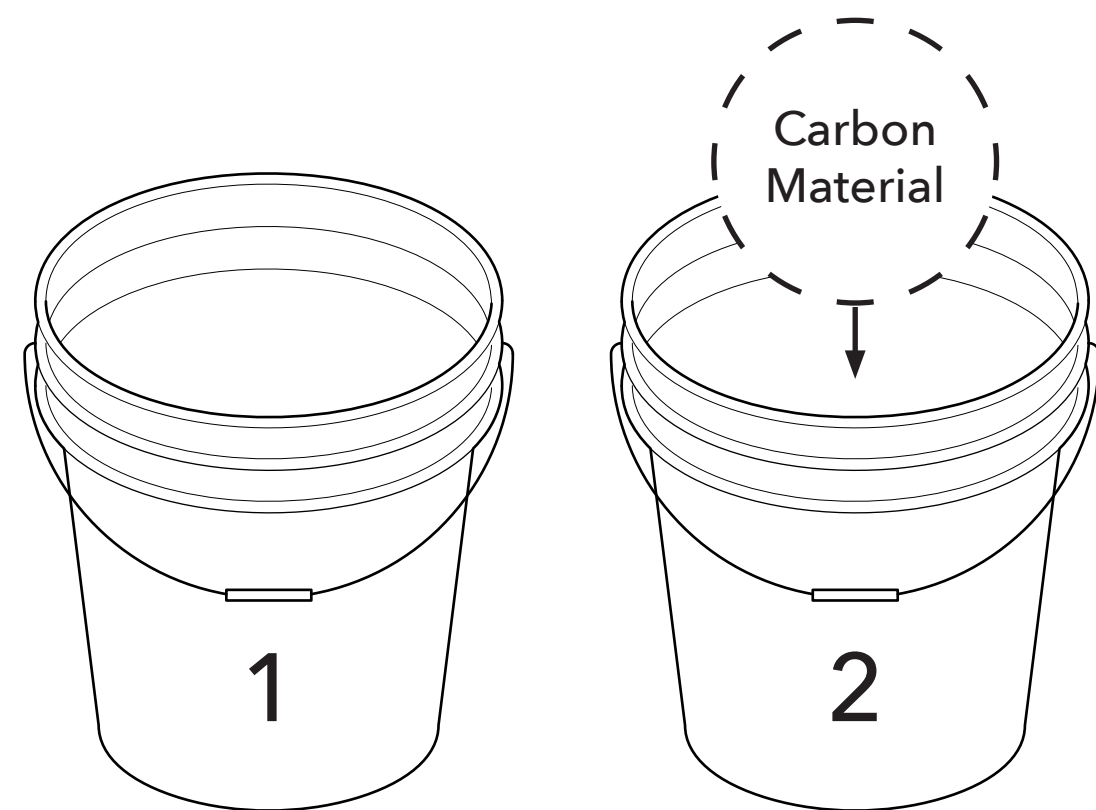
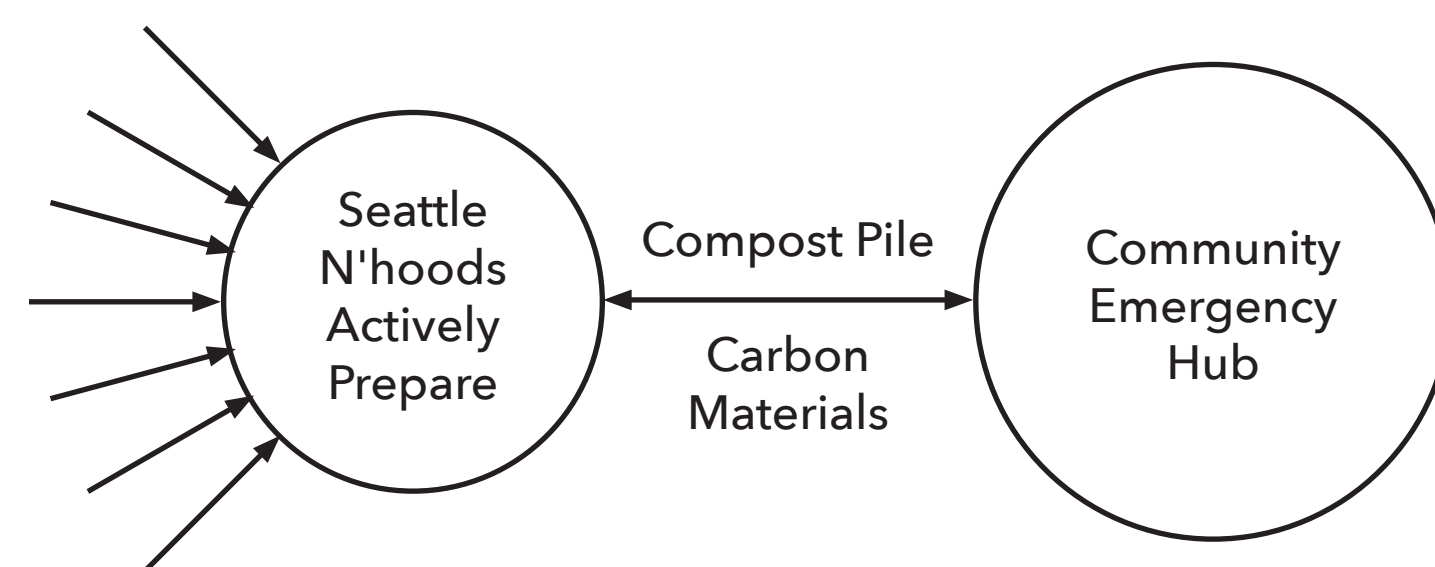


