

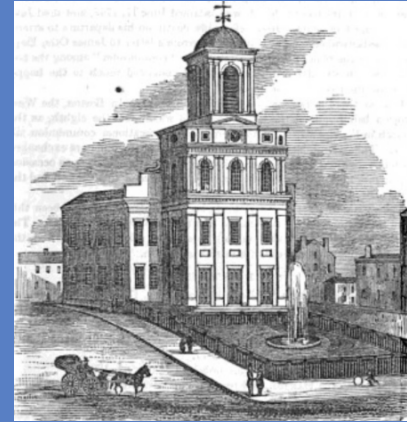
Project Team: Sam Colao, Carey Tassel, Darren Mahoney, Nicole Khoury,
Karim Safadi, Abinaya Rajagopalan, Dilan Jacob, Deval Desai

OLD WEST CHURCH REDESIGN

The title is framed by a dashed white line that forms a large rectangle. At the top-right and bottom-left corners of this dashed line, there are curved dashed arrows pointing outwards. Additionally, a solid white line forms a smaller rectangle at the bottom, with a vertical arrow pointing upwards from its right side.

Brief History of Old West Church

- Original tower destroyed in 1775
- Redesigned in 1806
- Served as safe house during wars
- Branch of Public Library
- Ministers served important roles
- National Historic Landmark



Conception

Client - Old West Church Redesign Stakeholders

- Lead Pastor: Sara Gerrard - High Impact
- SPRC Chair: Elsa Bengal - High Impact
- Historic New England Board - High Impact
- All church members - High Impact

Project Sponsor - Professor & S-L TA - High Impact

Problem

1. Bathrooms in Basement non gender inclusive
2. Access to Basement limited, non ADA compliant
3. Risk: Church is historic landmark, must be ADA compliant and gender neutral

Initiation - Project Charter

Project Aim and Scope

“Through creation of inclusive infrastructure, hope to promote church community, racial equity, and social justice”

Project Deliverables

1. Redesign Basement Bathrooms in CAD/Sketchup to be gender inclusive
2. Choose location for elevator and pick best option

Assumptions

- Final cost out of scope
- Inclusive means ADA compliant and gender neutral

Constraints

- Mechanical/Electrical, ADA compliant, Historical Landmark

SWOT Analysis

Strengths

Inclusive
ADA compliant
Increased Storage
Historic New England

Weaknesses

Construction Ongoing
Expenses unknown

Opportunities

Increase revenue for the Church
Welcome members
Space & operational efficiency

Threats

Structural, Electrical, Plumbing
Lack of Contractors
Historic New England Approval

Initiation - Communication and Management

- High Level Process Improvement Plan
- Client meetings
- Meeting agenda, weekly PM, communication Slack channel

Parties to the Contract
This contract is made between the following students of Church Redesign ENGT5220
Engineering Project Management
John Bleakney
This contract is made for the purpose of completing assessment and addressing issues that may arise
Objectives
The objectives of the project are to complete the redesign of Old West Church and receive a good grade
See Dashboard for Deadlines
Meetings Weekly Friday 1130-1230
Allocation of work
The allocation of work for the project shall be done evenly by everyone. One project manager per week. If a group member misses a meeting they must inform the group prior to 1hr before the meeting begins. If a member misses a meeting they must make up the hour they miss by contributing extra to the weekly assignment. carry out the work, the division of research, writing, editing]
The group will meet to discuss the progress of the project on the following dates: every Friday
Disputes
Where a dispute arises as to the following matters, the professor is notified and Sara is emailed to be aware. If a group member does not contribute to the deadline assignment, the professor is made aware. If someone has work, a class, interview, or emergency they must inform the group in Slack ASAP
Unequal contributions
The project manager of the week is in charge of handling disputes. Instructor Is not to be involved in the disputes in relation to workload, it is for the members of the group to resolve these issues internally if possible. This is up to the project manager of the week to decide.

