

# Emergency Preparedness and Environmental Health: A Partnership for Success

KARLA BLACK, PHD, MEP, PEM, REHS  
EMERGENCY PREPAREDNESS COORDINATOR  
KENT COUNTY HEALTH DEPARTMENT  
GRAND RAPIDS, MI



# What is Environmental Health to Your Department?

- ▶ Inspections
  - ▶ Wells, septic, body art, restaurants, pools, etc..
- ▶ Enforcement
- ▶ Laboratory
  - ▶ Water testing
  - ▶ Clinical specimens
- ▶ Animal Shelter
  - ▶ Animal Control



# What's the Focus for Public Health Preparedness?



## PUBLIC HEALTH PREPAREDNESS CAPABILITIES:

NATIONAL STANDARDS FOR STATE AND LOCAL PLANNING  
MARCH 2011



Centers for Disease Control and Prevention  
Office of Public Health Preparedness and Response



# The Capabilities

1. Community Preparedness
2. Community Recovery
3. Emergency Operations Coordination
4. Emergency Public Information and Warning
5. Fatality Management
6. Information Sharing
7. Mass Care
8. Medical Countermeasure Dispensing
9. Medical Materiel Management and Distribution
10. Medical Surge
11. Non-Pharmaceutical Interventions
12. Public Health Laboratory Testing
13. Public Health Surveillance and Epidemiological Investigation
14. Responder Safety and Health
15. Volunteer Management

# What Forced Us to Collaborate?



# PHAB

## Domain 2: Investigate health problems and environmental public health hazards to protect the community

Domain 2 focuses on the investigation of suspected or identified health problems or environmental public health hazards. Included are epidemiologic identification of emerging health problems, monitoring of disease, availability of public health laboratories, containment and mitigation of outbreaks, coordinated response to emergency situations, and communication.

### DOMAIN 2 INCLUDES FOUR STANDARDS:

<b>Standard 2.1</b>	Conduct Timely Investigations of Health Problems and Environmental Public Health Hazards
<b>Standard 2.2</b>	Contain/Mitigate Health Problems and Environmental Public Health Hazards
<b>Standard 2.3</b>	Ensure Access to Laboratory and Epidemiologic/Environmental Public Health Expertise and Capacity to Investigate and Contain/Mitigate Public Health Problems and Environmental Public Health Hazards
<b>Standard 2.4</b>	Maintain a Plan with Policies and Procedures for Urgent and Non-Urgent Communications

