS (HM) *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) *BIOLOG. SONDERABFALL*
- BATTERY ROOM *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) *LAGERTANK (OBERIRDISCH)*
- UNDERGROUND STORAGE TANK (UST) *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) *DRUCKGASE*

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

N

PREVAILING WIND

SCALE 1:1000

25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE33J
Hammonds Barracks

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

SUBMITTED | APPROVED | DATE

SCALE 1:1000
FILE NO GE33J01
SHEET 01 OF 01

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G. HAMMONDS BARRACKS, GE 33J

APPENDIX 6-7

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-7.1 presents the current inventory of units or organizations at Hammonds Barracks, where POL and HS are stored. This inventory is subject to change as the installation is in the process of moving. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-7.1 but not within the following tables A-6-7.2, and A-6-7.3 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-7.1. Facilities/Units/Organizations Storing POL and/or HS at Hammonds Barracks

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
977	DNA	DNA	DNA
986	DNA	Chlorination Station	DNA

DNA = data not available
There is no area that might have a potential for a HM/HW slug release.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-7.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-7. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-7.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-7.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-7.2. POL AND HS INFORMATION FOR HAMMONDS BARRACKS FOR CRITICAL POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
977	Map 1/1 #977C-2	HM	Data not available	Data not available	Spills would stay in connex	Data not available	Data not available

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets), a tank is inside a building (normally containing heating oil for generators)

Table A-6-7.3. Spill Prevention Equipment for Hammonds Barracks

Location/Building Number	Containment System Type	Construction Material	Capacity
677	Connex with secondary containment	Metal	DNA

DNA = data not available

G. HAMMONDS BARRACKS, GE 33J

APPENDIX 7-7

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan is not required for Hammonds Barracks because there are no tanks or other containers present that could lead to a spill and a slug release.

H. NACHRICHTEN KASERNE (HOPSITAL), GE 34G

APPENDIX 5-8

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

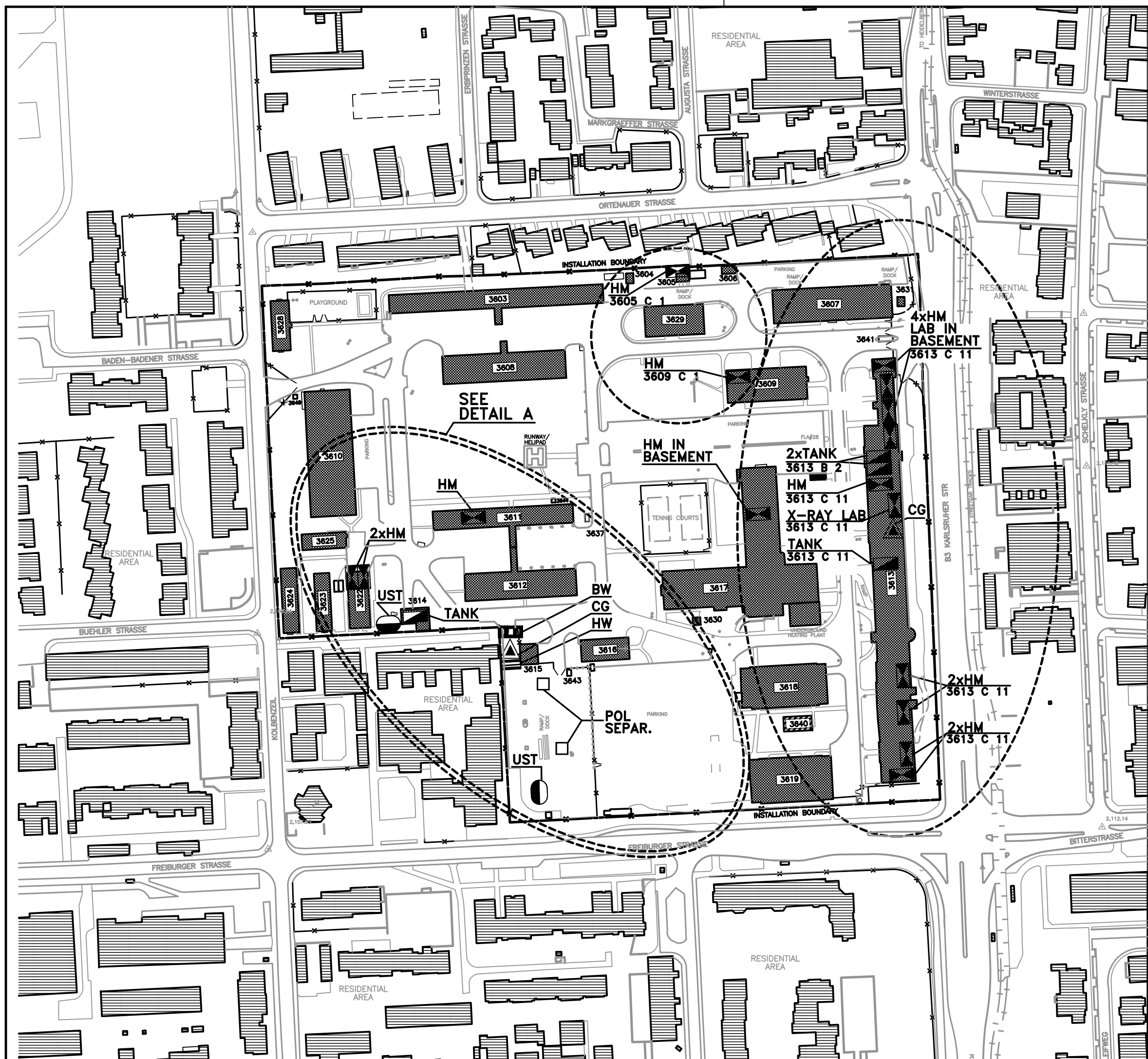
Example: 4020C-1 (only one HMSA in Building 4020)

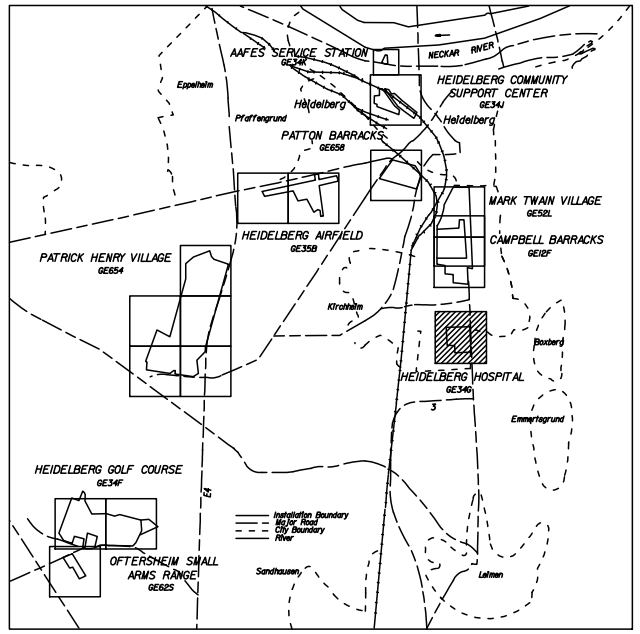
4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

General Information and Environmental Setting

The Hospital is about 10 ha in size and is located on the Karlsruher Strasse, Ortenauerstrasse, Freiburgerweg and Kolbenzeilstrasse. The site is set in an urban setting with private housing on three sides and frontage along a major thoroughfare (Karlsruherstrasse). The site has about 20 buildings of various sizes. Tenants include the 30th Medical Brigade, 89th Medical Detachment (Dental), and Heidelberg MEDDAC.

There are no critical surface water or groundwater resources in the vicinity of the installation. The site is is relatively flat and all storm water runoff or other discharges drain to the City of Heidelberg storm sewer system. Any drainage from critical areas for potential spills is passed through oil-water separators prior to discharging to the sewer. Based on topography and the installation's sewer design there is minimum potential for major contamination migration.





KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR / *FETTABSCHEIDER*
- POL–SEPARATOR / *POL–ABSCHEIDER*
- SLUDGE–TRAP / *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) / *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK / *TANK*
- HAZARDOUS MATERIALS (HM) / *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) / *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) / *BIOLOG. SONDERABFALL*
- BATTERY ROOM / *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) / *LAGERTANK (OBERIRDISCH)*
- UNDERGROUND STORAGE TANK (UST) / *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) / *DRUCKGASE*

PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

N

SCALE 1:2000

25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE34G (GY334)
Heidelberg Hospital

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

SUBMITTED | APPROVED | DATE

SCALE 1:2000
FILE NO GE34G01
SHEET 01 OF 02

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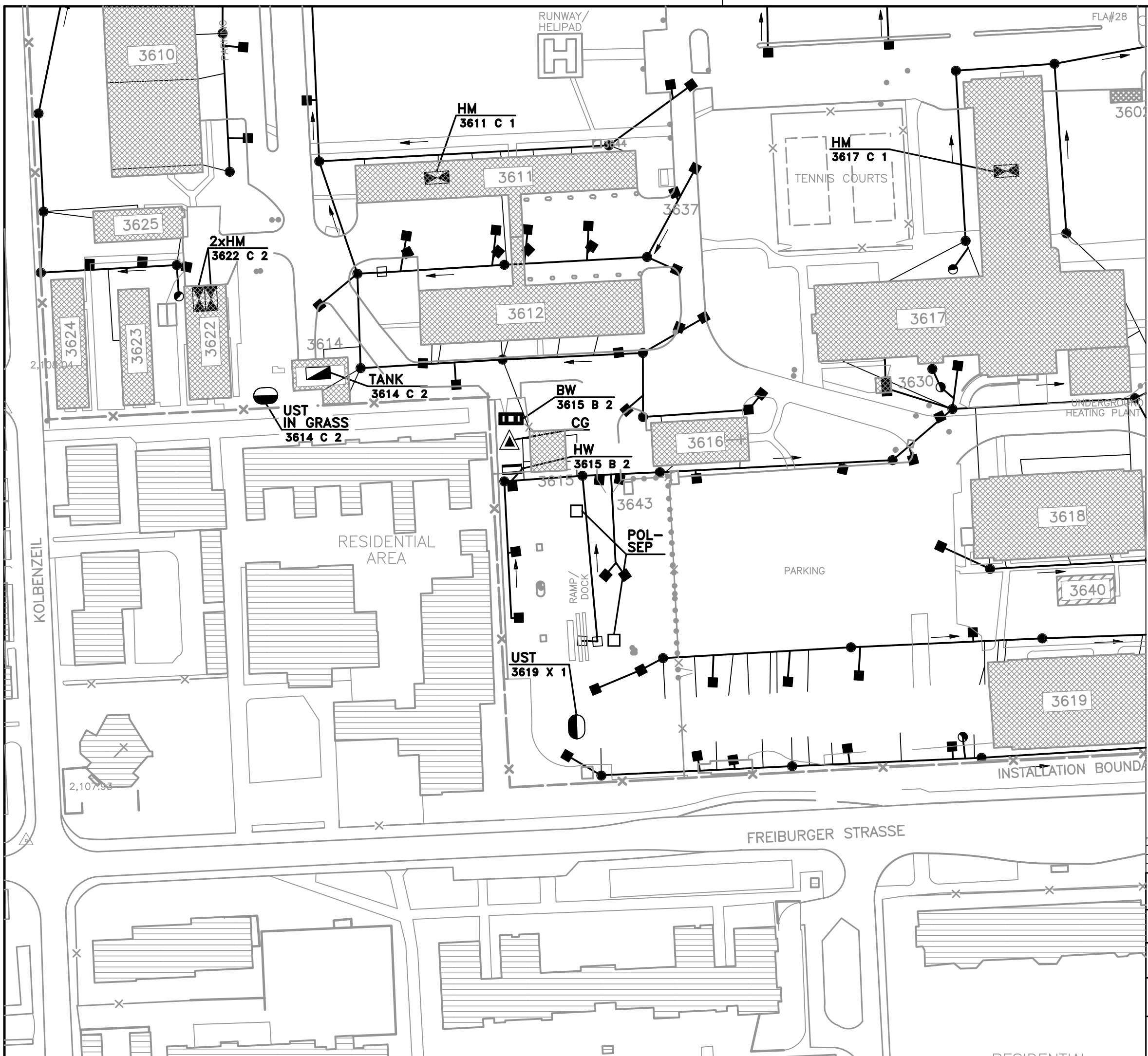

LEGEND
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DIRECTION OF FLOW
- INLET *STRASSENEINLAUF*
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- MANHOLE OR STILLING WELL *KANALSCHACHT ODER BRUNNEN*
- LEECHING CESSPOOL *SENKGRUBE (ABWASSER)*
- HEADWALL *ENDE GESCHLOSSENER KANAL*
- CLEAN OUT *REINIGUNGSOEFFNUNG*
- DRAINAGE DIVIDE *ENTWAESSERUNGSGRENZE*
- OPEN DRAINAGE *ENTWAESSERUNGSGRABEN (OFFEN)*

FINAL VERSION NOVEMBER 2003

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US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE34G (GY334)
Heidelberg Hospital
DETAIL A

SUBMITTED | APPROVED | DATE

SCALE 1:1000
FILE NO GE34G1A
SHEET 02 OF 02

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H. NACHRICHTEN KASERNE (HOPSITAL), GE 34G

APPENDIX 6-8

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-8.1 presents the current inventory of units or organizations at Nachrichten Kaserne (Hospital), where POL and HS are stored. This inventory is subject to change as the installation is in the process of moving. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-8.1 but not within the following tables A-6-8.2, A-6-8.3 and A-6-8.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-8.1. Facilities/Units/Organizations Storing POL and/or HS at Hospital

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
3613	HMEDDAC	Pharmacy, Pathology, Dental Clinic	MS. Tara Swanson DSN: 371-2189
3614	DNA	DNA	DNA
3615	DNA	DNA	DNA
3617	HMEDDAC	DNA	MS. Tara Swanson DSN: 371-2189
3622	HMEDDAC	Water Laboratory	MS. Tara Swanson DSN: 371-2189

DNA = data not available
There is no area that might have a potential for a HW/HM slug release.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-8.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-8. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-8.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-8.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-8.2. POL AND HS INFORMATION FOR HOSPITAL FOR POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
3613	Map 1/2 #3613B-2 #3613C-9	3 x Tanks (HW, HM), HM	Heating oil (tank) HM: flammables (cleaner, alcohols, acetone), corrosives (fixer, developer), toxics (formalin), lab chemicals HW: fixer, developer (tanks)	24.0	Spills from tanks would stay inside building.	2.0	Building floor as secondary containment, dry sweep, adsorbant pads
3614	Map 1/2 #3614C-2	1xUST, 1xTank	Heating oil (UST), diesel oil (tank)	10.8	The manhole (fill point of the UST) is in grass; therefore, spills would penetrate into the soil. Spills outside this area would flow to the north on paved ground.	0.6	UST is equipped with leak detection; dry sweep, absorbent pads (at Bldg. 3619)
3615	Map 1/2 #3615A-1 #3615C-1	HM (CG), HW	HM: compressed gas cylinders (oxygen, nitrogen) HW: biohazardous waste, Lab waste	DNA	All solid waste. No spills would occur.	--	Shed has concrete floor

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
3622	Map 1/2 #3622C-2	HM	Laboratory chemicals: toxics, corrosives, flammables	0.4	Spills would stray inside building.	DNA	Building floor serves as secondary containment, adsorbant pads

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets), a tank is inside a building (normally containing heating oil for generators)
DNA = data not available

Table A-6-8.3. Spill Prevention Equipment for Hospital

Location/Building Number	Containment System Type	Construction Material	Capacity
3613	Building floor	Concrete	NA
3614	1) Double walled tank 2) Building	1) Steel 2) concrete	1) + 2) NA
3615	Building	Concrete	NA
3622	Building	Concrete	NA

NA = Not applicable

Table A-6-8.4. List of Tanks at Hospital

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
3613	TAW	19.000	Heating oil	single	tank	1971
3613	Chemo-Werk	2.000	Developer	double	tank	1970
3613	Chemo-Werk	2.000	Fixer	double	UST	1996
3614	Ludwig	10.000	Diesel Oil	double	UST	1975
3614	Adam	800	Diesel Oil	double	tank	1994
3617	Huellenkreme	1.070	Oil	double	tank	1994

H. NACHRICHTEN KASERNE (HOPSITAL), GE 34G

APPENDIX 7-8

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan is not required for the Hospital because there is no potential for a slug release into the sewer system.

I. KILBOURNE KASERNE, GE 45D

APPENDIX 5-9

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

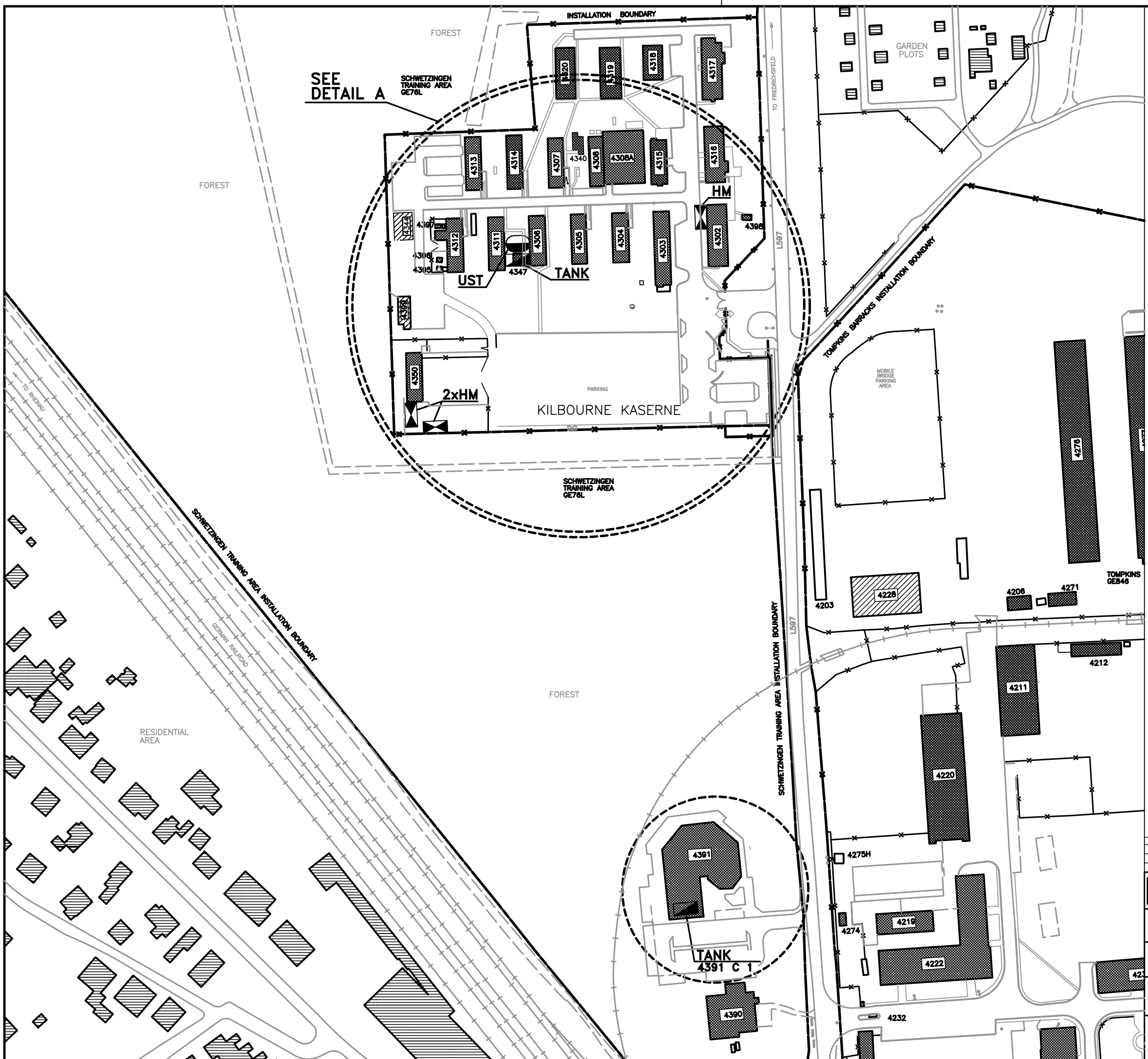
Example: 4020C-1 (only one HMSA in Building 4020)

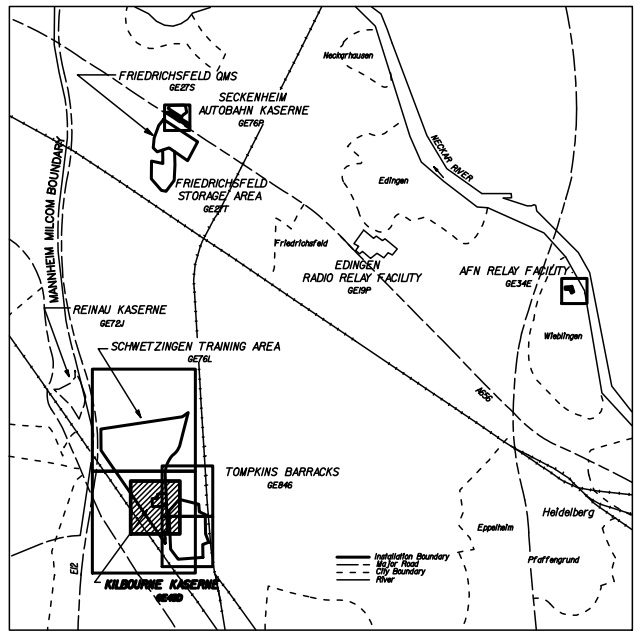
4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

General Information and Environmental Setting

Kilbourne Kaserne is located opposite Tompkins Barracks in Schwetzingen along the Friedrichfelderstrasse. It is bounded by wooded areas. The Kaserne itself is home to the 1st PERSCOM and consists solely of 18 administration buildings on 5 ha of property.

Kilbourne is located in the water protection area III B. The terrain is sloped from the road towards the woods in the back and is drained by a storm water system to the City sewer system. There are no critical surface water or groundwater resources in the vicinity of the installation. Based on topography and the installation's sewer design there is minimum potential for major contamination migration.





KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK *TANK*
- HAZARDOUS MATERIALS (HM) *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) *SONDERABFALL*
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PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

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SCALE 1:2000

25 0 25 50 75 100 METERS

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FINAL VERSION NOVEMBER 2003

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BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE45D (GY783)
Kilbourne Kaserne

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

SUBMITTED | APPROVED | DATE

SCALE 1:2000
FILE NO GE45D01
SHEET 01 OF 02

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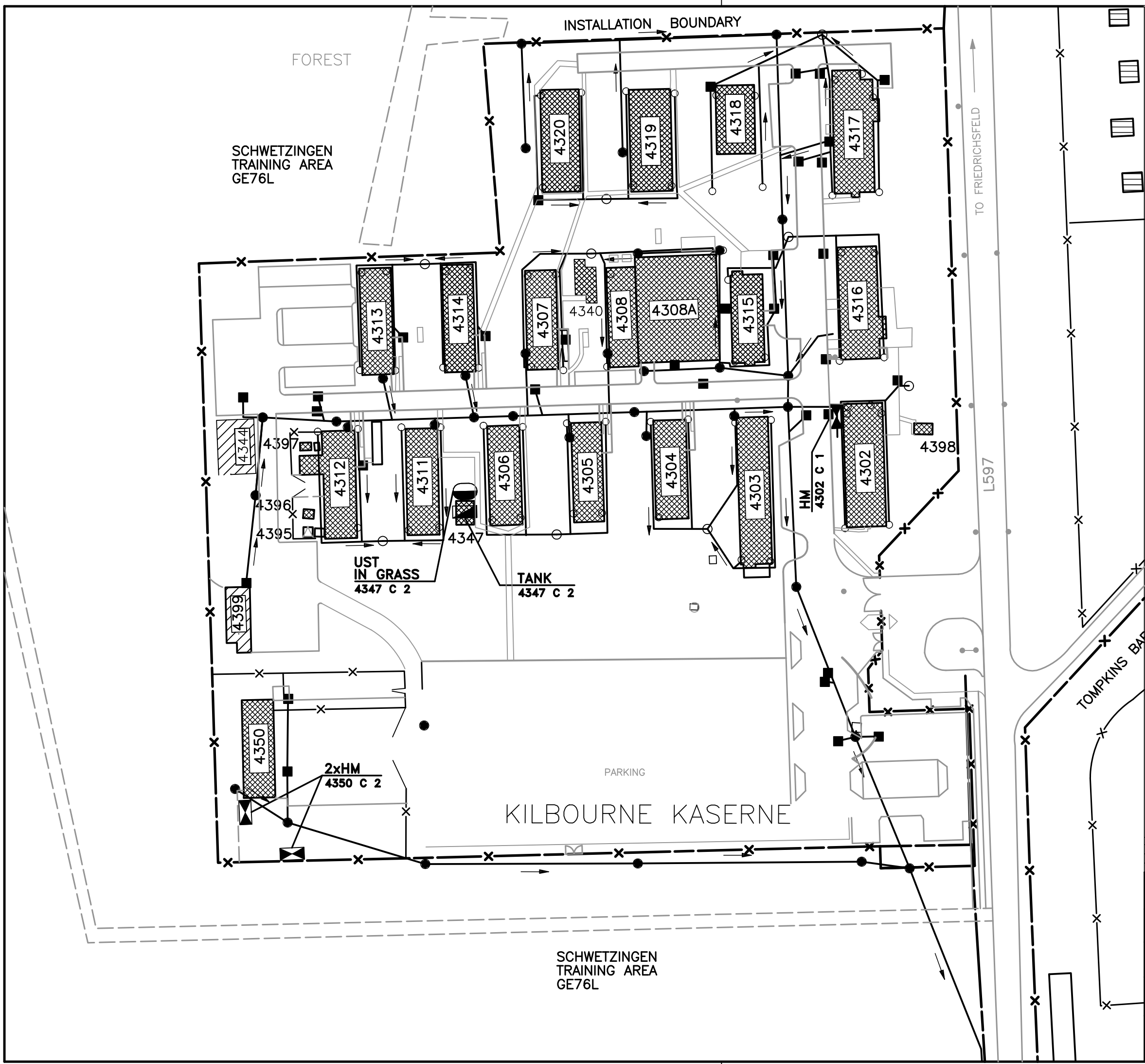

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Spill Prevention and Response Plan
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411 BSB HEIDELBERG
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DETAIL A

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CHECKED: UOS

SUBMITTED | APPROVED | DATE

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FILE NO GE45D1A
SHEET 02 OF 02

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I. KILBOURNE KASERNE, GE 45D

APPENDIX 6-9

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-9.1 presents the current inventory of units or organizations at Kilbourne Kaserne, where POL and HS are stored. This inventory is subject to change as the installation is in the process of moving. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-9.1 but not within the following tables A-6-9.2, A-6-9.3 and A-6-9.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-9.1. Facilities/Units/Organizations Storing POL and/or HS at Kilbourne Kaserne

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
4302	DNA	DNA	DNA
4347	DNA	DNA	DNA
4350	HHC 1ST PERSCOM	DNA	SGT Custodio DSN: 379-6047
4391	DNA	DNA	DNA

DNA = data not available
Grey highlighted means that this area might have a potential for a HW/HM slug release. These areas are cross-referenced to the Slug Plan in Appendix 7-9.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-9.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-9. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-9.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-9.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-9.2. POL AND HS INFORMATION FOR KILBOURNE KASERNE FOR CRITICAL POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
4347	Map 1/2 #4347C-2	1xUST, 1xtank	Heating oil	10.3	The manhole (fill point of the UST) is in grass; therefore, spills would penetrate into the soil. Spills outside this area would flow to the north on paved ground. Spill fom tank would stay inside building.	0.6	UST is equipped with leak detection
4350	Map 1/2 #4350C-2	HM	Flammables (POL, paint, gasoline), toxics (adhesives, anti-freeze, gasoline)	2.0	Spills would stay inside connex.	0.2	Connexes are equipped with a secondary containment

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets), a tank is inside a building (normally containing heating oil for generators)

Table A-6-9.3. Spill Prevention Equipment for Kilbourne Kaserne

Location/Building Number	Containment System Type	Construction Material	Capacity
4347	Double walled tank	Steel	NA
4350	Connex with secondary containment	Metal	DNA

DNA = data not available
NA = Not applicable

Table A-6-9.4. List of Tanks at Kilbourne Kaserne

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
4347	unknown	10.000	Diesel Oil	double	UST	unknown
4347	Ludwig	300	Diesel Oil	double	tank	1995
4391	Schuller	250	Diesel Oil	double	tank	1997

I. KILBOURNE KASERNE, GE 45D

APPENDIX 7-9

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan has been prepared and implemented by the 411th BSB Heidelberg. This Slug Plan has been prepared to:

13. Identify areas where petroleum, oil and lubricants (POL) and /or hazardous substances (HS) may be released at one time in a volume and/or concentration (i.e., "slug") that negatively impacts the ability of the receiving wastewater treatment plant(s) to operate within normal parameters;

14. Identify response procedures to be implemented by personnel after a slug release; and

15. Identify resources available on- and off-site to respond to a slug release.

This plan contains the following elements as required by FGS Chapter 4:

- Section 1.0 – Description of discharge practices, including non-routine batch discharges (FGS Section C4.3.2.1.7.1);
- Section 2.0 – Description of stored chemicals (FGS Section C4.3.2.1.7.2);
- Section 3.0 – Plan for immediately notifying the domestic wastewater treatment system (DWTS) of slug discharges and discharges that would violate prohibitions under this section, including procedures for subsequent written notification within five days (FGS Section C4.3.2.1.7.3);
- Section 4.0 – Necessary practices to prevent accidental spills. This include proper inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of facility site runoff, and worker training (FGS Section C4.3.2.1.7.4);
- Section 5.0 – Proper procedures for building containment structures or equipment (FGS Section C4.3.2.1.7.5);
- Section 6.0 – Necessary measures to control toxic organic pollutants and solvents (FGS Section C4.3.2.1.7.6); and
- Section 7.0 – Proper procedures and equipment for emergency response, and any subsequent plans necessary to limit damage suffered by the treatment facility or the environment (FGS Section C4.3.2.1.7.7).

This plan has been prepared as an appendix to the 411th BSB Heidelberg SPRP. Portions of this plan reference information contained in the SPRP. The office with primary responsibility for maintenance and implementation of this plan is the Department for Public Works, Environmental Management Office.

1.0 DRAINAGE SYSTEM AND DISCHARGE PRACTICES

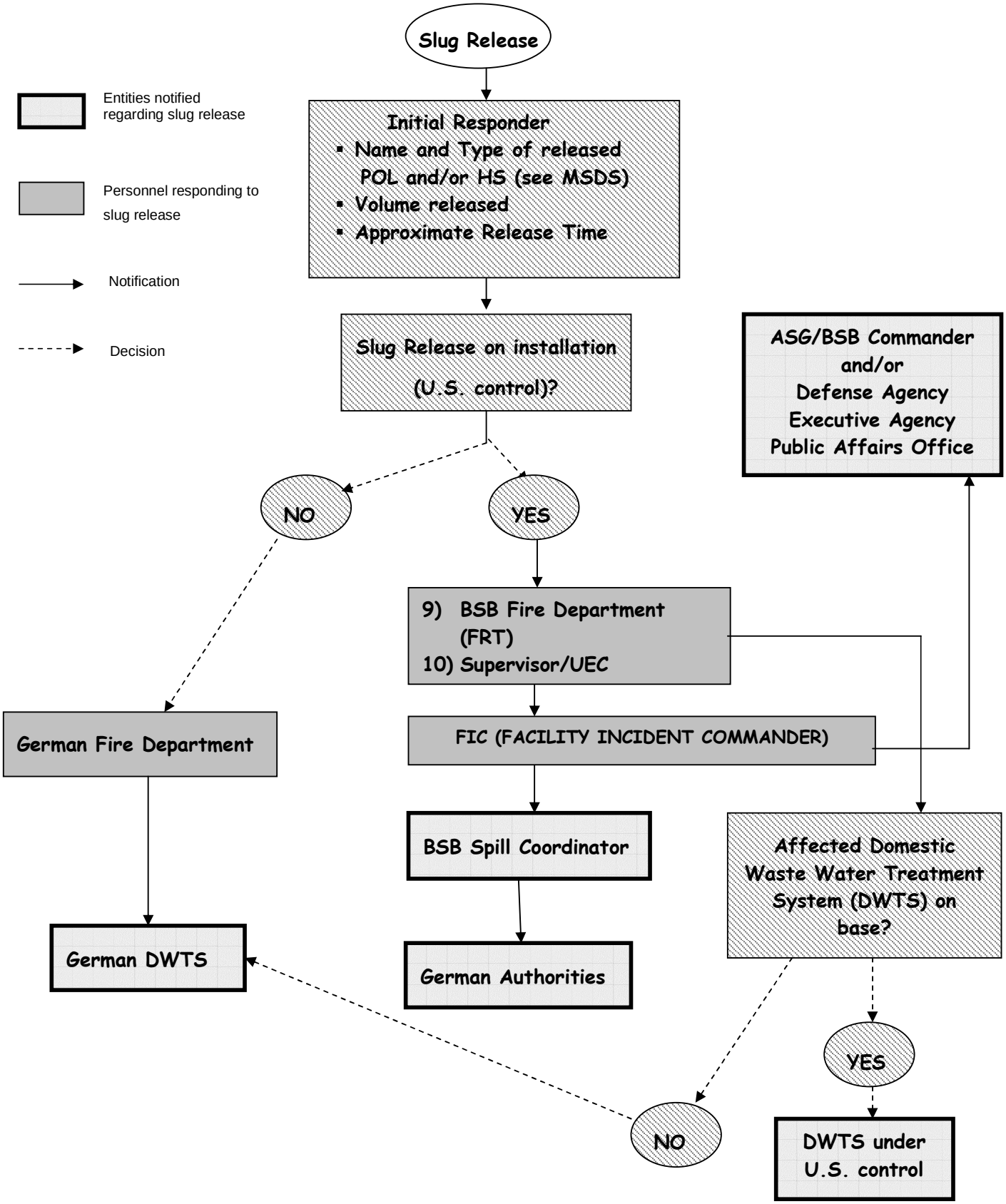
The terrain at Kilbourne Kaserne is sloped from the road towards the woods in the back and is drained by a storm water system to the City sewer system.

2.0 SLUG POTENTIAL INVENTORY

Table A-6-9.1 provides specific information for each facility, unit, or organization to identify the locations on the installation that have the potential to release a POL and/or HS slug into the sanitary sewer system. Those facilities, units, or organization with the potential of a POL and/or HS slug release are highlighted. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-9.
A description of the stored POL and/or HS is provided in Table A-6-9.2.

3.0 NOTIFICATION OF A SLUG RELEASE

If a slug of POL and/or HS enters the sanitary sewer system, the following actions should be initiated as soon as practicable:



The following personnel and organizations are POCs which (may) need to be contacted in the event of a slug release at Kilbourne Kaserne:

Table A-7-9.1 POCs for Slug Release at Kilbourne Kaserne

Position/Title	Name of Individual	Organization/ Mailing Address	Telephone No. (Work)	Telephone No. (Mobile)
Supervisor Installation	DNA	DNA	DNA	
Unit Environmental Coordinator (UEC)	DNA			
BSB Spill Coordinator	Daniel Welch	BSB DPW Environmental Management Office Czernyring 13 69115 Heidelberg	DSN: 387-3140 Civil: 06221-4380-3140	0175-7421527
BSB or Installation Fire Department	Lothar Eckrich	BSB Fire Department	**117**	
DPW Utilities	Bernhard Willnauer	BSB DPW Maintenance Branch Czernyring 13 69115 Heidelberg	DSN: 387-3213 Civil: 06221-4380-3213	0175-7241408
German Fire Department	NA	Fire Department Heidelberg	**112**	NA
Domestic Wastewater Treatment Plant receiving waste water from Kilbourne Kaserne	Herr Raepple	Abwasserzweck-verband Schwetzingen	06202-6777 06202-6778	NA
German Authorities (Amt für Umweltschutz)	Dr. Hans-Wolf Zirkwitz	Kornmarkt 1 Heidelberg	Civil: 06221-58-18 00	NA

DNA = data not available

4.0 SLUG RELEASE PREVENTION, CONTROL, AND RESPONSE

Chapter 2 and Appendix 6-9 provide general information on prevention structures and equipment for all types of spills of POL and/or HS. Table A-6-9.3 lists the detailed prevention equipment and Table A-6-9.2 provides the available emergency response equipment at the facility, unit, or organizations handling or storing POL and/or HS. Table-A-7-9.2 provides information on emergency response equipment available for slug releases of POL and HS that can cause damage to domestic wastewater treatment systems (DWTS).

5.0 BUILDING CONTAINMENT STRUCTURES AND EQUIPMENT

This section includes a general description of the types of building containment structures and equipment that are typically used at Kilbourne Kaserne.

5.1 Building Containment

Building containment construction materials include poured concrete walls, concrete block walls, concrete containment curbs, containment sumps, and trenches. Containment equipment consists of absorbent materials, booms and other barriers or preventive systems. The materials used must be compatible with the released material and sufficiently impervious to contain the spilled material. Containments must also comply with the applicable standards for volume, and precipitation volume.

Containment sumps are tanks and pits that collect gravity drainage and are emptied by gravity or pumped flow. Generally, they consist of a collection tank, level detector, pump, and level-actuated pump control to empty the contents of the receiving tank. Sumps are used in many locations to collect wastewaters for transport to storage or treatment systems. Sumps are used as full or partial containments as appropriate.

Additional operational and maintenance issues that are considered in the design of containments include structural strength and integrity, traffic of equipment and vehicles, leaks from penetration through walls and floors, and leaks from expansion and contraction at joints. Concrete block structures may leak at the joints between blocks, and are subject to damage from the expansion of water that penetrates into the block. Pits and trenches must be properly cleaned to maintain flow and capacity, and grates and covers must be maintained to prevent pedestrian hazards.

5.2 Diversionary Structures

Where containments are not practical, diversions are used to direct drainage as needed. Drainage controls are needed to direct spilled materials to a retention basin, or direct storm water from equipment storage areas. The diverted materials are often diverted through an oil water separator. Diversions can include curbs, trenches, catch basins, or retention ponds that are used to redirect or retain spilled materials. Provisions to return spilled materials to the source facility should be provided where practical.

5.3 Separator Systems

There are no separator systems present at Kilbourne Kaserne.

6.0 MEASURES TO CONTROL TOXIC ORGANIC POLLUTANTS AND SOLVENTS

The following measures need to be followed when handling or storing toxic organic pollutants and solvents:

- Storage areas for organic toxic pollutants and solvents must be well lit. Lights must not heat the stored materials, and must be at least 0.5 meters from toxic organic pollutants
- Smoking, open flames, and fires are not permitted in areas where toxic organic pollutants or solvents are stored or handled
- Toxic organic pollutants can not be stored together with flammable materials if they are not separated from each other by e.g., an adequate secondary containment
- Toxic organic pollutants and solvents must be kept in closed packages or containers that do not leak
- Areas where toxic organic pollutants and solvents are stored or handled must be leak proof

7.0 EQUIPMENT FOR EMERGENCY RESPONSE AND SUBSEQUENT PLANS

Table A-7-9.2 provides information on equipment available at Kilbourne Kaserne for emergency response in case of a POL and/or HS slug release that could potentially cause damage at the Domestic Waste Water Treatment Systems (DWTS).

Table A-7-9.2 Equipment for Emergency Response to Slug Discharges

Facility/Organization/Unit at which Emergency Response Equipment is available	Emergency Response Equipment
BSB Fire Department	Inflatable bladders

K. KOENIGSTUHL RELAY STATION, GE 46F

APPENDIX 5-10

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

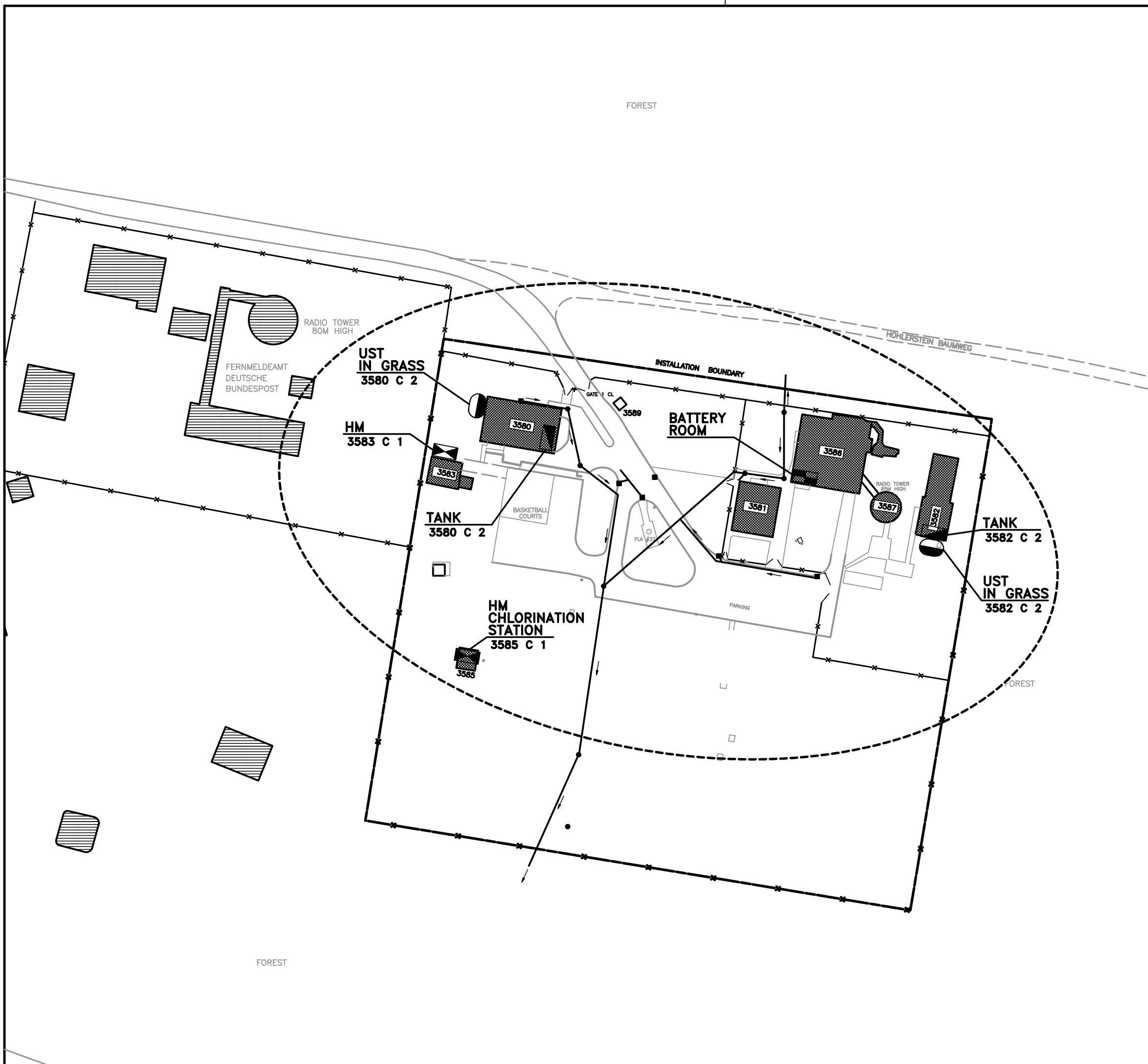
Example: 4020C-1 (only one HMSA in Building 4020)

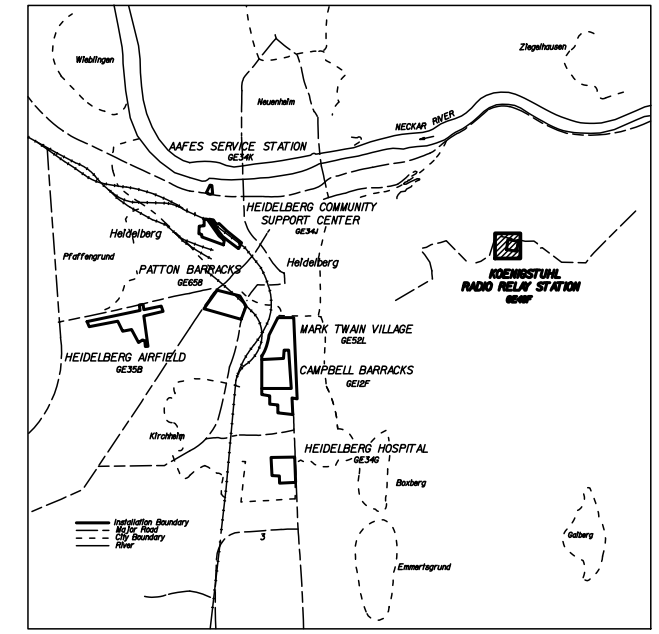
4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

General Information and Environmental Setting

Koenigstuhl Relay Station is immediately east of Heidelberg in the Heidelbergerwald located on a prominent peak at an elevation of 568mNN. The site lies on 1.5 ha tract and consists of five operations and administrative buildings as well as a mast antenna. The facility is operated by the 43rd Signal Bn. and is continuously manned.

