

# ***Keller Auditorium - PSU/Bora 3,000 Seat Program***

*Portland, OR*

## ***Program Estimate***

***May 22, 2024***





**Keller Auditorium - PSU/Bora 3,000 Seat Program**

**Program Estimate**

**May 22, 2024**

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**Introduction**

Metro commissioned Venue to provide an order-of-magnitude program cost estimate for Portland 5 Centers for the Arts – Keller Auditorium Future Project. This estimate specifically relates to the PSU/Bora Architects option. Venue submits this cost estimate as a cost model to assist in aligning program, scope, quality and budget.

**Basis**

PSU/Bora plans, sections, narratives and program comparison received in April and May 2024 form the basis of this estimate.

**Financial Summary**

The estimated Total Construction Cost is \$332.5 million and the Total Project Cost is \$448.8 million in 1st Quarter 2027 bid dollars (start of construction).

**Building Summary**

Gross floor area of 213,785 square feet for the baseline project of a 3,000 seat option.

Gross floor area clarification: PSU funded portions or work, catwalks and exterior program areas are not included in the gross floor area.

**Estimate Methodology**

"LMN preliminary room list dated September 19, 2018 for a program of 2,800 seats" was analyzed and adjusted for the required grossing factor (the inclusion of area for public circulation, structure/walls etc., back-of-house circulation, mechanical/electrical spaces, unusable spaces, etc.), yielding a gross floor area for the new facility. This was augmented by the PSU proposal for 3,000 seats. A cost model was next developed based on the function of areas contained in the gross floor area program, and other building, performance equipment, acoustical and site conditions taken into consideration. It should be noted that this is a program driven budget principally based on functional areas, with reference to Bora drawings for building layout, massing and site considerations.

For pricing and market conditions, Venue confidentially contacted general contractors for input and this current and project specific cost data was utilized in this estimate, along with Venue's vast database of historical cost information.

**Estimate Inclusions**

*Building Costs:*

- Substructure
- Shell
- Interiors
- Mechanical & electrical services
- Performance equipment & seating
- General requirements
- Design/pricing allowance
- General conditions, overhead and fee
- Escalation to 1st Quarter 2027
- GMP buyout contingency
- Construction change order contingency

*Soft Costs:*

- Owner purchase loose fixtures, fittings and equipment and furniture (FF&E)
- Soil borings, geotech, site and utility surveys
- Testing/inspections expenses
- Third party M&E commissioning
- Permits and associated fees
- Professional fees and reimbursables
- Construction administration expenses
- Models, mockups, renderings
- Fundraising
- Public relations
- Legal fees and expenses
- Groundbreaking, topping off and pre-opening expenses
- Art allowance
- Owner overall project contingency

**Estimate Exclusions**

- Sitework, utilities, and excavation (in PSU scope)
- Premiums for phasing or sequencing with PSU's portion of work
- Demolition of existing structures and foundations
- Portions of the project that PSU is funding
- Relocation of any main existing utilities to outlying site
- Contaminated soil treatment and disposal
- Design build and/or fast-track construction schedule premium
- Sole sourced equipment or systems
- Lobby audio & video
- Spare parts
- Financing
- Owner staff costs, moving costs, existing Keller building economic impact costs
- Land purchase, site enablement
- Endowment/Subsidies
- Service and maintenance contracts

### ***Definitions and Assumptions***

The following helps define the terminology and assumptions in this report:

- Building includes:
  - Substructure: pile foundations
  - Structure: comprises of steel/concrete frame for theatre volume, balance comprises of clt structure
  - Exterior enclosure comprises 25% segmented curtain wall, 5% punched windows, balance of metal panels.
- Interiors - see interior finishes schedule
  
- Mechanical includes plumbing and drainage, fire protection, heating, ventilating, air conditioning and controls - specifically -

#### ***Plumbing and Drainage:***

Plumbing and drainage includes electronically activated plumbing fixtures; domestic hot, cold and recirculation potable water piping to fixtures and fittings and HVAC systems throughout; Heat pump based water heating system and storage tank are utilized; domestic water booster pump; gravity and pumped flow sanitary waste (and vent) collection system from fixtures, fittings, floor drains and equipment throughout connected to site sanitary services; full flow storm drainage waste collection piping connected to site services with emergency overflow daylighting system; All heating and kitchen equipment is electric and no gas is utilized in the building. A separate pricing for Rainwater harvesting system is included to collect all rainwater for re-use in the building.

#### ***Fire Protection:***

Fire protection includes for a fully protected facility, complete with a combination standpipe/sprinkler coverage throughout complete with siamese connection; wet sprinkler systems throughout as per NFPA 13; fire hose valves at intermediate stair landings, exit passageways, roof, and the supplemental interior locations as per the design intent; a fire water booster pump assume @ 1000gpm (200HP) capacity; gaseous fire protection systems are not included.

#### ***Controls and Automation:***

A Building Automation System (BAS) is provided consisting of direct digital controls. The BAS controls and monitors all HVAC systems and equipment, and various plumbing, fire protection and electrical systems where required. System allows operators to start and stop equipment and automatically control zone temperatures, air and water flow rates. System and system graphics allow full monitoring, trending and reporting of set points, equipment control and alarm functions. Damper and valve actuators are electric / electronic type with direct digital control (DDC). Ventilation rates are controlled by main duct run mounted carbon dioxide sensors (demand ventilation) throughout the facility. Humidification is controlled by humidistats throughout the facility. Metering is provided on electrical and water services above.

*Heating, Ventilating, Air Conditioning (H.V.A.C.):*

The mechanical H.V.A.C. system estimate includes for the following:

- Air sourced heat pump chillers provide chilled/heating water to serve the building HVAC loads. Chilled water loop is provided with primary circulation pumps complete with VFD's. Air and expansion control and chemical pot feeder are provided. Chilled water piping is extended to air handling units and space cooling units throughout utilizing fully redundant secondary circulation pumps complete with VFD's.

- Electric hot water boilers are utilized to provide back-up heating to ASHP's to provide hot water to serve the building heating and reheat loads. Primary circulation pumps complete with VFD's are provided. Heat exchangers / glycol loop is provided. Air and expansion control and chemical pot feeder are provided. Hot water heating piping is extended to air handling units, unit/force flow heaters, perimeter radiation, and VAV reheat coils throughout utilizing fully redundant secondary circulation pumps complete with VFD's.

- Local steam electric resistive steam generators (humidifier) equal to Dri-steam- Vaporstream located adjacent to AHUs.

- Air conditioning systems is selected to suit the function, geometry and thermal characteristics of the space served. All air conditioning systems are zoned in order to maximize thermal comfort and minimize energy wastage. Building is generally conditioned by ducted central AHUs with back of house and smaller spaces such as green rooms and admin areas to operate independently from larger Auditorium and Foyer spaces. Main Auditorium is served by two (stage & seating areas AHUs) constant volume AHUs, modulating temperature output of air. Temperature and humidity is controlled via sensors located within the space. The balcony seats are supplied via underfloor displacement either through diffusers in the steps, floor or integrated as part of the pedestals. The stage area is also supplied via low velocity diffusers located underneath the balcony. Piano store room is furnished with a dedicated FCU which controls both temperature and humidity with dedicated sensors to control the space temperature. Make-up air is provided to adjacent Foyer. Generally air is supplied to the spaces via a network of sheetmetal ducts to and from the respective air handling units supply air diffusers within the space. Duct is lined with internal 1" - 2" thick duct liner depending on location and area served. Ceiling voids (where available) are utilized to convey return air to main riser shaft locations.

- Custom quality indoor mounted air handling units generally comprising 4" thick double wall insulated casing, solid stainless steel base (drain pan), chilled water cooling coil section, hot water reheat coil, mixing box section, MERV8/13 filter sections, humidification, specialty filtration (UV / etc.), supply and return/exhaust fan arrays through variable frequency drives and c/w vibration isolation, access sections with marine lights, factory installed building automation BACnet, and discharge plenum equal to Haakon / Ventrol.

- Custom quality indoor mounted dedicated outside air handling units generally comprising 4" thick double wall insulated casing, solid stainless steel base (drain pan), energy recovery wheel, chilled water cooling coil section, hot water reheat coil, mixing box section, MERV8/13 filter sections, supply and return/exhaust fan arrays through variable frequency drives and c/w vibration isolation, access sections with marine lights, factory installed building automation BACnet, and discharge plenum equal to Haakon / Ventrol.

- Dedicated exhaust system installed to provide extraction from the toilets and change room areas located in the building. Relief air for this system is drawn off the main building areas via high level transfer ducts which are to be acoustically insulated. Toilets and change rooms are stacked within the building to allow for extraction system with minimum disruption. Supplementary exhaust systems is also provided for store rooms and Laundry.
- Provision for auxiliary 24/7 cooling systems for data rooms / instrument rooms / control rooms and the like.
- Provision for duct lagging, vinyl wrap, acoustical plenums (sound traps) and the like for low NC spaces.
- Post smoke purge exhaust system with UL-864 listed control system separate from building BMS and interconnected to building fire alarm system complete with make-up fans and minimal ductwork.
- Allowance included for generator support including ventilation, exhaust, Diesel Fuel Oil Fill Station, Fuel Oil Transfer Pump, Fuel Oil Storage Tank, fuel oil piping Sc.40 steel diesel fuel oil, monitoring, commissioning and initial fuel oil fill.

*General:*

- All systems / services located and routed for acoustic sensitivity and noise transfer elimination.
  - Premium for LEED design initiatives compliance and administration is included.
  - Seismic / Hurricane restraints to Local standards
- Electrical includes services and distribution, lighting, devices and controls, systems and ancillaries and performance equipment accommodation – specifically –

*Distribution & Services:*

The facility is powered through (2) 4000A 277/480V main switchboard supplied by 2500kVA transformers. 277/480V distribution panels distribute the power throughout the facility. Lighting is fed from 120/208V lighting panels. Emergency life safety lighting is fed through (1) 500kW 277/480V diesel generator. 120/208V panels provide power to receptacles and theatrical loads. Transformers are isolation type to accommodate the production equipment requirements and are located away from all production areas. Mechanical equipment is fed through 480V mechanical panels and the electrical division is providing line and load side wiring. A building and technical grounding systems are provided throughout the facility. Infrastructure for roof top photovoltaic system is included.

*Lighting, Devices and Heating:*

Lighting is generally provided using recessed and wall mounted decorative LED fixtures. Life safety lighting is powered through the emergency distribution system and is controlled using emergency control relays. Lighting control is generally provided using a central LV addressable control system. Local switching, occupancy and daylight sensors are incorporated into the design. These controls are interfaced with the production dimming systems. Devices are installed to meet general maintenance and specialty requirements for production facilities. 20A receptacles are provided in the production areas to accommodate the production equipment requirements. Dimmer racks are provided as part of the equipment provided in the production equipment package and will be fed through dedicated transformers. Level 3 EV chargers are included.

