Flood Response & Survey 123 for ArcGIS in Prince Edward County

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Organization Overview

• Single Tier Municipality

• Serving 24,735 residents (Statistics Canada, 2016 Census of Population)

• Responsible for many services
Organization Overview

- Esri users since ~ 2001
- GIS merged with IT department
- IT consists of a Manager, 3 Support & 2 GIS
- Enterprise License Agreement since 2010
Project Description

• Overview
  - State of Emergency declared May 9, 2017
  - GIS invited to provide mapping and data analysis support
  - Emergency Operations Centre (EOC) decided to conduct door to door survey
  - GIS recommended a digital survey with Survey 123 for ArcGIS
Phase 1

- Determine Areas at Risk
  - Model current & predicted peak water Levels
  - Select building footprints with model
  - Create list & grid map for deployment
Phase 2

- Create Survey
  - Survey questions developed by EOC members
  - Under 3 hours for GIS to research & deploy first survey
  - Used Survey123 website to create the survey
Phase 3

- Setup ArcGIS Organization
  - Used ArcGIS Online (AGO) for Local Government resources
  - Created Emergency Management groups
  - Created new generic users in AGO organization
  - No emails? No problem!
Phase 4

- Survey123 Training
  - Provided Fire Department a list of AGO users & passwords
  - Sent e-mail with instructions on app download & sign in
  - Sent web link to survey as an alternative
  - Quickly trained staff
Phase 5

• Survey Deployment
  - Survey carried out over two days
  - Manual input of paper surveys by summer staff
  - Digital surveys completed over several days after initial collection
Live Demo

https://survey123.arcgis.com
Benefits

- Rapid deployment, collection of data, & analysis of data
- Provided EOC with current information
- Allowed EOC to provide staff, responders, media, and supporting organizations (e.g. Red Cross, MMAH Disaster Recovery Assistance) with better estimates
Benefits

- One location for data
- Optimized field operations
- Better planning for supplies, emergency centers, & depots
- Consistent data collection
County of Prince Edward Municipal Control Group
Flooding Emergency Site Survey

Civic Address

Dwelling on Property □ No □ Yes
Water on Property? □ No □ Yes
If yes – approximate distance from flood water to dwelling
Other buildings over 10 Sq. Meters? □ No □ Yes
If yes – list

Sand bags in place? □ No □ Yes

Visible Hazard?
□ Fuel □ Propane
□ Health
□ Accessibility

Obstacles to Evacuation □ No □ Yes

Contact with Resident? □ No □ Yes
If yes
Contact phone number
Number of occupants

Assistance with placing sand bags required? □ No □ Yes
Evacuation Plans Made? □ No □ Yes
Special evacuation assistance required? □ No □ Yes
If yes

Emergency Notice Provided? □ No □ Yes
Lessons Learned

- Training – be prepared
- Feedback – receive ASAP
- Collect data digitally – reduce inconsistencies
Lessons Learned

- Engage GIS early on
- Supplement ArcGIS Online with your own data
Future Plans

• Review disaster response

• Utilize Workforce, Survey123, & Collector app together

• Carry out a demo to EOC
THANK YOU!