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# Hurricane Irma – After Action Report

September 10

# 2017

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Emergency  
Management  
Division



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## EXPLANATION OF TERMS

AAR	After Action Report
AHS	Atlantic High School
C&G	Command and General (staff)
CM	City Manager
COOP	Continuity of Operations Plan
CPTED	Crime Prevention Through Environmental Design
DAT	Damage Assessment Team
DBFR	Delray Beach Fire Rescue
DBMC	Delray Beach Medical Center
DBPD	Delray Beach Police Department
DOH	Department of Health
EM	Emergency Management
EMC	Emergency Management Coordinator
EOC	Emergency Operations Center
FMIT	Florida Municipal Insurance Trust
FOC	Field Operations Center
Form 204	Assignment List
Form 214	Activity Log
FR	Fire Rescue
F.S.S.	Florida State Statute
HR	Human Resources
IAP	Incident Action Plan
IA / PA	Individual Assistance / Public Assistance
IC	Incident Commander
ICS	Incident Command System
IT	Information Technology
JIC	Joint Information Center
Op	Operation / Operational
PBC	Palm Beach County
PD	Police Department
PIO	Public Information Officer
PPE	Personal Protective Equipment
P&R	Parks and Recreation
PW	Public Works
SMT	Senior Management Team
SWA	Solid Waste Authority
THIRA	Threat and Hazard Identification Risk Assessment

## INTRODUCTION

Hurricane Irma was a Cat 4-5 Hurricane expected to make landfall in the South Florida area by September 8, 9, 10, 11 of 2017. The city was impacted on September 10<sup>th</sup>, 2017 with Cat 1 winds and tropical storm effects.

### **Sequence of events:**

**09/04/2017:** Conference call established with City Manager, Fire Chief, Police Chief, and Emergency Management Director to set up pre storm plans. Governor Rick Scott declared a State of Emergency in every county in the state of Florida.

**09/05/2017:** Op period 0800-0800. Pre storm tactics meeting conducted with operational department heads, with instructions given to build out strike teams, task forces and document on ICS 204's. Started pre-storm asset protection efforts. Local declaration executed.

**09/06/2017:** Started to build out IAP's for pre and during storm efforts, PBC EM conference call.

**09/07/17:** Reached out to all emergency contract vendors to ensure proper points of contact, SMT meeting took place, staff reassigned to EOC roles. Set up FR HQ training room as City EOC. All non-essential city employees released from duty at 1600.

**09/08/17:** Op period changed to 0600-0600. Reviewed operational objectives for pre storm efforts, response and recovery, established shelter in place plans for operational staff, resource staging and completed inventory of staged resources. City buildings, and all non-essential services, closed for business as of 0800

**09/09/17:** Op periods changed to 0600-1800 and 1800-0600. 0600 hrs, shelter in place operations began; check in locations established at FOC's. Alpha and Bravo shifts established at EOC. Impacts of hurricane are observed and felt throughout the city.

**09/10/17:** Hurricane and tropical storm force winds still hitting city. Lift station failures begin due to power outages, staff unable to respond until winds subside. Rapid Initial damage assessment begins. Debris Management and Monitoring contracts are activated via phone and email. Staff clears 1 lane of traffic for response vehicles on all primary and secondary roads once winds are no longer a threat to staff.

**09/11/17:** City wide power outages. IA/PA damage assessment teams deployed. Traffic signs deployed to critical intersections without power. C&G EOC staff demobilized with the exception of Operations and Finance.

**09/12/17:** Op period changed to 0700 – 1900; Multiple requests made for generators to support lift station staff and sewage operations.

**09/13/17:** Traffic issues throughout city, lift station operations still suffering due to power outages. Debris Monitor and Management contacts establishing plan of action with timelines.

**09/14/17:** Prioritizing critical areas to be cleared by debris operations, still mitigating lift station failures, establishing re mobilization plan for non-staff to return to work. City buildings reopened.

**09/15/17:** Still mitigating lift station failures due to power outages, debris management plan underway. Inspecting first push areas to make sure contractor met terms of contract. EOC fully demobilized.

## AFTER ACTION REPORT OVERVIEW

This report is a compilation of information from the different departments and staff who participated in the response to **Hurricane Irma**.

### Contributing City Departments:

Fire Rescue  
Police  
Public Works  
Utilities  
Community Improvement  
Planning Zoning and Building  
Parks and Recreation  
Purchasing  
Emergency Management

The recommendations in this AAR should be viewed with considerable attention to the needs for a safe city. In some cases, departments may determine that the benefits of implementation are insufficient to outweigh cost. In other cases, departments may identify alternative solutions that are more effective. However, each department should review the recommendations and determine the most appropriate action and time needed for implementation.

