EMERGENCY PLANNING AND RESPONSE

ALLIED
Technical Services
Pump Rentals
Underwater Services
Technical expertise. Comprehensive services. Turnkey solutions.

July 24th, 2024
OTCO Workshop

A Brief History of Allied

- Established in 1994 - Allied Technical Services, Inc.
- Owner broke away as a partner with a rep firm to form a strictly service based company while honoring a 3-yr non-compete
- Grew exponentially during that time and began utilizing bypass pumps
  - 1997 – Allied Pump Rentals formed
- Acquired Underwater Technology Systems to supplement our team
  - 2005 – Allied Underwater Services formed
- This has allowed us to be a very unique and specialized company offering a vast amount of technical expertise coupled with comprehensive services able to offer turnkey solutions all under one roof.
  - Physical locations in Cincinnati, OH | Marengo, OH | Buckner, KY
  - Since we are not a true rep firm we work with all customers and equipment to find what is best suited for them

Allied Underwater Services

- Inspections
  - Emergency
  - Planned Maintenance
  - Preventative Maintenance
  - NDT (Non-Destructive Testing)
- Sediment and material removal
  - Water towers, intakes, clear wells, etc.
- Underwater Construction
  - Welding, Burning, Concrete, Epoxy
- Fabrication
  - Custom design and fabricate whatever is needed to solve a problem
- Salvage recovery
  - Raising sunken vessels, location of lost items
- Hazmat diving

Allied Pump

- Complete line of diesel and electric driven pumps
  - Hydraulic and Electric Submersibles
  - Self-Priming/Prime-Assisted pumps
- Pumps from <1” through 18”
- Complete system engineering
- Bid preparation assistance
- Pick-up/delivery and set-up/tear down
- 24-hr emergency response
  - 24 hour monitoring and operating options
- Confined space expertise
- Light Towers, generators, sewer plugs, pipe, HDPE fusion, road crossings, manifolds, fuel cells, control panels, valves, etc.
- Frac Tanks
- Pump sales
- Pump repairs and rebuilds


BIKE LANE
NO STOPPING
ANY
TIME
CS4214
ALLIED
CS4219
ALLIED

Failing to Prepare is Preparing to Fail

- We will go over a basic outline and some key items to think about when developing or revising your plan.
- Let us know if you want help with a review or assistance in developing a plan.

- All of the following are actual events to which we have responded.
- While not all will happen in your area I’m sure something similar is a definite possibility
- You may have had to deal with similar situations in your careers
  - Use that experience in developing your plans

IMAGINE

- Your office has no roof and had 8 feet of water in it!
- Blueprints, drawings, O&M manuals, log books and records are rotting in the cabinets full of water. The smell is so bad you finally give up even trying to find or salvage them.
- 80% of your workforce have not even been heard from, the others have not yet reported back to work.
- Water has been off 3 days and you still cannot get in touch with power company directly.
- All of your wells are contaminated and all of your treatment chemicals are gone, washed away or ruined!
- WWTP is down, all sewage lift stations are down; some simply do not have power, others have been under water, some cannot be found!
- Sewage is running everywhere.

Hurricane Katrina 2005


SEP 12 2005


SEP 12 2005


STAR STUFF
403
ALLIED PUMP RENTALS
Ohio - Kentucky - Indiana
1-877-98-PUMPS
EMERGENCY FLOOD RESPONSE UNIT


GAR
PUMPS

IMAGINE

A Rail Car Is Releasing Styrene Gas Into Your WWTP

- The WWTP cannot be left alone for any length of time (its fully manned and can treat 100 MGD)
- Rain is coming and the main storm station does not currently work in Auto.
- Fire Department has issued a 1-mile radius mandatory evacuation while they monitor and cool the car
- What do you do?

