



NDSU STEM Classroom and Laboratory Building
North Dakota State University
Fargo, ND

Subject: Advisory Committee Meeting Minutes - Workshop #2
Date: August 27, 2013

The following represents our understanding of issues discussed and decisions reached. Please review for accuracy and notify our office of any modifications.

NDSU STEM Advisory Committee Members Present:

Alan Kallmeyer, Mark Dahl, Michael Ellingson, Phil McClean, Carolyn M. Harvey, Benton Duncan, Erika Offerdahl, Marc Wallman, Anita Welch, Erik Diederich, Don Miller, Kristi Wold-McCormick, Andy Marah, Kelly Bisek

NDSU STEM Advisory Committee Members Not Present

Dinesh Katti

Design Team Members Present:

Jeremiah Christenson – O.N.E. (Mechanical)
Steve Schilke – KLJ Engineering (Civil)
Jim Heyer, Jason Skiple – Heyer Engineering (Structural)
Mike Berger – MBN Engineering (Electrical)
Stephanie Richards McDaniel, Craig Peterson – BWBR (Design Architect)
Brian Berg, Mark Honzay – Zerr Berg Architects (Architect of Record)

1. Schedule Discussion

- The design team outlined the future schedule for small group meetings during subsequent workshops.
- The schedule for the future workshops was revised as follows:
 - **Tuesdays:** Large Advisory Committee Meeting – 8:00 a.m. to 12:00 p.m.
 - **Tuesdays:** Lunch break – 12:00 p.m. to 1 p.m. (Lunch will not be provided for the group)
 - **Tuesdays:** Small Group Meetings – As needed from 1:00 p.m. to 5 p.m. (this small group schedule will be refined prior to each workshop)
 - **Wednesdays:** Small Group Meetings – As needed from 8:00 a.m. to 12:00 p.m. (this small group schedule will be refined prior to each workshop)

2. Workshop #1 Recap

- The capital project request requirements were presented to the group. It was reiterated that the North Dakota legislature approved the project based on meeting these requirements.
- The critical success factors that the group created at workshop #1 were presented again to the group. The group reviewed these items to refine, modify, and add-on to them as needed.
 - The “reduced class size” factor was questioned by the group. This goal needs buy in from Administration that teaching resources are available to support this. It was indicated that Administration has directed the building to be designed for current class sizes.

- The group felt that this factor would be better suited by creating spaces that are able to be reconfigured as needed to accommodate class sizes growing and shrinking based on staff availability.
- The “design spaces to match function” factor was modified to be more specific and should read “design spaces to match course function”.
- The “spaces between spaces” factor was discussed as important to the STEM concept and these spaces should be provided. Their proximity to the actual classroom and lab spaces is important.
- Lab support spaces will need to be as flexible as the labs they support to allow for multiple disciplines to share the space.
- A factor that enhances the campus, environment, and spaces around the building was added to the list. The design should have exterior energy and aesthetic features that attract students to the building.
- The revised critical success factor list is included in the attached presentation document.

3. Site Selection & Evaluation

- The seven potential site options presented at workshop #1 were reviewed. Sites 1 and 3 were agreed upon at workshop #1 to be evaluated further.
- The group was asked to consider the site impacts of each option and not focus on the aesthetics and the design for this exercise.
- A long discussion regarding the potential benefits and impacts of each site took place. The tables below were created with the key points from this discussion.
- **Site 1** – Between Memorial Union and University Drive (East Patio and/or Churchill field vicinity).
 - Multiple 3 and 4 story massing concept options were presented.

Less pedestrian congestion due to filtering effect through adjacent buildings	Loss of green space
Relationship to Memorial Union	Loss of trees and plantings
Central location to campus	Potential loss of daylight to adjacent childcare spaces
Adjacent to Memorial Union services. Shared services, facilities, and operations with the Memorial Union	Loss of outdoor North-South pathway
Better visibility to external. STEM on display to general public	Potential perception that this could be the “non-major” place to take STEM courses
Triangulate classroom locations (central location between academic cores near Minard Hall and Engineering/Sudro areas)	The way that some of the building options surround Churchill Lawn they may adversely affect the activities (lawn sports, flag football, Frisbee) that take place in the lawn.
Dining readily accessible to everyone through Memorial Union	Will require a service drive for emergency and service vehicle access to building.
Brings STEM to the heart of the University. Becomes more of the student’s STEM space. May help attract new STEM majors	

- **Site 3** – Parking lot west of engineering buildings
 - Multiple 3 and 4 story massing concept options were presented.

