

REGENERATION THROUGH KNOWLEDGE

JOE HUDEC

Thriving Through Making
Nancy Cheng

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PROJECT IDENTITY

Portland, Oregon

Today, Portland ranks itself as one of the happening cities in America. With Mt. Hood, the coast, and the Columbia River Gorge all conveniently located nearby, Portland embraces its natural beauty and its outdoor character that comes with it. Additionally, the city and its people pride themselves on it being a place for the craftsman, the maker. Local hand crafted quality goods, products, and services all from Portland's plentiful crafters. From local fabrication/manufacturing, to food/drink, to art, etc., the culture is heavily in favor in keeping it "Portland made." Places in the city like the Central Eastside industrial area are home to pockets with great local shops, restaurants, bars, and provide opportunity for new business and production. This industrial side of the city positions itself along the Willamette river. The river has always been a key factor for the city. It was founded and settled in its location on a river for a reason, like many other cities do world wide. Transportation routes, and the Willamette River was a prime corridor, especially timber. Unfortunately, its identity and usage has been under-utilized recently. This leaves the city of Portland with an unbelievable potential to create something great for its people. A revitalized Industrial urban waterfront scene, full of character and all for the people. It is an access to the cities most essential asset.



PROJECT STATEMENT

Today we see many issues facing America. One of the biggest is this inequality amongst us humans. Both education and the workforce. To combat this, I will look at the idea that knowledge, education, and training are essential and key factors to the success of people and social integration..

LEARNING AND CREATIVE TRAINING

By providing a facility (or group of collaborating facilities) that makes new age/modern knowledge and technology available to all people of all ages and class, we can allow people to create opportunity for themselves as individuals and a community all together. This will allow anyone to have exposure to anything they could find interest in and have the tools to provide skills to those wanting to make and create something for themselves and others. This idea comes to life through a fusion of new library/ learning center, with modern tech heavy labs for making, and community career center for serving the people. It becomes an all in one facility to learn, teach, train, and go after any idea the users want.

REGENERATIVE WATERFRONT DEVELOPMENT

Along with this, a huge component becomes the buildings integration with its site. In this case, providing urban space that integrates itself amongst the building. Having a riverfront presence makes this site become highly important. It can be a way to make the waters edge a place for the people to use and access. It is the idea of taking back the once industrial shores of the Willamette, and give it back to its people as a civic amenity. With industry vacant, the need for a new age making and creating to come in and this time enhance our environment instead of pollute it. It is a regenerative urban catalyst.



<http://www.urbanmediaspace.dk/en/dokk1>

SITE VISION

In Portland, there is a long history along the shores of the Willamette River. The city was settled in its location due to the river and transportation. The past was once a time of big industry on the water. As times change and technology advances, we see many industries go, leaving our riverfronts damaged and unclaimed. The sites that were once full of pollutions of industry have become huge opportunities for humans to take back for their own. This site on the riverfront becomes a civic asset to the city for the people to call home and to provide access to the water that can bring many recreational opportunities. My idea of the site is how we move forward along this precious edge that can connect humans to their surrounding environment. This edge is a link for humans to come together and celebrate what once was and what is to come in the future. This new urban area will welcome all and present Portland with this river scene that is lost today. By integrating an urban environment and added green infrastructure at the riverfront, we can use the site to be informative to the communities around it. There will be ways to leaves historical motifs or relics to indicate the past and focus of this idea of cleansing the site in a regenerative way.

- _URBAN WATERFRONT DEVELOPMENT**
- _KEEPING THE INDUSTRIAL CHARACTER ALIVE**
- _REGENERATIVE DESIGN**
- _GREEN INFRASTRUCTURE**



(Portland Innovation District Report, 2015)



(Minneapolis Riverfront Development Initiative)

PROJECT LOCATION

OMSI Waterfront Site

The location of this project is quite a desirable site for Portland. It becomes a new “front door” identity for the Eastside of the city. Knowing the importance of the Willamette River historically, the past plays a major role on this site and what role it played years ago.

PAST TO PRESENT

Like the entire rest of the riverfront, dominated by industry, this 18.5-acre site was once a historic sawdust-fired power generation plant.

-By the mid-1980's, The Oregon Museum of Science and Industry (OMSI), with the help from Portland General Electric, purchased lot to build a state-of-the-art science center.

-In 1992, the new 219,000 square-foot facilities opened. (www.omsi.edu/history-and-mission)



<http://www.movingtoportland.net/portland-neighborhoods/close-in-neighborhoods/south-waterfront/>



