



**LEED v.3 for New Construction and Major Renovations**

Project Checklist - **Construction Documents 08/10/18**

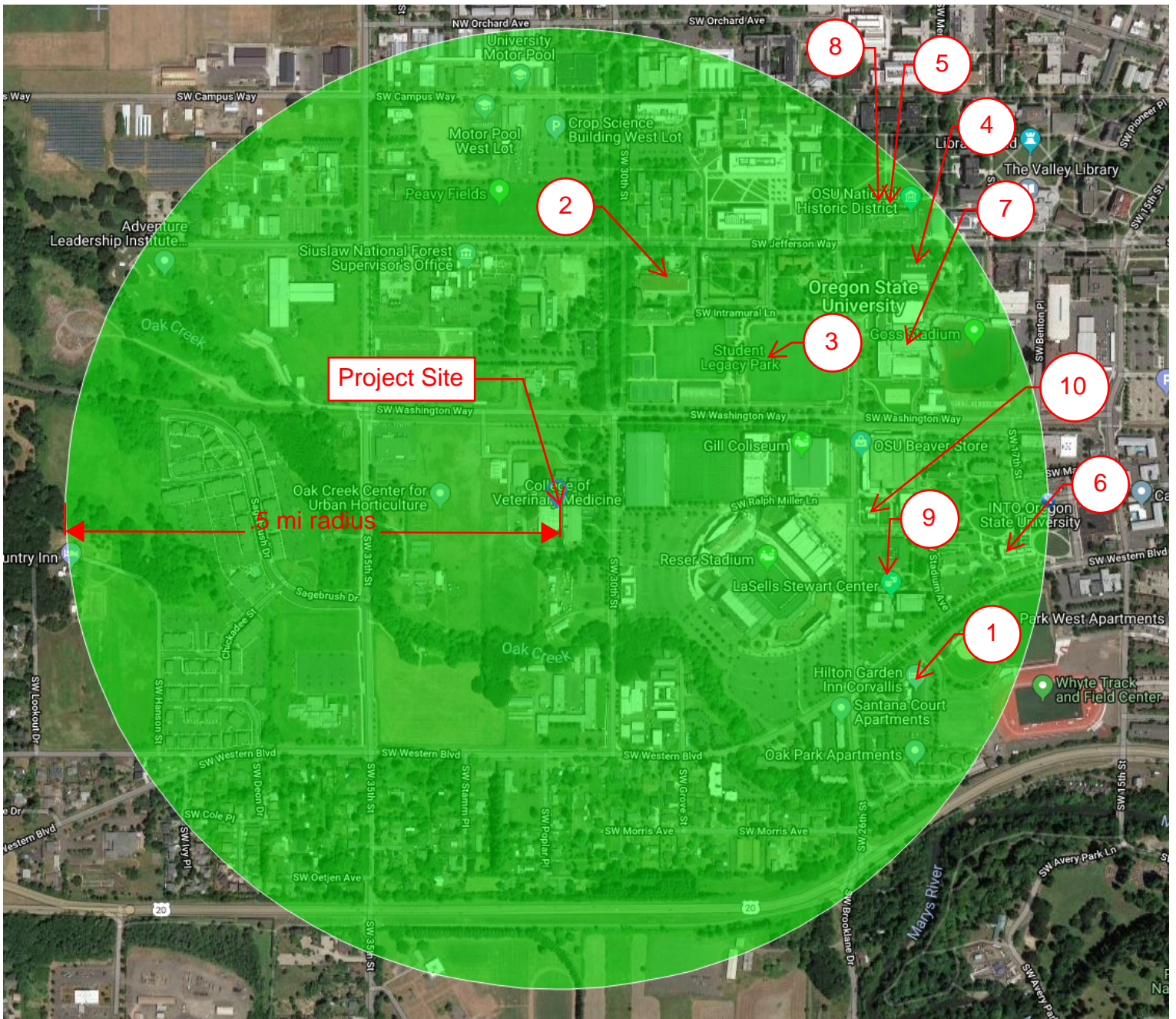
17			6			2			Sustainable Sites			Possible Points: 26			Additional points possible with OSU specified action			
Y	?	N	d/C															
			C	Prereq 1	Construction Activity Pollution Prevention													
1			d	Credit 1	Site Selection		1											
4			d	Credit 2	Development Density and Community Connectivity		5											
		1	d	Credit 3	Brownfield Redevelopment		1											
6			d	Credit 4.1	Alternative Transportation--Public Transportation Access		6											
1			d	Credit 4.2	Alternative Transportation--Bicycle Storage and Changing Rooms		1											
	3		d	Credit 4.3	Alternative Transportation--Low-Emitting and Fuel-Efficient Vehicles		3							3				
	2		d	Credit 4.4	Alternative Transportation--Parking Capacity		2							2				
	1		C	Credit 5.1	Site Development--Protect or Restore Habitat		1							1				
1			d	Credit 5.2	Site Development--Maximize Open Space		1											
1			d	Credit 6.1	Stormwater Design--Quantity Control		1											
		1	d	Credit 6.2	Stormwater Design--Quality Control		1											
1			C	Credit 7.1	Heat Island Effect--Non-roof		1											
1			d	Credit 7.2	Heat Island Effect--Roof		1											
1			d	Credit 8	Light Pollution Reduction		1											