Koenigstuhl is located in the water protection area III A. The site drainage is undeveloped. In the vicinity of the installation (about 540 meters to the west) there is a water retention basin. The whole area is designated as a recreation area for hikers, family, etc. The public street adjacent to the facility is sloped downhill which could provide a large-scale potential spill migration pathway.





KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK *TANK*
- HAZARDOUS MATERIALS (HM) *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) *BIOLOG. SONDERABFALL*
- BATTERY ROOM *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) *LAGERTANK (OBERIRDISCH)*
- UNDERGROUND STORAGE TANK (UST) *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) *DRUCKGASE*

PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

N

SCALE 1:1000

5 0 10 20 30 40 50 METERS

25 0 50 100 150 200 FEET

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DESIGNED RG

DRAWN RG

CHECKED UOS

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE46F (GY678)
Koenigstuhl Radio Relay Station

SUBMITTED APPROVED DATE

SCALE 1:1000

FILE NO GE46F01

SHEET 01 OF 01

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K. KOENIGSTUHL RELAY STATION, GE 46F

APPENDIX 6-10

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-10.1 presents the current inventory of units or organizations at Koenigstuhl Relay Station, where POL and HS are stored. This inventory is subject to change as the installation is in the process of moving. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-10.1 but not within the following tables A-6-10.2, A-6-10.3 and A-6-10.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-10.1. Facilities/Units/Organizations Storing POL and/or HS at Koenigstuhl Relay Station

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
3580	DNA	DNA	DNA
3582	DNA	DNA	DNA
3583	DNA	DNA	DNA
3585	DNA	Chlorination Station	DNA
3586	DNA	Battery Room	DNA

DNA = data not available
There is no area that might have a potential for a HW/HM slug release.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-10.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-10. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-10.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-10.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-10.2. POL AND HS INFORMATION FOR KOENIGSTUHL RELAY STATION FOR POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
3580	Map 1/2 #3580C-2	1xUST, 1xtank	Heating oil	20.0	The area around the fill point of the UST is in grass; therefore, spills would penetrate into the soil. A spill at the tank truck parking at the access road could flow downhill to the northwest. Spill from tank would stay inside building.	0.6	UST is equipped with leak detection
3582	Map 1/2 #3582C-2	1xUST, 1xtank	Heating oil	10.0	The area around the fill point of the UST is in grass; therefore, spills would penetrate into the soil. Spill from tank would stay inside building.	0.6	UST is equipped with leak detection

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets), a tank is inside a building (normally containing heating oil for generators)

Table A-6-10.3. Spill Prevention Equipment for Koenigstuhl Relay Station

Location/Building Number	Containment System Type	Construction Material	Capacity
3580	1) Double walled tank 2) Building	1) Steel 2) concrete	NA
3582	1) Double walled tank 2) Building	1) Steel 2) concrete	NA

DNA = data not available
NA = Not applicable

Table A-6-10.4. List of Tanks at Koenigstuhl Relay Station

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
3580	Heidelmeier	9.400	Heating Oil	double	tank	1970
3580	Ludwig	10.000	Heating Oil	double	UST	1996
3582	Beiersdorf	10.000	Diesel Oil	double	UST	1975
3582	Ludwig	600	Diesel Oil	double	tank	1994

K. KOENIGSTUHL RELAY STATION, GE 46F

APPENDIX 7-10

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan is not required for Koenigstuhl Relay Station because there is no potential for a slug release into a sewer system.

L. MARK TWAIN VILLAGE, GE 52L

APPENDIX 5-11

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

Example: 4020C-1 (only one HMSA in Building 4020)

4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

General Information and Environmental Setting

Mark Twain Village is located on both sides of Roemerstrasse and is the major housing area within the City of Heidelberg. The Village consists mostly of stairwell housing units, a High School, and some administrative office buildings directly across from Campbell Barracks. The installation contains in excess of 50 buildings on 35 ha. It is located primarily among other private housing areas and adjacent to Campbell Barracks.

The site is relatively flat, with an overall slope generally northward towards the Neckar River. Storm water runoff or any discharge from the entire Village drains to the City of Heidelberg storm sewer system. There are no critical surface water or groundwater resources in the vicinity of the installation. Based on topography and the installation's sewer design there is minimum potential for major contamination migration.

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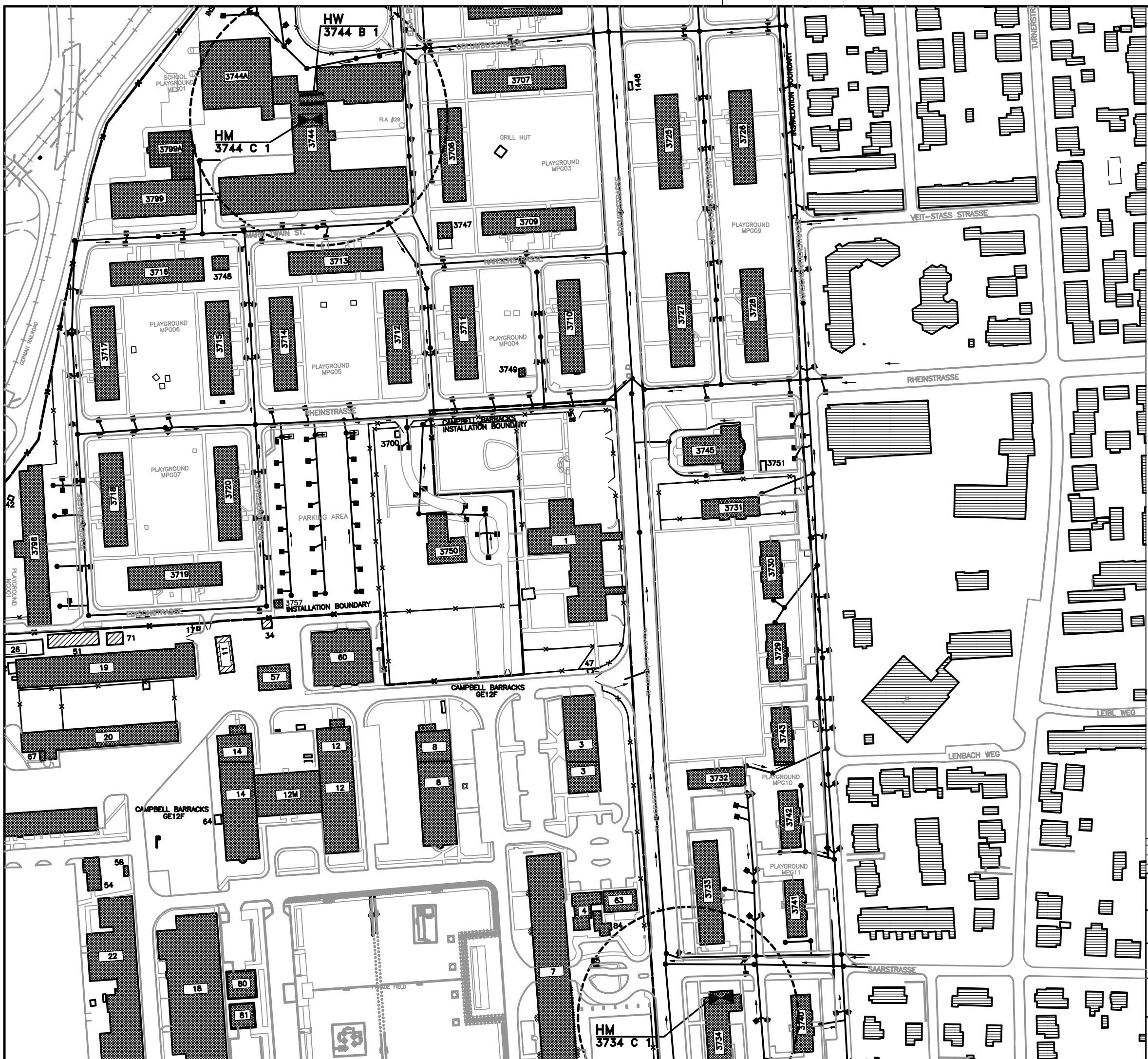

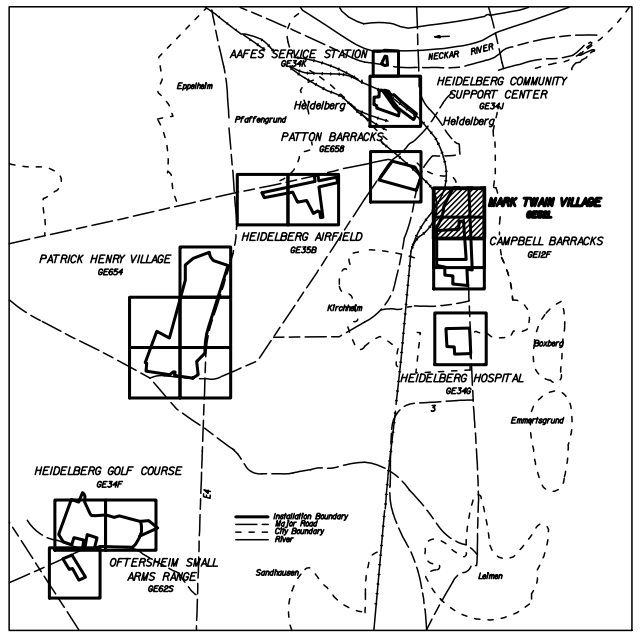

KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK *TANK*
- HAZARDOUS MATERIALS (HM) *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) *BIOLOG. SONDERABFALL*
- BATTERY ROOM *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) *LAGERTANK (OBERIRDISCH)*
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GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

PREVAILING WIND

SCALE 1:2000

25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DESIGNED RG

DRAWN RG

CHECKED UOS

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE52L (GY400)
Mark Twain Village / South

SUBMITTED APPROVED DATE

SCALE 1:2000

FILE NO GE52F01

SHEET 01 OF 01

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L. MARK TWAIN VILLAGE, GE 52L

APPENDIX 6-11

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-11.1 presents the current inventory of units or organizations at Mark Twain Village (MTV), where POL and HS are stored. This inventory is subject to change as the installation is in the process of moving. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-11.1 but not within the following tables A-6-11.2, A-6-11.3 and A-6-11.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-11.1. Facilities/Units/Organizations Storing POL and/or HS at MTV

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
3734	AAFES	Beauty Shop	DNA
3744	DODDS	High School	Ms. Deborah Billings DSN: 370-8004

DNA = data not available
There is no area that might have a potential for a HW/HM slug release.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-11.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-11. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-11.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-11.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-11.2. POL AND HS INFORMATION FOR MARK TWAIN VILLAGE FOR POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
3734	Map 1/2 #3734C-1	HM	HM (Beauty Shop material: flammables)	0.1	Spills would stay inside building	NA	Building floor serves as secondary containment
3744	Map 1/2 #3734A-1 #3744C-1	HM, HW	HM (lab chemicals: flammables, toxic, corrosives) HW: DNA	0.15	Spills would stay inside building	NA	Building floor serves as secondary containment

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets), a tank is inside a building (normally containing heating oil for generators)

Table A-6-11.3. Spill Prevention Equipment for Mark Twain Village

Location/Building Number	Containment System Type	Construction Material	Capacity
3734	Building	Concrete	NA
3744	Building	Concrete	NA

NA = Not applicable

L. MARK TWAIN VILLAGE, GE 52L

APPENDIX 7-11

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan is not required for Mark Twain Village because there is no potential for a slug release into the sewer system.

M. PATTON BARRACKS, GE 658

APPENDIX 5-12

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

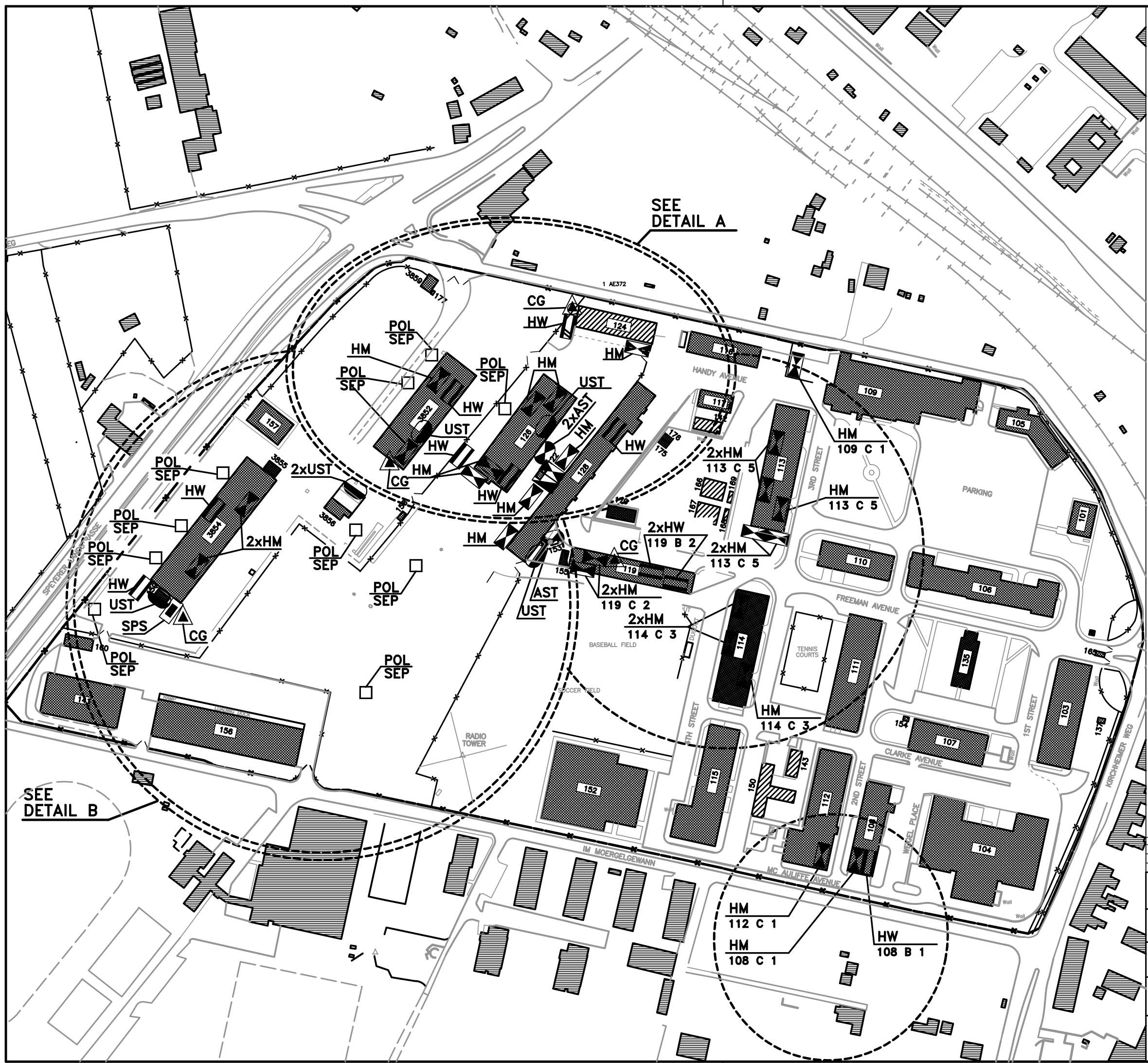
Example: 4020C-1 (only one HMSA in Building 4020)

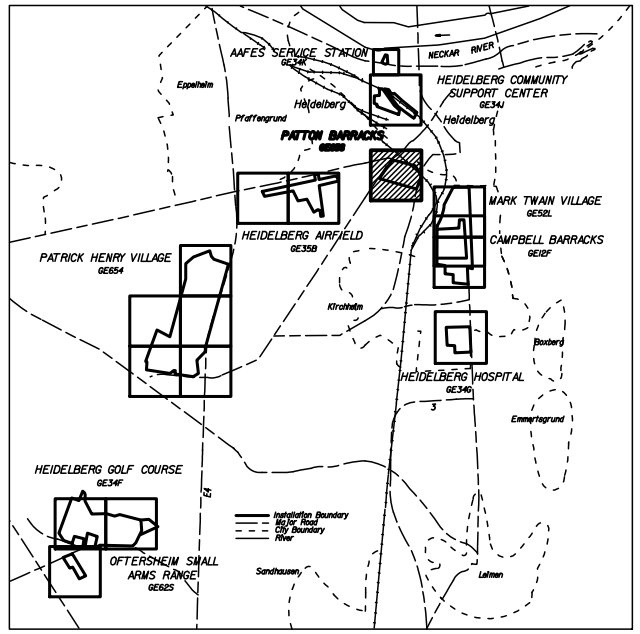
4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

General Information and Environmental Setting

Patton Barracks is located within the city of Heidelberg between Kirchheimerstrassse, Speyererstrasse, the Bundesbahn and Im Moergelgewann on about 17 ha of property. The site is located adjacent to private housing and the railroad embankment. The site is home to the 26th ASG, 43rd Signal Bn., 529th Military Police Co. and elements of the 302nd MI Bn. It consists of 22 administrative buildings, barracks and motor pool complexes as well as hardstand areas for vehicle storage.

Patton is located in the water protection area III B. The site is sloped in various directions, and all discharge from the installation drains via storm sewer to the City operated sewer. There are no critical surface water or groundwater resources in the vicinity of the installation. Storm water runoff or any discharge from critical areas of potential spills passes through oil-water separators prior to discharging to the sewer. Based on topography and the installation's sewer design there is minimum potential for major contamination migration.





KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK *TANK*
- HAZARDOUS MATERIALS (HM) *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) *SONDERABFALL*
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- COMPRESSED GAS (CG) *DRUCKGASE*

PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

MAP REFLECTS INFORMATION AVAILABLE
AS OF JULY,1985

SCALE 1:2000

25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

DACA 90–00–D–0017, D.0.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE658 (GY462)
Patton Barracks

SUBMITTED | APPROVED | DATE

SCALE 1:2000
FILE NO GE65801
SHEET 01 OF 03

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LEGEND
LEGENDE

- GREASE–SEPARATOR
  FETTABSCHEIDER
- POL–SEPARATOR
  POL–ABSCHEIDER
- SLUDGE–TRAP
  SCHLAMMFANG
- SPILL SUPPLIES (SPS)
  NOTFALLSET (AUFFANGEQUIPMENT)
- TANK
  TANK
- HAZARDOUS MATERIALS (HM)
  GEFAHRSTOFFE
- HAZARDOUS WASTE (HW)
  SONDERABFALL
- BIOHAZARDOUS WASTE (BW)
  BIOLOG. SONDERABFALL
- BATTERY ROOM
  BATTERIERAUM
- ABOVEGROUND STORAGE TANK (AST)
  LAGERTANK (OBERIRDISCH)
- UNDERGROUND STORAGE TANK (UST)
  LAGERTANK (UNTERIRDISCH)
- COMPRESSED GAS (CG)
  DRUCKGASE

DIRECTION OF FLOW
- STORM MAIN
  REGENWASSERHAUPTLEITUNG
- STORM SERVICE
  REGENWASSERANSCHLUSSLEITNG
- PAVED DITCH
  ENTWAESSERUNGSGRABEN

DIRECTION OF FLOW
- INLET
  STRASSENEINLAUF
- SEPARATOR
  ABSCHEIDER
- GREASE SEPARATOR
  FETTABSCHEIDER
- MANHOLE OR STILLING WELL
  KANALSCHACHT ODER BRUNNEN
- LEECHING CESSPOOL
  SENKGRUBE (ABWASSER)
- HEADWALL
  ENDE GESCHLOSSENER KANAL
- CLEAN OUT
  REINIGUNGSOEFFNUNG
- DRAINAGE DIVIDE
  ENTWAESSERUNGSGRENZE
- OPEN DRAINAGE
  ENTWAESSERUNGSGRABEN (OFFEN)

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE658 (GY462)
Patton Barracks

DETAIL A

SUBMITTED | APPROVED | DATE

SCALE 1:1000
FILE NO GE6581A
SHEET 02 OF 03

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LEGEND
LEGENDE

- GREASE–SEPARATOR / *FETTABSCHEIDER*
- POL–SEPARATOR / *POL–ABSCHEIDER*
- SLUDGE–TRAP / *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) / *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK / *TANK*
- HAZARDOUS MATERIALS (HM) / *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) / *SONDERABFALL*
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DIRECTION OF FLOW
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APO AE 09096

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE658 (GY462)
Patton Barracks
DETAIL B

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

SUBMITTED | APPROVED | DATE

SCALE 1:1000
FILE NO GE6581B
SHEET 03 OF 03

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M. PATTON BARRACKS, GE 658

APPENDIX 6-12

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-12.1 presents the current inventory of units or organizations at Patton Barracks, where POL and HS are stored. This inventory is subject to change as the installation is in the process of moving. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-12.1 but not within the following tables A-6-12.2, A-6-12.3 and A-6-12.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-12.1. Facilities/Units/Organizations Storing POL and/or HS at Patton Barracks

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
108	DNA	MWR Wood Shop	Mr. Frederick Anderson DSN: 373-5195
109 W	DNA	DNA	DNA
112	DNA	DNA	DNA
113	DNA	DNA	DNA
108	DNA	DNA	DNA
114	DNA	DNA	DNA
122	DNA	DNA	DNA
124	DNA	DNA	DNA
126N	529th MP Company	Vehicle Maintenance	SPC Jose A. Garcia DSN: 373- 8554
126S	A CO 302D MI	DNA	SGT Jopatric L. Walker DSN: 373-7685/8710
128	DNA	DNA	DNA
153	DNA	DNA	DNA
159	DNA	DNA	DNA
3852	High School	HS Auto Shop	Ms. Debroah Billings DSN: 373-6821

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
3854	DNA	DNA	Mr. Elvis P. Romero DSN: 373-5196
3856	411TH BSB, LTC LAINE	DNA	MR. Dent DSN: 373-6820

DNA = data not available
Grey highlighted means that this area might have a potential for a HW/HM slug release. These areas are cross-referenced to the Slug Plan in Appendix 7-12.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-12.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-12. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-12.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-12.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-12.2. POL AND HS INFORMATION FOR PATTON BARRACKS FOR CRITICAL POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
122	Map 1/3 #122B-4 #122C-2	2xAST (HW), 2xtank (HW), HM	Used oil (ASTs), used anti-freeze (tanks), HM: POL	3.6	Spills during emptying ASTs would to the southwest on paved ground. Spills form tanks and HM would stay inside building and connex.	0.6	ASTs are equipped with leak detection;
124	Map 1/3 #124A-1 #124C-1	HM, HW	HM: compressed gas cylinders, flammables (POL, brake fluid) HW: batteries	0.6	Spills from HM would stay inside connex.	0.6	Connex has secondary containment
126	Map 1/3 #126B-2 #126C-4	1xUST (HW), HM, HW	Used oil (UST) HM: flammables (POL, paint, cleaner) Irritant (anti-freeze), toxic (brake fluid) HW: brake fluid, solvents	5.8	Spills during emptying could stay inside building (manhole) or flow to the east on paved ground (depends where the truck parks). Spills from HM would stay inside building or connex.	0.6	UST is equipped with leak detection, connex has secondary containment, oil-water separator, dry sweep, absorbent pads
153	Map 1/3 #153C-2	1xUST, 1xAST	Diesel oil (UST, AST)	7.3	Manhole of UST and fill point AST are in unpaved ground, spill would penetrate soil.	0.6	UST is equipped with leak detection, AST in secondary containment

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
159	Map 1/3 #159B-2	1xUST (HW), HW, HM (CG)	Used oil (UST), HM: compressed gas cylinders HW: anti-freeze, spray cans	6.0	Spills during emptying UST and HW would flow to the north on paved ground to an oil-water separator	0.6	UST is equipped with leak detection, dry sweep and adsorbant pads
3852	Map 1/3 #3852B-2 #3852C-2	1xUST (HW), HM, HW	Used oil (UST), HM: compressed gas cylinders, POL HW: anti-freeze, brake fluid	6.0	Spills from UST, HM and HW would stay inside building.	0.6	UST is equipped with leak detection, dry sweep and adsorbant pads , oil-water separator
3854	Map 1/3 #3854A-1 #3854C-2	HM, HW	HM (toxic, flammables, corrosives), HW (anti-freeze, brake fluid, asbestos)	0.5	Spills would stay inside secondary containment and inside building	0.6	Secondary containment, sealed building floor, dry sweep, adsorbant pads
3856	Map 1/3 #3856C-1	2xUST (HM)	Fuel station (diesel, Mogas)	120.0	Spill would flow on paved ground to the southwest towards an oil-water separator	0.6	USTs are equipeed with leak detection, dry sweep, adsorbant pads, oil-water separator

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets), a tank is inside a building (normally containing heating oil for generators)

A Spill Supply and Emergency Equipment Recovery Point is at Building 3854.