*Systems and Ancillaries:*

An addressable two stage fire alarm EVAC system is provided throughout the facility. A distributed antenna system for first responders is provided throughout the facility. A security access control and CCTV system is provided to facilitate the control and monitor the perimeter access doors. Communications empty raceway infrastructure and structured cabling system are provided. Horizontal structured is provided from wall mounted communication outlets, wireless access points and runs back to communications rooms. An empty raceway and wiring system for the production equipment and AV performance lighting is provided to accommodate the production equipment. Production equipment is provided by the performance equipment/audio visual budget elsewhere and is not included in the electrical contractor's costs.

- Performance equipment and seating comprises:

- seating, adjustable acoustics, orchestra enclosures, theatrical platforms, theatre rigging, fire curtain, theatrical hoist, accessories and draperies, lifts seating wagons, dance floor system, theatrical lighting and controls, company switches, integrated audio and video system and equipment for theatres, ancillary spaces and other items.

- General requirements includes for contractor supplied crane and hoisting, scaffolding, subguard and miscellaneous non trade items.

- Sitework & Utilities is in PSU scope and so excluded from this estimate, as directed.

- Design/pricing allowance is for ongoing design detailing that will occur until drawings are complete and for quantity measurement and pricing adjustments.

- General conditions, overhead and fee includes all requirements for the general contractor (or construction manager), at a competitive rate.

- Escalation to bid date allows for normal price increases that will likely occur between now and the projected 1st Quarter 2027 bid date. However, any final adjustment to pricing can only be made with any certainty once market conditions at bid time are known.



- GMP buyout contingency is included to allow for variances in the trade bids received by the construction manager.
- Construction change order contingency is for ground conditions variances, coordination conflicts on the drawings and other minor errors and omissions that may occur during the construction phase of the project (owner changes not included).
- Soft Cost allowance is included as defined in estimate inclusions above.

*Note: Venue has no control over the cost of labor, materials or equipment, the general contractor/construction manager's bid prices, competitive/negotiated bidding, or market conditions. Whilst Venue cannot warrant that bids or negotiated prices will not vary from any estimate prepared, we do however use our best endeavors to ensure that our estimate closely reflects the anticipated bid cost.*

**Keller Auditorium - PSU/Bora 3,000 Seat Program**  
**Program Estimate**

**Estimate Summary**

**May 22, 2024**

<b>ITEM</b>		<b>AMOUNT</b>
A	Sub-Structure	\$3,575,000
B	Shell	\$97,975,000
C	Interiors	\$41,835,000
D	Mechanical & Electrical Services	\$62,730,000
E	Performance Equipment & Seating	\$10,800,000
F	Demolition & Temporary Construction	\$0
G	General Requirements	\$12,360,000
H	Siteworks & Utilities	\$0
I	Design/Pricing Allowance	10% \$22,930,000
J	General Conditions, Overhead & Fee	12% \$30,010,000
K	Escalation	11% \$31,160,000
L	GMP Buyout Contingency	3% \$9,400,000
M	Owner Purchase Theatre Equipment	\$0
N	Construction Change Order Contingenc	3% \$9,685,000
<b>TOTAL CONSTRUCTION COST IN 1ST QTR 2027 BID DOLLARS</b>		<b>\$332,460,000</b> \$1,555/gsf
O	Soft Costs	35% \$116,360,000
<b>TOTAL PROJECT COST IN 1ST QTR 2027 BID DOLLARS</b>		<b>\$448,820,000</b> \$2,099/gsf

**Overall Gross Floor Area    213,785 gsf**



**Keller Auditorium - PSU/Bora 3,000 Seat Program  
Program Estimate  
Mechanical Estimate Summary**

Gross Floor Area 213,785 sf

May 22, 2024

Description Element\Sub-Element	Specialty Sub Break down	Sub Element Total	Element Total	\$ per sf Sub Element	\$ per sf Element	% Element	Remarks
<b>D1 Mechanical</b>							
<b>D1.1 Plumbing &amp; Drainage</b>			<b>\$6,226,800</b>		<b>\$15.43</b>	<b>10.1%</b>	
D1.11 - Plumbing Fixtures		\$925,000		\$4.33			
D1.12 - Domestic Water		\$1,800,600		\$8.42			
D1.13 - Sanitary Waste & Vent		\$855,100		\$4.00			
D1.14 - Storm		\$1,504,300		\$7.04			
D1.15 - Natural Gas		\$0		\$0.00			
D1.16 - Specialty Systems:		\$0		\$0.00			
D1.16.1 - Rain Water Harvesting		\$0		\$0.00			
D1.16.2 - Seismic Restraints		\$53,400		\$0.25			
D1.16.3 - LEED Certification & Sustainable Design Administration		\$53,400		\$0.25			
D1.16.4 - Combination Photo Voltaic / Solar Hot Thermal System		\$0		\$0.00			
D1.16.8 - Selective / General Demolition		\$0		\$0.00			
D1.17 - Miscellaneous Works and General Accounts		\$1,035,000		\$4.84			
<b>D1.2 Fire Protection</b>			<b>\$1,822,600</b>		<b>\$4.54</b>	<b>3.0%</b>	
D1.21 - Standpipe		\$267,200		\$1.25			
D1.22 - Sprinklers		\$1,487,000		\$6.96			
D1.23 - Specialty Systems		\$53,400		\$0.25			
D1.24 - Fire Extinguisher		\$15,000		\$0.07			
D1.25 - Miscellaneous Works and General Accounts		\$0		\$0.00			
<b>D1.3 Heating, Ventilation &amp; Air Conditioning</b>			<b>\$30,737,770</b>		<b>\$143.78</b>	<b>93.7%</b>	
D1.31 - Liquid Heat Transfer (Heating)		\$2,647,800		\$12.39			
D1.32 - Liquid Heat Transfer (Cooling)		\$5,683,900		\$26.59			
D1.33 - Steam and Condensate		\$427,600		\$2.00			
D1.34 - Air Distribution		\$14,271,400		\$66.76			
D1.35 - Exhaust Systems		\$427,600		\$2.00			
D1.36 - Specialty Systems		\$0		\$0.00			
D1.37 - Support Systems and Works		\$2,156,470		\$10.09			
D1.37.1 - Noise and Vibration Isolation	\$179,900						
D1.37.2 - Mechanical Wiring and Starters	\$0						
D1.37.3 - Balancing and Commissioning	\$427,600						
D1.37.6 - LEED / Sustainability	\$106,900						
D1.37.7 - Seismic / Tornado / Hurricane Restraint	\$106,900						
D1.37.8 - Acoustic Treatments	\$427,600						
D1.37.9 - 24/7 Cooling Systems	0						
D1.37.10 - Generator Support	\$200,000						
D1.37.11 - Smoke Exhaust System	\$427,570						
D1.37.12 - 24/7 Cooling Systems	\$280,000						
D1.38 - Miscellaneous Works and General Accounts		\$5,123,000		\$23.96			
<b>D1.4 Controls</b>			<b>\$2,075,500</b>		<b>\$9.71</b>	<b>6.3%</b>	
D1.41 - Controls and Automation		\$2,075,500		\$9.71			
D1.42 - Miscellaneous Works and General Accounts		\$0		\$0.00			
<b>Total (D1) Mechanical</b>			<b>\$40,862,670</b>		<b>\$153.49 \$ per sf</b>		



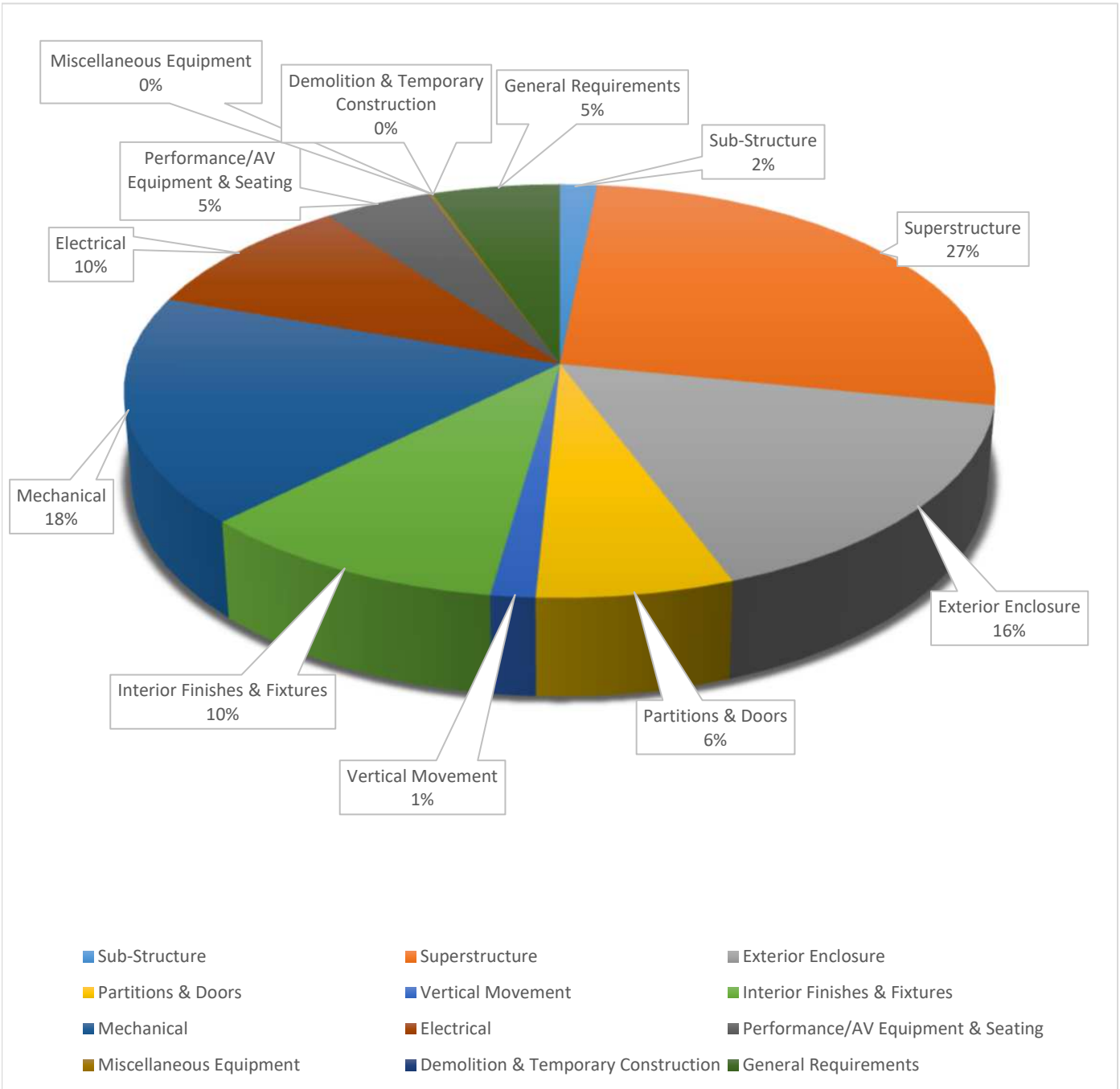
**Keller Auditorium - PSU/Bora 3,000 Seat Program**  
**Program Estimate**  
**Electrical Estimate Summary**