12	1	2	Indoor Environmental Quality		Possible Points: 15
Y	?	N			
Y			d	Prereq 1 Minimum Indoor Air Quality Performance	1
Y			d	Prereq 2 Environmental Tobacco Smoke (ETS) Control	1
1			d	Credit 1 Outdoor Air Delivery Monitoring	1
1			d	Credit 2 Increased Ventilation	1
1			C	Credit 3.1 Construction IAQ Management Plan—During Construction	1
1			C	Credit 3.2 Construction IAQ Management Plan—Before Occupancy	1
1			C	Credit 4.1 Low-Emitting Materials—Adhesives and Sealants	1
1			C	Credit 4.2 Low-Emitting Materials—Paints and Coatings	1
1			C	Credit 4.3 Low-Emitting Materials—Flooring Systems	1
1			C	Credit 4.4 Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			d	Credit 5 Indoor Chemical and Pollutant Source Control	1
1			d	Credit 6.1 Controllability of Systems—Lighting	1
		1	d	Credit 6.2 Controllability of Systems—Thermal Comfort	1
1			d	Credit 7.1 Thermal Comfort—Design	1
		1	d	Credit 7.2 Thermal Comfort—Verification	1
1			d	Credit 8.1 Daylight and Views—Daylight	1
		1	d	Credit 8.2 Daylight and Views—Views	1
<p>Notes:</p> <p>Will be met. Baseline Oregon Mechanical code (OMSC) meets or exceeds.  OSU campus-wide policy prohibits smoking on all university property.  Airflow measuring stations are provided per specification section 237000 and the sequence of operations in 230993.  The AHU system is designed to exceed the ventilation rates required to achieve this credit (30% above minimum rates).  The contractor will supply within 30 days of Notice to Proceed an IAQ management plan that complies with LEED requirements. This will include a product data for temporary filtration media, photo documentation showing implemented SMACNA measures and protection of absorptive materials, and a narrative describing the project's specific flush-out procedures complying with LEED requirements. This is stated in specification section 01 81 13 - Sustainability Requirements.  The contractor will provide product data for filtration media used during occupancy and perform a flush-out after construction ends with all interior finishes installed, prior to occupancy. This is stated in specification section 01 81 13 - Sustainability Requirements.  All adhesives and sealants that are inside the weatherproofing system will comply with the LEED criteria for VOC content. These requirements are stated in specification section 01 81 13 - Sustainability Requirements.  All paints and coatings used on the interior of the building will comply with the LEED criteria for VOC content. These requirements are stated in specification section 01 81 13 - Sustainability Requirements.  All flooring materials shall comply with the LEED criteria as outlined in specification section 01 81 13 - Sustainability Requirements.  The building does not use composite wood or agrifiber products or adhesives that contain urea-formaldehyde resin.  The building will have high performing mechanical systems that are designed to handle laboratory-level exhaust and filtration requirements. Housekeeping rooms and spaces with any hazardous chemicals are provided with exhaust and will be maintained at negative pressure. MERV 13 filters are provided in HVAC supply system.  