GIS@FDOT

Building interactive maps using ArcGIS Online

Overview

- What is GIS@FDOT?
- Current Maps & Applications
- Best Practices
- What's Next?

GIS at FDOT

7% of the agency uses ArcGIS Desktop

- Used in a variety of disciplines
  - Design
  - Maintenance
  - Safety
  - Planning
  - Traffic Operations
  - IT

What is GIS@FDOT?

- ArcGIS Online Organizational Account
  - Implemented in November 2014
  - Lightweight maps & applications
  - Data sharing for both internal and external use without taxing our existing IT Infrastructure
  - Brings GIS to YOU instead of relying on GIS Technicians
  - Implement GIS solutions for more efficient workflows

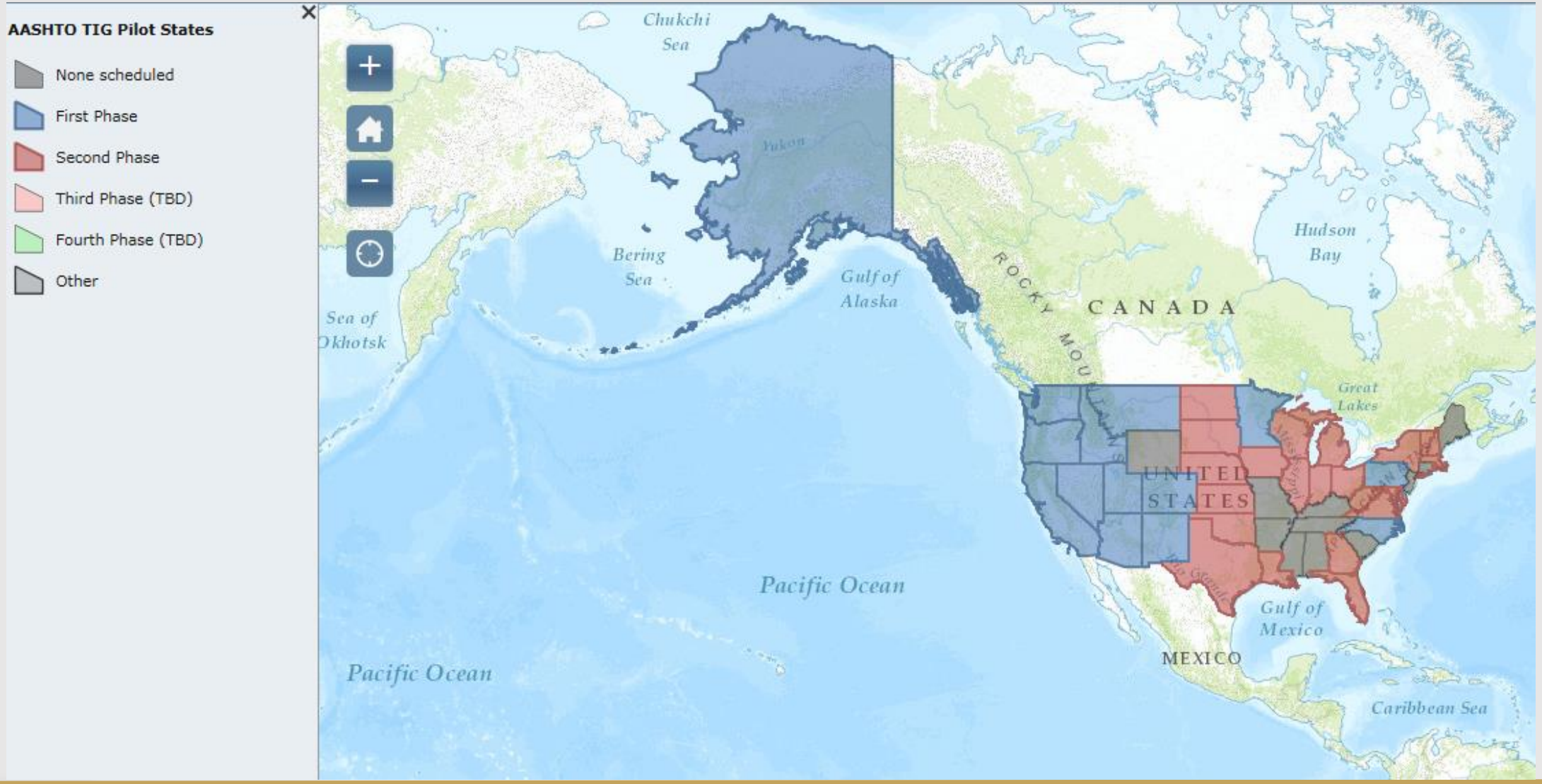
GIS@FDOT

- Collaborative
- Cloud-based
- Content Management System
- Ready-to-use maps
- Analytics Tools
- Lightweight Development

Image courtesy Esri, Inc.

GIS@FDOT

- Modeled after UPLAN
  - UPLAN Phase II
- AASHTO Innovation Initiative
  - Provided FDOT with 100 named users and 17,500 credits



Centennial FDOT 1915 ★ 2015

Celebrating 100 Years of Innovation, Mobility and Economic Development

Welcome to GIS@FDOT! GIS@FDOT is the portal for FDOT's organizational account for ArcGIS Online, which is a collaborative, cloud-based platform that allows members of an organization to use, create, and share maps, apps, and data with anyone. It provides a mechanism for data organization and management across districts and functional areas within the Department, eliminating the need for data duplication. This platform is also portable and all maps created will be compatible across desktops, tablets, and smart phones.

