AFFILIATE VIRTUAL SESSION SERIES

2020 VIRTUAL PLANNING SERIES

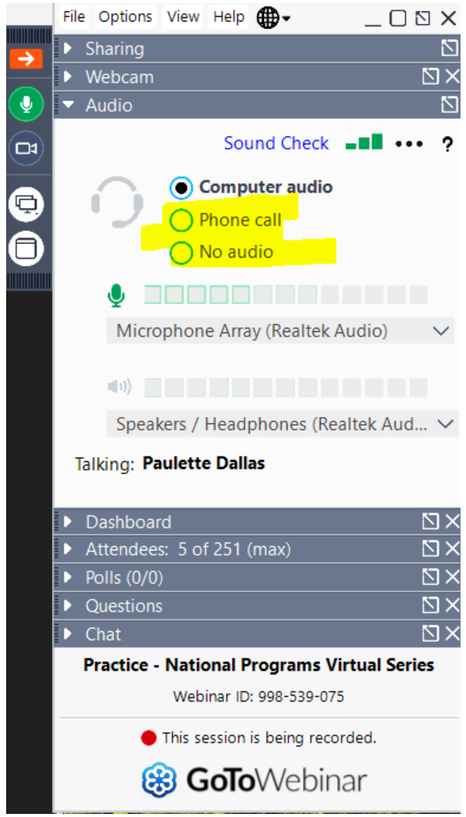
06 ANNUAL NATIONAL PROGRAMS

October 22, 2020

CAREER DIRECTIONS FOR STUDENTS IN ARCHITECTURE, CONSTRUCTION AND ENGINEERING

WELCOME AFFILIATES

GoToMeeting



- All attendees are in listen only mode for the presentation.
- This webinar is being recorded.
- We will do our best to answer your questions. We will compile the questions and will develop a FAQ document.
- Reach out to your RD with any additional questions or concerns.
- **If you are having trouble with your audio please go to the dashboard, click on the arrow by AUDIO, select no audio then select computer audio – this should reset your audio.**

#acementorprogram

AGENDA

ANNUAL NATIONAL PROGRAMS

Welcome	**MONICA WORHEIDE**
Intro	**DIANA EIDENSHINK**
2021 CIRT National Competition	**MONICA WORHEIDE**
National Competition Best Practices	**HOLLY ERNST** ACE CENTRAL IOWA
CMiC Scholarships	**DIANA EIDENSHINK**
Outstanding Mentors	**MONICA WORHEIDE**
Q&A	**PAULETTE DALLAS**

NATIONAL PROGRAMS

REGIONAL DIRECTORS

ACE MENTOR TOOLS

- VIRTUAL TOOLS
- ACE@HOME
- ACE VENTURES
- ACE BLOG

AFFILIATE VIRTUAL SESSIONS

SUMMER CAMP & STUDENT SESSIONS

INSURANCE RENEWAL

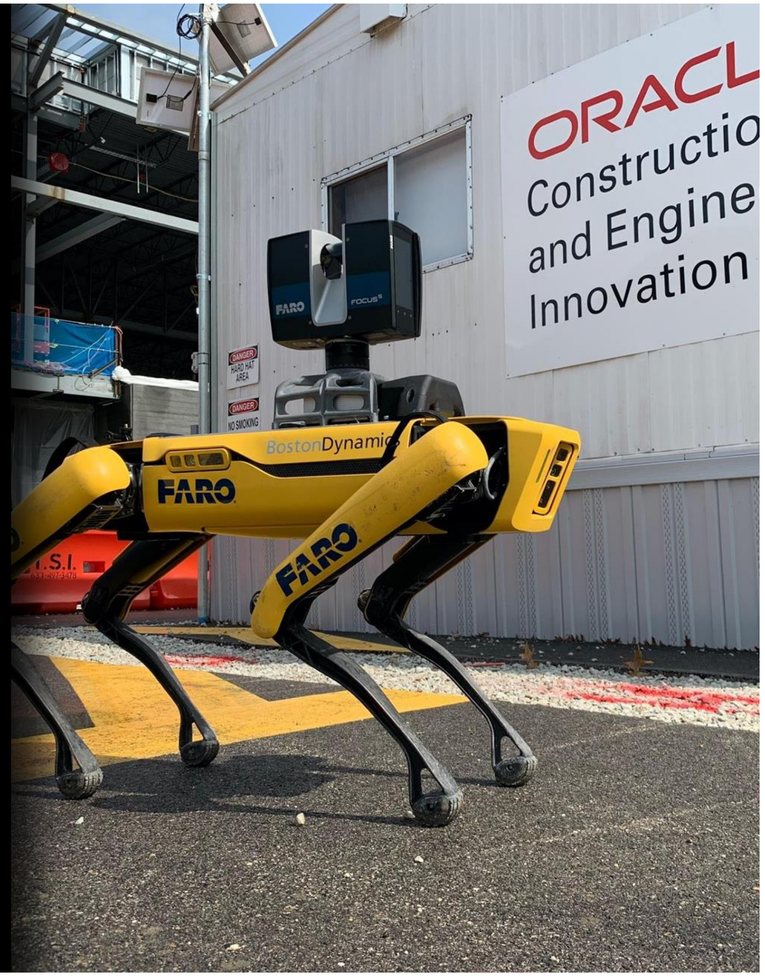
UPCOMING EVENTS

ACE VENTURES!
VIRTUAL ADVENTURES IN CONSTRUCTION

INNOVATION IN ACTION!

PRESENTED BY
ORACLE

10/27/20 | 5PM CENTRAL

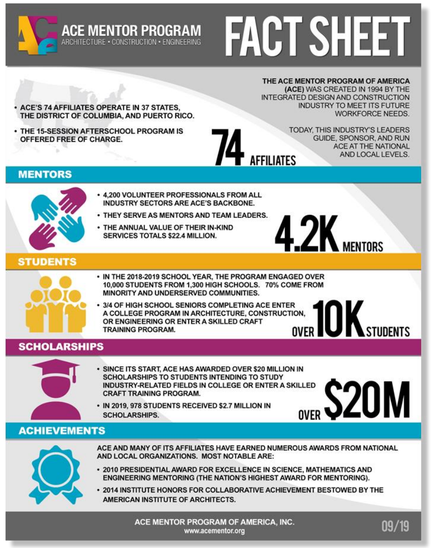


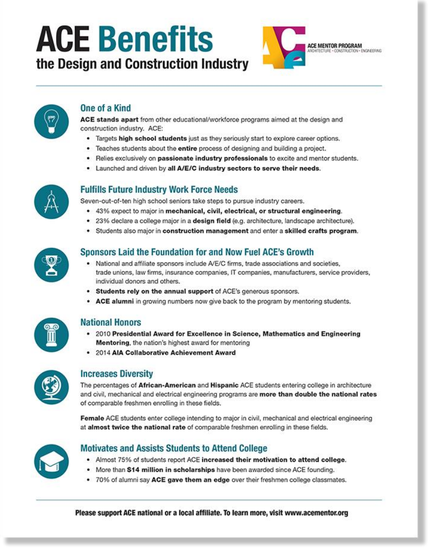
ACE VENTURES!
VIRTUAL ADVENTURES IN CONSTRUCTION

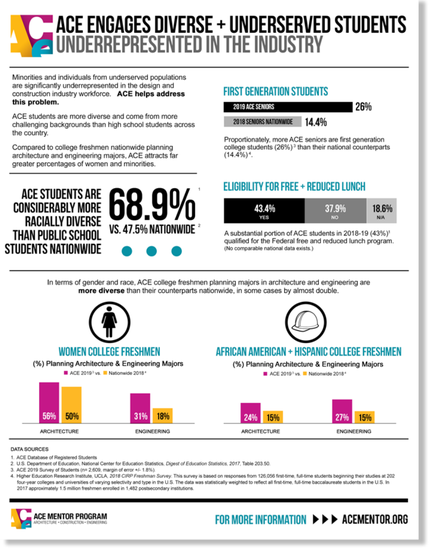
ORACLE is a leading technology company that is taking innovation and putting it into action. Join us to learn how we are using robots, building models, and a virtual command center to build our next generation Industries Innovation Lab.

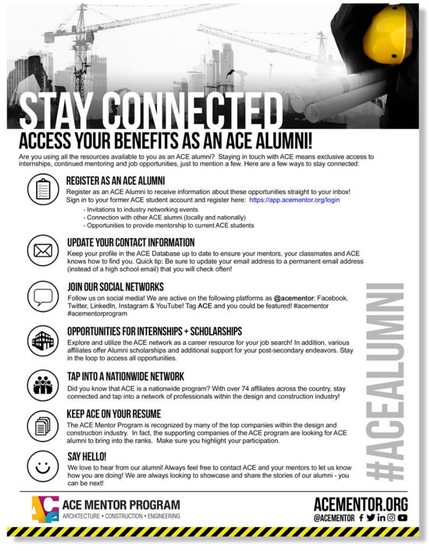
REGISTER TODAY!

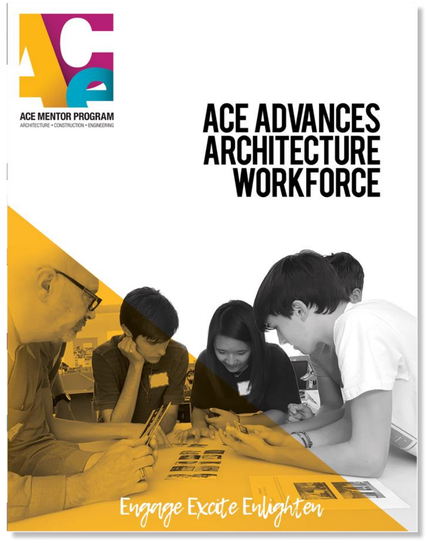
ACE Mentor Program

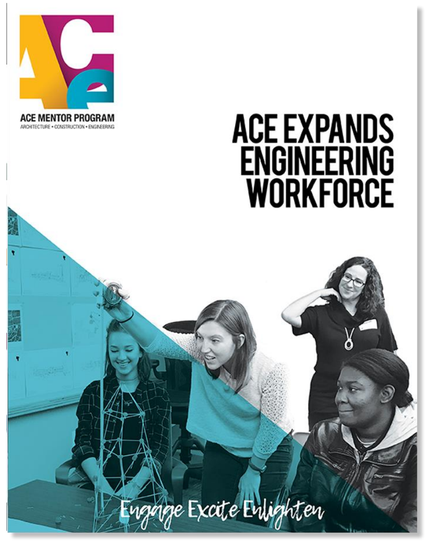


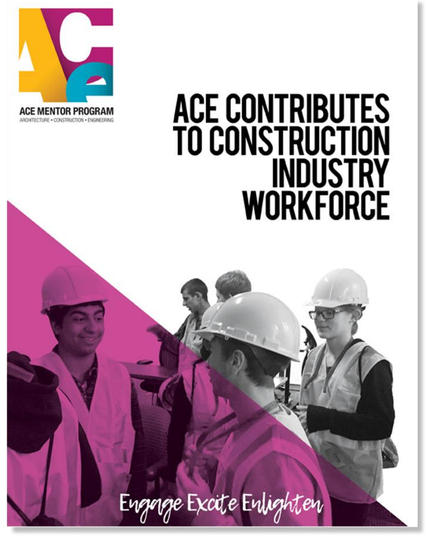


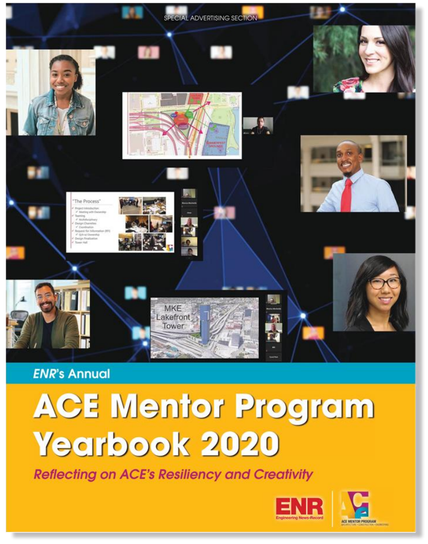












The highest level of recognition.

