Ashland City Hall – Project Considerations

January 31, 2020

INTRODUCTION

The following information is provided as a follow-up to the Council's decision to advance the City Hall project, and to address questions asked at a Town Hall meeting in January 2020. Considerations presume the Council's direction that City Hall should be a safe, accessible, functional, durable building to last approximately 100 years. Insights were developed by the project team of ORW Architecture, Ciota Engineering, and Adroit Construction.

Construction Timing

For a new building, the construction duration is expected to be approximately 12-14 months. For a renovation, the more complicated tasks of demolition, excavation, foundation, and structural upgrade work takes an estimated 4 months longer resulting in a construction duration of 16-18 months.

Minimizing Disruption Downtown

To minimize disruption to the downtown area, the design could prioritize systems and materials that expedite construction, so the structure and building enclosure could be completed in approximately 6 months for new construction or approximately 10 months for renovation. The remaining interior construction would be less disruptive to downtown.

Sustainability and Carbon Footprint

In both scenarios, most or all of the existing building is demolished, and some materials could be recycled. Because mechanical, electrical, and roof systems are replaced in both options, they offer similar opportunities for energy-saving systems and solar power production.

For a renovation, the building is demolished except for three exterior walls. These walls would not be sent to the landfill, yet the extended construction schedule results in additional vehicle trips and other carbon-generating construction activities. The structural upgrade would likely include a building-within-a-building consisting of Concrete Masonry Unit (CMU) walls inside the existing walls with larger concrete footings to accommodate the load of a heavier, double wall construction.

For new construction, there is a potential for recycling bricks from the exterior walls, and additional or taller windows could be provided to allow for more daylighting. The new exterior walls would be lighter, with smaller concrete footings.

Space Reduction

Both options will take up the same footprint, very similar to the existing City Hall. For a renovation, the CMU walls of the building-within-a-building take up additional floor space compared to traditional stud framing, making the resulting usable floor area smaller than with new construction (a minimum of 600 SF smaller).

Safety

The structural system for renovation will be different from new construction but building occupants will be equally protected from a seismic event. However, during a seismic event

the existing exterior walls are not guaranteed to perform equal to new construction and could pose a hazard to passers-by due to failing bricks or plaster. Special measures are also required to protect the construction team from hazards during construction.

Historically Sensitive Design Experience

The ORW team is well-versed in designing renovations of and additions to historically significant buildings, and in designing new buildings in historic districts as outlined in the list below.

The design process will include collaboration with the City and members of the Planning and Historic commissions to share the emerging design and progress as it develops. Additionally, a historic consulting architect (Peter Meijer Architect) can be added to the design team to assist with the State Historic Consultation process, the City's local approval process, and help determine how the building fits into the downtown context.

ORW Local Experience:

- OSF Hay-Patton Rehearsal Center, Renovation *(Ashland Historic Preservation Award 2016)*
- ASD Bellview School, Renovation *(Ashland Historic Preservation Award in 2010)*
- SOU Churchill Hall, Renovation *(Ashland Historic Preservation Award 2013)*
- Winchester Inn, Restaurant Remodel & Addition
- North Mountain Park Recreation Center, Renovation and Adaptive Reuse
- Jackson County Courthouse, Multi-Phase Renovation
- St. Mark's Episcopal Church, Hafer House and Sanctuary Renovation, and Parish Hall Addition
- McLoughlin Middle School, Re-design & Remodel
- Craterian Ginger Rogers Theater, Renovation *(Governor's Livability Award 2000)*
- 29 South Grape Street, Interior Renovation of Historic Former West Side Livery Stable

David Wilkerson Historic Experience prior to ORW:

- Fraunces Tavern, New York, NY. Renovation of Historic Landmark Museum and Restaurant (where George Washington gave his farewell speech to his troops)
- New York State Appellate Court, New York, NY. Renovation Historic Landmark Courthouse
- Municipal Building, New York, NY. Renovation in McKim, Mead & White's landmark building
- St. Peter's Episcopal Church, New Kent, VA. Parish Hall Renovations of Historic 17th Century Church (where George & Martha Washington were married)
- MCV Hospitality House, Richmond, VA. Renovation of Church for Patient & Family Lodging
- 100 Block East Broad St., Richmond, VA. Mixed-use Redevelopment of 1900 landmark Building
- Crosswalks Television, New York, NY. Renovation Guastavino-tiled arcade in McKim, Mead & White's landmark Municipal Building
- Keyspan Energy Management, Queens Village, NY. Adaptive Reuse of former Coin Foundry into corporate offices
- Goochland Baptist Church, Goochland, VA. Steeple replacement for Historic 1700's Church
- 105 East Cary Street, Richmond, VA. Adaptive Reuse of Brownstone Rowhouse
- Union Station, Richmond, VA. Iconic copper dome restoration on John Russell Pope's landmark building
- 1895 Queen Anne Residence, Richmond, VA. Restoration of first Carytown neighborhood house

Dana Crawford Historic Experience prior to ORW:

- OSU Hallie Ford Center, Corvallis, OR. New building in Historic District *(Corvallis Historic Award)*
- OSU Austin Hall School of Business, Corvallis, OR. New educational building in Historic District

Project Cost Model - Spring 2019

HARD COST MODELING ASSUMPTIONS (Construction Costs)

General Notes

1. To reflect level of cost specificity for a Concept Design, building and site costs are rounded.
2. All labor rates based on prevailing wages.
3. Concept costs include building upgrades, system replacements, and quality materials reasonable for a 100 year civic building.
4. Structure is designed to meet code, not to essential facility standards.

