

# Levy Nuclear Plant – Safety Panel

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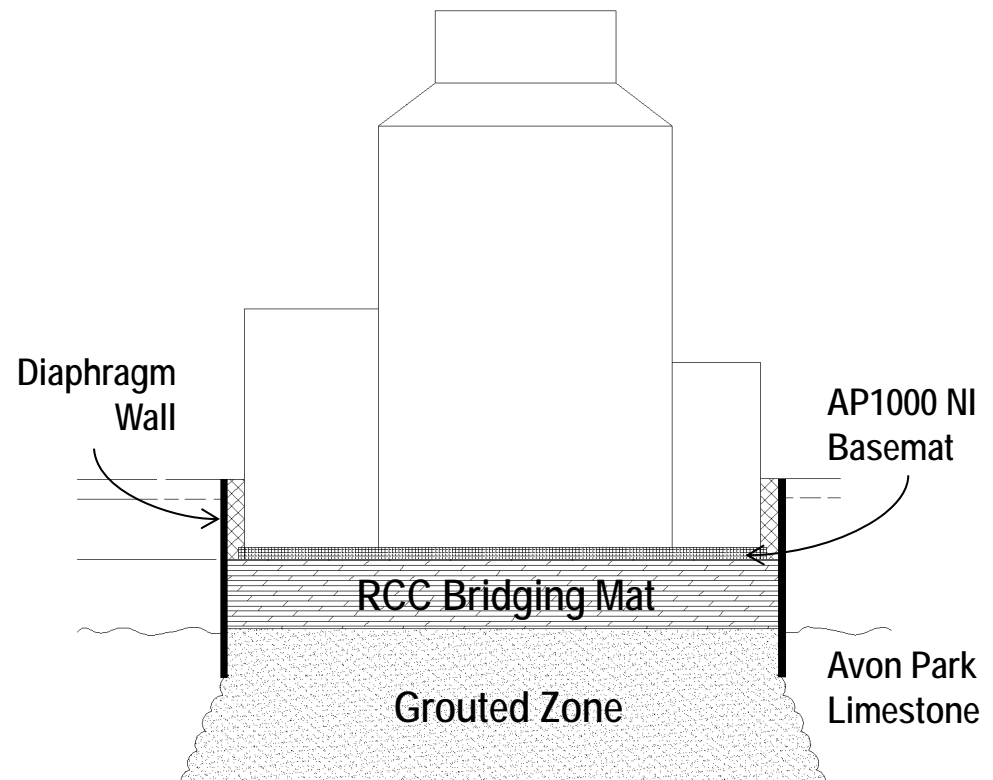
# Site Investigations

- Site investigations establish foundation design parameters
- Extensive investigations to define design requirements to address potential Karst
- No significant Karst identified on site
- Design for conservatively postulated Karst



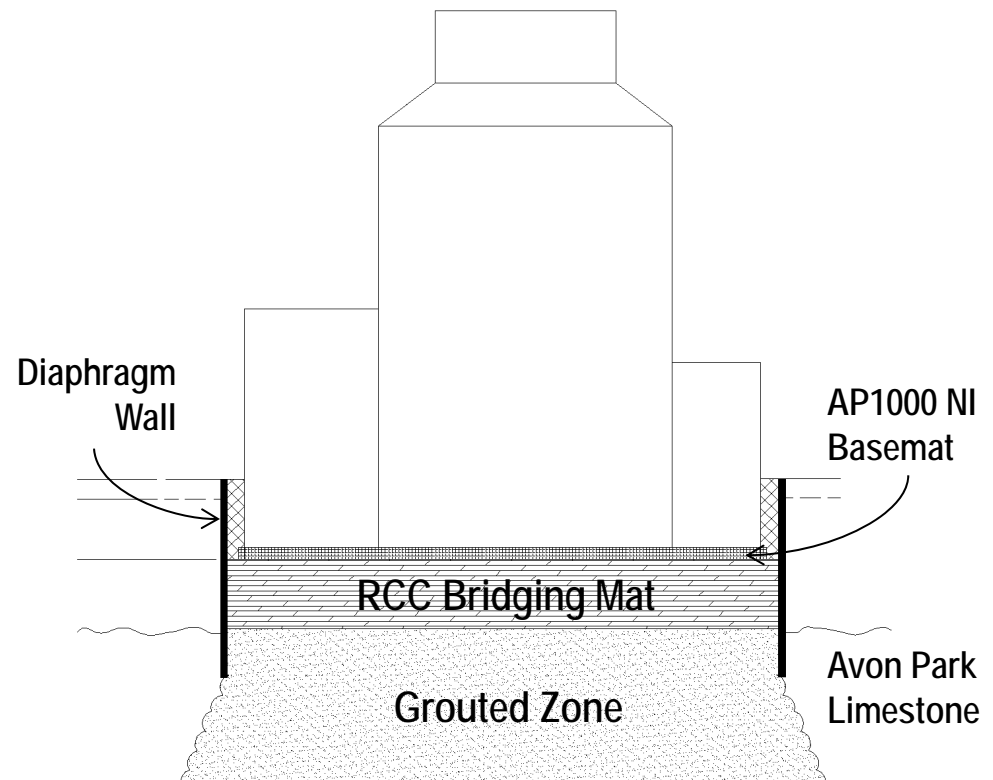
# Robust Nuclear Island Foundation Design