Gross Floor Area 213,785 sf

May 22, 2024

Description Element\Sub-Element	Sub Element Total	Element Total	\$ per sf Sub Element	\$ per sf Element	%	Remarks
<b>D2 Electrical</b>						
<b>D2.1 Services &amp; Distribution</b>		<b>\$5,631,700</b>		<b>\$26.34</b>	<b>25.8%</b>	
D2.11 - L.V. Switchboard	\$1,146,000		\$5.36			
D2.12 - Emergency Power	\$922,600		\$4.32			
D2.13 - Distribution	\$1,106,500		\$5.18			
D2.14 - Feeders	\$921,400		\$4.31			
D2.15 - Motor Controls & Wiring	\$425,200		\$1.99			
D2.16 - Miscellaneous	\$172,000		\$0.80			
D2.17 - General Requirements	\$938,000		\$4.39			
<b>D2.2 Lighting, Devices &amp; Controls</b>		<b>\$10,437,500</b>		<b>\$48.82</b>	<b>47.7%</b>	
D2.21 - Lighting	\$7,584,400		\$35.48			
D2.22 - Branch Devices & Wiring	\$1,113,100		\$5.21			
D2.23 - Heating	\$0		\$0.00			
D2.24 - General Requirements	\$1,740,000		\$8.14			
<b>D2.3 Systems &amp; Ancillaries</b>		<b>\$5,795,200</b>		<b>\$27.11</b>	<b>26.5%</b>	
D2.31 - Fire Alarm System	\$886,100		\$4.14			
D2.32 - Security System	\$887,800		\$4.15			
D2.33 - Communications	\$888,700		\$4.16			
D2.34 - P.A. System	\$2,165,600		\$10.13			
D2.35 - Miscellaneous	\$0		\$0.00			
D2.36 - General Requirements	\$967,000		\$4.52			
<b>Total Building (D2) Electrical</b>		<b>\$21,864,400</b>		<b>\$102.27 \$ per sf</b>		

Elemental Summary Pie Chart



**Keller Auditorium - PSU/Bora 3,000 Seat Program**

**Program Estimate**

**Elemental Summary**

**May 22, 2024**

ELEMENT		Total	\$ per gsf	ELEMENT
<b>A</b>	<b>SUB-STRUCTURE</b>	<b>\$3,575,200</b>	<b>\$16.72</b>	<b>2%</b>
A1.1	Excavation	\$0	\$0.00	
A1.2	Foundations	\$3,100,000	\$14.50	
A1.3	Slab-on-Grade	\$0	\$0.00	
A1.4	Basement Walls	\$475,200	\$2.22	
<b>B</b>	<b>SHELL</b>	<b>\$97,972,600</b>	<b>\$458.28</b>	<b>43%</b>
<b>B1</b>	<b>Superstructure</b>	<b>\$61,017,100</b>	<b>\$285.41</b>	<b>27%</b>
B1.1	Structural Concrete	\$24,588,900	\$115.02	
B1.2	Structural Steel	\$4,232,900	\$19.80	
B1.3	Other Structure	\$30,090,300	\$140.75	
B1.4	Miscellaneous Structure	\$2,105,000	\$9.85	
<b>B2</b>	<b>Exterior Enclosure</b>	<b>\$36,955,500</b>	<b>\$172.86</b>	<b>16%</b>
B2.1	Roofing	\$6,769,700	\$31.67	
B2.2	Exterior Walls	\$16,425,800	\$76.83	
B2.3	Exterior Windows & Curtainwall	\$11,315,000	\$52.93	
B2.4	Exterior Doors	\$315,000	\$1.47	
B2.5	Miscellaneous Exterior	\$2,130,000	\$9.96	
<b>C</b>	<b>INTERIORS</b>	<b>\$41,836,600</b>	<b>\$195.69</b>	<b>18%</b>
<b>C1</b>	<b>Partitions &amp; Doors</b>	<b>\$14,877,100</b>	<b>\$69.59</b>	<b>6%</b>
C1.1	Partitions	\$13,258,100	\$62.02	
C1.2	Interior Doors	\$1,619,000	\$7.57	
<b>C2</b>	<b>Vertical Movement</b>	<b>\$3,356,000</b>	<b>\$15.70</b>	<b>1%</b>
C2.1	Stairs	\$1,615,000	\$7.55	
C2.2	Elevators & Lifts	\$1,741,000	\$8.14	
<b>C3</b>	<b>Interior Finishes &amp; Fixtures</b>	<b>\$23,603,500</b>	<b>\$110.41</b>	<b>10%</b>
C3.1	Public & Performance Spaces	\$18,231,500	\$85.28	
C3.2	Non-Public Spaces	\$5,372,000	\$25.13	
<b>D</b>	<b>MECHANICAL &amp; ELECTRICAL SERVICES</b>	<b>\$62,728,381</b>	<b>\$293.42</b>	<b>27%</b>
<b>D1</b>	<b>Mechanical</b>	<b>\$40,862,208</b>	<b>\$191.14</b>	<b>18%</b>
D1.1	Plumbing & Drainage	\$6,226,883	\$29.13	
D1.2	Fire Protection	\$1,822,606	\$8.53	
D1.3	Heating, Vent, Air Cond	\$30,737,269	\$143.78	
D1.4	Controls	\$2,075,450	\$9.71	
<b>D2</b>	<b>Electrical</b>	<b>\$21,866,172</b>	<b>\$102.28</b>	<b>10%</b>
D2.1	Services & Distribution	\$5,631,409	\$26.34	
D2.2	Lighting, Devices & Controls	\$10,438,892	\$48.83	
D2.3	Systems & Ancillaries	\$5,795,871	\$27.11	
<b>E</b>	<b>EQUIPMENT</b>	<b>\$10,798,000</b>	<b>\$50.51</b>	<b>5%</b>
<b>E1</b>	<b>Performance/AV Equipment &amp; Seating</b>	<b>\$10,468,000</b>	<b>\$48.97</b>	<b>5%</b>
E1.1	Performance Equipment & Seating	\$10,468,000	\$48.97	
E1.2	AV Equipment	\$0	\$0.00	
<b>E2</b>	<b>Miscellaneous Equipment</b>	<b>\$330,000</b>	<b>\$1.54</b>	<b>0%</b>
E2.1	Miscellaneous Equipment	\$330,000	\$1.54	
<b>F</b>	<b>DEMOLITION &amp; TEMPORARY CONSTRUCTION</b>	<b>\$0</b>	<b>\$0.00</b>	<b>0%</b>
F1.1	Demolition	\$0	\$0.00	
F1.2	Temporary Construction	\$0	\$0.00	
<b>G</b>	<b>GENERAL REQUIREMENTS</b>	<b>\$12,360,000</b>	<b>\$57.82</b>	<b>5%</b>
G1.1	Equipment & Rentals	\$4,200,000	\$19.65	
G1.2	Project Overhead Items	\$8,160,000	\$38.17	
<b>TOTAL BUILDING ELEMENTAL COSTS</b>		<b>\$229,270,781</b>	<b>\$1,072.44</b>	<b>100%</b>
<b>GROSS FLOOR AREA</b>		<b>213,785</b>	<b>gsf</b>	
<b>H</b>	<b>SITWORKS &amp; UTILITIES</b>			
H1.1	Siteworks	\$0		
H1.2	Mechanical Utilities	\$0		
H1.3	Electrical Utilities	\$0		
<b>TOTAL SITWORKS &amp; UTILITIES</b>		<b>\$0</b>		



**Keller Auditorium - PSU/Bora 3,000 Seat Program**  
**Program Estimate**

Detailed Estimate

May 22, 2024

Description	Program Estimate			Remarks
	Quantity	Unt	Rate	

**A SUB-STRUCTURE**

9. <b>A1.1 Excavation</b>				
11. Excavate & stockpile				
12. cut & haul - rock, etc				in separate estimate by others
14. Imported Backfill				in separate estimate by others
16. Shoring & lagging				in separate estimate by others
18. Dewatering				in separate estimate by others
21. <b>Total for Section A1.1 Excavation</b>				<b>\$0</b>

24. <b>A1.2 Foundations</b>				
26. Foundations:				
27. Basement	1	ls	1,300,000.00	1,300,000
28. Grade Level	1	ls	1,600,000.00	1,600,000
30. Acoustic Premiums				
31. Multi-Function Theatre - 3000 seats	1	ls	200,000.00	200,000
34. <b>Total for Section A1.2 Foundations</b>				<b>\$3,100,000</b>

37. <b>A1.3 Slab-On-Grade</b>				
39. Slab on Grade				see structural slab below
42. <b>Total for Section A1.3 Slab-On-Grade</b>				<b>\$0</b>

45. <b>A1.4 Basement Walls</b>				
47. Concrete wall, 12" thick, waterproofing, drainage sheet, reinforcing	7,920	sf	60.00	475,200
49. Acoustic Premiums				
50. AIJ in foundations				0 assumed not req'd
53. <b>Total for Section A1.4 Basement Walls</b>				<b>\$475,200</b>



Keller Auditorium - PSU/Bora 3,000 Seat Program

Program Estimate

Detailed Estimate

May 22, 2024

Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	

B SHELL

B1 Superstructure

59. B1.1 Structural Concrete						
61.	Framed floor/roof structure	229,310	sf	71.41	16,375,500	
63.	Cantilevered soffit	3,600	sf	127.00	457,200	
65.	Structural transfer roof slab over parking including column premium	72,100	sf	100.00	7,210,000	
67.	Core Drilling/Blocking	1	ls	150,000.00	150,000	allowance
69.	Suspended elevator pits:					
70.	Public	2	ea	45,000.00	90,000	
71.	BOH	2	ea	45,000.00	90,000	
72.	Freight	1	ea	60,000.00	60,000	
74.	Acoustic Premiums					
75.	floating slabs:					
76.	Mechanical & electrical spaces	4,400	sf	35.50	156,200	20% of M&E spaces
79.	<b>Total for Section B1.1 Structural Concrete</b>				<b>\$24,588,900</b>	

82. B1.2 Structural Steel						
84.	Stage Grid					
85.	stage - Multi-Function (95' high roof)	8,285	sf	109.00	903,100	
87.	Forestage Grids					
88.	mf theatre - 3,000 seats	1,400	sf	79.00	110,600	
90.	Premium for secondary steel to curtainwall				0	assumed not req'd
92.	Catwalks (Lf)					
93.	stagehouse galleries	150	lf	850.00	127,500	
94.	lighting catwalks	685	lf	800.00	548,000	
96.	Mechanical and electrical dunnage	1	ls	155,000.00	155,000	allowance
98.	Miscellaneous metals	1	ls	1,282,700.00	1,282,700	allowance
100.	Fireproofing	1	ls	256,000.00	256,000	allowance
102.	Intumescent paint to structural steel				0	assumed not req'd
104.	AESS steel/detail premium				0	assumed not req'd