The issues addressed in this AAR are being requested to be reviewed and thoroughly examined for the appropriation of needed resources to ensure the functions of incident response; stabilization and notification are efficient and effective.

**Incident Overview:**

City of Delray Beach

**Duration:** From 09/04/17 - to on going

**Funding Source:** City Finance Code – IRMA 170909

**Focus (highlight one or more of the below options):**

- Protection: Pre storm efforts – asset protection plans, employee assignments, staging resources.
- Mitigation: Purchased assets during response that will add to mitigation strategies.
- Response: Addressing life safety and incident stabilization issues.
- Recovery: Addressing short term and long term power and debris issues.

**Classification (highlight one or more of the below options):**

Unclassified and subject to F.S.S. Chapter 119

**Activity or Scenario (Check appropriate area(s) below):**

☐ Fire

☒ Severe Weather

☐ Hazardous Material Release

☐ Bomb Threat

☐ Bomb Emergency

☐ Medical Emergency

☐ Hostage Scene

☒ Power Outage

☒ Evacuation

☐ Active Shooter

☐ Civil Unrest

☐ Traffic / Transportation Incident

☐ Facility Lockdown

☐ Special Event

☐ Exercise/Drill

☐ Other

## STRENGTHS

**Debris Management** – The emergency debris management and monitoring contracts were activated quickly by staff. Monitoring and management liaisons were sent to the EOC within 12 hours of activation. The debris site was established within 2 days of activation. This was well ahead of schedule due to collaborations between City EOC, Solid Waste Authority, and Department of Health staff. City staff did a great PR / education campaign to help expedite the pickup process throughout the city. The pre storm planning, executing a debris monitoring contract and training paid off.

**FMIT / Synergy** – Synergy deployed 2 assessors pre storm to the EOC. As damages were reported, the assessors responded to each report and create damage assessments reports. This information not only expedited repairs but the liaisons helped to find appropriate repair personnel. The reports also helped build out DAT financial thresholds to report to the county / state.

**Employee Assignments** – City staff responded well to being assigned to pre and during storm assignments.

**EOC Staffing** – EOC staff worked well together, assisted each other as needed, and fell into a good battle rhythm once everyone became comfortable with their roles and operations in the EOC. An A and B shift were created to cover day and night operations. IAP's were created for each operational period and resources were tracked. Damage assessments were quickly reported in and threshold numbers were actively being uploaded into WebEOC.

**Operational Safety** – The EOC Situation Unit Leader was able to keep track of most of the personnel as well as collect field information. Having all the branch directors within the EOC was exceedingly helpful in this regard.

**Berthing** – EM had made arraignments with AHS and DBMC to use their properties to house personnel and resources during the storm. These facilities are CAT 5 rated, with proper generators, food/water and supplies. DBFR and DBPD did use these facilities. These sites were successful and city resources were able to respond to various situations (depending on discipline) post storm. City PW and P&R assigned to clear roadways (initial push) were assigned to stage at the different fire stations throughout the city along with 4 police officers forming Task Forces.

**Emergency Communications / Social Media** – Upon activating the EOC the PD PIO was assigned to the EOC as lead PIO for the city (Note: the PD is the only city full time PIO). Available systems and platforms were utilized to push out relevant and timely information to the general public (social media including Facebook and Twitter, CodeRED, press releases, city webpage, employee and citizen information lines). The EM Coordinator (EMC) was assigned to work cooperatively with the PIO since the EMC was responsible for launching emergency messaging via CodeRED. Pre and post storm the city digital media / public relations coordinator was also assigned to assist the PIO forming an ad hoc JIC. The PIO did incredible work from her smart phone and laptop rolling out consistent messaging to the community and working with the various news organizations. Over the last 2 years EM has built out the CodeRED notification



system from 2,000 contacts to 50,000 plus contacts. It was properly leveraged to keep the community well informed and the feedback from the community praised staff for their efforts.

**Public Works** - Staff assigned to public works (especially lift station personnel) worked incredibly long hours during lift station failures, (due to power outages) conducting leap frog operations with city generators working 12 to 18 hour days to keep lift stations from overflowing. Generators and related equipment was utilized by staff.

**Staging resources** – Task forces were created with resources from PW, Streets, Parks and Rec, Police and Fire. The areas to stage resources were established at critical locations, i.e. Atlantic High School, Delray Medical Center, PW compound and designated Fire Stations.