- Demonstrates that you are an organization that is focused on measuring your progress and results
- Gives potential funders information they crave, so it's good for fundraising
- Shows your improvement and results year over year
- Provides a concrete alternative to donors evaluating you using your overhead ratio

ACE Mentor Program of America, Inc. Platinum

Philadelphia, PA | **EIN:** 51-0465877

Founded in 1994, the *ACE Mentor Program* of America (*ACE*) is a free, award-winning, afterschool program ... schools, participate in *ACE* each year. Volunteer industry professionals, numbering over 4,100, *mentor* student teams through a ... and construction industry. *ACE* has earned the nation's highest distinction for *mentoring* – the Presidential Award for Excellence ...

GROSS RECEIPTS
$4,546,510

ASSETS
$5,802,926

ACE Mentor Program of Greater Boston Bronze

ACE Mentor Program of Greater Boston

Wakefield, MA | **EIN:** 26-4075224

...engineering. *ACE Mentor Program* of Greater Boston is an affiliate of *ACE Mentor Program* of America. *ACE Mentor* students design ... project with their *mentors* and have the opportunity to earn scholarships for college studies in the *A/C/E* fields (or trade school ... *mentoring*, architecture, construction, engineering, youth ...

GROSS RECEIPTS
$190,663

ASSETS
$348,477

GUIDESTAR

Ace Mentor Program of America Inc

MENTOR PROGRAM OF ALABAMA INC

Vestavia, AL | **EIN:** 20-3590671

GROSS RECEIPTS
$0

ASSETS
$0

Ace Mentor Program of Upstate New York

Albany, NY | **EIN:** 65-1306371

GROSS RECEIPTS
$0

ASSETS
$0

Ace Mentor Program of Raleigh Inc

Durham, NC | **EIN:** 26-0687656

GROSS RECEIPTS
$50,438

ASSETS
$31,227

Ace Mentor Program of Central Ohio Inc

Columbus, OH | **EIN:** 27-1700812

GROSS RECEIPTS
$0

ASSETS
$0

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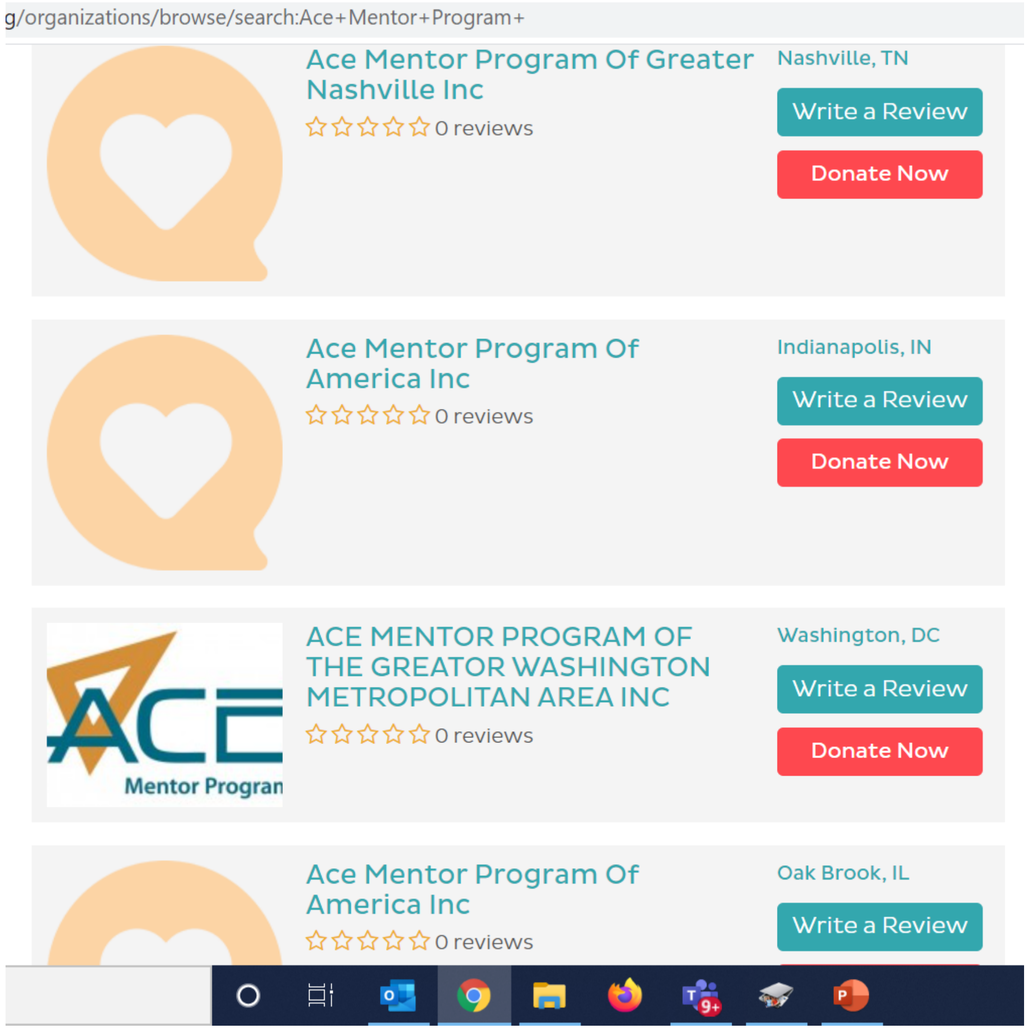
10/22/2020

ACE Mentor Program

GREAT NONPROFITS



CIRT NATIONAL DESIGN COMPETITION

Construction Industry Round Table

NATIONAL DESIGN & CONSTRUCTION COMPETITION

IN PARTNERSHIP WITH

CHICAGO ARCHITECTURE CENTER

The CIRT National Design & Construction Competition maintained, coordinated, and judged by Construction Industry Round Table is intended for ACE Mentor Affiliate team entries.

THEME FOR THE PROGRAM:

Celebrating the innovations and contributions the design/construction community makes to the quality of American life, while understanding the issues and challenges the industry faces to deliver on this legacy.

CIRT NATIONAL DESIGN COMPETITION

2021 CHALLENGES

Homeless Shelter:

Create a functional, modern, welcoming homeless shelter that addresses the various needs of its occupants (health, safety, treatment, nourishment, etc.)

Manufacturing Center:

Plan, develop, and create a local site/hub to attract manufacturing/supply chain resources to meet the needs of the United States.

Retrofit a School:

Reimage, retrofit, or otherwise redesign and construct entire or portions of a school to meet the health, safety, and social needs in our current and/or post pandemic communities.

DESIGN ASPECTS/CONSTRUCTION ELEMENTS

The following design/construction aspects will be evaluation criteria, and should be explained where appropriate:

- Site selection and its context (built and/or natural) – before and after
- Constructability (structural challenges, materials, schedules, textures, colors, etc.)
- Strategy for sustainability (resulting from design and construction decisions)
- Surrounding landscape/external spaces, etc.
- Life and activities, in and around the building, including the qualities of enclosed spaces showing furniture, fittings and finishes (where needed or appropriate to the design competition selected).

CIRT NATIONAL DESIGN COMPETITION

TESTIMONIALS

…I also learned how much energy it takes to be a successful presenter, and it gave me a good head start. I think the main thing I carried away from ACE is how to present confidently and how to treat the schematic phase of a design.

RILWAN KUJENYA – GREATER NYC

The competition was an incredible experience which has shaped me as a designer, presenter, and thinker. …One of the greatest things the CIRT-ACE competition afforded me was confidence in myself and real-world experience in selling a concept.

JOEY BAHNSEN – CENTRAL IOWA, National Champion

TEAM 5 CHICAGO 2020

FOOD BANK

"The gastronomic center ultimately mirrors the concept of a watering hole in the Savanna. Through food, cultural exchange, and the opportunity to learn from each other the gastronomic center brings people together to create a community of people with diverse stories and experiences. With a sustainable focus, the building provides a welcoming environment for people to engage in community and work together, with the hope that future generations can be encouraged and inspired to learn, share, and grow in the same way."

EXISTING

EXISTING

CONCEPT SKETCH

A: There was interest in choosing to do the pavilion in the beginning because with the pavilion there was so much room to expand on different social issues such as LGBTQ+ and racism, which were issues that everyone was interested in tackling. The pavilion was also intended to be a great installation that the public could interact with. Texture, color, form, shape and pattern were all ways in which we could develop context towards the issues we wanted to bring into the limelight. The main argument opposing the gastronomic center was that it seemed like just another supermarket or restaurant and not something that could really help bring a community together.

However, after much debate, our group realized that a gastronomic center could be so much more than just food service. This type of center could foster community connections and bonding through food and inspire sustainable strategies behind the way we produce and consume food. Especially since Chicago has so many people of different backgrounds and different stories, the ability to create cultural exchange in such a segregated city, which was appealing to everyone. Furthermore, we thought the idea could be very versatile because of its potential to touch on many different things (sustainability, cultural exchange, food history/development, community space, new urban agricultural methods). A gastronomic center is also not a very common project that is typically developed in cities and in fact, no one could think of a built example of one in Chicago.

B: Our design process started with the site. We wanted to promote sustainability through reusing or remodeling an already existing building and celebrating its historical significance. We ended up choosing an old bank building on the intersection of North Ave and W Pulaski. The bank was originally designed neoclassical style with its large white ionic columns and stone facade. Behind the now abandoned bank building is a vacant lot with an empty graffitied shed. We realized the open lot provided room for expansion and offered more possibilities for what our gastronomic center could become. We then started thinking hard about how the building had been previously used. Next, the group thought about how the existing building could be translated into a new concept: the bank vault becomes a seed vault, development of a space for food exchange is similar to money exchange, cues from existing structure led to a modern interpretation for the new program. The program was also expanded to fit community needs by incorporating new amenities such as a greenhouse, garden and community eating area. Lastly, we did some site research by looking at the transportation, retail, residential and food availability in the area. Sun path and general orientations of the building were considered as well as a huge part of our sustainable plant-filled structure.

SITE ANALYSIS

The site analysis displays grocery stores, restaurants, schools, and bus stops nearby the site. Few green spaces are dispersed near the site as well.

C: Our project included construction challenges that required critical thinking and innovation. These challenges included the following: alley located between the existing bank and the proposed new building, consideration of neighbors to the West, and a busy road with foot traffic and bus stops to the South. We addressed these challenges thoroughly. The alley will be closed during construction phases 1 & 2. As a trade off the project will restore this alley to a brand new condition by project's end. The façade of the building will be preserved and enhanced, with additions being made to the South and East faces and new brick being applied to the North alley face. In order to keep the neighbors' operations uninterrupted cranes will be kept away from adjacent building at the North lot and deliveries will be received in this lot as well. These measures will limit obstructions and annoyances the neighbors are exposed too while leaving them a far more pleasant product at project's end.

Budgetary: every room/area/program is beneficial to public (no wasted space), provides food and education back to consumer. Kept height of building consistent and reasonable to maintain a sensible cost and maintain cohesion with neighboring buildings. The addition adds more not rentable area.
Timeline issues and other Construction Challenges: By building south to north we ran out of space. Resolved by moving field office into unused portion of finished building in order to complete landscape areas. Chose to complete renovation of administrative portions of existing building first to allow for functionality to be utilized. This granted functions such as marketing, program directors, and maintenance employees the ability to get started prior to the building be in full operation and open to public.

