



CAMPUS DESIGN REVIEW PANEL
MEETING MINUTES – October 25, 2017
Winslow Hall Conference Room
1:30 – 4:00 PM

Attendees:	Chip Andrews, BOT	Eric Hawkes	Lauren Joyner Cook
	Tim Blair	David Hill	Doug Morton
	Brian Boothe	Lisa Johnson	Tom Skolnicki
	Ann Goodnight, BOT	Sumayya Jones-Humienny	
Additional	Gene Bressler	Kate Meurs	
Distribution:	Bill Davis	Julieta Sherk	

Approval of Minutes

The committee approved the July meeting minutes.

Projects for Review:

1. Carmichael Addition & Renovation, Submittal #148

Site: Central Campus Precinct

Designer Name: Andy Cruikshank with Corley Redfoot Architects (CRA), and Julie Reynaldi with HOK, and Scott Hazard with Cole Jenest and Stone

Facilities Project Manager: Bob Cwikla, Capital Project Management

- a. This is the second Panel review for the project.
- b. Project Description: This project demolishes the existing 47,000 GSF administrative wing of Carmichael Gymnasium and replaces it with an addition of about 82,800 GSF. The project provides recreation, fitness and specialized activity space, as well as functional training areas, classroom, and office space. The project includes is a new fire suppression and alarm system for the entire 343,000 GSF Carmichael facility. The focus of the project is to shape the future of wellness on campus by unifying, celebrating and inspiring active lifestyles of NC State students, faculty and staff. The building design will create a clear, primary entry to the Carmichael Complex that is prominent and inviting and will unify the fitness space, increase visual access to destinations, improve wayfinding within the complex, and improve street presence.
- c. Master Plan Summary: The building will unify the existing Carmichael facility and create a single identity for the Carmichael Complex. The architectural design will be respectful of Talley, Reynolds, and the neighborhood. The east façade is the visual terminus of a view corridor along Cates Avenue. Thoughtful consideration should be given to the architecture that falls within that view shed as well as the activity that is seen within the building. The project will contribute toward the implementation of the Cates Avenue Master Plan, displacing head in parking spaces to create a safer pedestrian crossing between the north entrance and Talley Student.

Presentation and Panel Discussion:

d. Previous review comments (*italics font*) and their responses (*indented regular font*) were addressed:

i) *Provide a larger context site map that shows the bus shelters and circulation paths from the transit hub.*

The site plan has been expanded to show the Transit Hub southeast of the 2007 building where buses may stack as much as 7 deep. An overlay diagram of pedestrian flow shows major movement from the Transit Hub to the north and on to Talley, east-west along Cates, with some additional east-west movement into the new facility's south entrance.

ii) *The new south building entrance needs further design development. The Cates Avenue entrance is special and inviting. A similar level of consideration should be given to the south entry. It is the secondary building entrance but will be heavily used.*

The south entry doors are inset and have a metal roof canopy for protection. The fitness area above is glazed to showcase activity within. A metal screen wall will block views of the generator. Other improvements include the same pavers at the entry as on north side that also align with north-south path, which intersects with the east-west path, creating an entry plaza and gathering areas. Trees proposed are vertical-type ginkgo, shade-tolerant trees. The area at the service drive south of basketball courts where the steam line runs below east-west will contain a 5'-0" wide bed of cobble under the overhang since no plants will grow there. The adjacent areas create an entry frame with more landscaping and a covered bike area as well.

iii) *Provide further design development of the promenade and include images that show the design of the south building elevation, including the bridge to the 2007 Rec Center.*

These images are now shown in the exterior elevation renderings. The promenade seating areas were reduced to one area for tables and chairs and have more naturalistic planting to tie into the wellness and calm theme of the facility.

iv) *Consider a design option that aligns the east elevation glass feature wall on the top three floors (no offset on the 4th floor).*

The "Cates Receptor" inset façade now aligns from one floor to the next. The Receptors' mullions are on the rear side of the glass to distinguish it from the rest of the glazing. The Receptor includes the area behind the butt-glazed curtainwall and provides opportunities for branding that are lit by the skylight and cascading light sculpture above.

v) *Provide a sun screening overview for the building, including orientation of solar blades. If frit glass will be required, show design solutions that provide another level of detail for visual interest.*

A sun shading animated study was presented.

vi) *The north exterior entry stairs should be perpendicular to the path of travel.*

This stair was changed to be perpendicular.