- Cincinnati MSD Four Mile/Little Miami Plant
- Evacuation lasted 3 days

Imagine

- 13.57” of rain have fallen in 36-hours
- 2-day rainfall total just doubled the previous record
- River swells to 51.86’…highest recorded level since dam system was built in the late 1950’s. Previous record was 47.6’ in 1975. Flood stage is 40’.
- The protective levee around the plant is finally breached and the “bowl” fills up.
  - ~30’ of water and sewage cover the plant
- What do you do?
  - There is nowhere to hide, it’s all flooded

2010 Flooding in Tennessee

- Clarksville WWTP


Clarksville Greenway

Imagine

- You just lost 2.5 Million Gallons of treated water in a 10 minute period, 4x normal daily distribution
- Normal system pressure is 100-125psi
  - It has dropped as low as 50psi
- Excess storage in elevated tanks and system reservoirs is being drained
- It takes 14 hours to locate the break and stabilize the system
  - You just lost 100,000,000 gallons of treated water
  - Full production needs to happen quickly but not so fast as to cause problems to an aging infrastructure

City of Dayton - Montgomery County Water Main Break in Great Miami River

How do you respond to these types of situations?

"When in trouble or in doubt
Run in circles, scream and shout!"


SPEED
LIMIT
35

Emergency Planning

- How many in here have or are aware of your city or company having an Emergency Response or Disaster Recovery Plan?
- How many have read it or been involved in developing the plan?
- Has it been reviewed and updated in the past 3-5 years?

Emergency Planning

- Develop a plan
- Communication
  - Who and how
- Coordination
  - Personnel, vendor management, state/federal/local assistance
  - Involve all of your team in developing and updating plans
- Implementation
  - Protocols and guidelines, especially for dangerous situations
  - Data Management
  - Distribute to any team that will be involved
    - Water, wastewater, streets/roads, city officials, police/fire, even vendors
  - Review and update regularly
    - Vendors will change
    - City personnel will change
    - Utility contracts and providers will change

Communication

- First and foremost…how are you going to communicate?
- Phone lines
- Cell Phone
- Radio
- U.S. Gov Priority Comm. (phone, Nextel)
- Satellite Phone (GlobalStar)

- Depending on the extent of damage some or many forms of communication will be down or overloaded. Be prepared to communicate in a variety of formats.

Many Times Nothing Works

- UPS, Mail, Phone, Electric, Gas, Water, Waste Water, Payroll, AP/AR, Credit Cards
- You go to the gas station and find pumps do not work…no power.
- No problem, you've got a generator. Pump now works but phone line is out so credit card will not work for approval.
- No problem, you go to the bank to get cash, but it's not open and has no power to track withdrawals anyway.
- You find power company hooking up power near an ATM. It must have cash since it's been down since the disaster. When you run your ATM card it won't work since this bank can not talk with your bank at this time.
- Four hours of your life and you went from low on gas to out of gas.
- Now lets go try to get a bag of ICE !!!

Communication - Authorization

- Who is in charge?
- Strange things happen!
- I.D. Badges: local, county, state, federal
- An effective plan will allow for those closest to the problems to make decisions quickly and act accordingly without waiting on authorization
  - Decentralized command whenever possible
- Who is responsible for communicating and to whom are they reporting
  - Purchasing
  - State/Federal assistance
  - Required approvals

Coordination

- Personnel
- Vendor Management
- State/Federal/Local Assistance

Coordination – Vendor Management

- Line up in advance and have clearly defined plans and responsibilities.
- How do you determine when to bring in outside help.
  - The sooner the better as vendors and resources get utilized quickly
  - Having a plan in place prior to a disaster allows for quick response, clear and concise responsibilities, and ease of implementation
- Often local shops (even if they are national chains) will be down.
  - You will have to think “outside the box”.
  - Have backup vendors in locations that would be unaffected by whatever is affecting you.


STOP
SEP 15 2005

Coordination – Vendor Management

- Have an up to date list of vendors that need to be called immediately to cancel or change orders.
  - If you are down do you really need a tanker of chemicals delivered tomorrow?
- What do you need now and where are you getting it?
  - Fuel
  - Chemicals
  - Pumps/motors
  - Controls and Panel components
  - Wire
  - Bearings
  - Computers
- Can you get any of it on a temporary basis or rental until permanent replacements arrive?