D: We, as a group, wanted to preserve the history for the site and provide important amenities that would help the rest of the neighborhood thrive as a collective unit. We worked to reuse and reinterpret the existing structure of the bank, by adding important spaces to the community such as: cooking classrooms, volunteer spaces, lecture halls, broadcasting rooms, and collaboration spaces for established and aspiring cooks around the world. This is encompassed within the existing three floors of the original bank building with the exception of the top floor where the roof was removed and expanded.

Moving through the bank building, we come into a community gathering space with markets and eating areas. As people eat, they enjoy a magnificent view of a water cascade facilitated by a conical glass roof overhead inspired by the Singapore airport. Continuing on, the community space leads to an interactive garden. In addition to food education, service, and sale, we also explored the idea of producing the food we consume on site. Most of the food sold in the markets is grown in the garden. Through the help of the volunteers, people help cultivate crops they can eat and also pack food for nearby soup kitchens.

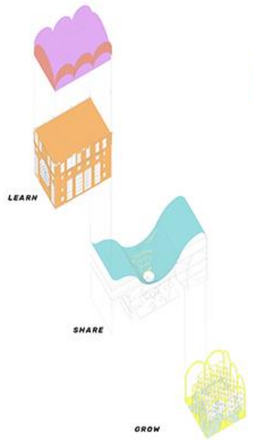
In the basement of the old building, we explored the practice of aquaponics and seed vaults. Lastly, a lot of glass is incorporated into the material of the building to maximize sunlight and minimize the need for artificial lighting.

Fresh water is a limited natural resource and buildings use it for a number of applications including drinking, mechanical processes, and landscaping. Some uses, for example, wastewater in our urinals and water closets, do not require potable fresh water to function. Our rainwater collection system provides the water these applications need, and in doing so, reduces the need for domestic water in our building.

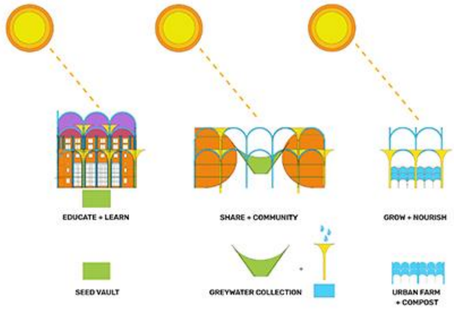
E: We learned how to think about an idea, put it into words, and convey it to our peers. We assigned project roles based on our skills and interests, and resolved disagreements through compromise between groups. We demonstrated the importance of communicating between different trades and disciplines. Communication was key for the structural team because the structure takes up physical space that can conflict with both the architecture and mechanical teams, and this had to be coordinated ahead of time to allow for the optimal solution. We learned about the process of design and the importance of processes in general. Mindfully sequencing these processes is critical to the efficiency of the design. Patience is key to working with other pieces of the puzzle as we developed the design concurrently. We learned about perspective in drawings, and we learned how to render in Lumion. We learned presentation skills and how to be comfortable sharing our ideas out loud.

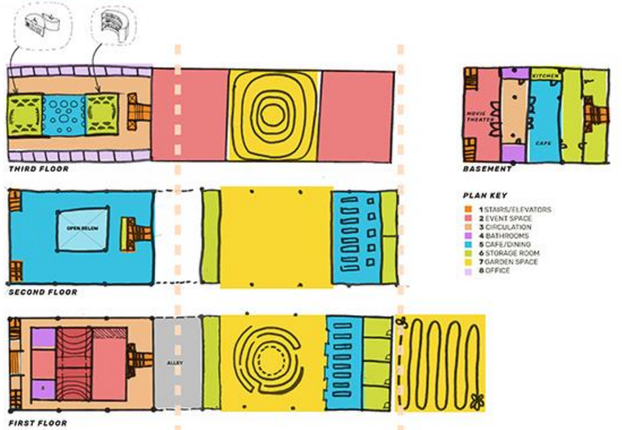
This experience has provided us with the unique opportunity to get some insight into the construction management industry. Through the creation of cost estimates and phase planning we learned more about organization and problem solving strategies to issues that are commonly faced in this career path. Through the submission of RFIs we also learned more about the importance of strong communication and collaboration on large scale projects like the ones our mentors likely work on all the time. We also learned to use a variety of different computer programs such as BlueBeam which we can later use in other areas of our academic lives.

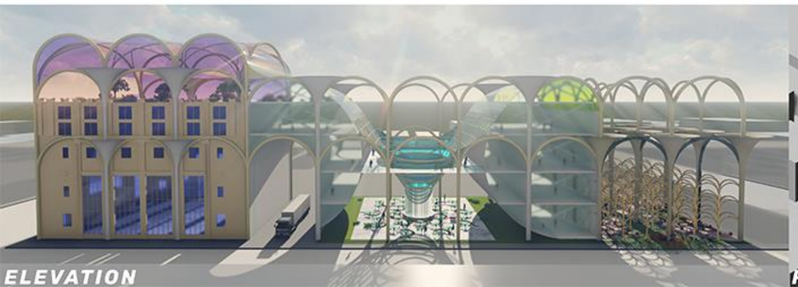
FORMAL ANALYSIS



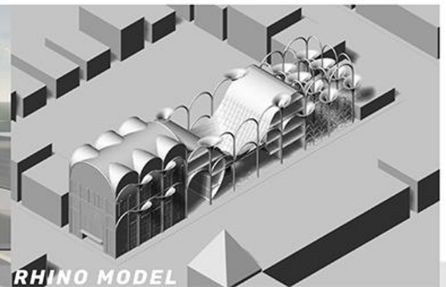
SUSTAINABILITY





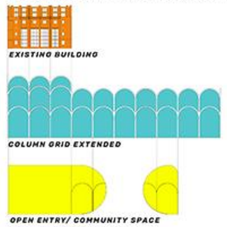


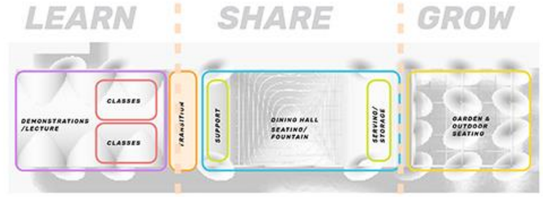
ELEVATION



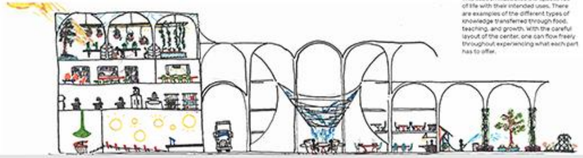
RHINO MODEL

HISTORIC RENOVATION





SECTION



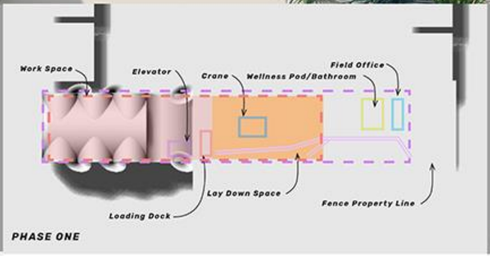
This section illustrates the spaces full of life with their intended uses. There are examples of the different types of knowledge transferred through food, teaching, and growth. With the careful layout of the center, one can flow freely throughout experiencing what each part has to offer.

Construction Industry Round Table

CHICAGO ARCHITECTURE CENTER

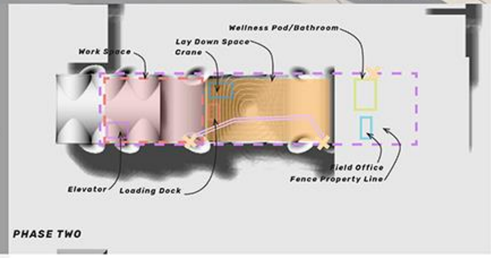
TEAM 5 CHICAGO 2020

EXISTING MASONRY BUILDING

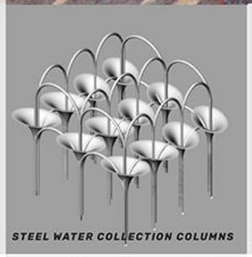


PHASE ONE

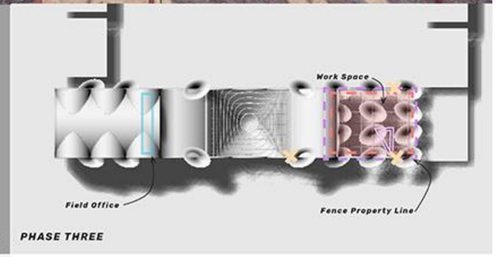
PARABOLIC STEEL FUNNEL



PHASE TWO

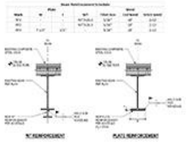


STEEL WATER COLLECTION COLUMNS

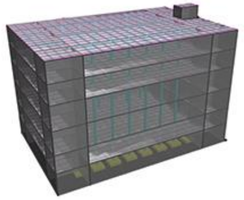


PHASE THREE

Item/Description	LEARN
Demolition	$217,404
Excavation	$0
MEPFP & Utilities	$2,257,492
Paving	$4,000
Bank Fitout	$1,699,704
New Building Fitout	$0
Landscaping	$527,688
Structural Steel	$16,950
Foundation Concrete	$0
Facade	$162,000
Roof	$1,230,371
Appliances / Furnishings	$68,750
Water Collection System	$40,000
TRADE TOTAL	**$6,224,359**
General Requirements @ 2.5%	$155,609
General Conditions @ 5%	$318,998
Insurance @ 1.25%	$76,502
Fee @ 3%	$203,264
Contingency @ 5%	$318,998
TOTAL	**$7,297,731**
$/SF	**$147.70**

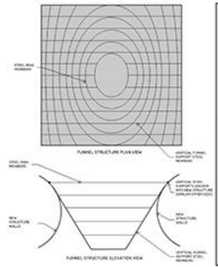


RAM STRUCTURAL MODEL: EXISTING BUILDING

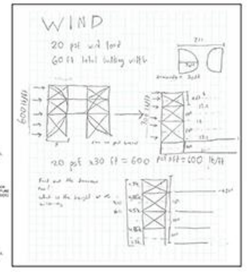


Item/Description	SHARE
Demolition	$74,669
Excavation	$30,993
MEPFP & Utilities	$4,104,532
Paving	$21,000
Bank Fitout	$0
New Building Fitout	$2,971,177
Landscaping	$527,688
Structural Steel	$1,432,793
Foundation Concrete	$503,289
Facade	$1,001,049
Roof	$967,613
Appliances / Furnishings	$68,750
Water Collection System	$40,000
TRADE TOTAL	**$11,743,553**
General Requirements @ 2.5%	$293,589
General Conditions @ 5%	$601,857
Insurance @ 1.25%	$144,337
Fee @ 3%	$383,500
Contingency @ 5%	$601,857
TOTAL	**$13,768,694**
$/SF	**$152.43**

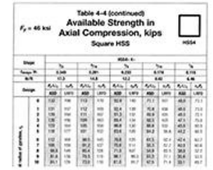
PLAN AND ELEVATION: FUNNEL



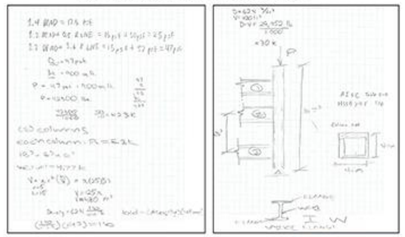
BRACED FRAME CALCULATION



Item/Description	GROW
Demolition	$36,778
Excavation	$15,265
MEPFP & Utilities	$478,862
Paving	$2,000
Bank Fitout	$0
New Building Fitout	$0
Landscaping	$703,584
Structural Steel	$16,950
Foundation Concrete	$55,921
Facade	$0
Roof	$0
Appliances / Furnishings	$0
Water Collection System	$120,000
TRADE TOTAL	**$1,429,360**
General Requirements @ 2.5%	$35,734
General Conditions @ 5%	$73,255
Insurance @ 1.25%	$17,568
Fee @ 3%	$46,677
Contingency @ 5%	$73,255
TOTAL	**$1,675,849**
$/SF	**$157.89**



STEEL COLUMN HAND CALCULATIONS



LEARN

CONSTRUCTION

In this phase we tackled the renovation of the existing building which involved 35k sf section of the green house on the roof and the replacement of the facade on the north most wall of the building. In this phase we also renovate the interior of the building to better suit the functionality of the building. In our plan the Retail Office and women's amenities are located at the northernmost area of our job site. Just slightly north of our work area is where we chose to place the crane and our storm space. The road tied down for the trucks to come and unload is south of the footprint of the Retail office space and is placed where there are openings in the curb for easy access to the site. We also made use of the existing elevator in the building to transport materials.