Definition and Planning - Project Milestones

Work Breakdown Structure:

Due Date:

1. **Planning:** Project Research architectural assessments, Draft of site survey and draft of design plan

10/15 

2. **Execution:** Formal written plan, fix budget/time/scope, present to client 1 month into project

11/15 

3. **Monitoring and Controlling:** Present final deliverable and incorporate changes based on client feedback

11/29 

4. **Closing:** Project presentation to class, lessons learned, hand off to future group

12/7 

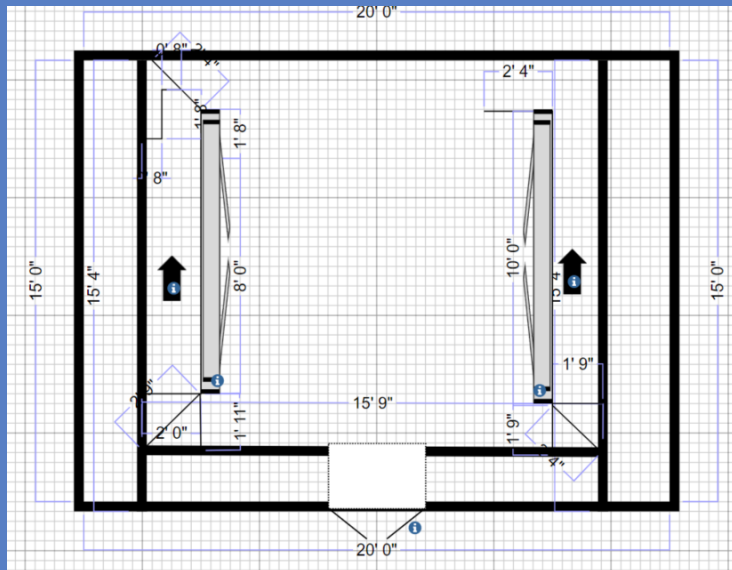
Planning - Site Visits

- Met with Client in person and explored, photos, determined:
 - Solution for bathrooms = knock down wall for 1 genderless bathroom with new facilities
 - Solution for accessibility = elevator in place of 1 stairwell
- Second Visit for determining elevator risks, analyzing space, and drafting measurements



