



**University of Oregon
Student Recreation Center
Project Overview and Architectural Narrative
2/28/2012**

The intent of this document is to provide an overview of the UO Student Recreation Center (SRC) project as it nears completion of the Schematic Design phase of the work. The following information focuses on our current understanding of the architectural issues and has attached both the program summary and the current presentation drawings. Please use this information as a basis for providing feed back to the design team and the University as we move towards completing this phase of work.

This packet includes items 1, 2, 3, and 6 from the list below. The program summary #14 and the presentation drawings portion of item #15 are separate attached files. All other narratives and drawings noted below are of a more technical nature and are not included in this package. They are however available at the project web site if you are inclined to review them. All your comments are appreciated.

Available documents include the following:

1. General Information - RSA
2. Energy Goals - RDG
3. Sustainability Goals - RDG
4. LEED Checklist - RDG
5. Civil Narrative - KPFF
6. Landscape Narrative – Cameron McCarthy
7. Structural Narrative – M.R. Richards
8. HVAC, Plumbing, Electrical, and Technology Narrative – Interface Engineers
9. Lighting Narrative – RDG
10. Fire Suppression and Alarm Narratives.- S.O. Creighton
11. Pool Systems Narrative. - Aquatics Design Group
12. Code Narrative - S.O. Creighton
13. Outline Specifications – RSA/RDG
14. Program Summary
15. Drawings. Note that drawings are sent as a separate attachment and include architectural plans, sections and elevations, Utility plans, Landscape plans, Mechanical and Electrical diagrams.

General Information

The work included herein has been developed with the Project User Group (PUG) during the course of six workshops that have been held over the past several months. In addition there have been three Integrated Design Workshops attended by the design consultant and UO facilities teams.

Location:

The project area is located to the east of Esslinger Hall and south of the 1999 SRC in the area now occupied by the outdoor covered tennis courts. These courts will be removed and the north end of the addition will attached to the existing 1999 SRC. It will be bounded on the east by the

existing bike path/playing fields and to the south by an existing access drive. The existing parking area between Esslinger Hall and the west edge of the proposed addition will be repurposed as an open space containing sand volley ball courts. Most if not all of the parking will be relocated elsewhere. If Esslinger is ever removed in the future it is likely that the SRC would expand into this open area to replace spaces in Esslinger that they currently occupy. Our intention is that the current plans do not hinder this likely future scenario.

Plans:

There are three levels to this addition.

Lower Level: The lowest level is at 5" above the adjacent east field level and contains the east entry, a natatorium with a lap pool, leisure pool and two spas, a fitness area, wet classrooms, offices, a lower level of lockers and storage and pool mechanical rooms. Along the new east entry will be toilet rooms serving the fields, a secure bike storage area, lockers, a lounge and an egress point for the natatorium and the exit stairs. This level has an outdoor south facing patio off the end of the natatorium.

The construction of this level will require significant excavation, some of which will be into the rock noted in the geotechnical report. For the most part the new construction is held away from the existing foundations of Esslinger and the 1999 Student Recreation Center. It is assumed that the new north, west and portions of the south wall of this level will be concrete retaining walls with a perimeter drainage system. Additional excavation will be required for the pools and surge tanks (refer to pool systems narrative). There will be an electrical transformer vault located by the southwest corner of the building that will be accessible from the mechanical room and through a lid to the exterior (refer to the electrical narrative). A new two stop elevator with opposing doors will connect this with the free zone on the main level and another 3-stop elevator will connect this level with the two levels above.

Main Level: The main level aligns with the existing 1999 SRC main floor level (about 14'-5" above the fields) and includes the main control area along with locker rooms and fitness areas. A portion of the floor of the new fitness area will align with the existing 1999 SRC gyms (4'-0" below the main level). New exit stairs from this level to the east will be added to aid in exiting from the existing gyms. The existing Leighton pool tank will be covered and repurposed as a storm water retention facility (refer to the structural and mechanical narratives). The existing Leighton pool natatorium structure will be modified and portions of it will be used for an extended entry area and for expanded fitness areas. There will be significant changes to the existing Esslinger locker room area and minor changes elsewhere in Esslinger Hall and the 1999 SRC.