Coordination – Government Assistance

- What assistance is available?
  - Federal, State, and/or Local.
- Understand what role each may play and how they work.
- Make sure of all regulations. Hopefully they require and empower you to put things right ASAP.
- Trying to do temporary repairs and work will use up lots of money. The goal is to restore the system to its pre-disaster capabilities.
  - Making temporary repairs will cost more when permanent repairs are required or when they fail prematurely.

Coordination - Assistance

- What about:
  - Housing
  - Sanitation
  - Mess Hall
  - Ice/Water
  - Medical
  - Debris removal and disposal
- You may not provide these now but it may be required in extenuating circumstances.
  - Know who may be able to provide these for your employees or if you are able to provide them directly.

Implementation

- Protocols and guidelines
- Data management
- Distribute to those involved
- Review and update regularly

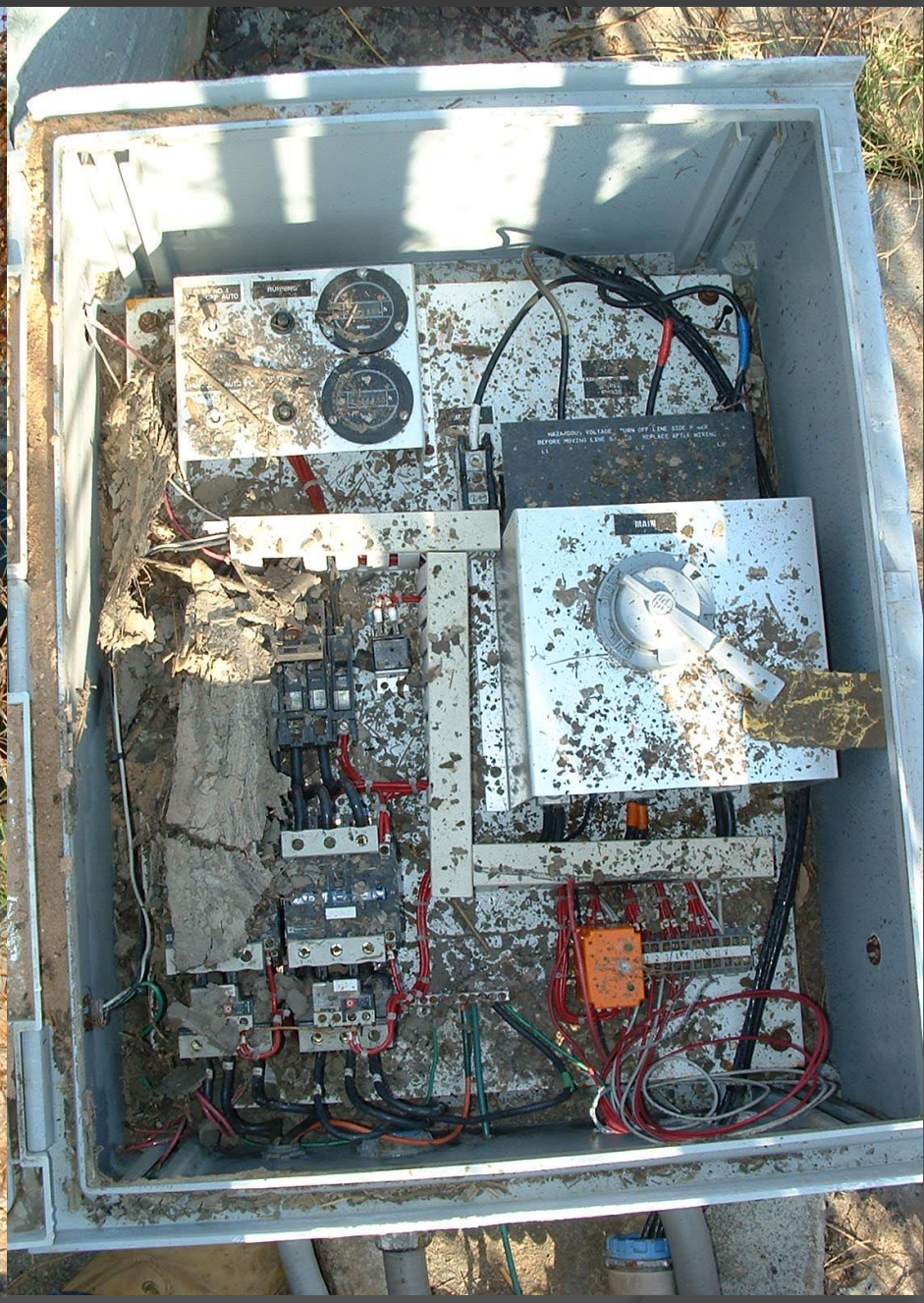
Implementation – Protocols and Guidelines