**Infrastructure** – 434 S. Swinton Ave. building held up well during the storm.

## AREAS OF IMPROVEMENT

**Debris Management** – It became quickly apparent that the debris management company had over extended itself due to the size of the storm and would have logistical issues. City staff had to ensure contract obligations and expectations were met daily. City staff needs to help establish realistic community expectations regarding debris as well as how the community needs to become stakeholders in the planning processes throughout the year.

**FMIT / Synergy** – A work flow process is needed in order to identify the following: when damage is reported, does it meet deductibles, will insurance cover repairs, will the city, department head notifications and tracking of work, contractor used, FEMA reimbursement and completion of work.

**Employee assignments** – Due to the prolonged lift station operation, thought should be given to identifying contractors and executing agreements that the city could utilize during emergencies to support and/or relieve existing staff. Contractors should be identified with technical expertise, for example electricians and diesel mechanics, to maintain operations including lift stations. If this was a prolonged incident (exceeding 2 weeks of 12 to 18 hour operations) staff would have burned out.

Post storm work assignments and resuming normal operations was problematic. Designated post storm staff were not identified to conduct certain missions immediately after roads were passable. These missions included: checking all city owned buildings (including historical homes, buildings, etc. that are not occupied daily) for damage, determining which city services to resume first based on urgent needs, and who would be designated to complete these missions. This can be resolved by departments completing their COOP.

**EOC Staffing**– The EOC was staffed by dedicated individuals that had little or no training in EOC operations. Sleeping areas were created ad hoc. The EOC operations area was limited on space. No break out or meeting rooms were available. The combination of limited berthing space and rest areas raises the question of how effectively staff could operate in such an environment for an extended period of time.



**Staff accountability and work assignments:** Each department should have a staffing plan laid out in advance, including a list of all personnel who will be staged / need sleeping quarters during the activation. This should include work assignments and complete contact information for each person. Further, check in / check out should be established early and followed at all locations.

**ICS Form Usage:** All employees should be familiar with the use of common forms, and all supervisors should be trained on the use of all forms and be able to assist and review forms for those people in their department. Employees should turn in complete and accurate time sheets and 214s before leaving at the end of each operational period.

**Disaster Pay Policy:** The disaster pay policy could be reviewed by finance and payroll in advance of the activation. The policy should be discussed and made available to all staff, and all personnel should be informed how the policy applies to their position prior to the activation.

**Dissemination of preparedness information to all staff:** HR could work with Emergency Management to disseminate relevant preparedness information to all staff prior to the start of hurricane season. This includes the following:

- a) Acknowledgement letter (to be signed), acknowledging expectation to work, required training, individual disaster designation code, and providing current and accurate personal contact information
- b) Employee Emergency Manual
- c) Copy of Disaster Pay Policy (GA-46)
- d) Updated job descriptions that include disaster designation code
- e) Copy of city mandatory training list
- f) CodeRED Registration Form to update contact information yearly

**Operational Safety** – Field information regarding actual wind speeds was nonexistent. This critical information is needed for Command to make decisions. Information on 204's was incomplete at times and caused logistical issues regarding tracking and resource allocations. Communications with the field strike teams was sporadic. Task forces, strike teams, damage assessment teams and debris road clearing teams were lacking appropriate PPE (chain saw chaps, reflective vests, rain gear, safety glasses, gloves, hard hats and appropriate foot wear, etc.) when being deployed to disaster areas.

**Berthing** – Some departments assigned their personnel and equipment to staging areas that were privately owned. This was done to properly disseminate resources. Issues arose surrounding the use of privately owned property including: No lease agreements or liability waivers in place between owners and city, generators utilized by buildings not able to carry full electrical load, no or limited kitchen / bathroom space, limited designated sleeping areas to accommodate Alpha, Bravo shift. One location had to be quickly evacuated due to no longer being safe. Berthing spaces and assignments should be designated well in advance of storm season.

**IT Needs** - Dedicated IT support is needed pre, during and post storm. This includes pre-identified EOC resources (computers, phones, printers, etc.), and dedicated support staff for the EOC and all FOC's that covers both an Alpha and Bravo shift. It would be helpful to move the set up timeline earlier so all resources could be staged, tested and trouble shoot any problems prior to the arrival of EOC staff for the first operational period. It would be helpful and considered "best practices" if IT staff completed the mandatory and suggested employee training for the "All City Personnel" and "EOC Staff" levels (IS-100, IS -700, IS-775) to obtain a clearer understanding of how they can better support EM.