RELIEF EFFORT

When “The Really Big One” comes, our wastewater system will be incapacitated. In certain parts of Seattle, the timeline for repair of sewer pipes is estimated not in months, but years.¹ Above ground, with collapsed bridges and destroyed transportation infrastructure, authorities won’t be able to respond with enough portable toilets. This means that each household and neighborhood will need to prepare decentralized, waterless systems before a seismic event.



Part Two is for **neighborhood-scale hot composting** to be implemented as a part of the city's SNAP (Seattle Neighborhoods Actively Prepare) program, run by volunteer residents to assist neighborhoods organize themselves in case of natural disasters, as a sustainable means of excreta disposal. Community Emergency Hubs, pre-determined gathering places where community members can request and receive help, as well as exchange

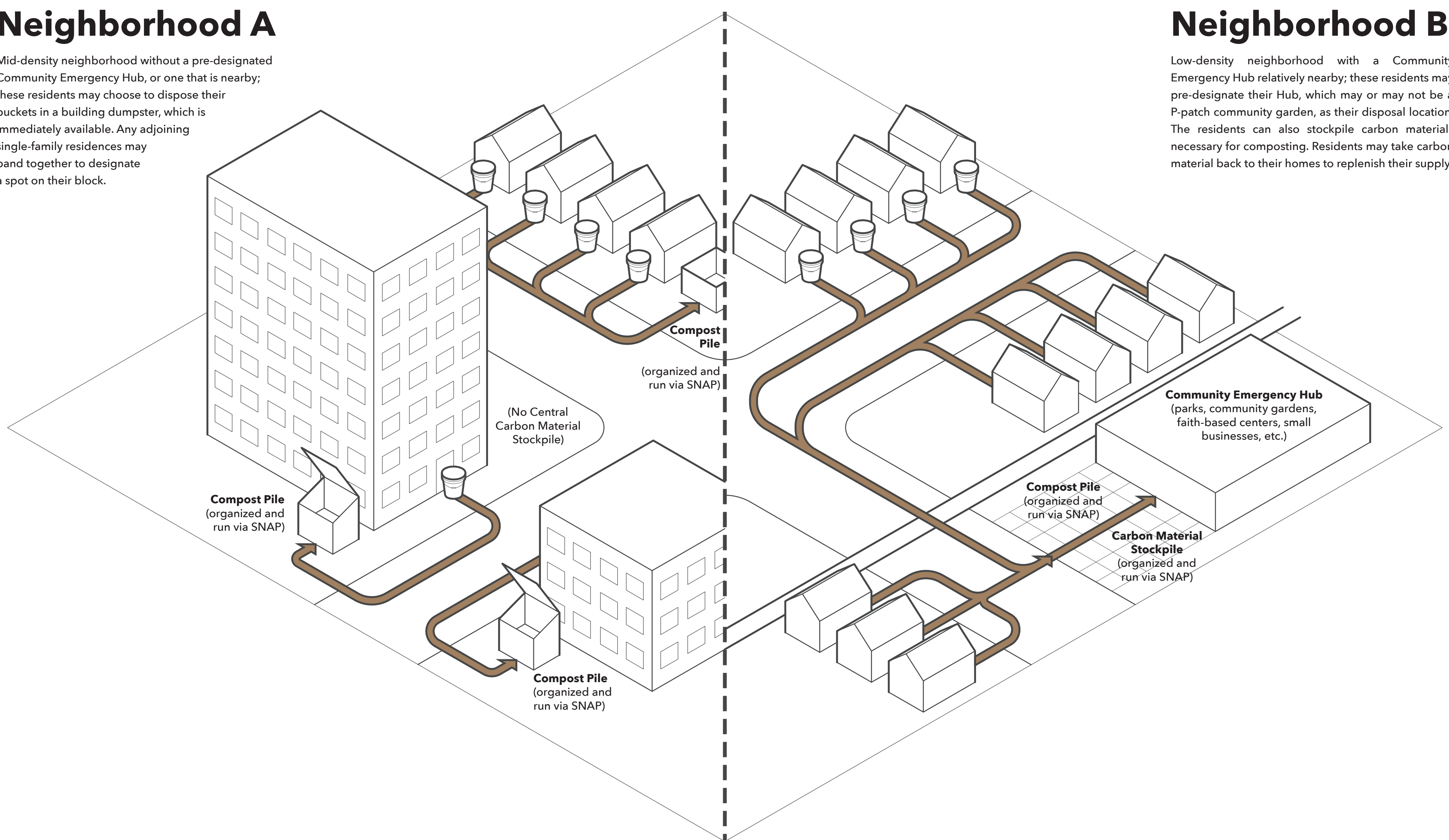


Part One of our proposal calls for each household to include in their emergency supplies the **No-Mix Toilet**, where urine (1) and excreta (2) are eliminated in two separate buckets; carbon materials are added to the latter for deodorizing and composting.² An affordable and effective solution for emergency scenarios, No-Mix can reduce risk of disease and almost completely eliminate odor, is easy to handle and feasible even for high-rise apartment residents.

information and resources, may be ideal locations for compost piles and carbon material stockpiles.³ In summary, these two systems together would allow communities to independently and effectively manage sanitary issues, an important but oft-overlooked issue in post-disaster scenarios. Utilizing ubiquitous materials and existing social infrastructure, this plan would cost very little to implement, yet offer great relief in the daily lives of the residents.

