Navigation
Data Integration Framework
&
Channel Framework

Clint Padgett

Spatial Data Branch, Chief

US Army Corps of Engineers

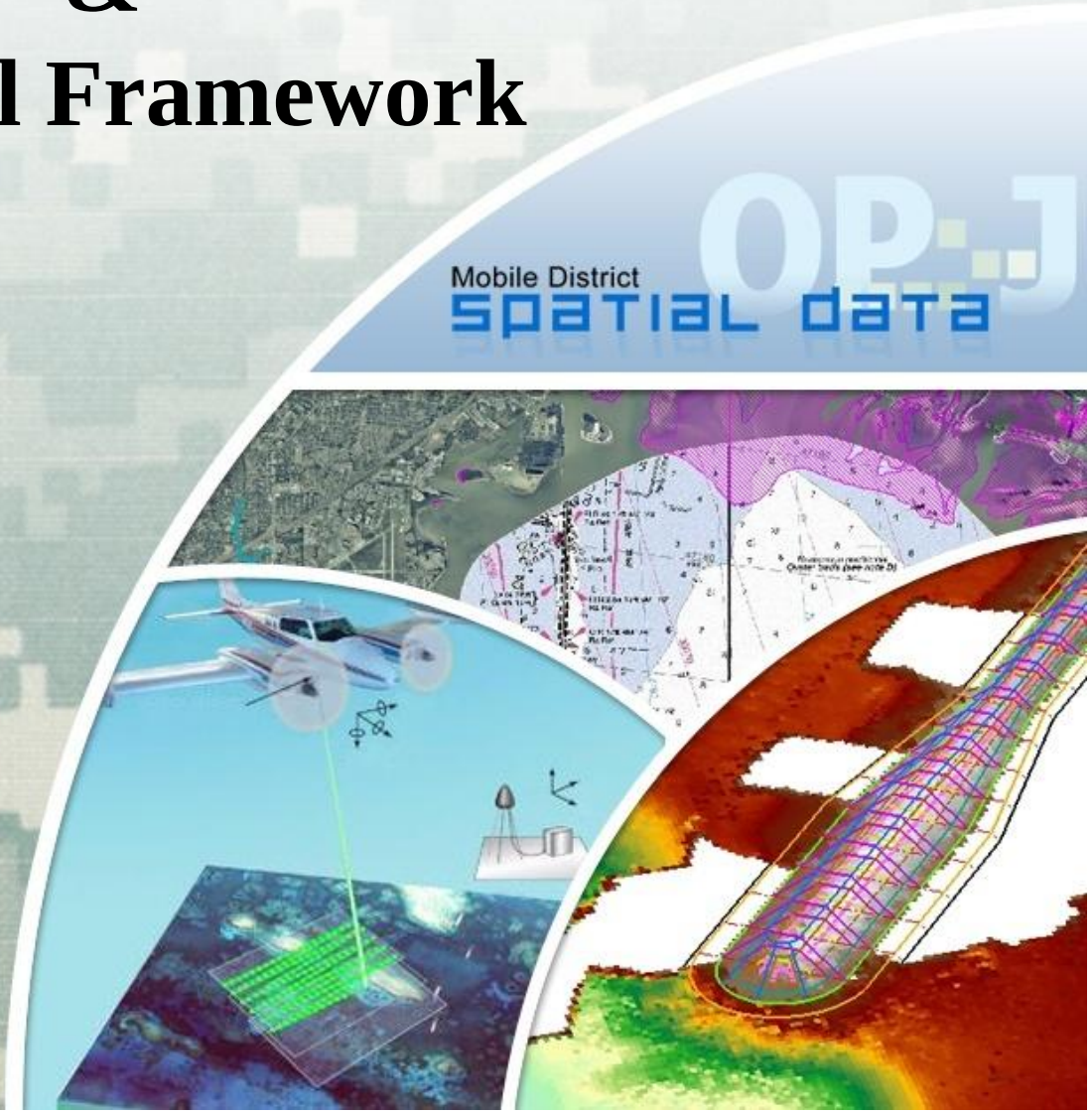