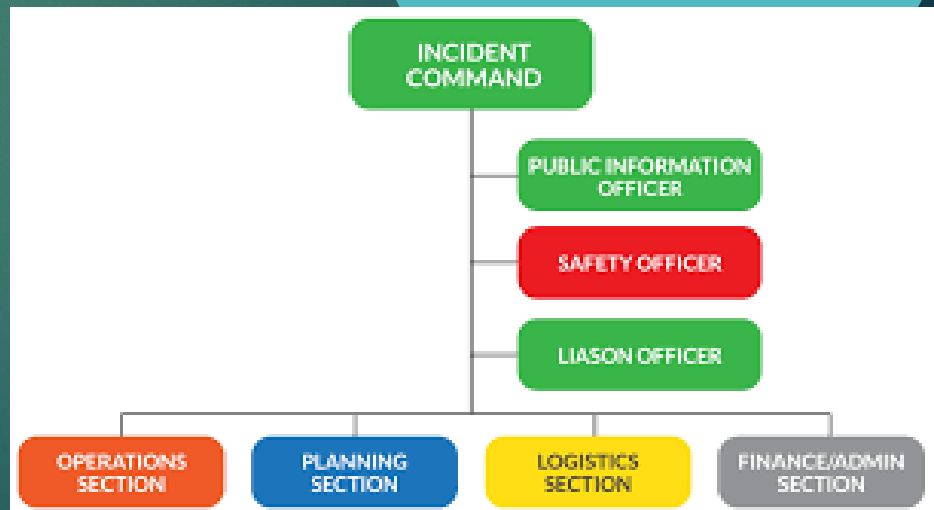


# PPHR

R. <a href="#">Environmental Health Response</a>	Hyperlink(s)	Comments
<b>r1. The evidence demonstrates a concept of operations for environmental health response by addressing the five items listed:</b>		
<b>r1i.</b> Staff roles and responsibilities as related to ESF 8: Public Health and Medical Services.		
<b>r1ii.</b> Response actions that will occur.		
<b>r1iii.</b> When the response actions will occur.		
<b>r1iv.</b> Under whose authority the actions will occur.		
<b>r1v.</b> How response actions will be documented.		
<b>r2.</b> The plan describes the agency's lead and support roles in the protection of the public from environmental hazards and the management of public health effects of an environmental health emergency.		
<b>r3. The plan describes the process for determining corrective in the following areas:</b>	<b>r3i.</b> Foodborne and waterborne outbreak surveillance, investigation, and control.	
<b>r3i.</b> Foodborne and waterborne outbreak surveillance, inv control.	<b>r3ii.</b> Vector surveillance for vector-borne disease control.	
	<b>r3iii.</b> Food safety.	
	<b>r3iv.</b> Drinking water supply and safety.	
	<b>r3v.</b> Sanitation.	
	<b>r3vi.</b> Waste water.	
	<b>r3vii.</b> Solid waste management.	
	<b>r3viii.</b> Hazardous waste management.	
	<b>r3ix.</b> Air quality.	
	<b>r3x.</b> Radiation exposure response, including population monitoring.	
	<b>r3xi.</b> Chemical or toxic release control and clean-up.	

# Incident Command System

- Standard way of handling incidents
- Common language
- Expandable
- Free Training through FEMA
  - IS 100
  - IS 200
  - IS 700
  - IS 800



<https://training.fema.gov/is/crslist.aspx>



# How you use ICS and don't even know it!

- There's a fire in your kitchen!



**Now your kitchen fire looks like this...**





# 2013 Floods

- State of Emergencies

- 4/18 -Wyoming
- 4/19 - Kent County
- 4/20 -Grand Rapids
- 5/7 – State of Michigan

- Cost

- Kent County
  - 8 million in private property damage
  - 2.6 million in public property damage





# KCHD's Response Objectives

- Ensure the health of responders and the citizens in the affected areas of Kent County
- Communicate key public health and safety messages to the public and responders
- Assess and monitor emerging public health threats