The construction of this level will be mostly trusses and joists supporting a steel deck and concrete floor built to 2-hour fire rated standards. There will be a floor opening inter-connecting this level with the lower level. This opening will have an automatic horizontal smoke shutter. The east edge of this level will be cantilevered out over the east bike path and be supported by lines of wall and exterior columns.

Upper Level: The upper level is about 14'-6" above the main level and has a three-court gym, group-exercise room, open fitness areas, maintenance room, toilet rooms, mechanical and storage rooms. There is also an outdoor south and east facing outdoor patio with an outdoor basketball court at this level. The west edge along with the toilet and mechanical rooms will be at the existing indoor track level (12'-0" above the main level) and there will be a sloped walk and steps up to the main new gym and fitness level 2'-6" above. There will be a long linear sky light along the east wall of the gym to bring light down into the natatorium below.

The construction of this level will be mostly trusses and joists supporting a steel deck and concrete floor built to 2-hour fire rated standards. There will be a floor opening in the fitness area between the new and existing gyms that will line up with the opening in the main level floor below.

No horizontal smoke shutter will be required at this level. The east wall of the new gym will act as a very deep truss supported on columns in the natatorium below. From this deep north/south wall-truss will hang the east/west trusses supporting portions of the gym floor and outdoor patio floors. These trusses will be exposed in the natatorium below and will be made of steel pipe and tubes covered by 2-hour rated intumescent paint. A portion of outdoor patio will reuse the existing resilient court flooring now located at the north end of covered tennis courts. All of the patio will have concrete pavers set on pedestals set on a membrane roof over rigid insulation that is sloped to drain.

Roof: There are no program areas on the roof. For the most part the new roofs are flat and will have a membrane roof over rigid insulation sloping to roof drains and edges. There will be skylights in the roof in the area between the new and existing gyms and monitors with skylights and ventilation openings in the roof over the new gym. Solar water heating panels will be located on the roof.

Materials:

The building will be constructed to follow the UO Campus Construction Standards. The list below is a general outline of systems. A more detailed list of materials is included in the attached outline specifications. Based on code requirement the building will be of non-combustible construction with two hour fire rated structural systems. The type and use of individual spaces will determine the type of interior finishes based on concerns for durability, maintenance, acoustics or aesthetics. The Recreation and Wellness Center on Western Oregon University campus is a good example of the level of quality expected for this project. .

Floors:

- Concrete slab on grade or on pan system on steel structural framing members
- Stained and polished concrete in most public areas, ceramic tile at toilet and shower rooms, rubber or vinyl tiles/sheet goods at limited areas, resilient safety flooring at custodial rooms and carpet finishes at offices.
- Wood flooring on resilient pads at gyms and new group-exercise rooms
- Concrete pavers on pedestals over sloped membrane roof at upper patio.
- Resilient court surface at upper patio basket ball court – reused from covered tennis court area.

Exterior Walls:

- Concrete or steel stud substrates.
- Brick masonry to match existing, exposed concrete, plaster/cementitious materials, metal panel finishes.
- Aluminum storefront or curtain-wall, insulated glazing window systems with some operable windows
- Hollow metal doors and steel frames at service and mechanical entries and roll-up door at field storage room.

Interior Walls:

- Steel stud typical, concrete masonry units at natatorium and locker rooms and painted exposed concrete retaining walls at lower level mechanical and storage rooms.
- Veneer plaster, ceramic tile, or wood paneling wall finishes.
- Wood doors and relites in painted steel frames typical.

Ceiling Systems:

- Exposed painted structural systems at Natatorium and Gym
- Acoustic panels and veneer plaster soffits at most fitness areas.
- Suspended wood slat / veneer plaster at public circulation areas.
- Metal soffit panels at exterior ceiling along east edge over bike path.

Roof Systems:

- Concrete slab over trusses at patio, light weight steel framing at Gym, and possible reuse of covered tennis courts glu-laminated beams at upper level roof areas (except gym).

- Membrane roof finish over tapered rigid insulation, possible green roof, solar thermal panels or photovoltaic panels.
- Multi-layer sloped skylights with switched internal louvers for day light control.

Code Considerations:

The building is primarily considered an A Occupancy with some B Occupancy spaces. The construction will be Type 1-B (non-combustible with 2-hour protected structural elements). There are open steel trusses supporting the natatorium ceiling and the outdoor patio above. These members will be covered by intumescent paint in order to meet 2-hour construction requirements.