Better connection to all STEM departments. A central location for STEM. Stem students see faculty and other STEM majors doing work. More proximate to faculty offices	Increased pedestrian/vehicular conflicts
Better proximity to Freshman & Sophomore on-campus housing	Loss of parking and parking revenue. 198 existing parking spaces will need to be replaced on campus
Better proximity to other courses	Less of an “all” campus building. Disconnects STEM from the rest of the campus
More emphasis on academic learning	The MAT bus connection at this site may create logistical problems due pedestrian and vehicular traffic congestion on the streets nearby and the need for the MAT bus to travel to the center of campus
Dining is nearby for those with meal plans	Potential NDSU surrounding neighborhood concerns regarding loss of parking and potential increase in on-street parking in these neighborhoods
Helps create a “corridor” of classroom spaces	Loss of potential future academic/departmental building site
More visibility to the internal campus	

- An open ended question was posed by the group:
 - Can the Union handle the extra traffic that the building would impose?

4. Budget

- The program presented is larger than what the budget can support.
- The design team presented the current project budget as it was approved by the North Dakota Legislature, however the amount available for actual building construction was not finalized as many factors will influence this amount.

5. Programming

- The design team indicated that the program presented to date is a starting point and that it can be modified as the group desires, the budget supports, and the program becomes refined.
- The group felt that the current programming layout, which categorizes spaces based on what is being taught, does not fit the description of the building. The design team will present the future programming by describing the space and what is provided within it.
 - For example, previously, a lab space that was designed to be flexible, but was designed to accommodate General Chemistry was labeled a “General Chemistry Lab”. Now, this will be changed to “Lab Type A” with a description of the equipment provided.
 - The group felt that this new classification will allow greater flexibility and the ability for multiple disciplines to view the space as what is in it, not necessarily what it was

designed for. The intent is that many different disciplines will be able to use similar spaces, thus reinforcing the flexibility of the building.

- What size of classroom is in highest demand? An impromptu survey of available departments was taken. **Action Item: The design team will work with small groups to refine these numbers.**
 - Mathematics: 30-35-150-180
 - Chemistry: 150-300-450
 - Biology: 80-150-350-400
 - Pharmacy: 85
 - Agriculture: 75-125
 - Computer Science: 30-60
 - Traditional classrooms and how they are viewed/defined by the group:
 - 50 seats facing a static teaching wall is considered a traditional classroom.
 - Scale-Up/Active Learning classrooms and how they are viewed/defined by the group:
 - Traditional taught in groups of nine (three groups of three) around tables that are linked to the instructor via technology. Consist of a group of tables surrounding a central instructor location.
 - The group questioned if a new large classroom/auditorium for 300 students could be split into two 150 student rooms.
 - The design team will bring examples to the following advisory committee meetings for further discussion.
 - The group questioned if a new medium classroom for 150 students could be split into two 75 student rooms.
 - The design team indicated that this is possible.
 - The group discussed what computer labs on campus work well today. It was decided that the existing computer labs have had limited design input and have been designed to utilize the space available, not necessarily the space that would function well.
6. Storage Spaces
- The storing, location, and management of the various chemicals, equipment, and materials were discussed.
 - A group consensus of how this will be solved was not reached. This topic will be discussed at future meetings. The group did agree that easily accessible storage will be critical to the success of a flexible lab model.
 - Some of these items are related to the management of the building; however it directly impacts the layout of the spaces and the function of the spaces.
7. The next NDSU STEM Advisory Committee Workshop meeting will be held on **September 17th**. The meeting will be from 8:00 am to 12:00 pm in the Memorial Union Lark Room. Some members of the committee may be dismissed prior to 12:00 pm to allow for small group meetings. Tentative agenda items and discussion goals are below. A revised agenda will be prepared and sent to the group the week before the workshop is scheduled.
- Presentation of lab types and scenarios
 - Presentation of classroom types and scenarios
 - Site planning options
 - Group planning exercise
8. The next NDSU STEM Advisory Committee Small Group Meetings will be held on **September 17th**. The meetings will be held from 1:00 p.m. to 5:00 p.m. in the Memorial Union Lark Room or in

departmental space as required. Tentative agenda items and discussion goals are below. A revised agenda will be prepared and sent to the group the week before the workshop is scheduled.

- Lab A/Lab B – 1 ½ hours (Biology Focus)
- Lab C/Lab D – 1 hour (Chemistry Focus)
- Lab E – 1 hour (Microbiology Focus)
- Lab F/Lab G – 1 hour (Engineering Focus)

Report by:
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Marc Shannon – Northern Technologies
Steve Schilke – KLJ Engineering
Jason Skiple – Heyer Engineering
Jeremiah Christenson – O.N.E.
Mike Berger – MBN Engineering