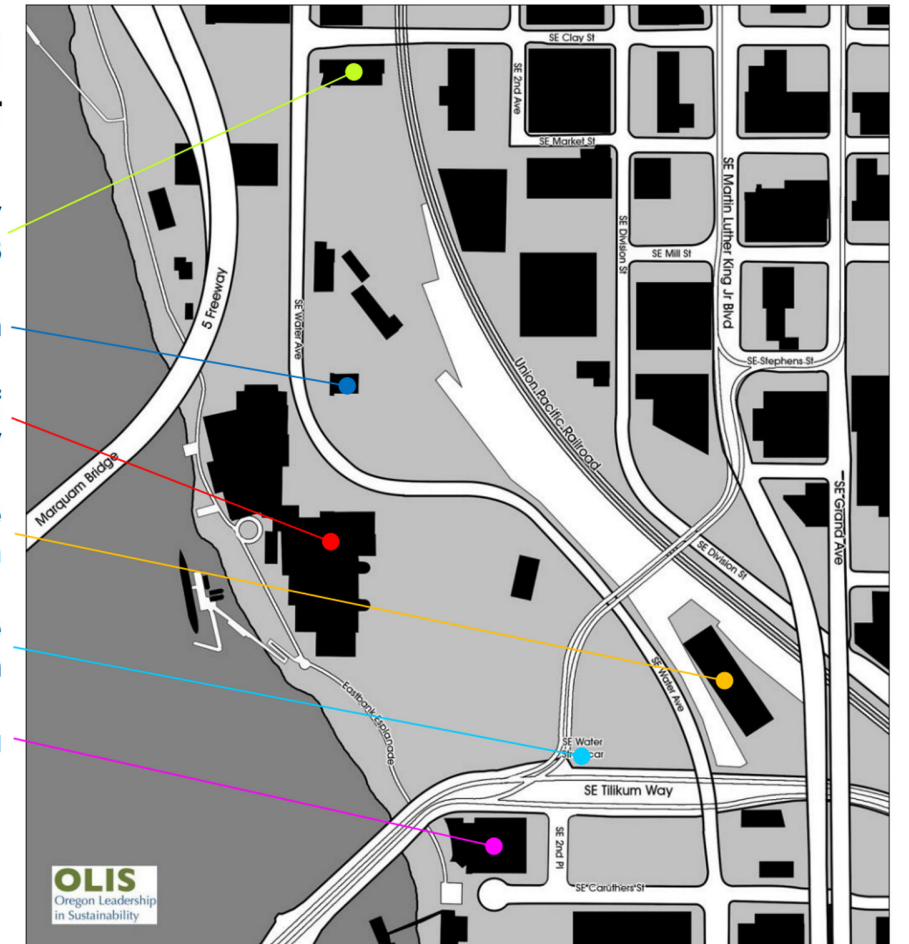
(Portland Innovation District Report, 2015)

Today, OMSI still operates and owns the property here. They hold a lot of developable land and are planning on big things.

-This project works its way into the existing development. It fills in the emptiness in between and around the existing fabric. The site now is under-utilized and presents a great opportunity for new development that can keep the industrial nature alive while providing new public urban green space. It is a prime location for a new industrial riverfront identity for the Central Eastside district.

Existing Development

- Portland Community College CLIMB
- PGE Station
- Oregon Museum of Science and Industry
- Oregon Rail Heritage Museum
- TriMet SE Water Avenue Streetcar Station
- Portland Opera



(Portland Innovation District Report, 2015)