vii) *Consider design options for wayfinding that require less signage.*

The design provides visual cues by moving fitness areas to the perimeter to showcase activity within. A gathering area outside of the control access gate allows students to hang out. From there, a continuous red guardrail provides a visual cue for circulation up the stairs and through the building.

viii) *Address the bike parking issue near building entrances. The location and function of the bike parking should reward bike travel over the car.*

48 bike rack spaces are currently on site. The bike parking strategy now provides a total of 72 bike rack spaces at the NW and SW building corners.

ix) *Provide information on site lighting.*

A university site lighting study of fixtures will complete in next few weeks and further inform the project's design; furthermore, the same Kim fixtures used at Talley will be used here to provide consistency in the area.

e. Further project development review and panel discussion included:

- i) A question regarding changing trends in fitness facilities and how to address them. Flexibility and adaptability are incorporated into the design with open spaces and changeable materials.
- ii) The north “lantern” element being developed further to better announce the Cates Avenue entry.
- iii) Tying into elements at Talley, such as the: cornice, metal panels, frit pattern, and inset concept. The Cates Ave “Receptor” has now has a flatter curtain wall profile and aligns from one floor to the next.
- iv) Strategic placement of motorized shades at fitness areas, motorized drapes at the top east area, and manual shades at the administrative area.
- v) Landscape at north and east sides, which are divided into several areas: North Plaza, Grade Transition, Garden, Promenade, South Side. Changes include:
 - i) North Plaza hardscape was downsized to save money and improve the scale of the space and add more greenery. Stairs down to courtyard were removed to improve the entry experience. Site walls were adjusted to improve grading. The inner arced wall is existing, but is minimally visible.
 - ii) Grade Transition has walls no higher than 3’-6” tall to limit liability. The All Campus Path is 10’-0” wide. Using a vegetated swale for storm water management is less expensive than piping and provides a green amenity.
 - iii) The Garden area has large sweeping masses of plantings with a sunken area reminiscent of Talley to the make vicinity more cohesive. The sidewalk leads to transit hub.
 - iv) The planting character is hardy, native, and low-maintenance with large sweeps of layers along the north and east sides. The South side more naturalistic.
 - v) The hardscape will have a similar palette to Talley’s by using the same 3 gray color pavers, but in different proportions and patterns.
- f. The Lime Bike program, which doesn’t require locking bikes, is changing bike use and parking on campus. Formal and informal bike parking areas are still needed.
- g. Construction costs are increasing at an unmitigated pace. Caution is needed on cost estimating, which may require value engineering some elements. Some add alternates have been identified, such as skylights, a ramp, etc., that may not be accepted if pricing comes in unfavorably.

Panel Action:

The Panel recommends approval of the building design subject to the following directives being incorporated and reviewed by the Office of the University Architect:

1. *The one-story brick wall on the east elevation needs a similar metal cap detail as the other brick walls.*
2. *Ensure a consistent detail for the interface between the new addition and the existing 1961 building. The north and south elevations appear inconsistent.*
3. *The east elevation glass feature wall at the Cates Avenue terminus needs further development. What makes it special? The ability to see through this multi-level feature wall at night provides the opportunity for an interior design element or branding. The site architecture and plantings should relate to and enhance the feature wall.*
4. *Consider a painted steel screen wall in lieu of aluminum wall for durability at the existing service area.*
5. *Consider opportunities to make the south entrance lobby feel more welcoming.*
6. *Consider using bird collision-deterrent glazing with ultraviolet (such as “Ornilux”) or ceramic frit patterns demonstrated to avert bird strikes.*