FDOT Data Sources:

FDOT Clearinghouse

FDOT APLUS

FDOT TranStat GIS

Request AGOL Account

Current Usage

- 80 Named Users
- 38 Groups
- Content
  - 188 Maps
  - 544 Layers
  - 106 Files
  - 125 Apps
  - 3 Scenes (3D)

Current Applications

Applications & Maps

- Bicycle Friendly Roads
- Work Program Projects
- Virtual State Map
- Florida Bridges
- Pavement Evaluation & Testing
- Safety: Pedestrian Traffic
- Wildflower Locations
- Adopt-A-Highway
- Turnpike Construction
- District Operations
- Asset Management Contracts
- Strategic Intermodal System
- TBX Project Locations
- Soil Borings
- Stormwater Ponds/Outfalls
- Scenic Highways

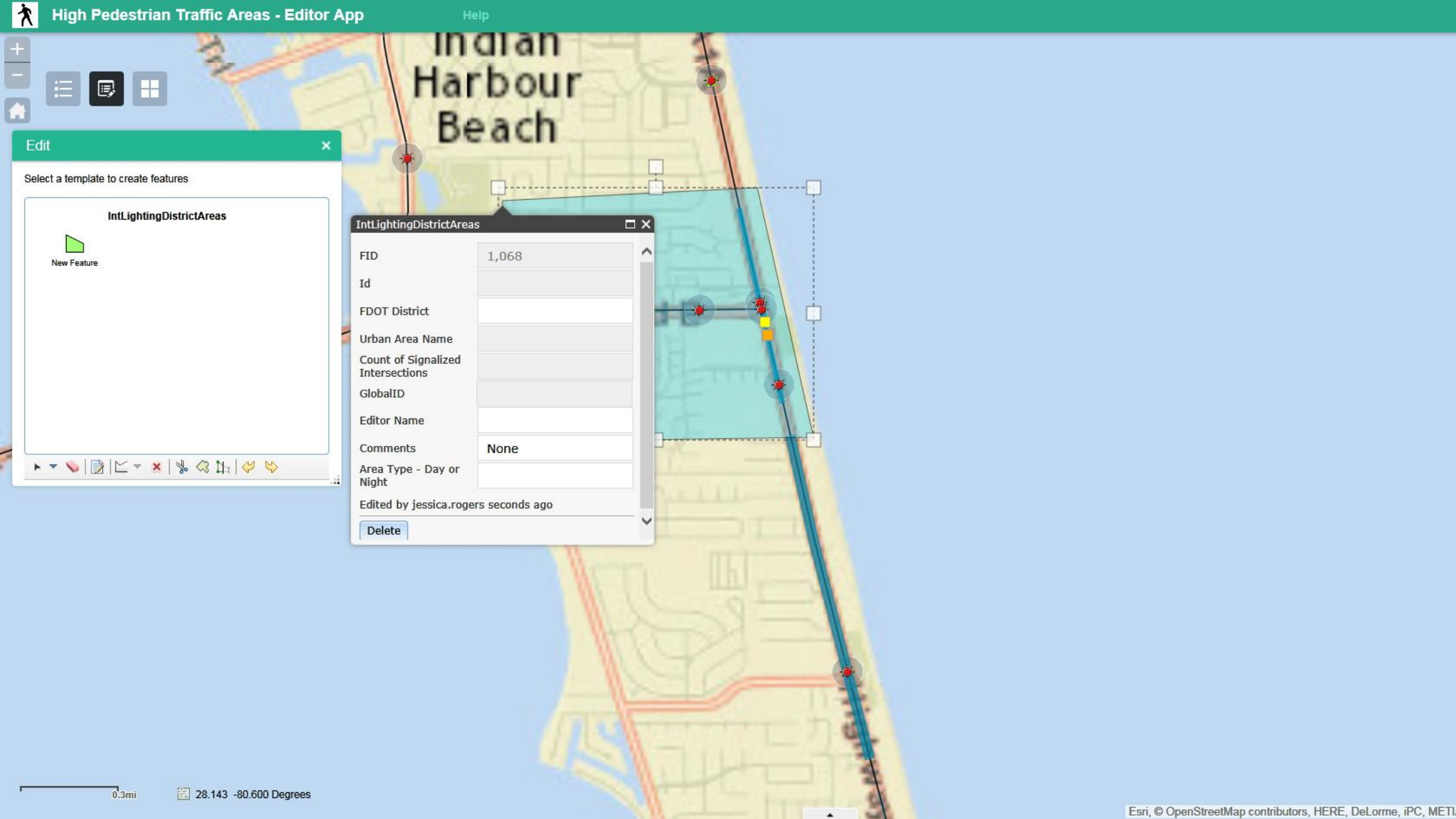
Bicycle Friendly Roads

- Displays a variety of bicycle friendly roads and trails throughout the state
  - Include roads that contain a bike lane, shared path, or a shoulder width of 3.5' or greater to accommodate cyclists.
- Ancillary information provided
  - AADT, speed limits, and number of lanes
  - Data was created by combining layers from RCI
- Integrates Google StreetView

