

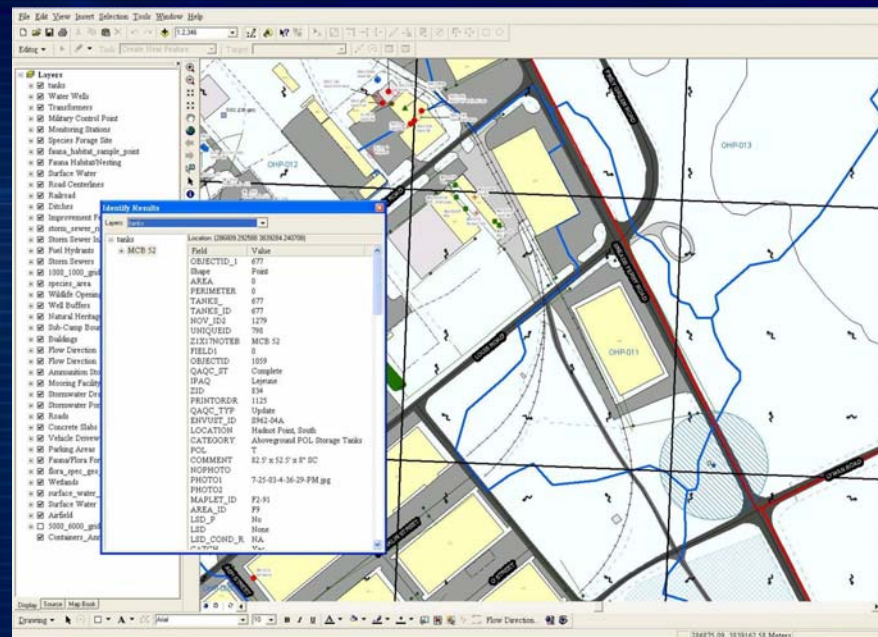
# Innovative Update of ICP/SPCC Plans

## MCB Camp Lejeune/MCAS New River, NC



Rather than being a once-every-five-years burden, keeping the Integrated Contingency Plans/Spill Prevention, Control, and Countermeasure Plans for two Marine Corps bases up to date is now a more efficient and streamlined process thanks to EnSafe Inc.'s innovative approach — using Geographic Information System tools. The Marine Corps also will save money on future plan maintenance and regulatory submittals.

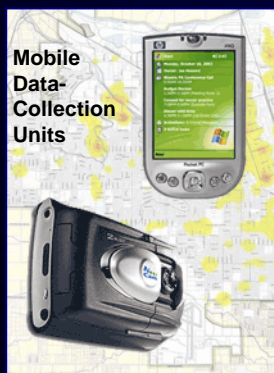
EnSafe used automated data-gathering tools to expand Camp Lejeune's GIS database to capture all required information. This dynamic database can now be easily updated as changes occur at the active bases. Updated data, maps, and other key information are immediately available to all users.



GIS Interface with a Portion of Database Attributes Displayed for One Container

Container ID	Product	Capacity	Location	Status	Inspection Date	Inspection Type	Notes
100-100	Gasoline	5000	Area 1	Active	2008-10-15	Annual	Good condition
100-101	Gasoline	5000	Area 1	Active	2008-10-15	Annual	Good condition
100-102	Gasoline	5000	Area 1	Active	2008-10-15	Annual	Good condition
100-103	Gasoline	5000	Area 1	Active	2008-10-15	Annual	Good condition
100-104	Gasoline	5000	Area 1	Active	2008-10-15	Annual	Good condition
100-105	Gasoline	5000	Area 1	Active	2008-10-15	Annual	Good condition
100-106	Gasoline	5000	Area 1	Active	2008-10-15	Annual	Good condition
100-107	Gasoline	5000	Area 1	Active	2008-10-15	Annual	Good condition
100-108	Gasoline	5000	Area 1	Active	2008-10-15	Annual	Good condition
100-109	Gasoline	5000	Area 1	Active	2008-10-15	Annual	Good condition
100-110	Gasoline	5000	Area 1	Active	2008-10-15	Annual	Good condition

Data Table, and Photo Page





# Funding Sources



US Army Corps of Engineers  
MOBILE DISTRICT

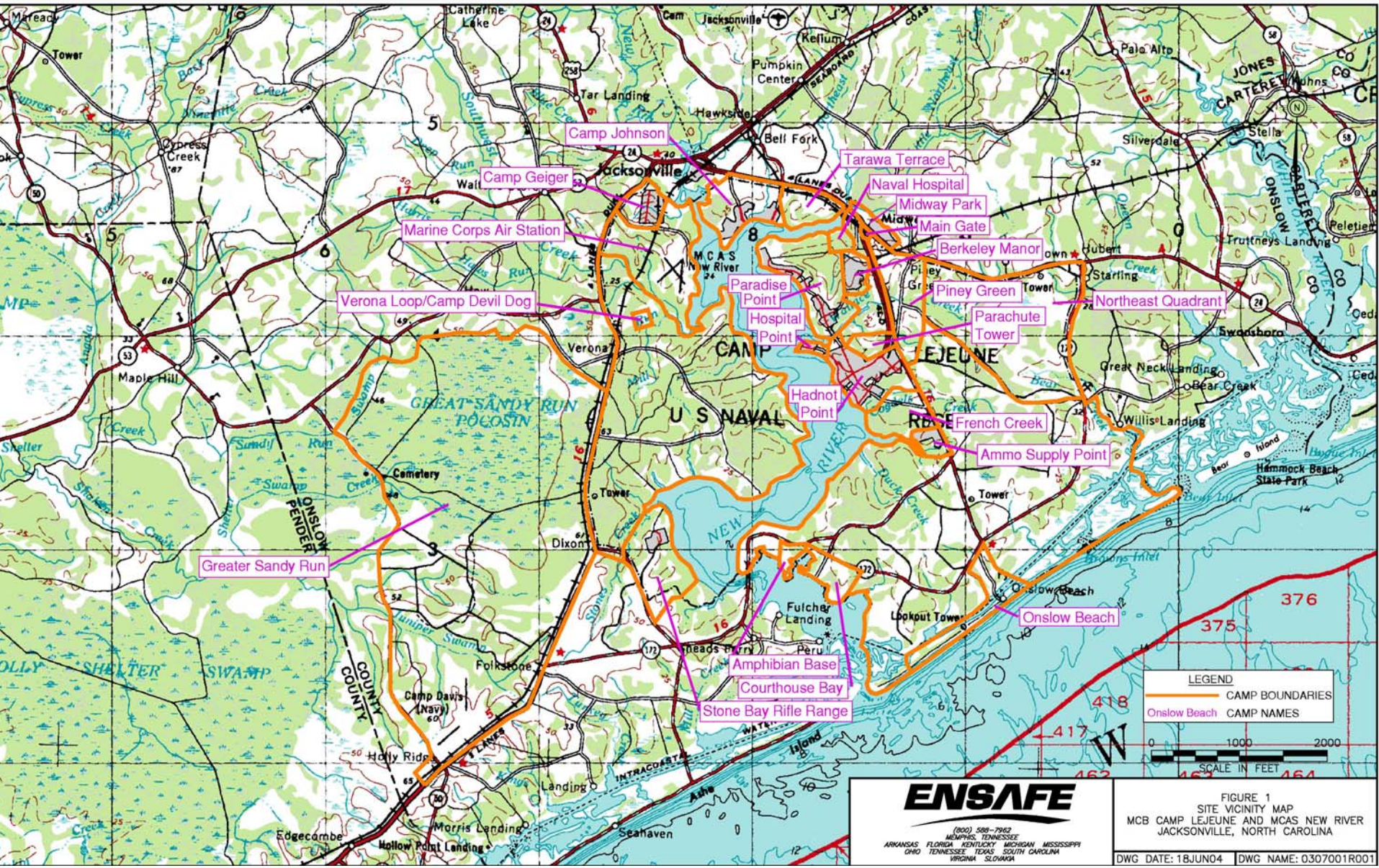
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Camp Johnson

Camp Geiger

Marine Corps Air Station

Verona Loop/Camp Devil Dog

Greater Sandy Run

Tarawa Terrace

Naval Hospital

Midway Park

Main Gate

Berkeley Manor

Piney Green

Parachute Tower

Northeast Quadrant

Paradise Point

Hospital Point

Hadnot Point

French Creek

Ammo Supply Point

Onslow Beach

Amphibian Base

Courthouse Bay

Stone Bay Rifle Range

LEGEND  
CAMP BOUNDARIES  
Onslow Beach CAMP NAMES

SCALE IN FEET  
0 1000 2000

**ENSAFE**  
(800) 588-7963  
MEMPHIS, TENNESSEE  
ARKANSAS FLORIDA KENTUCKY MICHIGAN MISSISSIPPI  
OHIO TENNESSEE TEXAS SOUTH CAROLINA  
VIRGINIA SLOVAKIA

**FIGURE 1**  
SITE VICINITY MAP  
MCB CAMP LEJEUNE AND MCAS NEW RIVER  
JACKSONVILLE, NORTH CAROLINA  
DWG DATE: 18JUN04 | DWG NAME: 0307001R001

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# MCB CAMP LEJEUNE MCAS NEW RIVER



Emergency Response Core Plan (Core Plan)

Integrated Contingency Plan (ICP)

Spill Prevention, Control, and  
Countermeasure (SPCC) Plan

# Innovative Update of ICP/SPCC Plans

MCB Camp Lejeune/MCAS New River, NC



## Project Scope

The project itself consisted of updating the Integrated Contingency Plans (ICPs)/Spill Prevention, Control, and Countermeasure (SPCC) Plans for MCB Camp Lejeune and MCAS New River in North Carolina.

Ensafe was required to update records on nearly 2,000 petroleum, oil, and lubricant and hazardous material/waste sites spread out over 239 square miles. Fixed and mobile/portable containers exceeding a 55-gallon capacity were to be examined, including tanks, drums, transformers, transfer stations, oil-water separators, tanks for generators, etc.

Sample Site: AS4114-02A





# Introduction

The Emergency Response Core Plan contains guidelines to be followed upon discovery and initial response to fires, explosions, and spills of petroleum, oil, lubricants (POL), and hazardous materials.

## "BIG PICTURE"



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# Introduction

The Integrated Contingency Plan (ICP) contains details of emergency notification procedures and authority, response planning, logistics, training, and available equipment.