Project Overview

1. Plant Sciences Building (PSB), Submittal #151

Site: Centennial Campus Precinct

Designer Name: Flad Architects

Project Manager: Mike Kapp, Capital Project Management

- a. Lisa Johnson reviewed a project description hand out of the Plant Sciences Building, which is located north of the Biomanufacturing Training and Education Center (BTEC) on Oval Drive, the ceremonial entry. This approach will be used more with the future Pullen Road extension. The Oval is the location of the academic core for Centennial Campus.
- b. The PSB is an interdisciplinary building that will have faculty from 6 different departments from CALS plus other colleges. Principal Investigators will rotate in and out of the building.
- c. Currently at 187,000 GSF (this may reduce with cost estimate updates), the building has accommodates 320 research faculty and staff in 27 individual offices and an open office configuration with touch-down space for students.
- d. Meeting the Chancellor's mandate for the LEED Silver target will be challenging with greenhouses on roof.
- e. The design theme is to put "Science on Display" by showcasing flexible, collaborative, and interactive lab and demonstration areas, and by providing seminar and other conference areas in which to convene.
- f. One major site consideration is to design the green space fronting the building to accommodate different types of events and activities. The main entry faces Oval Drive but most of the parking is across Partners Way in the Partners Way decks. The site grade changes about 20 feet from north to south. Mechanical space is buried into grade with the more public face on the south side. Administrative offices, maker space, demonstration space and 135-seat multipurpose meeting space are on the First Floor. The new connector road is an add alternate that could be implemented later if bids are unfavorable.
- g. The building organization stacks laboratory and office space on the Second through Fourth Floors with the greenhouses atop a mechanical mezzanine at the roof level. These greenhouses will accommodate taller crops.

Status of Projects in Planning

1. Lisa handed out and reviewed the revised Status of Projects in Planning spreadsheets.
2. The tunnel under Western Blvd. on NCDOT's 2020 plan has been pushed out to 2021 due to Bus Rapid Transit planning, which needs to inform the best solution.

Next Meeting

The next meeting will be November 29, 2017 at 1:30 in the Winslow Hall Conference Room.

Meeting Adjourned at 3:45 p.m.



CAMPUS DESIGN REVIEW PANEL
MEETING MINUTES – July 26, 2017
Primrose Hall Conference Room
1:30 – 4:00 PM

Attendees:	Chip Andrews via WebEx	Bill Davis	Lauren Joyner
	Tim Blair	Eric Hawkes	Doug Morton
	Brian Boothe	Lisa Johnson	Tom Skolnicki
	Gene Bressler	Sumayya Jones-Humienny	
Additional Distribution:	David Hill	Kate Meurs	Julieta Sherk

General Business

Chip Andrews joined the meeting via WebEx. Jeff Bandini has delegated CDRP membership to Lauren Joyner Cook. The role of panel is to review each project’s significant nature and major impact to the campus for its exterior appearance and alignment with the Physical Master Plan. The panel reviews the interior layout primarily to gain a better understanding of the total project.

Approval of Minutes

The May 31, 2017 meeting minutes were approved.

Project(s) for Review:

1. Engineering Building Oval (EBO), Submittal #146

Site: Centennial Campus Precinct

Designer(s): Clark Nexsen, with Dennis Stallings and Shann Rushing; Landscape Architects: Surface 678 with Walt Havener and Robert Pratt

Facilities Project Manager: Bill Davis, transitioning to Bob Cwikla

- a) This is the second Panel review for the EBO project to focus on previous comments and further project design development.
- b) Project Description: The project will build the fourth engineering building on Centennial Campus. The site is located on approximately four acres on the west side of The Oval, between Engineering Building I and the Hunt Library. The building will accommodate the moves of the Fitts Industrial and Systems Engineering (ISE), Civil, Construction and Environmental Engineering (CCEE), and the Dean’s Administration from the North Campus.

The 220,000 GSF, four-story structure will include laboratories, classrooms, and offices to support broad initiatives in the areas of advanced materials and manufacturing; robotics and sensor technology; service sector engineering; critical infrastructure and security; transportation and logistics; and energy and environmental systems.

- c) Master Plan Summary: Buildings on the perimeter of The Oval provide the framework for the activities within the open space. This project will complete the western edge. It is intended that The Oval will be a primary, exterior activity hub for formal and informal events on Centennial Campus. The east façade of the building, which fronts The Oval, should acknowledge the pedestrian nature of space and provide an inviting transition from the building into the green space. Ample exterior and interior glazing will expose the public activities taking place within the building to engage the campus community.

Presentation and Panel Discussion:

- a) Dennis Stallings reviewed the project background, goals and schedule from the first presentation. The building program is now approximately 224,900 GSF, which increased from 220,450 GSF.
- b) Walt Havener reviewed site aspects and constraints. Rain water drains north to south along The Oval lawn towards the southwest low point of the site. The EBO building entry is at grade and handicapped accessible. Seat walls and 36 bike racks are located in the northeast, southeast, and southwest corners. Tom Skolnicki remarked that the Transportation Master Plan is looking at a bike share system that doesn't need racks. *[Note: subsequent to the meeting, the Lime Bike program was implemented on campus.]*
- c) Stepped pool systems combined with weirs improve bioretention for and puts Civil, Construction, and Environmental Engineering (CCEE) concepts on display. No standing water will be retained in this system. The bottom will be treated with decorative stones and the edges will be landscaped for treatment more like that of a dry stream bed.
- d) The wetland area at Partners Way is six feet lower than the 342-foot finish floor elevation (FFE). The wetland, containing a variety of plant types, is divided into three terraces that run under the bridge and exit at the low point into piping. The device will flood at nine inches of rainfall and then drain over a 24-hour period. It is designed to be ecologically active, with fish, dragonflies and other species to control the mosquito population. Surface 678 has discussed the wetland design with Bill Hunt, an NC State professor and subject matter expert focusing on innovative stormwater management & green infrastructure, who concurs that this is the best device for continuity and effectiveness. The device will collect roof and condensate water from the HVAC system. Reuse water will be the backup to charge the device during dry spells.
- e) The service yard housing the generator and switch gear will be screened from Partners Way with a brick wall.
- f) Utilities run under the exterior stairs adjacent to Hunt Library. Bike racks are provided.
- g) Accessibility compliance at the east-west All Campus Path is not feasible. There are no steps along the north-south ADA route at Partners Way, with just under 5% slope. Accessibility is also available by using Hunt's elevator or along the walk at Partners Way and walk between EBI and Oval.
- h) Precedent imagery shown for the stepped pool design includes: natural boulders along the stepped pool; concrete walls; campus standard lighting; banded brick walks; a concrete bridge with step rails; and monumental steps.
- i) The stepped pool system is difficult to populate with plants, so it needs to be treated as a dry stream bed aesthetic with plantings at the edges.
- j) Precedent imagery shown for the bioretention device design includes: plants and water at the steps; however, other precedent imagery is needed for a more urban concept of water against

- the steps at the building with the plants further away. The view from Hunt will need to be considered with plantings. Proper maintenance of the wetlands at front door is important.
- k) Sunshade analysis was done of the entire building and indicates a seating area at The Oval is shaded by building in the afternoon. At Partners Way, one requirement of the wetland is to have sun, which provides nutrient reduction. In summer, more shade is provided; whereas in spring, fall and winter, more sun is provided. Wetland plantings will go dormant in winter, but the design supplements this with some ornamental evergreen plantings.
 - l) Planter width for the street trees is 6', which then jogs and widens to 8' - 10' along the street.
 - m) Dennis reviewed building plans pointing out the skylit, open stair that extends up 4 floors at the Partners Way entry. (Code-wise, this is considered an open stairwell, not an atrium requiring smoke evacuation.)
 - n) The "Engineering on Display" theme is expressed with strategic views into public spaces. The First Floor has 28' floor to floor height to accommodate lab equipment needs.
 - o) The Oval level also has views into public spaces into labs and classrooms, and a skylit, open stair near that entry.
 - p) 3rd and 4th floors primarily house office and meeting spaces for faculty and grad. Light wells penetrate to the lower levels and wash the walls with daylight.
 - q) The elevations organized with a red brick base, a glazed mid-level, and a gray brick block top level to break up the massing. High windows be introduced into the 1st Floor labs where the grade drops.
 - r) A varied window rhythm breaks up long massing.
 - s) The columns at the entries are incorporated into the base with seat wall features.
 - t) Shading fins are along the south, east and west elevations. The projecting glass box elements will be structural butt-glazed and somewhat more reflective, but not mirror-like.
 - u) The panelized brick system with a shimmery glazed sheen and reveal joints give a nod to Hunt's material palette without mimicking its iconic character. Using brick in a different manner provides a learning tool. The brick reads as a plane rather than as a mass.
 - v) EBO ties to Engineering Buildings I, II, and III with the red brick base, whereas the gray brick ties to Hunt. The site architecture ties into EB I, II, and III, and the colonnade ties in to EBO.
 - w) Some Panel members expressed concern about EBO relating too strongly to Hunt. However, the material and design are different enough that it shouldn't compete, but rather complement Hunt. The material palette at the ground plane does needs to relate strongly.