3440 S Monroe St, Tallahassee, Florida
Address is approximate
North Florida Fair
pepsi
S Monroe St
S Monroe St
Google

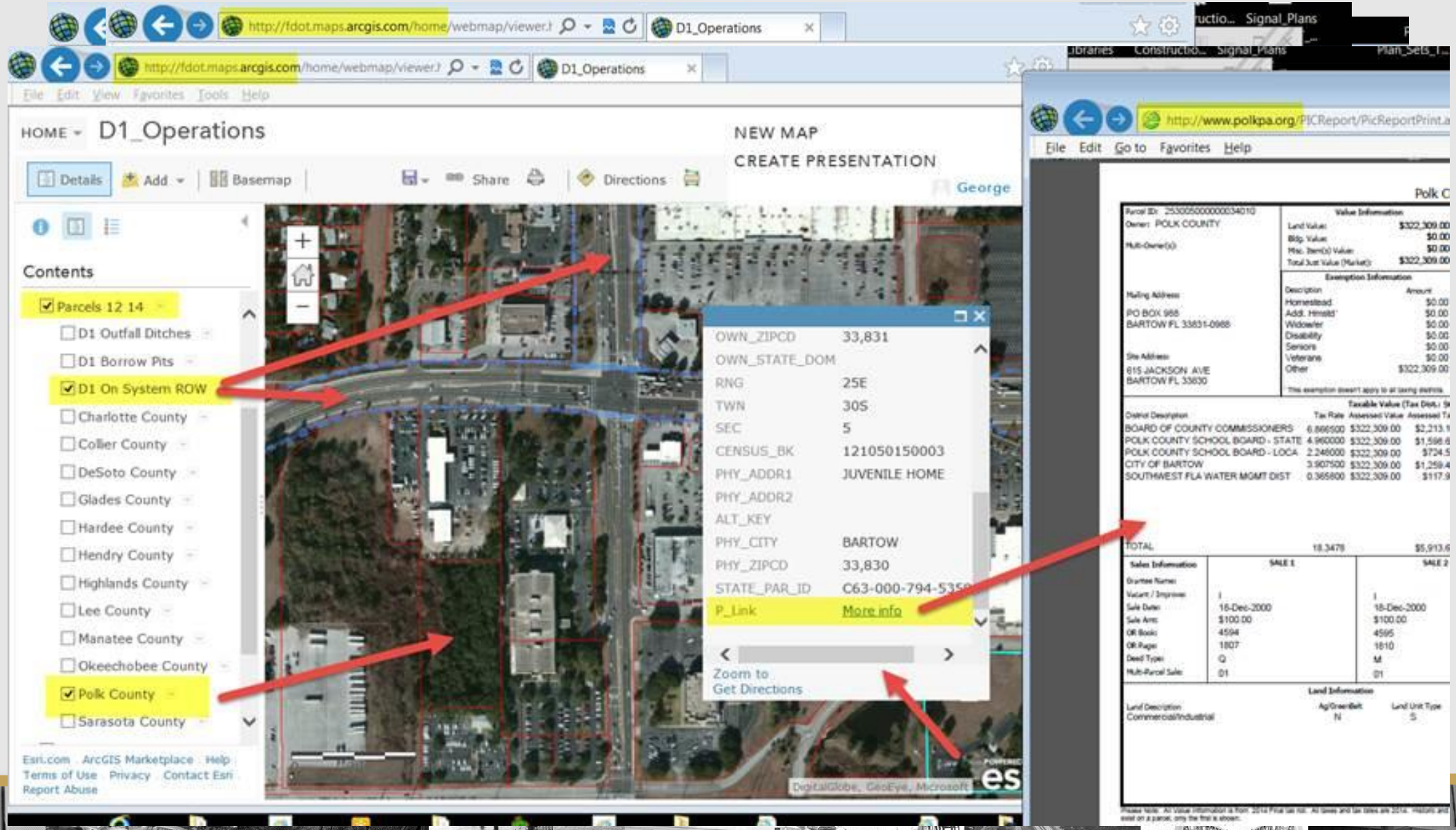
High Pedestrian Traffic Areas

- Used to collect information on areas with high pedestrian volume
- Helps address pedestrian crashes in Florida
  - Pedestrian volume is difficult & time consuming to collect
- FDOT Districts, MPOs, other local governments use the app to identify corridors of high volume in their cities/regions.
- Allows the FDOT Safety Office to identify where additional pedestrian safety features (lighting, etc) should be installed.


High Pedestrian Traffic Areas - Editor App
Help
Indian Harbour Beach
Edit
Select a template to create features
IntLightingDistrictAreas
New Feature
IntLightingDistrictAreas
FID
1,068
Id
FDOT District
Urban Area Name
Count of Signalized Intersections
GlobalID
Editor Name
Comments
None
Area Type - Day or Night
Edited by jessica.rogers seconds ago
Delete
0.3mi
28.143 -80.600 Degrees
Esri, © OpenStreetMap contributors, HERE, DeLorme, iPC, METI

District Operations

- Contains common use data elements used in the day-to-day functions at District 1
  - Operational Layers
  - Access Management
  - Surveying & Mapping
  - Right of Way
  - Parcels
  - D1 Transportation Statistics layers



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NPDES Stormwater Ponds & Major Outfalls

- Identifies stormwater ponds & outfalls along Florida's Turnpike

- Using Collector for ArcGIS app; mobile data collection
  - Locations of asset
  - Photos of features

Non-Destructive Pavement Testing

- Developed for Mobile Reflectivity Unit (MRU) in State Materials
- Color coded to easily identify which pavement marking needs testing
- Replaced the need to hand color-code maps from key sheets
- Contains basic roadway information to have quick access to data found in SLDs
- Editing capability
- Mobile-friendly!