## “Site Specific”



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# SPCC Rules



- Amend plan by 18 Aug 03
- Implement plan by 18 Feb 04
- Containers  $\geq$  55-gal.
- Petroleum and vegetable oils
- Oil-water separators
- Loading/unloading areas/racks
- Drainage prevention booms and sluice gates



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# Annex 7: SPCC Plan Drawings and Container Inventory



- Facility drawing – ID location and contents
  - SPCC Plan regulatory requirement
  - Tool for planning
  - Tool for emergency response
- Container inventory
  - SPCC Plan regulatory requirement
  - Tool for planning
  - Tool for emergency response
- Photos
  - NOT an SPCC Plan regulatory requirement
  - Tool for planning
  - Tool for emergency response





# Traditional SPCC Data Collection



## ▪ Field Work

- Notepad
- Data Entry Forms
- Camera
- Paper Map
  - "Eyeball" Location



## ▪ Office Work

- Manual Data Entry
- Picture Scanning and Matching
- Digitize Locations in AutoCAD
- QA/QC



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TANK ID:	
General	
Building No./Name:	
Tank Type/Color/Condition:	
Capacity:	
Fuel Type/Fuel Markings:	
Tank Material/Compatibility:	
Year Installed:	
Foundation Type/Condition:	
Surrounding Surfaces:	
Subject to Flood/Washout:	
Corrosion Protection:	
Storm Water Drainage Basin:	
Photograph No.:	
Secondary Containment	
Type/Condition:	
Lining/Condition:	
Dimensions:	
Estimated Capacity:	
Drain Valve Type/Condition:	
Drain Valve Manual/Lockable:	



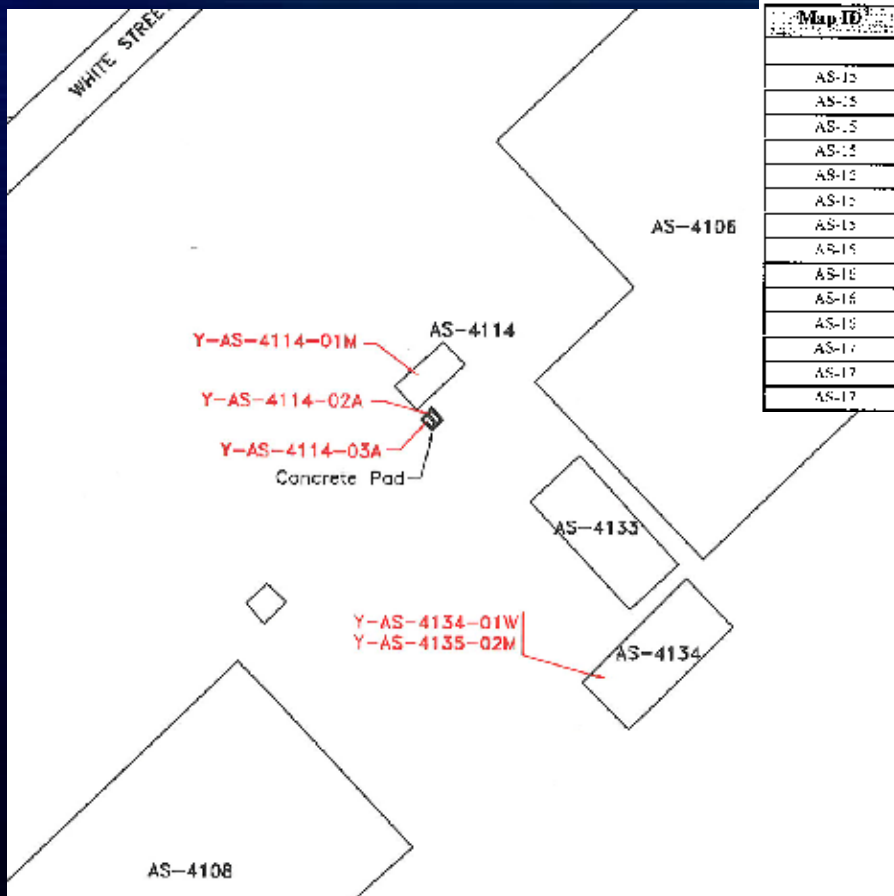


<b>TANK ID:</b>	
<b>Overfill/Spill/Leak</b>	
Overfill Prevention/Condition:	
Catchment Basin/Condition:	
Level Gauge/Condition:	
Other Fail-safe Engineering:	
<b>Piping</b>	
Pipe Material/Piping Exposure/Condition:	
Single Wall (SW) or Double Wall (DW)	
Piping Support Design/Condition:	
Vehicle Protection:	
Not-in-Service Piping / Capped:	
<b>Lighting/Security</b>	
Lighting Adequate:	
Fencing/Gates Locked:	
Master Flow/Drain Valves Locked:	
Oil Pump Starter Locked/Secured:	
<b>Spill Potential</b>	
Potential to reach navigable waters (low, moderate, high):	
Spill (direction/distance/receptor):	



# Innovative Update of ICP/SPCC Plans

MCB Camp Lejeune/MCAS New River, NC



BASEWIDE TANK INVENTORY					
Map ID	Site ID	Material	Type	Capacity (gal)	Comments
<b>Air Station/Verona Loop Storage Tanks (Cont'd)</b>					
AS-12	Y-AS-4158-02A	Uncrown	AST-S	250	
AS-15	Y-AS-4158-04A	Card Antifreeze	AST-S	250	
AS-15	Y-AS-4158-05A	Card Antifreeze	AST-S	250	
AS-12	Y-AS-4158-03W	Hazwaste	Drum/Containers-S	181	
AS-12	Y-AS-4159-02A	Diesel	AST-S	4000	
AS-11	Y-AS-4159-03A	Diesel	AST-S	4000	
AS-13	Y-AS-4159-01A	JP-5	AST-S	890	
AS-15	Y-AS-4158-04M	Hazmat	Drum/Containers-S	11,193	
AS-16	Y-AS-4155-01U	Gasoline	UST-S	1000	
AS-16	Y-AS-4155-02U	Diesel	UST-S	1000	
AS-19	Y-AS-4155-03U	Used Oil	UST-S	500	
AS-17	Y-AS-4114-02A	Used Oil	AST-S	500	
AS-17	Y-AS-4114-03A	Used Oil	AST-S	500	
AS-17	Y-AS-4114-01M	Hazmat	Drum-S	2033	

Previous CAD-Based Approach

Maplet C4-25 Depicted Using CAD Software



# New Field Data Form

- Overfill/Discharge/Leak – good engr.
- Site security
- Spill potential
- Drainage prevention
- Primary container
- Containment
- Piping
- Loading/Unloading Rack
- Oil-Water Separator



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# Innovative Update of ICP/SPCC Plans

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## Primary Container Fields

	Field Description	Field Choices	
	<b>Primary Container</b>		
33	Type	AST, Main Supply Tank for Generator, Integral Day Tank for Generator, External Day Tank for Generator, 40 CFR 112 UST, 40 CFR 280 Deferred UST (SPCC Regulated), 40 CFR 280 Regulated UST, Tank Truck, Refueler, Mobile Generator, Drums, Tote, Pod, Bowser, Cooking Oil in, Propane Tank, Compressed Gas Cylinder, OWS, Interceptor Basin	
34	Number of Like Containers (TXT)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, etc., M	
35	Primary Container or Largest Compartment		
36	Units	Gal., Lbs., Each	
37	Intrinsic Tank	Yes, No, NA	
38	Color	Blue, Green, Red, Orange, Yellow, Black, Brown, White, Camouflage, Gray, Beige, Tan, Bi-Color	
39	Corrosion Protection and Recommend	Adequate, Replace Coating, Repair SACP, Repair ICCP, NA, None, UNK	
40	Primary Container Material	Steel, Plastic, Fiberglass, UNK, Composite Steel, ConVault, FRP, Steel and Plastic	
41	Container Condition	Adequate, Repair Corrosion, Repair Support Structure, Replace Support Structure, Replace Buckled Tank, Replace Fill Cap, Lock Fill Tube Containment, None, NA, UNK	
42	Product Type	See Product.xls	
43	Subject to Flood	Yes, No, UNK	
44	Subject to Traffic Exposure	Yes, No	
45	Traffic Protection	Yes, No, NA	
46	Product Markings	Yes, No, Faded, NA	
47	Capacity Markings	Yes, No, Faded, NA	
48	Year Installed		

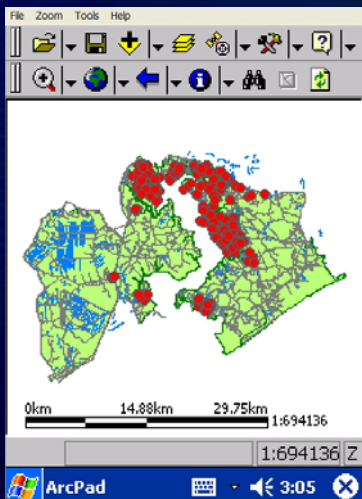
# Innovative Update of ICP/SPCC Plans

MCB Camp Lejeune/MCAS New River, NC



## New Approach for Collecting Field Data Using IPAQ / ESRI ArcPad Technology

IPAQ hardware and ArcPad software were utilized by EnSafe personnel in the field to update the GIS database of both bases. The ArcPad interface was used to identify tank numbers, add new tank locations, move tank locations, complete the required data forms, and provide information about existing features within the site.



**Edit Form** OK X

Small Containers QA/QC

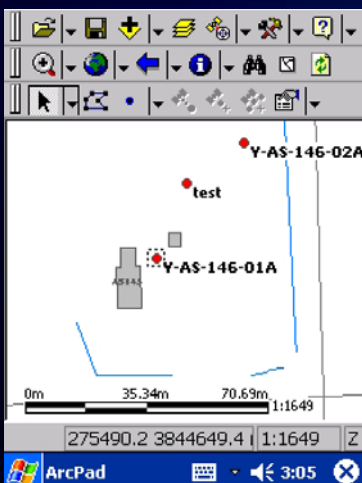
Was this a new location

Was This an updated Location

Location Status

[Dropdown Menu]

ArcPad 3:08



**Edit Form** OK X

Overflow/Discharge/Leak Co

Level Sensing Device: Side Sight Tube

Device Condition: Good

Catchment Basin

Catchment Condition: Fair

Other O/D/L Good Engineering: IM and HLA

Other Good Engineering Condition: Poor

ArcPad 3:10

**Edit Form** OK X

Piping Site Security

Base Perimeter Fencing

Base Gates  Secured

Local Fencing

Local Gates  Secured

Tank Master Flow Drain Valves

Tank Master Valves Locked/Secured

Tank Master Flow Drain Plug

Oil Pump Starter Locked/Secured

Lighting Adequate

Other Monitoring: Security Camera

ArcPad 3:07

**Edit Form** OK X

Containment Piping

Type of Containment: skids under generator

Containment Condition: Fair

Lining: HDPE Lining: Good

Length Width Depth Est Capacity: 0 0 0 > 500

Freeboard Depth in Containment: 0

Drain Valve Type: Open and Close

Valve Locked Cond: [Dropdown]

ArcPad 3:10





# Core Plan/ICP Holders Using GIS



- MCB Camp Lejeune Environmental Management Division, Environmental Compliance Branch and Environmental Quality Branch
- MCAS New River Environmental Affairs Department
- Installations Security and Safety Department, Base Fire Protection Division and Provost Marshals Office
- Explosive Ordinance Disposal, MCB CL
- Joint Public Affairs Office, MCB CL
- Training and Operations Department, MCB CL





# SPCC Data Collection with GIS



- Small Handheld Device
- Standardized Data Entry
- Low Data Reduction Cost
- Immediate Mapping (Integrated GPS)
- Image(s) Association (Integrated Digital Camera)
- On-the-Fly Calculations



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# SPCC Data Collection with GIS — Hardware



- Compaq iPAQ
- 256 MB Non-Volatile SD Memory Card
- Nexian Digital Camera Sleeve for iPAQ
- Transplant Computing Compact Flash GPS (WAAS Enabled)

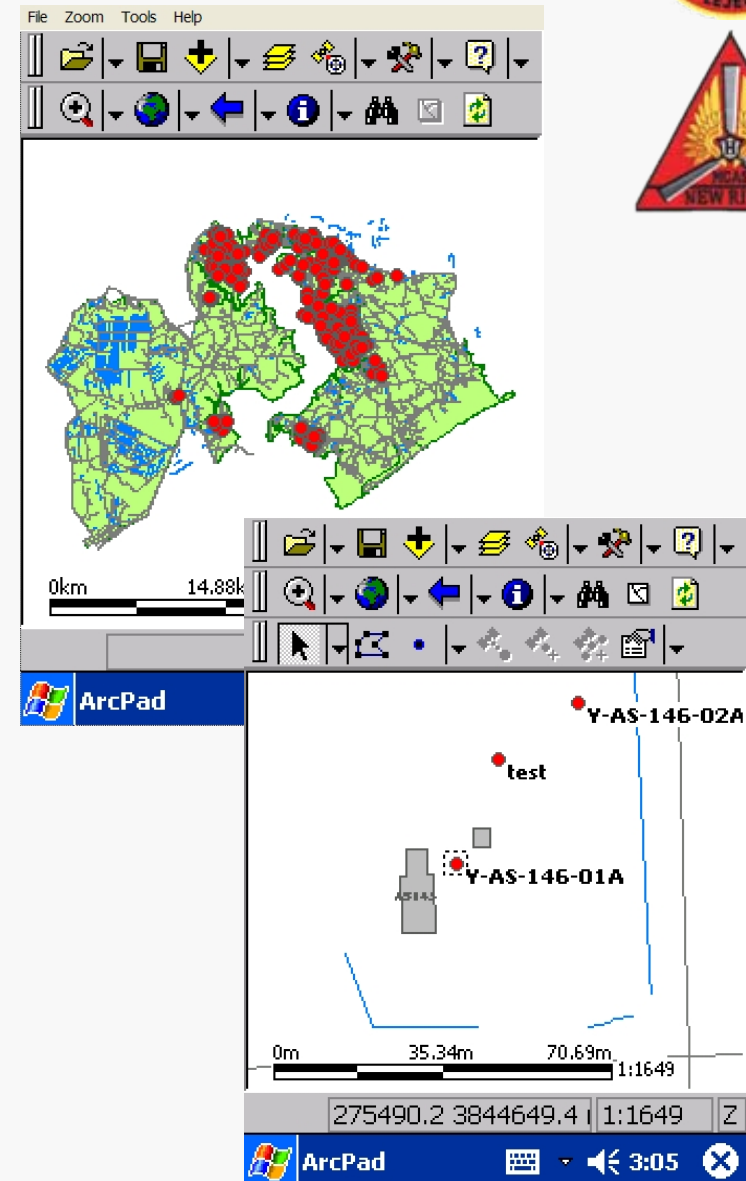




# SPCC Data Collection with GIS – Interface



- Built using Industry Mobile GIS Standards using ESRI ArcPad
- Low Learning Curve
- Fully Customizable
- Map Navigation
- Data Query Tools
- Data Search Tools