It is recommended that since the city does not have a target hardened Cat 5 rated building that "Go Kits" are created for each EOC position so any designee could fulfill the job assigned to him or her within the EOC. The go kits would contain:

- Laptop
- Phone with dedicated extension activated during declarations
- Check list / guide book covering duties and responsibilities of the EOC position
- Web EOC access
- City desktop access
- Stand-alone software (Microsoft Office suite, Adobe, etc.)
- Extension cords, cables, etc. to support connection

This is another best practice since staff from other government entities, jurisdictions and agencies can be, and most likely would be, utilized for prolonged EOC operations.

#### **Emergency Communications -**

- a) Communications Team Resources / Strategy: PIO, EOC Coordinator and Digital Media Coordinator worked well together to draft content, get input from senior leadership and policy group, and coordinate the dissemination of public information throughout the event. However, additional resources and equipment were needed, as well as a more streamlined process for the flow of information.
- b) Communications team did not have city issued cell phones or laptops. There was no back up in place if cell/smart phones failed.
- c) Digital Media Coordinator worked offsite pre and during storm. Ideally she would be on site for the duration to ensure full functioning (she lost power, cell services and internet for portions of the activation).
- d) Alpha and Bravo shifts for communications team should be established.
- e) Establish a process for messages to be requested (by EOC staff/policy group), written, approved by IC, and pushed out at designated times.

**Public Works** – City staff that possess technical expertise regarding lift stations, pump stations, water plant operations, generators and diesel mechanics are not abundant and those key staff members were working long unsustainable hours each day. Equipment from other cities was not interchangeable with our systems.

**Staging resources** – It was discovered that not all resources were staged at pre designated locations (Atlantic High School and Delray Medical Center). In the future, team leaders must ensure they understand the plan.

**Infrastructure** – The city has no Cat 5 rated structures that can be utilized as an EOC, house staff or used as a shelter during a tropical storm or hurricane. In the event of a true category 4 or 5 storm, it is critical to clearly identify which buildings are hardened enough to withstand that level, if any. No city building has had a wind mitigation study conducted on it. Several buildings including DBFR HQ where the EOC is housed physically shook and leaked throughout the hurricane. This is problematic since the storm went no higher than sustained tropical storm force winds and little rain fell. No city building has these reports on file and safely conducting any operations (pre, during and post storm) from the city buildings in their current state is not sustainable.

## RECOMMENDATIONS

All city buildings and critical infrastructure need a completed Wind Mitigation, THIRA and CPTED report conducted with a funding plan to address issues identified within the report.

The city needs a fixed EOC. A consultant should be obtained to conduct a study regarding city needs, location and size of structure.

Until a fixed EOC is established, emergency lease agreements, hotel agreements, etc. should be established to house staff and establish a working EOC.

IT/EOC go kits are needed, and will be continually needed, until a fixed site is developed. This applies to "all hazards" disasters, not just hurricanes.

The staff assigned to PIO or media duties need to be properly equipped and obtain the proper ICS training.

Weather monitoring equipment that can track rain accumulation, wind speed, temperature, etc. should be obtained and deployed in key locations within the city and data streamed to the EOC. This data is needed to know when shelter in place operations should be executed and when public safety can resume responding to calls for service.

Appropriate PPE is needed for all operations staff 365 days a year. Departments must obtain, ensure and enforce its use on all city operations.

Each department needs to complete their individual COOP's. These plans are the foundation of additional emergency plans.

Each department head needs to assess their staff's ability to perform for prolonged periods of time and identify possible vendors to assist during declared emergencies.

Each department head should have a complete understanding as to what assets are insured under their command.

*Generators need to be staged in a safe secure location pre storm. Staff should identify strategies for finding where these locations should be and create a staging plan.*

*Meet with surrounding municipalities, identify most common equipment utilized and obtain the necessary hardware to make generators, cables and connections interchangeable.*

*City staff that is assigned to the EOC will be mandated to obtain the required training before hurricane season and operate in the city hurricane exercise annually.*

*Contracts with vendors who have the various areas of needed expertise should be established to assist staff during these multiple operational periods to ensure we do not burn out staff and increase risk.*

*The city should institute ICS form days on a monthly basis to increase comfort with ICS forms.*

*A work flow chart is needed to guide staff through the insurance and FEMA claim process regarding repairing city assets.*

## IMPROVEMENT PLANNING MATRIX

<u>Area of Improvement</u>	<u>Improvement Action</u>	<u>Responsible Party/Areas</u>	<u>Targeted Completion Date</u>	<u>Status</u>
1)				
2)				
3)				
4)				
5)				
6)				
7)				
8)				
9)				
10)				
11)				
12)				
13)				
14)				
15)				
16)				
17)				
18)				

*List and attach any supporting documentation (EAP's, IAP's, permits, MOU's etc.):*