Mobile District, Mobile AL

AAPA/Harbors & Navigation Committee Meeting

Seattle, WA

August 12-13

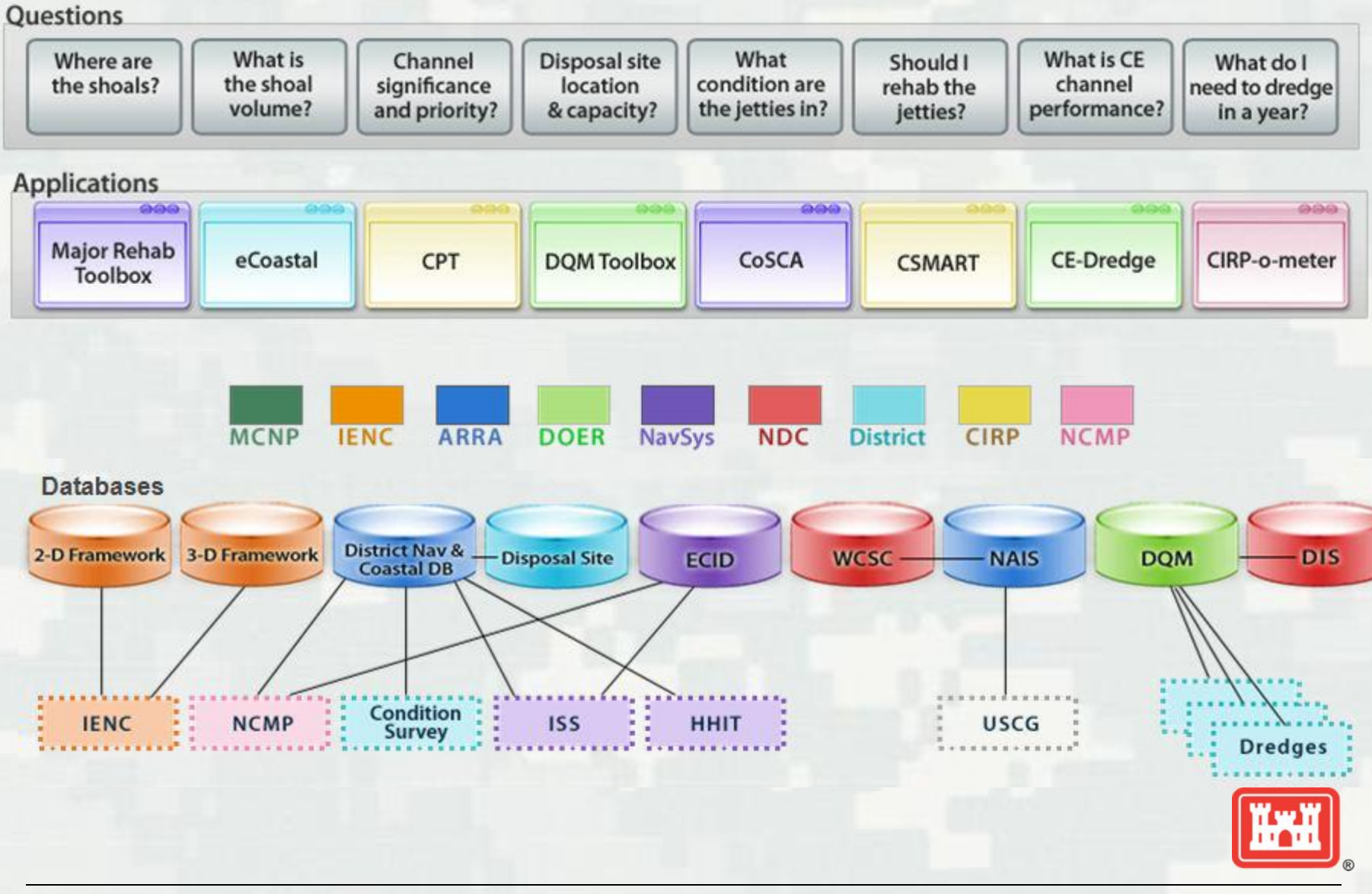
US Army Corps of Engineers
BUILDING STRONG®