SITE FEATURES

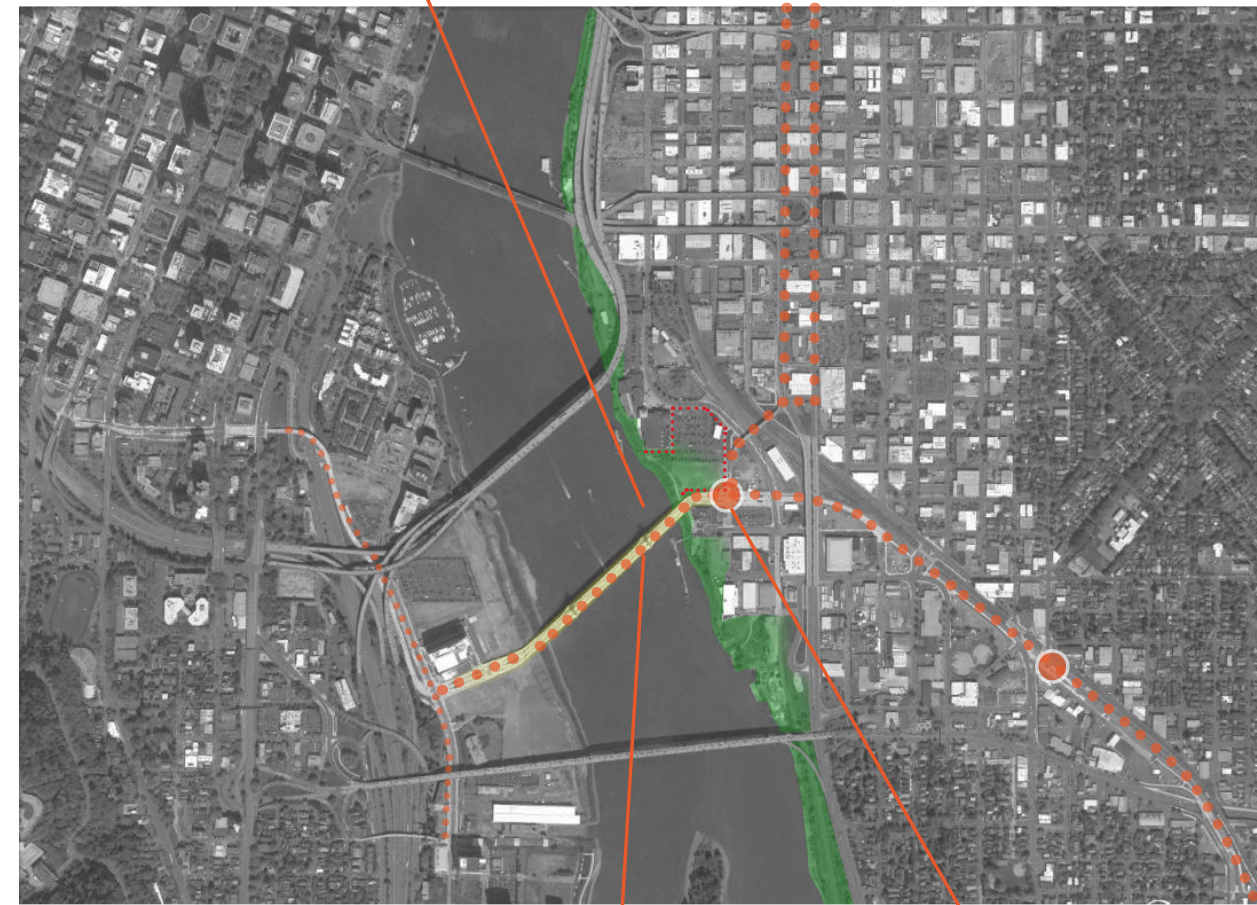
POSITIVES/BENEFITS

There is a lot going for the location of this proposed site. First, this position on the **WATERFRONT** becomes a highly visual site with a lot of focus and anticipation. With the development growing across the river at the south waterfront, along with the new **TILlicum CROSSING** bridge, the connectivity between both sides has been made. Adding the **STREETCAR AND MAX STOPS** right on site allows for even further access for the people of Portland. With the potential for a lot of people coming to one location, this site can be a hub for the city and one of the only areas to provide public access to the waters edge.

NEGATIVES/DISCONNECTS/BARRIERS

Unfortunately, there still are a few limiting factors that are currently providing some disconnection and barriers from the communities nearby. Like a lot of industrial zones, the **RAILROAD** becomes a barrier, a blockade to the people, and worst of all to the river. It cuts off the direct physical connection in this location along this datum. It is especially wide here, as it looks of an old intermediate rail terminal. Along with this is the **OVERPASS** that rises and continues south at SE Division St. This becomes more of a psychological barrier, but can be dealt with.

WATERFRONT PRESENCE



NEW TILlicum CROSSING

STREETCAR & MAX STOP



OVERPASS

RAILROAD BLOCKADE

ECOLOGICAL CHARACTER

Willamette River

The Willamette River supports a vast ecosystem and is home to many natural species such as birds, mammals, reptiles, fish, and amphibians. It is a wildlife movement corridor.

-Providing the primary migration route for Oregon's iconic salmon, steelhead, & trout.

-Also, the Willamette River is part of the Pacific Flyway and is utilized by more than 200 resident and migratory bird species that use the river to navigation and the vegetated shorelines for nesting.

-Vegetation on the bank is important to watershed health.

-Native plant species generally provide a broader suite of benefits such as varied wildlife food sources and effective slope stabilization - than non-native plants.

(Central City Natural Resources Inventory, 2013)



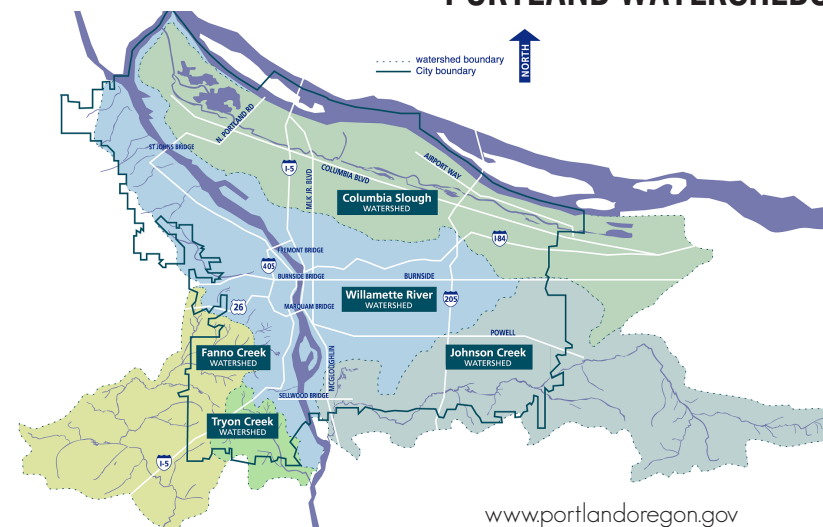
<http://ecopolproject.blogspot.com/2015/03/the-willamette-river-and-soil.html>

WILLAMETTE RIVER WATERSHED



<http://www.mudcitypress.com/mudedden.html>

PORTLAND WATERSHEDS



www.portlandoregon.gov



<http://www.indiatvnews.com/news/India/migratory-birds-begin-arriving-in-chitika-18030.html>



<http://www.sfgate.com/green/article/Smallest-fall-run-of-chinook-salmon-reported-3250587.php>

This makes the riparian edge of the river a key piece to our co-existence. This becomes the meeting point for humans and nature. Water, the river, is the essence of life. It is Portland's latest, and long awaited identity.

