



Improving Port Security by Providing GIS Benefits to All Stakeholders

Jennifer Radcliff – Port of Tacoma

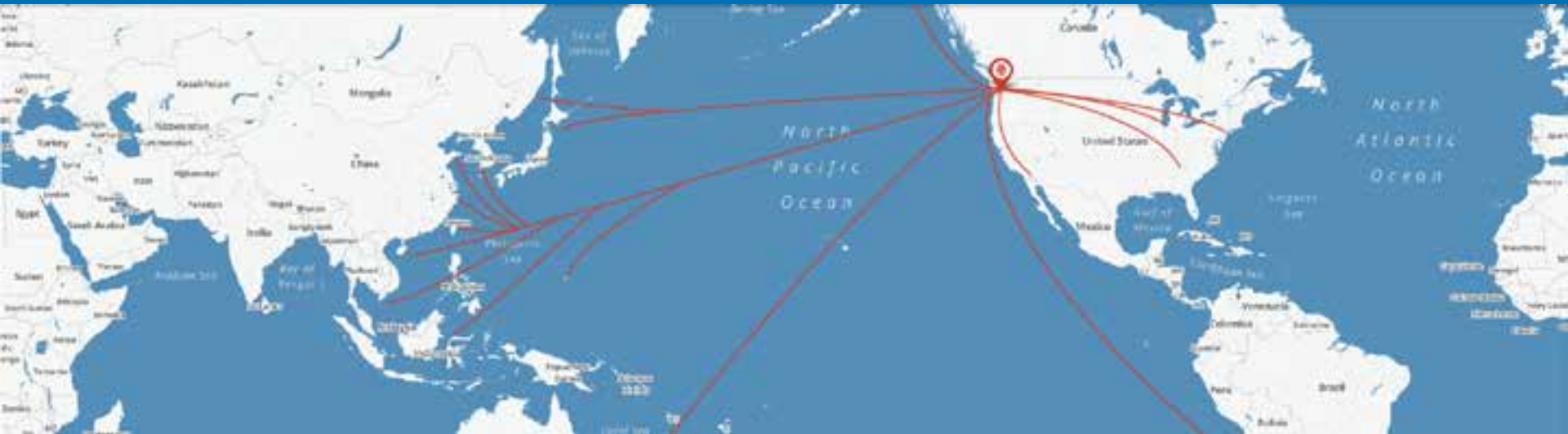
Eric Patrick – NorthSouth GIS



Jen Radcliff – Background

- 18 years of GIS experience
- GISP since 2007
- Port of Tacoma GIS Coordinator for 3 years

www.portoftacoma.com



Eric Patrick – Background

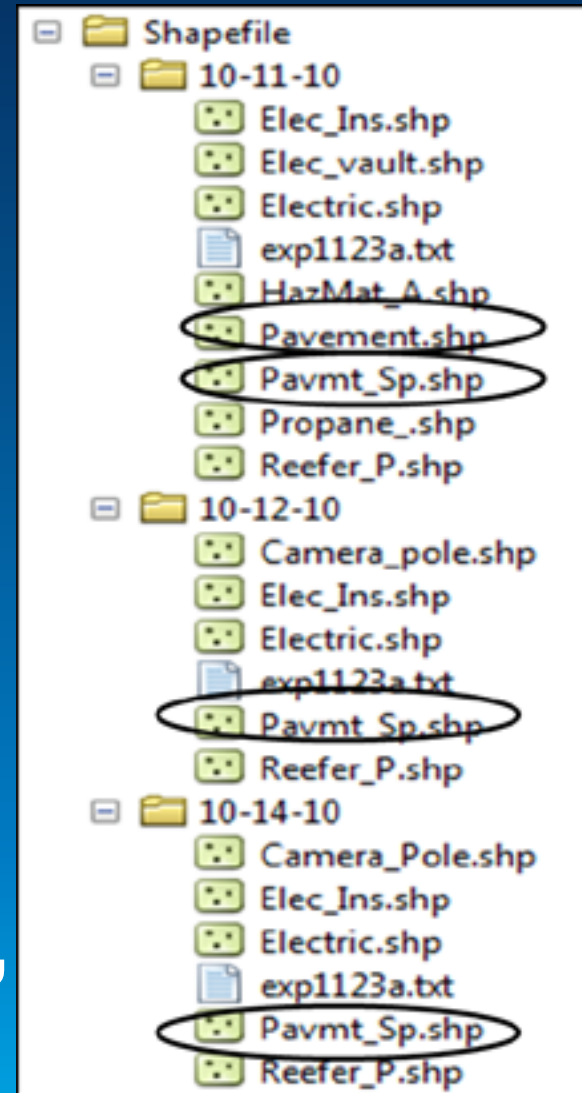
- 20 years of GIS experience
- NorthSouth GIS for 5 years
 - GIS Solutions Architect
 - Managed GIS projects for Ports of Tacoma and Stockton
 - Key participant in GIS projects for Ports of Los Angeles and Oakland