Table A-6-12.3. Spill Prevention Equipment for Patton Barracks

Location/Building Number	Containment System Type	Construction Material	Capacity
117	DNA	DNA	DNA
122	1) Double walled tank 2) Building 3) Connex with secondary containment	1) Steel 2) concrete 3) metal	1) + 2) NA 3) DNA
124	Connex with secondary containment	Metal	Connex has secondary containment
126	1) Double walled tank 2) Building 3) Connex with secondary containment	1) Steel 2) concrete 3) metal	1) + 2) NA 3) DNA
153	1) Double walled tank 2) Secondary Containment	1) Steel 2) metal	1) NA 2) DNA
159	1) Double walled tank 2) None: (certified ADR container)	1) Steel	1) NA
3852	1) Double walled tank 2) Building	1) Steel 2) concrete	1) + 2) NA
3854	1) Building 2) Secondary containment	1) Concrete 2) Metal	1) NA 2) DNA
3856	Double walled tanks	Steel	NA

DNA = data not available
NA = Not applicable

Table A-6-12.4. List of Tanks at Patton Barracks

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
122	Chemo-Werk	1.000	used cooling means	double	tank	1994
122	Rietberg	250	used oil	double	AST	1991
122	Rietberg	400	used oil	double	AST	1991
122	Chemo-Werk	1.000	used cooling means	double	tank	1995
124	Nau	5.000	used oil	double	UST	1990
124	Rietberg	80	used oil	double	tank	1990
126	Nau	5.000	used oil	double	UST	1993
153	Nau	7.000	Diesel oil	double	UST	1982
153	Ludwig	300	Diesel oil	double	AST	1994
159	Barth	5.000	used oil	double	UST	1976
173	Rietberg	400	used oil	double	tank	1990
3852	Nau	5.000	used oil	double	UST	1990
3856	Nau	60.000	Gasoline	double	UST	1988
3856	Nau	60.000	Diesel oil	double	UST	1988

M. PATTON BARRACKS, GE 658

APPENDIX 7-12

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan has been prepared and implemented by the 411th BSB Heidelberg. This Slug Plan has been prepared to:

16. Identify areas where petroleum, oil and lubricants (POL) and /or hazardous substances (HS) may be released at one time in a volume and/or concentration (i.e., "slug") that negatively impacts the ability of the receiving wastewater treatment plant(s) to operate within normal parameters;

17. Identify response procedures to be implemented by personnel after a slug release; and

18. Identify resources available on- and off-site to respond to a slug release.

This plan contains the following elements as required by FGS Chapter 4:

- Section 1.0 – Description of discharge practices, including non-routine batch discharges (FGS Section C4.3.2.1.7.1);
- Section 2.0 – Description of stored chemicals (FGS Section C4.3.2.1.7.2);
- Section 3.0 – Plan for immediately notifying the domestic wastewater treatment system (DWTS) of slug discharges and discharges that would violate prohibitions under this section, including procedures for subsequent written notification within five days (FGS Section C4.3.2.1.7.3);
- Section 4.0 – Necessary practices to prevent accidental spills. This include proper inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of facility site runoff, and worker training (FGS Section C4.3.2.1.7.4);
- Section 5.0 – Proper procedures for building containment structures or equipment (FGS Section C4.3.2.1.7.5);
- Section 6.0 – Necessary measures to control toxic organic pollutants and solvents (FGS Section C4.3.2.1.7.6); and
- Section 7.0 – Proper procedures and equipment for emergency response, and any subsequent plans necessary to limit damage suffered by the treatment facility or the environment (FGS Section C4.3.2.1.7.7).

This plan has been prepared as an appendix to the 411th BSB Heidelberg SPRP. Portions of this plan reference information contained in the SPRP. The office with primary responsibility for maintenance and implementation of this plan is the Department for Public Works, Environmental Management Office.

1.0 DRAINAGE SYSTEM AND DISCHARGE PRACTICES

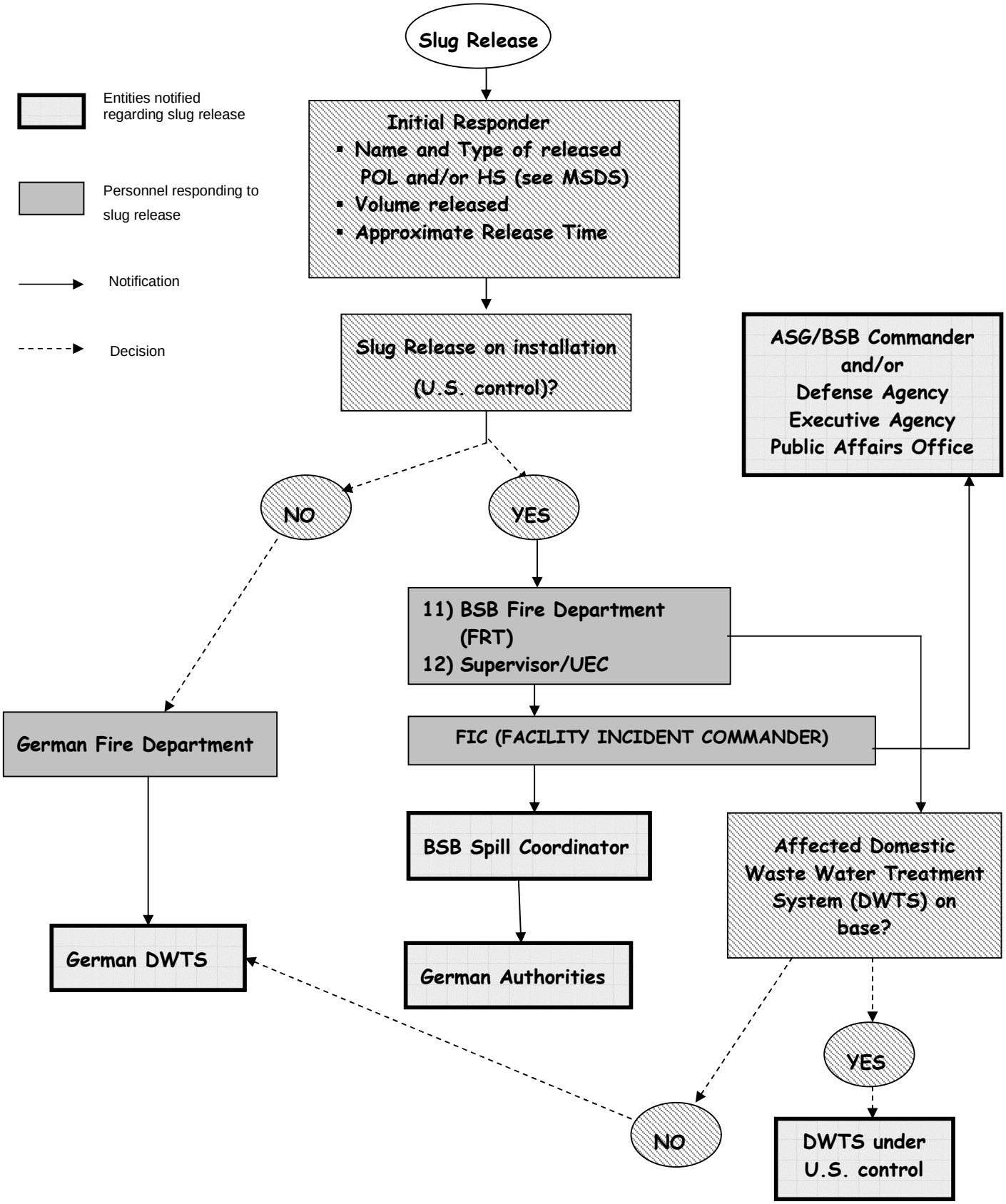
All discharge from Patton Barracks drains via storm sewer to the City operated sewer. Storm water runoff or any discharge from critical areas of potential spills passes through oil-water separators prior to discharging to the sewer.

2.0 SLUG POTENTIAL INVENTORY

Table A-6-12.1 provides specific information for each facility, unit, or organization to identify the locations on the installation that have the potential to release a POL and/or HS slug into the sanitary sewer system. Those facilities, units, or organization with the potential of a POL and/or HS slug release are highlighted. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-12.
A description of the stored POL and/or HS is provided in Table A-6-12.2.

3.0 NOTIFICATION OF A SLUG RELEASE

If a slug of POL and/or HS enters the sanitary sewer system, the following actions should be initiated as soon as practicable:



The following personnel and organizations are POCs which (may) need to be contacted in the event of a slug release at Patton Barracks:

Table A-7-12.1 POCs for Slug Release at Patton Barracks

Position/Title	Name of Individual	Organization/ Mailing Address	Telephone No. (Work)	Telephone No. (Mobile)
Supervisor Installation	DNA	DNA	DNA	
Unit Environmental Coordinator (UEC)	MR. Dent	DNA	DSN: 373-6820	
BSB Spill Coordinator	Daniel Welch	BSB DPW Environmental Management Office Czernyring 13 69115 Heidelberg	DSN: 387-3140 Civil: 06221-4380-3140	0175-7421527
BSB or Installation Fire Department	Lothar Eckrich	BSB Fire Department	**117**	
DPW Utilities	Bernhard Willnauer	BSB DPW Maintenance Branch Czernyring 13 69115 Heidelberg	DSN: 387-3213 Civil: 06221-4380-3213	0175-7241408
German Fire Department	NA	Fire Department Heidelberg	**112**	NA
Domestic Wastewater Treatment Plant receiving waste water from Patton Barracks	Herr Wels Herr Raab	Abwasserzweck-verband Heidelberg Klärwerk Nord&Wieblingen	06221-417-443 06221-417-420	NA
German Authorities (Amt für Umweltschutz)	Dr. Hans-Wolf Zirkwitz	Kornmarkt 1 Heidelberg	Civil: 06221-58-18 00	NA

DNA = data not available

4.0 SLUG RELEASE PREVENTION, CONTROL, AND RESPONSE

Chapter 2 and Appendix 6-12 provide general information on prevention structures and equipment for all types of spills of POL and/or HS. Table A-6-12.3 lists the detailed prevention equipment and Table A-6-12.2 provides the available emergency response equipment at the facility, unit, or organizations handling or storing POL and/or HS. Table-A-7-12.3 provides information on emergency response equipment available for slug releases of POL and HS that can cause damage to domestic wastewater treatment systems (DWTS).

5.0 BUILDING CONTAINMENT STRUCTURES AND EQUIPMENT

This section includes a general description of the types of building containment structures and equipment that are typically used at Patton Barracks.

5.1 Building Containment

Building containment construction materials include poured concrete walls, concrete block walls, concrete containment curbs, containment sumps, and trenches. Containment equipment consists of absorbent materials, booms and other barriers or preventive systems. The materials used must be compatible with the released material and sufficiently impervious to contain the spilled material. Containments must also comply with the applicable standards for volume, and precipitation volume.

Containment sumps are tanks and pits that collect gravity drainage and are emptied by gravity or pumped flow. Generally, they consist of a collection tank, level detector, pump, and level-actuated pump control to empty the contents of the receiving tank. Sumps are used in many locations to collect wastewaters for transport to storage or treatment systems. Sumps are used as full or partial containments as appropriate.

Additional operational and maintenance issues that are considered in the design of containments include structural strength and integrity, traffic of equipment and vehicles, leaks from penetration through walls and floors, and leaks from expansion and contraction at joints. Concrete block structures may leak at the joints between blocks, and are subject to damage from the expansion of water that penetrates into the block. Pits and trenches must be properly cleaned to maintain flow and capacity, and grates and covers must be maintained to prevent pedestrian hazards.

5.2 Diversionary Structures

Where containments are not practical, diversions are used to direct drainage as needed. Drainage controls are needed to direct spilled materials to a retention basin, or direct storm water from equipment storage areas. The diverted materials are often diverted through an oil water separator. Diversions can include curbs, trenches, catch basins, or retention ponds that are used to redirect or retain spilled materials. Provisions to return spilled materials to the source facility should be provided where practical.

5.3 Separator Systems

There are several different types of separator systems used at the Patton Barracks. For slug releases of POL, oil-water separators are the most effective interceptor systems for slug releases of POL currently in place. Oil-water separators rely on the difference in density between water and POLs, which are generally less dense than water. Oil-water separators are typically rectangular boxes with internal baffles or weirs that operate on a flow-through basis. Free oil, water, and entrained oil droplets are directed to a quiescent compartment that collects oil on top and allows clean water underflow. Emulsified oils may not be separated. Designs may take the form of API separators, plate separators, and multi-stage separators. The operation of oil-water separators requires frequent inspection and maintenance, since the accumulation of oil and sludge can result in the undesired discharge of oil. Oil-water separators should be used as required to prevent the discharge of containment, equipment washdown, tank cleaning, or other oily wastewaters. No cleaning agents are used during cleaning with the high-pressure cleaning equipment. The operating parameters of this cleaning equipment have to be below 60℃ and 60 bar to avoid the generation of stabile emulsions that cannot be separated by an oil-water separator.

It should be noted that transformer fluids and other synthetic oils might not separate from water. In addition, may other commonly used hazardous substances (such as solvents and pesticides) will not be intercepted in an oil/water separator.

Table A-7-12.2 lists the different types of separators used at the Patton Barracks.

Table A-7-12.2 Separator Systems at the Patton Barracks

Bldg. #	Location	Structure of Separator
126	Northwest of the building	POL Separator (NS 6)
	South of the building	Pre-Seaparator (volume 10,000 liters)
156	East of building	POL Separator (NS 15)
3852	Northwestern corner of the building	POL Separator (NS 3)
3854	Western corner of building at washrack	POL Separator (NS 30)
	Inside building (car wash)	POL Separator (NS 1.5)
	Inside building (northern part)	Two POL Separators (each NS 2)
3865	East of Gas Station	POL Separator (NS 30)

NS: nominal size

6.0 MEASURES TO CONTROL TOXIC ORGANIC POLLUTANTS AND SOLVENTS

The following measures need to be followed when handling or storing toxic organic pollutants and solvents:

- Storage areas for organic toxic pollutants and solvents must be well lit. Lights must not heat the stored materials, and must be at least 0.5 meters from toxic organic pollutants
- Smoking, open flames, and fires are not permitted in areas where toxic organic pollutants or solvents are stored or handled
- Toxic organic pollutants can not be stored together with flammable materials if they are not separated from each other by e.g., an adequate secondary containment
- Toxic organic pollutants and solvents must be kept in closed packages or containers that do not leak
- Areas where toxic organic pollutants and solvents are stored or handled must be leak proof

7.0 EQUIPMENT FOR EMERGENCY RESPONSE AND SUBSEQUENT PLANS

Table A-7-12.3 provides information on equipment available at Patton Barracks for emergency response in case of a POL and/or HS slug release that could potentially cause damage at the Domestic Waste Water Treatment Systems (DWTS).

Table A-7-12.3 Equipment for Emergency Response to Slug Discharges

Facility/Organization/Unit at which Emergency Response Equipment is available	Emergency Response Equipment
Bldgs: 126, 156, 3852, 3854, 3865	POL Separators
South of Bldg. 126	Pre- Separator (volume 10,000 liters)
BSB Fire Department	Inflatable bladders

N. PATRICK HENRY VILLAGE, GE 654

APPENDIX 5-13

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

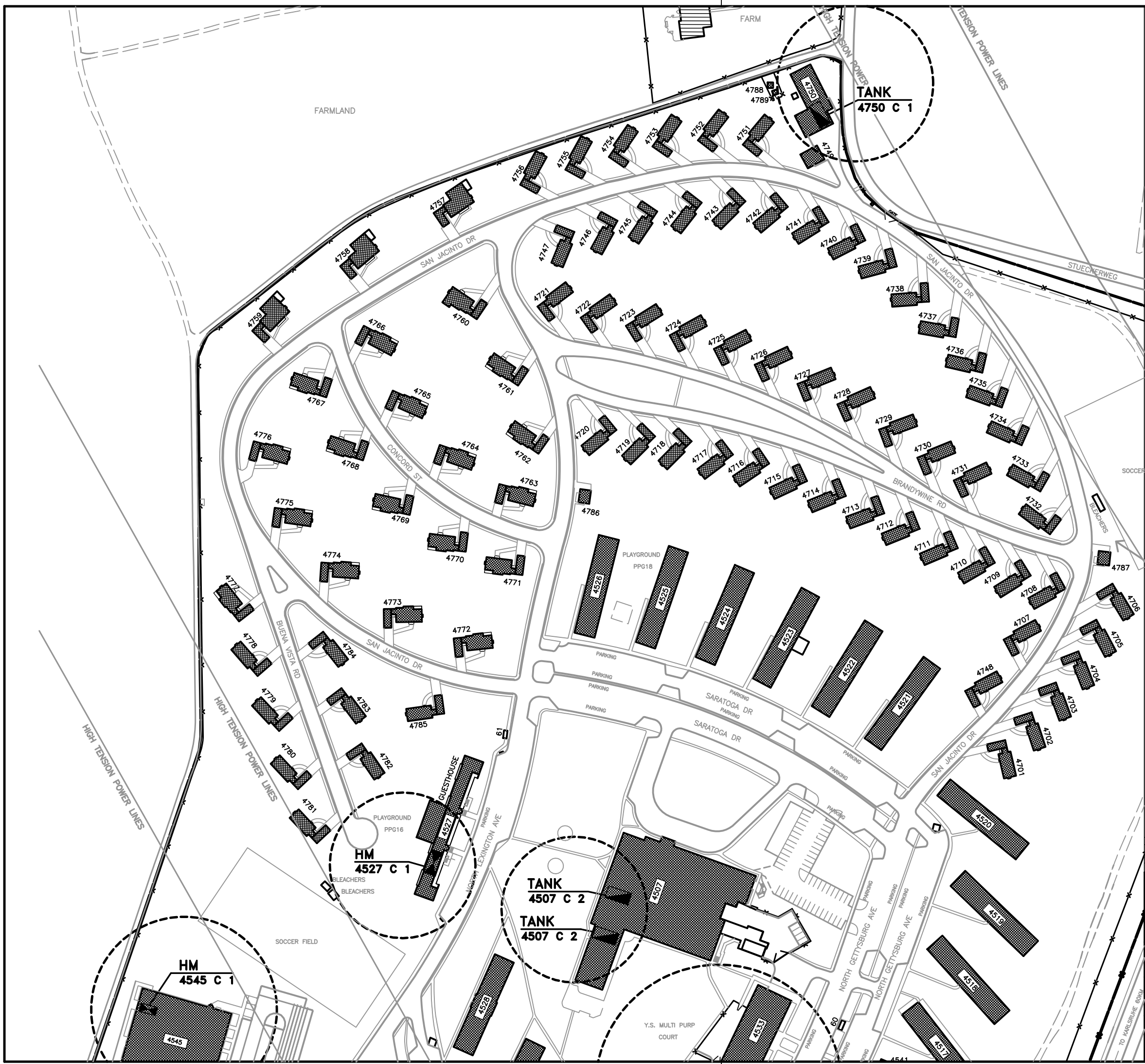
Example: 4020C-1 (only one HMSA in Building 4020)

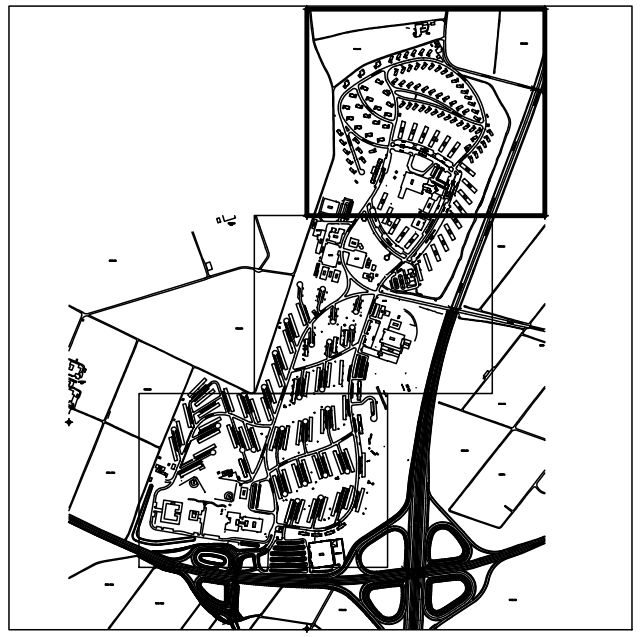
4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

General Information and Environmental Setting

Patrick Henry Village (PHV) is located along the Speyererstrasse and adjacent to Autobahn A5. This area is dedicated to housing units of single family, duplex and stairwell type and contains over 130 buildings on 100 ha. Also located on site are a commissary, junior and elementary school and some commercial enterprises such as restaurants, movie, theater, and shoppette. Units stationed there include a dental detachment (DENTAC) and the 100th Medical Detachment (Veterinarian).