URBAN WATERFRONT DEVELOPMENT

RIVER CONCEPT

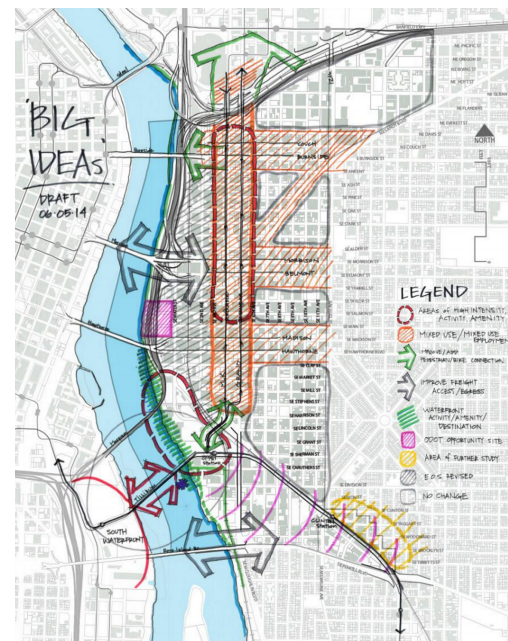
CENTRAL EASTSIDE - The Central Eastside will continue to support light industry while developing into a center for new urban industries that create jobs and provide products and services to the region. Capitalizing on the district's proximity to the river, cultural and recreational uses will add vitality to the area. Sustainable practices, including green streets and ecoroofs, will be incorporated into new development. (Central City Natural Resources Inventory, 2013)



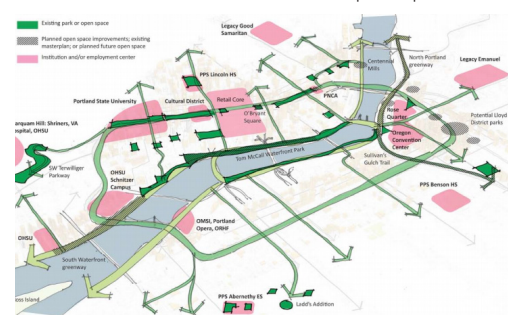
<http://oeconline.org/wp-content/uploads/2015/04/Dollarphotoclub46417112.jpg>

CENTRAL EASTSIDE GREENWAY SCHEME

Building on to the "Green Loop" Proposal in the SE Quadrant Plan, the idea is to tie the entire central Eastside through this growing greenway network woven through the existing industrial context. There will be a vertical (north/south) main green boulevard down Martin Luther King Jr. Blvd, 6th & 7th Ave. There will be "incisions" in the fabric which will be the arms that reach and connect the residential areas to the rivers edge through this green network. The rivers edge will be this giver of life to the central Eastside. This greening of the built environment will creep into the cities fabric. These green avenues/corridors will connect people to the waters edge along these mixed use green corridors.



(SE Quadrant Plan: Green Loop Proposal)



<http://bikeportland.org/tag/green-loop>

GREEN WATERFRONT SYSTEM



GREEN INCISIONS

GREEN LOOP

GREEN CORRIDORS

BRIDGE RAILROAD

GREEN CORRIDORS

UNDER OVER PASS

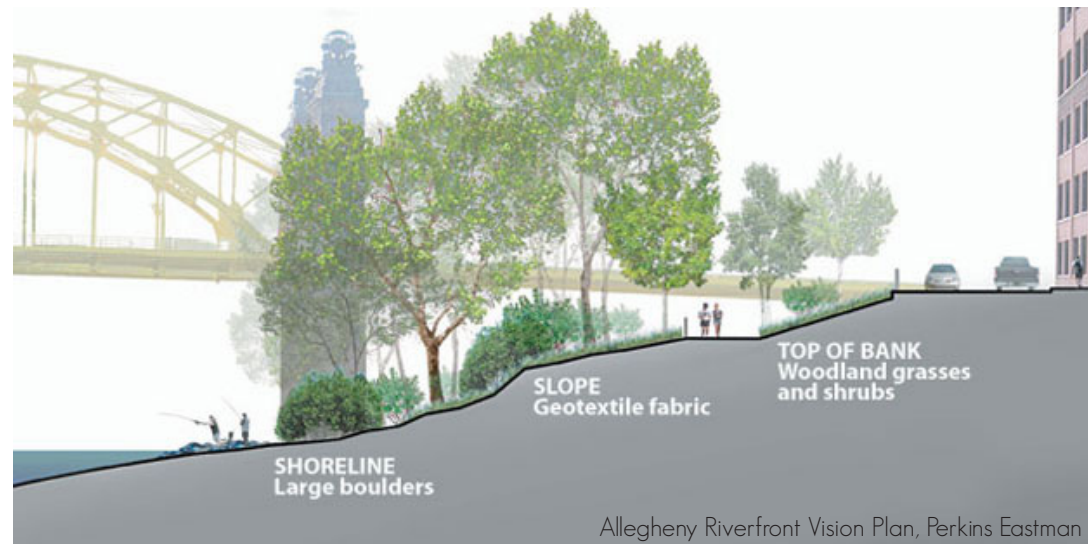
FUTURE MIXED USE DEVELOPMENT

STRATEGIES

RESTORE AND ENHANCE ECOLOGICAL CHARACTER AND QUALITY OF RIVERFRONT

Restoring the river's edge is a critical component of an ecological Infrastructure

- _ Habitat and ecological enhancements
- _ Riverbank stabilization
- _ Recognize Stormwater and vegetation as a natural resource for a healthy ecology



EDUCATION THROUGH EXPOSURE TO GREEN IDEAS

Using the site to reveal information and knowledge. Engaging the public through green installation and examples.