- Standard protocols and guidelines will most likely require modification in disaster situations.
  - Run through some potential scenarios to make sure everything is done safely and appropriately for the situation
    - Flood
    - Storm/Tornado/Hurricane
    - Earthquake
    - Explosion

Implementation – Protocols and Guidelines

- Guidelines for Damaged Lift Station
  - Check area for visible damage.
    - Downed power lines, broken pipes/valves/fittings, structural damage.
    - If the station can be entered safely inspect meter and disconnect.
    - Is power available? If power is available proceed to control panel for controls check and then motor/pump status.
  - In the event the power is off determine if a bypass pump or generator is required.
    - If meter base and disconnect are OK, look in control panel for signs of water, water damage or corrosion.
    - If all appears OK, check pump and motor by hand or with small pipe wrench.
    - If pump and motor spin, megger motor and cables to check for shorts to ground. If this test is clear, remove meter from base (this is to avoid back feeding the electrical system).
    - Wire compatible generator (sized for voltage and load) to top of main disconnect. Be sure to ground generator to earth with 8’ ground rod (safety).


ON
OFF


RUNNING
MAIN

Implementation – Protocols and Guidelines

- If the meter base has been damaged or is wet, install bypass pump.
  - Close isolation valve (valve may be inoperable due to silting and/or corrosion).
  - Remove discharge pipe from existing pump, unless bypass connection is available.
  - Size bypass for minimum 1 pump flow. If possible 2 pumps for wet weather flow. Keep RPM down unless wet weather is expected (to conserve fuel).
  - Set automatic floats close to where existing floats are, however, make sure diesel pump gets a good run each time to allow battery recharge.
- Allow 24 hours after power is restored before removing pump or generator.


OP6027
Silenced
Dri-Prime
Silenced
Dri-Prime

Implementation – Protocols and Guidelines

- Station wet well should be cleared ASAP of storm surge debris. In particular, pop bottles, water bottles, and grit. However, everything from lumber, car and appliance parts to 5 gallon buckets may be in the wet well!
  - Failure to clean wet well before installing new/rebuilt equipment could result in immediate failures.
- In the event that the motors and pumps have been submerged, rebuild/replace rotating element of pump, at a minimum, and repair/replace motor.
- Panels submerged *will fail*, get them on replacement plan.

Implementation – Data Management

- Your plan is already a part of everyday operations
- What is key data:
  - Electrical drawings or schematics
  - Plans and blueprints
  - O&M manuals
- Where is the data stored?
  - Safe in the event of disaster
  - Redundant copies available