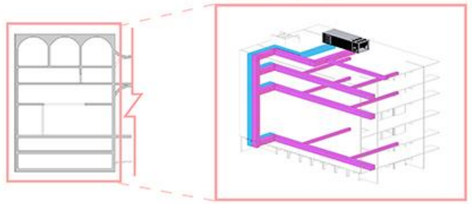
STRUCTURES

The "Learn" structure is an existing five-story building made of steel beams and columns with steel-bearing concrete masonry walls and concrete floor slabs. We modeled the existing building in RAM Structural System and applied dead loads and live loads. we determined superimposed dead loads using the ASC Steel Manual for building material densities, such as flooring, MEP, glass, finishes, and allocated soil. we determined live loads using ASCE 7-10 norms types provided by the architect, including offices, lobby, bathrooms, classrooms, hallways, etc. After applying the loads, we ran the model and determined there was too much demand on the beams, so we had to design reinforcement to get the demand-to-capacity ratio below 1.0. We reinforced the existing beams with steel T-sections and plates to support loads from a new roof garden. We did a quantity take-off and gave the tonnage to the construction group so they could estimate structural cost. We also coordinated with the MEP engineers to locate a mechanical shaft in the roof to accommodate ductwork for new mechanical units.

MECHANICAL

Design and a new HVAC system to account for our rooftop garden. Building dimensions and function were used to determine size of system needed. Ductwork sizes and locations coordinated with structural to allow distribution throughout the building.

BUILDING HVAC RISER



SHARE

CONSTRUCTION

In this phase we work on the building of the new addition which received the bridge from the old building as well as the main fountain on the plaza. This phase also includes some vegetation surrounding the fountain. In this phase the location of the food office and worker amenities remained the same as in the previous phase. The crane moved more towards the west boundary of our site to better allow for construction to occur on the new building. The loading dock is also north of its previous location. In this phase the road for trucks to the same as the previous phase. We continued to use the elevator in this phase, similar to the last phase.

STRUCTURES

The new "Share" structure is composed of two semitoroidal shaped buildings which support a waterfall funnel in the ceiling. The structural system that was chosen was steel with composite deck to allow for flexibility in programming. The lateral system for the "Share" structure was six steel braced frames. The braced frames were used for lateral support against wind loads. Because it was a new, free-up physical space, their location had to be coordinated with the architecture team. We used the Chicago Building Code (CBC) to determine the wind load by multiplying the wind pressure times the brace tributary areas. Since the building was under 200ft the wind pressure was 20psf. Similar to the existing building, we used ASCE and ASCE 7-10 to determine superimposed dead loads and live loads. For the funnel we drew out a schematic structural plan to determine the load path and validate that the funnel structure was possible.

MECHANICAL

Plumbing riser showing distribution to building. Pumps able to draw water from city water supply and collected rainwater. Calculations estimate savings of 500,000 gallons/year.

PLUMBING RISER

GROW

CONSTRUCTION

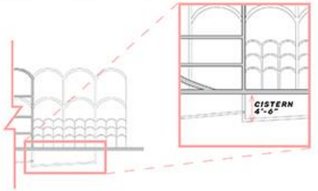
The phase is entirely plant life and the new water collection system. In this phase we found the challenge of having to move the field office to the finished existing building to conserve space as well as costs. The road for trucks to come and unload was reduced to a much smaller form around to conserve work space and allow landscaping to happen more easily. we no longer needed to use the elevator in the existing building in this phase.

STRUCTURES

The "Grow" structure is a series of steel tube columns with cone shaped openings to collect rainwater. water was coordinated with the architects through design iterations to determine the parameters of the structure. we calculated the weight of the water in each cone based off the volume of the cone and applied load to the top of the column. We used SAP2000 to model the column and apply the load. we use the AISM sheet Designer to determine a column size. To verify the SAP2000 results we did a hand calculation using the AISC Steel Manual Chapter E and Table 4-4 for compression members.

MECHANICAL

This rain water collection reservoir located underneath outdoor space to collect water through structural columns. Acts as storage basin for water which will be integrated into the existing building's plumbing system upon demand. water is delivered through gravity fed pipe into building pumps.



TOTAL BUDGET	$22,742,273
$/SF	$151.26

Construction Industry Round Table

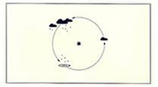
CHICAGO ARCHITECTURE CENTER

the belt

PROJECT BACKGROUND

Water is life: it is the most critical natural element and is necessary to sustain the life of all living things. Water is also a powerful and unpredictable force of nature having the ability to impact our environment without any warning. As such, we must pay close attention to Water Resource Management in our communities, neighborhoods and cities alike.

Being based in New York City, ACE Team 30 decided to address the Water Resource Management and Preservation issues impacting us locally. First, we analyzed global water resource management issues to understand the full breadth of the problem. Next, we applied this information to NYC and the surrounding areas to see what specific issues we could improve upon here.



GLOBAL WATER MANAGEMENT ISSUES

There are a number of water resource management and preservation issues facing us throughout the world. A summary of the most significant issues is below:

1. WATER SCARCITY - with increasing populations and urbanization, clean and potable water sources are diminishing and, in some parts of the world, obsolete. Access to safe, clean drinking water is not available to all. This poses an issue of global health crisis, economic distress, and population displacement.

2. CLIMATE CHANGE & SEA LEVEL RISE - sea level rise is caused by factors associated with global warming: (1) rising global temperatures cause rapid ice sheet melting and (2) seawater expands at higher temperatures. As Earth's climate continues to warm, the effects of climate change are increasingly appaarent.

3. INCREASING VULNERABILITY TO SEVERE WEATHER EVENTS - due to climate change, we now experience more severe storm events than in the past, resulting in greater storm surge and intense flooding. Most communities are not equipped to recover quickly from such events, thus increasing vulnerability and potential for damage to existing infrastructure and property.

4. WATER POLLUTION - local and state regulations require municipalities to treat water to meet acceptable water quality standard prior to discharging into local water bodies. In many places, wastewater treatment plant capacities are not sufficient and combined sewer systems must discharge directly into recieving waterbodies prior to treatment.

5. AGING INFRASTRUCTURE - much of the worlds' water infrastructure was built over 100 years ago - in some places, centuries ago - and has come to the end of its useful life. Pipes and tunnels are leaking, mechanical and electrical equipment is failing and our water infrastructure is suffering because of it. Aging infrastructure results in unreliable systems, loss of water and water quality concerns.

LOCAL WATER MANAGEMENT ISSUES

After analyzing the global water management and preservation issues, the team assessed the water management issues facing NYC. The team decided to address three main water management issues for this project.

CLIMATE CHANGE & SEA LEVEL RISE

Sea level surrounding NYC is projected to rise rapidly in the next 50-100 years. This issue could displace hundreds of thousands of New Yorkers and could also have a major economical impact. In order to protect the City, this issue must be addressed.

INCREASING VULNERABILITY TO SEVERE WEATHER EVENTS

Since NYC is surrounded by water, it is at a high risk of damage and flooding from severe weather events. NYC has experienced many devastating storm events in the past 20 years which have caused major disruptions to City operations and have put the City at risk for public safety and health concerns.

WATER POLLUTION

About 60% of New York City is on a combined sewer system which means both stormwater runoff and sewage are carried through a single pipe. During heavy rain events, sewers are inundated with higher flows than normal. Since treatment plants do not have the capacity to handle these high flows, the combined water is discharged into nearby waterways - these events are called Combined Sewer Overflows (CSOs). CSOs have a negative effect on water quality in NYC's waterways, which are recreational bodies and habitats to thousands of species.

EXISTING CONDITIONS

After identifying three major water management and preservation issues to address, Team 30 analyzed how these issues are impacting NYC. This analysis lead the team to conclude that Lower Manhattan is highly vulnerable to these three Water Management Issues.

LOWER MANHATTAN

For most of New York's 400 year history, the City only existed below Chambers Street. New York's rich history began in Lower Manhattan and many of its historical monuments still exist today: Ellis Island, Bowling Green Park, City Hall (the oldest city hall in the country), the Woolworth Building, New York Stock Exchange and Trinity Church, just to name a few. This area of NYC, known as Lower Manhattan or Downtown Manhattan, has evolved into the epicenter of finance, government and world commerce.

Today, this one square mile area of Lower Manhattan continues to flourish - see below for some statistics on the area:

BUSINESS
- 300,000 public & private sector employees, making up some 70% of the areas workforce
- Private sector employment at highest level since 2001
- 90 million square feet of office space, including buildings such as 1 World Trade Center

ENTERTAINMENT & RESIDENTIAL
- Nearly 600 bars and restaurants
- Approximately 700 stores & storefront services
- 337 existing residential buildings with 17 under development
- 65,000 increase in residents in 2019

VISITORS AND TOURISM
- 14.6 million annual tourists
- 7700 hotel rooms and 35 hotels
- 12 new hotels under construction planned to open in the 2020's

EDUCATION
- 27 K-12 public & private schools
- Total K-12 enrollment: 14,000
- 18 institutions of higher learning with total enrollment of 54,000

EXISTING CONDITIONS MAPPING

Lower Manhattan is zoned primarily as residential and commercial districts, with smaller areas of industrial and park land along the waterfront. Industrial areas are highly concentrated along the west side near existing piers. Residential areas and parkland are concentrated along the east side in the Lower East Side and East Village neighborhoods. Many NYC housing complexes are located in these two neighborhoods, as seen indicated in yellow on the map. As discussed previously, Lower Manhattan is also a heavy business district - as such, the large majority of the area is zoned as commercial.

There is a vast public transportation network in Lower Manhattan. The area has 13 of the 27 total MTA subway lines, 30 MTA bus routes and 17 commuter ferry lines leading to outer boroughs and New Jersey. In addition, there are three major bridges to Brooklyn - the Brooklyn Bridge, Williamsburg Bridge and Mahnattan Bridge - and two tunnels to Brooklyn and New Jersey, respectively - the Brooklyn Battery Tunnel and the Holland Tunnel.

Knowing that Lower Manhattan is a major business area and also a public transit hub with many connections both inside and outside the city, it was important for the Team to take this into consideration when developing their design elements.

ZONING DISTRICTS, SUBWAY LINES & FERRY ROUTES

HISTORIC FLOODING

New York City has experienced many extreme storm events in the past century. Of the most extreme, most have occurred within the past 30 years - amongst them, Hurricane Irma and Hurricane Sandy. These events have caused severe flooding, property damage and loss of life.

In October 2012, Hurricane Sandy hit NYC and caused a major amount of devastation - $19 billion in damages, 250,000 people without power, 17% of total landmass flooded and 43 deaths. Power loss and flooding was most severe in low-lying areas of Manhattan, specifically Lower Manhattan below 14th Street, as seen in the New York Magazine Cover Photo on the right. It took almost two weeks to fully restore power and return utilities to full operation. Storm surge also reached a record high in the Lower Manhattan area, reaching levels of about 14 feet high in New York Harbor.