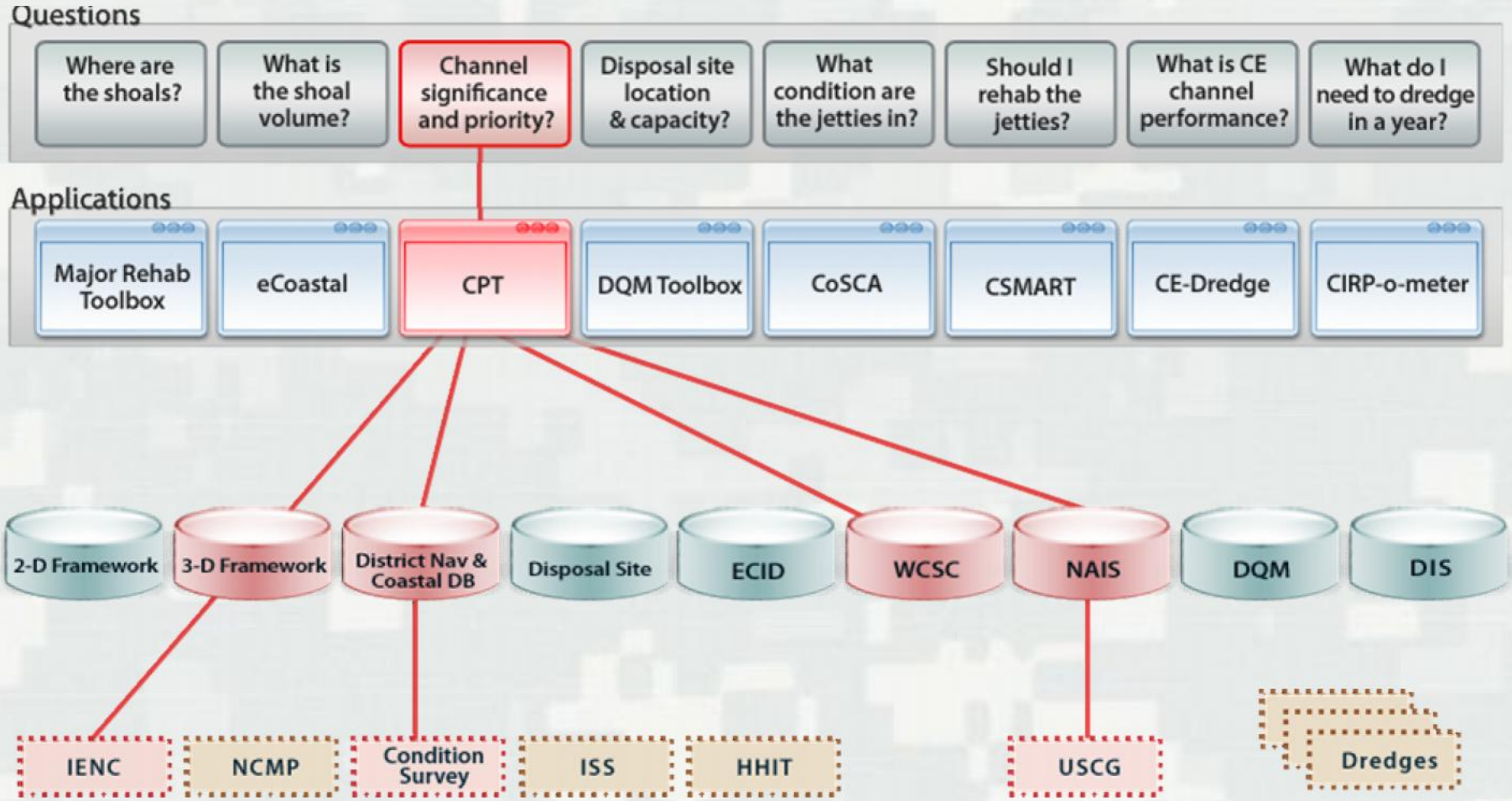
Data Integration Framework (DIF)

- A combination of processes, standards, people, and tools used to transform disconnected enterprise data into useful, easily accessible information for strategic analysis and reporting
- A blueprint identifying how all of its pieces interact and establishing a set of standards and best business practices
- Turns data scattered among different databases and locations into data that is consistent across databases, that can be easily discovered, accessed, and used

Integrated Coastal Navigation Programs



Integrated Coastal Navigation Programs



Challenges

- Multiple, disconnected navigation databases
- Data format
- Data inconsistency
- User time and effort
- User participation
- Data availability
- Data timeliness

NDIF Architecture

- Source Databases (data)
- Data Hub (catalog)
- Web Service Layer (access)
- Tools (analysis)
- Portal (discovery)

NDIF Phases

1. Dredging
2. River Information Services (RIS)
3. Surveying and Mapping
4. Infrastructure & Asset Management
5. Engineering with Nature & RSM
6. Marine Transportation Systems

NDIF Integration into USACE's Enterprise Geospatial Program

- Promotes geospatial data sharing across the USACE Navigation Business Line
- Exposes and makes discoverable decentralized data through a centralized Portal
- In the process of linking disparate databases, provides a geospatial component to those that previously had none

Impact on USACE as a Whole

- The ultimate goal of the NDIF is to develop an integrated data system across the Navigation Business Line, which will serve as a model of what ultimately might be accomplished across the entire USACE

- Provide data where applicable to the Public

Navigation
US Army Corps of Engineers

USACE Navigation Portal

Dredging
Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam

River Information Services
Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam

Surveying & Mapping
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Engineering With Nature & Regional Sediment Management
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Marine Transportation System
Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam

Infrastructure & Asset Management
Channel condition surveys, navigation notices, lock closures and schedules of federeally authorized navigation channels managed by USACE

- Select region on a map...
- View all USACE data
- Select district from list...
  - Mobile District
  - Wilmington District
  - San Francisco District

Interactive Map Viewer
Locate surveys, notices, and other GIS features on a map

Navigation
Mobile District

Mobile District Navigation

Hydrographic Surveys

Channel condition surveys of federeally authorized navigation channels that are maintained by the U.S. Army Corps of Engineers

Navigation Notices

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam

Lock Information

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam

Dredging Schedules

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam

Navigation Bulletin Board

A 3000 lb. beaver has built a dam in the Black Warrior River around Mile 221. All boats and vessel traffic appears to be rendered to a hault. See Navigation Notice

Download the South Atlantic Division Routine Operations and Maintenance Review Plan, which defines the requirements, procedures, and specific details of how District Quality Control will be conducted for routine O&M products.

