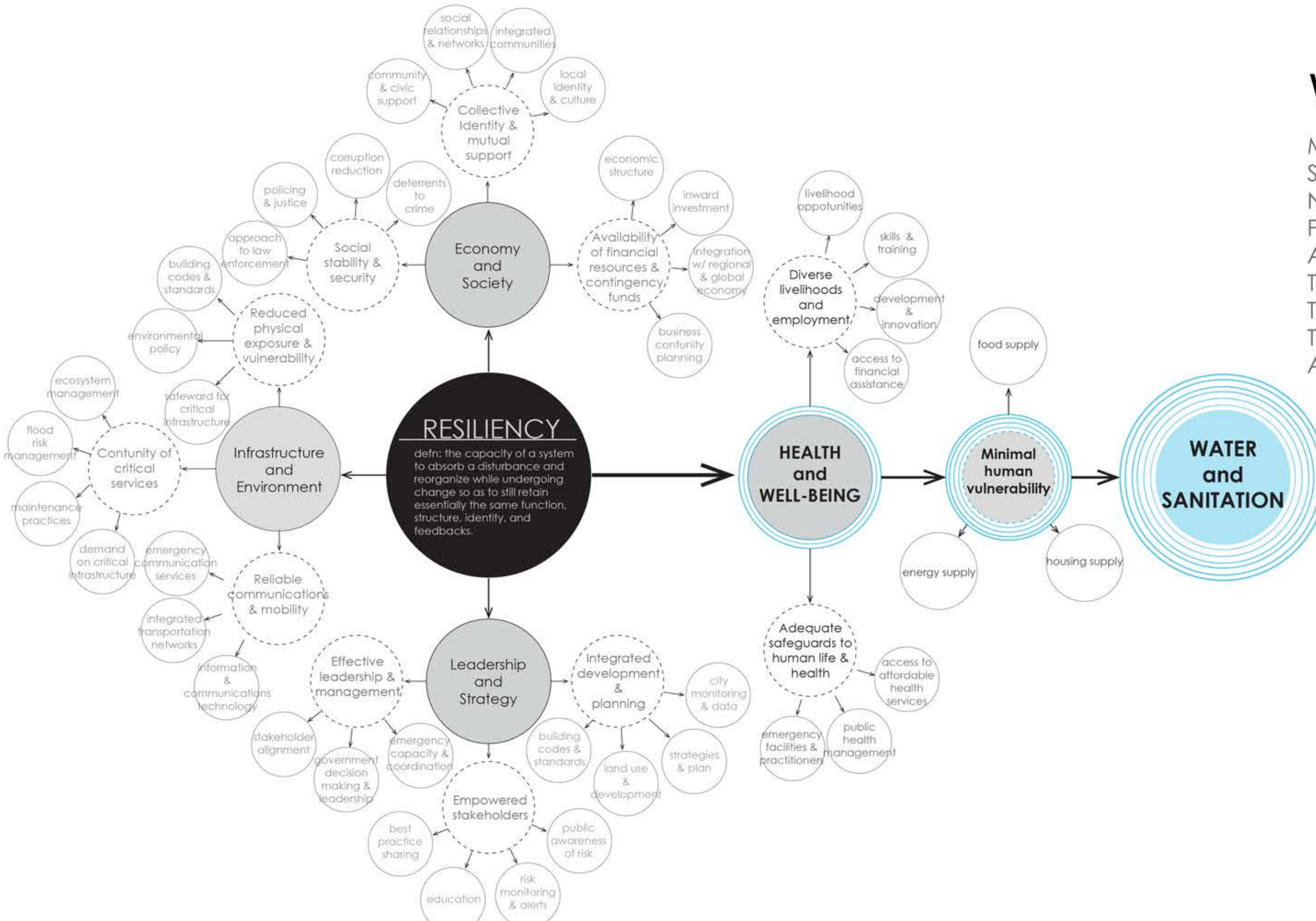


WATER and COMMUNITY RESILIENCE

RESILIENCE: the capacity of a system to absorb a disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks.