All 3 of the regularly used entrances have vestibules with permanently installed recessed walk-off mats to capture dirt and particulates entering the building. Due to budget restraints the average distance of the walk-off mats is 6'-6". The design team was directed by OSU to employ these interior walk-off mats and not use exterior grate systems, which have not been successful for the university. The project meets the intent of the credit, which is to minimize building occupant exposure to potentially hazardous particulates and chemical pollutants. See attached diagram and A10.11-A10.13.  Dimming controls provided throughout individual and multiple occupant spaces.  Less than 50% of spaces provided with individual control. Offices and Exam rooms were ganged 3-4 to an individual control box per direction given by OSU during design process. This direction was given to decrease project costs.  HVAC system and distribution has been designed in accordance standards to comply with ASHRAE 55 requirements.  Only applicable if pursuing IEQc7.1. Commissioning agent or other could perform if OSU wants to pursue.  The project meets the intent of this credit by providing daylight to the majority of regularly occupied spaces, see attached diagram.  It will not be possible to achieve a direct line of sight to the outdoor environment via vision glazing between 30 inches and 90 inches above the finish floor for building occupants in 90% of all regularly occupied areas. The largest hindrance to this credit is the lecture hall classroom (2,354 SF), where the room's task requires high glazing with no direct line of sight.</p>					
<p>Notes:</p> <p>Up to 5 innovation points allowed, 1 pilot credit allowed.  Design elements that promote walking &amp; biking on site <i>(if time provide basic diagram)</i>  Improve health of building users through physical activity (may not apply or be possible) - <i>(is there an alternative credit?)</i>  Gypsum board, insulation, acoustical ceilings and wall coverings shall comply with the LEED criteria as outlined in specification section 01 81 13 - Sustainability Requirements.  Incorporating design strategies to prioritize well being of animals during clinic and hospital visits to improve the animal's experience and animal health outcomes.  Design team demonstrates social responsibility through International Living Future Institute's JUST label (attached)  Ericka Colvin is LEED AP BD+C</p>					
5	0	1	Innovation and Design Process		Possible Points: 6
Y	?	N			
1			d/C	Credit 1.1 Innovation in Design: Walkable project site	1
		1	d/C	Credit 1.2 Innovation in Design: Design for active occupants	1
1			d/C	Credit 1.3 Innovation in Design: Low-emitting materials	1
1			d/C	Credit 1.4 Innovation in Design: Animal friendly design	1
1			d/C	Credit 1.5 Innovation in Design: Social Equity within project team (IPpc90)	1
1			d/C	Credit 2 LEED Accredited Professional	1
0	0	4	Regional Priority Credits		Possible Points: 4
Y	?	N			
		1	d/C	Credit 1.1 MRc1.1 Building reuse - maintain existing walls, floors and roof	1
		1	d/C	Credit 1.2 MRc3 Materials Reuse	1
		1	d/C	Credit 1.3 SSc5.1 Site development - protect or restore habitat	1
		1	d/C	Credit 1.4 WEc2 Innovative wastewater technologies	1
		1	d/C	Credit 1.5 MRc7 Certified wood	1
		1	d/C	Credit 1.6 SSc3 Brownfield redevelopment	1
51	21	37	Total		Possible Points: 110
<p>Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110</p>					