The Asian carp has finally infested the waters of the Tennessee-Tombigbee Waterway. Please note that any eletrical current will cause an awesome display.

Interactive Map Viewer

Locate surveys, notices, and other GIS features on a map

Resource Discovery

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam

Navigation
Mobile District

HYDROGRAPHIC SURVEYS | NAVIGATION NOTICES | LOCK INFORMATION | DREDGING SCHEDULES

Hydrographic Surveys

Find on a Map

Coastal | Riverine

Alabama

Bayou Coden

Projects are broken down by state with the listing of the projects under each state, just click on the project name and you will be presented a list of surveys and zoomed-in map.

Survey Subscription

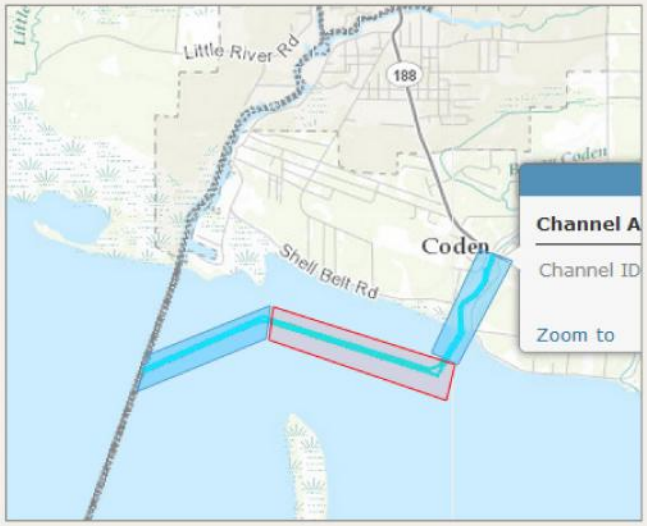
Sign up now free emails when new surveys come online for **Bayou Coden**.

Sign Me Up

Bayou Coden

Survey Title	Date	Downloads
0+00-29+00	2/6/2012	Select...
29+00-58+00	2/6/2013	PDF
58+00-87+00	2/6/2013	Select...

The Hydrographic Surveys provided by this web site are to be used for informational purposes only and should not be used as a Navigational aid. Channel conditions can change rapidly and the surveys may, or may not be accurate.



USACE District: **Mobile District (SAM)**

Last Survey Date: **2/6/2012**

Another Label Example: **Whatever Else**

Project Paper Map | Project Synopsis | Project Photo

What is the Channel Framework Inventory?

- Waterway road map
- Beginning point for moving USACE into an enterprise GIS program for managing the navigation business line
- Link between OMBIL projects and the spatial representation of those features
- Foundation for organization of navigation and dredging data across USACE.

What is the Channel Framework Inventory?

- Basis for USACE data to update NOAA ENC
- Baseline feature for spatially updating the IWR waterway network
- Tracks channel history through authorized, maintained, and any changes in channel dimensions

Goals

- To identify and build a consistent inventory of projects and sub-projects across the USACE navigation business line, i.e. OMBIL, HQ, districts, and IWR / Waterborne commerce
  - Establishes a district level of organization for channel data
  - Enables a means to provide roll up reporting to channel performance, maintenance, and budgeting

Goals

- To provide each district with an organized and authoritative source for all current projects and sub-projects
  - Reduces search time for data; validates most recent data
  - Establishes better communication across districts, divisions, and HQ
  - Provides consistent reporting to all customers
  - Enables USACE to connect the CPN and congressional language with station markers along a project