- _ This is also effective by telling the historical past and expressing the sustainable and smart ecological strategies can be informative in themselves.
- _ Showing how the buildings and the site and river are all working together for a positive effect. Through this new waterfront development everything will work together to provide a regenerative development to the riverfront ecosystem.

Allegheny Riverfront Vision Plan, Perkins Eastman



IMPROVED CONNECTIONS TO THE RIVER AND THE CITY

- _ Increase public access to the riverfront and river
- _ Connections: -Riverfront to neighborhoods - to centers of resources
- _ Improve the Riverfront as a desired civic resource

BRIDGING THE BARRIERS

- _ Corridors that once separated industry from neighborhoods could become part of these new green corridors.
- _ Bridge this blockade of the river, Blend the boundary.

USING STREETCAR & MAX LINES

- _ Create a green corridor that includes pedestrian, cycling and light-rail commuter transport routes along the industrial transportation routes.
- _ Design and planning around proposed station areas.

DEVELOP COMPLEMENTARY USES AND AMENITIES

- _ Enhance experience on river's edge with new recreational, commercial, residential, and cultural uses to recognize the need for compatibility.

SMART AND EFFICIENT ZONING

- _ Maintaining a mix of industry, residential, commercial, and public space.

INCREASE ECONOMIC VITALITY

- _ Maximize investment possibilities for long-term resilience and develop at sufficient density to support sustainable urban infrastructure and services.

CREATE BEAUTIFUL & MEMORABLE PLACES BUILT UPON NATURAL, HISTORICAL, AND PRESENT RESOURCES

- _ Use the riverfront as a way to celebrate the cities identity
- _ Identify opportunities for authentic and distinctive places within the riverfront area.



Ohio Headwaters Development

REGENERATIVE DESIGN

This project will pursue ways to restore, renew, or revitalize their own sources of energy and materials indefinitely, creating sustainable systems that integrate the needs of society with the integrity of nature.

-This project as a regenerative building will restore a site's natural hydrology and make up for lost wildlife and plant habitat. These buildings are integrated into the natural environment and improve the ecosystem over time. (Portland Innovation District Report, 2015)

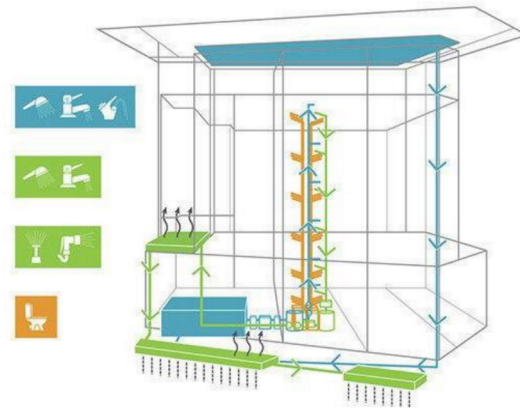


Urban Design Associates



<http://stormwater.wef.org/2014/04/water-wellness/>

(Portland Innovation District Report, 2015)



NET ZERO WATER MANAGEMENT

With this project being about the river, water is important. Right now, the entire Central Eastside waterfront region dumps all of its run off into the Willamette River.

-The buildings and its site will handle 100% of the water. Maximizing reclamation/reuse and treatment on site and returning any stormwater to the river through a highly effective filtering site/riverbank.

-To minimize direct runoff into the river, controlling and collecting water becomes essential. "The area underneath Marquam Bridge contains the largest amount of impervious surface on the OMSI waterfront. Impermeable surfaces harvest urban runoff by allowing polluted surface water to enter directly into the storm drain system and nearby waterways. Urban runoff presents a significant threat to the health and functions of aquatic ecosystems by changing water chemistry, producing harmful algae blooms and depleting dissolved oxygen levels. Human health is also impacted by urban runoff as polluted water carries disease causing bacteria and viruses that can impact water drinking supply and recreational waterways"

(Portland Innovation District Report, 2015)

-This reclaimed, untreated water can be used for a lot of things including irrigation, water features, or other non-potable uses.

-In combination with rainwater collection systems, installation of a water treatment and purification system will allow for potable water uses. The goal should be to become independent of the municipal water system.

(Portland Innovation District Report, 2015)

GREEN INFRASTRUCTURE

-Implementing bioswales, retention ponds, green roofs, permeable paver networks, and other green infrastructure can improve water quality and reduce runoff into the Willamette River. The quilted fabric of the development will have a healthy balance ratio of green to built environment. (Portland Innovation District Report, 2015)



(Portland Innovation District Report, 2015)

METAPHOR

_ Here, I used a found object in an old log as my Metaphor. The log represents the building and the site simultaneously. They are one in the same, and work with each other. They are both natural and their boundaries are undistinguishable. The “cut” represents the shaping of the built environment of the existing and new development. It introduces an access for people of Portland to the Willamette River’s edge. It becomes a “split” in the existing fabric - a portal to the civic amenity that is the water. The “cut” funnels down as the log erodes away, exposing the layers of what it is. This falling off of the log becomes the natural tiers of a self-filtering site, directly connecting the building and the river itself. They work symbiotically through the cleansing of the river’s edge.