The site is located in the water protection area III B. The site is relatively even in grade and drains via storm sewer to the City operated sewer. There are no critical surface water or groundwater resources in the vicinity of the installation. Based on topography and the installation's sewer design, there is minimum potential for major contamination migration.





KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) *NOTFALLSET (AUFFANGEQUIPMENT)*
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- UNDERGROUND STORAGE TANK (UST) *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) *DRUCKGASE*

PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

N

SCALE 1:2000

25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

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APO AE 09096

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE654
Patrick Henry Village (North)

DESIGNED: RG
DRAWN: RG
CHECKED: UOS
SUBMITTED
APPROVED
DATE

SCALE 1:2000
FILE NO GE654no
SHEET 01 OF 04

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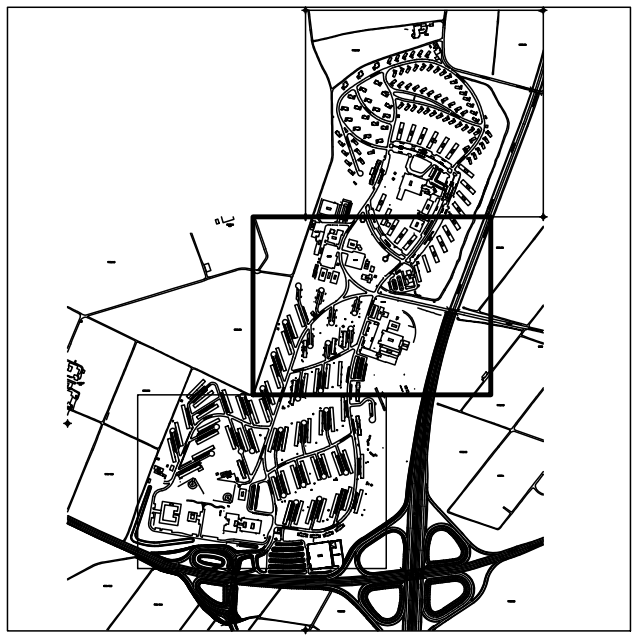

KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK *TANK*
- HAZARDOUS MATERIALS (HM) *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) *BIOLOG. SONDERABFALL*
- BATTERY ROOM *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) *LAGERTANK (OBERIRDISCH)*
- UNDERGROUND STORAGE TANK (UST) *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) *DRUCKGASE*

PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

N

SCALE 1:2000

25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE 654
Patrick Henry Village (Middle)

SUBMITTED | APPROVED | DATE

SCALE 1:2000

FILE NO GE654mi

SHEET 02 OF 04

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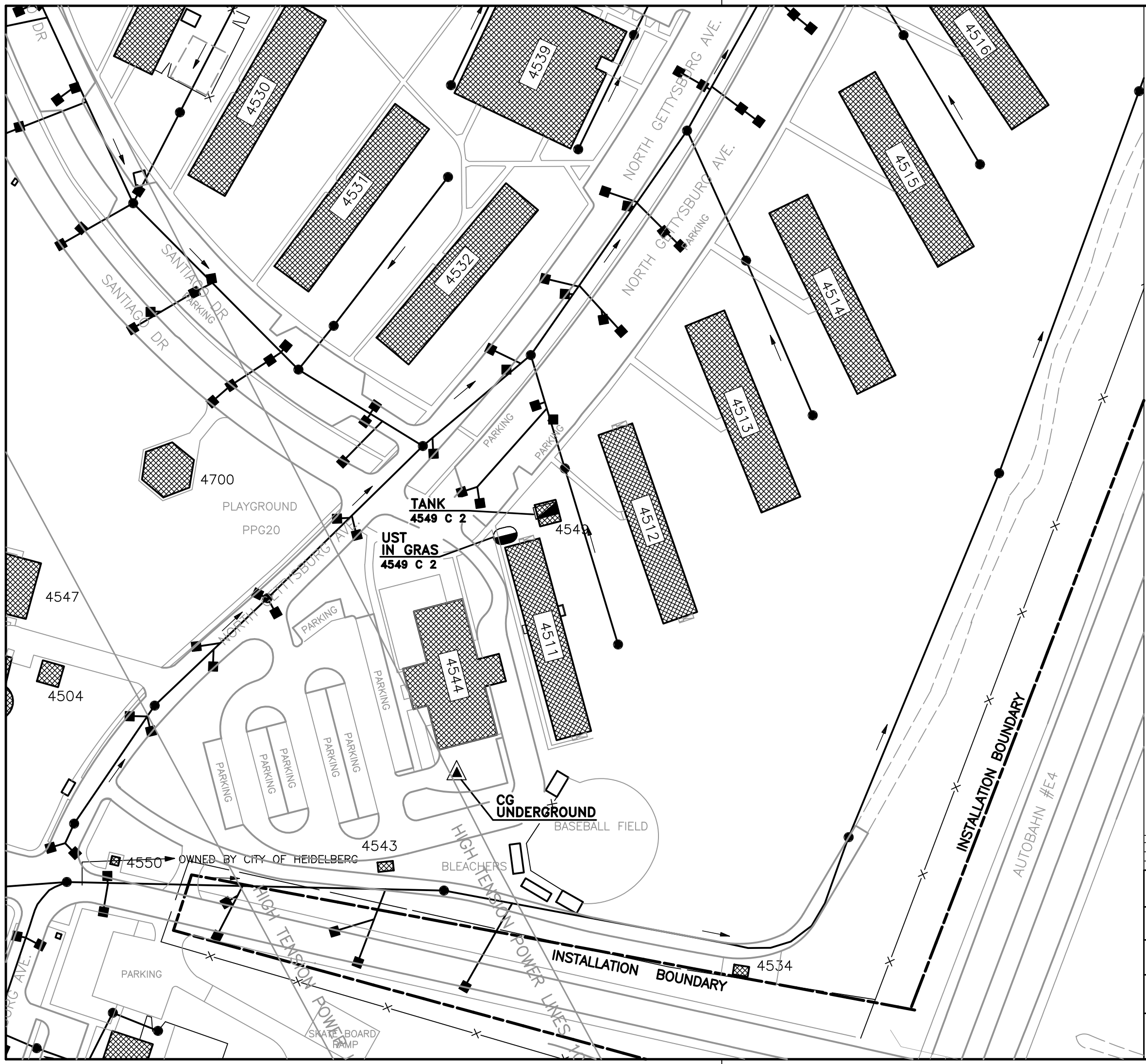

LEGEND
LEGENDE

- GREASE–SEPARATOR / *FETTABSCHEIDER*
- POL–SEPARATOR / *POL–ABSCHEIDER*
- SLUDGE–TRAP / *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) / *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK / *TANK*
- HAZARDOUS MATERIALS (HM) / *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) / *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) / *BIOLOG. SONDERABFALL*
- BATTERY ROOM / *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) / *LAGERTANK (OBERIRDISCH)*
- UNDERGROUND STORAGE TANK (UST) / *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) / *DRUCKGASE*
- STORM MAIN / *REGENWASSERHAUPTLEITUNG* (DIRECTION OF FLOW)
- STORM SERVICE / *REGENWASSERANSCHLUSSLEITNG*
- PAVED DITCH / *ENTWAESSERUNGSGRABEN* (DIRECTION OF FLOW)
- INLET / *STRASSENEINLAUF*
- SEPARATOR / *ABSCHEIDER*
- GREASE SEPARATOR / *FETTABSCHEIDER*
- MANHOLE OR STILLING WELL / *KANALSCHACHT ODER BRUNNEN*
- LEECHING CESSPOOL / *SENKGRUBE (ABWASSER)*
- HEADWALL / *ENDE GESCHLOSSENER KANAL*
- CLEAN OUT / *REINIGUNGSOEFFNUNG*
- DRAINAGE DIVIDE / *ENTWAESSERUNGSGRENZE*
- OPEN DRAINAGE / *ENTWAESSERUNGSGRABEN (OFFEN)*

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE654 (GY461)
Patrick Henry Village (Middle)
DETAIL A

SUBMITTED | APPROVED | DATE

SCALE 1:1000
FILE NO GE654miA
SHEET 03 OF 04

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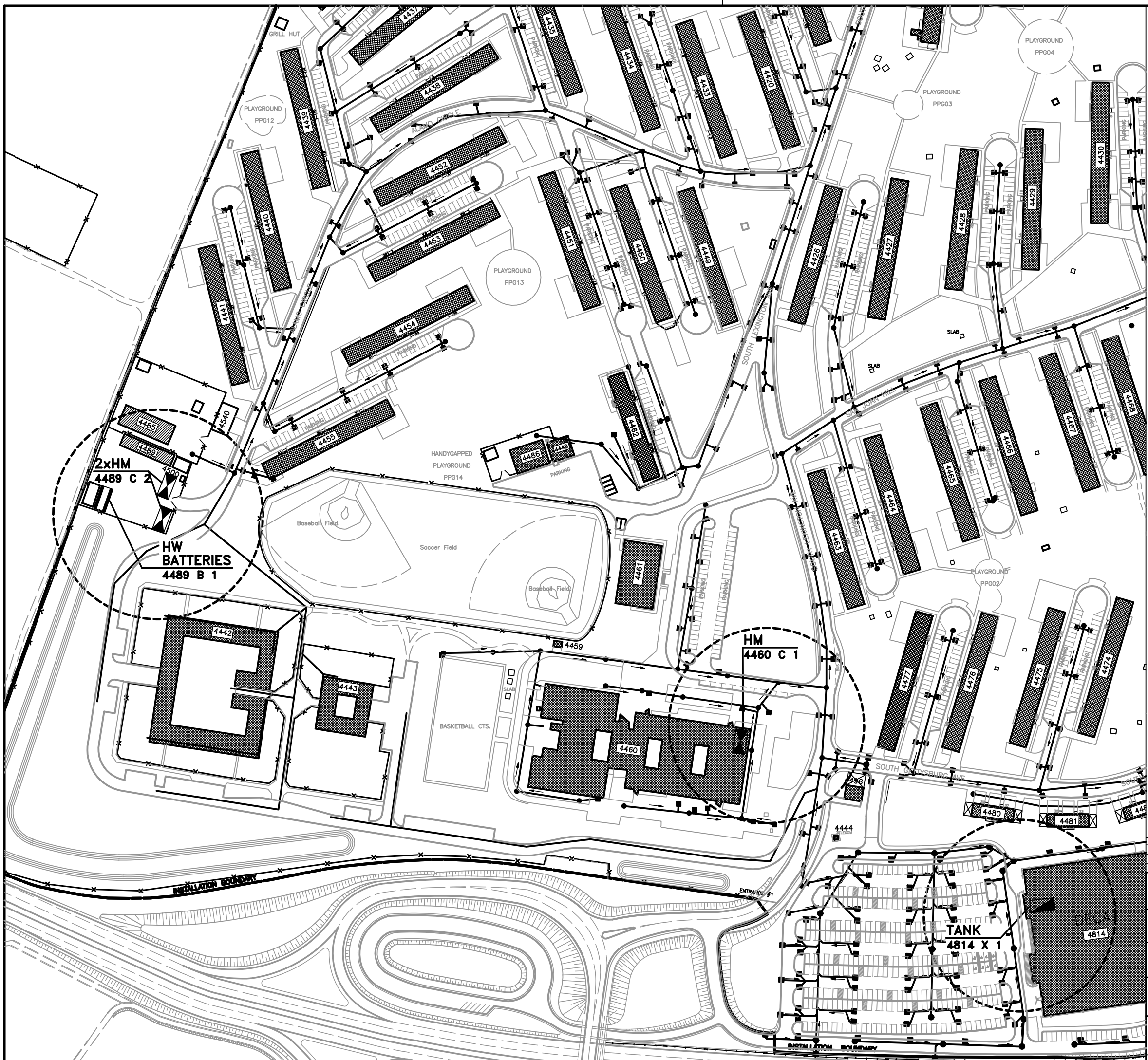

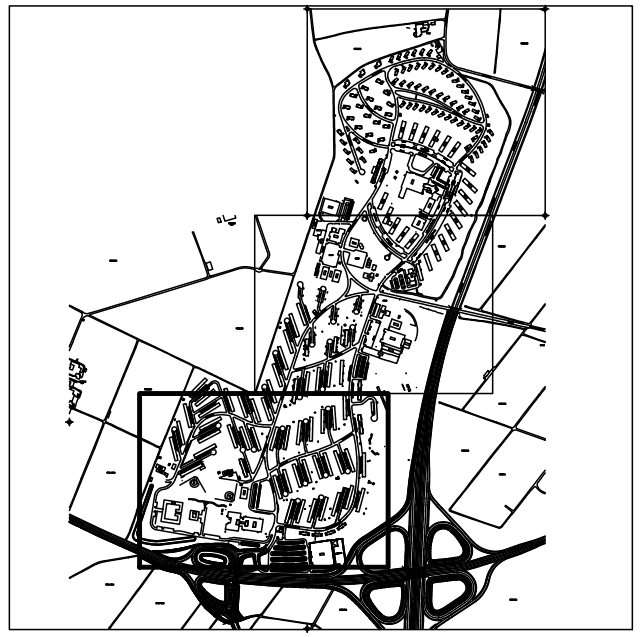

KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
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- BIOHAZARDOUS WASTE (BW) *BIOLOG. SONDERABFALL*
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- COMPRESSED GAS (CG) *DRUCKGASE*

PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

N

SCALE 1:2000

25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE654
Patrick Henry Village (Southwest)

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

SUBMITTED | APPROVED | DATE

SCALE 1:2000
FILE NO GE654so
SHEET 04 OF 04

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N. PATRICK HENRY VILLAGE, GE 654

APPENDIX 6-13

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-13.1 presents the current inventory of units or organizations at Patrick Henry Village (PHV), where POL and HS are stored. This inventory is subject to change as the installation is in the process of moving. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-13.1 but not within the following tables A-6-13.2, A-6-13.3 and A-6-13.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-13.1. Facilities/Units/Organizations Storing POL and/or HS at PHV

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
4460	DNA	DNA	DNA
4489	DNA	DNA	DNA
4503	DNA	DNA	DNA
4505A	DNA	DNA	DNA
4506	DNA	DNA	DNA
4507	DNA	DNA	DNA
4510	64TH MED DET.	Veterinarian Clinic	SGT Melinda Kelley DSN: 370-9470
4527	DNA	DNA	DNA
4539	HDENTAC, UNIT 29225,	Dental Clinic	SGT Aponte DSN: 370-8979/8940
4544	DNA	DNA	DNA
4545	DNA	DNA	DNA
4549	DNA	DNA	DNA
4750	DNA	DNA	DNA

DNA = data not available
There are no areas that might have a potential for a HW/HM slug release.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-13.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-13. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-13.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-13.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-13.2. POL AND HS INFORMATION FOR PATRICK HENRY VILLAGE FOR CRITICAL POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
4505A	Map 2/4 #4505A-1 #4505C-1	HM, HW	HM: compressed gay cylinders, toxics (bleach, replinisher) HW: DNA	0.5	Spill from HM or HW would stay inside building or inside connex.	0.3	Sealed building floor, connex with secondary containment, dry sweep
4507	Map 1/4 #4507C-2	2xtanks	Diesel oil	1.0	Spill would stay inside building	0.7	Sealed building floor
4510	Map 2/4 #4510C-2	HM, HW	HM: corrosives (photo chemicals) HW: corrosives (developer, fixer)	0.1	Spills from HM and HW would stay inside building	0.05	Sealed building floor
4539	Map 2/4 #4539A-1 #4539C-1	HM, HW	HM: Lab chemicals, cleaner, HW: Dental waste	0.4	Spills from HW would flow to the east on paved ground. Spills from HM would stay inside building	0.2	HW bins in a secondary containment, sealed building floor
4549	Map 2/4 #45449	1xUST, 1xtank	Diesel oil	3.25	Fill point of UST is in grass, therefore, spill would penetrate soil. Spills from tank would stay inside building	0.6	UST is equipped with leak detection. Sealed floor in building

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets), a tank is inside a building (normally containing heating oil for generators)

Table A-6-13.3 Spill Prevention Equipment for PHV

Location/Building Number	Containment System Type	Construction Material	Capacity
4505A	Building	Concrete	NA
4507	Building	Concrete	NA
4510	Building	Concrete	NA
4539	1) Building 2) Secondary containment	1) Concrete 2) Metal	1) NA 2) DNA
4549	1) Double walled tank 2) Building	1) Steel 2) Concrete	1) + 2) NA

DNA = data not available
NA = Not applicable

Table A-6-13.4. List of Tanks at PHV

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
4507	Schuetz	700	Diesel Oil	double	tank	1995
4507	unknown	300	Diesel Oil	double	tank	1996
4544	Ernert	12.500	Propen Gas	double	UST	1985
4549	Nau	3.000	Diesel Oil	double	UST	1988
4549	Martin	250	Diesel Oil	double	tank	1988
4750	Ludwig	300	Diesel Oil	double	tank	1994
4814	Adam	300	Diesel Oil	double	tank	1999

N. PATRICK HENRY VILLAGE, GE 654

APPENDIX 7-13

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan is not required for PHV because there is no potential for a slug release into the the sewer system.

O. SMALL ARMS RANGE, GE 62S

APPENDIX 5-14

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

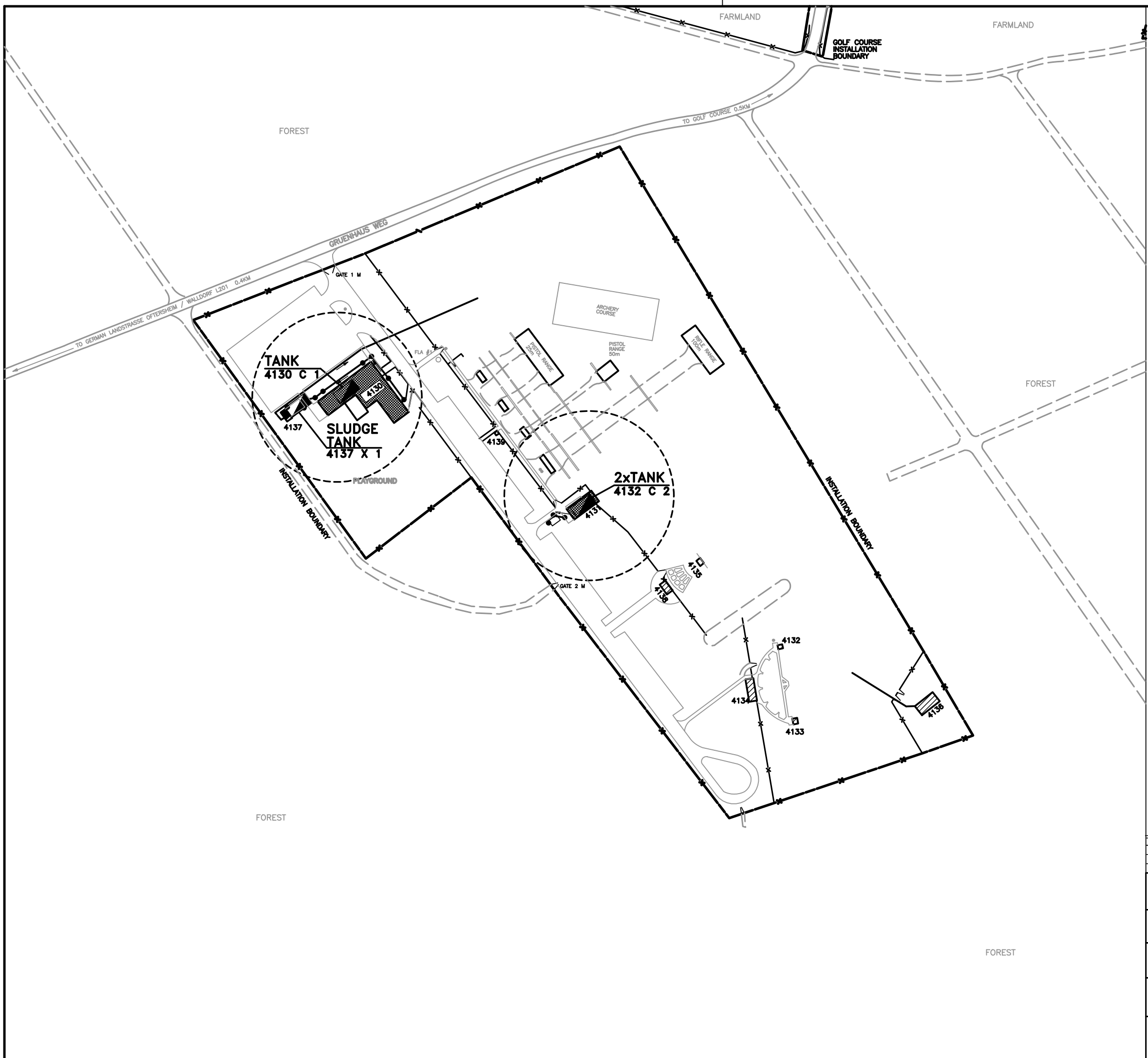
Example: 4020C-1 (only one HMSA in Building 4020)

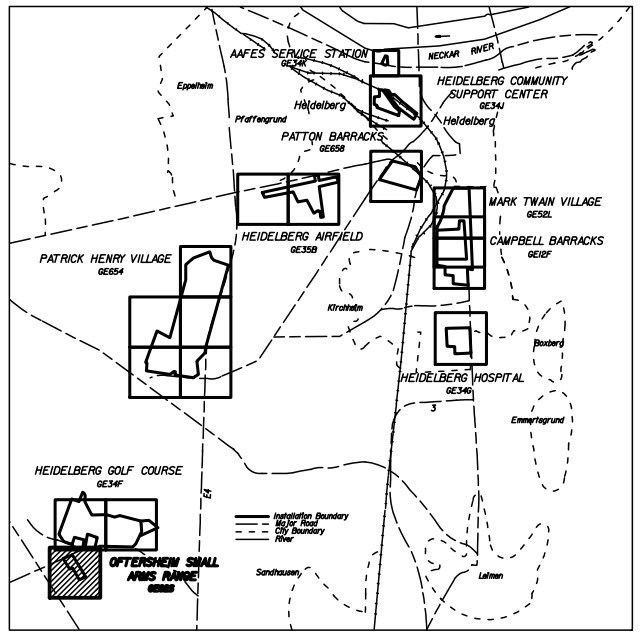
4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

General Information and Environmental Setting

The Small Arms Range comprises a size of about 8 ha and is located along the same road serving the Golf Course, being immediately south (500 meters) of same. It consists of the Heidelberg Rod and Gun Club, a building associated with meeting and recreation and some smaller buildings serving the weapons range.