Neighborhood A

Mid-density neighborhood without a pre-designated Community Emergency Hub, or one that is nearby; these residents may choose to dispose their buckets in a building dumpster, which is immediately available. Any adjoining single-family residences may band together to designate a spot on their block.



Neighborhood B

Low-density neighborhood with a Community Emergency Hub relatively nearby; these residents may pre-designate their Hub, which may or may not be a P-patch community garden, as their disposal location. The residents can also stockpile carbon materials necessary for composting. Residents may take carbon material back to their homes to replenish their supply.

¹ This refers specifically to sewer pipes in liquefaction zones, which in Seattle includes the waterfront, Pioneer Square, SoDo, Duwamish Waterway, etc. For more details, see the report Resilient Washington State by the Washington State Emergency Management Council: Seismic Safety Committee, November 2012. <<http://mil.wa.gov/uploads/pdf/seismic-safety-committee/RWS%20final%20report.pdf>>

² This bucket toilet system with hot composting served after earthquakes in Haiti through the Oxfam-funded SOIL project, and in Christchurch through the New Zealand Permaculture Guild. For more details, see A Sewer Catastrophe Companion by PHLUSH (Public Hygiene Lets Us Stay Human), September 2011. <<http://www.phlush.org/wp-content/uploads/2011/09/SewerCatastropheCompanion.pdf>>

³ For more details, see Compost Fact Sheet #5: Compost Bulking Materials by the Cornell Waste Management Institute. <<http://cwmi.ccs.cornell.edu/compostfs5.pdf>>