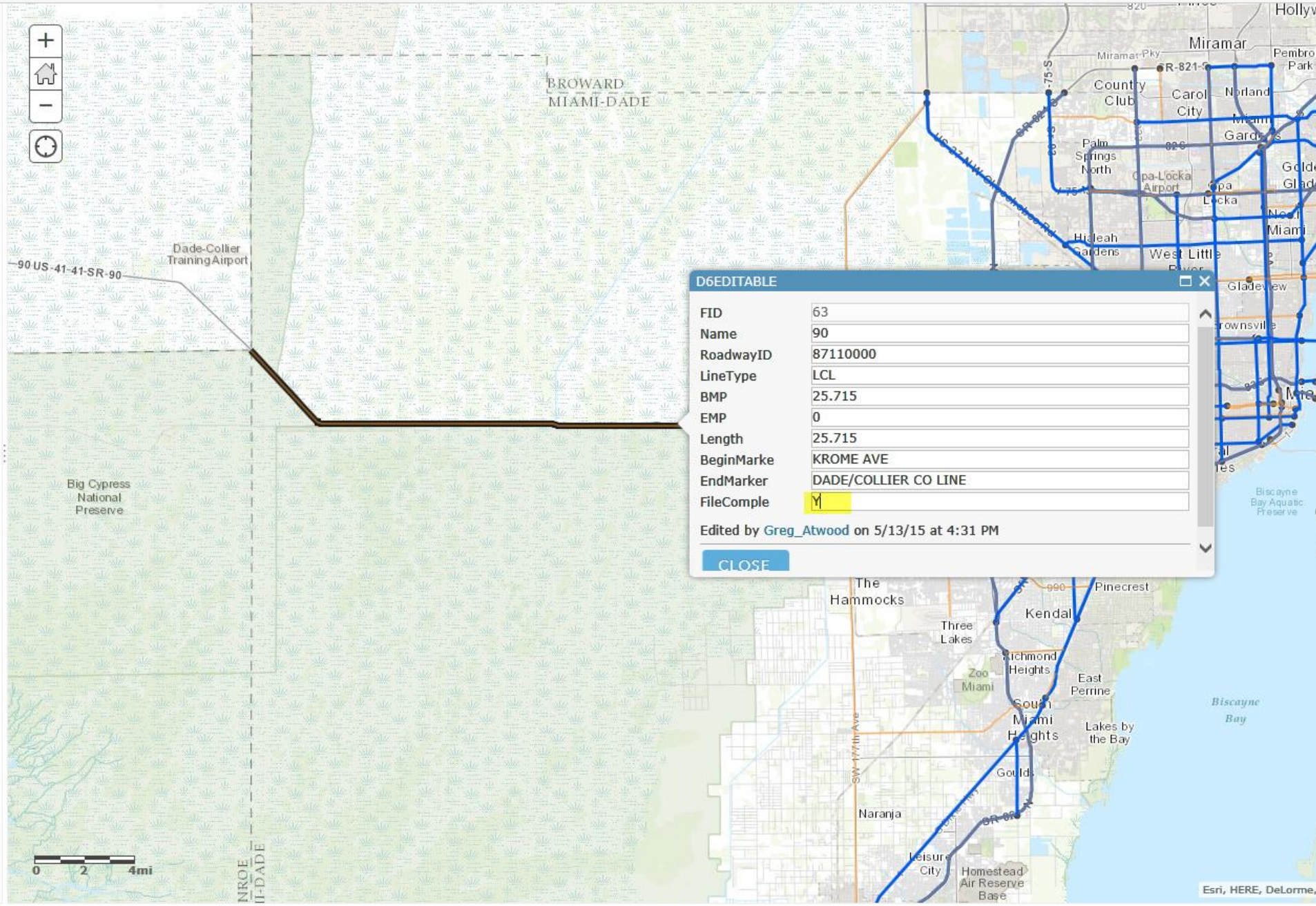
HOME D6 Editable

Details | Add | Edit | Basemap | Save | Share | Print | Directions | Measure | Bookmarks | Find address or place

Add Features

Feature creation is disabled for all layers.

UNDO REDO



D6EDITABLE

FID	63
Name	90
RoadwayID	87110000
LineType	LCL
BMP	25.715
EMP	0
Length	25.715
BeginMarke	KROME AVE
EndMarker	DADE/COLLIER CO LINE
FileComple	Y

Edited by Greg_Atwood on 5/13/15 at 4:31 PM

CLOSE

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Soil Boring Editing Application

- Created to allow geotechnical engineers to edit their data
  - Transitioned the workflow from a spreadsheet to a geospatial environment
- Working on the public facing environment
  - Provides links to PDF reports
  - Provides information to alleviate public requests via phone
  - Public view is not editable

Soil Boring Editing Application

Address Street, City, State

(1 of 2)

Regular Points: TB-2

Project Number	422009-1-52-01
Project Description	SR 438 Jack and Bore West of Dardanelle Dr.
Bore Number	TB-2
PDF Name	422009_1_52_01_TB1_2.pd
PDF Link	More info
Metadata	
County	Orange
Bore Date	
Elevation	
Station	168+15

Zoom to

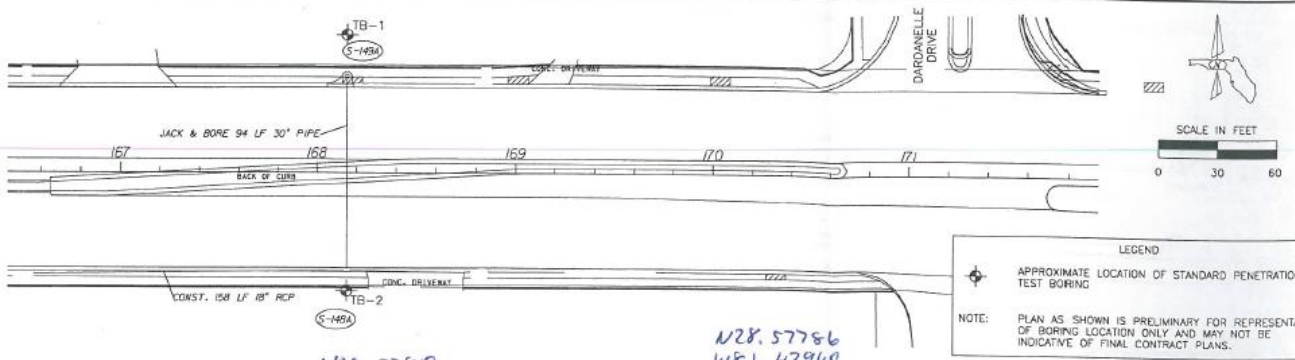
Layer List

Operational Layers

- District 5 Soil Boring Points - Plan Points
- District 5 Soil Boring Points - Regular Points
- Sink Holes
- PotentiometricSurfaces - Well Points
- Floridan Aquafer Contours
- County Boundaries District 5
- USA Topo Maps
- District 5 Soil Boring Points Tiled

28.727 -80.649 Degrees

http://services1.arcgis.com/O1JpcwDW8sjYuddV/arcgis/rest/services/District_5_SoilBoringPoints/FeatureServer/1/9291/attachments/9291?token=h8CpTJV2zGzfPwjqnqfXgaYfTB0WZJUe9V3BUGw
Soil Boring | Soil Boring Editing Application | services1.arcgis.com
Edit Go to Favorites Help
Page Safety Tools



SCALE IN FEET
0 30 60

LEGEND

APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING

NOTE: PLAN AS SHOWN IS PRELIMINARY FOR REPRESENTATION OF BORING LOCATION ONLY AND MAY NOT BE INDICATIVE OF FINAL CONTRACT PLANS.