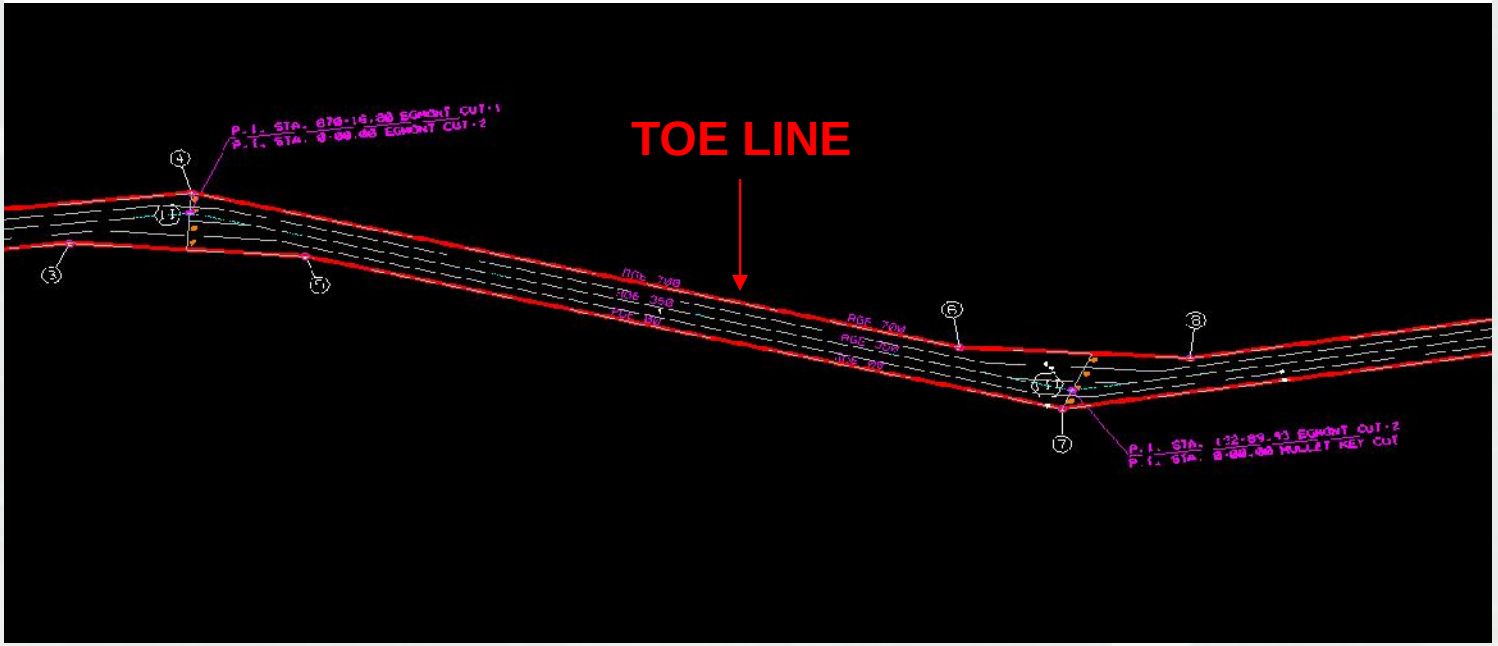
Goals

- To build GIS features for all projects and sub-projects across USACE
  - Allows better analysis of survey data
  - Provides a baseline data set for establishing a USACE Enterprise GIS for the navigation business line
    - Creates the ability to link future Automated Information System (AIS) capability to live channel framework datasets
  - Provides channel locations for all regulatory and planning divisions, allowing better reporting and environmental monitoring

Channel Framework features

Importance of standardization:

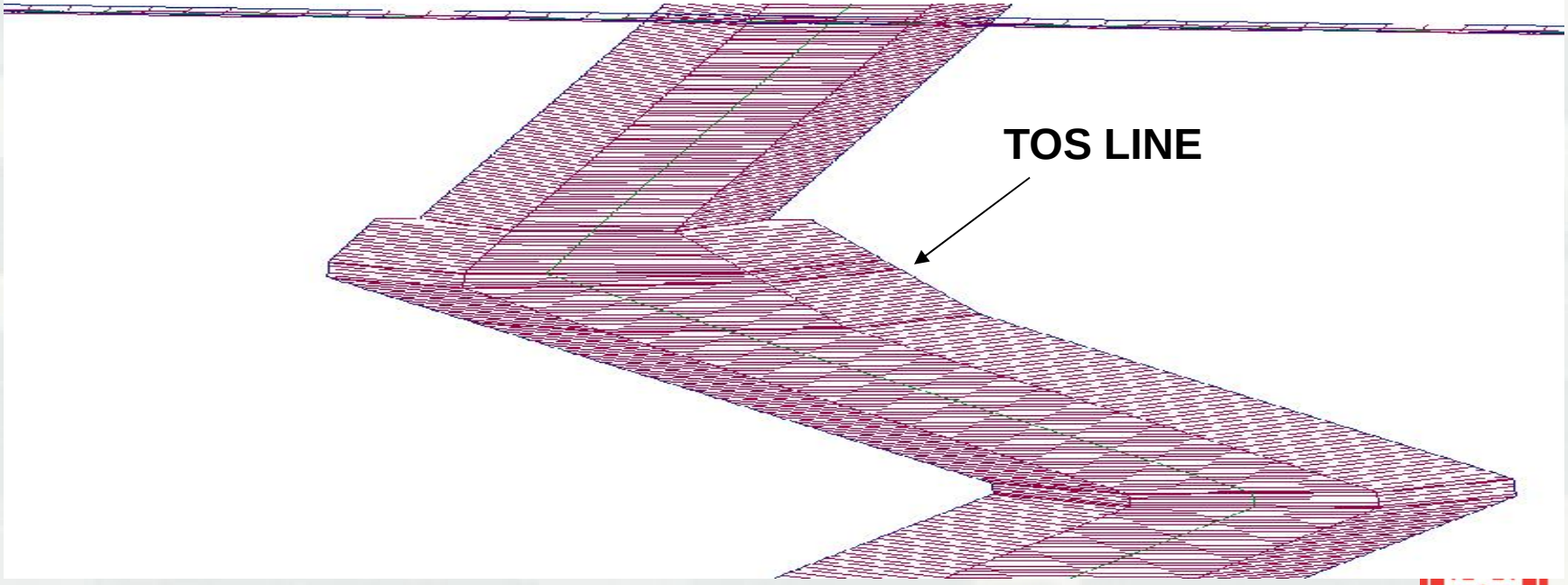
An accurate and standardized TOE will definitively locate the outer boundary line of Corps maintained channels.