Design Objectives:

Ultimately the intent of the new construction is to create a durable and attractive, well day lit and energy efficient structure that could serve the campus community recreation needs for at least 100 years. The facility will be designed to meet LEED Gold certification levels although the UO has not yet decided whether to actually seek certification.

Energy Goals Associated with LEED

Using the Oregon Model for Sustainable Development as a guideline, the project team has focused on designing a high performance building with the intent of reducing energy consumption by 35% compared to code compliant facilities. To accomplish this goal, a variety of strategies have been tested and refined during the team's integrated design sessions. Focusing on "value", the project team has identified and prioritized systems and technologies that can produce a positive return on investment, including: solar thermal technology, intelligent building controls & sensors, and the reuse of waste energy. Additionally, our integrated design sessions, with the assistance of the Energy Studies in Building Laboratory (ESBL), have also refined concepts to optimize passive strategies, such as natural ventilation, thermal mass, and natural lighting.

Sustainability Plan

While not yet fully defined, this project holds great promise that construction waste management (CWM) strategies will be mandated for the construction trades. This includes the separation of construction and demolition debris, as well as waste distribution to recycling and reclaims centers. CWM goals include:

- Divert a minimum of 75% of the projects Construction & Demolition debris from the landfill
- Identify opportunities to reuse construction waste – for example, crushing concrete debris for use as sub-basis or clean backfill

In addition to CWM, the project hopes to promote sustainable construction practices. Practices will include: Third Party Commissioning of the buildings energy using systems, and may also include: Photographic documentation of the BMP's implemented on the project, and Outdoor Air Flush of the entire facility – Pre Occupancy. Additionally, it will be desirable to select materials that conform to the following principals:

- Locally sourced and sustainably harvested materials
- Materials manufactured with recycled and renewable content
- Healthy materials with low and/or no VOC content

Solar Technologies will be utilized on the project. This includes: Solar Thermal Collectors and Photovoltaic Array Panels. The project has earmarked 1.5% (\$xxx,xxx) of the construction budget to pay for solar technologies in compliance with the Oregon Model for Sustainable Development. An energy model will be initiated during Design Development, and will help to identify the size / capacity of the solar technologies. At this time, we assume a majority of the

earmarked funds will be allocated to solar thermal technologies. Solar Thermal technologies are a fundamental energy conservation strategy for the project, and will yield a very favorable return on investment (ROI) for the University. Remaining funds will be allocated to additional solar technologies, and will be evaluated based on an informed decision making process - considering simple payback (ROI), environmental impact, as well as a technologies value as a demonstration/teaching tool.

The projects bio-climatic design is intended to harmonize with site natural environmental forces, such as: thermal changes, solar capacity, and local wind patterns. As such, the project has planned for thermal mass and operable fenestration to allow spaces to take advantage of natural ventilation. A CFD analysis (computational thermal dynamics) will be initiated during Design Development. The CFD analysis will allow the design team to "tune" the buildings fenestration and massing to optimize its potential for natural ventilation strategies – thus reducing the facilities energy consumption and carbon footprint. While not yet fully defined, operable wall louvers, operable windows, and roof top ventilators will be fundamental to the success of a natural ventilation strategy. It should be anticipated that these technologies will be implemented in large volume spaces, such as the new three-court gymnasium.

The project will be generously day lit with louver controlled skylights planned for over the large natatorium and 3-court sym spaces. Lighting controls will make efficient use of artificial lighting. The existing Leighton Pool shell will be repurposed for use as a storm water collection basin for gray water flushing and as energy sink for mechanical equipment use. These along with energy efficient mechanical systems are outlined later in this report in the HVAC section.

Landscape Narrative

Existing Site Framework

The University of Oregon's Campus Plan states, "The University of Oregon campus is organized as a system of quadrangles, malls, pathways, and other open spaces and their landscapes. This organizational framework not only functions well, but also serves as a physical representation of the university's heritage." The Student Recreation Center site is located to the immediate south of the 15th Avenue Axis and to the east of University Street Axis. Although the turf fields to the east of the building site are not designated open space they do act as outdoor classroom space. Students, faculty, and other users accessing the campus from the neighborhood south of campus heavily use the existing bike/pedestrian path that runs north-south between the turf fields and the building site. This has created a sense of community and connection within this area that the new site improvements will help identify and enhance.