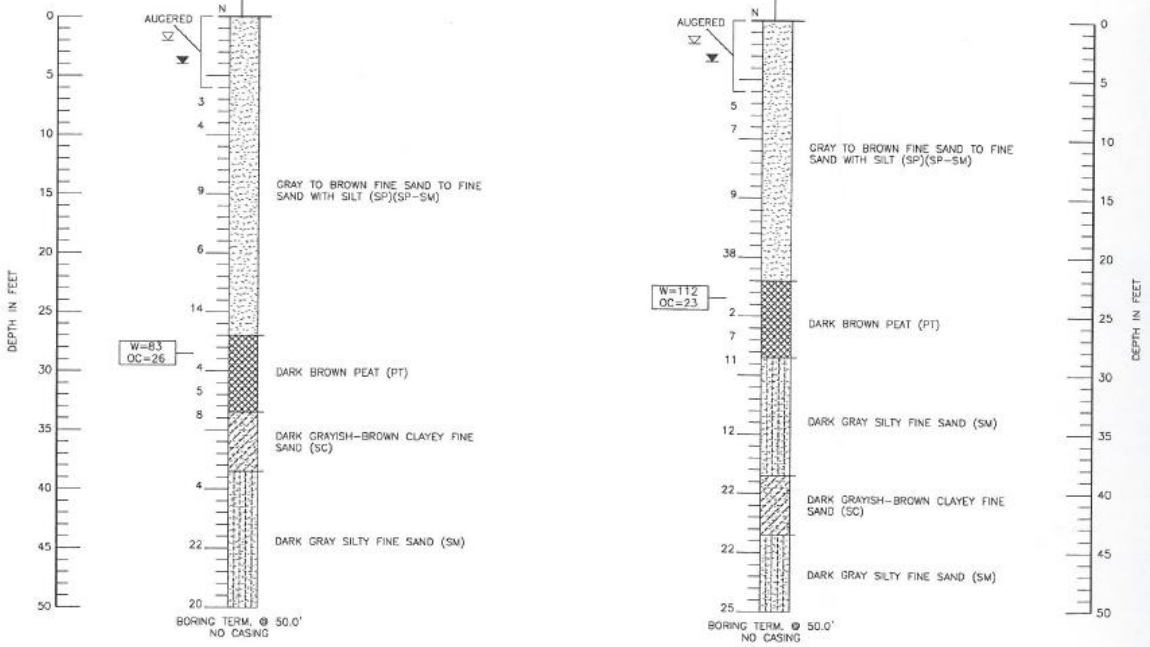
N28.57819
W81.43961

BORING No.: TB-1
STATION: 168+15
OFFSET: 70' LT.

N28.57786
W81.43960

BORING No.: TB-2
STATION: 168+15
OFFSET: 60' RT.

SECTION: 17
TOWNSHIP: 22 SOUTH
RANGE: 29 EAST



LEGEND

SAND	CLAYEY SAND
SILTY SAND	PEAT
(SP)	UNIFIED SOIL CLASSIFICATION GROUP SYMBOL
▼	ENCOUNTERED GROUNDWATER LEVEL (DATE OF READING)
▽	ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL
W=0 OC=0	NATURAL MOISTURE CONTENT (%) ORGANIC CONTENT (%)
N	STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT UNLESS OTHERWISE NOTED

RIG TYPE: CME 55

DRILLED BY: NODARSE & ASSOCIATES, INC.

STANDARD PENETRATION TEST DATA

SPOON INSIDE DIA.	1 3/8 in.
SPOON OUTSIDE DIA.	2 in.
ASTM STANDARD DROP SAFETY HAMMER (ROPE-CATHEAD)	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

GRANULAR MATERIALS

RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 4
LOOSE	4-10
MEDIUM DENSE	10-30
DENSE	30-50
VERY DENSE	GREATER THAN 50

SILTS AND CLAYS

CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 2
SOFT	2-4
FIRM	4-8
STIFF	8-15
VERY STIFF	15-30
HARD	GREATER THAN 30

NOTES:

1) LAYER BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL LAYERS AT EACH TEST HOLE LOCATION ONLY. SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN ARTICLE 2-4. FOR FURTHER DETAILS SEE ARTICLE 120-3.

2) BASED ON A REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE UPPER FLORIDAN AQUIFER FOR THIS PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +60 FEET NGVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO ELEVATION FEET +60 NGVD.

ENVIRONMENTAL CLASSIFICATION:

SUPERSTRUCTURE: N/A

SUBSTRUCTURE:

STEEL: MODERATELY AGGRESSIVE (pH=6.0)
CONCRETE: MODERATELY AGGRESSIVE (pH=6.0)

REVISIONS

Date	By	Description	Date	By	Description

	Name	Date
Drawn by	MG	9-10-08
Checked by	RA	9-10-08
Designed by		
Checked by		
Approved by	ELIAS JAMMAL, P.E.	