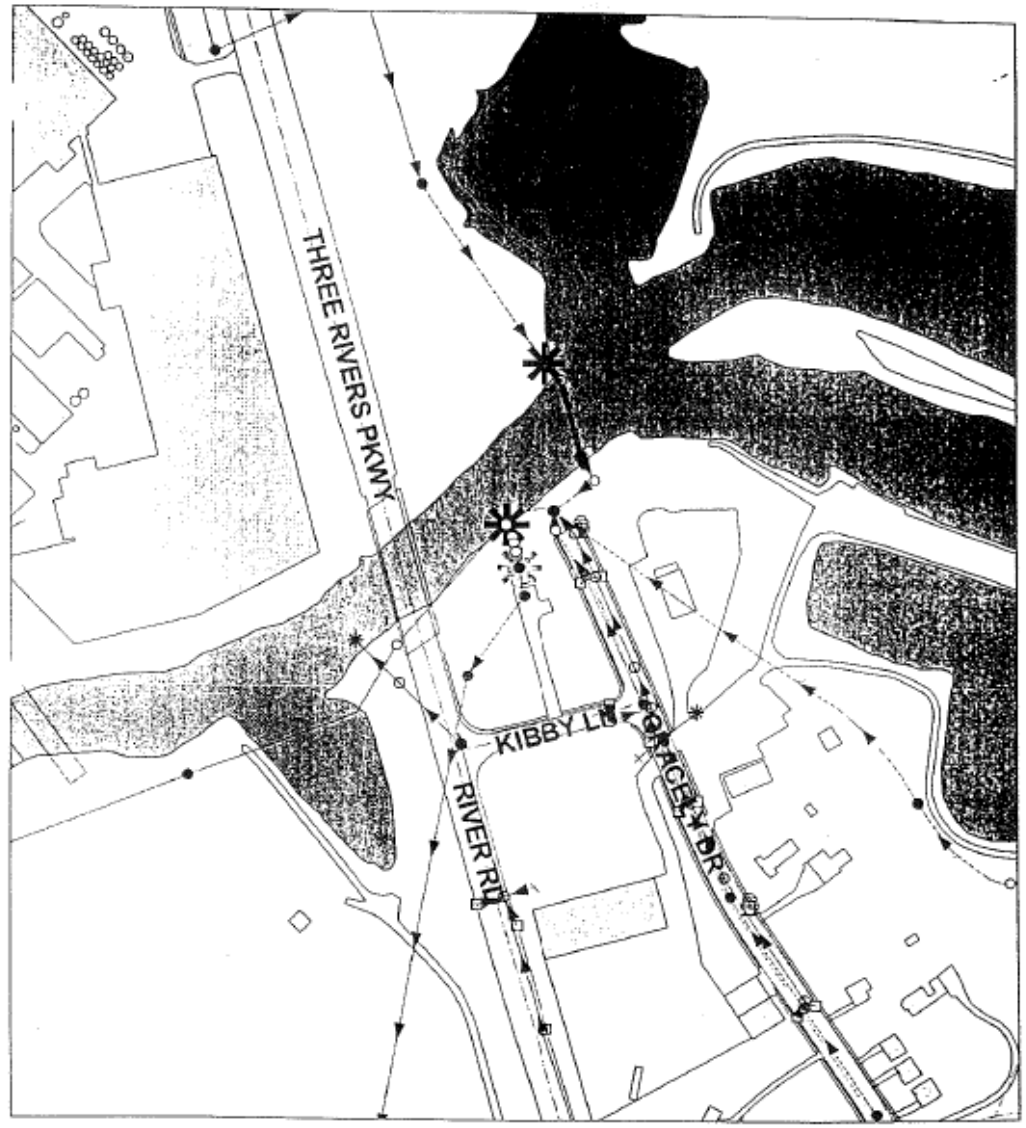
Implementation – Data Management

- Electrical drawings and schematics should be in a binder(s) with all pertinent electrical info.
  - Sizes of fusing should be noted so quick replacement can be accomplished.
- Standardize whenever possible to minimize spare parts
- List utility companies along with personnel names and phone numbers day and night. (1-800-POWER) is not acceptable.
- Meet with power co. once a year to go over operations.

Implementation – Data Management

- Master list or spreadsheet of all stations
  - Submersible or above ground
  - Diameter of wet well
  - Flow and head(duty point)
  - Type of power(1Ø/3Ø, 230V/460V supplied by (_____)
  - Size and length of force main
  - Directions from a known location and GPS coordinates if possible
  - Any emergency connections…mechanical or electrical
  - The more data the better
- Flow charts to show overview of how flow gets to the plants
  - Prioritize repairs from plant back into the system