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Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	
106. Acoustic Premiums					
107. Acoustic isolation joints	1	ls	850,000.00	850,000	allowance
<b>110. Total for Section B1.2 Structural Steel</b>				<b>\$4,232,900</b>	

112. B1.3 Other Structure					
114. CLT structure with 4" concrete topping slab	149,805	sf	200.86	30,090,300	
<b>117. Total for Section B1.3 Other Structure</b>				<b>\$30,090,300</b>	

120. B1.4 Miscellaneous Structure					
122. Natural rubber isolators between parking and pac	1	ls	2,000,000.00	2,000,000	
124. Firesafing	1	ls	105,000.00	105,000	
<b>127. Total for Section B1.4 Miscellaneous Structure</b>				<b>\$2,105,000</b>	

B2 Exterior Enclosure

132. B2.1 Roofing					
134. Skylights	1	ls	250,000.00	250,000	per Bora
136. Membrane roofing	79,760	sf	37.50	2,991,000	
138. Roofing shared with PSU including extensive green roof (50% split)	5,845	sf	43.75	255,700	
140. Premium for extensive green roof	55,660	sf	50.00	2,783,000	
142. Smoke hatches	1	ls	280,000.00	280,000	
144. Rough carpentry	1	ls	160,000.00	160,000	allowance
146. Misc. roof items (fall protection, etc)	1	ls	50,000.00	50,000	allowance
<b>149. Total for Section B2.1 Roofing</b>				<b>\$6,769,700</b>	



**Keller Auditorium - PSU/Bora 3,000 Seat Program**  
**Program Estimate**

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**May 22, 2024**

<b>Description</b>	<b>Program Estimate</b>				<b>Remarks</b>
	<b>Quantity</b>	<b>Unt</b>	<b>Rate</b>	<b>Amount</b>	
<b>153. B2.2 Exterior Walls</b>					
155. Exterior cladding on back-up (measured elsewhere), (allowance):					
156. Metal panel (allowance)	73,000	sf	140.91	10,286,600	
158. Back-up to exterior cladding	99,250	sf	52.00	5,161,000	
160. Rear of parapets	4,400	sf	40.50	178,200	
161. Copings	2,200	lf	100.00	220,000	
162. Louvres	1	ls	100,000.00	100,000	allowance
163. Caulking & sealing	1	ls	150,000.00	150,000	allowance
165. Acoustic Premiums					
166. Multi-Function Theatre - 3000 seats	1	ls	330,000.00	330,000	allowance
<b>169. Total for Section B2.2 Exterior Walls</b>				<b>\$16,425,800</b>	

<b>173. B2.3 Exterior Windows &amp; Curtainwall</b>					
175. Curtainwall	26,500	sf	250.00	6,625,000	25% of skin
177. Punched windows	5,500	sf	125.00	687,500	5% of solid skin
179. Shading to glazing (measured elsewhere):					
180. curtainwall	26,500	sf	125.00	3,312,500	allowance
181. balance of windows	1	ls	690,000.00	690,000	allowance, 50% of glazing
183. Design assist				0	assumed not req'd
<b>186. Total for Section B2.3 Exterior Windows &amp; Curtainwall</b>				<b>\$11,315,000</b>	

<b>189. B2.4 Exterior Doors</b>					
191. Doors					
192. glazed	14	lvs	12,500.00	175,000	
193. metal	10	lvs	2,500.00	25,000	
194. overhead	4	ea	17,500.00	70,000	
195. automatic door openers	6	ea	7,500.00	45,000	
<b>198. Total for Section B2.4 Exterior Doors</b>				<b>\$315,000</b>	



Keller Auditorium - PSU/Bora 3,000 Seat Program

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Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	
<b>201. B2.5 Miscellaneous Exterior</b>					
203. Canopies and projections	1	ls	1,730,000.00	1,730,000	allowance
205. Terrace paving/railings	1	ls	150,000.00	150,000	allowance
207. Screen walls				0	assumed not req'd
209. Exterior signage	1	ls	250,000.00	250,000	allowance
<b>212. Total for Section B2.5 Miscellaneous Exterior</b>				<b>\$2,130,000</b>	

C INTERIORS

C1 Partitions & Doors

<b>218. C1.1 Partitions</b>					
220. Glazed	2,000	sf	100.00	200,000	
222. Grout filled cmu walls	80,200	sf	43.25	3,468,700	
224. Gypsum walls	97,500	sf	20.00	1,950,000	
226. Balance	210,500	sf	35.12	7,393,100	
228. Firesafing	1	ls	146,250.00	146,300	allowance
230. Acoustic isolation joints	1	ls	100,000.00	100,000	
<b>233. Total for Section C1.1 Partitions</b>				<b>\$13,258,100</b>	

<b>235. C1.2 Interior Doors</b>					
237. Oversized stc, 10' x 12' high	1	ea	36,000.00	36,000	
239. Oversized stc, 8' x 10' high	2	ea	25,000.00	50,000	
241. Glazed - office doors	10	lvs	6,000.00	60,000	
243. Glazed - vestibule doors	14	lvs	12,500.00	175,000	
245. Stc doors	10	lvs	9,000.00	90,000	
247. Gasket and sealed doors	125	lvs	3,000.00	375,000	
249. Balance of doors	340	lvs	2,200.00	748,000	
251. Fire shutters	1	ls	40,000.00	40,000	allowance



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May 22, 2024

Description	Program Estimate			Remarks	
	Quantity	Unt	Rate		Amount
253. Automatic door openers	6	ea	7,500.00	45,000	
256. <b>Total for Section C1.2 Interior Doors</b>				<b>\$1,619,000</b>	

C2 Vertical Movement

260. C2.1 Stairs					
262. Feature					
263. straight, 10-6'w	2	flts	125,000.00	250,000	
265. Public					
266. straight	2	flts	85,000.00	170,000	
268. Auditorium	1	ls	400,000.00	400,000	
270. Spiral stair to top of fly tower	1	ls	90,000.00	90,000	
272. Upgraded boh stair	0	flts	35,000.00		
274. Service/Exiting	21	flts	30,000.00	630,000	
276. Misc steps and ladders	1	ls	75,000.00	75,000	allowance
279. <b>Total for Section C2.1 Stairs</b>				<b>\$1,615,000</b>	

281. C2.2 Elevators & Lifts					
283. Public					
284. Public (4 Stp, 60'-0" Rise) Frt opgs	2	ea	225,000.00	450,000	
285. Elevator to parking garage including finishes, (4 Stp, 45' Rise), 25% allowance	1	ea	65,000.00	65,000	
286. Cab finish allowance	2	ea	40,000.00	80,000	
288. Back of House					
289. Boh (5 Stp, 75' Rise) Frt opgs	1	ea	260,000.00	260,000	
290. Boh shared (3 Stp, 35' Rise) Frt opgs 33% allowance	1	ea	66,000.00	66,000	
292. Service/Freight					
293. Freight 10' X 18' (3 Stp, Front opng, approx. 35'-0" rise)	1	ea	750,000.00	750,000	allowance
295. H/C Lifts (Ea)	2	ea	35,000.00	70,000	
298. <b>Total for Section C2.2 Elevators &amp; Lifts</b>				<b>\$1,741,000</b>	



**Keller Auditorium - PSU/Bora 3,000 Seat Program**  
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Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	

**C3 Interior Finishes & Fixtures**

302. C3.1 Public & Performance Spaces						
304.	Large hall stage/auditorium/orchestra pit	44,935	sf	174.50	7,841,200	
305.	Lobbies/public circulation/concessions/s&ll's	51,895	sf	152.00	7,888,000	
306.	Public restrooms	6,645	sf	182.50	1,212,700	
307.	Donor room	2,035	sf	287.00	584,000	
308.	Box office/coats	935	sf	59.50	55,600	
310.	Donor Recognition	1	ls	250,000.00	250,000	allowance
312.	Performance equipment accommodation:					
313.	Multi-Function Theatre - 3000 seats	1	ls	400,000.00	400,000	
316.	<b>Total for Section C3.1 Public &amp; Performance Spaces</b>				<b>\$18,231,500</b>	

318. C3.2 Non-Public Spaces						
320.	Green room	1,275	sf	68.00	86,700	
321.	Boh circulation/boh s&ll	29,360	sf	34.00	998,200	
322.	Boh toilets/dressing/changing/lockers	11,710	sf	81.00	948,500	
323.	Catering/servery/kitchen	1,295	sf	78.50	101,700	
324.	Coaching/warm up	1,010	sf	73.00	73,700	
325.	Control/dimmer rooms	2,395	sf	151.50	362,800	
326.	Crew lounge/kitchenette/m&f toilets	460	sf	38.00	17,500	
327.	Inaccessible	6,240			0	
328.	Mech and electrical	21,990	sf	26.50	582,700	
329.	Office/lounges	10,070	sf	35.00	352,500	
330.	Plenum	15,525	sf	9.00	139,700	
331.	Staging/loading/receiving	4,120	sf	18.50	76,200	
332.	Storage	11,710	sf	8.50	99,500	
333.	Trap room	1,550	sf	15.50	24,000	
334.	Workshops/support space	3,955	sf	16.00	63,300	
336.	Restroom accessories	1	ls	300,000.00	300,000	allowance
337.	Interior signage	1	ls	320,000.00	320,000	allowance
338.	Rough carpentry	1	ls	105,000.00	105,000	allowance
340.	Acoustic premiums:					
341.	Acoustical isolation joints	1	ls	720,000.00	720,000	allowance
344.	<b>Total for Section C3.2 Non-Public Spaces</b>				<b>\$5,372,000</b>	



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Description	Program Estimate				Remarks
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D MECHANICAL & ELECTRICAL SERVICES

D1 Mechanical

<b>351. D1.1 Plumbing &amp; Drainage</b>					
<b>353. D1.11 - Plumbing Fixtures</b>				<b>925,000</b>	
355.	Water conserving, commercial quality plumbing fixtures c/w trim, faucets, supplies, stops, waste and traps, hangers, brackets, supports and fasteners are provided including:	370	ea	2,500.00	925,000
356.	Water closets or urinals with electronic no touch flush valves				
357.	Lavatories with electronic faucets				
358.	Janitor mop basins in custodial closets				
359.	Dual level drinking fountains refrigerated				
360.	Showers				
361.	Studio sinks				
362.	Emergency eyewash showers				
363.	Rough-ins for above fixtures				
<b>365. D1.12 - Domestic Water</b>				<b>1,800,600</b>	
367.	Domestic water services are extended from the incoming water service central water meter and backflow preventer assembly, to fixtures and fittings throughout, as well as mechanical cooling systems make-up and general interior and exterior hose bibb coverage. All domestic water piping is thermally insulated. Booster pumpset is also included.	213,785	sf	5.85	1,250,600
369.	Domestic hot water is produced by air source heat pump water heater (equal to Nyle) with two large 750 gallons storage tank with immersion backup (equal to PVI)	1	ea	550,000.00	550,000
<b>372. D1.13 - Sanitary Waste &amp; Vent</b>				<b>855,100</b>	
374.	A complete system of sanitary waste and vent collection is provided to serve plumbing fixtures, floor drains and equipment throughout. Condensate drainage is provided to serve HVAC equipment piped to floor / hub drains throughout. Service connects to outlet to site sanitary sewer.	213,785	sf	4.00	855,100
<b>376. D1.14 - Storm</b>				<b>1,504,300</b>	
378.	A complete systems of roof/storm water drainage is provided to collect rainwater from roofs and green roofs. Service connects to outlets to site storm sewer. Adjacent overflow "daylight" drains spill to grade. Special provision for noise sensitive roof theater area drainage is also included.	213,785	sf	6.00	1,282,700