The damage from Hurricane Sandy was so severe that many NYC agencies released reports outlining how they planned to recover quickly from future storm and flooding events in order to protect the public and the City's vital infrastructure. Amongst those plans were the NYC Department of Environmental Protection's Resiliency Plan for Wastewater Facilities, NYC Mayors Office East Side Coastal Resiliency Plan, NYC Residential Flood Insurance Affordability Study and MTA's Fix & Protect Plan.

PROJECTED 100 YR & 500 YR FLOOD LEVELS

SEA LEVEL RISE PROJECTIONS

Four of NYC's five boroughs are completely surrounded by water, making the City very vulnerable to the effects of climate change and sea level rise.

Sea levels surrounding NYC have been slowly rising for years. Studies from the past decade have shown that levels are rising more rapidly than in the past, as much as 1 inch every 8 years, and are projected to rise exponentially in the next 100 years. Due to their low elevations, areas in Lower Manhattan, Staten Island and Southeast Brooklyn have seen higher sea level rise than other areas of the City. For perspective on this issue, the sea level surrounding Battery Park in Lower Manhattan has risen 6 inches in the past 40 years. This is a sharp increase as compared to other areas of the city.

Studies project that sea levels around NYC will rise 6 feet by 2100. The maps below show Lower Manhattan's current Mean Higher High Water (MHHW) level (or sea level) and future MHHW level with the 6 feet increase expected in 2100.

CURRENT SEA LEVEL

YEAR 2100 SEA LEVEL

COMBINED SEWER OVERFLOWS (CSOs)

NYC has approximately 700 CSOs along its waterfront which discharge to open waters during wet weather events. Due to limited capacity at the City's 14 wastewater treatment plants and more frequent and severe wet weather events in recent years, CSOs have been discharging an average of 20 billion gallons of combined sewer overflows into New York City waterways annually. CSOs have a negative effect on water quality by introducing bacteria and decreasing oxygen concentration in waterways. They pose a hazard to ecosystems, an increase in algae growth, and lead to increases in carbon dioxide and methane production in tidal wetlands.

The City has implemented a Long Term Control Plan (LTCP) to help reduce the number of CSOs and thus improve water quality throughout the City. The plan has recommended increasing storage capacity via tunnels and/or tanks in order to capture overflows in lieu of immediately discharging to waterways.

Although Lower Manhattan was not considered in the LTCP for CSO management, there are still a significant number of outfalls in this area.

The map on the right shows the CSO outfalls and drainage areas in Lower Manhattan. There are approximately 38 outfalls on the east and west sides of Manhattan below 14th Street. This area also covers approximately 2.2 square miles of drainage area with two pumping stations which convey flows to Newtown Creek Wastewater Treatment Plant in North Brooklyn.

DESIGN ELEMENTS

FLOODING AND SEA LEVEL RISE SOLUTION

After identifying the three main water management issues, the team set out to design a flood and sea level rise resistant structure. Considerations for both a seawall and a berm were analyzed. These two very different structures would both protect Manhattan, but would have much different visual impacts to the well-established coast of Manhattan.

SEAWALL vs. BERM

Seawalls have been used in many coastal cities and towns around the US to protect land from storm surge. The seawall would be a vertical structure, built into the sediment and rock of the Hudson and East Rivers.

Pros:
- provides excellent protection against sea level rise and flooding
- requires less space for construction and lower overall footprint

Cons:
- integration into existing marine infrastructure, such as tunnels, would be challeneging and create gaps in the seawall
- visual impact of a wall around Manhattan would be non-favorable to New Yorkers who value coastal views

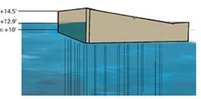
Berms are raised barriers separating two areas. The berm would be a concrete-box like structure filled with soil and other earthen material. The structure would be supported by piles, drilled into bedrock of the Hudson and East Rivers.

Pros:
- pile placement could be coordinated with existing infrastructure as to not interfere
- create more space for park, residential, commercial space on the coastline of Manhattan
- more opportunity for funding options (commercial spaces could draw revenue)

Cons:
- larger footprint
- larger capital cost
- more coordination with environmental and permitting agencies

The design flood elevation for the 500-year storm (DFE500) was calculated based on the project site's Coastal Transect Data. This transect data dictates the stillwater elevation (ES00), which is 12.9 (feet NAVD88) for the project site and accounts for wave run-up (maximum vertical extent of the wave when it hits the berm). The stillwater depth (d500) was calculated using the project site's average grade elevation of 10 (feet NAVD88), at

$$d_{500} = ES_{00} - Average\ Grade\ Elevation$$
$$d_{500} = 12.9 - 10.0$$
$$\mathbf{d_{500} = +2.9\ [feet\ NAVD88]}$$



Using the formula below, DFE500 was calculated to be +14.5 (feet NAVD88), which was used to determine the berm height by subtracting the grade elevations along the Manhattan coastline from DFE500.

$$DFE_{500}\,[feet\ NAVD88] = ES_{00} + 0.55 \times d_{500}$$
$$DFE_{500}\,[feet\ NAVD88] = 12.9 + 0.55 \times 2.9$$
$$\mathbf{DFE_{500} = +14.5\ [feet\ NAVD88]}$$

The team ultimetaly chose the berm, as it would be easier to integrate into the existing coastline, and marine infrastucture such as tunnels. It would also provide acres worth of new space along the coast of Manhattan, which could serve as community, residential, and commercial

COMBINED SEWER OVERFLOWS

After choosing a berm as the sea level rise and flooding resisting strucure, the team sought to identify the CSO mitigation plan. Two types of infrastructure were analyzed, a CSO tunnel and a CSO tank. Both provide the same benefit to an overloaded combined sewer system, but are constructed very differently.

TUNNEL vs. TANK

CSO tunnels are underground tunnels which hold stormwater overfall during rain events. The tunnel would be constructed utilizing a tunnel boring machine, and would connect to the existing CSO outfalls by gravity.

Pros:
- less disruptive construction, as tunnel boring machines would construct tunnel in bedrock
- requires less space for construction and smaller overall footprint

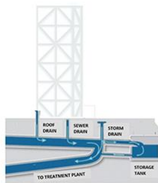
Cons:
- higher capital cost due to underground tunneling
- coordination with existing infrastructure (road tunnels, subway infrastructure, building foundations) would be necessary and critical to success of tunnel
- would be independent of the berm structure

A CSO tank would retain overflow water during rain events until the treatment system has capacity to handle in the days after a rain event.

Pros:
- tanks can be constructed and installed in pre-cast concrete sections
- simpler connection to existing CSO outfalls
- easier access for maintenance and operation in comparison to tunnels
- can be integrated into berm structure

Cons:
- may require pumping to send water back to sewer system for treatment depending on elevation
- larger in-water footprint

The diagram to the right demonstrates a CSO tank storage system. Combined sewer flows trawel towards the CSO outfall during wet weather, but are diverted to the storage tank before discharging. Flow that cannot be sent directly to the treatment plant is stored in the tank until the wet weather event is over.



The team wanted to create single structure solution to the water management issues in NYC. The team decided on CSO tanks, which would become an integral part of the structure and could easily connect to existing outfalls.

the belt

FINAL CONCEPT

the belt is a sea level rise-resisting, water quality maintaining, asset securing structure, which will preserve Manhattan with the protection it needs from the force that is water. *the belt* will hold Manhattan together throughout the effects of climate change in the city, while also providing over 30 acres of new coastal greenspace and potential commercial/residential area to be developed by the city. *the belt* will be an innovative solution to the water management issues that exist in New York City.

CSO STORAGE

Calculating the CSO storage would require the team to understand the hydrology in lower manhattan, along with existing and projected rainfall data.

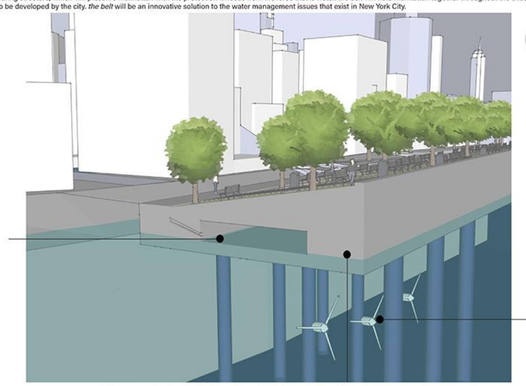
-IDF CURVES: The team utilized NYSWERA IDF (intensity-duration-frequency) curves to analyze 24-hour storm events for 2, 5, 10 25, 50, and 100 year storm return periods, utilizing Manhattan rain guage data.

-DRAINAGE AREAS: The team then utilized Manhattan ESRI drainage area maps (below) and existing outfall locations to determine the stormwater quantities that would fall on our project site during a 24-hour rain event for the 2,5,25,50, and 100-year storms. Value engineering lead the team to plan for a 50-year storm, which would result in a 9-inch per 24-hour rainfall event.

-TANK SIZE: The team calcualted the total storage required for a 50-year storm, separating the east and west drainage areas. Four tanks along each coast will store over 70 million gallons of water per rain event, providing massive alleviation on the existing system.

-CONNECTION TO EXISTING OUTFALL: The 8 new CSO tanks would be connected via pipes to the existing CSO outfalls.

-POST-STORM TREATMENT: After the storm event, the retained water would be fed back into the sewer system, and then conveyed to the wastewater treatment plant. The plant would treat the water to effluent standards and discharge to either the Hudson or East Rivers. Retaining storm event water and not overflowing outfalls could save NY rivers, and provide clean recreational water for long-term use.



Manhattan Drainage Areas and CSO Outfalls

KEY
- Existing CSO Outfalls
- West-side Drainage Area
- East-side Drainage Area
- CSO Tank Location

Location	Runoff Coefficient	Total Drainage Area (mi²)	Storage Required (Million Gallons)	Tank Size (ft³) (l x w x d)
East	0.85	2.2	32.5	150 x 740 x 10
West	0.85	2.7	39.5	150 x 900 x 10

TIDAL ENERGY

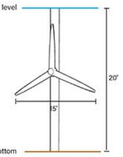
The team saw an opportunity to harness the power of water through tidal turbines, which turn with both the East and Hudson River's current. The tidal energy harnessed will be converted to electrical, and used as an energy generation source in this project.

-The turbines would be 15' in diameter, and would be placed on every other pile along the belt.

-2,500 units would be installed, and would be moved using the 8 knots water velocity of both the Hudson and East Rivers

-Each unit produces 55kW. Both Hudson River and East River flow at a rate of 8 knots, allowing the belt tidal turbines to generate 2100MW/day at a 70% efficieny.

-Electricity generated by the turbines would be collected and stored at a small powerplant on site. The belt would utilize this electricity to power all facilities along the belt. If surplus energy is generated, excess could be sold to Con Edison, the local electric utility, which conveniently has a it's largest NYC plant located at 14th Street on the east side.



SEA LEVEL RISE AND HISTORIC FLOODING PROTECTION

the belt would create a perimeter around NYC, impacting existing structures such as ferry stations, loading piers, and marinas. These facilities would be relocated off the outer edge of the *belt* in order to maintain functionality.

the belt will span the coast of Manhattan from 14th street on the West-side to 14-street on the East-side. During Superstorm Sandy, all of Manhattan below 14th street was left flooded and without power. We've decided to protect the most vulnerable part of Manhattan within *the belt*.