The installation is located in the water protection zone III A. It is surrounded by forested areas and is relatively flat. The site has no dedicated drainage system but its own small waste water treatment plant including a septic tank. There are no critical surface water or groundwater resources in the vicinity of the installation.





KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR *FETTABSCHEIDER*
- POL–SEPARATOR *POL–ABSCHEIDER*
- SLUDGE–TRAP *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK *TANK*
- HAZARDOUS MATERIALS (HM) *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) *BIOLOG. SONDERABFALL*
- BATTERY ROOM *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) *LAGERTANK (OBERIRDISCH)*
- UNDERGROUND STORAGE TANK (UST) *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) *DRUCKGASE*

PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

N

SCALE 1:2000

25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE62S (GYA03)
Small Arms Range

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

SUBMITTED | APPROVED | DATE

SCALE 1:2000
FILE NO GE62S01
SHEET 01 OF 01

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O. SMALL ARMS RANGE, GE 62S

APPENDIX 6-14

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-14.1 presents the current inventory of units or organizations at Small Arms Range, where POL and HS are stored. This inventory is subject to change as the installation is in the process of moving. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-14.1 but not within the following tables A-6-14.2, A-6-14.3 and A-6-14.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-14.1. Facilities/Units/Organizations Storing POL and/or HS at Small Arms Range

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
4130	ROD & GUN CLUB	Meeting House, recreation	Mr. Jordan Civil: 06202-51193
4131	ROD & GUN CLUB	HM Storage	Mr. Jordan Civil: 06202-51193

DNA = data not available
There are no areas that might have a potential for a HW/HM slug release.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-14.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-14. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-14.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-14.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-14.2. POL AND HS INFORMATION FOR SMALL ARMS RANGE FOR CRITICAL POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST, tank]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
4130	Map 1/2 #4130C-1	1xtank	Heating oil	18.5	Spills would stay inside building.	0.6	Tank is equipped with leak detection, sealed floor
4131	Map 1/2 #4130C-2	2xtanks	Heating oil	3.0	Spills would stay inside building.	0.6	Tanks are equipped with leak detection, sealed floor

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets), a tank is inside a building (normally containing heating oil for generators)

Table A-6-14.3. Spill Prevention Equipment for Small Arms Range

Location/Building Number	Containment System Type	Construction Material	Capacity
4130	1) Double walled tank 2) Building	1) Steel 2) Concrete	1) +2) NA
4131	Double walled tanks 2) Building	Steel 2) Concrete	1) + 2) NA

NA = Not applicable

Table A-6-14.4. List of Tanks at Small Army Range

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
4130	Six	18.500	Heating Oil	double	tank	1970
4131	Dehoust	1.500	Heating Oil	double	tank	1990
4131	Dehoust	1.500	Heating Oil	double	tank	1990

O. SMALL ARMS RANGE, GE 62S

APPENDIX 7-14

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan is not required for Small Arms Range because a sewer system is not present and, therefore, a slug release to a sewer system cannot occur.

P. STEM KASERNE, GE 76P

APPENDIX 5-15

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

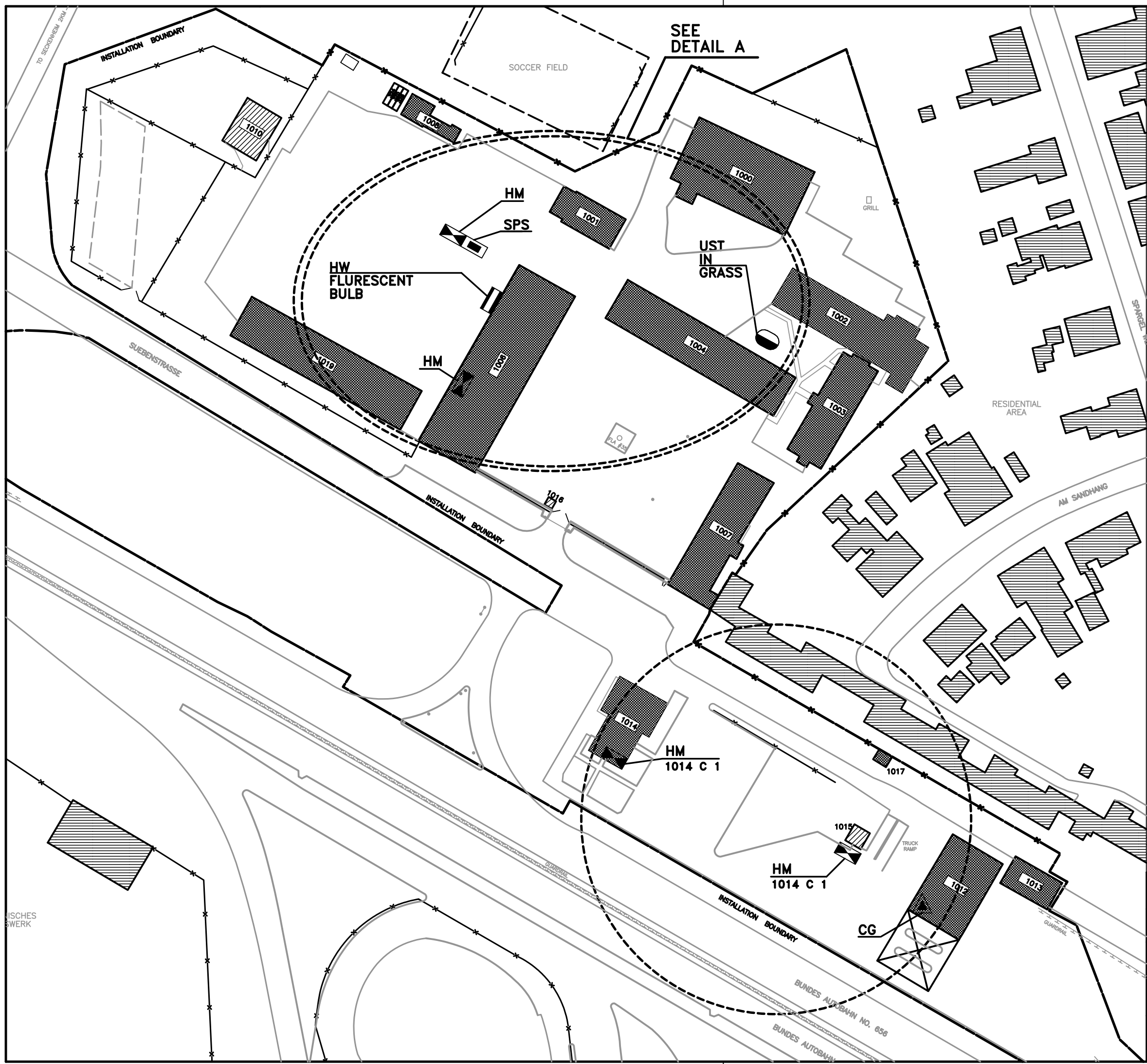
Example: 4020C-1 (only one HMSA in Building 4020)

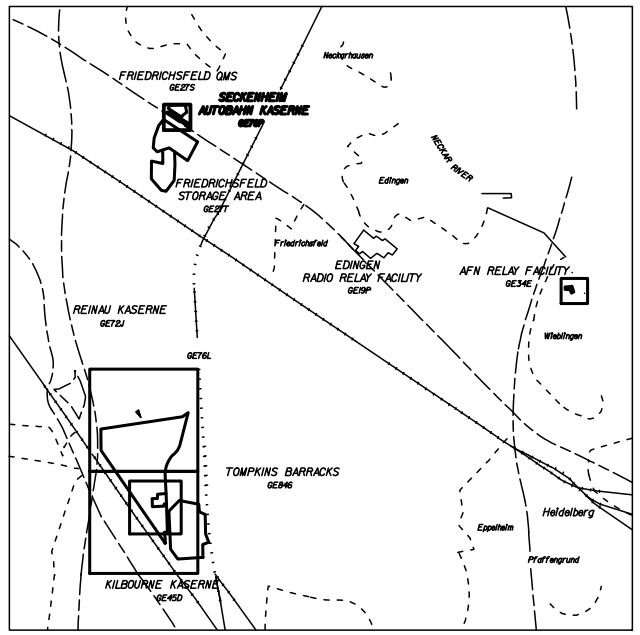
4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

General Information and Environmental Setting

This facility is located in Seckenheim along the north side of A656 and consists of eleven buildings on about 20 ha of property. Stem Kaserne is home to the 5th Military Police Detachment (CID). The kaserne is surrounded by local private housing and a recreational area.

The site is located in the water protection area III B. Stem Kaserne is relatively flat. Storm water runoff or any discharge from the site drains to the City sewer system. There are no critical surface water or groundwater resources in the vicinity of the installation. Based on topography and the installation's sewer design there is minimum potential for major contamination migration.





KEY MAP

LEGEND
LEGENDE

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PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
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N

SCALE 1:1000

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25 0 50 100 150 200 FEET

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

BUCHART HORN GmbH
FRANKFURTERSTR.21–25
65760 ESCHBORN
GERMANY

US ARMY ENGINEER DISTRICT, EUROPE
CORPS OF ENGINEERS
APO AE 09096

DESIGNED: RG
DRAWN: RG, JL
CHECKED: UOS

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE76P
Seckenheim STEM Kaserne

SUBMITTED | APPROVED | DATE

SCALE 1:1000

FILE NO: GE76P01

SHEET: 01 OF 02

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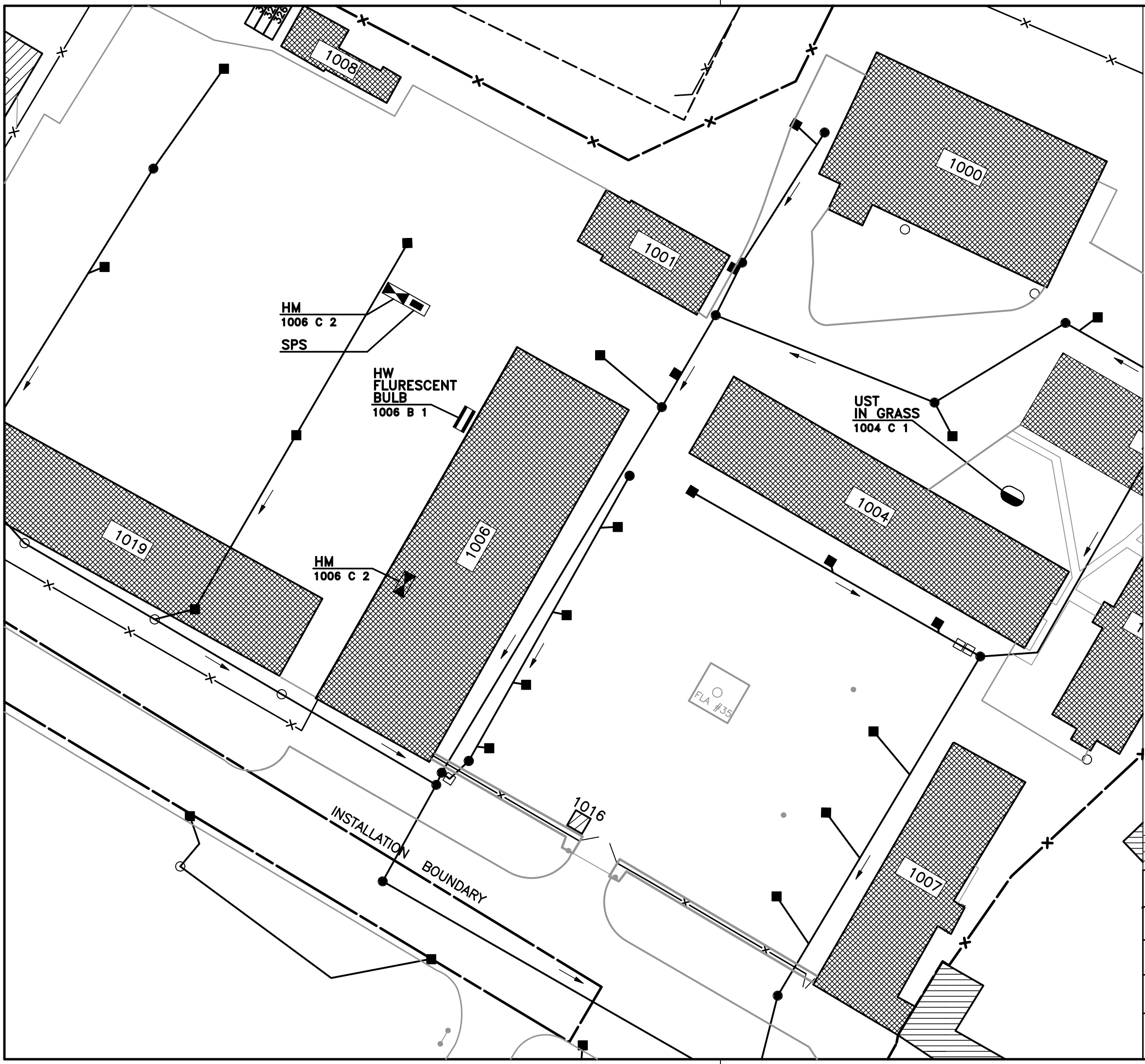

LEGEND
LEGENDE

- GREASE–SEPARATOR / *FETTABSCHEIDER*
- POL–SEPARATOR / *POL–ABSCHEIDER*
- SLUDGE–TRAP / *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) / *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK / *TANK*
- HAZARDOUS MATERIALS (HM) / *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) / *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) / *BIOLOG. SONDERABFALL*
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- DIRECTION OF FLOW — STORM MAIN / *REGENWASSERHAUPTLEITUNG*
- STORM SERVICE / *REGENWASSERANSCHLUSSLEITNG*
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- HEADWALL / *ENDE GESCHLOSSENER KANAL*
- CLEAN OUT / *REINIGUNGSOEFFNUNG*
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- OPEN DRAINAGE / *ENTWAESSERUNGSGRABEN (OFFEN)*

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Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE76P
Seckenheim STEM Kaserne
DETAIL A

DESIGNED: RG
DRAWN: RG
CHECKED: UOS

SUBMITTED | APPROVED | DATE

SCALE 1:500
FILE NO GE76P1A
SHEET 02 OF 02

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P. STEM KASERNE, GE 76P

APPENDIX 6-15

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-15.1 presents the current inventory of units or organizations at Stem Kaserne, where POL and HS are stored. This inventory must be updated annually or after any significant changes. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-15.1 but not within the following tables A-6-15.2, A-6-15.3 and A 6-15.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-15.1. Facilities/Units/Organizations Storing POL and/or HS at Stem Kaserne

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
1004	DNA	DNA	DNA
1006	DNA	DNA	Mr. Alexander Bald Civil: 0621-474146
1012	DNA	DNA	DNA
1014	AAFES-EUROPE	DNA	Mr. Dieter Rabe Civil: 0621-475076
1015	DNA	DNA	DNA

DNA = data not available

There is no area that might have a potential for a HW/HM slug release.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-15.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-15. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-15.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-15.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-15.2. POL AND HS INFORMATION FOR STEM KASERNE FOR CRITICAL POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
1004	Map 1/2 #1004C-1	1xUST	Heating oil	30.0	Manhole of UST is in unpaved ground, spill would penetrate into soil. Spill outside this area would flow to the east on paved ground	0.6	UST is equipped with leak detection, spill recovery material between bldgs. 1001 and 1006 to the west
1006	Map 1/2 #1006C-1	HM, HW	HM: flammables (paints, thinner, POL), irritant (anti-freeze), HW: fluorescent light bulbs	0.05	Spills would stay inside connex	NA	Connex with secondary containment, dry sweep, adsorbant pads,

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets)
NA= not applicable

A Spill Supply Point is between buildings 1001 and 1006.

Table A-6-15.3. Spill Prevention Equipment for Stem Kaserne

Location/Building Number	Containment System Type	Construction Material	Capacity
1004	Double walled tank	Steel	NA
1006	Connex with secondary containment	Metal	DNA

DNA = data not available
NA = Not applicable

Table A-6-15.4. List of Tanks at Stem Kaserne

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
1004	Ludwig	30.000	Heating oil	double	UST	1986

P. STEM KASERNE, GE 76P

APPENDIX 7-15

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan is not required for Stem Kaserne because there is no potential for a slug release into the sewer system.

Q. STOCKSBERG RADIO RELAY STATION, GE 80B

APPENDIX 5-16

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

Example: 4020C-1 (only one HMSA in Building 4020)

4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

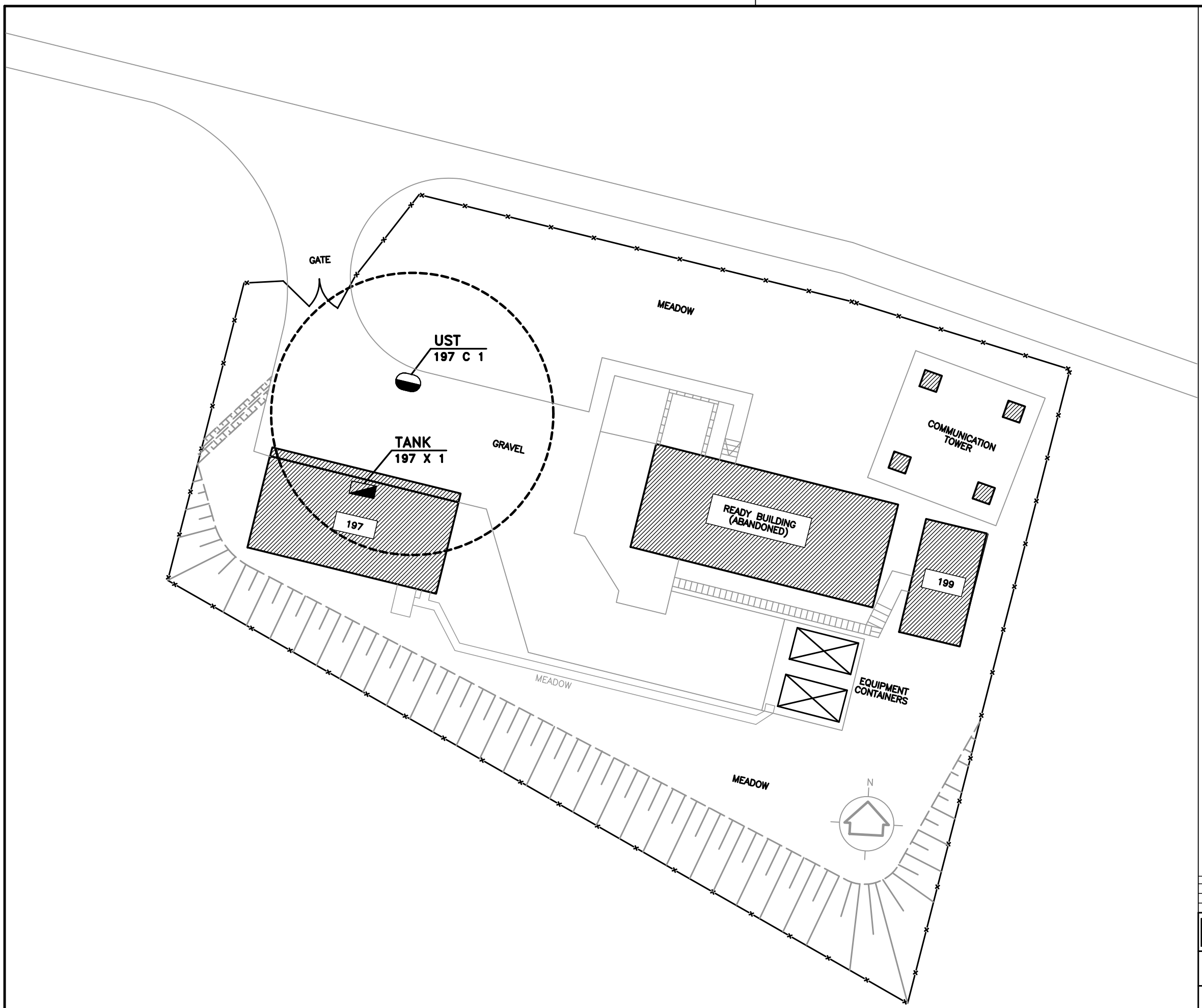
General Information and Environmental Setting

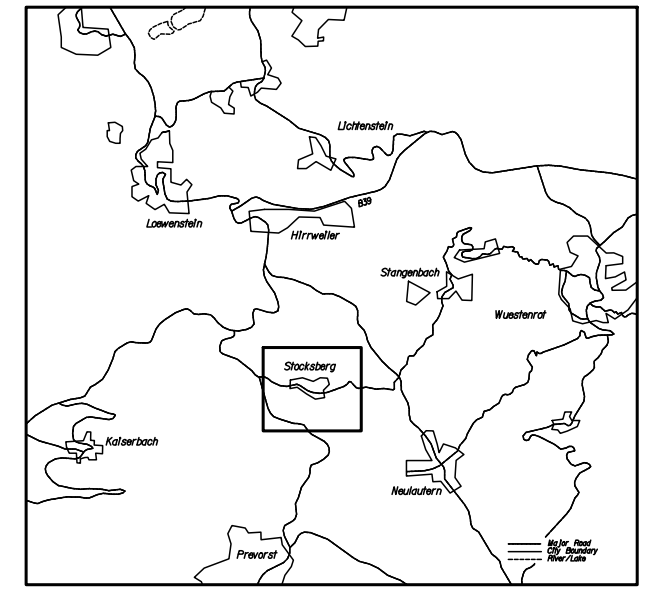
This facility consists of a radio relay station and located on a mountain peak 12 kilometers southeast of Heilbronn at 539mNN (above sea level). It consists of about 0.5 ha with three buildings and a radio antenna. It is considered a remote site and is unmanned.

There are several water protection zones (III) around this area. Sitting on a mountain peak, the area has a strong slope downhill to different directions. There is no developed drainage system, only a septic tank.