# SPCC Data Collection with GIS – Data Forms



- Data Forms Customizable
- Pull-Down Menus
- Write-in Data Entry
- Yes/No, True/False Check Boxes
- Associates Pictures to GIS Data Record
- Download Data to Microsoft Access for Easier QA/QC

Edit Form OK X

Small Containers QA/QC

Was this a new location

Was This an updated Location

Location Status

[Pull-down menu]

Edit Form OK X

Primary Container 2 Overf

7-9-03-11-09-03-PM.jpg Photo1

7-9-03-11-14-07-PM.jpg Photo2

Subject to Flood or Washout No

Exposed to Vehicular Traffic

Vehicle Protection Adequate

Product Markings Yes

Year Installed 67



# Innovative Update of ICP/SPCC Plans

MCB Camp Lejeune/MCAS New River, NC

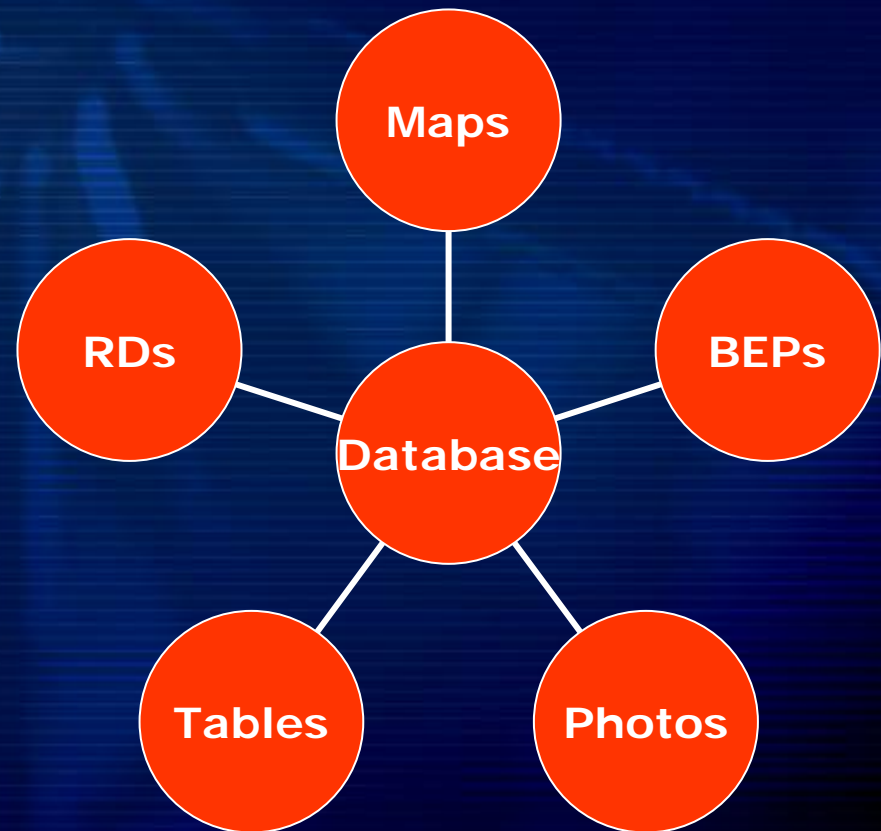


## Database Schematic

The mapping and inventory was accomplished by using handheld IPAQ computer systems that could update the outdated database from the field. EnSafe personnel received training and manually examined each known site.

ESRI ArcPad forms were created to collect extensive, detailed data and generate reports from a relational database that includes maps, plan tables, photograph pages, regulatory deficiencies, and best engineering practice recommendations.

It was possible to assess the data and cost-efficiently determine the design and construction costs needed to remedy regulatory deficiencies and best engineering practice recommendations.



# Innovative Update of ICP/SPCC Plans

MCB Camp Lejeune/MCAS New River, NC

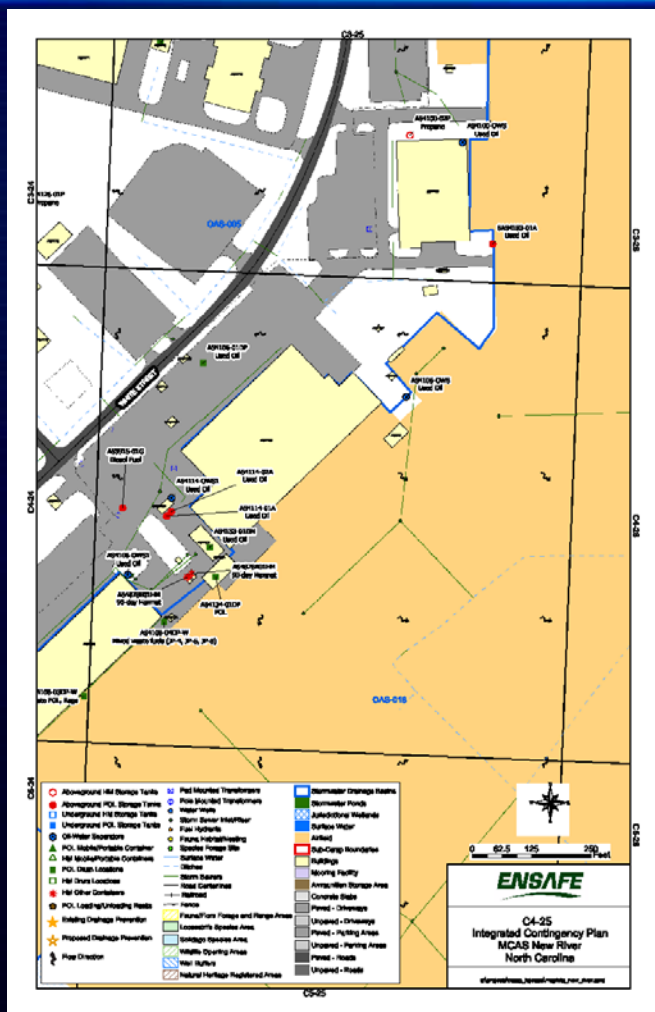


## Start Page Fields

	Field Description	Field Choices	
	<b>Start Page</b>		
1	ID of the Container/ OWS/Loading Rack		
2	Type of the Sample	New, Update, Delete	
3	Status of the Sample	Revisit, Office Complete, Done	
4	Category of the Sample	Aboveground POL Storage Tanks, Aboveground HM Storage Tanks, Underground POL Storage Tanks, Underground HM Storage Tanks, POL Mobile/Portable Containers, HM Mobile/Portable Containers, POL Drum Locations, HM Drum Locations, POL Loading/Unloading Racks, Oil-Water Separators, Other HM Containers, Drainage Prevention	
5	POL Related	Yes, No	
6	Comments		

# Innovative Update of ICP/SPCC Plans

MCB Camp Lejeune/MCAS New River, NC



	Aboveground HM Storage Tanks		Stormwater Drainage Basins
	Aboveground POL Storage Tanks		Stormwater Ponds
	Underground HM Storage Tanks		Jurisdictional Wetlands
	Underground POL Storage Tanks		Surface Water
	Oil-Water Separators		Airfield
	POL Mobile/Portable Container		Sub-Camp Boundaries
	HM Mobile/Portable Containers		Buildings
	POL Drum Locations		Mooring Facility
	HM Drum Locations		Ammunition Storage Area
	HM Other Containers		Concrete Slabs
	POL Loading/Unloading Racks		Paved - Driveways
	Existing Drainage Prevention		Unpaved - Driveways
	Proposed Drainage Prevention		Paved - Parking Areas
	Flow Direction		Unpaved - Parking Areas
	Pad Mounted Transformers		Paved - Roads
	Pole Mounted Transformers		Unpaved - Roads
	Water Wells		
	Storm Sewer Inlet/Riser		
	Fuel Hydrants		
	Fauna Habitat/Nesting		
	Species Forage Site		
	Surface Water		
	Ditches		
	Storm Sewers		
	Road Centerlines		
	Railroad		
	Fence		
	Fauna/Flora Forage and Range Areas		
	Loosestife Species Area		
	Solidago Species Area		
	Wildlife Operating Areas		
	Well Buffers		
	Natural Heritage Registered Areas		

Legend of Selected Features and Symbols Associated with GIS Drawings

## New Approach Using GIS Database

Condensed the many container types to specific categories and label strings to reduce number of symbols required on the map as well as to simplify locating basic data about the container in the inventory table

Maplet C4-25 Depicted Using New GIS Database



Aboveground HM Storage Tanks

Container ID No.	Map Grid IDs	Container Type	Product Stored	Container Capacity (gal)	Container/Piping Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Secondary Containment Capacity (gal)/ Freeboard Depth (Inches)	Flow Direction / Distance / Receiver / Outfall ID	Containment / Diversion Structure
913-01P	F8 / F2-86	Propane Tank	Propane	500	Steel / Steel and Copper	No / No	% Full Dial Gauge	Yes / Yes	NA / NA	OHP-009	NA / NA
S962-05A	F8 / F2-86	AST	Empty	6000	Steel / NA	No / NA	None	Yes / Yes	57599 / 24.7	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-10A	F8 / F2-86	AST	Used Antifreeze	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	35904 / 15.9	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer

Aboveground POL Storage Tanks

Container ID No.	Map Grid IDs	Container Type	Product Stored	Container Capacity (gal)	Container/Piping Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Secondary Containment Capacity (gal)/ Freeboard Depth (Inches)	Flow Direction / Distance / Receiver / Outfall ID	Containment / Diversion Structure
702-01G	F8 / F2-86	Integral Day Tank for Generator	Diesel Fuel	80	Steel / NA	Yes / NA	E/F Fuel Gauge	No / Yes	GTPCC / NA	Local / 0 / Local / OHP-012	Rupture Basin / Drainage System
738-01A	F8 / F2-86	AST	No. 2 Heating Oil	880	Steel / Steel	Yes / No	Liquid Level Gauge, HLA, IM	No / Yes	GTPCC / NA	E / 0 / Local / OHP-012	DW Tank / Drainage System
738-02A	F8 / F2-86	AST	Diesel Fuel	260	Steel / Copper & Steel	No / No	None	Yes / Yes	22 / NA	W / 0 / Ditch / OHP-012	Pan / Drainage System
903-01A	F8 / F2-86	AST	Kerosene	260	Steel / NA	No / NA	None	No / Yes	0 / 0	SE / 170 / SWDI to Storm Sewer / OHP-013	None / Sandbags
S736-01A	F8 / F2-86	AST	Used Transformer Oil	495	Steel / NA	No / NA	None	Yes / Yes	7095 / NA, drains to OWS	SW / 25 / SWDI to OWS / OHP-012	Concrete Curb / OWS to Sanitary Sewer
S736-02A	F8 / F2-86	AST	Used Transformer Oil	495	Steel / NA	No / NA	None	Yes / Yes	7095 / NA, drains to OWS	SW / 25 / SWDI to OWS / OHP-012	Concrete Curb / Drainage System
S962-01A	F8 / F2-86	AST	Used Fuel	500	Steel / NA	No / NA	None	Yes / Yes	21706 / NA	NE / 20 / Grit Chamber, OWS / OHP-009	Drains to 10,000-gallon OWS / OWS to Sanitary Sewer
S962-06A	F8 / F2-86	AST	Used Oil	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	57599 / 18	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-07A	F8 / F2-86	AST	Used Oil	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	57599 / 18	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-08A	F8 / F2-86	AST	Used Oil	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	57599 / 18	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-09A	F8 / F2-86	AST	Used Oil	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	57599 / 18	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-11A	F8 / F2-86	AST	Used Fuel	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	35904 / 15.9	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S971-01A	F8 / F2-86	AST	Kerosene	10000	Steel / Steel	No / No	Electronic ATG, Liquid Level Gauge, ICCP, HLA	Yes / Yes	142120 / 26.7	OHP-012	Concrete Dike / Drainage System
S972-01A	F8 / F2-86	AST	JP-8	90000	Steel / Steel	No / No	Electronic ATG, ICCP, HLA	Yes / Yes	142120 / 10.6	OHP-012	Concrete Dike / Drainage System
S973-01A	F8 / F2-86	AST	Unleaded Gasoline	60000	Steel / Steel	No / No	Mechanical ATG, ICCP, HLA	Yes / Yes	142120 / 16.6	OHP-012	Concrete Dike / Drainage System