# KCHD Incident Command





# Operations

Operations



Animal



Shelter



Food



Water



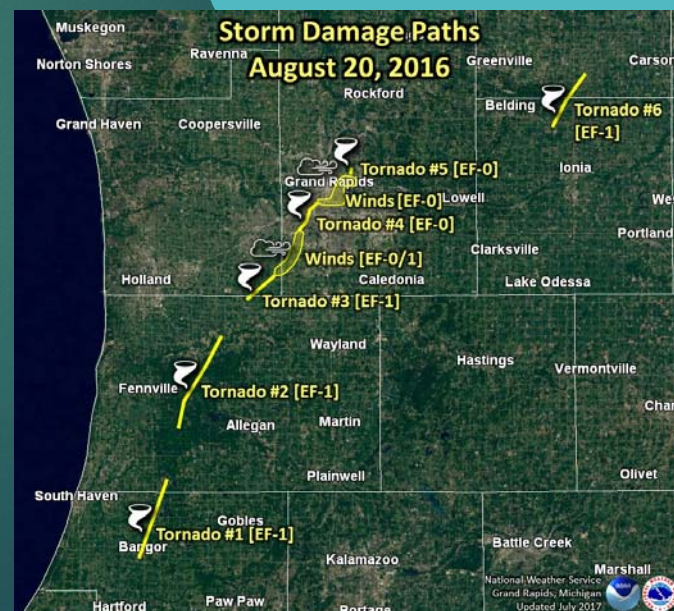
Lab





# Where We've Collaborated in Response (Normally...)

- ▶ Natural Events
  - ▶ Flooding
  - ▶ Tornadoes
- ▶ Foodborne Outbreaks

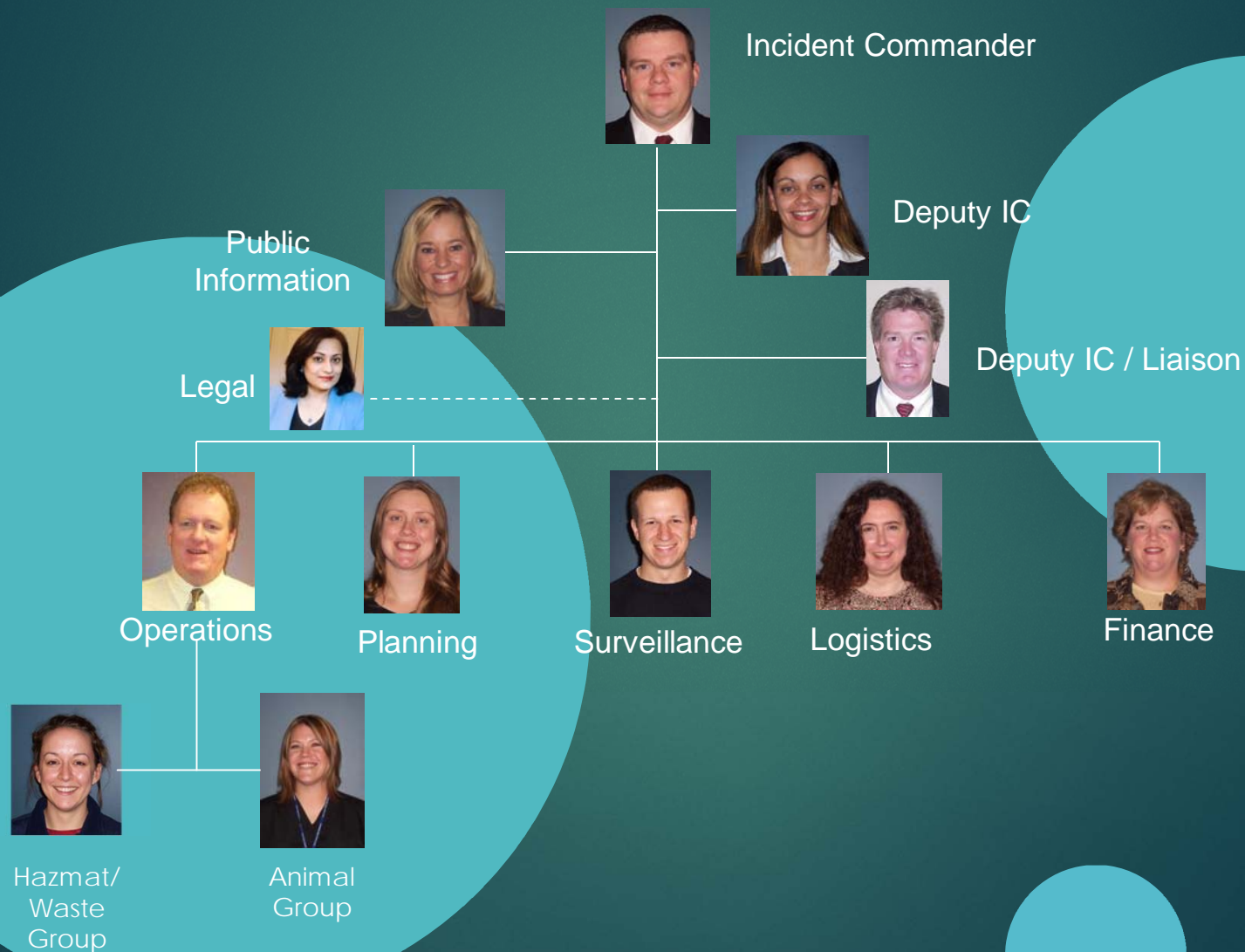