To create the footprint of the belt, we measured existing elevations at the coast line, which varied from EL. 0 to EL. 10. We then used the DFE of EL. 14.5' and an average slope of 4%, to find the length of the belt. Below are length dimensions:

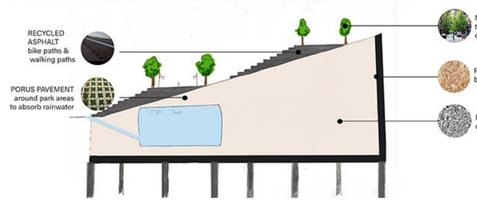
Point ID	Location	Elevation (NAVD 88 feet)	delta (DFE-Elevation)	Berm Length (feet)
1	14th Street-West Side	10	4.5	112.5
2	10th Street-West Side	8	6.5	162.5
3	Pier 25	5	9.5	237.5
4	Brookfield Place	0	14.5	362.5
5	Battery Gardens	7	7.5	187.5
6	Brooklyn Bridge	9	5.5	137.5
7	Manhattan Bridge	7	7.5	187.5
8	Williamsburg Bridge	9	5.5	137.5

the belt would also utilize a permeable barrier, which would be constructed between the deck and the existing coast line, this barrier would create a waterproof seal around Manhattan, preventing any water from infiltrating into the city.

the belt would create a perimeter around NYC, impacting existing structures such as ferry stations, loading piers, and marinas. These facilities would be relocated off the outer edge of *the belt* in order to maintain functionality.

SUSTAINABLE MATERIALS

In order to lessen the belt's environmental impact, the project will use locally sourced and sustainable materials.



ENVIRONMENTAL IMPACT

Construction of *the belt* would impact impact water bodies which serve as a recreational space for New Yorkers and habitats for other species. An Environmental Impact Statement (EIS) would be prepared during the planning phase of the project. An EIS would analyze the impact of the project to all life (both humans, marine life, bird life, etc.) which would be impacted by the construction of *the belt*. The major state and federal agencies shown on the right would be coordinated with, along with local environmental conservation groups to ensure that habitats are protected for all species in the Hudson River, East River and surrounding land.

SECURITY

the belt will be connected to the NYC Department of Environemntal Protection wastewater treatment system, which is considered critical infrastructure. Water stored in the CSO tanks will eventually reach treatment plants, which will treat and discharge the water to the Hudson and East Rivers. Limiting access to only NYC Department of Environmental Protection personnel and other personnel will protect the tanks and the water treatment system from any contamination or security threats. Authorized personnel will access the tanks for maintenance through locked manholes, hatches, or other means. These security measures are in place to mitigate CSO discharge in the rivers and protect recreational users, waterways, and ecosystems.

SCHEDULE AND CONSTRUCTABILITY

the belt cost will be constructed in a 5-phase approach. Each segment is estimated to take 3 years to construct. Phases 1 through 5 will all have the same construction work breakdown schedule.

Phase 1 staging area will utilize existing abandoned piers on the west side. After construction of Phase 1, Phases 2 through 5 will mobilize using the finished area from the previous segment as staging area. The piles, pile caps and grade beams will all be built using barges, and the concrete deck will also be constructed via barge, using a concrete plant stationed on the Hudson or East Rivers.

Each phase will be constructed and completed for use by the public while the other segments are being constructed.

Construction duration is estimated to be 15 years. Below is a typical construction schedule for a single phase.

Construction duration is estimated to be 15 years. Below is a typical construction schedule for a single phase.

COST ESTIMATE

the belt cost estimate was developed using quantities and unit costs. The cost suggests an approximate value of $12.7B not including soft costs, such as land acquisition, permitting and environmental impact mitigation measures. The costs include labor, materials and equipment. The units that are represented are the average height and width of *the belt*.

Item	Quantity	Units	Cost/Unit ($)	Total Cost ($)
belt structure				
Pile (36-inch diameter drill shaft, 100 ft depth)	18,594	units		
Tidal turbines (15-ft diameter)	2,324	units		
Concrete pile caps and beams (3ft by 2.6ft)	1,859,400	VLF	500	929,700,000
Concrete Deck 1ft thick	258389	CY	5,000	1,290,945,000
Concrete Retaining Wall (6ft by1ft)	469,333	CY	3,000	1,407,999,000
Berm/Backfill (average 200ft by 6ft)	18,773	CY	2,500	46,932,500
CSO Tank 150 by 800 by 40 (average size)	8	EA	25,000,000	200,000,000
belt landscaping/development				
Total New Land Area Created	300	ACRES		
Landscaping/Recreational Area	90	ACRES	2,000,000	180,000,000
Private Re Development	90	ACRES	250,000	22,500,000
Bike Paths and Circulation	30	ACRES	2,500,000	75,000,000
Public Facilities	90	ACRES	5,555,556	500,000,000
Marine Maintenance and Protection of Traffic (2.5% of structure & landscaping)	1	LS	122,000,000	122,000,000
			Sub-Total Direct Cost	4,962,809,800
Contingency			30%	1,488,842,940
			Sub-Total	6,451,652,740
Contractor Overhead & Profit			15%	967,747,911
			Sub-Total	7,419,400,651
Bonds & Insurances			2%	148,388,013
			Sub-Total	7,567,788,664
Escalation (5 year design, 15 year construction)	4.25%	% per Year	68.25%	5,164,940,085
TOTAL COST				12,732,728,749
Cost/Square Foot (total cost/berm area)	1,056,000	SF		12,057

FUNDING SOURCES

the belt is estimated to cost a $12.7 billon. The team understands that this is a lot for one entity to take on, and so the belt will have to be built via the fincial support of many groups. Because the belt will provide NYC with 30 new acres of land for residential, commercial, and recreational use, and also incporates critical water infrastructure, we expect agencies such as United States Department of Housing and Urban Development, NYC Department of Environmental Protection, NYC Department of Housing, NYC Department of Transportation, and private developers to provide funding. All of these groups would benefit from the building of the belt.

Grant programs within the Environmetal Facilities Corporation, such as Green Innovation Grant Program and the Water Infrastructure Improvement Act, as well as the Clear Water State Revolving Fund, the USDA Rural Development Water and Environmental Program, and non-profit foundations such as the Jonson Foundation, Rokerfeller Foundation, and Ford Foundation could all support the construction of the belt.

LESSONS LEARNED

The RFP challenged us to learn about a topic that was unfamiliar to most of the team. Water management and preservation is not something we think about often, however, water management systems are working all around us, 24/7, to provide clean drinking water, treat wastewater, protect us from natural disasters and, overall, keep the public safe. Throughout the project, Team 30 learned about the water infrastructure in NYC and how we could improve water management locally in order to develop our final concept: *the belt*.

Construction Industry Round Table

CHICAGO ARCHITECTURE CENTER

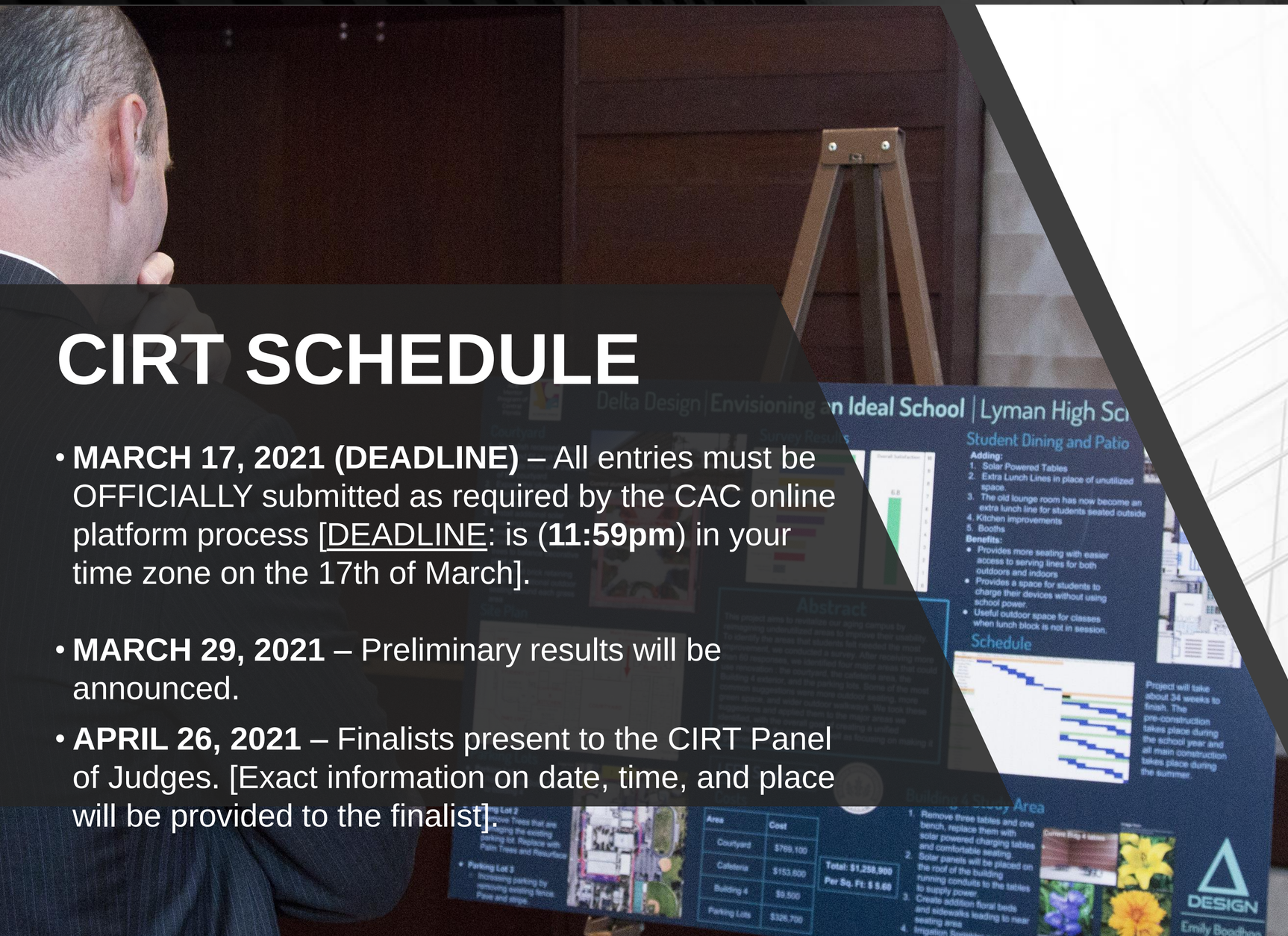
CIRT NATIONAL DESIGN COMPETITION

CIRT SCHEDULE

- **MARCH 17, 2021 (DEADLINE)** – All entries must be OFFICIALLY submitted as required by the CAC online platform process [DEADLINE: is (**11:59pm**) in your time zone on the 17th of March].

- **MARCH 29, 2021** – Preliminary results will be announced.

- **APRIL 26, 2021** – Finalists present to the CIRT Panel of Judges. [Exact information on date, time, and place will be provided to the finalist].