HM Other Containers

Container ID No.	Map Grid IDs	Container Type	Product Stored	Container Capacity	Container/Piping Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Secondary Containment Capacity (gal)/ Freeboard Depth (Inches)	Flow Direction / Distance / Receiver / Outfall ID	Containment / Diversion Structure
738-05O	F8 / F2-86	Compressed Gas Cylinder	Argon	1 Each	Steel / NA	No / NA	--	NA / Yes	NA / NA	OHP-012	NA / NA

Oil-Water Separators

Control Device ID No.	Map Grid IDs	Container Type	Product Recovered / How Recovered	Working / Oil Capacity (gal)	Control Device Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Not Used	Drainage Basin ID	Discharge Destination
738-OWS	F8 / F2-86	OWS	Used Oil / Vacuum Truck	431 / 120	Concrete	NA	Wooden Measuring Stick	NA / Yes	--	OHP-012	OWS to Sanitary Sewer
S1071-OWS	F8 / F2-86	OWS	Used Fuel / Vacuum Truck	2518 / 229	Concrete	NA	Wooden Measuring Stick	Yes / No	--	OHP-012	OWS to Storm Sewer
S962-OWS	F8 / F2-86	OWS	Used Oil / Vacuum Truck	10000 / 10000	Concrete	NA	Floats	Yes / Yes	--	OHP-012	OWS to Sanitary Sewer

POL Loading/Unloading Racks

L/UL Rack ID No.	Map Grid IDs	Rack Operation / No. of Terminal Connections	Product Loaded and/or Unloaded	Maximum Truck / Largest Compartment Capacity (gal)	Type of Truck being Loaded or Unloaded	Not Used	Type of Drainage Restraint / Drain Valve Type	Lighting/Security Adequate	L/UL Rack Containment Capacity (gal)	Immediate Receptor If Containment Fails / Drainage Basin ID	L/UL Rack Containment/ Discharge Destination
913-LUL	F8 / F2-86	LUL Truck / 4	Used Oil	2256 / 2256	Vacuum Truck	--	--	NA / Yes	10000	Drainage System / OHP-012	Concrete Curb Under Roo / 10,000-gal OWS

POL Mobile/Portable Container

Container ID No.	Map Grid IDs	Container Type	Product Stored	Container Capacity (gal)	Container/Piping Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Secondary Containment Capacity (gal)/ Freeboard Depth (Inches)	Flow Direction / Distance / Receiver / Outfall ID	Containment / Diversion Structure
S962-MOB	F8 / F2-86	Tank Truck	Used Oil	2200	Steel / NA	No / NA	Side Sight Tube	Yes / Yes	10000 / NA	SW / 100 / SWDI to Storm Ditch / OHP-012	Drains to 10,000-gallon OWS / OWS to Sanitary Sewer



# Container ID



HP-1703-03A

- 2 letter code for Area/Location
- Building Number
- Alphanumeric container sequence
- Container type symbol



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# Innovative Update of ICP/SPCC Plans

MCB Camp Lejeune/MCAS New River, NC



The following descriptions define the letters associated with container IDs.

A	Aboveground Storage Tank - AST, External Day Tank
AG	Main Supply Tank for Emergency Generator
DM	Drum with a Hazardous Material or Hazardous Substance Product
DP	Drum with a Petroleum Product
DW	Double-Walled, Drum with Hazardous Waste Product, Drum with Waste Oil
G	Integral Belly Day Tank for Generator, External Day Tank for Generator
GT	Grease Trap
HM	Hazardous Material, Hazardous Substances
HW	Hazardous Waste
L, UL, LUL	Loading, Unloading, or Loading and Unloading Rack
MOB	Mobile Container
OWS	Oil -Water Separator
P	Propane
U	Underground Storage Tank - UST



# Category/Legend Symbols

- Aboveground Storage Tank (POL, HM)
- Underground Storage Tank (POL, HM)
- Mobile/Portable Container Parking Area (POL, HM)
- Drum Storage Area
- Oil-Water Separator
- Loading/Unloading Racks
- Drainage Prevention
- Pole/Pad Mounted Transformers



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# Category/Type



## Aboveground Storage Tanks

- AST (shop fabr., field constr.)
- Bunkered Tank
- Propane Tank
- Tanks associated with emergency generators (Main Supply Tank, Integral Day Tank, External Day Tank)





# Category/Type



## Underground Storage Tank

- 40 CFR 112 UST
- 40 CFR 280 Deferred UST (SPCC Reg.)
- 40 CFR 280 Regulated UST



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# Category/Type



## Mobile/Portable Container

- Tank Truck
- Refueler
- Mobile Generator
- Tote
- Pod
- Bowser
- Cooking Oil Bin
- Drum



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# Category/Type



## Other HM Containers

- Compressed Gas Cylinder

## Oil-Water Separators

- OWS with coalescing plates
- OWS without coalescing plates
- Interceptor Basin
- Grease Trap



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# Category/Type



Drainage Prevention

- Spill control booms
- Spill slide/slucice gates

Pad Mounted Transformers

Pole Mounted Transformers



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Aboveground HM Storage Tanks

Container ID No.	Map Grid IDs	Container Type	Product Stored	Container Capacity (gal)	Container/Piping Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Secondary Containment Capacity (gal)/Freeboard Depth (Inches)	Flow Direction / Distance / Receiver / Outfall ID	Containment / Diversion Structure
913-01P	F8 / F2-86	Propane Tank	Propane	500	Steel / Steel and Copper	No / No	% Full Dial Gauge	Yes / Yes	NA / NA	OHP-009	NA / NA
S962-05A	F8 / F2-86	AST	Empty	6000	Steel / NA	No / NA	None	Yes / Yes	57599 / 24.7	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-10A	F8 / F2-86	AST	Used Antifreeze	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	35904 / 15.9	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer

Aboveground POL Storage Tanks

Container ID No.	Map Grid IDs	Container Type	Product Stored	Container Capacity (gal)	Container/Piping Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Secondary Containment Capacity (gal)/Freeboard Depth (Inches)	Flow Direction / Distance / Receiver / Outfall ID	Containment / Diversion Structure
702-01G	F8 / F2-86	Integral Day Tank for Generator	Diesel Fuel	80	Steel / NA	Yes / NA	E/F Fuel Gauge	No / Yes	GTPCC / NA	Local / 0 / Local / OHP-012	Rupture Basin / Drainage System
738-01A	F8 / F2-86	AST	No. 2 Heating Oil	880	Steel / Steel	Yes / No	Liquid Level Gauge, HLA, IM	No / Yes	GTPCC / NA	E / 0 / Local / OHP-012	DW Tank / Drainage System
738-02A	F8 / F2-86	AST	Diesel Fuel	260	Steel / Copper & Steel	No / No	None	Yes / Yes	22 / NA	W / 0 / Ditch / OHP-012	Pan / Drainage System
903-01A	F8 / F2-86	AST	Kerosene	260	Steel / NA	No / NA	None	No / Yes	0 / 0	SE / 170 / SWDI to Storm Sewer / OHP-013	None / Sandbags
S736-01A	F8 / F2-86	AST	Used Transformer Oil	495	Steel / NA	No / NA	None	Yes / Yes	7095 / NA, drains to OWS	SW / 25 / SWDI to OWS / OHP-012	Concrete Curb / OWS to Sanitary Sewer
S736-02A	F8 / F2-86	AST	Used Transformer Oil	495	Steel / NA	No / NA	None	Yes / Yes	7095 / NA, drains to OWS	SW / 25 / SWDI to OWS / OHP-012	Concrete Curb / Drainage System
S962-01A	F8 / F2-86	AST	Used Fuel	500	Steel / NA	No / NA	None	Yes / Yes	21706 / NA	NE / 20 / Grit Chamber, OWS / OHP-009	Drains to 10,000-gallon OWS / OWS to Sanitary Sewer
S962-06A	F8 / F2-86	AST	Used Oil	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	57599 / 18	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-07A	F8 / F2-86	AST	Used Oil	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	57599 / 18	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-08A	F8 / F2-86	AST	Used Oil	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	57599 / 18	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-09A	F8 / F2-86	AST	Used Oil	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	57599 / 18	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-11A	F8 / F2-86	AST	Used Fuel	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	35904 / 15.9	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S971-01A	F8 / F2-86	AST	Kerosene	10000	Steel / Steel	No / No	Electronic ATG, Liquid Level Gauge, ICCP, HLA	Yes / Yes	142120 / 26.7	OHP-012	Concrete Dike / Drainage System
S972-01A	F8 / F2-86	AST	JP-8	90000	Steel / Steel	No / No	Electronic ATG, ICCP, HLA	Yes / Yes	142120 / 10.6	OHP-012	Concrete Dike / Drainage System
S973-01A	F8 / F2-86	AST	Unleaded Gasoline	60000	Steel / Steel	No / No	Mechanical ATG, ICCP, HLA	Yes / Yes	142120 / 16.6	OHP-012	Concrete Dike / Drainage System

HM Other Containers

Container ID No.	Map Grid IDs	Container Type	Product Stored	Container Capacity	Container/Piping Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Secondary Containment Capacity (gal)/Freeboard Depth (Inches)	Flow Direction / Distance / Receiver / Outfall ID	Containment / Diversion Structure
738-05O	F8 / F2-86	Compressed Gas Cylinder	Argon	1 Each	Steel / NA	No / NA	--	NA / Yes	NA / NA	OHP-012	NA / NA

Oil-Water Separators

Control Device ID No.	Map Grid IDs	Container Type	Product Recovered / How Recovered	Working / Oil Capacity (gal)	Control Device Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Not Used	Drainage Basin ID	Discharge Destination
738-OWS	F8 / F2-86	OWS	Used Oil / Vacuum Truck	431 / 120	Concrete	NA	Wooden Measuring Stick	NA / Yes	--	OHP-012	OWS to Sanitary Sewer
S1071-OWS	F8 / F2-86	OWS	Used Fuel / Vacuum Truck	2518 / 229	Concrete	NA	Wooden Measuring Stick	Yes / No	--	OHP-012	OWS to Storm Sewer
S962-OWS	F8 / F2-86	OWS	Used Oil / Vacuum Truck	10000 / 10000	Concrete	NA	Floats	Yes / Yes	--	OHP-012	OWS to Sanitary Sewer