# Ebola





# Incident Command





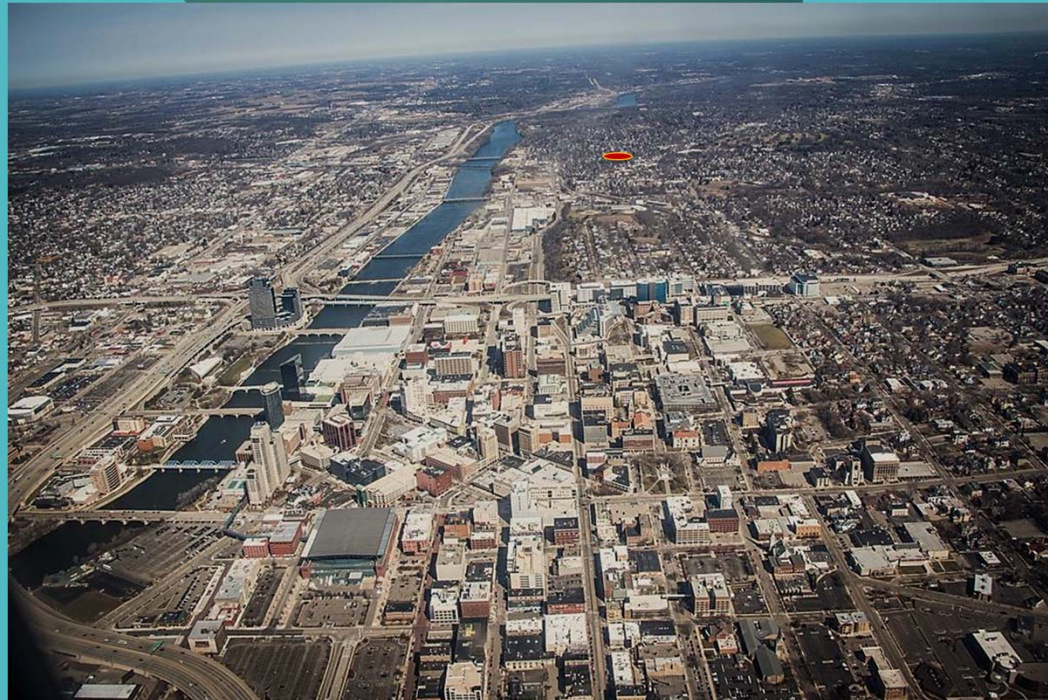
# Northern Exposure 2015

- ▶ National Guard Exercise
- ▶ Partners:
  - ▶ Kent County
  - ▶ Fire Departments
  - ▶ EMS
  - ▶ Hospital
  - ▶ Regional Healthcare Coalitions
  - ▶ State Departments
  - ▶ And others!