## SSc2 DEVELOPMENT DENSITY AND COMMUNITY CONNECTIVITY

To channel development to urban areas with existing infrastructure, protect greenfields and preserve habitat and natural resources.

### OPTION 2 Community Connectivity

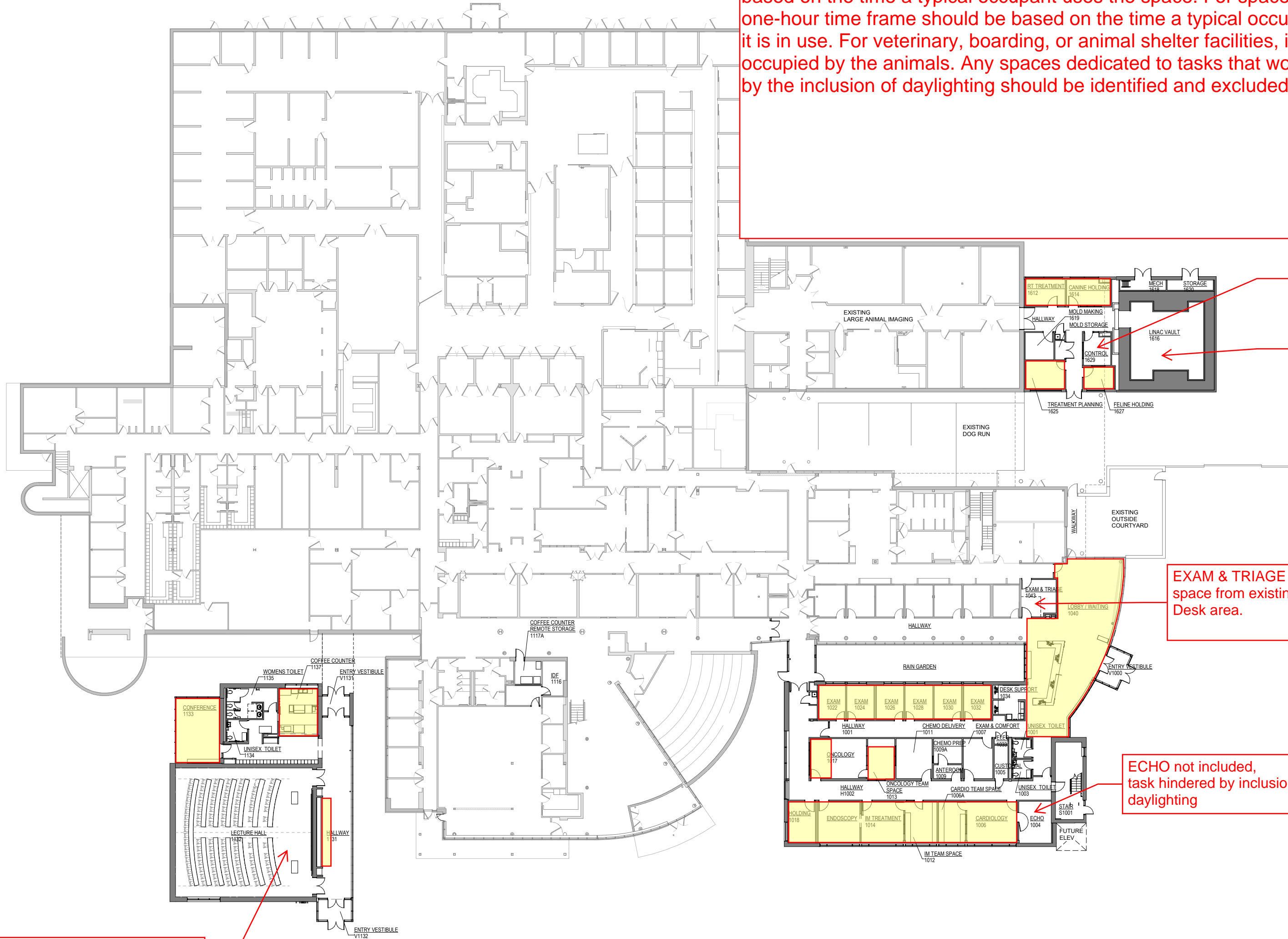
10 basic services within .5mi radius:

- |  |  |
|--|--|
| 1. Hotel - Hilton Garden Inn Corvallis           | 6. Grocery Market - Cascadia Market                |
| 2. Restaurant - Cooper's Creek BBQ               | 7. Fitness Center - Dixon Recreation Center        |
| 3. Park - Student Legacy Park                    | 8. Museum - Memorial Union Concourse Gallery       |
| 4. Childcare - KidsSpirit Youth Program          | 9. Auditorium - Austin Auditorium                  |
| 5. Place of Worship - Real Life College Ministry | 10. Community Center - Cento Cultural Cesar Chavez |



1 OVERALL FIRST FLOOR PLAN  
1/16" = 1'-0"

**IAQ SSc8.1 LIGHT POLLUTION REDUCTION - DAYLIGHTING** To provide building occupants with a connection between indoor spaces and the outdoors through the introduction of daylight and views into the regularly occupied areas of the building. "Regularly Occupied" space: An area where one or more individuals normally spend time (more than one hour per person per day on average) seated or standing as they work, study, or perform other focused activities inside a building. The one-hour time frame is continuous and should be based on the time a typical occupant uses the space. For spaces that are not used daily, the one-hour time frame should be based on the time a typical occupant spends in the space when it is in use. For veterinary, boarding, or animal shelter facilities, include the area regularly occupied by the animals. Any spaces dedicated to tasks that would be comprised or hindered by the inclusion of daylighting should be identified and excluded.



LECTURE HALL not included, task hindered by inclusion of daylighting

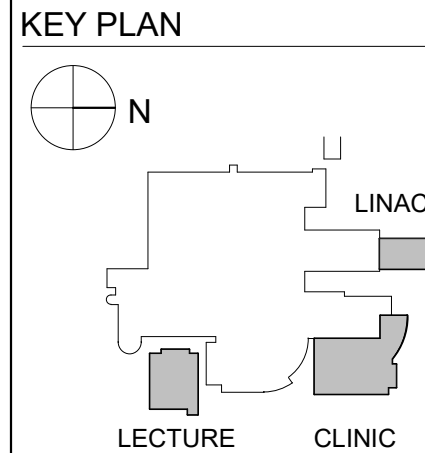
CONTROL not included, task hindered by inclusion of daylighting

LINAC VAULT not included, task hindered by inclusion of daylighting

REGULARLY OCCUPIED SPACE RECEIVING DAYLIGHT

EXAM & TRIAGE is renovated space from existing Reception Desk area.

ECHO not included, task hindered by inclusion of daylighting



REGISTERED ARCHITECT  
THOMAS ROBBINS  
Portland, OR  
6448  
STATE OF OREGON

Consultant  
**YOST GRUBE HALL ARCHITECTURE**  
707 SW Washington Street | Suite 1200 | Portland, OR 97205  
1303 221 0150 | 503 255 0840

Owner  
**Oregon State University**  
3015 SW Western Blvd  
Corvallis, OR 97331

Project  
**OSU Magruder Hall Addition and Renovation**  
700 SW 30th Street  
Corvallis, OR 97331

Sheet Title  
FIRST FLOOR PLAN - OVERALL

Drawing No.  
**A2.10**

Scale  
1/16" = 1'-0"