POL Loading/Unloading Racks

LUL Rack ID No.	Map Grid IDs	Rack Operation / No. of Terminal Connections	Product Loaded and/or Unloaded	Maximum Truck / Largest Compartment Capacity (gal)	Type of Truck being Loaded or Unloaded	Not Used	Type of Drainage Restraint / Drain Valve Type	Lighting/Security Adequate	LUL Rack Containment Capacity (gal)	Immediate Receptor / Containment Falls / Drainage Basin ID	LUL Rack Containment / Discharge Destination
913-LUL	F8 / F2-86	LUL Truck / 4	Used Oil	2256 / 2256	Vacuum Truck	--	--	NA / Yes	10000	Drainage System / OHP-012	Concrete Curb Under Road / 10,000-gal OWS

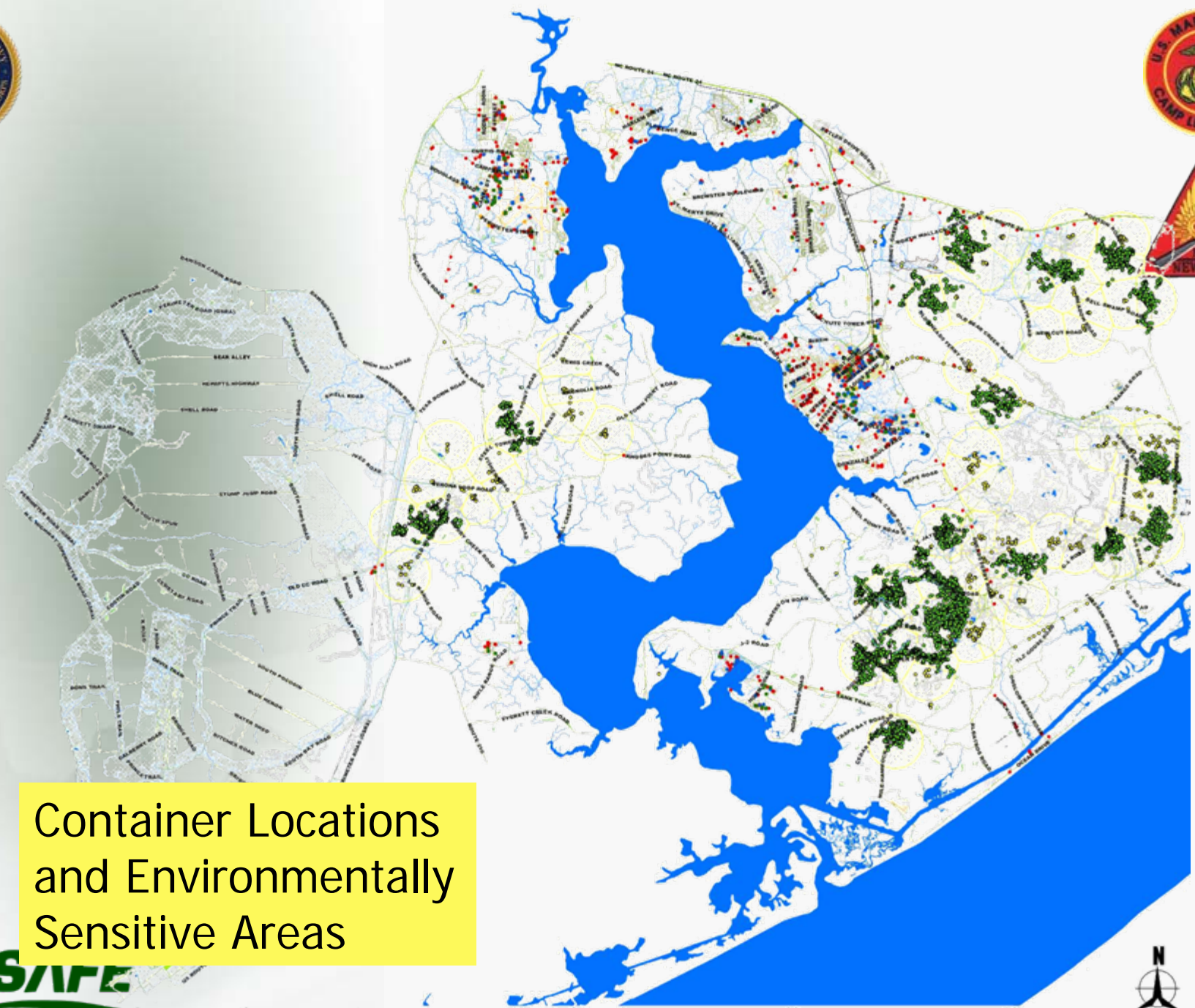
POL Mobile/Portable Container

Container ID No.	Map Grid IDs	Container Type	Product Stored	Container Capacity (gal)	Container/Piping Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Secondary Containment Capacity (gal)/Freeboard Depth (Inches)	Flow Direction / Distance / Receiver / Outfall ID	Containment / Diversion Structure
S962-MOB	F8 / F2-86	Tank Truck	Used Oil	2200	Steel / NA	No / NA	Side Sight Tube	Yes / Yes	10000 / NA	SW / 100 / SWDI to Storm Ditch / OHP-012	Drains to 10,000-gallon OWS / OWS to Sanitary Sewer



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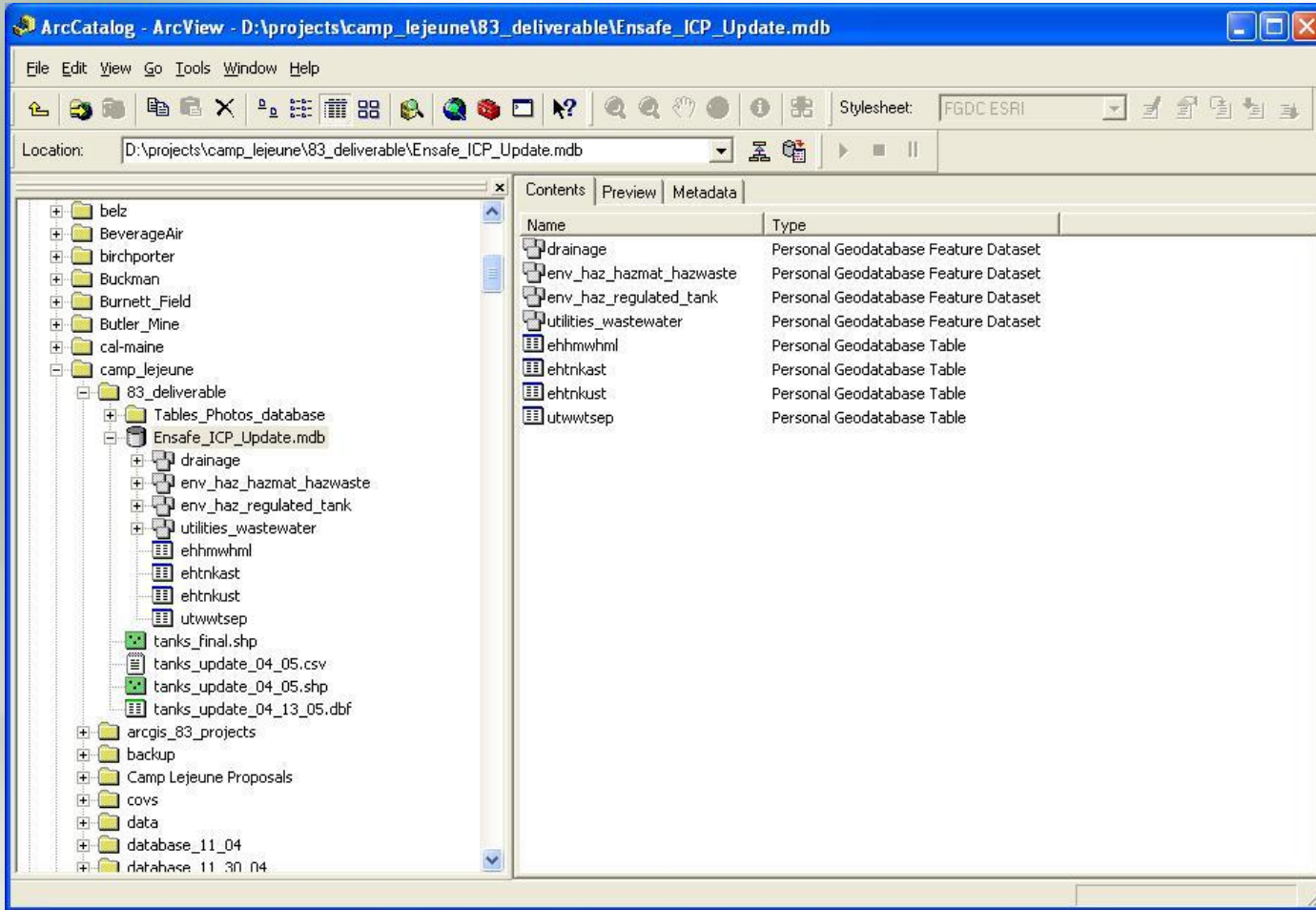


# Container Locations and Environmentally Sensitive Areas





# SDS-Compliant Geodatabase Data Organization

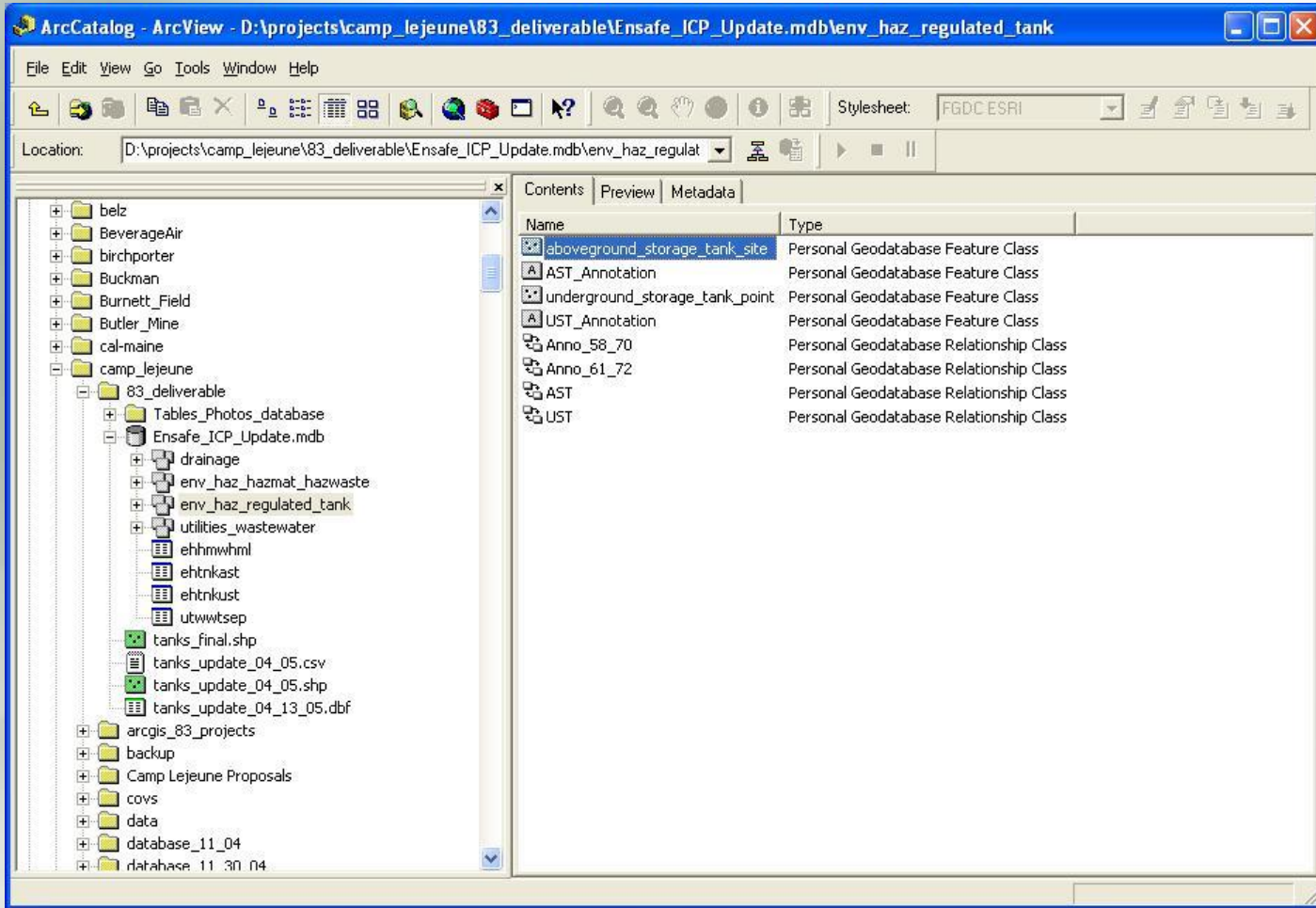


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# SDS-Compliant Geodatabase Nomenclature