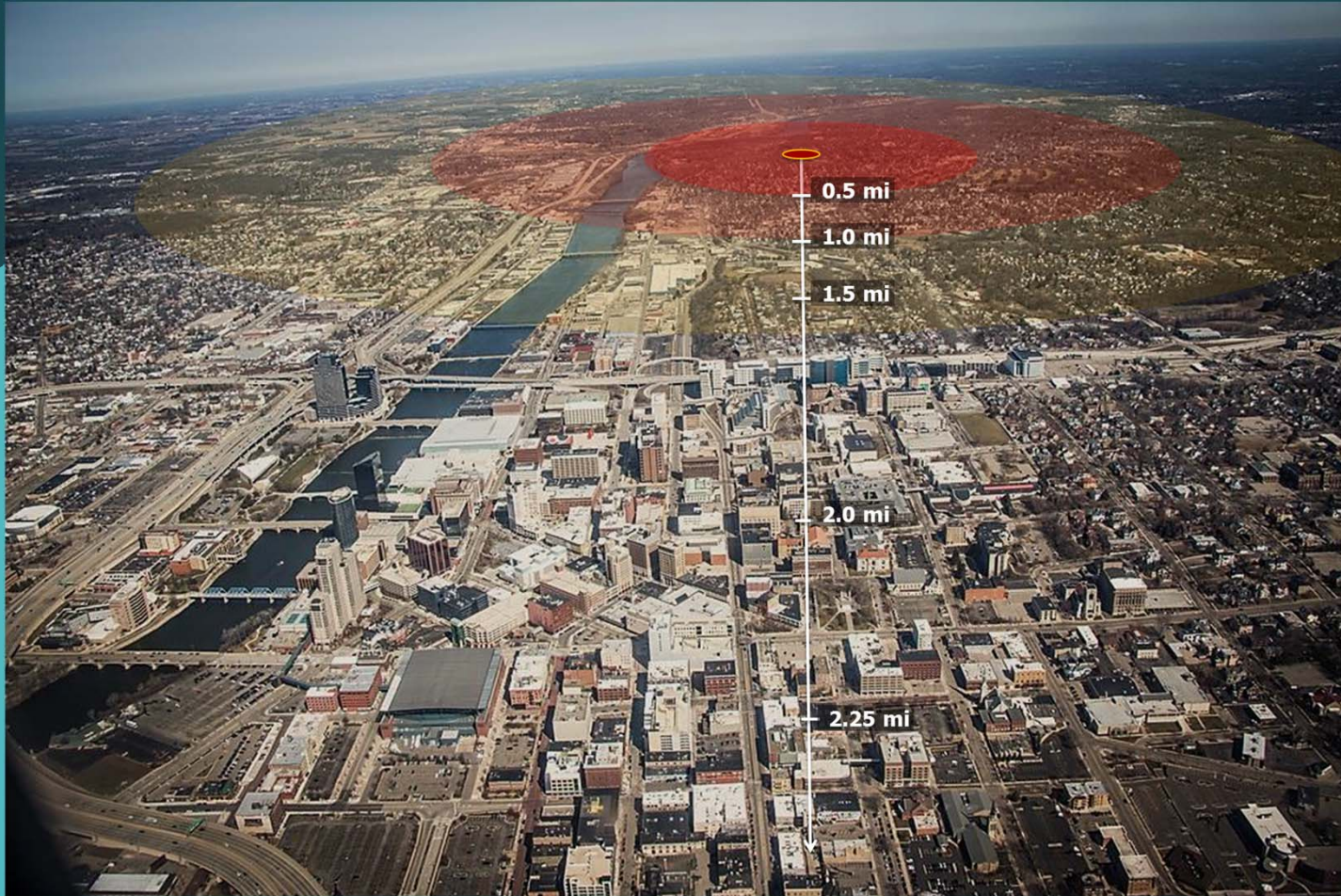


# Scenario

- ▶ A 8-10 kiloton improvised nuclear device is detonated in a neighborhood in NE Grand Rapids









# Let's discuss...

- ▶ Food
- ▶ Water
- ▶ Animals
- ▶ Shelters
- ▶ Laboratory
- ▶ PPE requirements
- ▶ Partnerships





# Food

- ▶ What food is safe to eat?
  - ▶ Grocery stores
  - ▶ Home gardens
  - ▶ Restaurants
- ▶ What happens to food that is unusable?
- ▶ Scavenging?
- ▶ Pop up food operations are possible
  - ▶ How do you tell them no?
  - ▶ How do you inspect and ensure safe food?



# Shelter

- ▶ Where will the shelters be and how fast can they be set up?
- ▶ Radiation monitoring
  - ▶ Where can we get equipment?
  - ▶ Decontamination
- ▶ Food
  - ▶ Keep food operations as simple as possible.
  - ▶ Trusted resources.
- ▶ Waste
- ▶ Pets

A Guide to Operating Public Shelters in a Radiation Emergency  
February 2015



National Center for Environmental Health  
Division of Environmental Hazards and Health Effects





# Animals

- ▶ Where are we going to put the pets?
  - ▶ Estimate: 5000 dogs and 4000 cats
    - ▶ Based on 35,000 sheltered people
  - ▶ Portable kennels on site
  - ▶ Off site venue?
- ▶ Monitoring and Decontamination
- ▶ Euthanasia considerations
- ▶ What about the animals on the loose?
- ▶ Farm animals