THE “CUT”



THE “SPLIT”



PRECEDENT 1

URBAN MEDIASPACE AARHUS - DOKK1

Aarhus, Denmark

Knud Fladeland Nielsen and Peer Teglgard Jeppesen

“LIBRARY OF THE FUTURE”

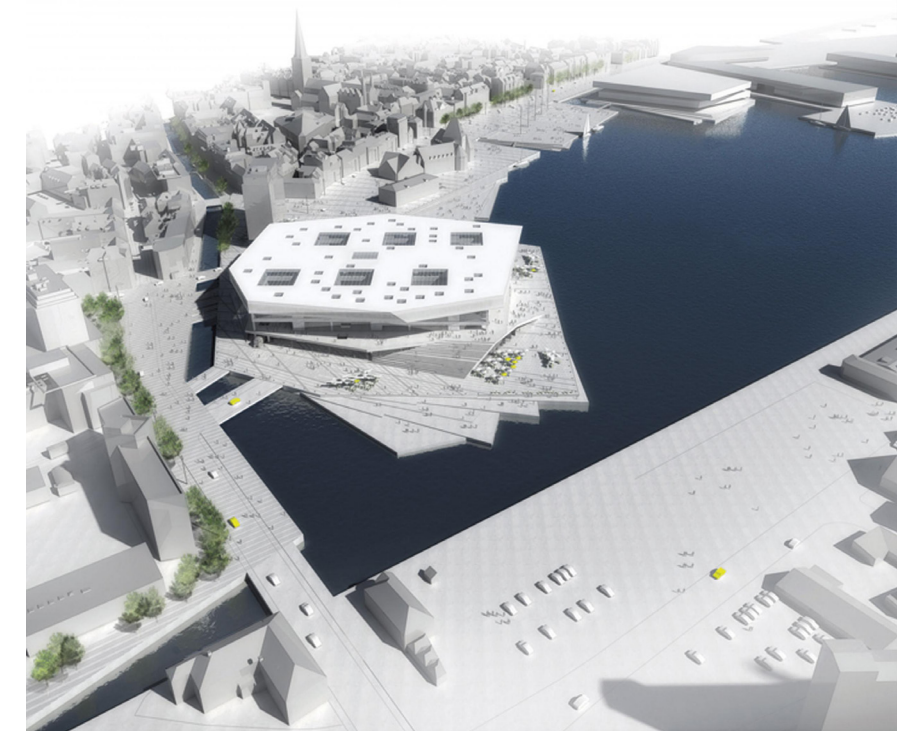
- Main Library and Citizens' Service Center -An open and accessible learning facility that provides opportunity for all people, children to adults
- Community Services Programs such as social and association activities, and networking.
- Promotes future media and community services to the people
- Engages with vivid and active urban space along the harbor.

“Citizens and visitors can experience the convergence between city and water and an opportunity for new cultural activities, recreation, experiences and play.”

BRINGS PUBLIC TRANSPORTATION IN AND THROUGH



- LINK BETWEEN THE CITY CENTER AND THE HARBOR



-BUILDING BECOMES PART OF THE URBAN SPACE/WATERFRONT



-PROVIDES PUBLIC ACCESS TO THE WATERS EDGE

<http://www.urbanmediaspace.dk/en/dokk1>

PRECEDENTS 2

CORNELL TECH ROOSEVELT ISLAND CAMPUS

Roosevelt Island, New York

THE COLOCATION BUILDING

Weiss/Manfredi

“This particular building is an invention,”

-Marion Weiss

-A concentrated fusion of academics and industry.

-The building is split in two to allow the exterior green space to “seamlessly” spill up and into the buildings core.

-Shared spaces amongst students and entrepreneurs for further exposure and interaction with the public tech community and general public.