Channel Framework features

Importance of standardization:

Creating a TOS will allow the creation of channels in a 3D format for volumetric calculations

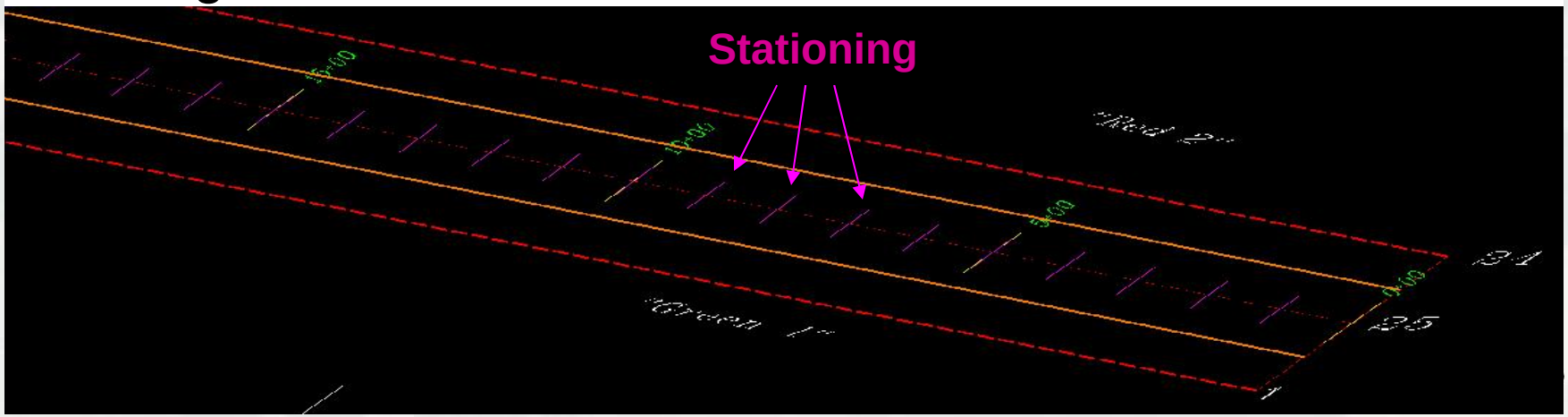


Channel Framework features

Importance of standardization:

Consistent stationing will allow all USACE personnel and NOAA to know their exact location nationwide, based on a single, unique station number.

Ex. ML_SAM_1696+00 represents the Lower Mobile Channel, located in the Mobile District, at 169,600 feet heading downstream.