# Laboratory

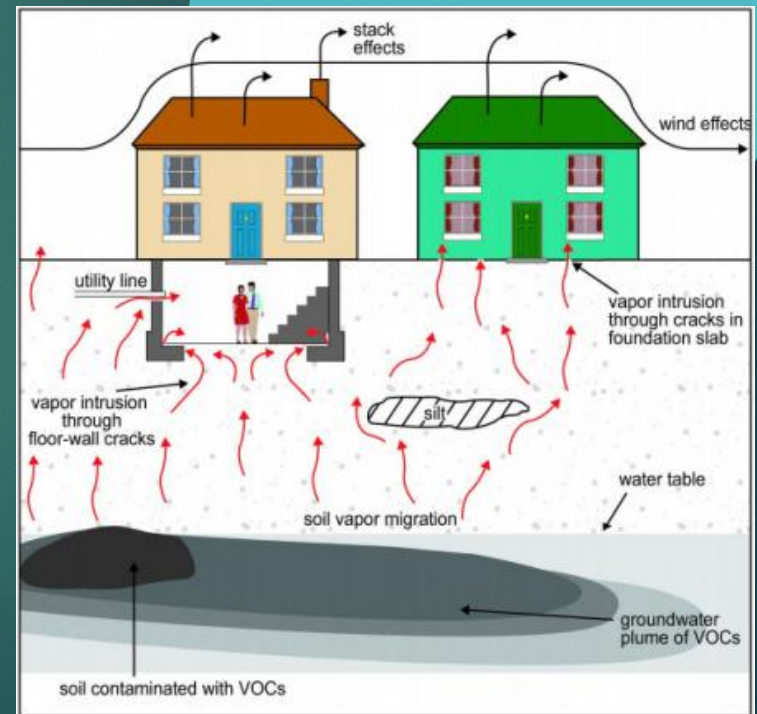
- ▶ Is KCHD willing to be a collection point for laboratory samples?
  - ▶ What types of samples and how are they being collected?
  - ▶ Occupational hazard?
  - ▶ Do we have the right equipment for holding?





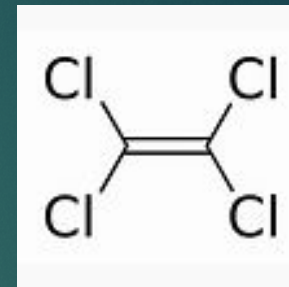
# What is Vapor Intrusion?

- ▶ Migration of vapor-forming chemicals from any subsurface source into an overlying building. (EPA)
- ▶ Vapor types may include:
  - ▶ Volatile organic compounds
  - ▶ Elemental mercury
  - ▶ Pesticides
- ▶ Hazards
  - ▶ Health effects
    - ▶ Chronic
    - ▶ acute
  - ▶ Safety hazards
    - ▶ explosion



# Tetrachloroethylene

- ▶ Other names: Perchloroethene; Perchloroethylene; Perc; PCE
- ▶ Solvent for organic materials
  - ▶ Dry cleaning
  - ▶ Degreasing metal parts
- ▶ Health effects
  - ▶ 2A carcinogen – probably carcinogenic
  - ▶ Central nervous system depressant
  - ▶ Parkinson's disease
  - ▶ Color vision deficiencies