• ports.northsouthgis.com



Before the Project

- PortView – difficult to use, not much data
- No standards
- Limited connectivity
- Data silos
- Security mostly consumed data via static, printed materials



Project Introduction

- **Port applied for Security Grant**
- **RFP: Enterprise GIS Development for Port Security**
 - **Common Operating Picture with data to improve Maritime Domain Awareness**
 - **Help prevent threats to safety and security**
- **Serve Port Business needs, function and decision making**

Other Goals

- **Significantly improve the Port's GIS Web Viewer to make it:**
 - **Easier to use**
 - **Contain powerful tools and reports**
- **Maintainable over time with minimal effort and cost**

Other Goals

- **Implement practical standards to ensure data can be maintained as appropriate by:**
 - **GIS users**
 - **AutoCAD Users**
 - **Internal Port Staff**
 - **External users such as Engineering Contractors**

Project Approach

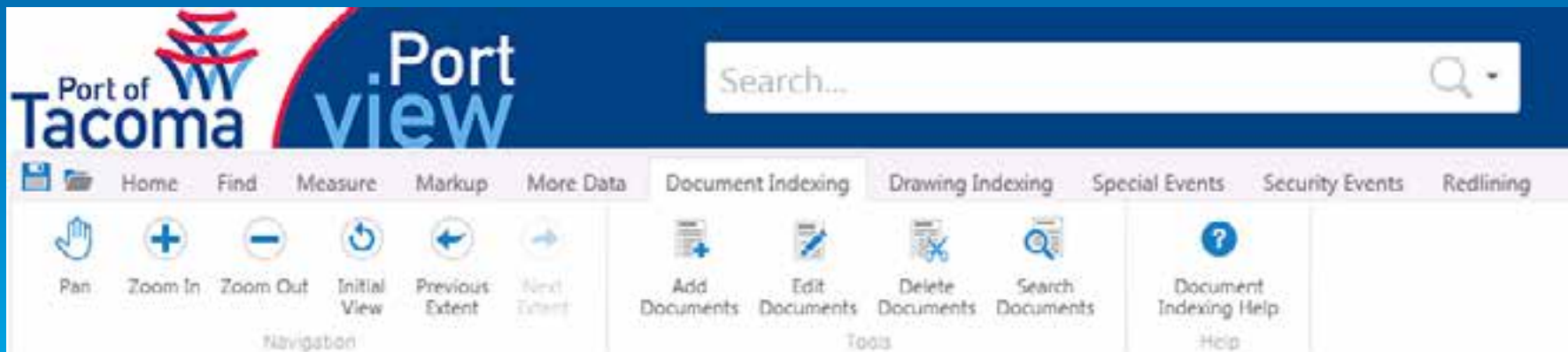
- **Educate stakeholders on what is**
 - **Possible**
 - **Practical**
- **Assess needs across broad range of stakeholders**
- **Work within IT parameters**