**Keller Auditorium - PSU/Bora 3,000 Seat Program**  
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Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	
380. Exterior covered loading dock	3,600	sf	6.00	21,600	
382. Rainwater retention tank and treatment skid	1	ea	200,000	200,000	
385. <b><u>D1.15 - Natural Gas</u></b>				<b>0</b>	
387. No work required.					
389. <b><u>D1.16 - Specialty Systems:</u></b>					
<b><u>D1.16.1 - Rain Water Harvesting</u></b>				<b>0</b>	
393. Rainwater harvesting system consisting of Non-pressurized rainwater harvesting storage tank, Greywater filtration system, non-potable piping and pumps					excluded
397. <b><u>D1.16.2 - Seismic Restraints</u></b>				<b>53,400</b>	
399. Seismic / Hurricane restraints to city standards	213,785	sf	0.25	53,400	
402. <b><u>D1.16.3 - LEED Certification &amp; Sustainable Design</u></b>				<b>53,400</b>	
404. Allowance for LEED Gold Certification and/or Sustainable Design Administration	213,785	sf	0.25	53,400	
406. <b><u>D1.16.4 - Combination Photo Voltaic / Solar Hot Thermal System</u></b>				<b>0</b>	
408. Combination photo voltaic and solar hot thermal system (PV/T) on roof			More info is required		
410. <b><u>D1.16.8 - Selective / General Demolition</u></b>				<b>0</b>	
412. By others if required					
515. <b><u>D1.17 - Miscellaneous Works and General Accounts</u></b>				<b>1,035,000</b>	
517. Supervision, site office, head office overheads, submittals, clean up, small tools, rentals and the like, rigging and preparation of 3D co-ordination drawings	1	ea	1,035,000.00	1,035,000	
522. <b>Total for Section D1.1 Plumbing &amp; Drainage</b>				<b>\$6,226,800</b>	



**Keller Auditorium - PSU/Bora 3,000 Seat Program**  
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Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	
<b>525. D1.2 Fire Protection</b>					
527. <b><u>D1.21 - Standpipe</u></b>				<b>267,200</b>	
529. Fire hose coverage provided throughout the building as per NFPA14.	213,785	sf	1.25	267,200	
532. <b><u>D1.22 - Sprinklers</u></b>				<b>1,487,000</b>	
534. The building is fully fire sprinkler protected with wet and/or dry system to local codes and NFPA regulations, for light / ordinary hazard coverage.	213,785	sf	6.49	1,387,000	
536. Automatic Horizontal split case fire pump (1000gpm, 200HP)	1	ea	80,000.00	80,000	
538. Incoming firewater service 8" dia. c/w house control and backflow preventor	1	ea	20,000.00	20,000	
541. <b><u>D1.23 - Specialty Systems</u></b>				<b>53,400</b>	
543. Seismic / Hurricane restraints to city standards	213,785	sf	0.25	53,400	
546. <b><u>D1.24 - Fire Extinguisher</u></b>				<b>15,000</b>	
548. Individual fire extinguishers are provided to meet local codes and NFPA regulations.	50	ea	300.00	15,000	
551. <b><u>D1.25 - Miscellaneous Works and General Accounts</u></b>				<b>0</b>	
553. Supervision, site office, head office overheads, submittals, clean up, small tools, rentals and the like, rigging and preparation of 3D co-ordination drawings				Included above	
556. <b>Total for Section D1.2 Fire Protection</b>				<b>\$1,822,600</b>	

<b>559. D1.3 Heating, Ventilation, Air Conditioning</b>					
561. <b><u>D1.31 - Liquid Heat Transfer (Heating)</u></b>				<b>2,647,800</b>	
563. Electric hot water boilers are utilized to provide back-up heating to ASHP's to provide hot water to serve the building heating and reheat loads. Primary circulation pumps c/w VFD's are provided. Heat exchangers / glycol loop is provided. Air and expansion control and chemical pot feeder are provided.	7,500	mbh	125.00	937,500	





Keller Auditorium - PSU/Bora 3,000 Seat Program

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	Quantity	Unt	Rate	Amount	
565. Hot water heating piping is extended to air handling units, unit/force flow heaters, perimeter radiation, and VAV reheat coils throughout utilizing fully redundant secondary circulation pumps c/w VFD's.	213,785	sf	8.00	1,710,300	
568. <b><u>D1.32 - Liquid Heat Transfer (Cooling)</u></b>				<b>5,683,900</b>	
570. Air source heat pumps provides heating hot water and chilled water which is distributed in a loop to all air handling units and fan coils throughout the building via primary circulation pumps c/w VFDs. Air and expansion control and chemical pot feeder are provided.	710	tn	6,500.00	4,615,000	
572. Chilled water piping is extended to air handling units and space cooling units throughout utilizing fully redundant secondary circulation pumps c/w VFD's.	213,785	sf	5.00	1,068,900	
575. <b><u>D1.33 - Steam and Condensate</u></b>				<b>427,600</b>	
577. Local steam electric resistive steam generators (humidifier) equal to Dri-steam- Vaporstream located adjacent to AHUs.	213,785	ea	2.00	427,600	
579. <b><u>D1.34 - Air Distribution</u></b>				<b>14,271,400</b>	
<u>Equipment</u>					
583. Custom quality indoor mounted air handling units generally comprising of: 4" thick Double Wall insulated casing, solid stainless steel base (drain pan), chilled water cooling coil section, hot water reheat coil, mixing box section, MERV8/13 filter sections, humidification, specialty filtration (UV / etc.), supply and return/exhaust fan arrays through variable frequency drives and c/w vibration isolation, access sections with marine lights, factory installed building automation BACnet, and discharge plenum equal to Haakon / Ventrol	257,000	cfm	20.00	5,140,000	
585. Custom quality indoor mounted dedicated outside air handling units generally comprising of: 4" thick Double wall insulated casing, solid stainless steel base (drain pan), energy recovery wheel, chilled water cooling coil section, hot water reheat coil, mixing box section, MERV8/13 filter sections, supply and return/exhaust fan arrays through variable frequency drives and c/w vibration isolation, access sections with marine lights, factory installed building automation BACnet, and discharge plenum equal to Haakon / Ventrol	51,400	cfm	30.00	1,542,000	



Keller Auditorium - PSU/Bora 3,000 Seat Program

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Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	
587. Air conditioning systems is selected to suit the function, geometry and thermal characteristics of the space served. All air conditioning systems are zoned in order to maximize thermal comfort and minimize energy wastage. Building is generally conditioned by ducted central AHUs with back of house and smaller spaces such as green rooms and admin areas to operate independently from larger Auditorium and Foyer spaces. Main Auditorium is served by two (stage & seating areas AHUs) constant volume AHUs, modulating temperature output of air. Temperature and humidity is controlled via sensors located within the space. The balcony seats are supplied via underfloor displacement either through diffusers in the steps, floor or integrated as part of the pedestals. The stage area is also supplied via low velocity diffusers located underneath the balcony. Piano store room is furnished with a dedicated FCU which controls both temperature and humidity with dedicated sensors to control the space temperature. Make-up air is provided to adjacent Foyer. Generally air is supplied to the spaces via a network of sheetmetal ducts to and from the respective air handling units supply air diffusers within the space. Duct is lined with internal 1" - 2" thick duct liner depending on location and area served. Ceiling voids (where available) are utilized to convey return air to main riser shaft locations.					
589. Galvanized steel sheetmetal distribution ductwork as per SMACNA	308,000	lbs	15.00	4,620,000	
591. Thermal insulation / acoustic lining for above ductwork	200,000	sf	6.00	1,200,000	
593. Air outlets and accessories	213,785	sf	5.00	1,068,900	
595. VAV terminals with reheat coils (allowance)	260	ea	1,500.00	390,000	
597. Allowance for Plenums	15,525	sf	20.00	310,500	
599. <b><u>D1.35 - Exhaust Systems</u></b>				<b>427,600</b>	
601. Dedicated exhaust system installed to provide extraction from the toilets and change room areas located in the building. Relief air for this system is drawn off the main building areas via high level transfer ducts which are to be acoustically insulated. Toilets and change rooms are stacked within the building to allow for extraction system with minimum disruption. Supplementary exhaust systems is also provided for store rooms and laundry.	213,785	sf	2.00	427,600	



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Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	
603. <b><u>D1.36 - Specialty Systems</u></b>				<b>0</b>	
605. No work required			Info only		
607. <b><u>D1.37 - Support Systems and Works</u></b>					
609. <b><u>D1.37.1 - Noise and Vibration Isolation</u></b>				<b>179,900</b>	
611. Vibration isolators and ductwork silencers are provided to ensure quiet operation and to ensure noise levels from operation do not exceed above the required levels	514,000	cfm	0.35	179,900	
613. <b><u>D1.37.2 - Mechanical Wiring and Starters</u></b>				<b>0</b>	
615. All starters, motor controls, line and load side wiring by Electrical Contractor			Info only		
617. <b><u>D1.37.3 - Balancing and Commissioning</u></b>				<b>427,600</b>	
619. The HVAC systems are balanced to design flow rates and equipment placed into prime operating condition via enhanced commissioning practices.	213,785	sf	2.00	427,600	
626. <b><u>D1.37.6 - LEED / Sustainability</u></b>				<b>106,900</b>	
628. Allowance for LEED Gold Certification and/or Sustainable Design Administration	213,785	sf	0.50	106,900	
630. <b><u>D1.37.7 - Seismic / Tornado / Hurricane Restraint</u></b>				<b>106,900</b>	
632. Seismic / Hurricane restraints to city standards	213,785	sf	0.50	106,900	
634. <b><u>D1.37.8 - Acoustic Treatments</u></b>				<b>427,600</b>	
636. Provision for duct lagging, vinyl wrap, sound traps and the like	213,785	sf	2.00	427,600	
638. <b><u>D1.37.10 - Generator Support</u></b>				<b>200,000</b>	
640. Provisional sum allowance included for generator support including ventilation, exhaust, Diesel Fuel Oil Fill Station, Fuel Oil Transfer Pump, Fuel Oil Storage Tank, fuel oil piping Sch.40 steel diesel fuel oil, monitoring, commissioning and initial fuel oil fill.	1	ea	200,000.00	200,000	
642. <b><u>D1.37.11 - Smoke Exhaust System</u></b>				<b>427,570</b>	
644. Post smoke purge exhaust system with UL-864 listed control system separate from building BMS and interconnected to building fire alarm system c/w make-up fans and minimal ductwork.	213,785	sf	2.00	427,570	

Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	
645. <b><u>D1.37.12 - 24/7 Cooling Systems</u></b>				<b>280,000</b>	
647. Allowance for provision of 24/7 cooling systems	40	tns	7,000.00	280,000	
649. <b><u>D1.38 - Miscellaneous Works and General Accounts</u></b>				<b>5,123,000</b>	
651. Supervision, site office, head office overheads, submittals, clean up, small tools, rentals and the like, rigging and preparation of 3D co-ordination drawings	1	ea	5,123,000	5,123,000	
654. <b>Total for Section D1.3 Heating, Ventilation &amp; Air Conditioning</b>				<b>\$30,737,770</b>	

656. <b><u>D1.4 Controls</u></b>					
658. <b><u>D1.41 - Controls and Automation</u></b>				<b>2,075,500</b>	
660. A Building Automation System (BAS) is provided consisting of direct digital controls. The BAS controls and monitors all HVAC systems and equipment, and various plumbing, fire protection and electrical systems where required. System allows operators to start and stop equipment and automatically control zone temperatures, air and water flow rates. System and system graphics allow full monitoring, trending and reporting of set points, equipment control and alarm functions. Damper and valve actuators are electric / electronic type with direct digital control (DDC). Ventilation rates are controlled by main duct run mounted carbon dioxide sensors (demand ventilation) throughout the facility. Humidification is controlled by humidistats throughout the facility. Metering is provided on electrical and water services above.	213,785	sf	9.71	2,075,500	
662. <b><u>D1.42 - Miscellaneous Works and General Accounts</u></b>				<b>0</b>	
664. Supervision, site office, head office overheads, submittals, clean up, small tools, rentals and the like, rigging and preparation of 3D co-ordination drawings					Included in above rates
667. <b>Total for Section D1.4 Controls</b>				<b>\$2,075,500</b>	

**D2 Electrical**

671. <b><u>D2.1 Services &amp; Distribution</u></b>					
673. <b><u>D2.11 - L.V. Switchboard</u></b>				<b>1,146,000</b>	
675. 2500KVA pad mounted transformer	2	ea	239,000.00	478,000	
677. 4000A 277/480V main switchboard c/w main, and feeder breakers	2	ea	334,000.00	668,000	



Keller Auditorium - PSU/Bora 3,000 Seat Program

Program Estimate

Detailed Estimate

May 22, 2024

Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	
679. <b><u>D2.12 - Emergency Power</u></b>				922,600	
681. 500kW 277/480V diesel generator in a W/P enclosure located on the roof with a fuel storage, critical grade muffler, etc....	1	ea	433,000.00	433,000	
683. 800A 277/480V emergency distribution panel	1	ea	48,000.00	48,000	
685. 400A 277/480V ATS c/w bypass feature	2	ea	42,300.00	84,600	
687. Emergency power distribution system consisting of 277/480V distribution panels and mechanical panels, 120/208V lighting and power panels with associated K13 transformer isolated from all production areas.	213,785	sf	1.67	357,000	
689. <b><u>D2.13 - Distribution</u></b>				1,106,500	
691. Normal power distribution system with 277/480V distribution and lighting panels, 480V mechanical distribution system, 120/208V distribution panels feeding production equipment, 120/208V lighting and power panels. 480V to 120/208V transformers are located away from the performance areas to eliminate noise transmission and submetering system	213,785	sf	3.13	669,100	
693. Normal power distribution system for covered Loading dock c/w	3,500	sf	0.37	1,300	
695. 1000kVA 480V to 120/208V transformer	2	ea	68,700.00	137,400	
697. 500kVA 480V to 120/208V transformer	1	ea	34,900.00	34,900	
699. 2500A 120/208V distribution panel	2	ea	131,900.00	263,800	
701. <b><u>D2.14 - Feeders</u></b>				921,400	
703. All life safety feeders have a 2 hour fire rating, critical power feeders are copper conductor with required ground and installed in EMT conduit. Flexible conduit and cabling is utilized for final connections to vibrating equipment.	213,785	sf	4.31	921,400	
705. <b><u>D2.15 - Motor Controls &amp; Wiring</u></b>				425,200	
707. The electrical division installs loose starters provided by the mechanical division and load and line side wiring for mechanical equipment. Final terminations to any vibrating equipment is	213,785	sf	1.98	423,300	
709. Power connection to dock levelers, overhead doors , etc. ... to support covered loading dock area	3,500	sf	0.54	1,900	



Keller Auditorium - PSU/Bora 3,000 Seat Program

Program Estimate

Detailed Estimate

May 22, 2024

Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	
712. <b><u>D2.16 - Miscellaneous</u></b>				<b>172,000</b>	
714. A building grounding system to meet code requirements, and technical grounding system to meet the requirements of the production equipment is provided.	213,785	sf	0.34	72,700	
716. Lightning protection system	1	ea	75,700.00	75,700	
718. Infrastructure for future PV system	1	ea	23,600.00	23,600	
720. <b><u>D2.17 - General Requirements</u></b>				<b>938,000</b>	
722. Supervision, site office, head office overheads, submittals, premium of loss of productivity time, small tools, rentals and the like.	1	sum	938,000	938,000	
726. <b>Total for Section D2.1 Services &amp; Distribution</b>				<b>\$5,631,700</b>	

728. <b><u>D2.2 Lighting, Devices &amp; Controls</u></b>					
730. <b><u>D2.21 - Lighting</u></b>				<b>7,584,400</b>	
732. <b><u>General</u></b>					
734. Lighting in the public areas consists of decorative ambient lighting is provided by the use of decorative recessed, wall mounted fixtures with energy efficient LED; lighting in the private room areas is provided by recessed direct / indirect fixtures. Lighting in storage, back of house and service areas is provided using standard suspended industrial LED fixtures.					
736. Exit lights and emergency lighting control are provided to meet code requirements. Emergency battery units are provided in mechanical and electrical rooms.					
738. Supply and installation of LED fixtures within performance space	44,935	sf	59.45	2,671,400	
740. Supply and installation of LED fixtures within FOH public	50,420	sf	55.36	2,791,300	
742. Supply and installation of LED fixtures within rehearsal and dressing rooms c/w branch wiring	12,580	sf	37.43	470,900	
744. Supply and installation of LED fixtures within gift shop, concessions, donor spaces, etc... c/w branch wiring	5,740	sf	26.73	153,400	
746. Supply and installation of LED fixtures within offices and meeting rooms c/w branch wiring	14,485	sf	21.39	309,800	



Keller Auditorium - PSU/Bora 3,000 Seat Program

Program Estimate

Detailed Estimate

May 22, 2024

Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	
748. Supply and installation of LED fixtures within control, dimmer, green, etc.... rooms c/w branch wiring	3,670	sf	18.71	68,700	
750. Supply and installation of LED fixtures within public washrooms	9,015	sf	16.04	144,600	
752. Supply and installation of LED fixtures within BOH circulation c/w	29,360	sf	15.37	451,300	
754. Supply and installation of LED fixtures within service rooms c/w	37,340	sf	13.37	499,200	
756. Inaccessible area - N/A	6,240	sf			
758. Supply and installation of LED fixtures within covered loading dock	3,500	sf	6.80	23,800	
760. <b><u>D2.22 - Branch Devices &amp; Wiring</u></b>				<b>1,113,100</b>	
762. General maintenance receptacles are provided throughout the facility. Receptacles for office, dressing rooms... are provided to accommodate the specific usage of each area. 20A dimming circuits are provided in the performance areas to accommodate the production requirements. 50% of plug loads are switched as per ASHRAE 90.1 2013 requirements.	213,785	sf	3.29	703,400	
764. A central programmable lighting control and dimming system for lighting control in the public areas is provided. Service and non public areas have lighting controlled by central LV switching and occupancy sensors.	213,785	sf	1.87	399,800	
766. Supply and installation of receptacle/power connection and lighting control devices within covered loading dock	3,600	sf	2.75	9,900	
768. <b><u>D2.23 - Heating</u></b>				<b>0</b>	
770. Electric heating is achieved by units supplied by Mechanical. The electrical division installs, wires and terminates these unit (included above).					
772. <b><u>D2.24 - General Requirements</u></b>				<b>1,740,000</b>	
774. Supervision, site office, head office overheads, submittals, premium of loss of productivity time, small tools, rentals and the like.	1 sum		1,740,000	1,740,000	
777. <b>Total for Section D2.2 Lighting, Devices &amp; Controls</b>				<b>\$10,437,500</b>	



**Keller Auditorium - PSU/Bora 3,000 Seat Program**  
**Program Estimate**

Detailed Estimate

May 22, 2024

Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	
<b>779. D2.3 Systems &amp; Ancillaries</b>					
<b>781. <u>D2.31 - Fire Alarm System</u></b>				<b>886,100</b>	
783. A two stage addressable fire alarm EVAC system is provided in the facility to suit local code requirements. System includes central panel, annunciator, speakers/horns/strobes, heat/smoke detectors, pull stations... throughout.	213,785	sf	3.09	660,600	
785. Fire responders distributed antenna system	213,785	sf	1.03	220,200	
787. Supply and installation of fire alarm devices within covered	3,500	sf	1.50	5,300	
<b>789. <u>D2.32 - Security System</u></b>				<b>887,800</b>	
791. A security access and CCTV system are provided to suit the end user needs. It is assumed that this system monitors exterior doors, provides access through security doors only and provide cameras to monitor the building perimeter only.	213,785	sf	4.12	880,800	
793. Supply and installation of security devices within covered loading	3,500	sf	2.00	7,000	
<b>795. <u>D2.33 - Communications</u></b>				<b>888,700</b>	
797. General					
799. The electrical division provides an infrastructure raceway system to accommodate a CAT 6 structured cabling system with horizontal and backbone cabling throughout the facility to meet the clients requirements. Telephony and active hardware is provided by others.	213,785	sf	4.12	880,800	
801. Supply and installation of communication outlets c/w associated structured cabling within covered loading dock	3,500	sf	2.25	7,900	
803. Clock					
805. A clock system is not required. Time is displayed by the information screens and/or PC devices.					
<b>807. <u>D2.34 - P.A. System</u></b>				<b>2,165,600</b>	
809. The electrical division provides a complete empty raceway infrastructure to accommodate a general paging system for non production paging throughout the facility. Paging equipment is provided by others.	213,785	sf	0.51	109,000	
811. Audio/Visual - Performance					



Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	
813. The electrical division provides a complete empty raceway infrastructure to accommodate the intercom, program audio/visual, assisted listening, integrated controls and portable equipment. A complete cable pass through system provides routing for broadcast and recording cabling. The equipment costs are included in Architectural estimate	213,785	sf	9.62	2,056,600	
815. <b><u>D2.35 - Miscellaneous</u></b>				0	
817. Miscellaneous systems such as Night Delivery system, clocks, etc. are not required in the facility.					
820. <b><u>D2.36 - General Requirements</u></b>				967,000	
822. Electrical subcontractor's supervision, site office, head office overheads, submittals, premium of loss of productivity time, small tools, rentals and the like.	1	sum	967,000.00	967,000	
826. <b>Total for Section D2.3 Systems &amp; Ancillaries</b>				<b>\$5,795,200</b>	

**E EQUIPMENT**

**E1 Equipment**

833. <b>E1.1 Performance Equipment &amp; Seating</b>		per Theatre Projects			
835. <b>Main Theatre</b>					
837. Fixed Audience Seating	1	ls	1,755,000.00	1,755,000	
838. Loose Audience Chairs	1	ls	300,000.00	300,000	
840. Orchestra Enclosures	1	ls	480,000.00	480,000	
842. Theatrical Platforms	1	ls	153,600.00	153,600	
844. Theatrical Rigging	1	ls	1,376,800.00	1,376,800	
845. Theatrical Fire Safety Curtain	1	ls	350,000.00	350,000	
846. Theatrical Chain Hoist and Accessories	1	ls	12,600.00	12,600	
847. Theatrical Draperies	1	ls	141,800.00	141,800	
848. Theatrical Lifts	1	ls	800,000.00	800,000	
849. Theatrical Seating Wagons	1	ls	325,000.00	325,000	
850. Dance Floor Surface	1	ls	14,750.00	14,800	
851. Portable Dance Floor System				0	
853. Theatrical Lighting Instruments & Accessories	1	ls	1,025,765.00	1,025,800	



**Keller Auditorium - PSU/Bora 3,000 Seat Program**  
**Program Estimate**

**Detailed Estimate**

**May 22, 2024**

Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	
855. Theatrical Lighting Controls	1	ls	480,567.00	480,600	
857. Company Switches	1	ls	66,000.00	66,000	
859. Integrated Audio-Video Systems & Equipment for Theatres	1	ls	2,854,820.00	2,854,800	
861. Ancillary spaces and other items	1	ls	331,225.00	331,200	
<b>865. Total for Section E1.1 Performance Equipment &amp; Seating</b>				<b>\$10,468,000</b>	

867. E1.2 AV Equipment					
869. AV equipment				elsewhere	w/ section E1.1
<b>873. Total for Section E1.2 AV Equipment</b>				<b>\$0</b>	

**E2 Miscellaneous Equipment**

877. E2.1 Miscellaneous Equipment					
879. Food service and bar equipment	1	ls	250,000.00	250,000	allowance
881. Loading dock equipment	4	ea	20,000.00	80,000	
883. Security and communication equipment				see electrical	
<b>886. Total for Section E2.1 Miscellaneous Equipment</b>				<b>\$330,000</b>	

**F DEMOLITION & TEMPORARY CONSTRUCTION**

**F1 Demolition & Temporary Construction**

892. F1.1 Demolition					
894. Demolition of existing buildings on site				0	excluded
<b>897. Total for Section F1.1 Demolition</b>				<b>\$0</b>	

900. F1.2 Temporary Construction					
902. Assumed all included in general requirements				elsewhere	
<b>905. Total for Section F1.2 Temporary Construction</b>				<b>\$0</b>	



**Keller Auditorium - PSU/Bora 3,000 Seat Program**  
**Program Estimate**

Detailed Estimate

May 22, 2024

Description	Program Estimate				Remarks
	Quantity	Unt	Rate	Amount	

**G GENERAL REQUIREMENTS**

910. <b>G1.1 Equipment &amp; Rentals</b>					
912. Cranes/hoisting	1	ls	2,500,000.00	2,500,000	
914. Scaffolding					
915. multi-function theatre - 3000 seats	1	ls	1,000,000.00	1,000,000	
916. lobby	1	ls	700,000.00	700,000	
<b>919. Total for Section G1.1 Equipment &amp; Rentals</b>				<b>\$4,200,000</b>	

921. <b>G1.2 Project Overhead Items</b>					
923. Temporary cooling	1	ls	75,000.00	75,000	allowance
925. Subguard	1	ls	3,315,000.00	3,315,000	1-1/2% allowance
927. Non-trade items:	1	ls	4,420,000.00	4,420,000	2% allowance
928. temporary protection of finishes					incl
929. cleaning					incl
930. sediment control					incl
931. construction fence					incl
932. temporary roads					incl
933. street cleaning					incl
935. Mock ups	1	ls	350,000.00	350,000	
<b>938. Total for Section G1.2 Project Overhead Items</b>				<b>\$8,160,000</b>	

**H SITEWORKS & UTILITIES**

943. <b>H1.1 Siteworks</b>					
945. Hard and soft landscaping (site area minus bldg footprint)				0	site in PSU scope
<b>948. Total for Section H1.1 Siteworks</b>				<b>\$0</b>	

951. <b>H1.2 Mechanical Utilities</b>					
953. Mechanical utilities				0	site in PSU scope
<b>956. Total for Section H1.2 Mechanical Utilities</b>				<b>\$0</b>	



Keller Auditorium - PSU/Bora 3,000 Seat Program

Program Estimate

Detailed Estimate

May 22, 2024

Description	Program Estimate			Remarks
	Quantity	Unt	Rate	
<b>959. H1.3 Electrical Utilities</b>				
961. Electrical utilities				0 site in PSU scope
<b>964. Total for Section H1.3 Electrical Utilities</b>				<b>\$0</b>

**Keller Auditorium - PSU/Bora 3,000 Seat Program**  
**Interior Finish Schedule**

Summary of Interior Finishes

May 22, 2024

Program Spaces	Floor Finish 1	Floor Finish 1 %	Floor Finish 2	Floor Finish 2 %	Base 1	Base 1 %	Base 2	Base 2 %	Wall Finish 1	Wall Finish 1 %	Wall Finish 2	Wall Finish 2 %	Wall Finish 3	Wall Finish 3 %	Wall Finish 4	Wall Finish 4 %	Ceiling 1	Ceiling 1 %	Ceiling 2	Ceiling 2 %	Ceiling 3	Ceiling 3 %
Multi-Function Theatre - 3000 seats	sealed & polished conc (scofield)	100%	carpet to steps and aisles in auditorium	33%	wood base to auditorium	100%	none	0%	wood panelling	40%	1" fwp FOH	0%	0%	0%	0%	0%	ceiling reflectors to mf hall	40%	40%	60%	2" ductliner (ceiling)	60%
Stage - Multi-Function (95' hi roof)	¾" renewresources "stageboard" on two layers of ¾" thick tongue and groove, structural 1 grade, 7-ply marine plywood on 2x4 sleepers	100%	none	0%	wood base	100%	none	0%	paint to stagehouse walls	100%	none	0%	0%	0%	0%	0%	exposed ceiling, ptd black to stagehouse	100%	none	0%	0%	0%
Orchestra Pit	¾" renewresources "stageboard" on two layers of ¾" thick tongue and groove, structural 1 grade, 7-ply marine plywood on 2x4 sleepers	100%	none	0%	wood base	100%	none	0%	1" fwp FOH	100%	none	0%	0%	0%	0%	0%	2" fwp	70%	none	0%	0%	0%
Box Office/Coats	carpet tile	100%	none	0%	rubber base	100%	none	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	none	0%	0%	0%
Lobbies/Public Circulation	terrazzo	80%	carpet	20%	terrazzo base	100%	none	0%	wood panelling	30%	decoustic wood veneer with custom perf	0%	0%	0%	0%	0%	exposed clt	100%	allowance for fuzz to foh clt decking	-30%	0%	-30%
Public S&LL'S	carpet	100%	none	0%	wood base	100%	none	0%	1" fwp FOH	50%	0%	0%	0%	0%	0%	0%	0%	100%	none	0%	0%	0%
Concessions/Bar	terrazzo	100%	none	0%	terrazzo base	100%	none	0%	wood panelling	30%	1" fwp FOH	0%	0%	0%	0%	0%	exposed clt	100%	allowance for fuzz to foh clt decking	0%	0%	-30%
Public Restrooms	porcelain tile	100%	none	0%	tile base foh	100%	none	0%	ceramic tile (walls) (foh)	100%	none	0%	0%	0%	0%	0%	0%	100%	none	-30%	0%	0%
Donor Room	wood flooring	80%	custom carpet	20%	wood base	100%	none	0%	wood panelling	50%	1" fwp FOH	0%	0%	0%	0%	0%	exposed clt	100%	allowance for fuzz to foh clt decking	0%	0%	-30%

**Keller Auditorium - PSU/Bora 3,000 Seat Program**

**Program Estimate**

**Program Net to Gross Area Calculations**

**May 22, 2024**

<b>Program Space Name</b>		<b>Net Prog</b>	<b>Multi</b>	<b>Gross Sf</b>	<b>Notes</b>
<b>Summary of Programmed Spaces - using 3,000 seat program as a basis</b>					
<b>FRONT OF HOUSE - COMMON</b>					
100	PUBLIC SPACES: LOBBY	32,804	1.11	36,535	
110	PUBLIC SPACES: LOBBY SUPPORT	8,344	1.22	10,160	
120	PUBLIC SPACES: RECEPTION AREAS	3,425	1.11	3,810	
130	PUBLIC SPACES: STAFF SUPPORT AREAS	3,976	1.15	4,590	
200	PERFORMANCE SPACE: AUDITORIUM	30,000	1.15	34,500	
210	STAGE	18,706	1.15	21,605	
300	STAGE SUPPORT SPACES	3,668	1.12	4,125	
400	PERFORMER SUPPORT	15,249	1.13	17,250	
500	WORKSHOPS	5,726	1.06	6,070	
600	SERVICES	2,673	1.13	3,020	
700	ADMINISTRATION	4,441	1.11	4,940	
<b>Total Of Programmed Spaces</b>		<b>129,012</b>	<b>1.14</b>	<b>146,605</b>	
<b>Other Required Spaces</b>					
	Front-Of-House Circulation	11,200	1.15	12,880	
	Back-Of-House Circulation			26,450	
	Mechanical And Electrical			21,990	
	Unusable/Inaccessible			5,860	
	Plenum			0	15,525 sf for plenum
<b>Total of Other Required Spaces</b>				<b>67,180</b>	
<b>Overall Total</b>		<b>129,012</b>	<b>1.66</b>	<b>213,785</b>	
<b>FRONT OF HOUSE - COMMON</b>					
<b>100</b>	<b>PUBLIC SPACES: LOBBY</b>				
101	Building Entry Vestibules	1,019	1.15	1,170	
102a	Orchestra Main Foyer	17,000	1.10	18,700	
102b	Orchestra SLLs	600	1.35	810	
102c	Parterre Foyer				
102d	Parterre SLLs	200	1.35	270	
103a	Box Foyer				
103b	Box SLLs				
104a	First Balcony Foyer	7,185	1.10	7,905	
104b	First Balcony SLLs	400	1.35	540	
105a	Second Balcony Foyer	6,000	1.10	6,600	
105b	Second Balcony SLLs	400	1.35	540	
<b>Total PUBLIC SPACES: LOBBY</b>		<b>32,804</b>	<b>1.11</b>	<b>36,535</b>	