Date  
04/24/18

Project No.  
107800

**Table 1. Design Case**

Regional evapotranspiration rate (ET <sub>0</sub> ) for July [in]								5.82					
Landscape Type	Area [sf]	Species Factor (k <sub>s</sub> )		Density Factor (k <sub>d</sub> )		Microclimate Factor (k <sub>mc</sub> )		K <sub>L</sub>	ET <sub>L</sub>	IE	CE	TWA [gal]	
Trees	220	Avg	0.5	Avg	1.0	Avg	1.0	0.5	2.91	Drip	0.900	0.7	288.19
Mixed	3,224	Avg	0.5	Avg	1.1	Low	0.5	0.3	1.60	Drip	0.900	0.7	2,322.84
Mixed	2,145	Avg	0.5	Avg	1.1	Low	0.5	0.3	1.60	Sprinkler	0.625	0.7	2,225.43
Mixed	5,291	Avg	0.5	Avg	1.1	Avg	1.0	0.6	3.20	Sprinkler	0.625	0.7	10,978.78
Turfgrass	5,830	Avg	0.7	Avg	1.0	Avg	1.0	0.7	4.07	Sprinkler	0.625	0.7	15,396.43
<b>Total</b>	<b>16,710</b>	<b>Subtotal TWA [gal]</b>										<b>31,211.66</b>	
<b>July Rainwater and Graywater Harvest [gal]</b>													
<b>Net TPWA [gal]</b>												<b>31,211.66</b>	

**Table 2. Baseline Case**

Landscape Type	Area [sf]	Species Factor (k <sub>s</sub> )		Density Factor (k <sub>d</sub> )		Microclimate Factor (k <sub>mc</sub> )		K <sub>L</sub>	ET <sub>L</sub>	IE	TWA [gal]	
Trees	220	Avg	0.5	Avg	1.0	Avg	1.0	0.5	2.91	Sprinkler	0.625	638.46
Shrubs	10,660	Avg	0.5	Avg	1.0	Avg	1.0	0.5	2.91	Sprinkler	0.625	30,936.22
Turfgrass	5,830	Avg	0.7	Avg	1.0	Avg	1.0	0.7	4.07	Sprinkler	0.625	23,686.82
<b>Total</b>	<b>16,710</b>	<b>Subtotal TWA [gal]</b>										<b>55,261.50</b>
<b>Irrigation Potable Water Use Reduction</b>												<b>-43.52%</b>

### Full Time Equivalent Calculation

FULL-TIME OCCUPANTS	OCCUPANTS	HOURS/DAY	FULL-TIME EQUIVALENT
Clinic Treatment	30	8	30
Clinic Exam	16	8	16
Clinic Reception	6	8	6
Offices & Grads	26	8	26
Clinic Team Spaces	21	8	21
Cafe Employees	2	8	2
<b>TOTAL</b>			101

PART-TIME OCCUPANTS	CAPACITY	HOURS/DAY	FULL-TIME EQUIVALENT
Support / Maintenance Staff	2	4	1
<b>TOTAL</b>			1

TRANSIENT OCCUPANTS (AVERAGE)	CAPACITY	HOURS/DAY	FULL-TIME EQUIVALENT
Clinic Waiting	60	2	15
Lecture Hall	72	6	54
<b>TOTAL</b>	235		69

TRANSIENT OCCUPANTS (PEAK PERIOD)	OCCUPANTS
Lecture Hall	98
<b>TOTAL</b>	98

\* Lecture Hall total includes fixed seats, accessible seats, and bench space (calculated based linear feet)