NODARSE & ASSOCIATES, INC.
1675 LEE ROAD
WINTER PARK, FLORIDA 32789
(407) 740-6110
CERTIFICATE OF AUTHORIZATION No. 6174
ELIAS JAMMAL, P.E. No. 60128

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 438	ORANGE	422009-1-52-01

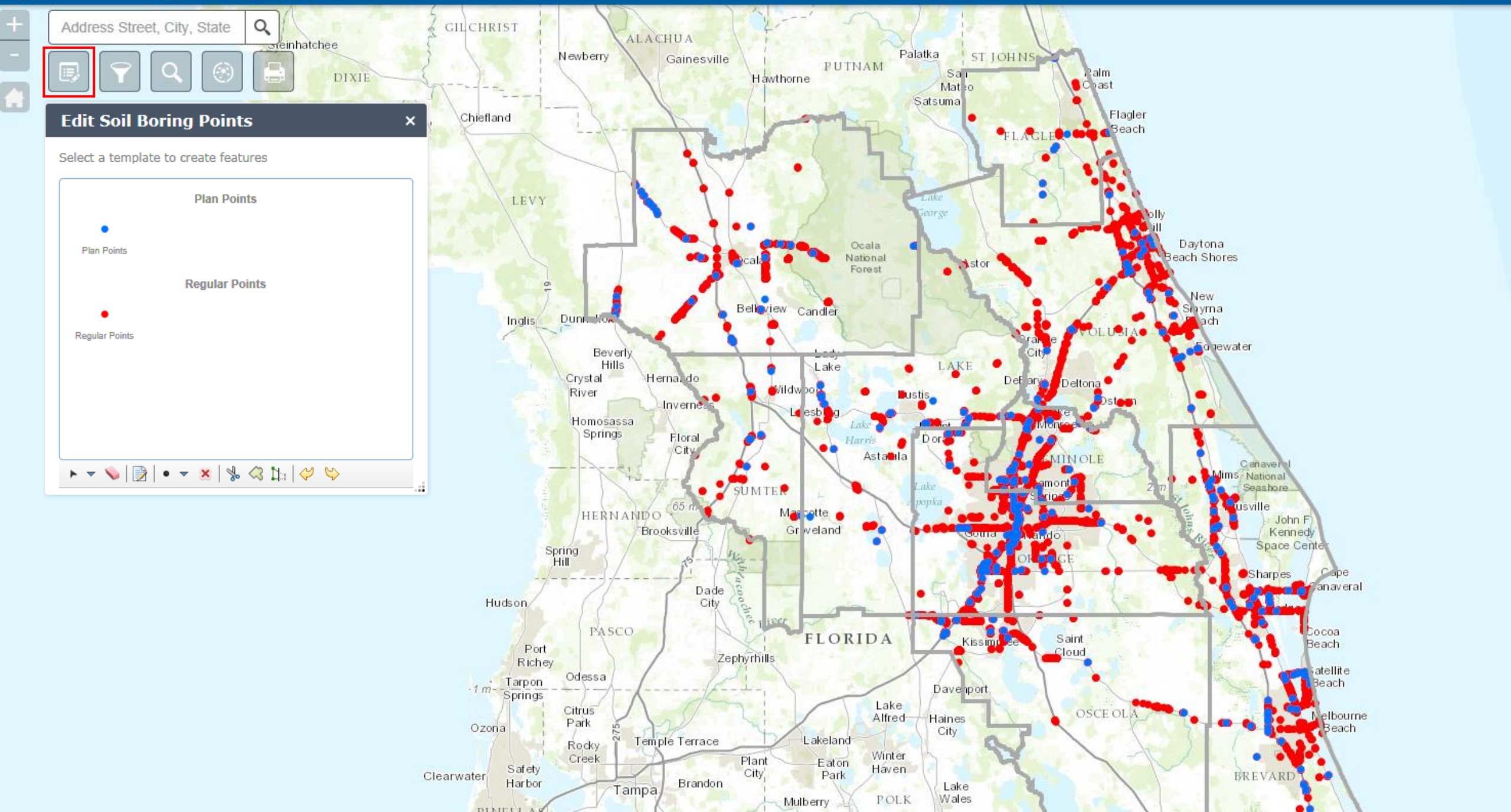
SHEET TITLE: REPORT OF CORE BORINGS FOR SHEET PILE

PROJECT NAME: SR 438
JACK AND BORE
ORANGE COUNTY, FLORIDA

SHEET No. —

NODARSE and ASSOC. No. 01-07-0476-103A FIGURE: 3

Soil Boring Editing Application



Soil Boring Editing Application

Address Street, City, State

Project Number Query

QUERIES Options APPLY

Specify parameters for this task :