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# SDS-Compliant Geodatabase

## SDS Feature Class Attribute Definitions

**aboveground\_storage\_tank\_site**  
Personal GeoDatabase Feature Class

Description	Spatial	Attributes
<b>Details for aboveground_storage_tank_site</b> Type of object: Feature Class Number of records: 946		
<b>Attributes</b>		
OBJECTID		
datalink		
envstank_id		
map_id		
meta_id		
media_id		
coord_id		
hazsite_id		
instln_id		
narrative		
facil_id		
grid_value		
coord_x		
coord_y		
coord_z		
area_u_d		
perim_u_d		
area_size		
perim		
user_flag		
product_d		
Shape		

**Details for Anno\_61\_72**  
Type of object: Relationship

**Details for AST**  
Type of object: Relationship





# SDS-Compliant Geodatabase



## EnSafe related table attribute definitions



**ArcCatalog - ArcView - D:\projects\camp\_lejeune\83\_deliverable\Ensafe\_ICP\_Update.mdb\ehtnkast**

Location: D:\projects\camp\_lejeune\83\_deliverable\Ensafe\_ICP\_Update.mdb\ehtnkast

**Contents** | Preview | Metadata

**ehtnkast**  
Personal GeoDatabase Table

Description	Spatial	Attributes
<b>Details for ehtnkast</b>		
Type of object: Table		
Number of records: 946		
<b>Attributes</b>		
		OBJECTID_1
		OBJECTID
		QAQC_ST
		QAQC_TYP
		ENVUST_ID
		POL
		PHOTO1
		PHOTO2
		MAPLET_ID
		AREA_ID
		LSD_P
		LSD
		LSD_COND_R
		CATCH
		CATCH_CND_
		OTHR_ENG
		OTHR_ENG_D
		OENG_CND_R
		S_FENCE
		S_LOCALF
		S_G_SEC
		S_LG_SEC
		TMFVLK
		TMDVLK
		OPSLK
		LIGHT
		L_ADQ
		SPILLDIR
		IM_REC
		DIST_REC
		REC_ID
		DB_OUTID
		DRPV_PRES
		DRPV
		DRPV_CND_R
		DRP_CTRL
		TYPE



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# Hard Copy Deliverables



- Core Plan
- Integrated Contingency Plan
  - Volume I (Annexes 1-6; Text)
  - Volume II (Annex 7; Maps, Tables, Photos)



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# Core Plan Overview



Core Plan (8.5" x 11" x 1" spine)

One plan applicable to both facilities

- a notebook for MCASNR
- a notebook for MCBCL



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# Core Plan Overview



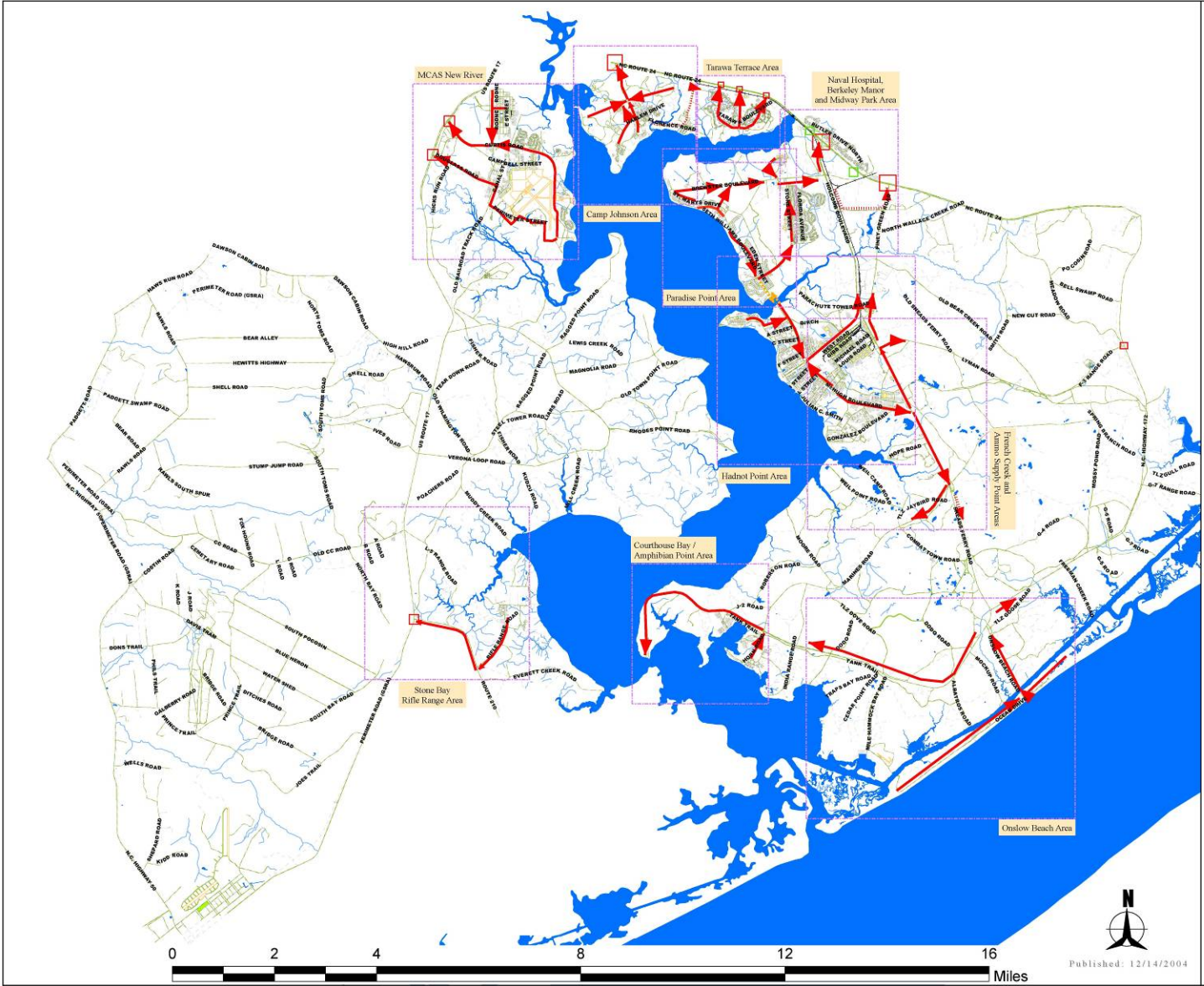
The Emergency Evacuation Plan and associated maps are included in the Core Plan.



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# Emergency Evacuation Routes



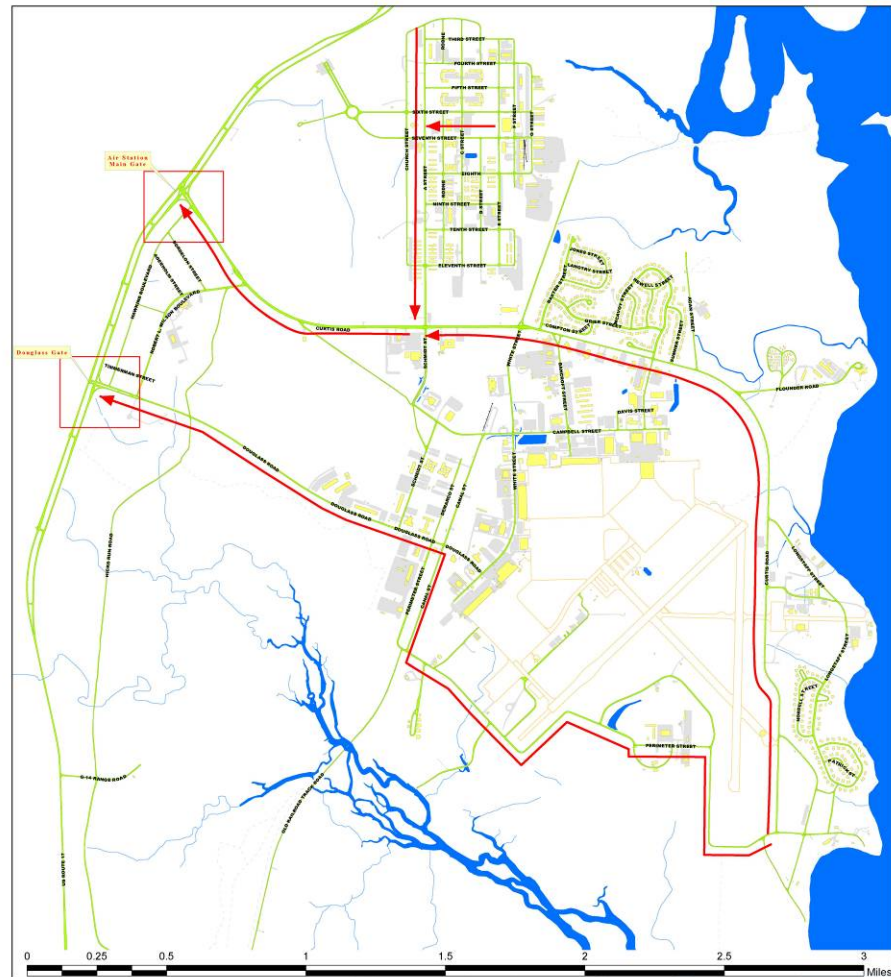
- Alternate Routes (Not Recommended)
- Evacuation Routes
- Railroad
- Surface Water
- Road Centerline
- Surface Water
- Roads
- Buildings
- Parking Areas
- Airfield
- Other Exists
- Gates



**ENSAFE**

Marine Corps Base  
Camp Lejeune  
and  
Marine Corps Air Station  
New River

Published: 12/14/2004



**Alternative Route (Not Recommended):**

**Best Routes:**

**From all locations**

North on McHugh Blvd., over bridge to Paradise Point - follow Paradise Point evacuation routes.

**From Western Areas:**

River or McHugh Blvd. to Holcomb, North to Main Gate - access NC Route 24.

**From Southern Areas:**

North on Louis or Sneads Ferry to Piney Green to Piney Green Gate - access NC Route 24; or

**Emergency Evacuation Routes**

**ENSAFE**

Integrated Contingency Plan  
MCB Camp Lejeune  
Hadnot Point Area  
North Carolina

Published: 12/14/2004

Legend:  
 - Dashed line: Alternate Route (Not Recommended)  
 - Red line: Evacuation Routes  
 - Blue line: Railroad  
 - Light blue line: Surface Water  
 - Yellow line: Road Centerline  
 - Blue area: Surface Water  
 - Yellow area: Roads

Hadnot Point

**Best Routes:**

**from North Areas/Camp Geiger:**

A Street or Seventh Street to Air Station Main Gate Access US Route 17.

**from Central and Eastern Areas:**

Curtis Road to Air Station Main Gate Access US Route 17.

**from South Areas:**

Perimeter Road to road to Douglass Gate as US Route 17.

**Emergency Evacuation Routes**

**ENSAFE**

Integrated Contingency Plan  
MCAS New River  
North Carolina

Published: 12/14/2004

Legend:  
 - Red line: Evacuation Routes  
 - Blue line: Railroad  
 - Light blue line: Surface Water  
 - Yellow line: Road Centerline  
 - Blue area: Surface Water  
 - Yellow area: Buildings  
 - Grey area: Parking Areas  
 - White area: Airfield

Air Station



# ICP Overview



- Developed to address the issue of spill prevention, response actions, containment, and cleanup.
- Integrates USEPA, OSHA, U.S. Coast Guard, Department of Transportation, and North Carolina State regulatory requirements.