#	PUMP TYPE	STATION	FLOW GPM	HEAD FT-TDH	MODEL	IMPELLER SIZE	HP/RPM/VOLTS
HEAD 50 TO 99-FT TDH							
1	EBARA	HUNTINGTON	379	98.8	100DLM615	FULL	20/1750/230
2	EBARA	NORTH BEND CROSSING	400	97	100DLMU6224	FULL	30/1800/460
3	FONTAINE	SHADY LANE (LOCAL)	320	97	10BM	10"	15/1800/230
4	EBARA	MOUNT AIRY	400	96	80DLFH15	FULL	20/1800/460
5	FLYGT	REGENCY RIDGE	287	96	C3140	#480	14.8/1750/230
6	S&L-P	BRUESTLE	100	95	4X4 4B2A CW & CCW	9.5"	10/1760/230
7	FONTAINE	CENTURION ESTATES	265	95	10BM-SR31	9.75"	10/1750/230
8	EBARA	HAMPTON POINT	560	91.4	100DLMF618	FULL	25/1740/230
9	S&L-P	CHURCHILL DOWNS	100	88	4X4 4B2 CW & CCW	7	15/1750/230
10	EBARA	ROLLMAN ESTATES	165	88	80DVC611	FULL	15/1750/230
11	FLYGT	WAYSIDE	125	88	CP-3127	#481	10/1750/230
12	FONTAINE	WINDMERE THIRD	280	86.1	10AM	9"	15/1800/460
13	FLYGT	ESTATES OF FOREST HILLS	100	85.3	3102GRINDER	#212	7.5/3600/230
14	S&L-P	GIL VOLZ	270	80.6	4X4 4B2A CW & CCW	9.25"	10/1760/230
15	FLYGT	SHADY LANE (ANSON)	225	80.2	C3127	#487	10/1750/230
16	EBARA	ANDERSON WOODS	90	80	100DLMS611	FULL	15/1750/230
17	FONTAINE	FRIES THIRD	255	80	10BM	9"	10/1750/230
18	EBARA	RUSTIC HILLS (INSTALL 2003)	270	78.3	80DLCMF67.5	FULL	10/1750/230
19	EBARA	HARCOURT ESTATES	340	78	100DLBMU611	FULL	15/1740/460
20	FLYGT	WILLOW RIDGE	270	78	C-3127	#481	10/1750/230
21	ABS	BARRINGTON HILLS	208	77	ABS-AFP-10		10/1750/230
22	S&L-P	HENGEHOLD FOURTH	100	77	4X4 4B2A	6.75"	7.5/1760/230
23	FAIRBANKS	GLENVIEW	200	76	FAIRBANKS-MORSE 4X4-E5463	9"	15/1760/230
24	FLYGT	BAILEY PLACE HOLDING TANK	475	75.13	FP3152CUTTER	265-MM	20/1750/460
25	EBARA	KEMPER ROAD	620	74.3	100DLMF615	FULL	20/1750/460
26	AURORA	DELTA AVE	2400	72	AURORA 611-SF-4"X8"X18	18"	75/1140/460
27	EBARA	LEGENDS OF CAPENTERS RUN	60	72	50DGU83.7	FULL	5/3600/230
28	FONTAINE	WYNBROOK	400	71	10BM-ST31	9"	15/1800/460
29	S&L-P	BAHAMA GARDENS	360	67	4B2 CW & CCW	6.625"	10/1750/230
30	EBARA	TENNYSON	680	67	150DLU8152	FULL	20/1800/230
31	FAIRBANKS	WINTON WOODS 1	100	67	FAIRBANKS-MORSE 5432-6-25	8.5"	10/1760/230
32	FLYGT	FOLLEY FOREST	115	65	3127.170	#212	7.5/3600/230
33	EBARA	HONNERT RIDGE	60	64.2	50DGUH63.72	FULL	5/3600/230
34	ABS	GLEN LANDING	175	64	ABS-AFP-15	4107555T	15/1750/230
35	EBARA	VILLAGE WOODS	200	64	80DVU76.52	FULL	10/1800/230
36	FLYGT	RIVEROAKS	233.5	63.3	C3127	#483	10/1750/230
37	FONTAINE	WELLER WOODS	350	62.7	10BM-ST31	8.5"	10/1750/230
38	S&L-P	GREENPINE ACRES	150	60	4X4 4B3 CW & CCW	11.5"	10/1170/230
39	FLYGT	SOUTH CLIPPINGER	125	60	CP3127	#432	10/1750/230
40	S&L-P	DIAMOND OAKS	110	59.8	4X4 4B2A CW & CCW	7.5"	7.5/1760/230
41	CLOW	CARPENTURES RUN	80	59	CLOW-4310-SC	7"	15/1750/230
42	FONTAINE	LAWYERS POINT (INSTALL 2003)	182	58.8	8AM	8"	5/1750/230
43	S&L-P	ADDYSTON	480	56.3	4B3 CCW (2)	12"	7.5/1170/230
44	ABS	TREETOPS	275	56.3	ABS-AFP-10-4"	220-1	10/1750/230
45	S&L-P	BRITNEY ACRES	132	55.2	4X4 4B2 CW & CCW	7.625"	7.5/1760/230
46	BARNES	CAMBERLY ACRES	103	55.2	PEABODY BARNES-4SEH502-504	7.5"	7.5/1760/230
47	EBARA	MEADOWS OF WRIGHT FARM	267	55	80DLMF65.5	FULL	7.5/1800/460
48	EBARA	EASTERN AVE	460	52	100DLBM-67.54	FULL	10/1750/230
49	EBARA	RETWOOD ESTATES	170	50.35	100DL67.5	FULL	10/1750/230
50	FAIRBANKS	CLEVES	1340	50	FAIRBANKS-MORSE 6"D5433MV	9.8"	38.7/1750/460
51	EBARA	CELLERS GLEN	80	50	50DGUH63.72	FULL	5/3600/230
52	S&L-P	GARDEN HILLS	1050	50	6X6 6C3 CW & CCW	9.125"	25/1760/230
53	CHICAGO	PLACID MEADOWS	200	50	LMC-44	7.25	5/1750/230
54	CHICAGO	MUDDY CREEK PS-LARGE PUMP	3150	50	89160	17"	50/880/460