Table A-5.16 Prioritized List of Critical Water and Natural Resources

Name of prioritized Critical Water Resources and Map I.D. Number	Name of Critical Natural Resources and Map I.D. Number
Water Protection Zones III around the installation	





KEY MAP

LEGEND
LEGENDE

- GREASE–SEPARATOR
  FETTABSCHEIDER
- POL–SEPARATOR
  POL–ABSCHEIDER
- SLUDGE–TRAP
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  DRUCKGASE

PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
TOPOGRAPHY COMPILED BY MID STATES ENGINEERING, INC.
FROM NOV.,1984 PHOTOGRAPHY

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SCALE 1:2000

25 0 25 50 75 100 METERS

50 0 100 200 300 FEET

FINAL VERSION NOVEMBER 2003

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US ARMY ENGINEER DISTRICT, EUROPE
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DESIGNED: RG
DRAWN: RG
CHECKED: UOS

DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE94J
Stocksberg Radio Relay Station

SUBMITTED APPROVED DATE

SCALE 1:2000

FILE NO GE94J01

SHEET 01 OF 01

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Q. STOCKSBERG RADIO RELAY STATION, GE 80B

APPENDIX 6-16

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-16.1 presents the current inventory of units or organizations at Stem Kaserne, where POL and HS are stored. This inventory must be updated annually or after any significant changes. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-16.1 but not within the following tables A-6-16.2, A-6-16.3 and A 6-16.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-16.1. Facilities/Units/Organizations Storing POL and/or HS at Stocksberg Radio Relay Station

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
197	DNA	DNA	DNA

DNA = data not available

There is no area that might have a potential for a HW/HM slug release.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-16.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-16. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-16.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-16.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-16.2. POL AND HS INFORMATION FOR STOCKSBERG RADIO RELAY STATION

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
197	Map 1/1 #197C-2	1xUST, 1xtank	Heating oil	13.2	Manhole of UST is in unpaved ground, spill would penetrate into soil. Spill from tank would stay inside building.	0.6	UST is equipped with leak detection, sealed floor

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2)The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS.

Table A-6-16.3. Spill Prevention Equipment for Stocksberg Radio Relay Station

Location/Building Number	Containment System Type	Construction Material	Capacity
197	1) Double walled tank 2) Building	1) Steel 2) Concrete	1) NA 2) NA

NA = Not applicable

Table A-6-16.4. List of Tanks at Stocksberg Radio Relay Station

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
197	Schumacher	200	Diesel oil	double	tank	1994
197	Nau	13.000	Diesel oil	double	UST	1983
199	Ludmann	10.000	water	double	UST	1970
199	unknown	8.000	waste water	double	UST	1970

Q. STOCKSBERG RADIO RELAY STATION, GE 80B

APPENDIX 7-16

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan is not required for Stocksberg Radio Relay Station because there is no potential for a slug release into a sewer system.

R. TOMPKINS BARRACKS (GE 846)

APPENDIX 5-17

SPILL PREVENTION AND RESPONSE PLAN

MAPS AND CORRESPONDING INFORMATION

Symbols for SPRP Mapping Layer

The symbols of each HS facility are described in the legend of the map. In addition to the symbols a numbering system is used to identify single HS facilities. The numbering system for the following HS facilites is explained as follows:

Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map should be given a designation number in the following configuration:

XXXXX = HWAP ID Number. The HWAP ID No. will be the Facility No. followed by an **"A"** (identification as HWAP on the map and a number indicating the number of HWAPs in or at this building.

Example: 4218A-1 (only one HWAP in/at Building 4218)

4218A-3 (three HWAPs in/at Building 4218)

Hazardous Waste Storage Area (HWSA)

Each HWSA (includes also UST and AST containing HW) on the map should be given a designation number in the following configuration:

XXXXX = HWSA ID Number. The HWSA ID No. will be the Facility No. followed by a **"B"** (identification as HWSA on the map and a number indicating the number of HWSAs in or at this building. A tank (UST or AST) containing HW counts as one HWSA.

Example: 4021B-1 (only one HWSA in/at Building 4021)

4021B-2 (two HWSAs in/at Building 4021)

Hazardous Material Storage Area (HMSA)

Each HMSA (includes also UST and AST containing HM) on the map should be given a designation number in the following configuration:

XXXXX = HMSA ID Number. The HMSA ID No. will be the Facility No. followed by a **"C"** (identification as HMSA on the map and a number indicating the number of HMSAs in or at this building. A tank (UST or AST) containing HM counts as one HMSA

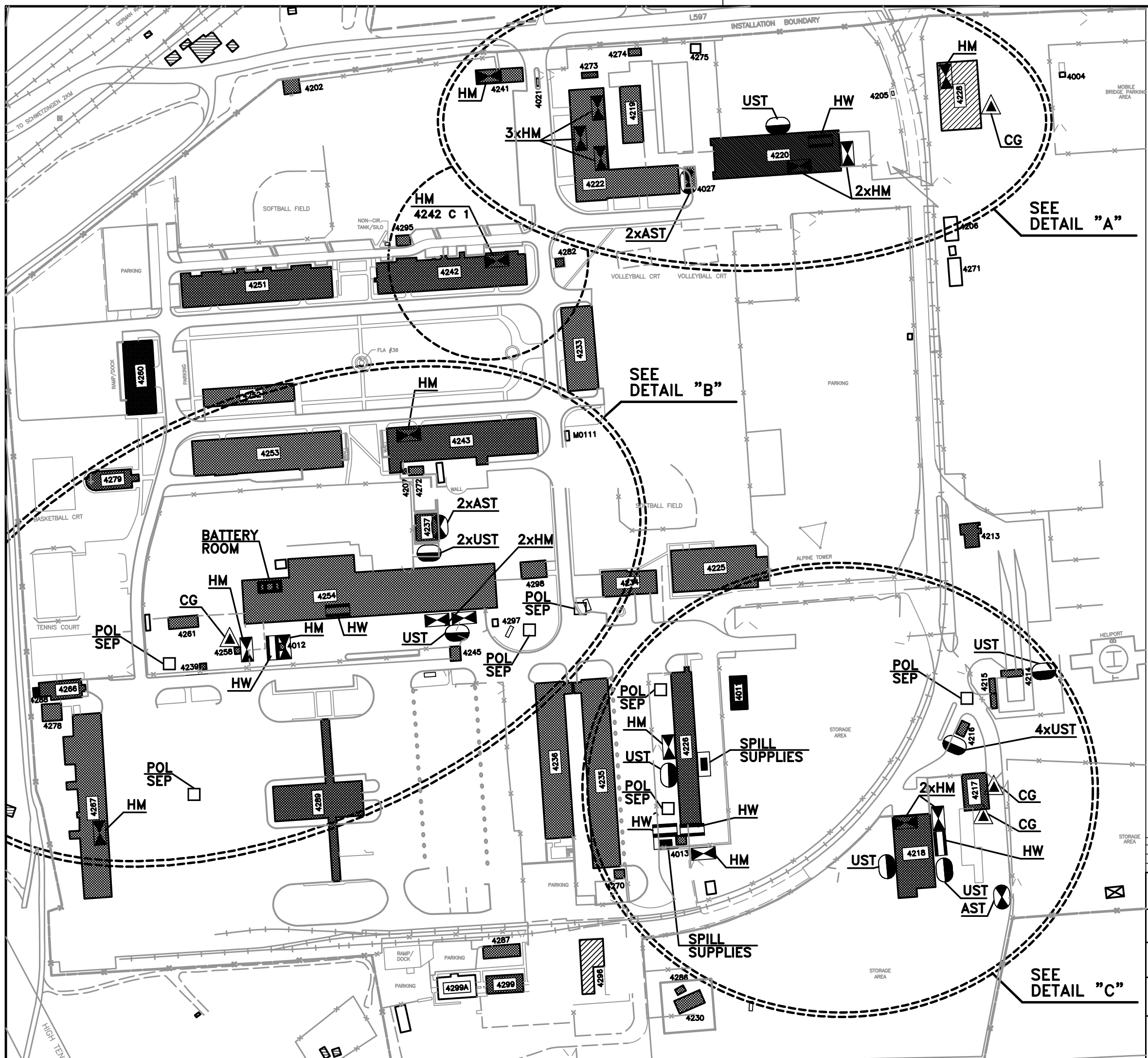
Example: 4020C-1 (only one HMSA in Building 4020)

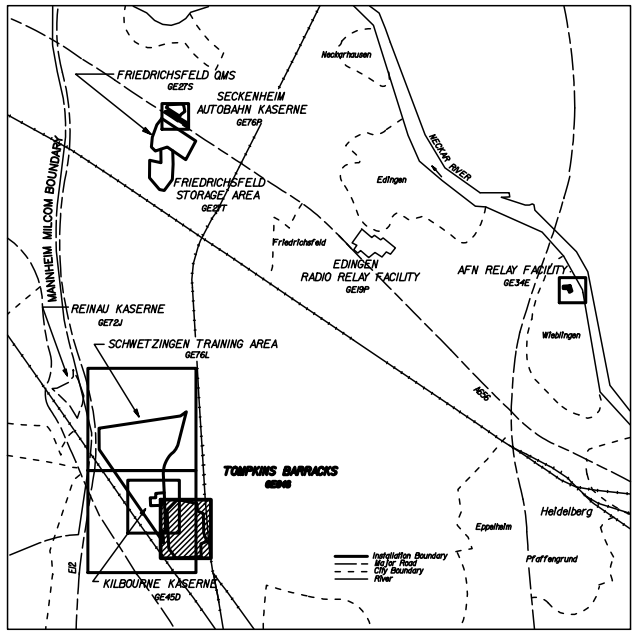
4020C-4 (four HMSAs in/at Building 4020;
(e.g. three tanks and one other HMSA)

General Information and Environmental Setting

Tompkins Barracks is located in Schwetzingen on the Friedrichsfelder Strasse in an area known as Hirschacker. It is generally surrounded by agricultural farmland and consists of about 45 ha with 24 major and about 15 minor buildings. The Kaserne consists of administrative buildings, motor pools and hardstand areas for vehicle storage. It houses the 266th Theater Finance Command, elements of 249th Eng. Bn. (Prime Power), 7th Army Reserve Command, elements of the 208th Finance Bn., USAREUR Band, and 60th Eng. Detachment (TOPO).

Tompkins Barracks is located in the water protection area III B. There are no critical surface water or groundwater resources in the vicinity of the installation. Most of the site is generally flat and drains via storm sewer to the City operated sewer. Storm water runoff or any discharge from critical areas of potential spills passes through oil-water separators prior to discharging to the sewer. Based on topography and the installation's sewer design there is minimum potential for major contamination migration.





KEY MAP

LEGEND
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- GREASE–SEPARATOR *FETTABSCHEIDER*
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PREVAILING WIND

GRID BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION
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DACA 90–00–D–0017, D.O.0012

Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG

GE846 (GY667)
Tompkins Barracks

DESIGNED: RG
DRAWN: RG/JL
CHECKED: UOS
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SCALE 1:2000
FILE NO GE84601
SHEET 01 OF 04

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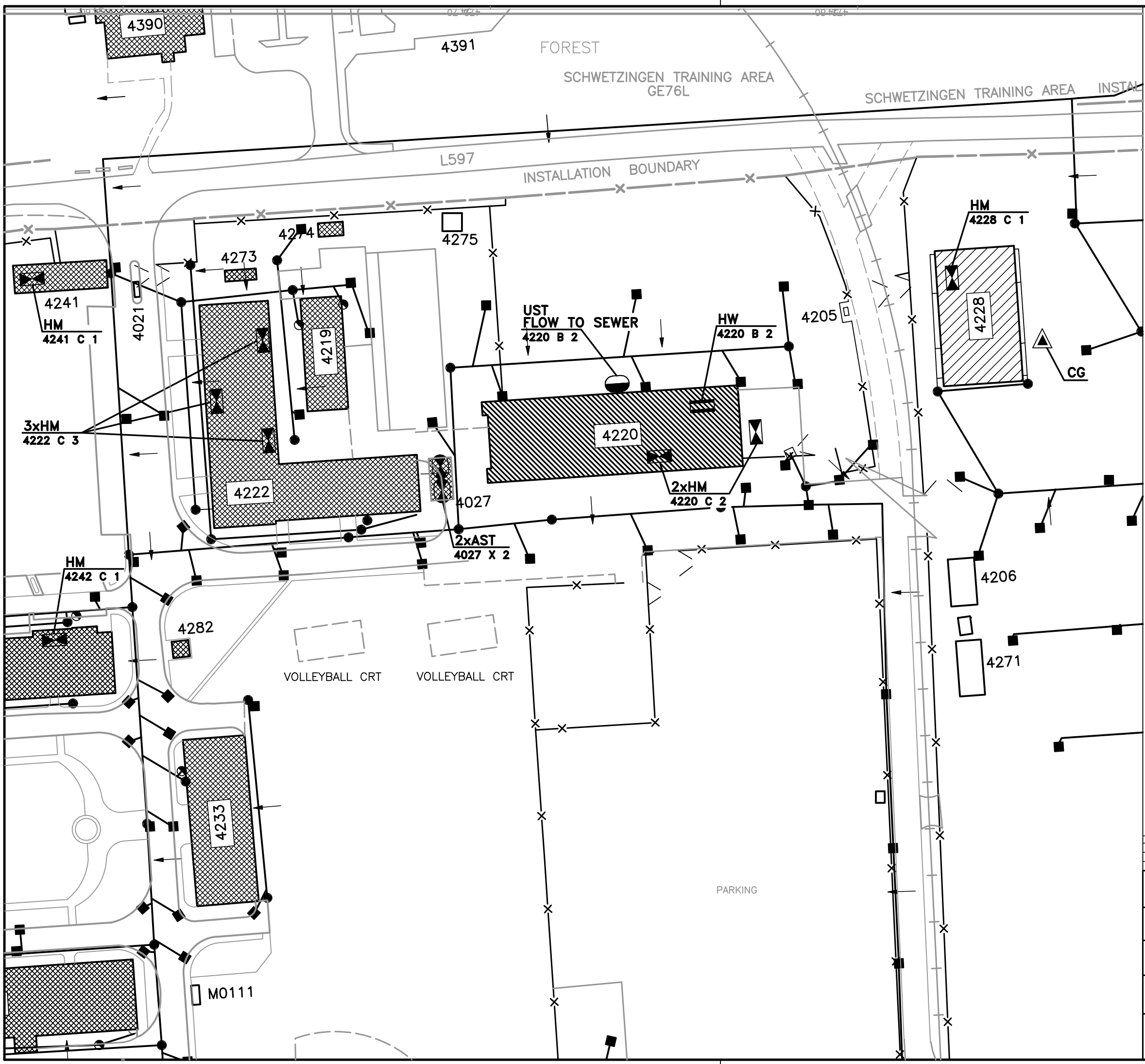

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Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE846 (GY667)
Tompkins Barracks
DETAIL A

DESIGNED: RG
DRAWN: RG, JL
CHECKED: UOS

SUBMITTED | APPROVED | DATE

SCALE 1:1000
FILE NO GE8461A
SHEET 02 OF 04

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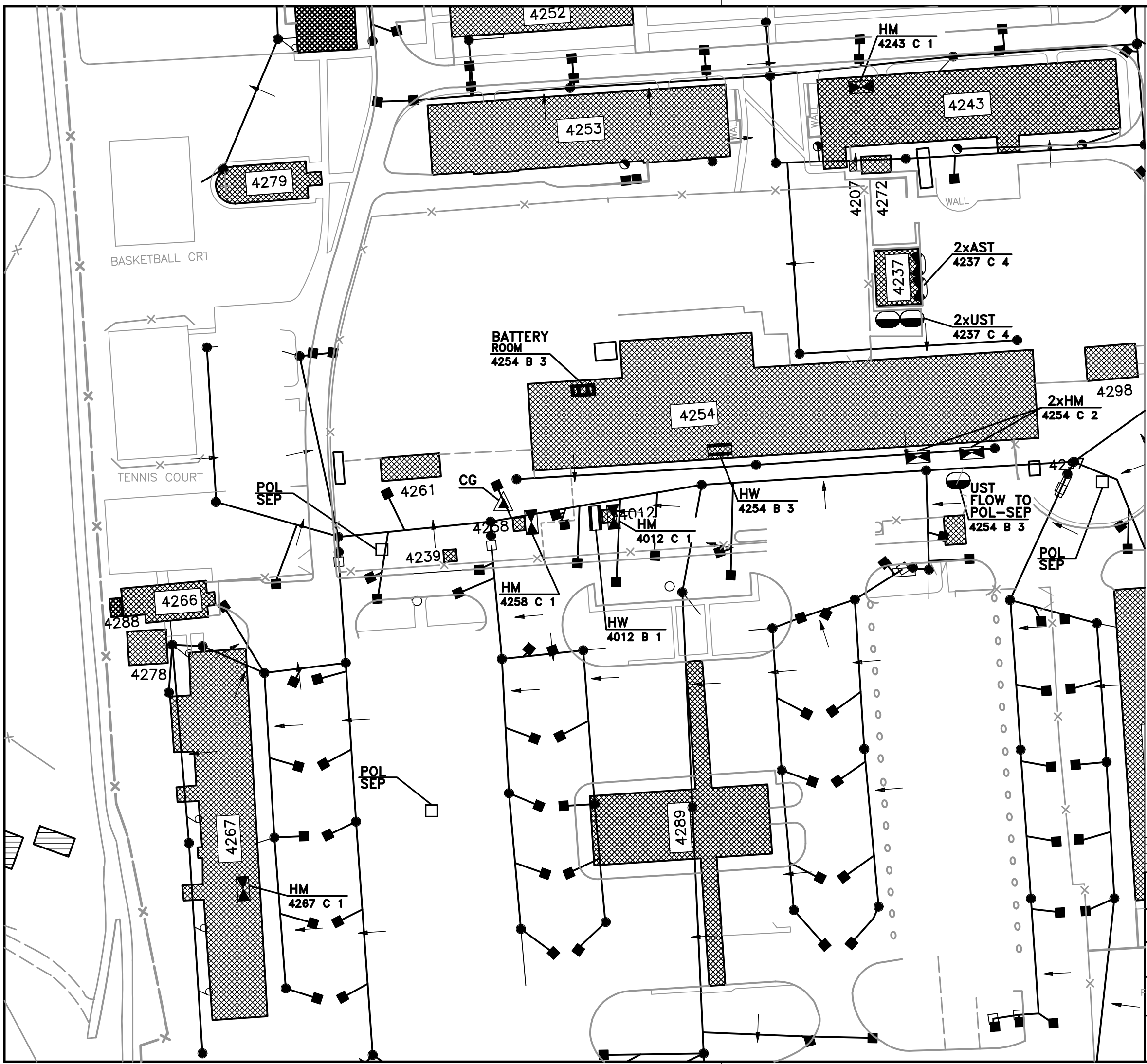

LEGEND
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APO AE 09096

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CHECKED: UOS

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Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE846 (GY667)
Tompkins Barracks

DETAIL B

SUBMITTED | APPROVED | DATE

SCALE 1:1000

FILE NO GE8461–B

SHEET 03 OF 04

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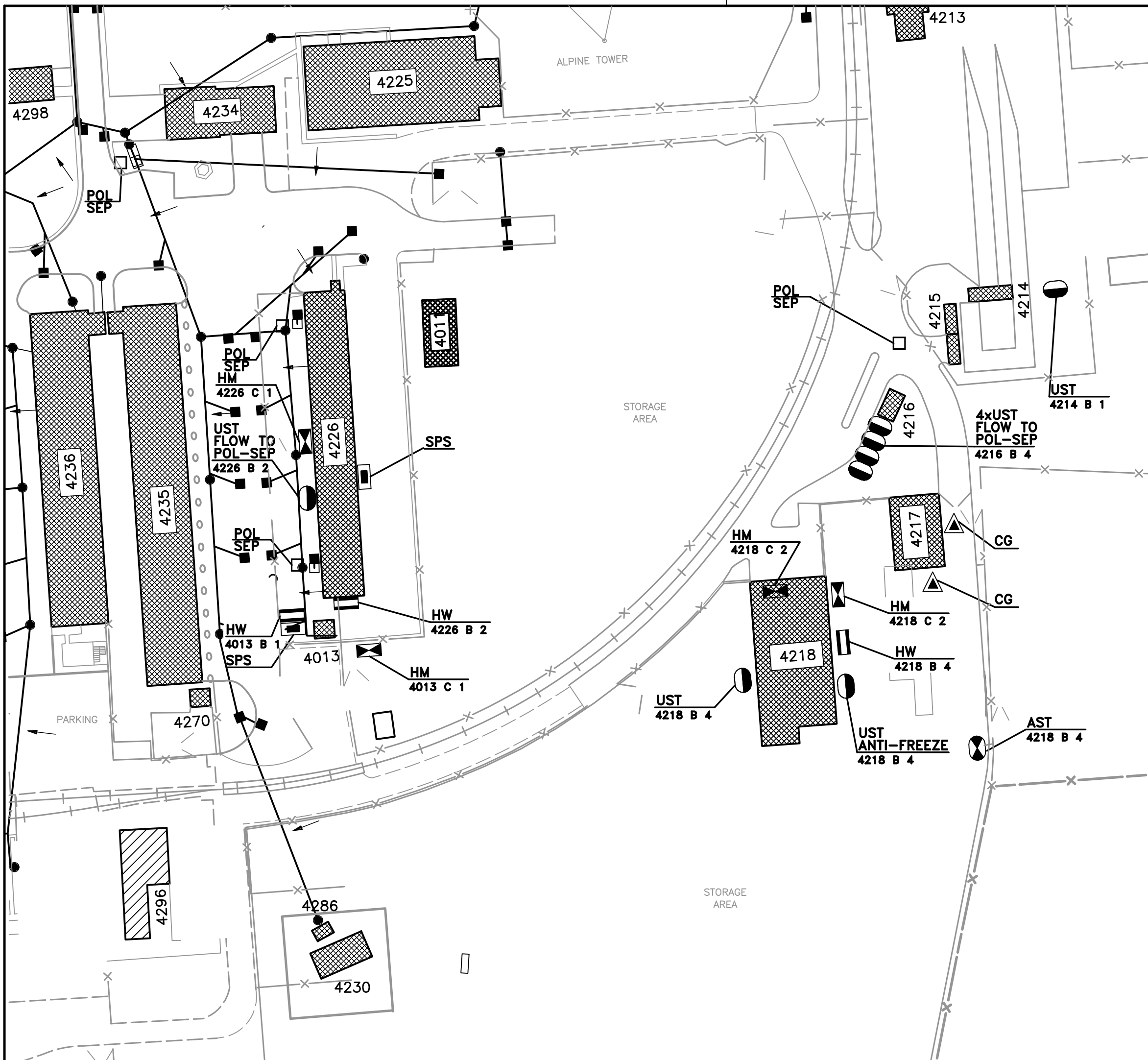

LEGEND
LEGENDE

- GREASE-SEPARATOR / *FETTABSCHEIDER*
- POL-SEPARATOR / *POL-ABSCHEIDER*
- SLUDGE-TRAP / *SCHLAMMFANG*
- SPILL SUPPLIES (SPS) / *NOTFALLSET (AUFFANGEQUIPMENT)*
- TANK / *TANK*
- HAZARDOUS MATERIALS (HM) / *GEFAHRSTOFFE*
- HAZARDOUS WASTE (HW) / *SONDERABFALL*
- BIOHAZARDOUS WASTE (BW) / *BIOLOG. SONDERABFALL*
- BATTERY ROOM / *BATTERIERAUM*
- ABOVEGROUND STORAGE TANK (AST) / *LAGERTANK (OBERIRDISCH)*
- UNDERGROUND STORAGE TANK (UST) / *LAGERTANK (UNTERIRDISCH)*
- COMPRESSED GAS (CG) / *DRUCKGASE*
- STORM MAIN (DIRECTION OF FLOW) / *REGENWASSERHAUPTLEITUNG*
- STORM SERVICE / *REGENWASSERANSCHLUSSLEITNG*
- PAVED DITCH (DIRECTION OF FLOW) / *ENTWAESSERUNGSGRABEN*
- INLET / *STRASSENEINLAUF*
- SEPARATOR / *ABSCHEIDER*
- GREASE SEPARATOR / *FETTABSCHEIDER*
- MANHOLE OR STILLING WELL / *KANALSCHACHT ODER BRUNNEN*
- LEECHING CESSPOOL / *SENKGRUBE (ABWASSER)*
- HEADWALL / *ENDE GESCHLOSSENER KANAL*
- CLEAN OUT / *REINIGUNGSOEFFNUNG*
- DRAINAGE DIVIDE / *ENTWAESSERUNGSGRENZE*
- OPEN DRAINAGE / *ENTWAESSERUNGSGRABEN (OFFEN)*

FINAL VERSION NOVEMBER 2003

REVISION	DATE	DESCRIPTION	BY	BY

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Spill Prevention and Response Plan
Slug Prevention Plan

411 BSB HEIDELBERG
GE846 (GY667)
Tompkins Barracks
DETAIL C

DESIGNED: RG
DRAWN: RG/JL
CHECKED: UOS
SUBMITTED | APPROVED | DATE
SCALE: NONE
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SHEET: 04 OF 04

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R. TOMPKINS BARRACKS (GE 846)

APPENDIX 6-17

POL AND HS INVENTORY AND

SPILL PREVENTION EQUIPMENT INVENTORY

Inventory of POL and HS Facilities

Table A-6-17.1 presents the current inventory of units or organizations at Tompkins Barracks, where POL and HS are stored. This inventory must be updated annually or after any significant changes. The inventory is maintained at the 411th BSB DPW electronic database.