Project Results

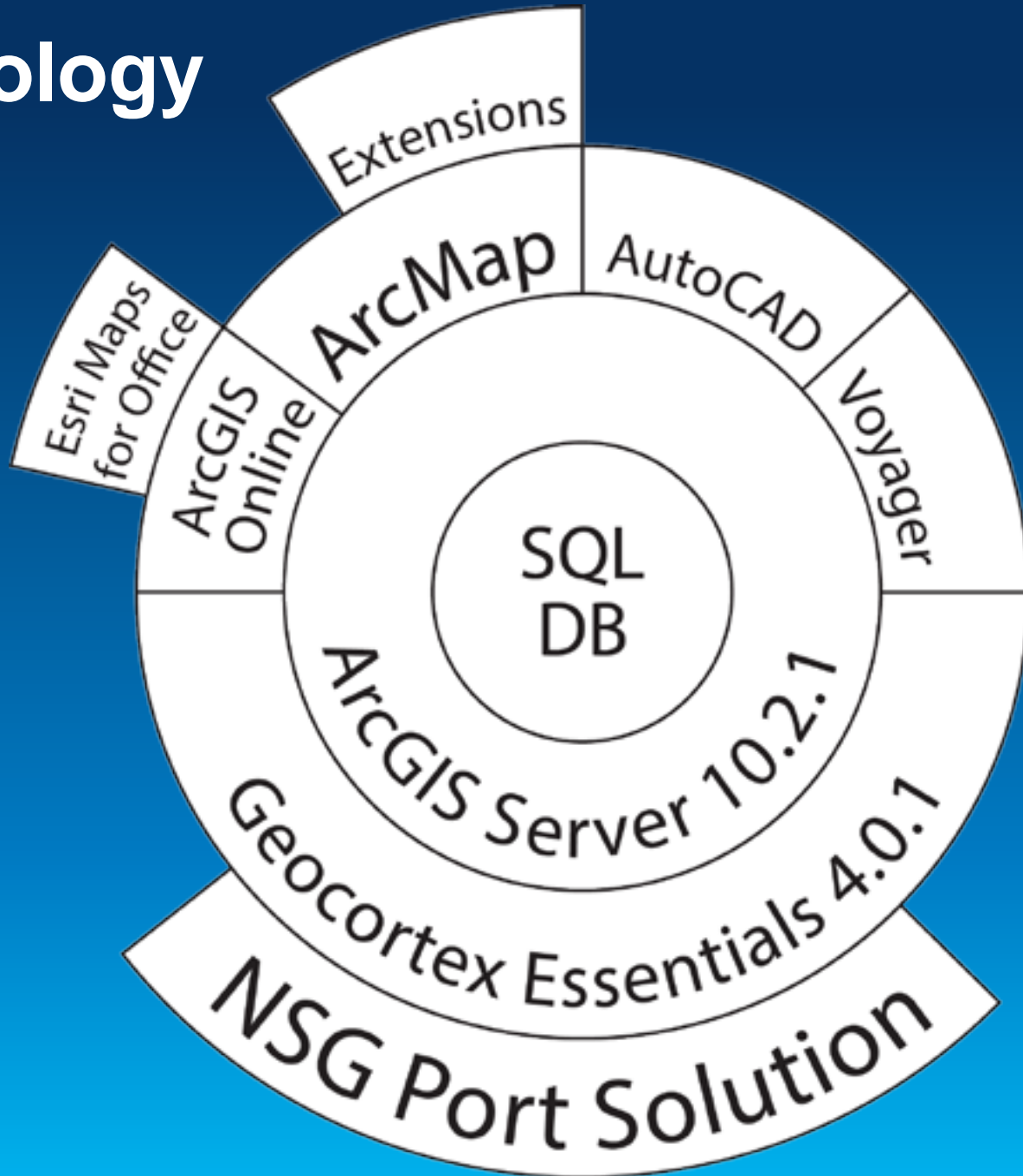
- **Added 75 layers to PortView**
- **Leases and Land Use tools:**
 - **Port Cadastral Model**
 - **Available Property and Expiring Lease Reports**
 - **Research past tenants and land uses**
- **Real-time vessel locations**
- **Real-time weather conditions**

Project Results

- Document and Drawing Indexing
- Redlining (Map Data Correction)
- Special / Security Event Planning
- Departmental Specific Viewers



Technology Stack



Benefits to Security – Leases

Port of Tacoma	Port view	Tenant Emergency Contacts
Tenant	Site Contact	Emergency Contact
VierCorp, LLC 2301 Reed Way		
VSI Law Group 3000 Port of Tacoma Rd Suite 308 & 311		
Washington Arbitration & Mediation Svcs., Inc. 3000 Port of Tacoma Rd Suite 304		
Washington United Terminals 1721 Thorne Rd		
Washington United Terminals		
Washington United Terminals 3000 Port of Tacoma Rd Suite 302		
Washington United Terminals 1750 Thorne Rd		
Youth Marine Foundation 820 & 808 E D St		



