



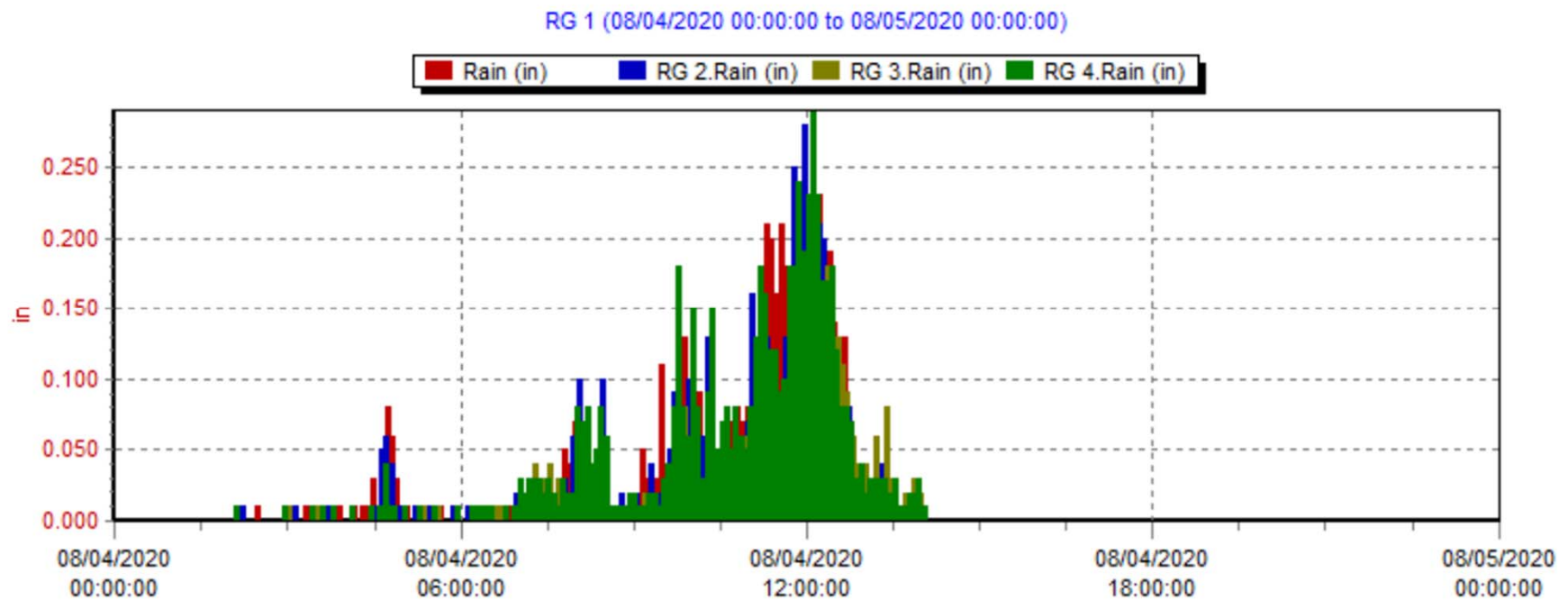
Lehigh County Authority

# Tropical Storm Isaias

Preliminary report to LCA Board of Directors: 8/10/2020

Rainfall: 4-6+ Inches, depending on location

Certain locations received 1" of rain in a single 20-minute interval (Noon on Tuesday, 8/4/2020)



### Flood Categories (in feet)

Major Flood Stage: 10  
Moderate Flood Stage: 8  
Flood Stage: 5  
Action Stage: 4  
Low Stage (in feet): 0