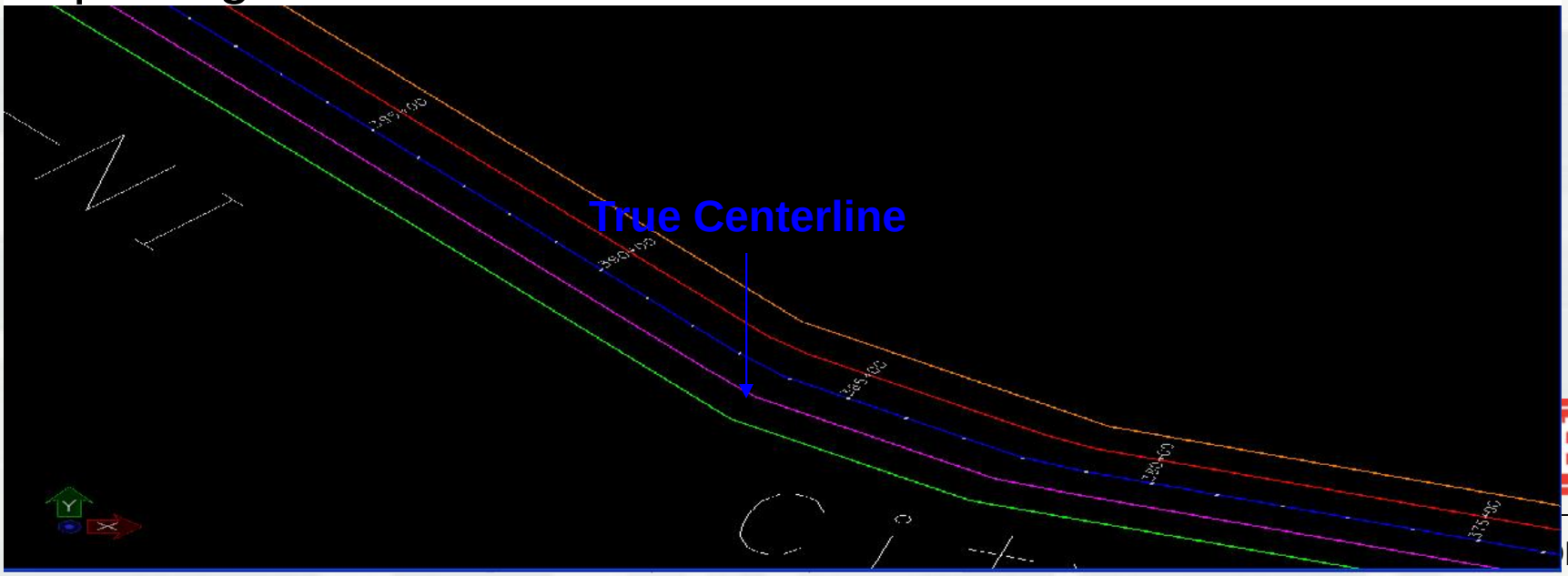


Channel Framework features

Importance of standardization:

Creating a true centerline will provide mariners a location to the deepest water within a channel, making navigation easier.

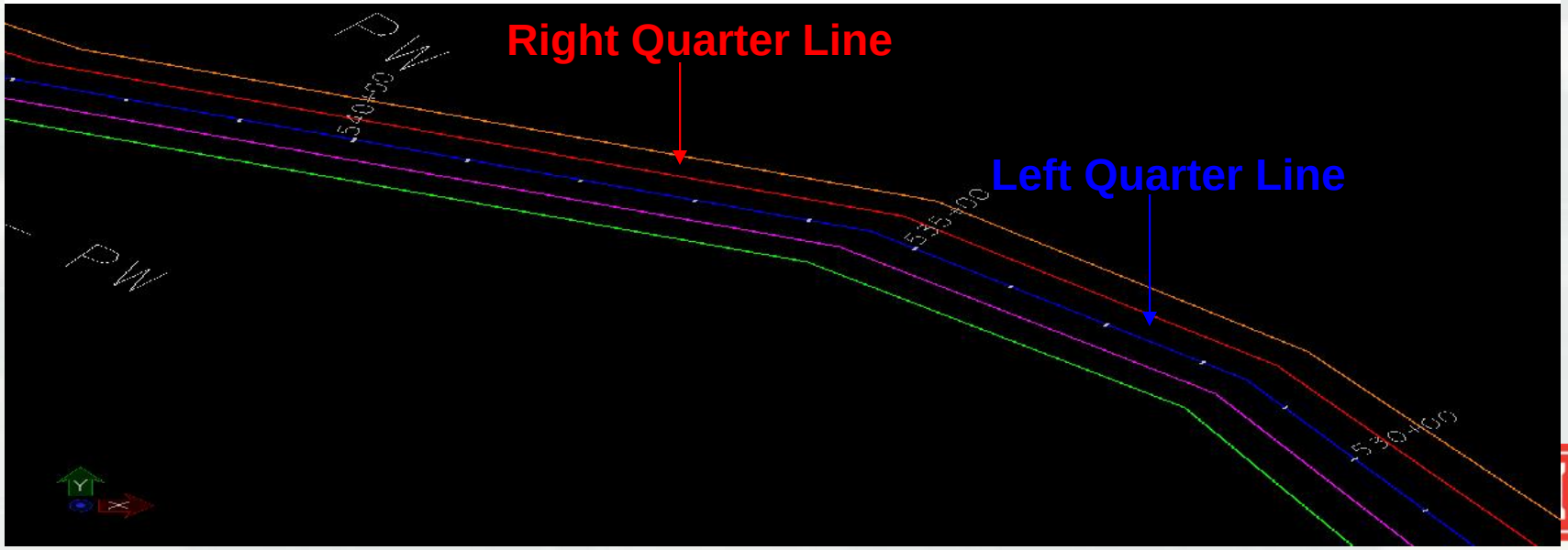
Consistency in creating quarters for channel condition reporting.