Site Design

The site design will incorporate all requirements and recommendations from the current University of Oregon Campus Plan, Selected Standards for Campus Construction Projects, ADA Accessibility Guidelines, Bicycle Plan, Sustainable Development Initiatives and all other applicable planning documents. The goal for the outdoor spaces surrounding the new Student Recreation Center (SRC) building is to follow a structure and framework that is synonymous with the current campus design. The outdoor rooms will reflect the design excellence from within the building and will encourage all users to gather, move, recreate, relax, and enjoy their surroundings. A new secondary entry plaza will be created on the east side of the new addition that will connect users from the existing bike/pedestrian path to the recreation center. This plaza will also help connect the existing building and new addition while providing users easier access to the adjacent outdoor facilities. Site furnishings (benches, trash receptacles, etc.) that adhere to campus standards will be located at all plazas and other suitable locations throughout the site.

The existing synthetic turf fields located to the immediate east of the building will remain while the bike/pedestrian path will be enhanced to encourage movement in both an east-west and north-south direction. Terraced seating is proposed to be located between the path and the new building area to allow new space for field spectators and outdoor classroom use. The proposed path improvements extend to the southern edge of Field 2 while also extending north into the 15th Avenue Axis (designated open space). The vision for the improvements at 15th Avenue is to improve the interaction between pedestrian/bike movements and vehicular traffic. The goal is to also improve the connection between the path and the Emerald Axis to provide users a clear line of movement from the southern edge of campus to the heart of campus. Infiltration planters will be provided to help treat the stormwater runoff from 15th Avenue that is currently untreated.

A smaller, more private outdoor space that is accessible only from the SRC will be provided at the southeast corner of the new building that will allow pool users access to the outdoors. This space may be slightly elevated (5"-6") above field grade and will be fenced and buffered with plant bed to allow users to sunbathe and relax without being directly viewed from the adjacent bike/pedestrian path. A physical connection between this outdoor space and a new upper level patio will also be provided.

The upper level patio will provide both active and passive opportunities. It is anticipated that at least one outdoor basketball court will be provided along with gathering/social space for outdoor events, meetings, classes, etc. Stormwater planters will help capture roof water and provide a visual of sustainable design for the users while providing a buffer from the roof edge. These planters are anticipated to be part of a wall system that will act as a guard wall at the edge of the patio. Additional aesthetic landscape elements, such as potted plants and trees, may also be provided.

Parking

Additional vehicle parking is not anticipated for this project. However, existing parking (adjacent to the existing building and at 15th Avenue) will be displaced as a result of the expansion and improvements.

Additional bicycle parking (both covered and non-covered spaces) will be provided as part of the expansion project. Bicycle parking will be conveniently located near, but not directly adjacent to, the main building entries and outdoor activity spaces. Bicycle racks will adhere to campus standards. Existing bicycle hoops located on 15th Avenue (near the existing main building entrance) are not spaced according to current campus standards and there may be an opportunity to provide additional spaces at these locations.

Grading

The existing site topography is dramatic with nearly 20' of elevation change from one end of the project limits to the other (east to west direction). It is anticipated that berming or embankments will be needed. Retaining walls may also be necessary. Aesthetic grading will occur to soften the dramatic grade changes and create visual interest.

Sustainability

The design of the project site will include energy saving and sustainability measures to minimize long term operating costs, maintenance requirements, and environmental impact while providing a safe, healthy, and comfortable environment for University of Oregon students, employees, and visitors. The design will incorporate native plantings, stormwater quality measures, and a water-conserving irrigation system.

Landscape

The landscape areas will be planted with combinations of trees, shrubs, and accent plantings. The majority of the plants will be species native to Oregon or will be native "analogue" plants: plants that are adapted to similar climatic and growing conditions to native plants. Native and native analogue plants are acclimated to the unique Willamette Valley climate patterns and adapted to its unique soils leading them to be a lower maintenance alternative to non-natives. The design will accommodate the mature size of the plants and trees selected and will also allow for low ongoing maintenance requirements and reduced life cycle costs.

Site irrigation will be accomplished with an automatically controlled, underground system. It will be designed and constructed to be as efficient in terms of water usage as possible. The irrigation system will be centrally controlled using components compatible with Toro Sentinel.