An excellent opportunity to be located in the Port of Tacoma



FOR MORE INFORMATION PLEASE CONTACT

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Property for Lease

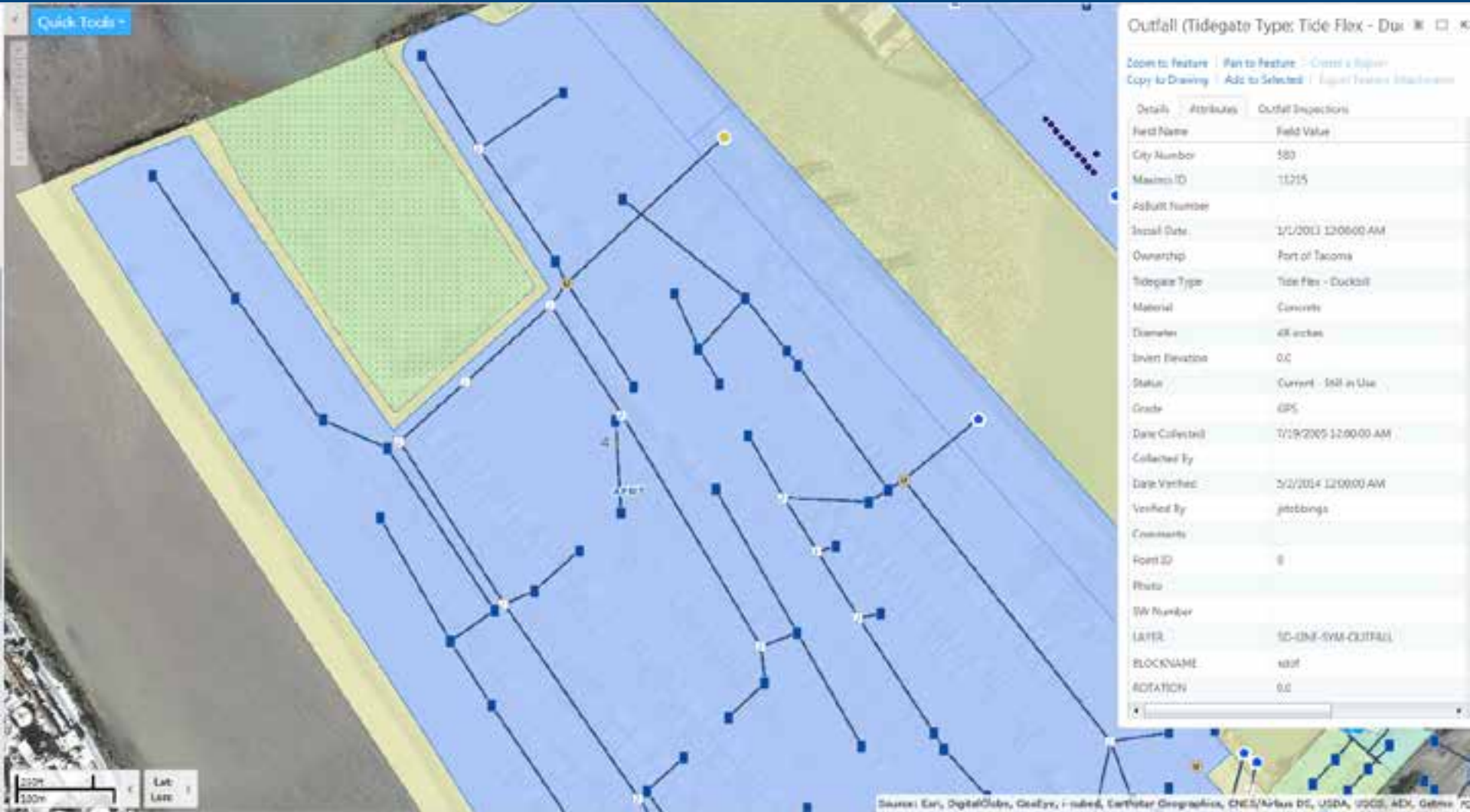


Square Footage: 194,000.0
Acreage: 20.1
Zoning: FM, S10

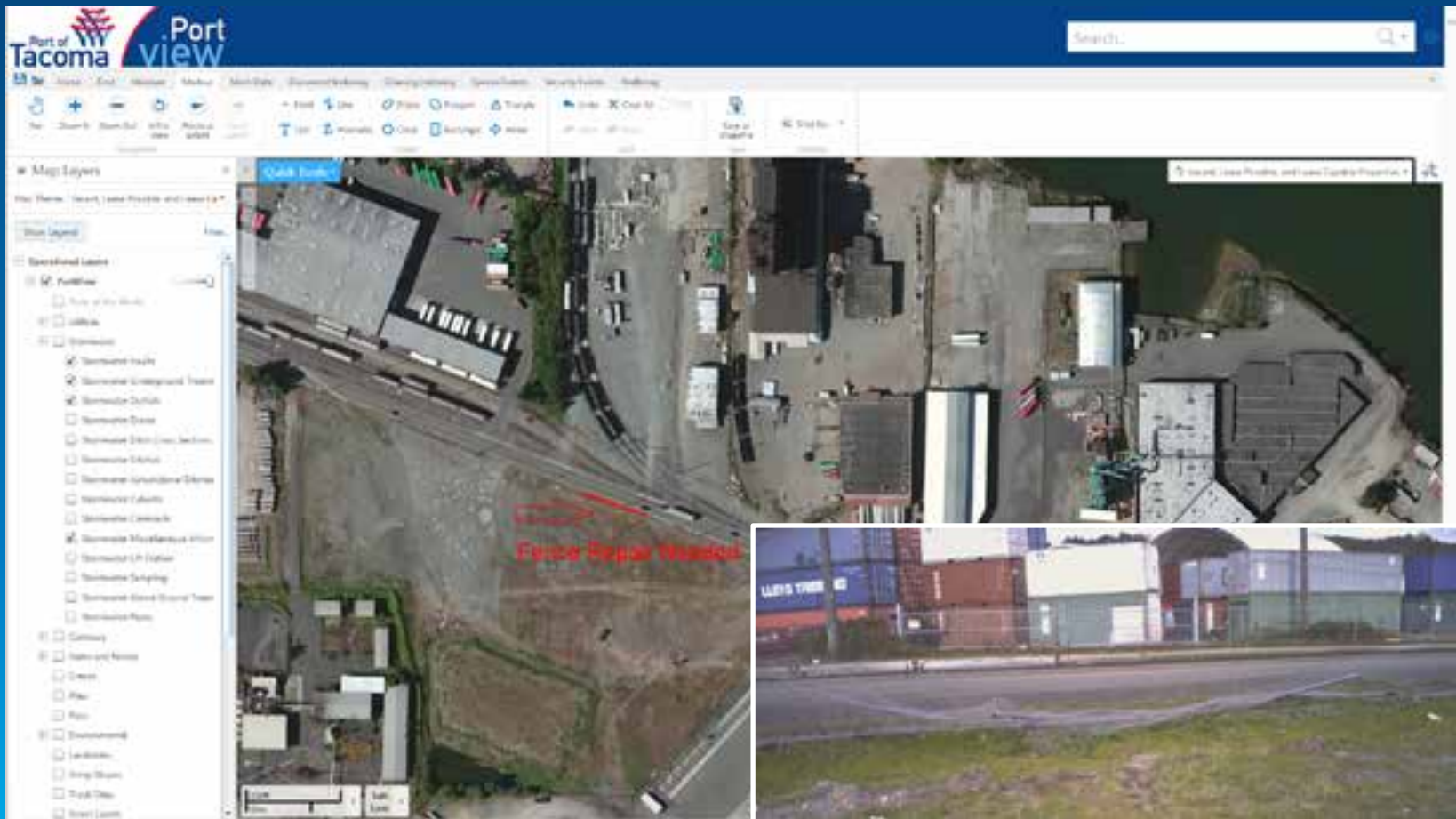
Accessible to waterway
Not directly accessible to road