-Making on display

FIRST ACADEMIC BUILDING

Morphosis

-Flexible and adaptable Tech laboratories and educational spaces



LANDSCAPE SPILLS INTO THE BUILDINGS CORE

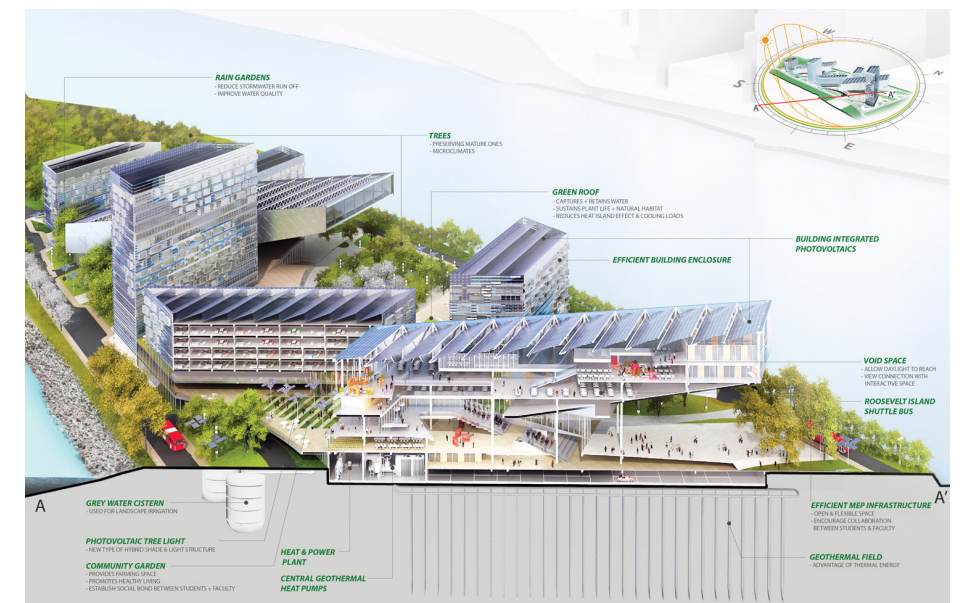


<http://www.archdaily.com/463657/cornell-tech-reveals-new-images-of-roosevelt-island-campus>

URBAN SPACE / TECH WALK WEAVES ITSELF IN THE FABRIC OF BUILDINGS



<http://static1.businessinsider.com/image/536a55c3eab8ea0f07187ab2-1200-652/campuslawrevised-1.jpg>



BUILDING CONNECTS/ROOTS ITSELF INTO SITE

PROGRAM

My project investigates what a new “Public Library” can be and function as in America today. By fusing a new-age tech oriented library with a career center, this facility will focus on providing the people of Portland with accessible modern information, technology, and tools needed in today’s world. It becomes a place for people of all ages in the community to learn, train, experiment, make, and get things going for a future career or business. Its program essentially is a digital-based Library equipped with an innovation center full technology labs, maker labs, and fabrication facilities for creating/making, along with a center for career guidance, networking/recruiting, and business incubation. The project becomes a new way to educate our people and foster a generation of makers and doers.