Buildings shown within table A-6-17.1 but not within the following tables A-6-17.2, A-6-17.3 and A 6-17.4 are assumed to contain only minor spill relevant quantities of HS.

Table A-6-17.1. Facilities/Units/Organizations Storing POL and/or HS at Tompkins Barracks

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
4012	DNA	DNA	DNA
4013	DNA	Wash Rack Area	DNA
4214	DNA	Wash Rack Area	DNA
4216	HHC, STB MOTOR POOL.	Gas Station	SSG Charles Hickman DSN: 379-7758
4218	HHC, STB MOTOR POOL.	Vehicle Maintenance	SSG Charles Hickman DSN: 379-7758
4220	HHC, 266TH TFC, AEUFC-HC	DNA	SGT Bradford DSN: 379-6173
4222	HHC 266 FINCOM	DNA	SSG Chafey DSN: 379-5171/6477
4226	S-1	Auto Craft Center	Mr. Terell DSN : 379-6181
4228	249TH ENG BN, B CO	Vehicle Maintenance	SSG Mark Kromer DSN : 379-7739
4236	DNA	DNA	Sgt. Cenate DSN: 379-6340
4237	DNA	DNA	DNA
4241	DNA	DNA	DNA
4242	DNA	DNA	DNA
4243	DNA	DNA	DNA
4254	HHC, 7TH ARCOM	Vehicle Maintenance	PFC Alvin Anderson DSN: 379-4557 SSG Paralta

Building Number	Unit/Organization	Function or Mission	Unit Environmental Coordinator/Building Custodian/Tel. No.
4258	DNA	DNA	DNA
4267	60TH ENG DET	DNA	Mr. Albiez DSN: 379-9439

DNA = data not available

Grey highlighted means that this area might have a potential for a HW/HM slug release. These areas are cross-referenced to the Slug Plan in Appendix 7-17.

Facility/Unit/Organization-Specific Information on POL and HS

Table A-6-17.2 provides specific POL and HS information for each facility, unit, or organization. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-17. The locations are indexed by a map identification number, which is cross-referenced with the information on Table A-6-17.2.

Facility/Unit/Organization-Specific Information on Prevention Equipment

Table A-6-17.3 provides information on the prevention equipment that is available at each facility, unit, or organization.

TABLE A-6-17.2. POL AND HS INFORMATION FOR TOMPKINS BARRACKS FOR CRITICAL POTENTIAL SPILL AREAS

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
4216	Map 4/4 #4216C-4	4xUST (HM)	Flammables: JP8, Diesel Fuel	190.0	To the north on paved ground to the oil-water separator	0.6	UST is equipped with leak detection, oil-water separator, dry sweep, absorbent pads,
4218	Map 4/4 #4218B-4 #4218C-2	HWSA: 2xUSTs (HW), 1xAST (HW), HW; HMSA	Flammables: Used Oil (UST), Used Gas (AST), contaminated solvents, paints, cleaner Toxics: used cooling means (UST), Brake fluid,	11.0	To the east on paved ground	1.0	UST/AST are equipped with leak detection, dry sweep, absorbent pads, HM and HW in conne
4220	Map 2/4 #4220B-2 #4220C-2	1xUST (HW), HW, HMSA	Flammables: Used oil (UST), Toxics: anti-freeze,	5.0	To the north on paved ground	0.6	UST is equipped with leak detection, dry sweep, absorbent pads, HM in safe tank
4226	Map 4/4 #4226B-2 #4226C-1	1xUST (HW), HW, HMSA	Flammables: used oil (UST), used solvents, Toxics: antifreeze, brake fluid	5.0	To the south on paved ground to the oil-water separator	0.6	UST is equipped with leak detection dry sweep, absorbent pads, HM and HW (partly) in safe tank; Spill Supply station at building

Storage/Use Location/Building Number	Map I.D. Number	Type of facility [HMSA, HW, HWSA [3], UST, AST]	General Types of HM or HW	Approximate Quantity [tons]	Predicted Spill [1] Flow Direction	Predicted[(1)] Spill Flow Rate [tons/hr]	Available Emergency Response Equipment [(2)]
4237	Map 3/4 #4237C-4	2xUSTs, 2xTanks (i.B.)	Flammables: Diesel Oil	42.0	To the east on paved ground ; oil-water separator in about 200 meters distance to the south	0.6	UST is equipped with leak detection, dry sweep, absorbent pads,
4254	Map 3/4 #4254B-2 #4254C-3	1xUST (HW), HW, HMSA	Flammables: used oil (UST), POL Corrosives: batteries	5.0	For the UST: to the east on paved ground to the oil-water separator	0.6	UST is equipped with leak detection, dry sweep, absorbent pads, HM in safe tanks, HW in bldg.

Key:
(1) If there were a major failure and all of the approximate quantity of material listed were released. Assume an 1-hour spill duration. For UST's or AST's assume that a spill would happen 3 minutes with a flow rate of about 200 liters/minute
(2) A detailed physical description of countermeasures for diversion and containment of spills, including structures and emergency equipment and an outline of the equipment capabilities. The BSB Fire Department has an electronic database indicating the existing fire extinguishing systems at the different buildings. Telephones are available at all listed buildings.
(3) HMSA, HWSA, or HW means drums, bins or other containers as well as AST or UST containing HS. (If content of tank is known the type is indicated in brackets)
i.B. = in building

A Spill Supply and Emergency Equipment Recovery Point is at Building 4012.

Table A-6-17.3. Spill Prevention Equipment for Tompkins Barracks

Location/Building Number	Containment System Type	Construction Material	Capacity
4012	DNA		
4013	DNA		
4214	Double walled tank	Steel	NA
4216	Double walled tanks	Steel	NA
4218	Double walled tanks	Steel	NA
4220	Double walled tank	Steel	NA
4222	Building Floor	Concrete	NA
4226	Double walled tank	Steel	NA
4228			
4236	Double walled tank	Steel	NA
4237	a) Two double walled tanks b) building floor (for tanks in building)	a) Steel b) concrete	a) NA b) NA
4241	Building Floor	Concrete	NA
4242	Building Floor	Concrete	NA
4243	Building Floor	Concrete	NA
4254	Double walled tank	Steel	NA
4258	DNA		
4267	Building Floor	Concrete	NA

DNA = data not available
NA = Not applicable

Table A-6-17.4. List of Tanks at Tompkins Barracks

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
4214	Nau	5.000	Used Oil	double	UST	1987
4216	Nau	60.000	JP8	double	UST	1986
4216	Nau	60.000	JP8	double	UST	1986
4216	Nau	60.000	Gasoline	double	UST	1986
4216	Nau	10.000	Gasoline	double	UST	1986
4218	Rietberg	5.000	Used gas	double	AST	1991
4218	Nau	3.000	used anti-freeze	double	UST	1986
4218	Nau	3.000	Used Oil	double	UST	1986
4220	Ludwig	5.000	Used Oil	double	UST	1997
4226	Nau	5.000	Used Oil	double	UST	1983
4236	Rietberg	250	Used Oil	double	AST	1991

BLDG	Manufacturer	Volume (liter)	Medium	wall	Location	year of construction
4237	Dehoust	20.000	Diesel Oil	double	UST	1986
4237	Dehoust	20.000	Diesel Oil	double	UST	1990
4237	Ludwig	1.000	Diesel Oil	double	tank	1994
4237	Adam	1.000	Diesel Oil	double	tank	1994
4254	Dehoust	5.000	used oil	double	UST	1990

R. TOMPKINS BARRACKS (GE 846)

APPENDIX 7-17

SLUG PREVENTION PLAN

INTRODUCTION

A Slug Prevention Plan has been prepared and implemented by the 411th BSB Heidelberg. This Slug Plan has been prepared to:

19. Identify areas where petroleum, oil and lubricants (POL) and /or hazardous substances (HS) may be released at one time in a volume and/or concentration (i.e., "slug") that negatively impacts the ability of the receiving wastewater treatment plant(s) to operate within normal parameters;

20. Identify response procedures to be implemented by personnel after a slug release; and

21. Identify resources available on- and off-site to respond to a slug release.

This plan contains the following elements as required by FGS Chapter 4:

- Section 1.0 – Description of discharge practices, including non-routine batch discharges (FGS Section C4.3.2.1.7.1);
- Section 2.0 – Description of stored chemicals (FGS Section C4.3.2.1.7.2);
- Section 3.0 – Plan for immediately notifying the domestic wastewater treatment system (DWTS) of slug discharges and discharges that would violate prohibitions under this section, including procedures for subsequent written notification within five days (FGS Section C4.3.2.1.7.3);
- Section 4.0 – Necessary practices to prevent accidental spills. This include proper inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of facility site runoff, and worker training (FGS Section C4.3.2.1.7.4);
- Section 5.0 – Proper procedures for building containment structures or equipment (FGS Section C4.3.2.1.7.5);
- Section 6.0 – Necessary measures to control toxic organic pollutants and solvents (FGS Section C4.3.2.1.7.6); and
- Section 7.0 – Proper procedures and equipment for emergency response, and any subsequent plans necessary to limit damage suffered by the treatment facility or the environment (FGS Section C4.3.2.1.7.7).

This plan has been prepared as an appendix to the 411th BSB Heidelberg SPRP. Portions of this plan reference information contained in the SPRP. The office with primary responsibility for maintenance and implementation of this plan is the Department for Public Works, Environmental Management Office.

1.0 DRAINAGE SYSTEM AND DISCHARGE PRACTICES

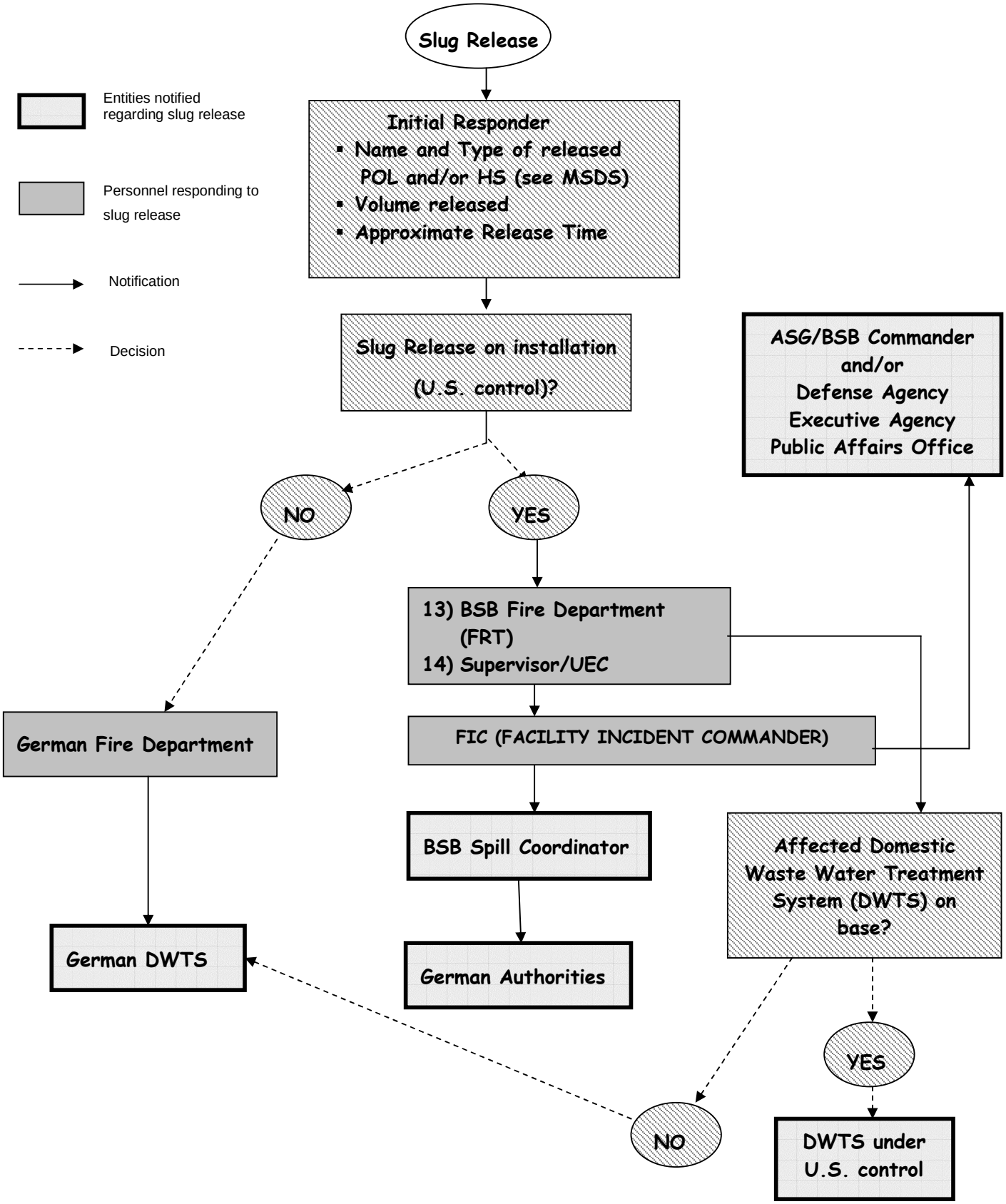
Most of the site is generally flat and drains via storm sewer to the City operated sewer. Storm water runoff or any discharge from critical areas of potential spills passes through oil-water separators prior to discharging to the sewer.

2.0 SLUG POTENTIAL INVENTORY

Table A-6-17.1 provides specific information for each facility, unit, or organization to identify the locations on the installation that have the potential to release a POL and/or HS slug into the sanitary sewer system. Those facilities, units, or organization with the potential of a POL and/or HS slug release are highlighted. The locations where POL and/or HS are stored or managed at each facility, unit, or organization are shown on the maps in Appendix 5-17.
A description of the stored POL and/or HS is provided in Table A-6-17.2.

3.0 NOTIFICATION OF A SLUG RELEASE

If a slug of POL and/or HS enters the sanitary sewer system, the following actions should be initiated as soon as practicable:



The following personnel and organizations are POCs which (may) need to be contacted in the event of a slug release at Tompkins Barracks:

Table A-7-17.1 POCs for Slug Release at Tompkins Barracks

Position/Title	Name of Individual	Organization/ Mailing Address	Telephone No. (Work)	Telephone No. (Mobile)
Supervisor Installation	DNA	DNA	DNA	
Unit Environmental Coordinator (UEC)	See names in grey highlighted lines in Table A-6-1.1			
BSB Spill Coordinator	Daniel Welch	BSB DPW Environmental Management Office Czernyring 13 69115 Heidelberg	DSN: 387-3140 Civil: 06221-4380-3140	0175-7421527
BSB or Installation Fire Department	Lothar Eckrich	BSB Fire Department	**117**	
DPW Utilities	Bernhard Willnauer	BSB DPW Maintenance Branch Czernyring 13 69115 Heidelberg	DSN: 387-3213 Civil: 06221-4380-3213	0175-7241408
German Fire Department	NA	Fire Department Heidelberg	**112**	NA
Domestic Wastewater Treatment Plant receiving waste water from Tompkins Barracks	Herr Raepple	Abwasserverband Schwetzingen	Civil: 06202-6777/-6778	NA
German Authorities (Amt für Umweltschutz)	Dr. Hans-Wolf Zirkwitz	Kornmarkt 1 Heidelberg	Civil: 06221-58-18 00	NA

DNA = data not available

4.0 SLUG RELEASE PREVENTION, CONTROL, AND RESPONSE

Chapter 2 and Appendix 6-17 provide general information on prevention structures and equipment for all types of spills of POL and/or HS. Table A-6-17.3 lists the detailed prevention equipment and Table A-6-17.2 provides the available emergency response equipment at the facility, unit, or organizations handling or storing POL and/or HS. Table-A-7-17.3 provides information on emergency response equipment available for slug releases of POL and HS that can cause damage to domestic wastewater treatment systems (DWTS).

5.0 BUILDING CONTAINMENT STRUCTURES AND EQUIPMENT

This section includes a general description of the types of building containment structures and equipment that are typically used at Tompkins Barracks.

5.1 Building Containment

Building containment construction materials include poured concrete walls, concrete block walls, concrete containment curbs, containment sumps, and trenches. Containment equipment consists of absorbent materials, booms and other barriers or preventive systems. The materials used must be compatible with the released material and sufficiently impervious to contain the spilled material. Containments must also comply with the applicable standards for volume, and precipitation volume.

Containment sumps are tanks and pits that collect gravity drainage and are emptied by gravity or pumped flow. Generally, they consist of a collection tank, level detector, pump, and level-actuated pump control to empty the contents of the receiving tank. Sumps are used in many locations to collect wastewaters for transport to storage or treatment systems. Sumps are used as full or partial containments as appropriate.

Additional operational and maintenance issues that are considered in the design of containments include structural strength and integrity, traffic of equipment and vehicles, leaks from penetration through walls and floors, and leaks from expansion and contraction at joints. Concrete block structures may leak at the joints between blocks, and are subject to damage from the expansion of water that penetrates into the block. Pits and trenches must be properly cleaned to maintain flow and capacity, and grates and covers must be maintained to prevent pedestrian hazards.

5.2 Diversionary Structures

Where containments are not practical, diversions are used to direct drainage as needed. Drainage controls are needed to direct spilled materials to a retention basin, or direct storm water from equipment storage areas. The diverted materials are often diverted through an oil water separator. Diversions can include curbs, trenches, catch basins, or retention ponds that are used to redirect or retain spilled materials. Provisions to return spilled materials to the source facility should be provided where practical.

5.3 Separator Systems

There are several different types of separator systems used at the Tompkins Barracks. For slug releases of POL, oil-water separators are the most effective interceptor systems for slug releases of POL currently in place. Oil-water separators rely on the difference in density between water and POLs, which are generally less dense than water. Oil-water separators are typically rectangular boxes with internal baffles or weirs that operate on a flow-through basis. Free oil, water, and entrained oil droplets are directed to a quiescent compartment that collects oil on top and allows clean water underflow. Emulsified oils may not be separated. Designs may take the form of API separators, plate separators, and multi-stage separators. The operation of oil-water separators requires frequent inspection and maintenance, since the accumulation of oil and sludge can result in the undesired discharge of oil. Oil-water separators should be used as required to prevent the discharge of containment, equipment washdown, tank cleaning, or other oily wastewaters. No cleaning agents are used during cleaning with the high-pressure cleaning equipment. The operating parameters of this cleaning equipment have to be below 60℃ and 60 bar to avoid the generation of stabile emulsions that cannot be separated by an oil-water separator.

It should be noted that transformer fluids and other synthetic oils might not separate from water. In addition, may other commonly used hazardous substances (such as solvents and pesticides) will not be intercepted in an oil/water separator.

Table A-7-17.2 lists the different types of separators used at the Tompkins Barracks.

Table A-7-17.2 Separator Systems at the Tompkins Barracks

Bldg. #	Location	Structure of Separator
4216	West of building	POL Separator (NS 30)
4220	North of building	POL Separator (NS 3)
4226	Both south of the building	Two POL Separators (NS 3)
4234	Southeast of building	POL Separator (NS 50)
4261	East of building	POL Separator NS 3)
4267	About 50 meters north of building	POL Separator (NS 30)
4270	North of building	Pre-Separator (volume:10,000 m^3)
4297	North of building	Two POL Separators (NS 80)

NS: nominal size

6.0 MEASURES TO CONTROL TOXIC ORGANIC POLLUTANTS AND SOLVENTS

The following measures need to be followed when handling or storing toxic organic pollutants and solvents:

- Storage areas for organic toxic pollutants and solvents must be well lit. Lights must not heat the stored materials, and must be at least 0.5 meters from toxic organic pollutants
- Smoking, open flames, and fires are not permitted in areas where toxic organic pollutants or solvents are stored or handled
- Toxic organic pollutants can not be stored together with flammable materials if they are not separated from each other by e.g., an adequate secondary containment
- Toxic organic pollutants and solvents must be kept in closed packages or containers that do not leak
- Areas where toxic organic pollutants and solvents are stored or handled must be leak proof

7.0 EQUIPMENT FOR EMERGENCY RESPONSE AND SUBSEQUENT PLANS

Table A-7-17.3 provides information on equipment available at Tompkins Barracks for emergency response in case of a POL and/or HS slug release that could potentially cause damage at the Domestic Waste Water Treatment Systems (DWTS).

Table A-7-17.3 Equipment for Emergency Response to Slug Discharges

Facility/Organization/Unit at which Emergency Response Equipment is available	Emergency Response Equipment
Bldgs. 4216, 4220, 4226, 4234, 4261, 4267, 4297	POL Separators
North of building 4270	Pre-Separator (volume:10,000 m^3)
BSB Fire Department	Inflatable bladders