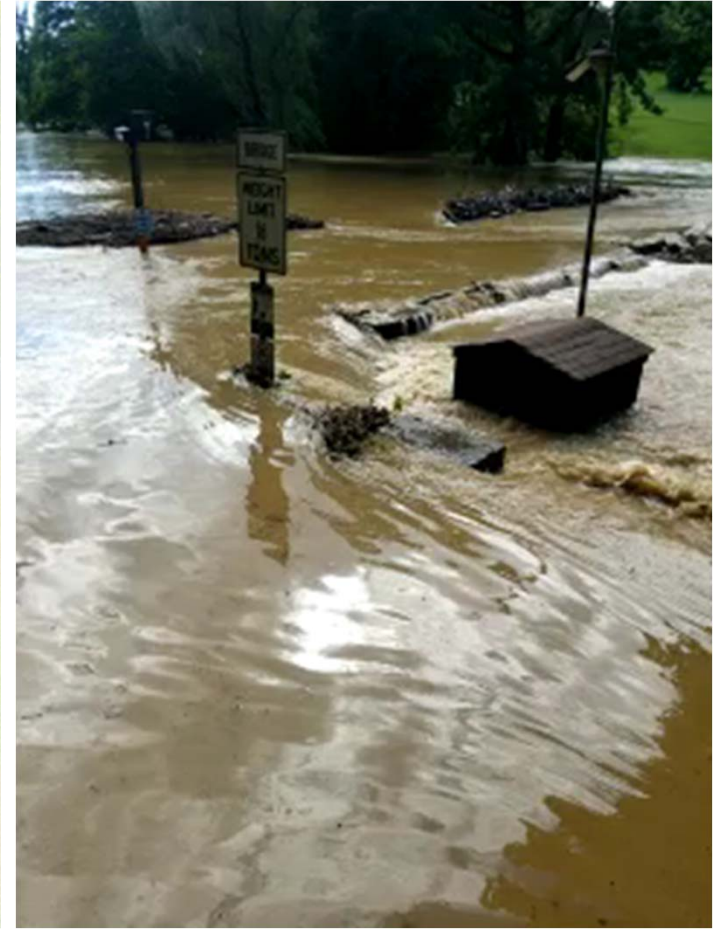
### Historic Crests

- (1) 11.80 ft on 06/22/1972
- (2) 10.93 ft on 10/08/2005
- (3) 10.76 ft on 01/25/1979
- (4) 10.63 ft on 09/18/2004
- (5) 9.68 ft on 08/28/2011



<https://water.weather.gov/ahps2/hydrograph.php?wfo=phi&gage=allp1>

# Little Lehigh Parkway & Park Pump Station





# Water Filtration Plant





Tuesday, August 4, 2020 – Approximately 3:30 p.m.



Thursday, August 6, 2020 – 8:00 a.m.







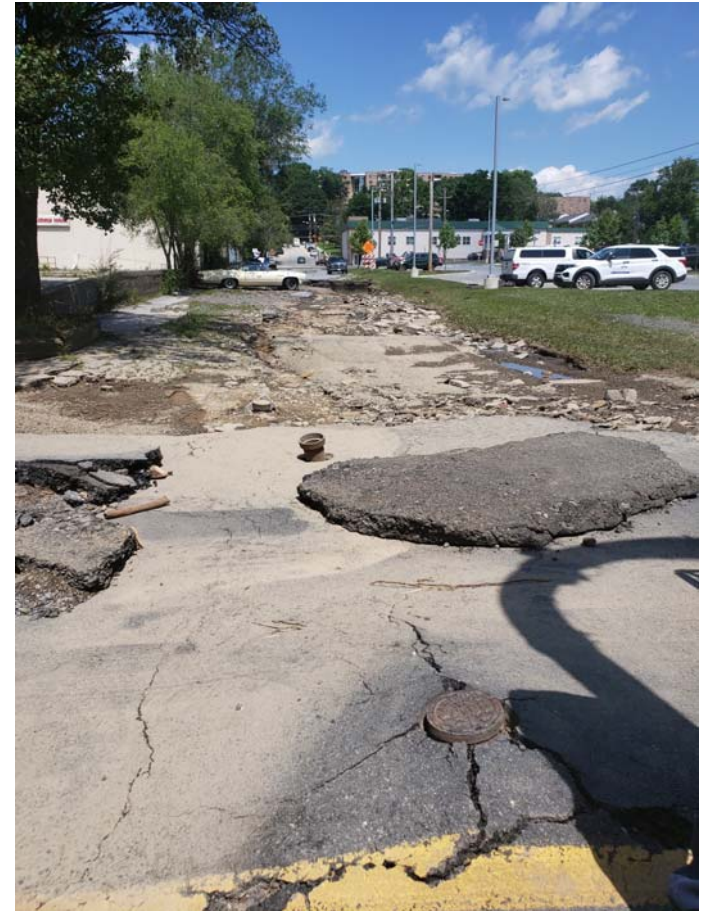
Kline's Island WWTP - Outfall 003 Submerged

# Manhole Damage





# Sewer Line Damage 20<sup>th</sup> & Hamilton



# Operational Response

- Wet-weather protocols in place
- Protocols address both water and sewer system impacts
- Customer service response
- Damage assessment & repairs