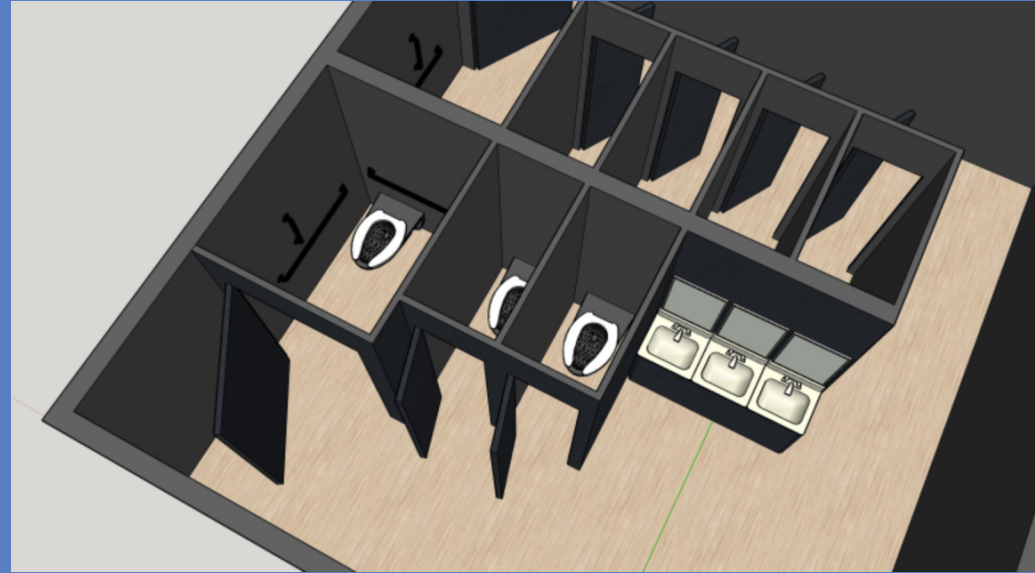
Planning - Existing Plans

Minimal plans with dimensions due to age and history of building



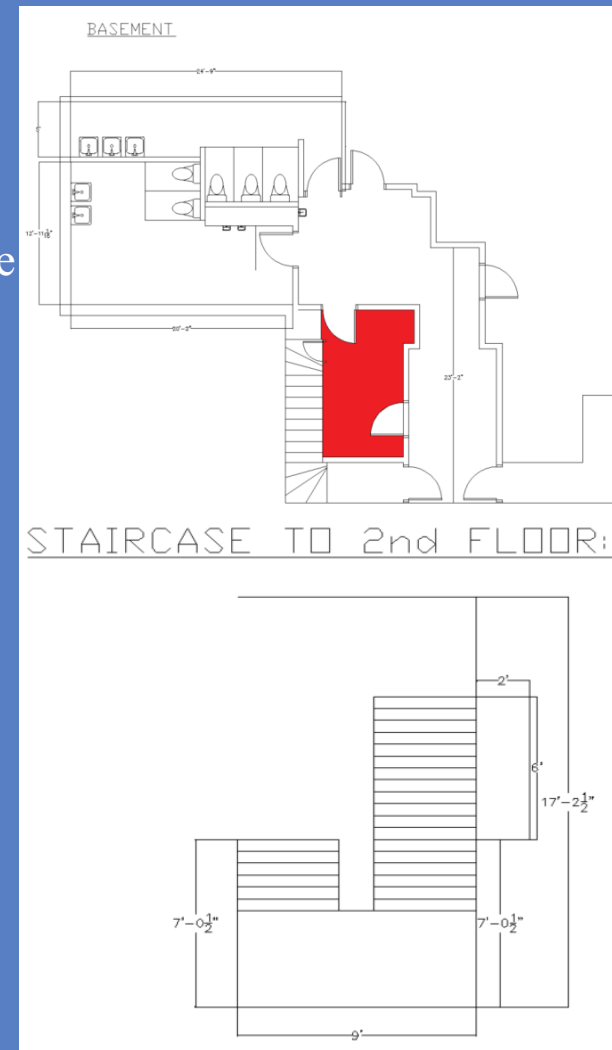
Change to Project Goal

- Original Plan to Redo Bathrooms (see vision right), met with client and goals changed
- Neglected in Project Charter research phase
- Determined as project managers our time would be best spent focusing on the elevator and ADA compliance



Location Selection

- Locate elevator to increase basement accessibility and give Church staff option to store heavy equipment in basement as a bonus
- Best location selected: In place of current Left stairwell, however stair removal process
- *Pros:* Left stairwell currently used as storage, too narrow for human access
- *Cons:* Risks associated (electrical, plumbing, historical)



Stair removal process

- ❑ Step 1: Take Everything off the Walls.
- ❑ Step 2: Remove the Screws.
- ❑ Step 3: Use an Extension on the Drill.
- ❑ Step 4: Remove the Lag Bolt.
- ❑ Step 5: Remove the Carpet.
- ❑ Step 6: Remove the Tackless Strips.
- ❑ Step 7: Remove the Frame.
- ❑ Step 8: Remove the Treads.
- ❑ Step 9: Stain the Treads, Railing and Newel Posts
- ❑ Step 10: Paint the Risers, Balusters and Skirt Boards
- ❑ Step 11: Apply a Coat of Polyurethane

Historical Building

- Local Historic District building location needs to be reviewed
- Certificate of appropriateness issued by the historic district commission
- Old West Church located in the Historic Beacon Hill District
- Older = less standardized features, leading to further custom work required
- Possibility of unknown repairs (leaks, rot) to be addressed before construction



Elevator Types



Traction LIFTS

Uses hoist ropes and counterweight, which balances the cab load

Pros

- Higher speed than the Hydraulic
- Smoother ride
- Energy efficient due to the counterbalancing effect.