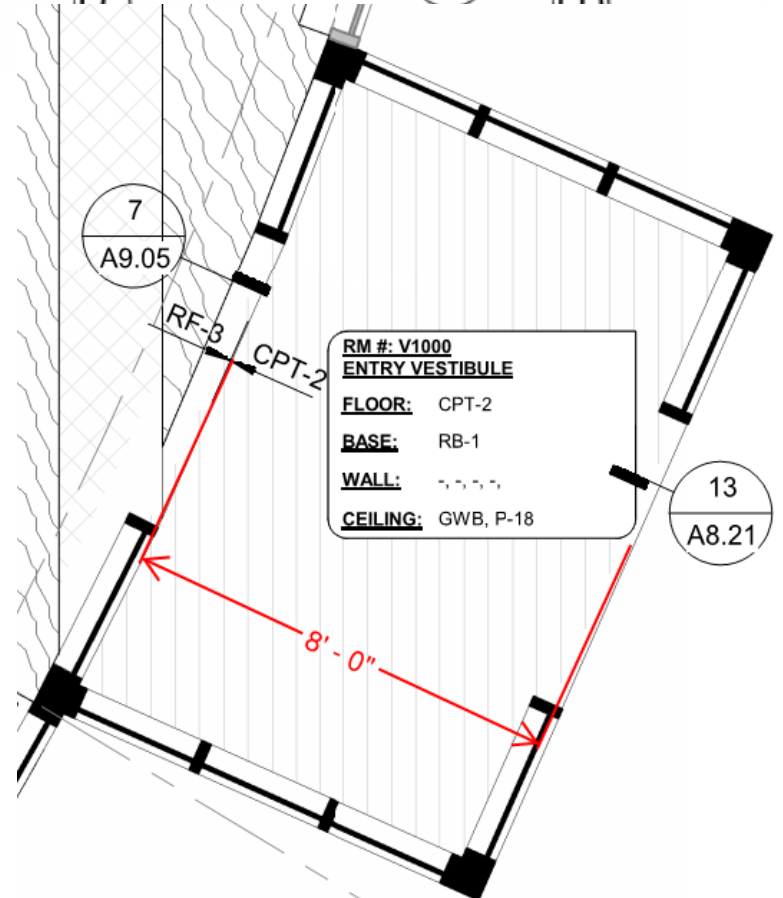
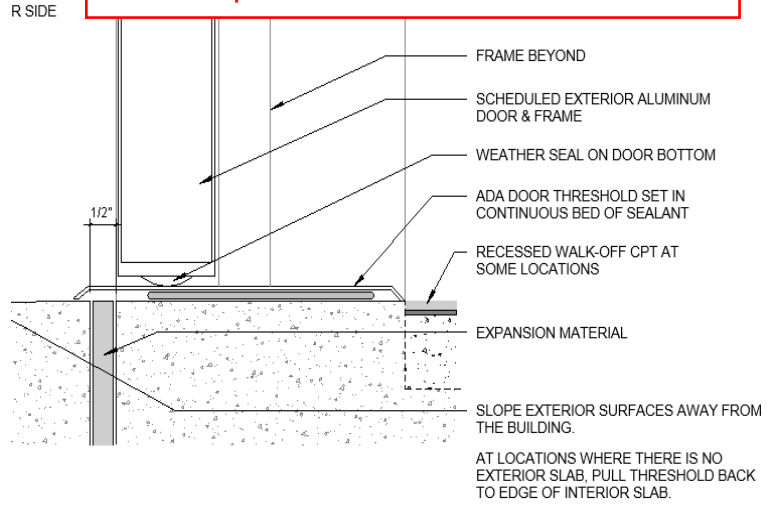
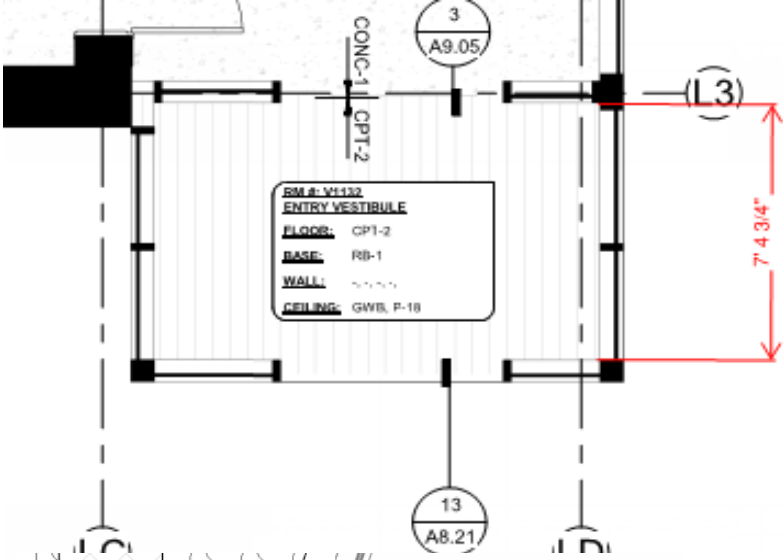
<b>TOTAL FULL-TIME EQUIVALENT</b>	<b>171</b>
Full-Time + Part-Time + Average Transient	