Channel Framework features

Importance of standardization:

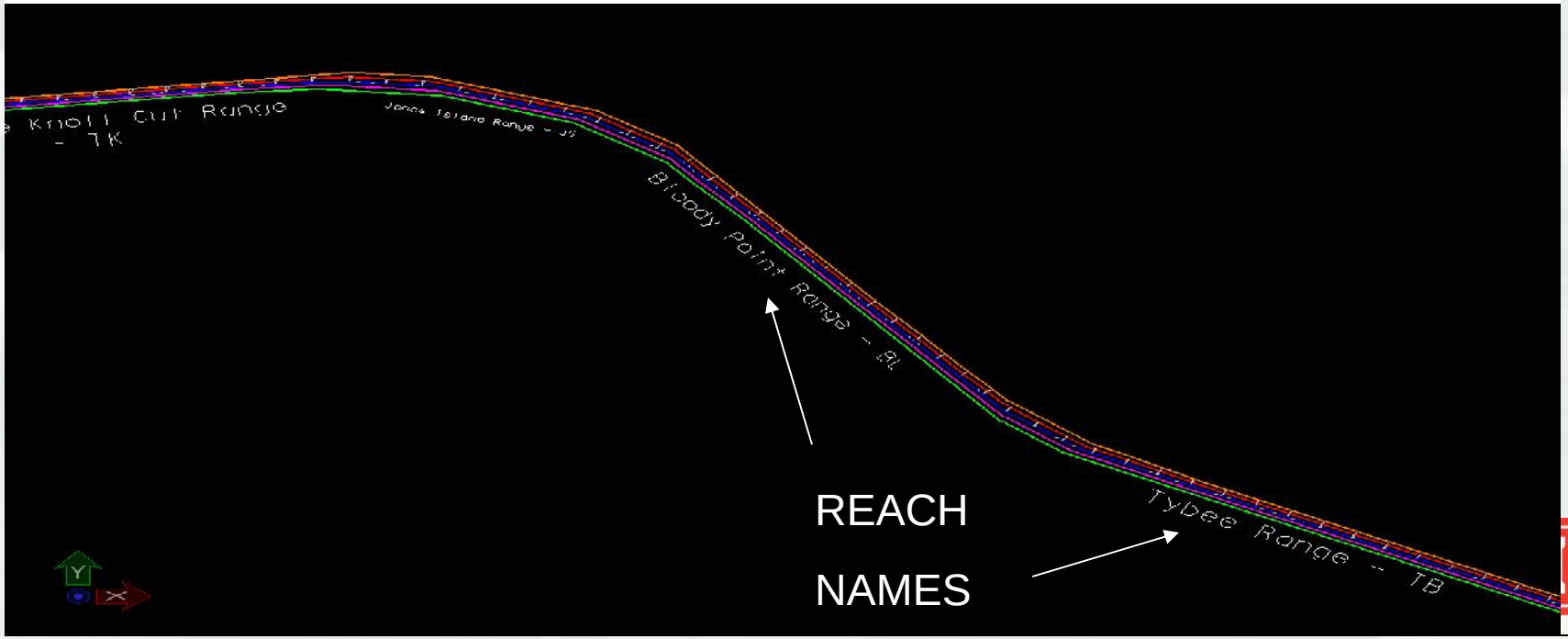
Standard quartering provides a visual representation of reported depths and will provide a basis for accurately building an automated channel condition report based on collected surveys.



Channel Framework features

Importance of standardization:

Creating an inventory of reach names connects quartering with a specific location, to be reflected in automated channel condition reporting.



Where did Channel Framework begin?

- NOAA needed an accurate representation of all channel for the USACE to update their ENC

Where is Channel Framework headed?

- Providing NOAA live GIS layers for automatic updates for all projects and sub-projects
- Using GIS to automate many of the daily functions for current tasks of a survey tech, i.e. channel condition reporting, chart plotting, volumetric calculations for dredge packages, DQM reporting, etc.

What current projects depend on Channel framework?

- Channel performance tool
- Waterway network updates
- Channel condition indices
- Automated channel condition reporting
- DQM monitoring

Keys to Success

- Final dataset produced will take place over existing data in each district, including standardized stationing and quartering
- Cooperation from navigation experts in collecting channel dimensions and survey drawings
- Any changes in channel dimensions or spatial location is now being handle in conjunction with the eHydro Program

Question/Comments?

Clint.Padgett@us.army.mil
http://spatialdata.sam.usace.army.mil