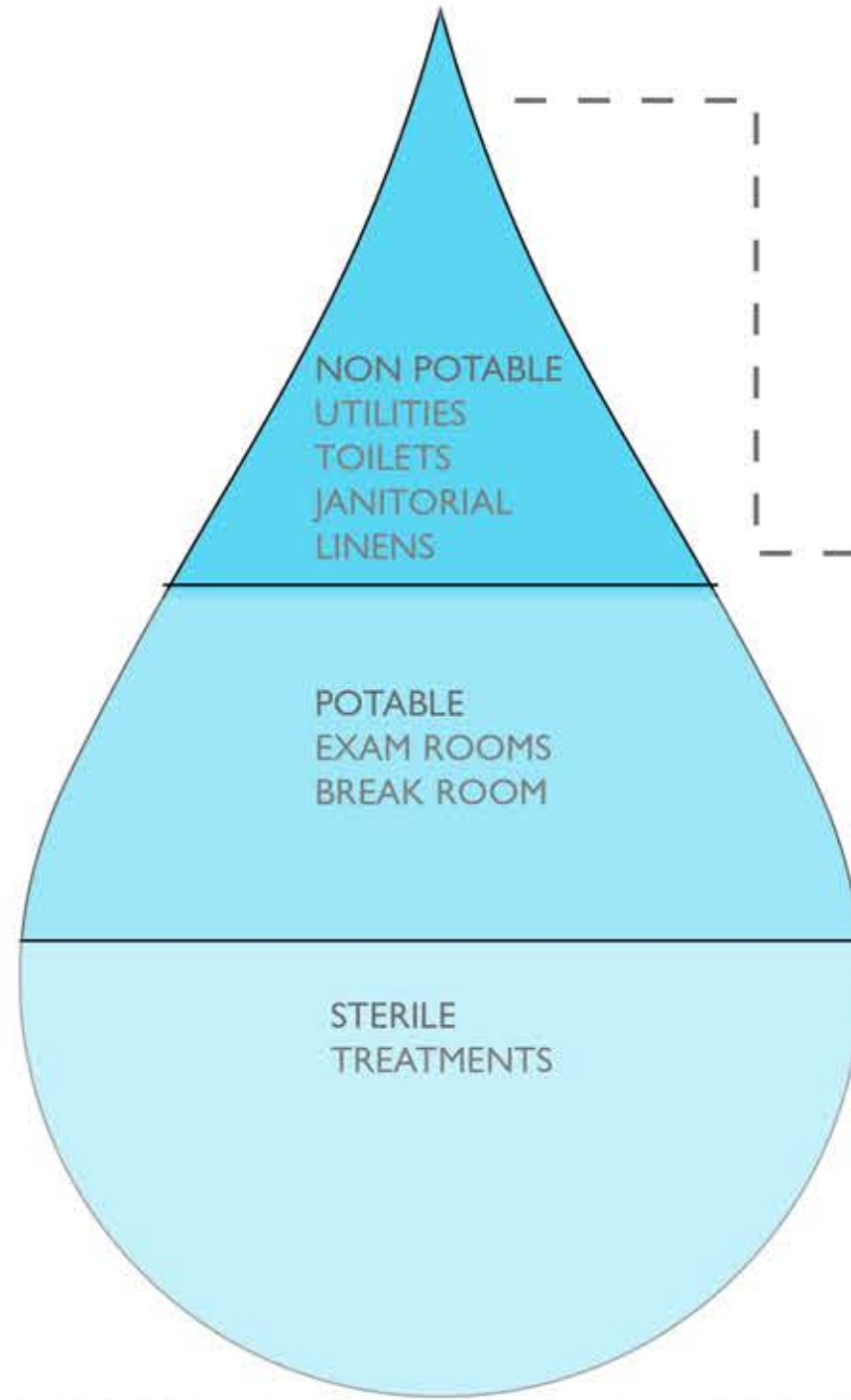
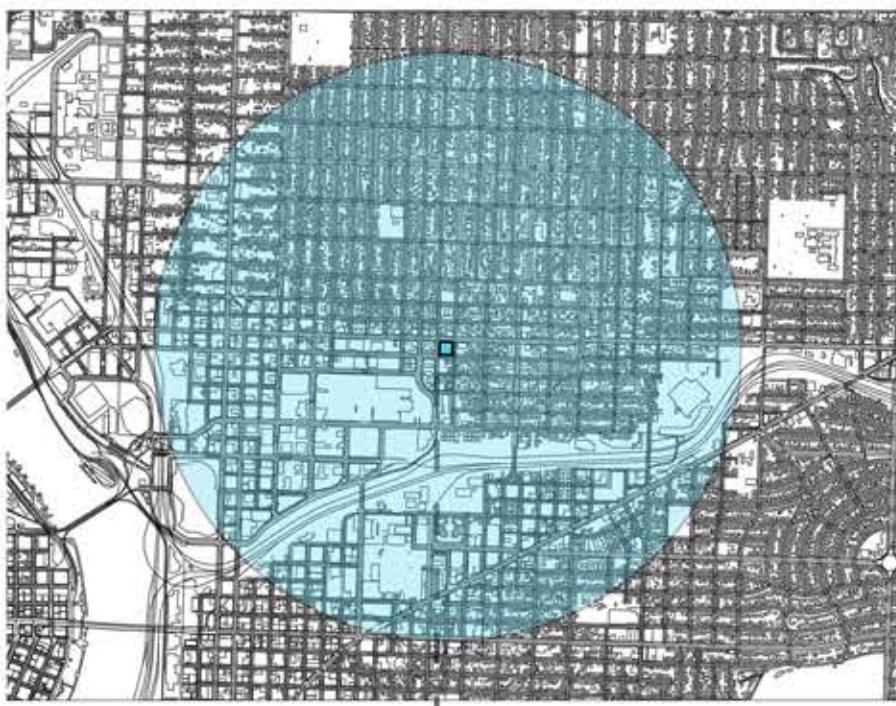
WHY/HOW