<b>TOTAL BUILDING OCCUPANTS @ PEAK PERIOD</b>	<b>200</b>
Full-Time + Part-Time + Peak Transient	

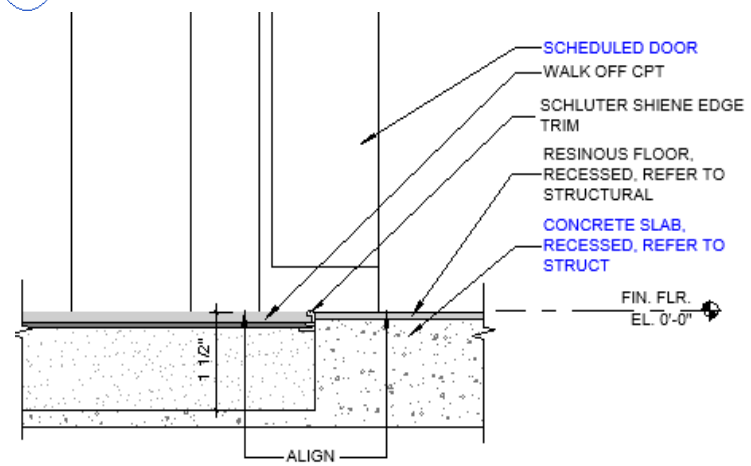


**IEQc5  
INDOOR CHEMICAL AND POLLUTANT  
SOURCE CONTROL**

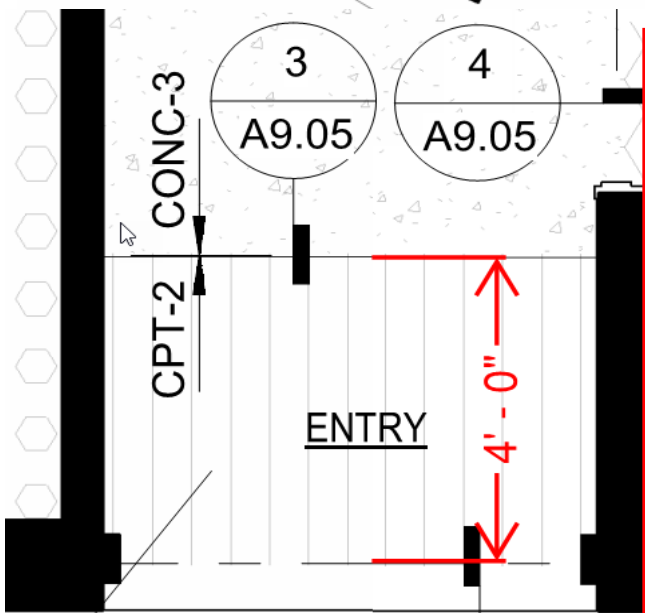
To minimize building occupant exposure to potentially hazardous particulates and chemical pollutants.



**13 ENTRANCE THRESHOLD**  
6" = 1'-0"



**7 TRANSITION - RECESSED WALK-OFF-CPT TO RESILIENT**  
6" = 1'-0"



**Shaw Industries Steppin Out Series, "Welcome II Tile" No. 5T031:**

**Pollutant Control**  
Steppin Out walk-off collection is engineered with a rough texture that traps up to 80 percent of soil and moisture brought into a facility.

**Safety**  
Permanently installed walk-off carpet tiles and broadloom don't "migrate" or buckle, reducing the risk of slips, trips and falls at a facility's entrance and beyond.

**Extended Flooring Life**  
Minimizing the quantity of dirt and moisture entering the building means extended life for interior flooring.

**Reduced Maintenance**  
Incorporating walk-off carpet into a facility lessens the amount of soiling in interior spaces and decreases the frequency of deep cleaning.