PROJNUM is

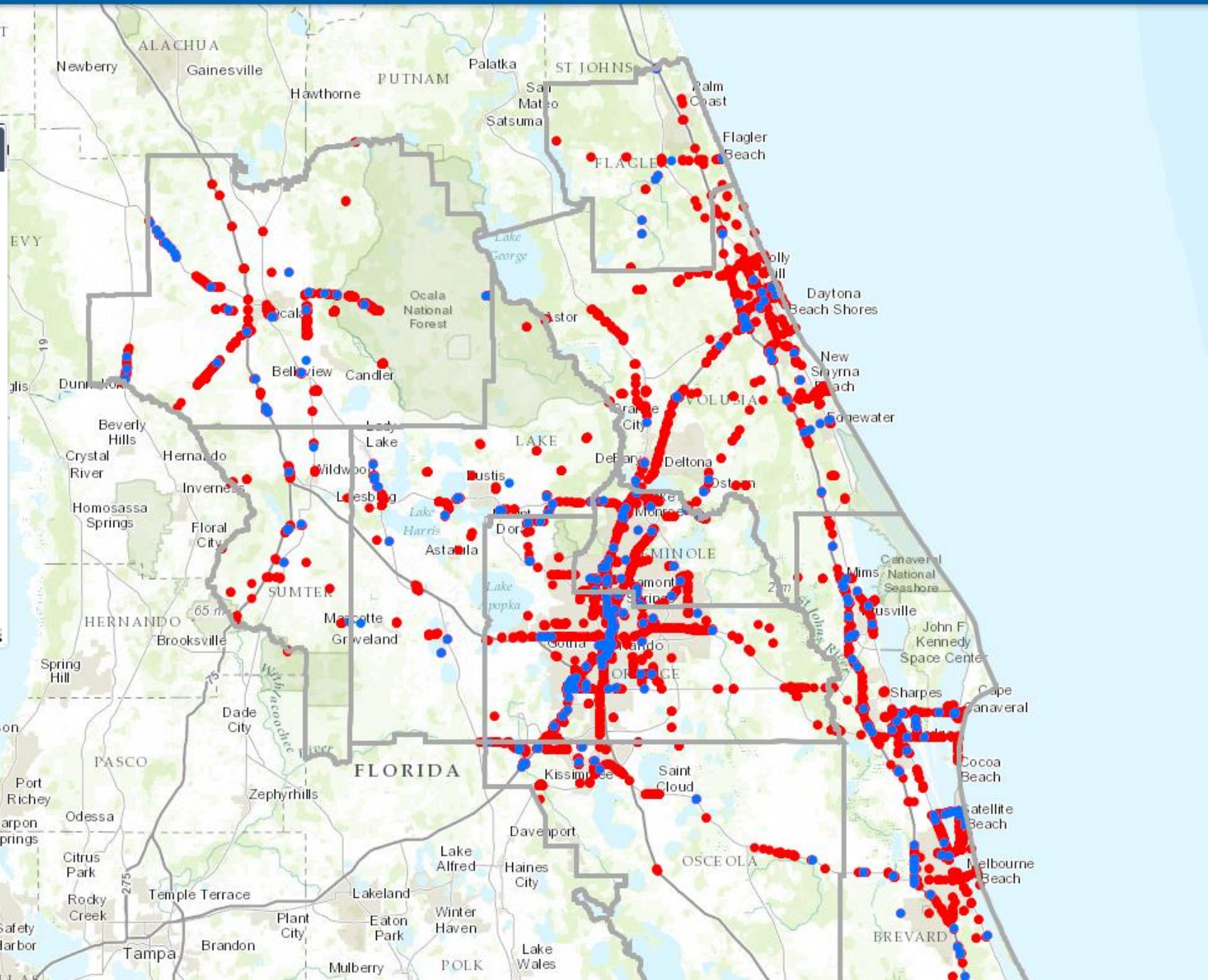
Project Number is

☐ Use spatial filter to limit features

☐ Add result as operational layer

With this option checked, results will be kept on the map until the "Clear Results" button is clicked.

Clear Results



Soil Boring Editing Application

Address Street, City, State

Extract Data

Extract Data

1 Layers to extract

- Plan Points
- Regular Points
- Sink Holes
- D5 BOUNDARY

2 Study area

Same as Display

- Select features
- Clip features

3 Output data format

CSV (.csv or .zip)