CIRT NATIONAL DESIGN COMPETITION

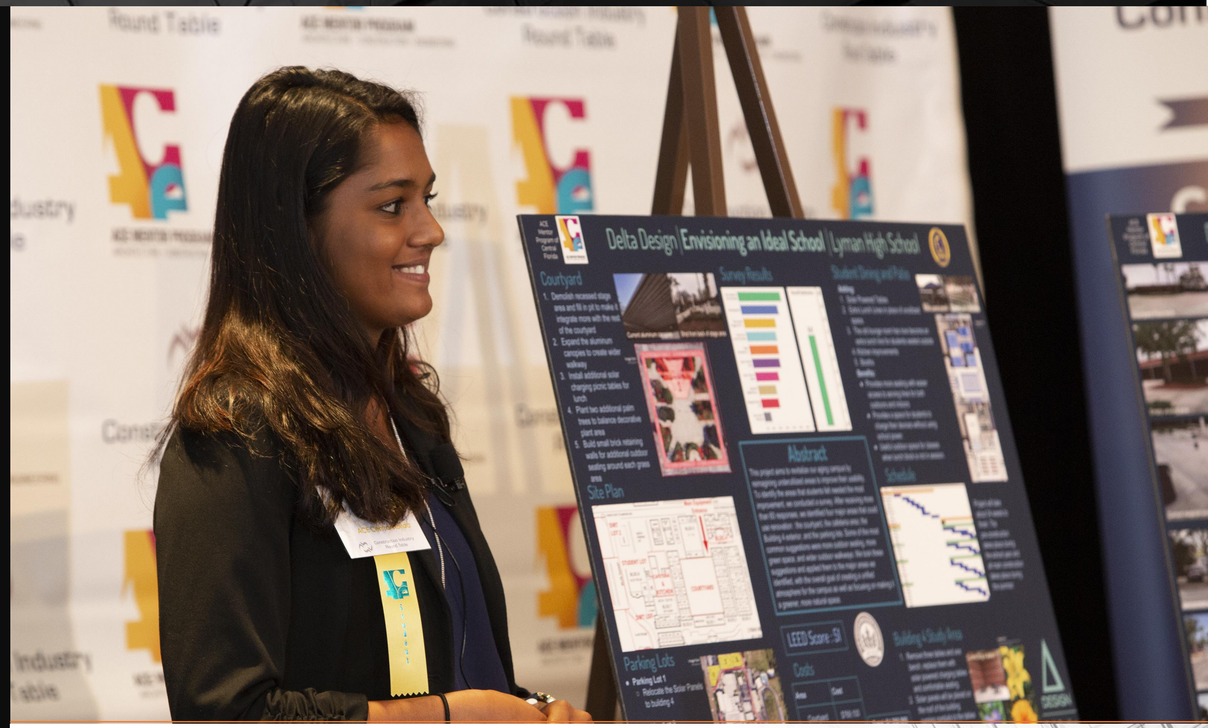
CIRT LOGISTICS

- Digital platform in collaboration with the Chicago Architecture Center (CAC) to conduct the process.

- **All materials must be submitted to the platform with an official entry to be judged.**

- A jury will select the top three in each category. One finalist and 2 runner ups in each category.

- The three finalist teams will move onto the final “presentation” round in Washington D.C. or (virtually) to determine the National Champion



CIRT Competition Best Practices

ACE of Central Iowa

- Competing in CIRT comp since 2013
  - Presented in D.C. (4) times
  - First place nationally (3) times

Our Affiliate

- (6) Teams
  - (5) complete 16-week local RFP
  - (1) team submits to CIRT
- All teams meet once-weekly for (90) minutes after school; November - March

CIRT Competition Best Practices

The Competition Team

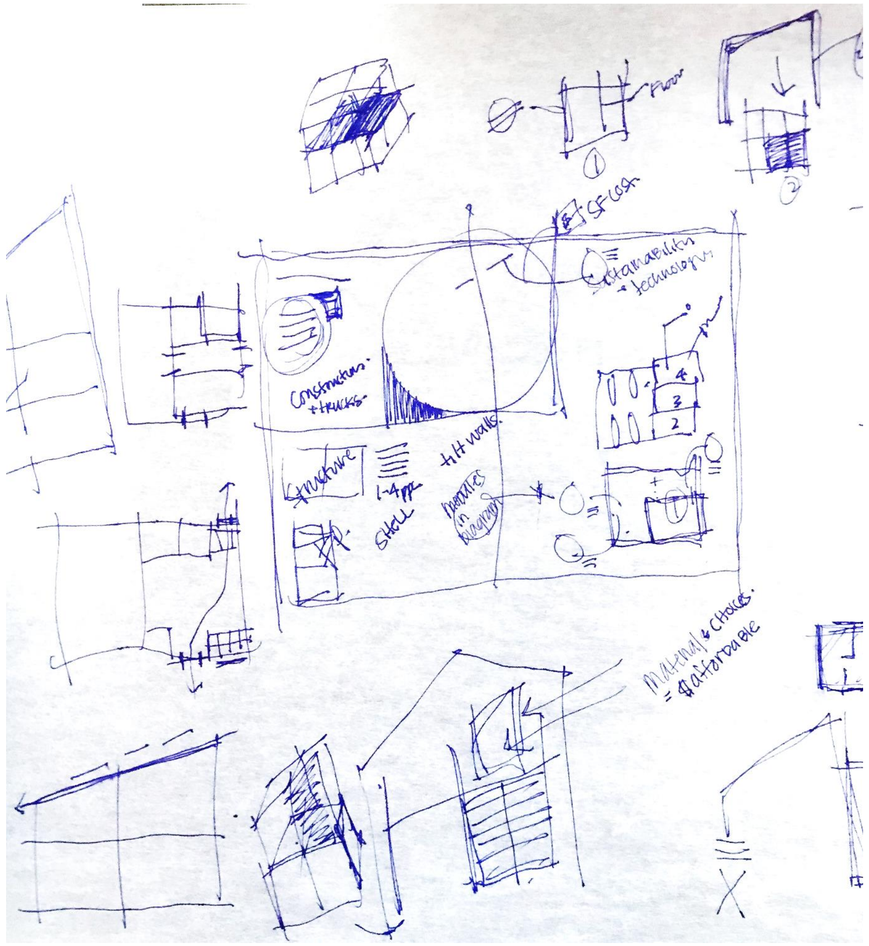
- We intentionally keep it small
  - 10-12 students; 4-5 mentors
- Application Required
  - Students must have been in ACE for at least 1 year
  - 3 short-answer / essay questions
- Every student learns every piece of the project; exposure to all trades
- Students work together to select which of the CIRT prompts they want to pursue

CIRT Competition Best Practices

Strategy

- Meet in an office / firm conference space
- Project Selection, Precedents, Design
  - CIRT prompt and Concept Statement
  - Call in the Experts
  - Students are subject matter experts
  - SketchUp Sessions
  - Milestone Schedule and Deadlines
    - 16 Sessions +/-
    - By week 13 or so we are wrapping up design
- Storytelling; Craft your message
  - Name the project, brand it, storyboard ideas and process

CIRT Competition Best Practices



ONE SHELL OF A HOUSE

A shell is built with the intent to house a single person that then has the capability to later **infill the voids** to accommodate to a full sized family. The floor plan is prescribed to the buyer, in which they are able to choose how many **modules** they want to build. Floor plan flexibility, material selection, and technology integration emphasize our structure's affordability across the middle class demographic in many geographic locations.

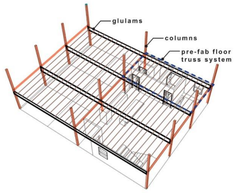
CONSTRUCT STRUCTURAL GRID

INSTALL PREFABRICATED FLOOR DECK ASSEMBLY

WRAP IN A SHELL

ADD RAILINGS STRUCTURE

STRUCTURAL AND CONSTRUCTION CONCEPTS



PANELIZED INITIAL CONSTRUCTION

Pre-manufactured wall panels, that include all the mechanical, electrical, and plumbing utilities, will be built off site. The different wall segments built are designed to fit between each of the framed pillars. This results in an easier construction method, which involves workers tilting up the walls to fit in between the pillars of the base frame. After the walls are in place, burned cedar siding is applied to the outside of the house.

MODULAR EXPANSION

Prefabbed modules are built within a factory and brought to the site on flatbed trailers. The short sides of the modules will not have built in walls, as the shell will already be existing.

EXTERIOR MATERIALS

Shou Sugi Ban | Carbonized Wood

Shou sugi ban is an ancient Japanese method of burning the surface of wood to preserve it. The charred cedar planks will clad the east and west facades of the house. This material will allow for an inexpensive cladding material that requires little maintenance. The burned boards will have to be sealed every 10-15 years with oil, but they are **water resistant, durable, and fire and insect resistant.** The cladding would be installed on-site, on to the prefabricated wall panel system.

Cedar

Natural cedar will cover portions of the exterior that are cut into the facade. Natural cedar will also make up the decking and overhead shading strcuture of the outdoor upper-level patio. Cedar is a good insulator, helping to hold heat in the house in the winter. **Cedar is sustainable, low-maintenance, and accessible in a variety of climates and geographic locations.**

Corrugated Metal

corrugated metal blurb [roof and shell siding (north and south facades]

Glass

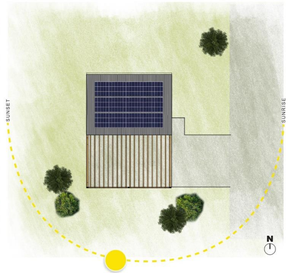
glass research [window types, operable, low-e glass]

ENVIRONMENTAL CONCEPTS

No matter the site, a slanted, shed roof will be **positioned towards the south,** allowing solar panels to catch sun rays and optimize energy efficiency throughout the house. The energy collected from the solar panels will provide power to the home, in addition to energizing a solar powered water heater for the home. The **grid tied solar panels** also allow for unused energy to be recycled back to local energy companies. The placement of the windows on the east and west facades promote cross ventilation to help passively cool the home throughout the year.

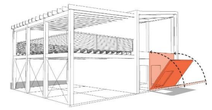
SMART HOUSE

The most innovative feature of this house is the capability for this house to entirely run voice. Thanks to technology like to Google Home and Amazon Alexa, we have been able to input ground-breaking technology utilizing a Neural Processing Unit, Voice Assistance, and Cloud AutoML (a self-learning program created by Google) to, theoretically, **create a house that learns with you.** Elements like lighting and temperature are able to be set and remembered by the house through automation.