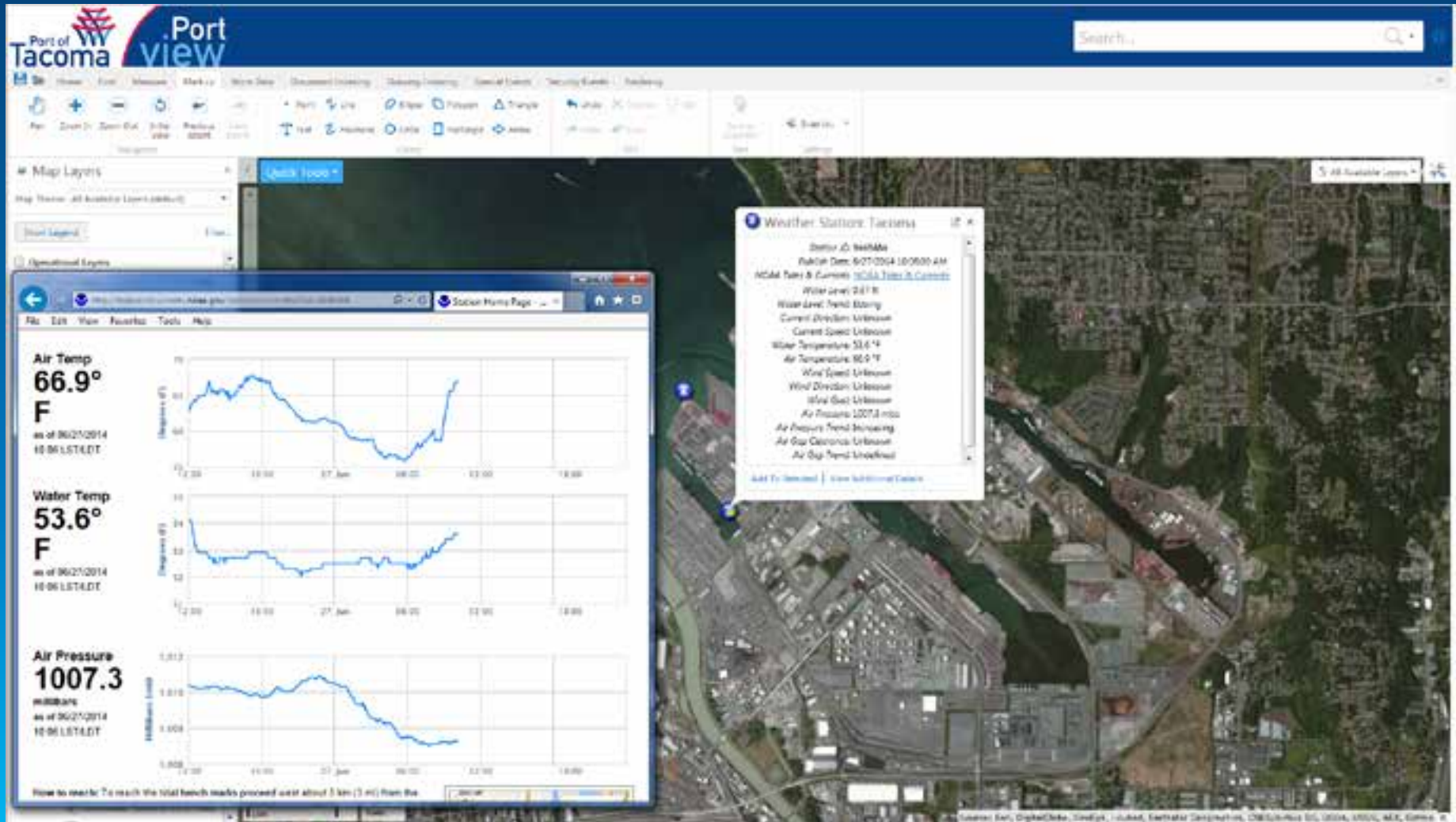
Benefits to Security – Environmental



Benefits to Security – Maintenance



Benefits to Security – Misc



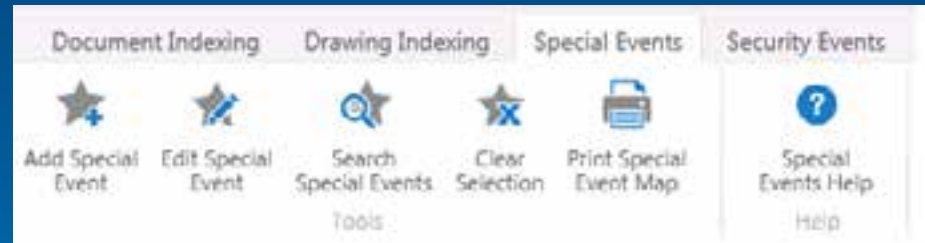
Benefits to Security – Incident Planning