4 Output file name

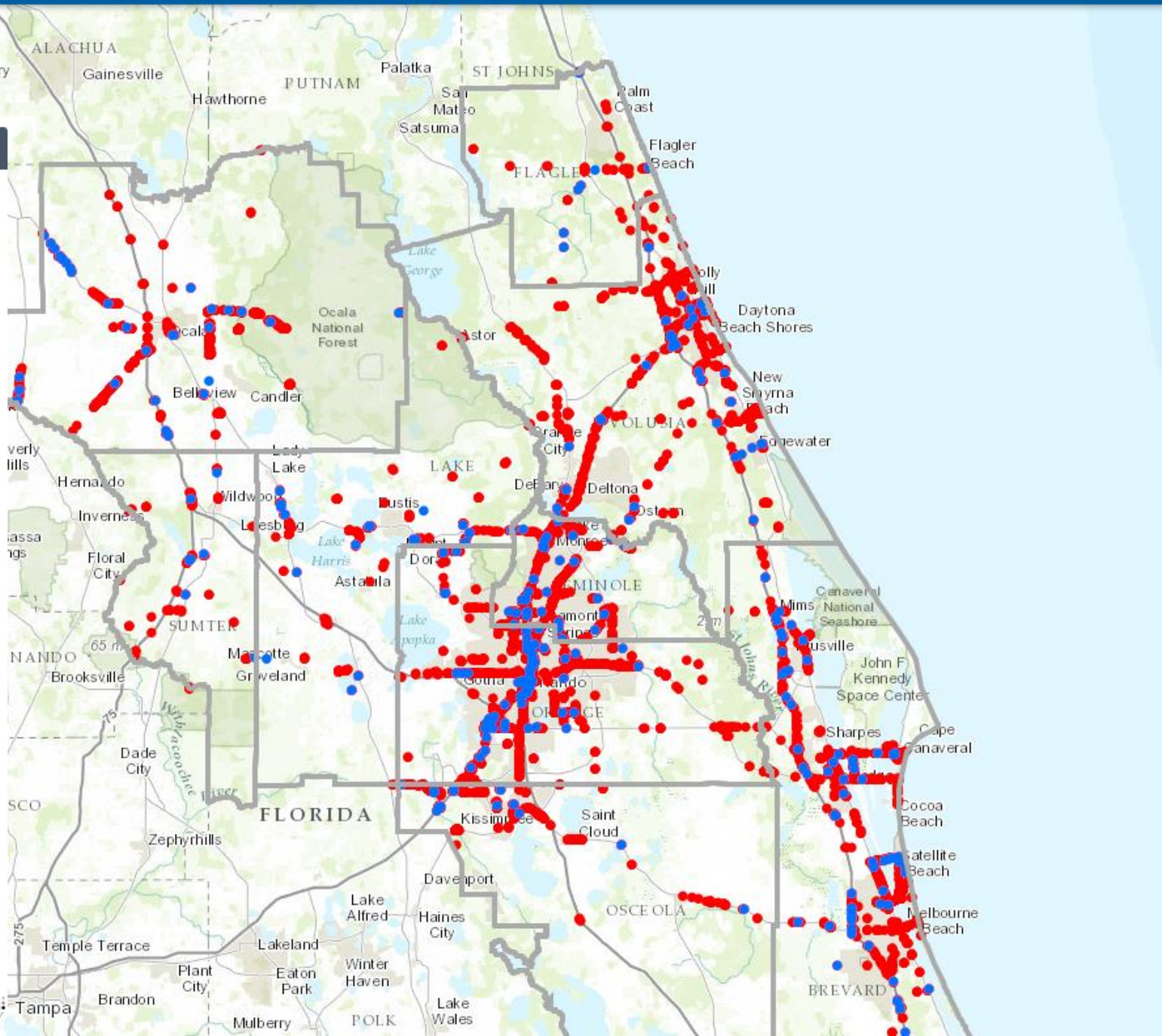
Extract Data August 10 2015, 8.18.51 AM

Save result in jessica.rogers

Use current map extent

Show credits

Run Analysis



Florida Bridges

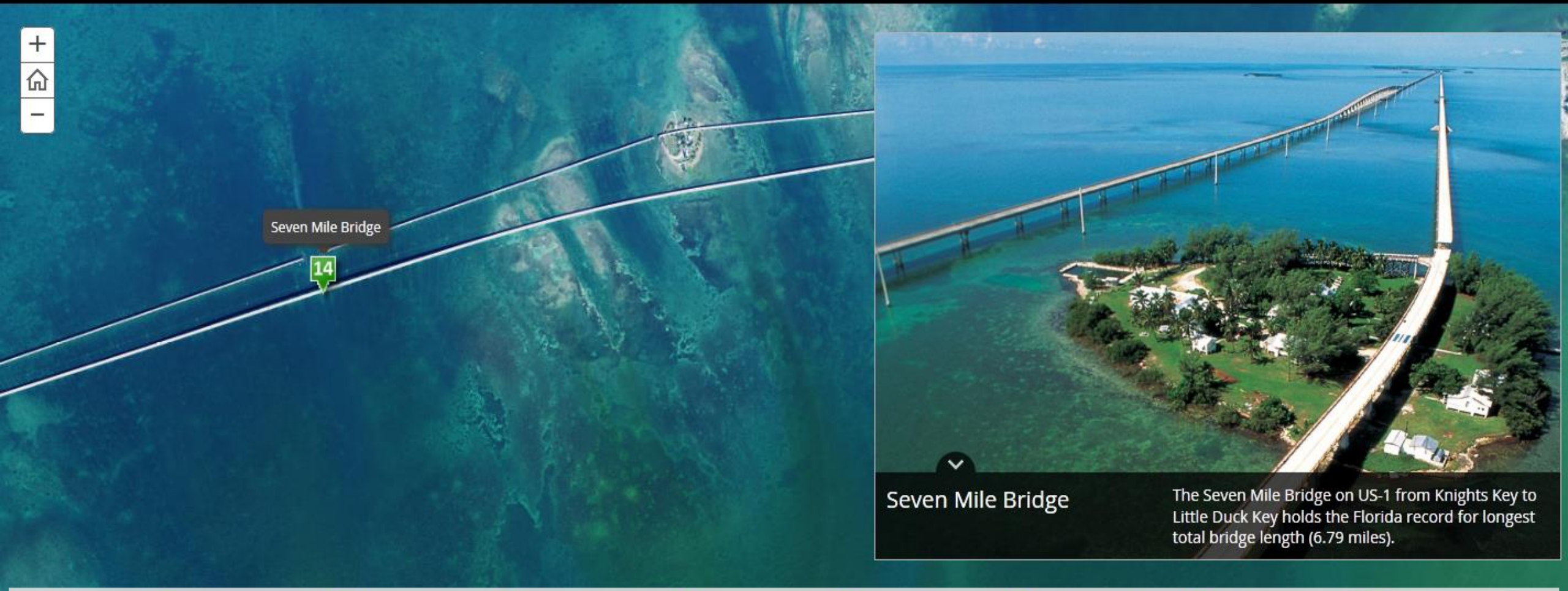
- Provides a virtual tour of prominent bridges in Florida
- Story Map
  - Easy to create & maintain
  - Visual representation for executive or public communication

Prominent Bridges in Florida

A tour of noteworthy bridges in the Sunshine State

Switch to builder mode

A story map



Seven Mile Bridge

The Seven Mile Bridge on US-1 from Knights Key to Little Duck Key holds the Florida record for longest total bridge length (6.79 miles).

op Jr Bridge

7 Regency Bypass Flyover

8 Henry H Buckman Bridge

9 Lee Roy Selmon Crosstown Expressway

10 Sunshine Skyway Bridge

11 Moore Haven Bridge

12 New River Bridge

13 2nd Avenue Bridge

14 Seven Mile Bridge

Best Practices

- Use of Groups
  - Functional Area
  - Project Specific
- User Roles
  - Custom Roles
  - Managed at the functional area/district level
    - Local Admin Role

Best Practices

- Data Publishing
  - Sharing content to the public
  - Standard metadata
  - Tags
  - Disclaimer
- Content Management
  - Quarterly review of content
- Credit Management
  - Consult administrators before performing credit-heavy tasks

What's next for GIS@FDOT?

- Continue to expand users & applications
  - 80 members; can have up to 161
- Share data & services with non-FDOT users
  - Example: Unified Basemap/NAVSTREETS
- Sharing custom templates
  - Custom "widgets" & tools
- Open Data
  - Portal for sharing public datasets, maps, & apps in one place
  - Imagery Storage

Questions?

GIS@FDOT Administrators

Jessica Rogers, GISP
GIS/CADD Services Supervisor
Jessica.Rogers@dot.state.fl.us

Jared Causseaux
FDOT GIS Coordinator
Jared.Causseaux@dot.state.fl.us

Ana Nowak, GISP
Geographic Mapping Specialist
Ana.Nowak@dot.state.fl.us