- AP1000 Nuclear Island Basemat
- 35 foot thick RCC Bridging Mat
- 75 foot thick Grouted Zone



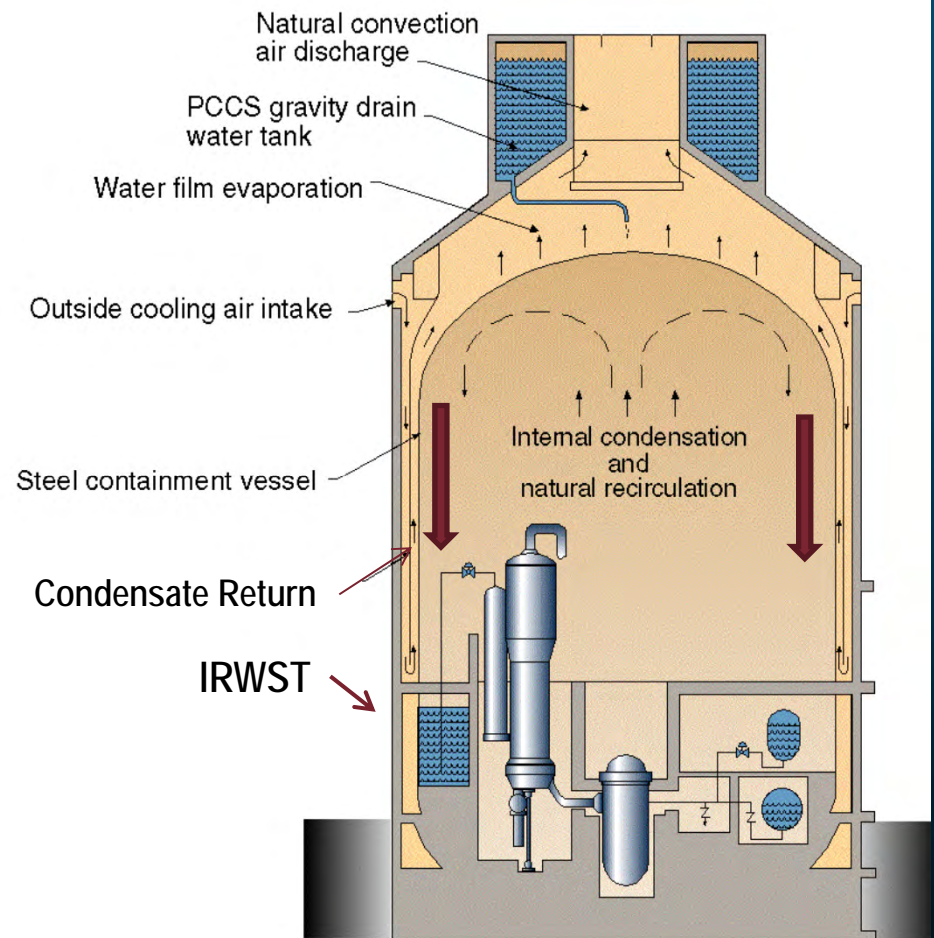
# Foundation Design

- Site-Specific ITAAC
  - RCC Bridging Mat
  - Waterproof membrane
- License Conditions
  - Geologic mapping of excavations for safety related structures
  - RCC and bedding mix strength verification and constructability testing



# Condensate Return Passive Residual Heat Removal (PRHR)

- During non-LOCA events IRWST water absorbs heat from PRHR HX
- Condensate flows down Containment walls to the condensate return gutter and returns to IRWST



# PRHR Performance

- PRHR removes sufficient decay heat for at least 72 hours to maintain acceptable fuel design and pressure boundary limits following a non-LOCA event
- PRHR establishes reactor coolant temperature of 420°F in less than 36 hours based on conservative, non-bounding analyses
- PRHR closed loop cooling can maintain safe shutdown for greater than 14 days
- Transition to open loop cooling continues to provide defense in depth