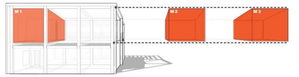


AND SHADE TO DECK

TILT UP PRE FAB WALLS ON FIRST FLOOR



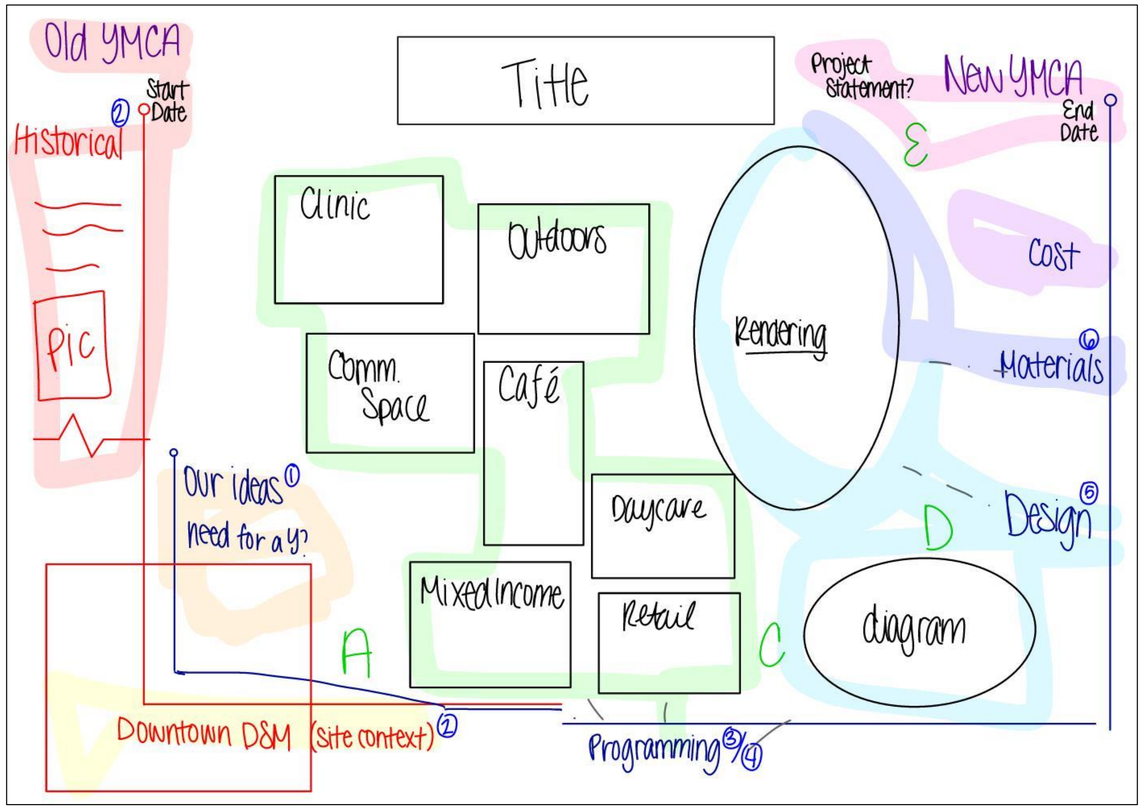
FILL IN SECOND FLOOR WITH PREFAB MODULES AS REQUIRED

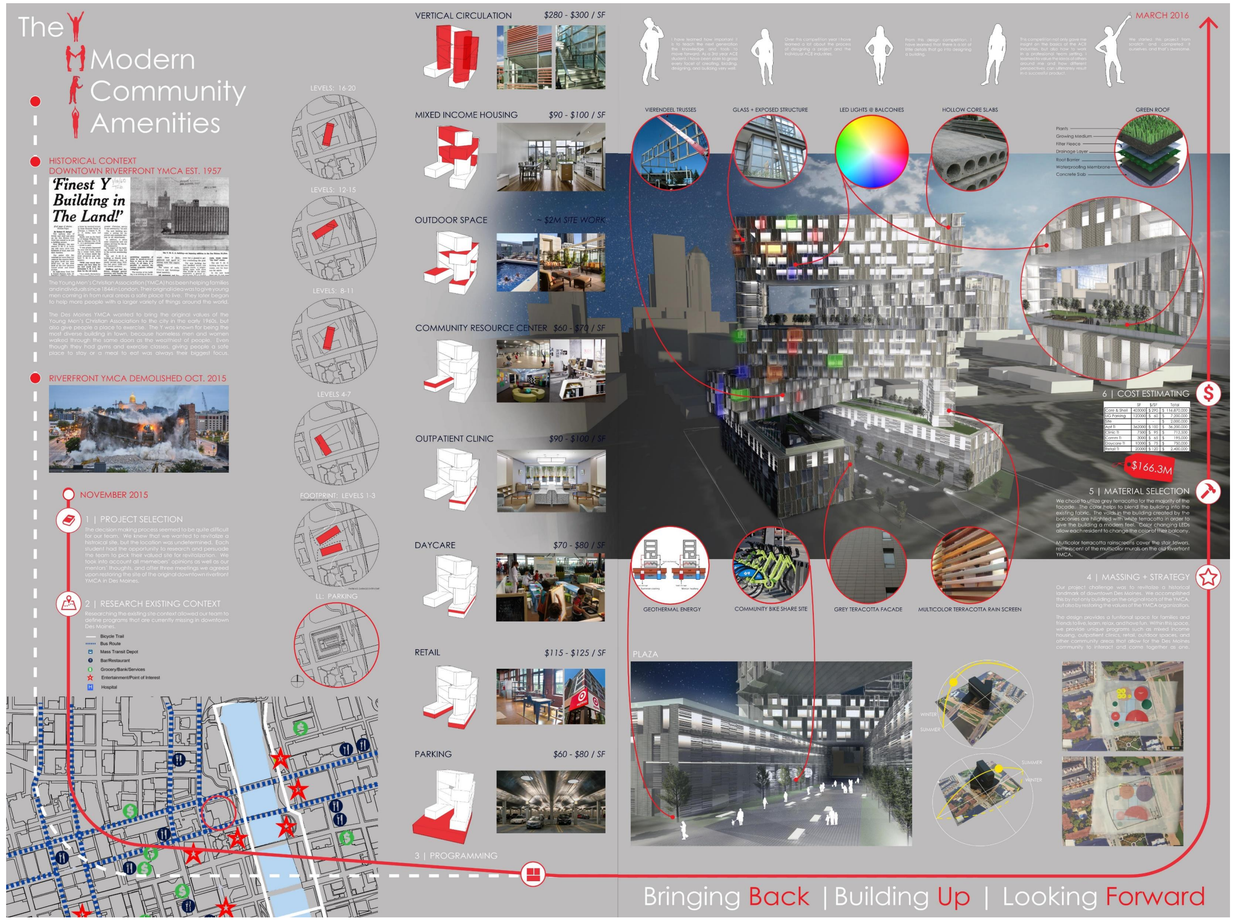


INTERIOR DESIGN

text about the interior of the starter home; addition of modules in floor plans above. text about the interior of the starter home; addition of modules in floor plans above. **text about the interior of the starter home** addition of modules in floor plans above. text about the interior of the starter home; addition of modules in floor plans above. text about the interior of the starter home; addition of modules in floor plans above. text about the interior of the starter home; addition of modules in floor plans above. text about the interior of the starter home; addition of modules in floor plans above.

CIRT Competition Best Practices





CIRT Competition Best Practices

Practice, practice, practice!

- We continue to meet after our local end-of-year presentation

- Practice presenting
  - Parents, professors, other mentors, local development groups, etc.
  - Opportunity to clarify and hone the message
  - Get used to answering tough questions; anticipate questions; how to answer questions when you don’t have the answer

CMiC ALLEN BERG MEMORIAL SCHOLARSHIP

CMiC ALLEN BERG MEMORIAL SCHOLARSHIP

The **CMiC – Allen Berg Memorial Scholarships** are multi-year awards aimed at talented, deserving ACE high school seniors intending to pursue post-secondary education and training leading to careers in architecture, engineering, construction or the skilled crafts.

2019

- **25 Total Students**
- **$10k-$40k**

2020

- **23 Total Students**
- **$10k-$40k**
- **3 Alternative Paths**

CMiC ALLEN BERG MEMORIAL SCHOLARSHIP

ELIGIBILITY

AFFILIATE (must be deemed in compliance by Dec 1, 2020)

1. Completed the 2020 program report
2. Filed a current list of its board members
3. Submitted current year-end financial statements, including a balance sheet and profit and loss statement
4. Submit documentation proving that the affiliate has filed a current Form 990 or 990-N tax report with the IRS.
5. Questions about eligibility should be directed to an affiliate's ACE Regional Director

STUDENT

1. Senior in second year of participation with ACE
2. Be active participants in ACE.
3. Committed to a career in the design and construction industry
4. Demonstrate financial need.
5. Students should have strong academic records

CMiC ALLEN BERG MEMORIAL SCHOLARSHIP

The 2021 scholarship program will have two separate tracks:

- **COLLEGE BOUND**
- **ALTERNATIVE PATH**
  Skilled crafts and trade school

Affiliates have the option of nominating a student for either or both tracks, but they may nominate only one student per track.

CMiC ALLEN BERG MEMORIAL SCHOLARSHIP

SCHEDULE

OCTOBER 22, 2020 – Webinar for affiliate leaders about the 2021 scholarship program

DECEMBER 9 – Nominations open. Affiliates may start submitting name(s) of nominee(s).

FEBRUARY 5, 2020 – Deadline for students to submit applications

WEEK OF APRIL 6 – Results announced

CMiC ALLEN BERG MEMORIAL SCHOLARSHIP

EVALUATION OF APPLICATIONS

- Initial round of application reviews –
  Primarily on applicants' merit, and less on financial need.
- Final round -
  Considers both merit and financial need.
- Depending on the quality of nominations, the Executive Committee has sole discretion to award all or none of the scholarships available in a given year.
- The staff has no input on selection of winners and amounts.

CMiC ALLEN BERG MEMORIAL SCHOLARSHIP

SUGGESTIONS FOR A WINNING APPLICATION

1. **COMPLETE APPLICATION**
2. **STRONG AFFILIATE LETTER OF RECOMMENDATION**
   - Go into detail on the student's participation in ACE
   - Do not repeat what is on the student's application and essay
   - Explain why the student is a good choice (strong details)
   - If possible, explain the student's financial need
3. **FAFSA**
   - Make sure information is correct
   - Make clear if a student filed and got a zero vs a student that did not file
4. **NEED**
   - Have student go into detail on how they will pay for college.
   - Explain any family or life challenges
   - Give details on need
   - More details better
5. **ESSAY**
   - Use essay to tell the committee why they should be selected

OUTSTANDING MENTORS

PROGRAM DESCRIPTION

Volunteer mentors make it possible for all of us to achieve the mission of the ACE Mentor Program. We are grateful for each and every volunteer who gives their time and energy to our students.

There are so many fantastic mentors across the country — we want to hear their stories and recognize them. In 2020, ACE will honor up to five (5) Outstanding Mentors, nominated by affiliate leaders and selected by a panel of last years winners.

2020 OUTSTANDING MENTORS

AMANDA SHADE, CEM
Los Angeles, CA
Senior Project Manager, ACCO Engineered Systems

DANIEL BLAISE, PMP, LEED AP
Washington, DC
Senior Project Manager, Smoot Construction

HOLLY SNOW, LEED Green Associate
Portland, OR
Estimating Manager, JE Dunn Construction

KATE DUNFEE, AIA, RID
Fort Worth, TX
Project Architect, Huckabee

JEFFREY MESSINGER, PE, LEED AP BD+C
New York, NY
Vice President, STV Group

ENR Engineering News-Record

ALEX BUSCHER, EIT
Houston, TX
Senior Project Engineer, DPR Construction

OUTSTANDING MENTORS

ELIGIBILITY

1. Be classified as “active” in the ACE database;
2. Have successfully completed a background check; and
3. Have mentored for a minimum of three years, including the current year, (2020-2021).

OUTSTANDING MENTORS

NOMINATION PROCESS

An affiliate may nominate only one mentor based on criteria it establishes. The chair or other senior affiliate leader must submit the nomination on behalf of the affiliate. Self-nominations are not allowed.

In addition to the information requested on the nomination form, an affiliate may submit a maximum of two examples (total 20 pages) reflecting the range of a mentor's contributions (e.g., an activity for a mentoring session). In addition, affiliates have the option of including one letter from a nominee's current or former student.

SCHEDULE

- 1st week in January – Packet and nomination link emailed to affiliates
- 2nd week in March – Nominations due
- 4th week in March – Final scores due
- 1st week in April – Notify winners

OUTSTANDING MENTORS

JUDGING

Nominations will be evaluated and ranked on the following basis:

ACTIONS AND ACTIVITIES DEMONSTRATING WHY NOMINEE DESERVES AWARD (12 points)

4 - Inspires other mentors and students to reach beyond themselves and achieve goals such as applying to college.
6 - Creates one or more individual activities. Helps recruit students.
8 - Recipient of any affiliate award(s). Leads and/or significantly contributes to creation of an entire curriculum for affiliate.
10 - In addition to mentoring, creates or organizes special activities such as a trades day.
12 - Assists other teams or even affiliates.

IMPACT ON STUDENTS (10 points)

4 - Create new team or recruit new school to participate in program.
6 - Leads or serves on CIRT competition team. Develops close relationships in one or more students and persuades them to pursue an A-E-C career.
8 - Helps students find internships or other industry-related activities outside ACE.
10 - Keeps in touch with ACE alumni and advises them about their college students and perhaps even helps them find employment in the industry.

IMPACT ON OTHER MENTORS AND AFFILIATE (8 points)

4 - Helps recruit new mentors.
6 - Serves as Team Leader. Assists or leads mentor training. Creates special program for affiliates such as a mentor social. Serves on one or more affiliate committees such as fundraising.
8 - Serves on affiliate board or junior board.

OUTSTANDING MENTORS

RECOGNITION GIVEN

Mentors chosen as the 2021 Outstanding Mentors will receive several forms of recognition.

- A scholarship named after them and awarded to a worthy student selected by the mentor's affiliate.
- Outstanding Mentors will be publicized on the ACE website and in ACE's 2021 Yearbook published as part of Engineering News-Record. In addition, ACE will notify the employers of Outstanding Mentors to ensure that they receive acknowledgement for their achievements.
- Affiliates should take this opportunity to also

THANK YOU!

We will start the Q&A now, please continue to use the chat feature in GoToWebinar dashboard.

We will compile the Q&A in a follow-up document with a link to the recording of today's session.