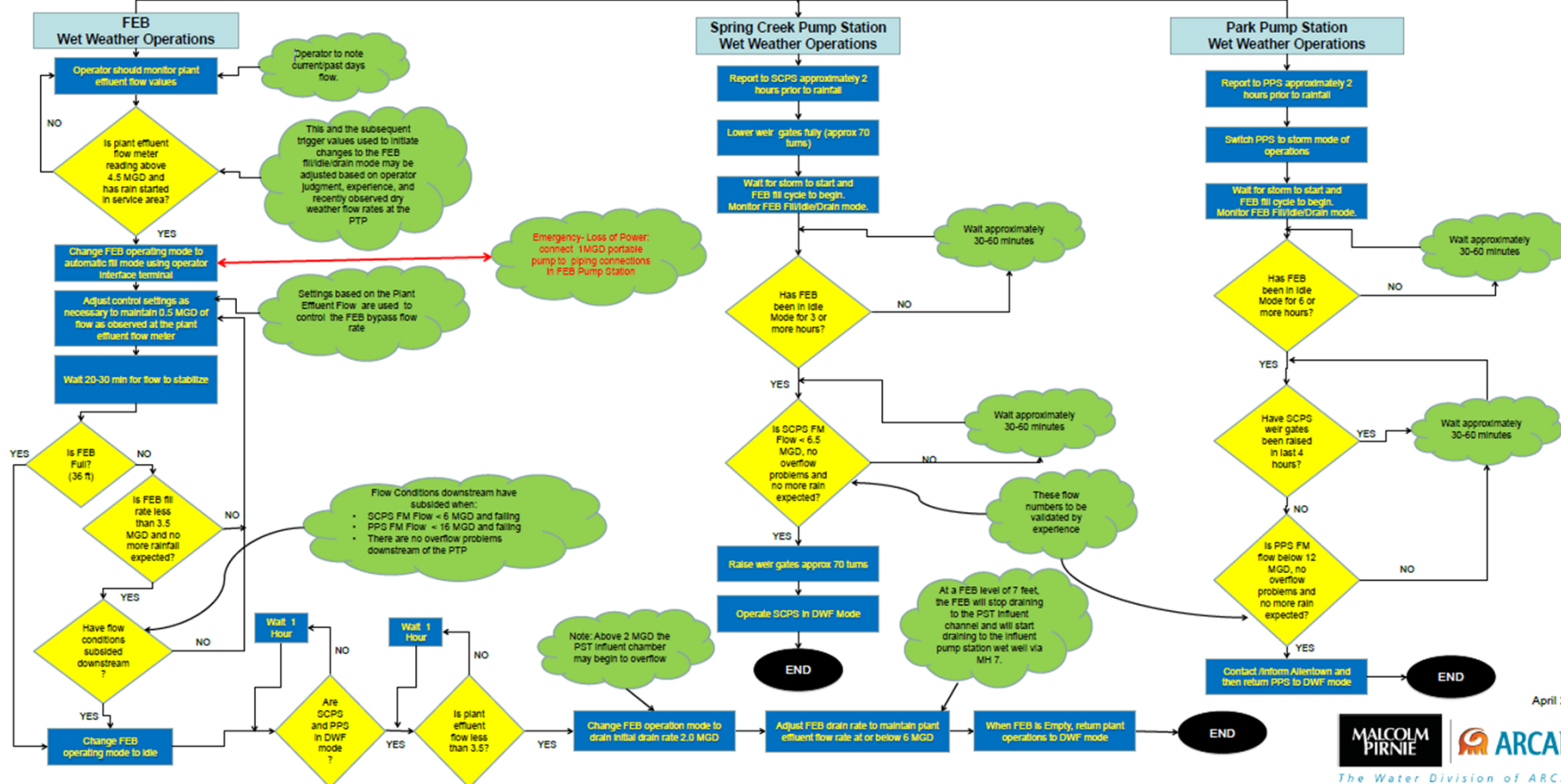
## Wet Weather Relief Facilities Operating Logic

**Acronyms**  
 DWF = Dry Weather Flow  
 FEB = Flow Equalization Basin  
 FM = Force Main  
 PPS = Park Pump Station  
 PTP = Pre-Treatment Plant  
 PST = Primary Sedimentation Tank  
 SCPS = Spring Creek Pump Station  
 MGD = Million Gallons per Day

**Significant Storm Examples**

- ≥ 1 inches rain in 24 hours
- Flood warnings/watch placed in effect
- Conditions leading to significant snow melt

Website Link: [forecast.weather.gov/afm/graphical.php?site=phi](http://forecast.weather.gov/afm/graphical.php?site=phi)



April 25, 2012

# Impacts

- **WWTP's Bypassed:**
  - Kline's Island; Heidelberg Heights; Lynn Twp
- **Extensive road flooding**
  - Undermined sewer line at 20<sup>th</sup> & Hamilton
- **Manhole Overflows**
  - Still being assessed for damage, blown frames/covers
- **Well station / pump station flooding**
- **Basement backups – approx. 20 calls**
  - Widespread flooding and property damage makes it difficult to assess sewer vs. flooding impacts
- **Water Plant flooding:**
  - Extensive fence and railing damage
  - Other damages being assessed
- **Western Lehigh flow meters**
  - Assess for damage & data collected
- **Main Office roof / ceiling leak**



## Next Steps

- Compile report of damages & expenses
- File with insurance for applicable expense reimbursement
- Internal after-action review:
  - Preparation steps
  - Manpower & available subcontractors
  - Equipment
  - SCADA
  - Other
- Potential retroactive emergency declaration

## Questions / Discussion