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# ICP Overview



Updated ICP distributed in a two-volume set

Volume I, Annexes 1 to 6

- 1 notebook for MCASNR (8.5" x 11" x 2" spine)
- 1 notebook for MCBCL (8.5" x 11" x 2" spine)

Volume II, Annex 7 (Maps, Tables, Photos)

- 1 notebook for MCASNR (11" x 17" x 3" spine)
- 5 notebooks for MCBCL (11" x 17" x 3" spine)





# Index



- Map Order
  - Tab (e.g., 2)
  - Location (e.g., French Creek)
  - Area ID (e.g., G9)
  - Maplet ID (e.g., G3-94)
  - Container ID (e.g., FC40-04A)

Note: sort in ascending order, but place G10, etc. after G9.





# Index



- Container ID Order
  - Container ID (e.g., FC40-04A)
  - Tab (e.g., 2)
  - Location (e.g., French Creek)
  - Area ID (e.g., G9)
  - Maplet ID (e.g., G3-94)

Note: sort in ascending order, but place G10, etc. after G9.







# Acronyms



- Definition for acronyms used in Volume II
- Definition of letters associated with container IDs





# MCBCL 21 Subcamps



- **Annex 7, Notebook 1**
  - Camp Geiger
  - Camp Johnson
  - Midway Park and Main Gate
  - Northeast Quadrant
  - Tarawa Terrace
- **Annex 7, Notebook 2**
  - Amphibian Base
  - Courthouse Bay
  - Greater Sandy Run
  - Onslow Beach
  - Rifle Range
  - Verona Loop, Camp Devil Dog





# MCBCL 21 Subcamps



- **Annex 7, Notebook 3**
  - Berkeley Manor
  - Hadnot Point, North
  - Naval Hospital
  - Paradise Point
  - Piney Green
- **Annex 7, Notebook 4**
  - Ammo Supply Point & Sneads Ferry Road
  - French Creek
  - Hospital Point
  - Parachute Tower
- **Annex 7, Notebook 5**
  - Hadnot Point, South



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# Annex 7 Index Maps



- 22 in 6 notebooks
  - 1 for MCAS New River
  - 21 for MCB Camp Lejeune
- 34" x 44" sheets
- Each sheet trimmed, folded and inserted in 11" x 17" pocket sleeve
- 10 sets Initial Draft Plan = 220 sheets
- 10 sets Final Plan = 220 sheets





- Aboveground PCL Storage Tanks
- Aboveground HM Storage Tanks
- Underground PCL Storage Tanks
- Underground HM Storage Tanks
- Oil-Water Separator
- PCL Metal/Possible Container
- HM Metal/Possible Container
- PCL Drum Locations
- HM Drum Locations
- HM Other Containers
- PCL Loading/Unloading Racks
- Existing Drainage Prevention
- Proposed Drainage Prevention
- Water Table
- Fuel Mount Transformers
- Pole Mount Transformers
- Storm Sewer Inlets
- Fuel Systems
- Future Loading/Unloading
- Species Forage Site
- Storm Sewers
- Fence
- Drive
- Highway
- Surface Water
- Road Centerline
- Wildlife Covering Areas
- Natural Heritage Regional Areas
- Localized Species Area
- Slop Spoils Area
- Future/Use Forage and Range Areas
- Stormwater Drainage Basins
- Wet Buffer
- Surface Water
- Stormwater Ponds
- Artificial Wetlands
- Arsenic Storage
- Meeting Facility
- Buildings
- Jetted
- Concrete Slab
- Pavod - Driveways
- Upgraded - Driveways
- Pavod - Parking Areas
- Upgraded - Parking Areas
- Pavod - Roads
- Upgraded - Roads
- Sun-Cover Boundary



# Annex 7 Area Maps

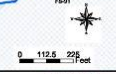


- 86 in 6 notebooks
- 36" x 28" sheets
- 6,000 ft x 5,000 ft grids
- Each sheet folded and inserted in 11" x 17" pocket sleeve
- 10 sets Initial Draft Plan = 860 sheets
- 10 sets Final Plan = 860 sheets





- Aboveground HM Storage Tanks
- Aboveground PCI Storage Tanks
- Underground HM Storage Tanks
- Underground PCI Storage Tanks
- Oil/Water Separator
- ▲ PCI Mobile/Portable Container
- ▲ HM Mobile/Portable Containers
- PCI Tank Locations
- HM Tank Locations
- HM Drum Locations
- HM Other Containers
- PCI Loading/Unloading Racks
- Existing Drainage Prevention
- Proposed Drainage Prevention
- Water Vents
- Pad Mounted Transformers
- Pole Mounted Transformers
- Storm Sewer Inlet/Riser
- Fuel Hydrants
- Species Forage Site
- Fauna Habitat/Nesting
- Surface Water
- Ditches
- Storm Sewers
- Road Centerlines
- Railroad
- Fence
- Wildlife Opening Areas
- Natural Heritage Registered Areas
- Lanesville Species Area
- Solidsago Species Area
- Fauna/Pore Forage and Range Areas
- Stormwater Drainage Basins
- Wall Buffers
- Surface Water
- Stormwater Ponds
- Jurisdictional Wetlands
- Afield
- Moring Facility
- Ammunition Storage Area
- Sub-Camp Boundaries
- Buildings
- Concrete Slabs
- Paved - Driveways
- Unpaved - Driveways
- Paved - Parking Areas
- Unpaved - Parking Areas
- Paved - Roads
- Unpaved - Roads



**ENSAFÉ**

L11 Ammo Supply Point  
 Integrated Contingency Plan  
 MCB Camp Lejeune  
 North Carolina

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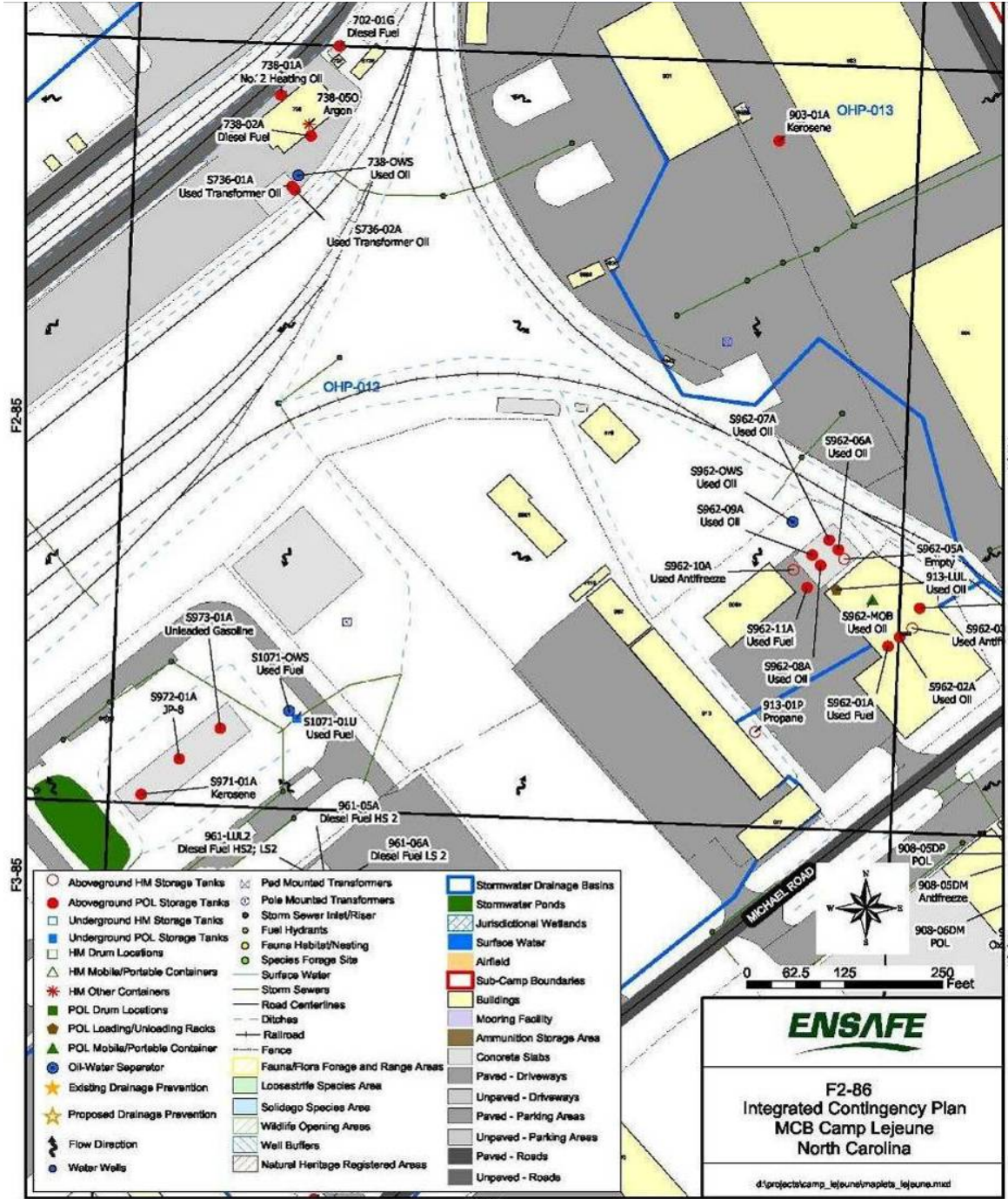
# Annex 7 Maplets



- 341 in 6 notebooks
- 11" x 17" sheets
- 1,000 ft x 1,000 ft grids
- Printed on pre-hole-punched 11" x 17" paper
- 10 sets Initial Draft Plan = 3,410 sheets
- 10 sets Final Plan = 3,410 sheets









# Container Inventory Tables and Photos



- 456 pages in 6 notebooks
- 11" x 17" tables (1 per maplet)
- 11" x 17" sheets of photos (1 set/maplet)
- Collated electronically after respective maplet in Adobe Acrobat 7
- Printed on pre-hole-punched 11" x 17" paper
- 10 sets Initial Draft Plan = 4,560 sheets
- 10 sets Final Plan = 4,560 sheets



Aboveground HM Storage Tanks

Container ID No.	Map Grid IDs	Container Type	Product Stored	Container Capacity (gal)	Container/Piping Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Secondary Containment Capacity (gal)/ Freeboard Depth (Inches)	Flow Direction / Distance / Receiver / Outfall ID	Containment / Diversion Structure
913-01P	F8 / F2-86	Propane Tank	Propane	500	Steel / Steel and Copper	No / No	% Full Dial Gauge	Yes / Yes	NA / NA	OHP-009	NA / NA
S962-05A	F8 / F2-86	AST	Empty	6000	Steel / NA	No / NA	None	Yes / Yes	57599 / 24.7	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-10A	F8 / F2-86	AST	Used Antifreeze	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	35904 / 15.9	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer

Aboveground POL Storage Tanks

Container ID No.	Map Grid IDs	Container Type	Product Stored	Container Capacity (gal)	Container/Piping Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Secondary Containment Capacity (gal)/ Freeboard Depth (Inches)	Flow Direction / Distance / Receiver / Outfall ID	Containment / Diversion Structure
702-01G	F8 / F2-86	Integral Day Tank for Generator	Diesel Fuel	80	Steel / NA	Yes / NA	E/F Fuel Gauge	No / Yes	GTPCC / NA	Local / 0 / Local / OHP-012	Rupture Basin / Drainage System
738-01A	F8 / F2-86	AST	No. 2 Heating Oil	880	Steel / Steel	Yes / No	Liquid Level Gauge, HLA, IM	No / Yes	GTPCC / NA	E / 0 / Local / OHP-012	DW Tank / Drainage System
738-02A	F8 / F2-86	AST	Diesel Fuel	260	Steel / Copper & Steel	No / No	None	Yes / Yes	22 / NA	W / 0 / Ditch / OHP-012	Pan / Drainage System
903-01A	F8 / F2-86	AST	Kerosene	260	Steel / NA	No / NA	None	No / Yes	0 / 0	SE / 170 / SWDI to Storm Sewer / OHP-013	None / Sandbags
S736-01A	F8 / F2-86	AST	Used Transformer Oil	495	Steel / NA	No / NA	None	Yes / Yes	7095 / NA, drains to OWS	SW / 25 / SWDI to OWS / OHP-012	Concrete Curb / OWS to Sanitary Sewer
S736-02A	F8 / F2-86	AST	Used Transformer Oil	495	Steel / NA	No / NA	None	Yes / Yes	7095 / NA, drains to OWS	SW / 25 / SWDI to OWS / OHP-012	Concrete Curb / Drainage System
S962-01A	F8 / F2-86	AST	Used Fuel	500	Steel / NA	No / NA	None	Yes / Yes	21706 / NA	NE / 20 / Grit Chamber, OWS / OHP-009	Drains to 10,000-gallon OWS / OWS to Sanitary Sewer
S962-06A	F8 / F2-86	AST	Used Oil	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	57599 / 18	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-07A	F8 / F2-86	AST	Used Oil	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	57599 / 18	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-08A	F8 / F2-86	AST	Used Oil	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	57599 / 18	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-09A	F8 / F2-86	AST	Used Oil	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	57599 / 18	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S962-11A	F8 / F2-86	AST	Used Fuel	20000	Steel / Steel	No / No	Sight Level Indicator	Yes / Yes	35904 / 15.9	NW / 15 / To OWS / OHP-012	Concrete Dike / OWS to Sanitary Sewer
S971-01A	F8 / F2-86	AST	Kerosene	10000	Steel / Steel	No / No	Electronic ATG, Liquid Level Gauge, ICCP, HLA	Yes / Yes	142120 / 26.7	OHP-012	Concrete Dike / Drainage System
S972-01A	F8 / F2-86	AST	JP-8	90000	Steel / Steel	No / No	Electronic ATG, ICCP, HLA	Yes / Yes	142120 / 10.6	OHP-012	Concrete Dike / Drainage System
S973-01A	F8 / F2-86	AST	Unleaded Gasoline	60000	Steel / Steel	No / No	Mechanical ATG, ICCP, HLA	Yes / Yes	142120 / 16.6	OHP-012	Concrete Dike / Drainage System

HM Other Containers

Container ID No.	Map Grid IDs	Container Type	Product Stored	Container Capacity	Container/Piping Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Secondary Containment Capacity (gal)/ Freeboard Depth (Inches)	Flow Direction / Distance / Receiver / Outfall ID	Containment / Diversion Structure
738-05O	F8 / F2-86	Compressed Gas Cylinder	Argon	1 Each	Steel / NA	No / NA	--	NA / Yes	NA / NA	OHP-012	NA / NA

Oil-Water Separators

Control Device ID No.	Map Grid IDs	Container Type	Product Recovered / How Recovered	Working / Oil Capacity (gal)	Control Device Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Not Used	Drainage Basin ID	Discharge Destination
738-OWS	F8 / F2-86	OWS	Used Oil / Vacuum Truck	431 / 120	Concrete	NA	Wooden Measuring Stick	NA / Yes	--	OHP-012	OWS to Sanitary Sewer
S1071-OWS	F8 / F2-86	OWS	Used Fuel / Vacuum Truck	2518 / 229	Concrete	NA	Wooden Measuring Stick	Yes / No	--	OHP-012	OWS to Storm Sewer
S962-OWS	F8 / F2-86	OWS	Used Oil / Vacuum Truck	10000 / 10000	Concrete	NA	Floats	Yes / Yes	--	OHP-012	OWS to Sanitary Sewer

POL Loading/Unloading Racks

L/UL Rack ID No.	Map Grid IDs	Rack Operation / No. of Terminal Connections	Product Loaded and/or Unloaded	Maximum Truck / Largest Compartment Capacity (gal)	Type of Truck being Loaded or Unloaded	Not Used	Type of Drainage Restraint / Drain Valve Type	Lighting/Security Adequate	L/UL Rack Containment Capacity (gal)	Immediate Receptor If Containment Fails / Drainage Basin ID	L/UL Rack Containment / Discharge Destination
913-LUL	F8 / F2-86	LUL Truck / 4	Used Oil	2256 / 2256	Vacuum Truck	--	--	NA / Yes	10000	Drainage System / OHP-012	Concrete Curb Under Roo / 10,000-gal OWS

POL Mobile/Portable Container

Container ID No.	Map Grid IDs	Container Type	Product Stored	Container Capacity (gal)	Container/Piping Material	Double-Wall Tank/Pipe	Level Sensing Device(s)	Lighting/Security Adequate	Secondary Containment Capacity (gal)/ Freeboard Depth (Inches)	Flow Direction / Distance / Receiver / Outfall ID	Containment / Diversion Structure
S962-MOB	F8 / F2-86	Tank Truck	Used Oil	2200	Steel / NA	No / NA	Side Sight Tube	Yes / Yes	10000 / NA	SW / 100 / SWDI to Storm Ditch / OHP-012	Drains to 10,000-gallon OWS / OWS to Sanitary Sewer





732-315 90 Gal. Diesel Fuel



738-01A 980 Gal. No. 2 Heating Oil



738-32A 260 Gal. Diesel Fuel



738-050 Compressor Gas Cylinder



738-CWS 120 Est. Oil Capacity



903-01A 280 Gal., Kerosene



915-31P 500 Gal., Propane



913-LJL 10300 Gal. Containment Volume



917F1-31U for CWS 2500 Gal., Used Fuel



917F1-09G Est. Oil Capacity



S736-01A 465 Gal. Used Transformer Oil



S736-02A 465 Gal. Used Transformer Oil



S362-31A 500 Gal., Used Fuel



S362-05A 6000 Gal., Empty



S362-06A (right tank) 20000 Gal., Used Oil



S362-07A (back right tank) 20000 Gal., Used Oil



S362-05A (middle tank) 20000 Gal., Used Oil



S362-06A (left tank) 20000 Gal., Used Oil



S362-10A 20000 Gal., Used Ammonia



S362-11A 20000 Gal., Used Fuel



S362-300B 2200 Gal., Used Oil Tank Truck



S362-CWS 10000 Est. Oil Capacity



S371-01A 10000 Gal., Kerosene



S371-01A 60000 Gal., F-8



S973-01A 60000 Gal., Unleaded Gasoline



# Regulatory Deficiencies



Matrix of ID vs. 27 rules  
Totals by column and row

- Security – 8
- Loading/Unloading Racks – 3
- Drainage Control – 3
- Bulk Storage & Sec. Containm't – 10
- Transfer/Piping Operations – 3





# Best Engr. Practice Rec.



- Containment Drain valve
- Fill tube
- Liquid Level Sensing Device
- Container Labeling – ID, Product, Capacity
- Corrosion protection of tank and piping
- Tank / pipe condition
- Etc.

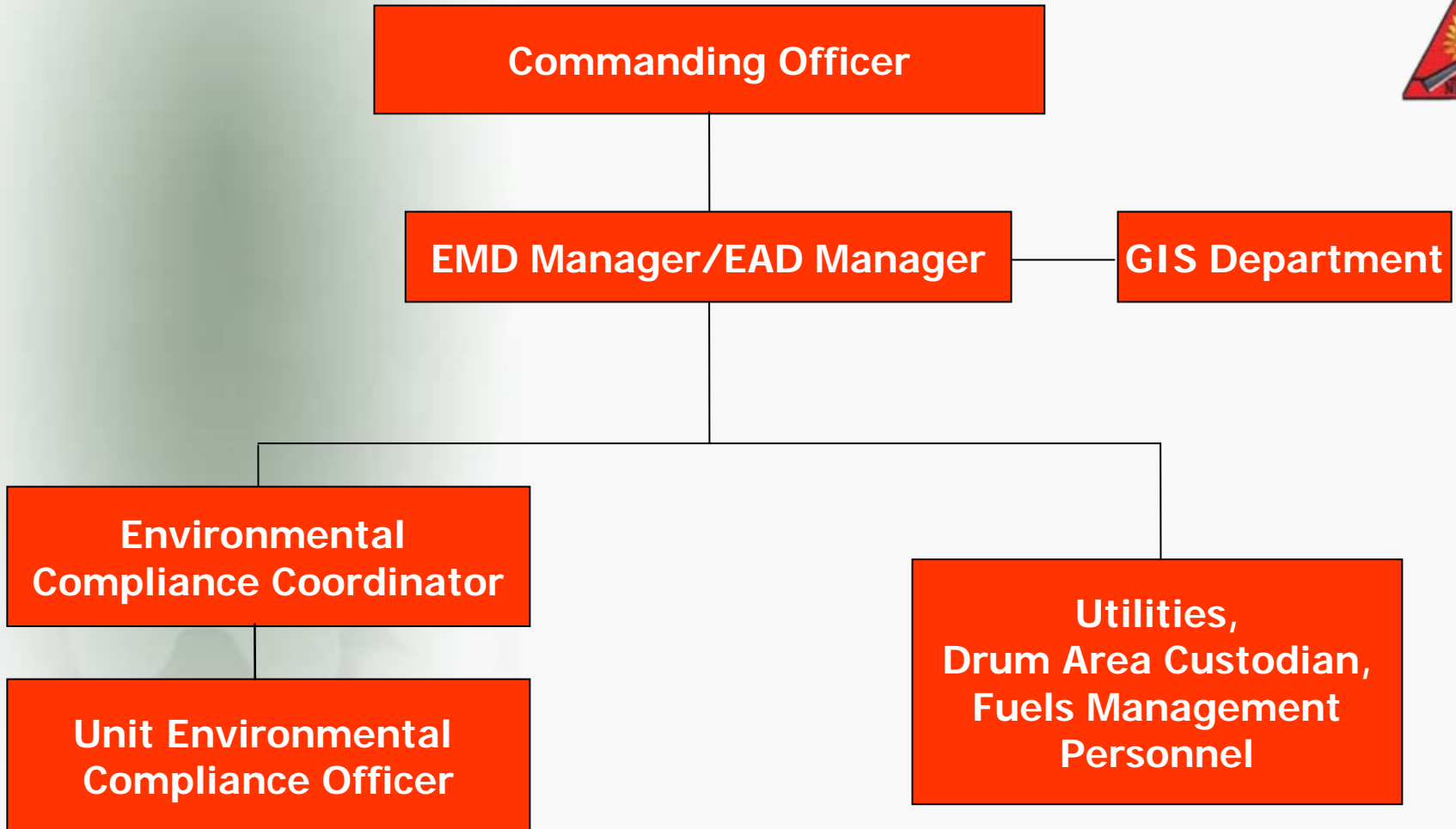


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# Amendment Structure





# Plan Amendment



- Report changes to EMD
- EMD must integrate facility changes
- Update container inventory/location
  - POL ASTs, USTs, L/UL Racks, OWSs, Mobile/Portable Containers, Drums, Transformers
  - HM ASTs, USTs, Mobile/Portable Containers, Drums, Other
- GIS Department maintains geodatabase





# Innovative Update of ICP/SPCC Plans

MCB Camp Lejeune/MCAS New River, NC



EnSafe's decision to incorporate all field data into an SDS compliant GIS database enabled the project to be completed more efficiently, resulting in the following benefits:

- Completed initial draft plan within 6 weeks of completing first site visit
- 20% cost savings compared to a previous update (\$385,000 vs. \$500,000)
- EMD/GIS Departments able to update plan and geodatabase as changes to infrastructure and products occur
- Long-term cost-savings of more than \$1 million for future petroleum infrastructure assessment and SPCC updates.

# Innovative Update of ICP/SPCC Plans

MCB Camp Lejeune/MCAS New River, NC



Over the course of the project, several lessons were learned regarding use of the tools

- Field personnel need access to GIS personnel for questions
- Battery life: 2 hrs, solar panels, spare
- Methods to handle effect of clouds on GPS location
- Multiple graphic layers enhance container placement
- Graphic layers turned on – memory/process speed limiting
- Persistence is required to collect all data correctly onsite
- Must save and check/update data nightly
- NexiCam not required; may use own digital camera
- Easy to manipulate data output for tables and photos

# Innovative Update of ICP/SPCC Plans

MCB Camp Lejeune/MCAS New River, NC



## Questions