- VIDEO

Benefits to Security – Special Event Planning

- **Tools to publish:**

- Detours
- Public Events
- Construction projects



- **Security can see, search for and plan for these events**
- **Security can use same tools to report:**
 - Unsafe or secure areas
 - Assembly points and evacuation routes



- CAD/GIS Workflow
- Train Consultants
- Start small

Success and Future Plans

	2014	2015	2016	2017	2018
Task A					
GIS Data Creation					
Task B					
GIS Data Maintenance					
Task C					
Upgrade GIS Software					
Task D					
Leverage Data Warehouse					
Task 1					
GIS Data Cleanup					
Task 2					
Enhance PortView Security					
Task 3					
Search Tools					
Task 4					
Mailing Labels					
Task 5					
ZONAR Integration					
Task 6					
Cameras					
Task 7					
MCDP					
Task 8					
Work Orders					
Task 9					
Network Tracing					
Task 10					
Lease Related Billing Display					
Task 11					
Traffic					
Task 12					
Field Inspection					
Task 13					
Financial Management					
Task 14					
Port Resiliency					
Task 15					
Available Properties					
Task 16					
Utility Charging					
Task 17					
Distance to Water					
Task 18					
Waterway Management					

Task #	Component Name	2014		2015		2016		2017		2018	
		Low Cost	High Cost	Low Cost	High Cost	Low Cost	High Cost	Low Cost	High Cost	Low Cost	High Cost
A	GIS Data Creation	\$ -	\$ -	\$ -	\$ 500,000	\$ -	\$ 500,000	\$ -	\$ 800,000	\$ -	\$ 180,000
B	GIS Data Maintenance	\$ -	\$ -	\$ -	\$ 25,000	\$ -	\$ 25,000	\$ -	\$ 25,000	\$ -	\$ 25,000
C	Upgrade GIS Software and Extensions (above software maintenance)	\$ 25,000	\$ 40,000	\$ 25,000	\$ 40,000	\$ 25,000	\$ 40,000	\$ 25,000	\$ 40,000	\$ 25,000	\$ 40,000
D	Leverage Data Warehouse & Enhance Integration	\$ -	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 100,000
1	GIS Data Cleanup	\$ -	\$ -	\$ -	\$ 500,000						
2	Enhance PortView Security with SQL			\$ 15,000	\$ 15,000						
3	Search Tools			\$ 5,000	\$ 10,000						
4	Mailing Labels			\$ 4,500	\$ 4,500						
5	ZONAR Integration			\$ 12,000	\$ 21,000						
6	Cameras			\$ 75,000	\$ 87,000						
7	MCDP					\$ 9,000	\$ 9,000				
8	Work Orders					\$ 34,000	\$ 48,000				
9	Network Tracing					\$ 23,000	\$ 146,000				
10	Lease Related Billing Display					\$ 5,000	\$ 5,000				
11	Traffic					\$ 4,000	\$ 4,000	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500
12	Field Inspection					\$ 10,000	\$ 15,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000
13	Financial Management							\$ 20,000	\$ 22,000	\$ 4,000	\$ 4,000
14	Port Resiliency							\$ 120,000	\$ 12,000	\$ 22,000	\$ 21,000
15	Available Properties							\$ 4,000	\$ 4,000		
16	Utility Charging									\$ 15,000	\$ 15,000
17	Distance to Water									\$ 30,000	\$ 30,000
18	Waterway Management									\$ 50,000	\$ 80,000
TOTALS:		\$ 25,000	\$ 140,000	\$ 136,500	\$ 1,302,500	\$ 128,000	\$ 912,000	\$ 177,500	\$ 961,500	\$ 142,500	\$ 451,500

Lessons Learned

A photograph of a woman in a black top and dark pants standing at the front of a room, presenting to a group of people seated in rows of chairs. The room has a patterned carpet, a clock on the wall, and several doors. The audience is diverse in age and appearance, and they are all looking towards the presenter.

- **Benefits for all**
- **Get buy-in from whole organization – will empower Security**
- **Simple, practical tools – make it sustainable**

Questions?

Project Team