**Keller Auditorium - PSU/Bora 3,000 Seat Program**

**Program Estimate**

**Program Net to Gross Area Calculations**

**May 22, 2024**

	<i>Program Space Name</i>	<i>Net Prog</i>	<i>Multi</i>	<i>Gross Sf</i>	<i>Notes</i>
<b>110</b>	<b>PUBLIC SPACES: LOBBY SUPPORT</b>				
111	Box Office			0	
111a	Stations	250	1.10	275	
111b	Box Office - Workroom	300	1.10	330	
111c	Box Office - Manager Office	100	1.10	110	
111d	Box Office - Storage	80	1.10	90	
111e	Box Office - RR	60	1.10	65	
112	Gift Shop/Merch				included in concessions
113	Coat Room	450	1.10	495	
114	Concessions	2,189	1.10	2,410	includes storage
115	Concessions/Food Cart Storage				
116	Restrooms - Women				
117	Restrooms - Men				
118	Restrooms - Gender Neutral	4,800	1.30	6,240	
119	Lactation Room	115	1.25	145	
	<b>Total PUBLIC SPACES: LOBBY SUPPORT</b>	<b>8,344</b>	<b>1.22</b>	<b>10,160</b>	
<b>120</b>	<b>PUBLIC SPACES: RECEPTION AREAS</b>				
121	Donor's Room	1,850	1.10	2,035	
	Donor Coat Closet	150	1.10	165	
	Restrooms - Donor	200	1.30	260	
121a	Bar				
121b	Storage				
121c	Catering	625	1.10	690	
	Bar/Pantry	0	1.10	0	
	Storage	0	1.10	0	
122	Servery	0	1.15	0	
123	Reception/Press Room	300	1.10	330	
124	Kitchen				in PSU academic program
125	Café				in PSU academic program
126	Critic Rooms	300	1.10	330	
	<b>Total PUBLIC SPACES: RECEPTION AREAS</b>	<b>3,425</b>	<b>1.11</b>	<b>3,810</b>	
<b>130</b>	<b>PUBLIC SPACES: STAFF SUPPORT AREAS</b>				
131	House Manager Head Usher	150	1.10	165	
132	Usher Meeting Room/Storage	695	1.10	765	
133	FOH Storage/Program Assembly	800	1.10	880	
134	First Aid Room	150	1.20	180	
135	Ushers Changing Room	300	1.10	330	
	Break Room (Level 1)	470	1.10	515	
	Locker Room (Level 1)	150	1.10	165	

**Keller Auditorium - PSU/Bora 3,000 Seat Program**

**Program Estimate**

**Program Net to Gross Area Calculations**

**May 22, 2024**

<b>Program Space Name</b>		<b>Net Prog</b>	<b>Multi</b>	<b>Gross Sf</b>	<b>Notes</b>
	FOH Staff Restrooms	300	1.30	390	
136	Custodial	450	1.35	610	
137	Volunteers Room	360	1.10	395	
	Lobby Dimmer Room (Level 1)	95	1.25	120	
	Lobby Audio Room (Level 1)	56	1.30	75	
	<b>Total PUBLIC SPACES: STAFF SUPPORT AREAS</b>	<b>3,976</b>	<b>1.15</b>	<b>4,590</b>	
<b>200</b>	<b>PERFORMANCE SPACE: AUDITORIUM</b>				
201A	Orchestra/Parterre	13,500	1.15	15,525	
210b	In House Mix	200	1.15	230	
202	Boxes	3,000	1.15	3,450	
203	First Balcony	6,000	1.15	6,900	
204	Second Balcony	7,300	1.15	8,395	
	<b>Total PERFORMANCE SPACE: AUDITORIUM</b>	<b>30,000</b>	<b>1.15</b>	<b>34,500</b>	
<b>210</b>	<b>STAGE</b>				
211a	Stage	6,744	1.15	7,755	
	Stage SLL (on all four corners of the stage)	340	1.30	440	
211b	Counterweight Pit	440	1.20	530	
211c	Staging	2,025	1.10	2,230	
211d	Apron	439	1.10	485	
211e	Stage Manager Console Position	165	1.10	180	
211f	Crossover Aisle	1,040	1.15	1,195	
	Lighting				
	Grid & Rigging				
	Proscenium Opening				
212a	Orchestra Pit	1,450	1.15	1,665	
212b	Orchestra Pit Storage				
	Orchestra Pit SLL	640	1.30	830	
212c	Seat Wagon Storage	1,700	1.10	1,870	
	Trap Room SLL	160	1.30	210	
213	Stage Floor Traps/Trap Room	1,408	1.10	1,550	
214	Control Booth	301	1.20	360	
215	Director's Booth	150	1.25	190	
	Control Booth SLL's	132	1.30	170	
	Projection Booth	118	1.25	150	
	Projection Booth - Restroom	52	1.35	70	
216	Stage Manager Booth	120	1.25	150	
217	Supertitle Booth	80	1.30	105	
218	Sound Control Booth				
219	Follow Spot Booth	375	1.25	470	



**Keller Auditorium - PSU/Bora 3,000 Seat Program**

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**May 22, 2024**

<b>Program Space Name</b>		<b>Net Prog</b>	<b>Multi</b>	<b>Gross Sf</b>	<b>Notes</b>
	Follow Spot - Restroom	65	1.35	90	
	Follow Spot SLL	50	1.30	65	
	Dimmer Room	195	1.20	235	
	Amp Rack Room	155	1.20	185	
	Quiet/Cry Room	310	1.15	355	
	Quiet/Cry Room SLL	52	1.30	70	
	<b>Total STAGE</b>	<b>18,706</b>	<b>1.15</b>	<b>21,605</b>	
<b>300</b>	<b>STAGE SUPPORT SPACES</b>				
301	Production/Technical office	1,050	1.10	1,155	
302	Crew Room	416	1.10	460	
303	BOH Catering	551	1.10	605	
304	Changing Rooms & Lockers	301	1.10	330	
305	Props Shop	324	1.10	355	
306	Painter's closet	157	1.10	175	
307	Backstage Toilets	432	1.30	560	
308	Quick Change rooms	135	1.15	155	
309	Visiting Staff Offices	302	1.10	330	
310	Special Effects Room				
	<b>Total STAGE SUPPORT SPACES</b>	<b>3,668</b>	<b>1.12</b>	<b>4,125</b>	
<b>400</b>	<b>PERFORMER SUPPORT</b>				
401	Stage Door/ Receiving	429	1.10	470	
402	Green Room	645	1.10	710	
403	Principal/Double w W/C and Piano	750	1.20	900	
404	Principal-2 Person w W/C	735	1.20	880	
405	4-Person Dressing	1,500	1.20	1,800	
406	15-Person Dressing	1,500	1.20	1,800	
407	24-Person Chorus Dressing Rooms	1,980	1.10	2,180	
	Conductor Dressing Room	256	1.20	305	
	Musician Changing Room	1,200	1.10	1,320	
408	Therapy Room	300	1.10	330	
409	Makeup Room/ Wig Room	561	1.10	615	
	Laundry	201	1.15	230	
410	Coaching Room	213	1.10	235	
411	Wardrobe	571	1.10	630	
412	Warm up	705	1.10	775	
413	Performer's Lounge	783	1.10	860	
414	Artist's Lounge	1,000	1.10	1,100	
415	Instrument Storage	450	1.10	495	
416	Storage	311	1.10	340	

**Keller Auditorium - PSU/Bora 3,000 Seat Program**

**Program Estimate**

**Program Net to Gross Area Calculations**

**May 22, 2024**

<b>Program Space Name</b>		<b>Net Prog</b>	<b>Multi</b>	<b>Gross Sf</b>	<b>Notes</b>
417	Rehearsal Hall 1				in PSU academic program
418	Rehearsal Hall 2				in PSU academic program
	Rehearsal Hall 3				in PSU academic program
419	Rehearsal Hall Storage Room				in PSU academic program
	Musician Green Room	515	1.10	565	
	Percussion Storage	644	1.10	710	
	<b>Total PERFORMER SUPPORT</b>	<b>15,249</b>	<b>1.13</b>	<b>17,250</b>	
<b>500</b>	<b>WORKSHOPS</b>				
501	Stage Department Shop	866	1.10	955	scenic
502	Theatrical Equipment Storage				
	Storage - General	1,600	1.10	1,760	
503	Lighting Equipment Storage	300	1.10	330	
504	Sound Shop	300	1.10	330	
505	Sound Equipment Storage	350	1.10	385	
506	Sound Support Spaces				
	Storage - Rigging	150	1.10	150	
	Storage - Props	150	1.10	150	
	Storage - Roadcases	177	1.10	177	
	Storage - Piano	200	1.10	200	
	Storage - Stage Tools	100	1.10	100	
	Storage - Dance Floor	150	1.10	150	
	Storage - Soft Goods	1,083	1.10	1,083	
	Storage - Lighting Racks	300	1.10	300	
507	Lighting Electrical Room				dimmer room accounted for above
	<b>Total WORKSHOPS</b>	<b>5,726</b>	<b>1.06</b>	<b>6,070</b>	
<b>600</b>	<b>SERVICES</b>				
601	Freight Elevator	273	1.40	380	
602	Security Closet	100	1.10	110	
603	Receiving/Dock	1,200	1.10	1,320	4 docks
604	Temporary Storage	1,100	1.10	1,210	
	<b>Total SERVICES</b>	<b>2,673</b>	<b>1.13</b>	<b>3,020</b>	
<b>700</b>	<b>ADMINISTRATION</b>				
701	Building Operations Suite	606	1.10	665	
702	Building Services Loading Dock			0	in PSU academic program
703	Receiving	517	1.10	570	
704	Trash/Recycling	820	1.10	900	
705	Security at Stage Door	220	1.10	240	
	RR - Admin (Women)	142	1.30	185	
	RR - Admin (Men)	142	1.30	185	

**Keller Auditorium - PSU/Bora 3,000 Seat Program**

**Program Estimate**

**Program Net to Gross Area Calculations**

**May 22, 2024**

<i>Program Space Name</i>	<i>Net Prog</i>	<i>Multi</i>	<i>Gross Sf</i>	<i>Notes</i>
Board Room	605	1.10	665	
Lounge/Lunchroom	339	1.10	375	
General Offices	1,050	1.10	1,155	
<b>Total ADMINISTRATION</b>	<b>4,441</b>	<b>1.11</b>	<b>4,940</b>	