Literature Review:

Defining Waste:

The term waste comes from the Latin term *"vastus"* meaning unoccupied or desolate; signaling emptiness and uselessness (Engler 1995). In his book *Drosscape: Wasting Land in Urban America,* Alan Berger breaks waste down into three distinct types: actual waste (i.e. municipal solid waste, sewage, construction and demolition wastes, etc.), wasted places (i.e. abandoned buildings, places, landscapes, etc.), and wasteful places (i.e. large parking lots, malls, etc.). Despite the proclivity of humans to create waste, humans did not invent waste. Waste has existed in nature long before we produced the wastes that we do today (Engler 2004). However, the waste that nature does create is expertly absorbed into a well-adapted 'natural waste management system' in which everything is recaptured, reused, or consumed. Waste, or Dross as Berger calls it, is a necessary and natural component of growth (Berger 2006; Lynch 1990). The issue is that humans create not only mass amounts of waste, but new types all at an increasing rate without adequate responses in how to mediate accumulated wastes. (Engler 2004). The negative association with waste was more permanently defined during the City Beautiful Movement in the early 20th century as "an eyesore and an intruder to acceptable aesthetics" (Engler 1995).

The Role of Architecture in Waste:

The built environment plays a significant role in the process of wasting. The construction and demolition of buildings creates 530 million metric tons of waste per year, 90% of which is purely demolition related (EPA 2013). Yet given the significance of the waste created by it, demolition is usually just a hurdle to clear on the way to new construction (Lynch 1990).   In her book *Designing America's Waste Landscapes* Mira Engler contemplates the role of architecture and landscape in the waste cycle. We as humans have developed entire typologies dedicated to controlling and hiding the waste that we generate from the public eye. Waste typologies such as trash facilities and wastewater treatment plants work to reinforce the negative stigma against waste in our society. However, there is a psychological reward in the process of wasting. We enjoy removing waste from our surroundings to purify our surroundings (Lynch 1990). This psychology can be extended to the demolition of buildings, provided that the buildings in question have been socially defined as a wasted place. The role of architecture in waste seems to happen the three characteristic roles. The first is architecture that has been typologically design as part of a system to handle our physical waste. The second is architecture that has been collectively or politically defined as a wasted place, most typically a vacant structure or landscape. The third is the physical waste created via the demolition of the building or landscape itself.

Impact on Public Perceptions:

Public perception of waste has a large impact on the character of a space. There is a consensus among different populations that everyone produces waste, however most people do not want to be involved in the process of wasting beyond throwing something out (Engler 1995). There also appears to be an agreement that new and inventive methodologies need to be used to counteract the effects of waste on both humanity and the environment (Engler 1995). Our perception of waste and the process of wasting has become rooted in our psyche. It has become so deep seated, that it is disturbing to us when they are disrupted (Lynch 1990). Americans in particular have become hyper-sensitive to litter, which is just litter that is out of it 'correct' place (Engler 1995). Waste is defined socially, based on aesthetics, usability, and economic value. The value and waste status of a given object can fluctuate from valuable, to waste, and back to valuable again; sometimes this can happen regardless of the object's physical material quality.

Characteristics of Demolition:
Demolition in urban areas has two basic types of catalysts. The first stems from the implementation of new planning that is impeded by existing buildings. The new planning will be hindered until the value of the conservation is surpassed and considered as secondary to the value of the development. The second catalyst originates in the judgement that an existing building or landscape is no longer adequate and fails to meet the current requirements or expectations of the urban context (social, functional, or technical) (Oswalt 2004).

Relating Architecture to Landscape:
Architecture and landscape are foundationally linked. Architecture is constructed within landscape and there is a chronological progression from empty landscape, to urban development, to derelict liminal landscapes (Berger 2006). Landscape has two defining characteristics: structures and functions, parts and relationships between parts (Berger 2006).   These structures and functions change as a landscape progresses through the landscape - urban development cycle, reflecting the agenda of the development. This process inherently creates vacancy, as the economics of a space naturally ebb and flow over time.

The Necessity of Vacancy:
Vacancy is both a detriment and a necessity to urban areas and can be considered as one of the types of waste defined by Berger in his book *Drosscape: Wasting Land in Urban America*. The 'wasted place' that vacancy is most often identified with tends to evoke powerful images of neglect and dereliction (Bowman & Pagano 2004). Vacancy can cause elevated levels of crime, lowered property values, disinvestment, and safety hazards among others, potentially causing additional adjacent vacancies (Kremer & Hamstead 2015; Garvin et.al. 2014). Vacancy is considered a vicious cycle in this interpretation and a there is a consensus that decaying and derelict urban development usually negatively affect the health and safety of residents (Kremer, Hamstead 2015; Garvin et.al 2012; Bowman & Pagano 2004). Vacancy is also necessary for urban development. Vacancy is not always a negative. Expanding cities often create vacant land at the edges of the urban core in order to encourage additional development through the process of annexation. A consistent definition of vacancy is needed in order to more accurately assess the number of vacant properties nationwide (HUD 2014; Kremer, Hamstead 2015). Vacant land in an urban context could be turned to a positive in certain contexts given proper strategies (HUD 2014). By understanding vacancy as a temporary condition, new strategic uses can be used in the interim until the vacancy is ultimately remedied. Emerging perspectives of vacant space is beginning to recognize urban vacancy as "crucial interstitial space" within the urban context (HUD 2014; Kremer, Hamstead 2015).

Temporary Urbanism:
Cities can be thought of as a fluid, ever-changing entity and is comprised of people, places, and landscapes (Matthews 2015). Temporary urbanism is an emerging perspective on land use in urban centers (Kremer, Hamstead 2015). Temporary urbanism looks to utilize critical vacant urban spaces that previously would have been identified as unproductive or underutilized spaces. However, these spaces need to be correctly identified as a space that can provide a missing ecological or social role while remaining highly sensitive to the context that each individual site exists in. A better understanding of the effects of transient vacant spaces is needed in order to more effectively design these spaces in a contemporary urban context (Kremer, Hamstead 2015; HUD 2014; Matthews 2015). In Philip Oswalt's book *Shrinking Cities, Volume 2,* vacancy is described as the perforation of the urban context, requiring a new method of interpreting urban spaces. *(This explanation of vacancy seems to relate more to the*

initial phase change than others simply because it seems more sporadic in nature. Areas where widespread demolition has already occurred may be outside the scope of the project.) The notion of typical infill typologies to address these vacancies such as nostalgic urban forms or idealized landscapes plug the perforation and freeze the temporal potential of the site (Oswalt 2004) *(This raises questions such as: How strong should an intervention be?).* This reinforces the importance of temporality of intervention so as to not inadvertently prescribe the future use. However, Oswalt writes that intervention could provide a rare opportunity to avoid the negative downward spiral associated with vacancy.

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