100 Year Building Renovation

5. The 100 year building approach is a comprehensive renovation that replaces building systems, improves security and accessibility, and creates a flexible floor plate with more equitable access to light and views.
6. The renovation retains and seismically upgrades the exterior building shell. Seismic upgrade includes removing the original demising wall, and replacing the second floor and roof framing assemblies. As a result of this work, all interior walls are removed.
7. The building systems are replaced with new Mechanical Electrical Plumbing (MEP) services. New mechanical system is Variable Refrigerant Flow (VRF) with Energy Recovery Ventilation (ERV). Mechanical equipment to be located on the roof; current area of mechanical well is allocated to occupiable area on second floor. Electrical is all LED lighting and includes 1.5% Solar. Plumbing includes new fixtures and underground services.
8. Building envelope upgrades include new roof, new energy-efficient doors and windows (many upgraded from single-pane), wall patching as required from seismic anchors, and paint.
9 Includes a new 2-stop elevator accessed from an interior public lobby for improved accessibility (appximately $75K construction cost).
10. Small renovation builds less but includes less economy of scale for costs. Costs include careful demolition for exterior walls to remain, shoring, and protection of exterior building façade. To retain exterior walls, renovation process would construct project from the inside-out which is slower than building new construction. Keeping historic exterior walls limits the extent of glazing to existing openings, which are custom-sized but results in fewer windows to purchase. Location is a tight construction site with limited access, potentially results in +/- 15% higher construction cost. Excludes hazardous materials abatement.
11. Site costs include higher allowance for demolition due to constrained site. Includes rebuilding sidewalk/entry feature to curbs.
12. City Hall renovation costs range from $400-$500/SF; cost model based on $450/SF.

SOFT COST MODELING ASSUMPTIONS (Non-Construction Costs)

13. Solar allowance calculated as 1.5% of Construction Subtotal.
14. For temporary facilities, assume $1.5/SF/Month for leased space outside of downtown.
15. Move costs based on professional mover (insured, prevailing wages) of $1.25/SF per move.
16. Other Soft Costs include permits, System Development Charges, design fees, furnishings, survey, geotechnical, and other miscellaneous costs.
17. Project contingency based on 15% for renovations. Contingency is intended to address portions of hard and soft costs, and unforeseen construction conditions.
18. Escalation is currently volatile and difficult to predict over several years. Cost model estimates show escalation over the course of five years calculated at an average of 5.5% per year (compounded).

Project Cost Table

See Note	Location/Building	Unit Cost	Area SF	Build Time (mo.)	Move Time (mo.)	Total Time (mo.)	Construction Cost	Solar Cost (1.5%)	Project Conting'y (%)	Project Conting'y ($)	Total Construct'n Cost	Temp Space (rent)	Moving (out+in)	Other Soft Costs (%)	Other Soft Costs ($)	Total Cost 2019	Total Cost 2024	Total Cost/SF 2019
	City Hall Site																	
1-18	New City Hall Building	$450	**8,600**	14	2	16	$3,870,000	$61,000	15%	$581,000	$4,512,000	$192,000	$20,000	25%	$1,129,000	$5,853,000	$7,650,000	**$681**
	City Hall Site	$40	4,000	0	0	1	$160,000	$0	10%	$16,000	$176,000	$0	$0	20%	$36,000	$212,000	$278,000	
	City Hall Totals					16					**$4,688,000**				$1,165,000	**$6,065,001**	$7,928,000	

What evidence suggests that the current City Hall is unduly susceptible to seismic damage?

In developing this answer, the City consulted with Oregon Department of Geology and Mineral Industries (DOGAMI). DOGAMI has published that "great" Cascadia subduction zone earthquakes occur on average every 500 to 600 years, although individual intervals for recurrence have been as low as 100 to 300 years. The last great subduction zone earthquake occurred in 1700, so it is reasonable to conclude that the next will occur at any time.

DOGAMI's current interactive hazard map that shows the Ashland area can expect "strong" shaking during the next Cascadia subjection zone earthquake (DOGAMI identifies three higher levels of shaking, including very strong, severe, and violent, as well as two lower levels of moderate and light). Certain geohazard factors that exacerbate damages, such as soil conditions that would cause the liquefaction or amplification of shaking are not present in the downtown core – but that does not negate the fact that City Hall is located in a seismically-prone area. DOGAMI further emphasized to the City that the type of structure is extremely important in evaluating seismic susceptibility. An unreinforced masonry structure, such as City Hall, is the worst type of building to be in during an earthquake. DOGAMI's publications identify URM buildings as "notoriously dangerous in earthquakes" because they are prone to collapse and are often the cause of earthquake-related fatalities (CREW, 2013). Even in the absence of additional soil geohazards like liquefaction and amplifications, URM buildings are not resilient to "strong" shaking. For reasons such as this, DOGAMI warns that "even the lowest hazard categories could experience severe damage" (DOGAMI 1999).

The City recognizes that the underlying material of a building site is an important consideration when developing a new structure built to withstand seismic activity. The City will work closely with its consulting engineer to determines whether a geotechnical study or an evaluation of the mapped soil series may be needed during preliminary design. In any case, the condition of the soil beneath the building is taken into consideration as a site condition/constraint as the construction design process nears final building permit status. The stability or assigned risk level of the general area in and around the building does nothing to alter the seismic building code requirements for either a new building or significant alteration. The same seismic requirements will apply regardless.

Cascadia Region Earthquake Workgroup (Crew). 2013. Cascadia Subduction Zone Earthquakes: A Magnitude 9.0 Earthquake Scenario. Update, 2013.

DOGAMI. 1999. Relative Earthquake Hazard Maps for Selected Urban Areas in Western Oregon. Interactive Map Series IMS-9.