MAP CREATED FOR: **MUDDY CREEK** DATE: **03/15/2002 02:34:33**

0 Feet

This map was created using the CAGIS System. The City of Cincinnati, Hamilton County or the Cincinnati Area Geographic Information System do not assume any legal responsibilities for the information contained in this map. Users noting errors or omissions are encouraged to contact the CAGIS.

MSD
1600 GEST ST ROOM 100
CINCINNATI, OHIO 45204
(513) 244-1330

Implementation – Data Management

- Digital copies if at all possible
- Store your scanned construction drawings, prints and maps in an online platform for fast retrieval during an emergency.
- Feasible to purchase and scan yourself…if not outsource
- Is the database accessible in an emergency?

Implementation – Data Management

- Partner with others
  - Find a comparable city in another part of the state, review each others plans and keep each others plans. Also have duplicate records of your city held there if possible.
  - It may be feasible to have a sister city help in communications.

Implementation - Distribute

- Distribute to those involved
- Make sure updated copies get to all parties involved in your plan
- Make sure to have your team actually review the plan and understand the plan. When a disaster happens is not the time to start reading and trying to comprehend the plan.

Review

- If you don't have a plan it's time to make a plan
- If you haven't reviewed your plan recently it's time to revise
- Communication
  - Who and how
- Coordination
  - Personnel, vendor management, state/federal/local assistance
  - Involve all of your team in developing and updating plans
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Remember

- It is critical that everyone stay focused on the job at hand and not get wrapped up in distractions. Bear in mind that the distractions could be immense and frequent.
- Often the focus will shift. Good communication at all levels will keep morale up and confusion down.
- Many people are not able to function in the conditions you may be enduring. Many are victims themselves. They may be family members or employees.

What Do We Do?

Allied Underwater Services

- Inspections
  - Emergency
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C185
442254

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Replaces Rip Rap and 3-1 problems plus one piece
Armor Form grout bag 200 X 12 X .5 feet continuous pour

Review

- We are available 24/7
- We basically handle anything having to do with fluid movement
- Multi-faceted attack with 3 divisions
- Many years of experience and expertise
- If we don’t know how to do it we can figure it out or utilize our network to point you in the right direction
- We hope to always be a reference and your first call

Allied Technical Services Inc.
Allied Underwater Services
Allied Pump Rentals

Allied Technical Services Inc.

Contact information

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