MOVING THROUGH THE RESILIENCE MAPPING, SEVERAL CATEGORIES STOOD OUT AS LARGELY IMPERATIVE FACTORS IN A DISASTER SCENARIO, PARTICULARLY WATER. WATER IS AN IMMEDIATE NEED WHICH PEOPLE CANNOT LIVE WITHOUT AND WOULD NEED TO NOT ONLY BE AVAILABLE IN LARGE QUANTITIES AFTER A DISASTER, BUT ALSO BE PORTABLE AND ACCESSIBLE THROUGH ANY COMMUNITY OR STRUCTURE THAT IS TO BE CONSIDERED RESILIENT. IN ANY DISASTER SCENARIO THERE ARE MANY THREATS TO THE WATER SUPPLY, WATER SYSTEMS AND INFRASTRUCTURE

THE FOLLOWING PROCESS FOR EXAMINING THE NEED FOR WATER RESILIENCE IN A BUILDING CAN BE USED AND APPLIED TO MANY ASPECTS OF A COMMUNITY AND THE BUILDINGS THEY INHABIT.

SITE: Legacy Medical Group Broadway Clinic

location: 1600 NE Broadway Street
Portland, OR 97232



THREATS TO WATER SUPPLY/SYSTEMS



- Damage to critical water systems/ city infrastructure
- Contamination of potable water supplies - (sewage, combustibles, harmful chemicals, etc)
- Rapid depletion of remaining water resources
- Water resources inaccessible due to rubble, flooding, fire or other damage from earthquake



Threats to the site have been defined by the geological region's susceptibility to a massive earthquake that is predicted to occur sometime in the next 50 years.

AMOUNT OF WATER NEEDED =

(water consumption * building area * building supply) + securit
 (0.11 gallons/sf/day * 4,171sf * 14 days) + 25% = **8,029 GALLONS**



WATER USAGE CATEGORIES AS APPLICABLE TO SITE

- HAND WASHING, DRINKING - faucets and fountains
- FOOD PREPARATION, FLUSHING TOILETS and BATHING PATIENTS, LAUNDRY and other services provided by central services (eg, cleaning & sterilization of surgical instruments)
- REPROCESSING OF MEDICAL EQUIPMENT (eg, endoscopes, surgical instruments, and accessories)
- extracorporeal membrane oxygenation, hydrotherapy)
- RADIOLOGY FIRE SUPPRESSION SPRINKLER SYSTEMS
- WATER-COOLED MEDICAL GAS AND SUCTION COMPRESSORS (safety issue for people on ventilation)
- HVAC DECONTAMINATION/HAZMAT RESPONSE

ASSUMPTIONS:- DISASTER is an earthquake- Plumbing is in poor condition and not up-to-date- Many buildings/structures are not reinforced for an earthquake- Most, if not all buildings/structures have emergency water - back-up storage for water- Earthquake will occur during normal business hours.- Doctors and nurses employed by medical clinic will be present at time of earthquake- Doctors and nurses employed by medical clinic will stay after earthquake to manage triage- Doctors and nurses employed by medical clinic will be mostly unharmed by earthquake- Surrounding neighborhood will be able to access clinic...

...roads, though impassible by vehicle can be navigated on foot- Emergency back-up systems will be undamaged or not severely damaged by earthquake- Emergency back-up systems are accessible and not buried in debris- Medical clinic staff will know how to use and maintain emergency back-up systems.- Sewer system will be down for estimated time

CITATIONS:"The City of Portland, Oregon." Portland Water System RSS. N.p., n.d. Web. 15 Nov. 2015. Emergency Water Supply Planning Guide For Hospitals And Health Care Facilities; I. "Emergency Water Supply Planning Guide for HCenters for Disease Control and Prevention and American Water Works Association.

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