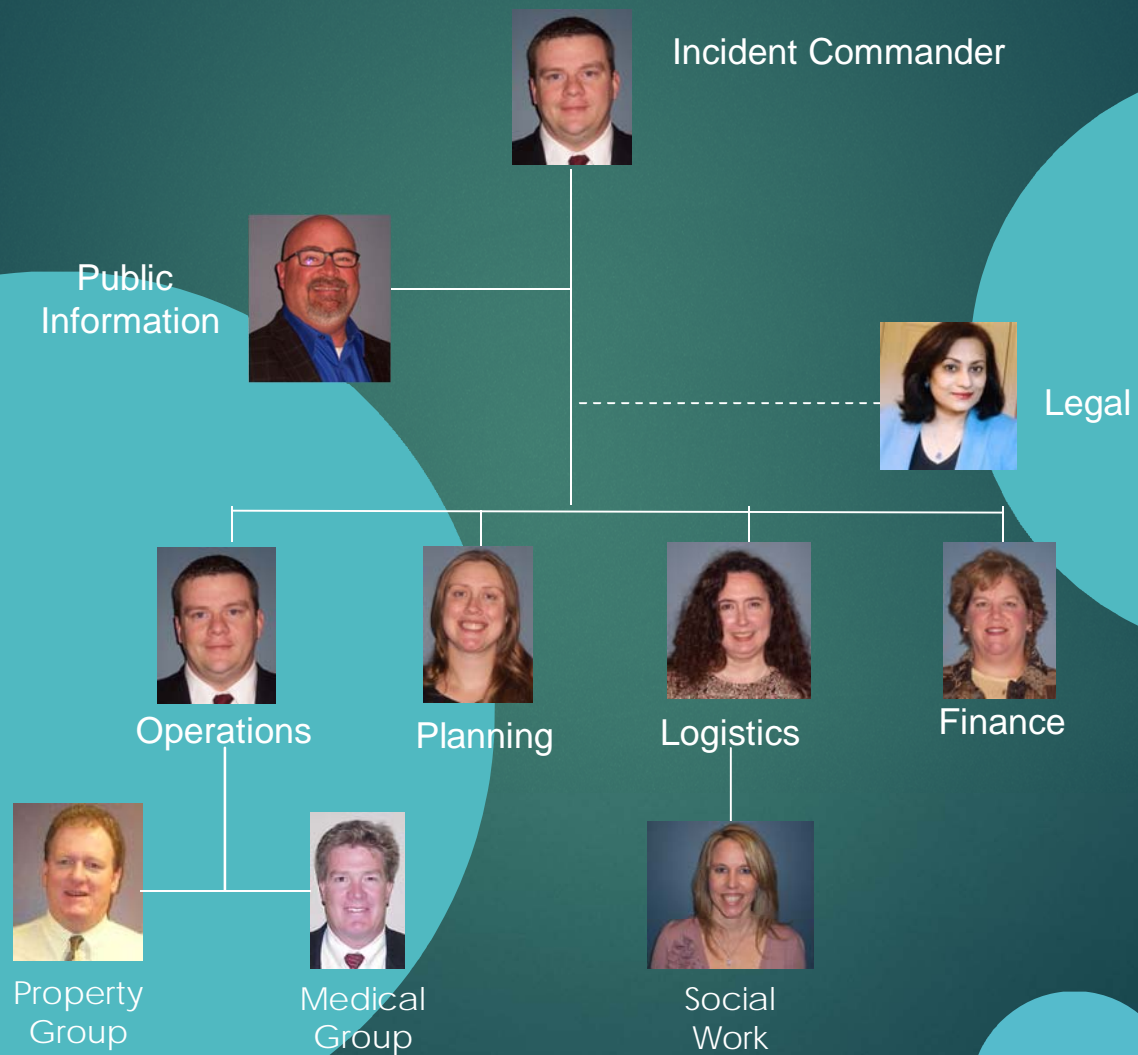


# Hall and Madison Vapor Intrusion

- ▶ Notified May 19, 2016
- ▶ Former Dry Cleaning Business
  - ▶ No responsible party
- ▶ Displaced:
  - ▶ 2 non-profits
  - ▶ 6 residents of 2 apartments
- ▶ ICS
  - ▶ Medical Group
  - ▶ Property Group
  - ▶ Social worker



# ICS Chart





# Response Activities

- ▶ Blood draws for residents and employees
  - ▶ Referrals
- ▶ Housing – not homeless
  - ▶ Red Cross, Salvation Army, MSHDA
  - ▶ Social Media
  - ▶ Administrative preparedness
  - ▶ Potential lawsuits
  - ▶ Enforcement
- ▶ Community Meetings
- ▶ EPA and the TAGA Bus
- ▶ Public health order lifted July 18.



# And Then There Was the Trex site

- ▶ June 7, 2016
- ▶ Former solvent reclamation facility
  - ▶ Trex = Responsible party
  - ▶ Trichloroethylene
- ▶ Downtown Grand Rapids
- ▶ Two properties affected
  - ▶ The Rapid
  - ▶ The Big Event
- ▶ Mitigation
- ▶ Order lifted August 11

*THE RAPID*

**GRAND  
RAPIDS  
BALLET**





# Lessons Learned

- ▶ Environmental Health is an integral part of planning, training, exercise, and response.
- ▶ Emergency Preparedness is an integral part of Environmental Health!
- ▶ Incident Command is essential to an organized response.
- ▶ Resources are key.
- ▶ Language and law are important.



# Thanks for listening!



Karla Black  
Emergency Preparedness Coordinator  
Kent County Health Department  
Karla.black@kentcountymi.gov  
<http://www.accesskent.com/Health/HealthDepartment/>