Cons

- Higher cost of equipment and maintenance can be 15 to 25 per cent more expensive than a hydraulic system
- Takes more time to install
- Mid to High-Rise buildings

“ **AVG. SIZE:** Flexible
AVG COST: \$30,000 to \$50,000 (without installation)

15

Elevator Ranking

Criteria	Weight	Hydraulic		Traction		MRL	
		Score / 10	Weighted Score	Score /10	Weighted Score	Score /10	Weighted Score
Energy	35	3	105	8	280	9	315
Capacity	20	10	200	7	140	6	120
Cost	20	7	140	5	100	10	200
Size / Space	15	8	120	6	90	9	135
Long term repairs	5	5	25	4	20	3	15
Time to Install	5	9	45	4	20	7	35
SCORE			635		650		820



1. MRL
2. Traction
3. Hydraulic

Company Contacts



Wiltek Residential Elevators:

Quote - \$30-40k

*Cab is smaller than other options.

Otis Low-Rise Elevators:

Quote - \$80-100k

Symmetry Elevators:

Quote - \$70-80k

Accessibility equipment installation and repairs:

No Response

United Elevator:

No Response



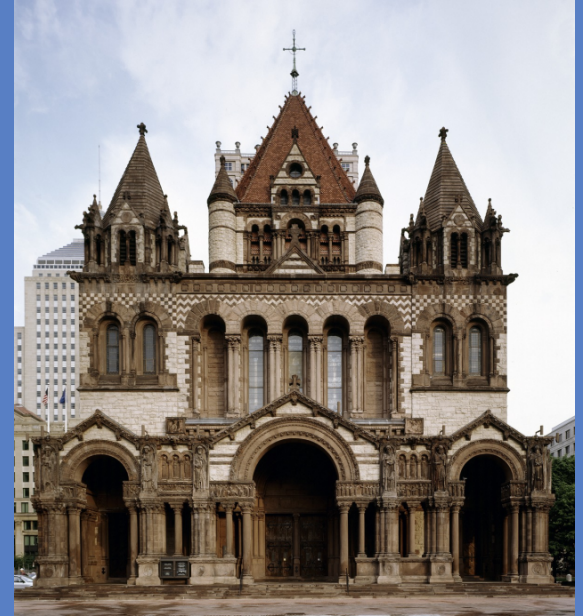
United Elevator

Client Presentation and Future Scope

- Met with Client for review 12/3 to give presentation before final
- Client requested presentation edits for her board to be clear, and appreciated weighted rankings

More time:

- Formalized ADA compliance check
- Contact more contractors with historic experience (Trinity Church)



Lessons Learned

- Due to changing project nature, use agile approach
- COVID-19 & differences impacted our team's effectiveness
- Due to group size, should have pursued parallel project paths

Summary

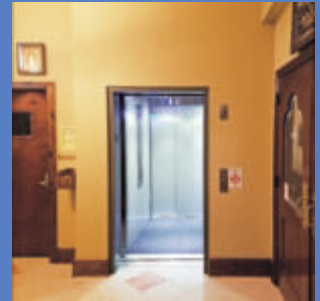
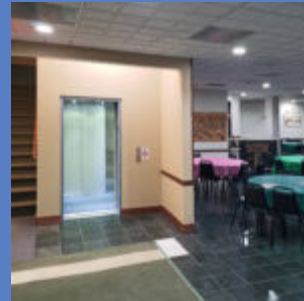
Suggested Elevator Type: MRL

- Cost
- Efficient
- Space
- Low-Rise

Suggested Elevator Company:

Symmetry Elevators

- Wiltek is cheapest, but...
- Area of specialization
- Historic Building



Thanks!

QUESTIONS?