_NEW-AGE LIBRARY: EDUCATIONAL SPACES + TECHNOLOGY LABS

_INNOVATION CENTER: MAKER LABS + FABRICATION

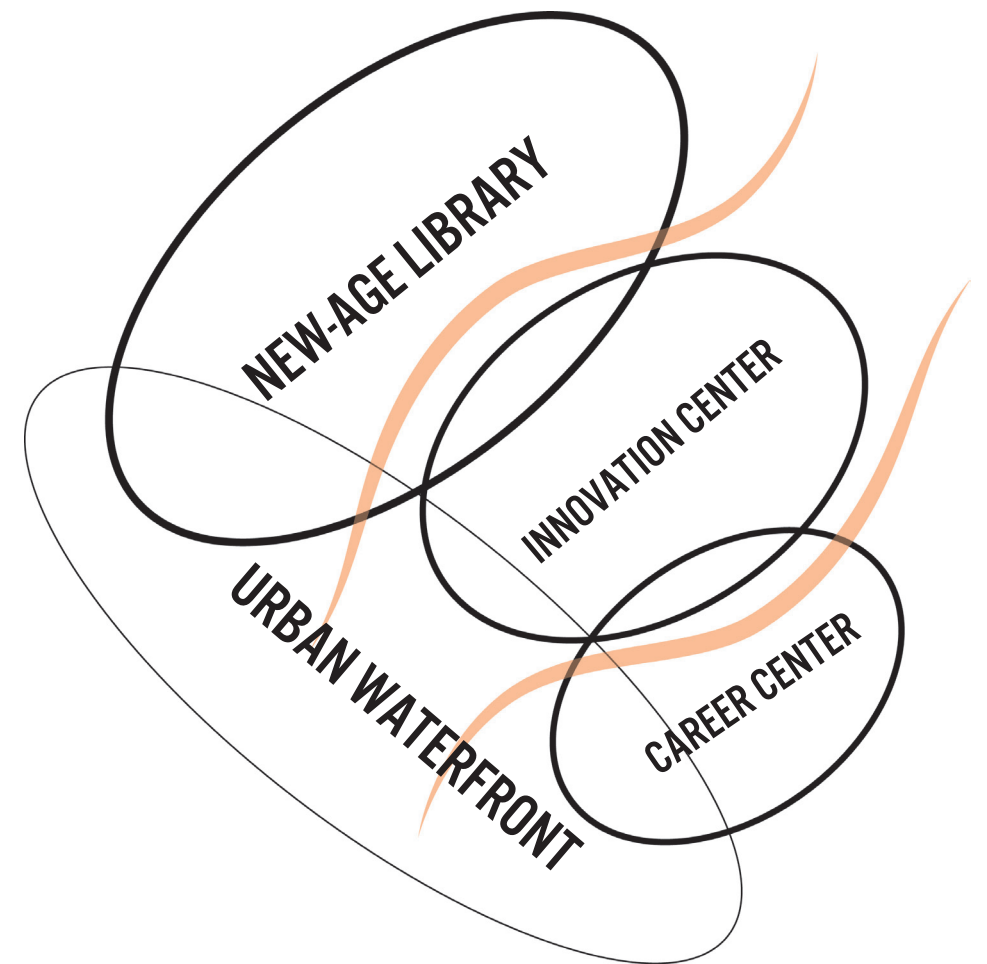
_CAREER CENTER: JOB COUNSELING/RECRUITMENT + START-UPS

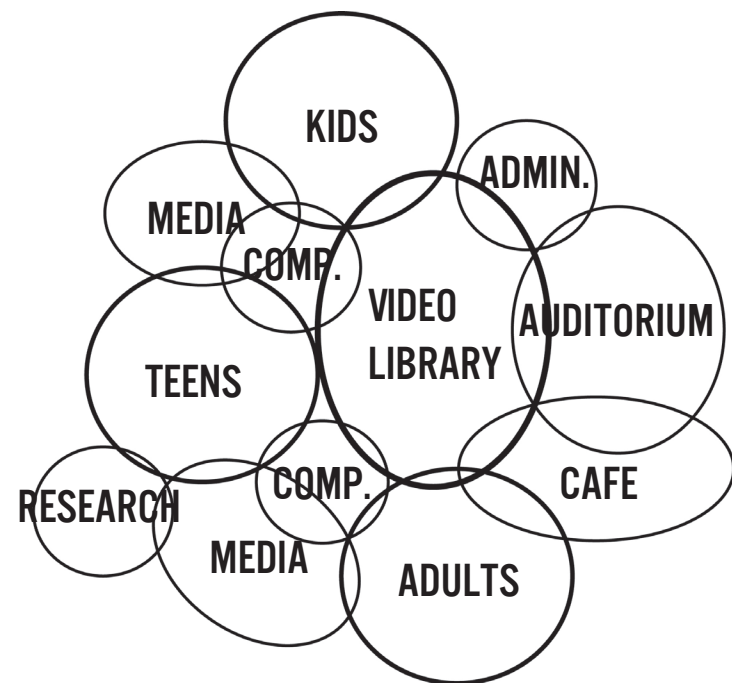
_ Build and support a vibrant manufacturing sector that sustains companies producing locally-made products

_ Encourages entrepreneurship and innovation

_ Creates employment opportunities for a diverse local workforce

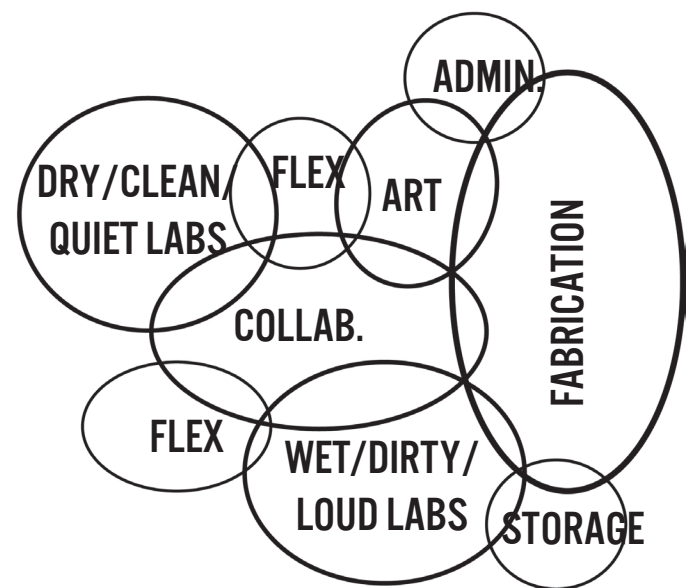
LIBRARY	LEARN
INNOVATION CENTER	TRAIN/EXPERIMENT/MAKE
CAREER CENTER	DO/WORK





LIBRARY

-Educational Areas/Classrooms	8,200 SF
Kids Small	250 SF X 8
Teens Medium	500 SF X 6
Adults Large	800 SF X 4
-Lecture/Auditorium	8,000 SF
-Study & Research	8,000 SF
-Archives - Video Library	8,000 SF
-Media Rooms	4,000 SF X 2
-Computer Areas	4,000 SF X 2
-Conference Rooms	1,000 SF X 4
-Administration	6,000 SF
-Café/Lounge	6,000 SF
TOTAL	60,200 SF



INNOVATION CENTER

-Fabrication Facilities	15,500 SF
-Wood	3,000 SF
-Metal	3,000 SF
-Glass	2,500 SF
-Clay	2,000 SF
-Digital Tech.	5,000 SF
-Lab Spaces	24,000 SF
-Science/bio-med	5,000 SF
-Culinary	4,000 SF
-Fashion	2,000 SF
-Audio/Visual	5,000 SF
-Flex	2,000 SF x4
-Art Studios	5,000SF
-Collaboration Areas/Shared Workspace	4,000SF
-Administration	2,500SF
-Storage	1,000SF
TOTAL	52,000 SF



CAREER CENTER

-Recruitment Offices	6,000 SF
-Networking Center	6,000 SF
-Career Guidance	8,000 SF
-Event Space	5,000 SF
-Conference Spaces	1,000 SF X4
-Business/shop start-ups/Incubator spaces	12,000 SF
-Administration	4,000 SF
TOTAL	45,000 SF



WORKS CITED

PROPOSALS & REPORTS

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Ohio Headwaters Development

Minneapolis Riverfront Development Initiative

IMAGERY

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<http://www.archdaily.com/463657/cornell-tech-reveals-new-images-of-roosevelt-island-campus>

<http://static1.businessinsider.com/image/536a55c3eab8ea0f07187ab2-1200-652/campuslawreviser-1.jpg>