Getting the New Orleans Area Infrastructure Up and Running after Katrina, GIS and the Recovery

Presented by:

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Construction Manager / Project Manager

MWH
Up & Running after Katrina

“We are facing a storm of unprecedented proportions…”

C. Ray Nagin, Jr.
Mayor of New Orleans
Post-Katrina

- Population scattered but wanting to return
- Trees uprooted drainage, sewer and water lines
Post-Katrina

- Flooding
- Brackish water in pump stations and motors

24th Annual Louisiana Remote Sensing and GIS Workshop
Post-Katrina

- Debris littered streets and filled storm drains / sewer lines
- Surcharged sewers due to lack of power and pump stations
How Was GIS Utilized

- Planning the Assessment Efforts
- Performance and Tracking of the Work
- Rehabilitation Planning
- Repair Tracking
Planning the Assessment Efforts

- Maps for Crews
- If no existing GIS, used paper maps to begin; then created a GIS
- Clearing of areas
- Target flooded areas first
- Utilize existing web site or create new web sites to show and track data
Planning the Assessment Efforts

Hurricane Debris
Truck Load Tickets by Dump Site
Planning the Assessment Efforts

Maps used by field crews to perform the sewer assessments
Planning the Assessment Efforts

Maps used by field crews to perform the water assessments
Performance & Tracking

- Data entry into a database
- Daily Progress Reports
- Print maps weekly
- Push to web sites
- Accountability
  - Availability of work completed
  - Transparent
  - FEMA eligibility
**Data Entry**

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* Database tied to GIS
Performance & Tracking

ReviveNOLA.com
• Storm Drain Cleaning
  – Prioritized and managed
  – 100 trucks / crews
  – Documented progress
• Debris Removal
  – Prioritized and managed
  – Initial efforts
  – Continuing in Quality Assurance Role
  – Tracked Removal efforts
Performance & Tracking

ReviveSLI DELL.com

* Storm Drain Cleaning
  - Prioritized and managed 15 trucks / crews
  - Documented progress

* Debris Removal
  - Prioritized and managed initial efforts
  - Continuing in Quality Assurance Role
  - Tracked Removal efforts
Sewer System Recovery
- 50% of system surcharged
- Managed and prioritized cleaning 30% of system
- Developed recommendations for 600 repairs

Water Leak Detection
- Completed system surface inspections within 3 months
- Identified 3,900 leaks
ReviveSLI DELL.com

*Sewer System Recovery*
- Managed and prioritized cleaning over 60% of system
- Developed recommendations for ~ 100 repairs
Rehabilitation Planning

- Decision Model for Rehabilitation
- Determine repairs
- Show repair locations
- Relationship with other repairs and severity
- Group repairs into work orders for efficiency
GIS Utilized for Decision Making

Field Data → Decision Model → Map → Decision Display → Data

GIS Utilized for Decision Making
Rehabilitation Planning
Repair Tracking

• Crew Locations
• Repair Schedule
• Complaints
Repair Tracking

Crew and Complaint Locations
Repair Tracking

* Prioritize Repairs
Disaster Recovery Lessons Learned

- Success is
  - 20% planning
  - 80% execution
- A well-timed, 2nd best decision is better than a poorly-timed best decision

Difference maker?.....Reliable information, systems and people
Disaster Recovery Lessons Learned

* Ability to deliver Post-storm dependent upon:
  - Staff with local knowledge and technical expertise
  - Accurate data management system, that are FEMA-compliant
  - Ability to quickly employ and manage a large team of subcontractors

* Ability to respond quickly to the Public with good decisions dependent upon:
  - Accurate information given quickly to key decision makers

Rely on Data / GIS systems to prioritize
Disaster Recovery Lessons Learned

Having....

* Current snapshot of infrastructure condition ...
* Work & maintenance management system tied to GIS...
* Trusted city and / or consultant staff
  - Know your infrastructure & provide quick access to subject matter expertise for decision makers...

....is invaluable come disaster recovery time.
Questions?
Comments?
Scathing Rebuttal?
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