Panel Action:

The Panel approved the design contingent on meeting following comments for the September BOT meeting:

- 1) *The constructed wetland will be highly visible and will need to be aesthetically pleasing year-round. It should be an amenity for this part of campus. Consider a more contemporary, urban expression of the wetland. Open water along the north edge where the plaza steps down to the wetland should be considered.*
- 2) *The paving pattern design needs further development especially as it transitions to existing site conditions.*
- 3) *Provide more moveable seating opportunities in the Oval along the All Campus Path.*
- 4) *Provide glazing reflectivity information and evaluation taking into consideration sun angles and possibilities of unwanted reflections that would obscure vision or reflect sun to other buildings. Also consider bird strike deterrents in specifying the glazing.*
- 5) *Provide more information regarding tree placements and species. Ensure that trees at maturity will not be too close to the building or site walls. Consider views from the Hunt Library when specifying trees on the south side of the building.*
- 6) *Develop design options that provide a stronger connection to Engineering Building 1, especially on the northeast corner of the building. Consider how the brick base, site walls and paving can be used to make a better transition from the existing buildings to the new.*

- 7) *Provide sun screening details for the building.*
- 8) *Provide more detail on the roof top mechanical screening.*
- 9) *Final exterior material selections will be based on field-erected sample panels approved by the Office of the University Architect.*

2. Carmichael Addition and Renovation, Submittal #148

Site: Central Campus Precinct

Designer(s): CRA with Andy Cruikshank; HOK with Julie Reynaldi and Haven McCarter; and Scott Hassard with Cole, Jenest and Stone

Facilities Project Manager: Bob Cwikla

- a) This is the first Panel review for the Carmichael project.
- b) Project Description: This project demolishes the existing 47,000 GSF administrative wing of Carmichael Gymnasium and replaces it with an addition of about 82,800 GSF. The project provides recreation, fitness and specialized activity space, as well as functional training areas, classroom, and office space. The project includes is a new fire suppression and alarm system for the entire 343,000 GSF Carmichael facility. The focus of the project is to shape the future of wellness on campus by unifying, celebrating and inspiring active lifestyles of NC State students, faculty and staff. The building design will create a clear, primary entry to the Carmichael Complex that is prominent and inviting and will unify the fitness space, increase visual access to destinations, improve wayfinding within the complex, and improve street presence.
- c) Master Plan Summary: The building will unify the existing Carmichael facility and create a single identity for the Carmichael Complex. The architectural design will be respectful of Talley, Reynolds, and the neighborhood. The east façade is the visual terminus of a view corridor along Cates Avenue. Thoughtful consideration should be given to the architecture that falls within that view shed as well as the activity that is seen within the building. The project will contribute toward the implementation of the Cates Avenue Master Plan, displacing head in parking spaces to create a safer pedestrian crossing between the north entrance and Talley Student Union.

Presentation and Panel Discussion:

- a) Andy Cruikshank reviewed the project process involving student and recreation staff feedback, the project background, and site.
- b) A site design goal is to create a main entry for the entire 300,000 GSF complex. A link to Talley at the north is critical and is where new entry will be. Vehicular and bike traffic flows around the site with a major bus stop to the east and pedestrian traffic through the complex. Major utilities runs under the site.
- c) A building design goal is to connect activity on the inside to the outside, providing a viewshed focal point from the westbound approach along Cates Avenue while funneling people from the north into the nexus at Cates Avenue.
- d) Talley tripartite elements inform the Carmichael massing and elevation design.
- e) Fitness spaces are pushed to the streetscape to engage the public. The breezeway between the two buildings will be enclosed and have an entry foyer. Relocating the weight lifting area into its own space on the bottom level and the fitness areas to the upper levels while providing visibility to all levels and public activities activates the enclosed breezeway. The fitness area will be front and center with views out to Talley and the fields.

- f) The exterior design respects the massing and context of the adjacent buildings, with the 2007 Rec Center and the 4-story massing of Talley up the hill. The solar orientation also drives the details of the overhangs and glazing. Some design features from Talley and the 2007 building inform the brick and other details.
- g) The Cates Ave “receptor” is a visual element that receives the eastern portion of Cates Ave. with the most transparent glazing. It is also an opportunity for branding on the inside that shows through glazing.
- h) The plaza at the corner provides an opportunity for gathering / funneling with a lantern element that has slicker glass and less-pronounced mullions over the entry, which allows views to the most highly-used fitness equipment. The one-story element connects to the 1961 building.
- i) The streetscape is still brick but the existing moat will be filled in while allowing for daylight to penetrate the lowest level. The large trees demolished by this project will be replaced.
- j) An outdoor fitness area on the top floor is located under the overhang.
- k) A pedestrian glass bridge connects to the 2007 building for code separation.
- l) About 50% of the 4,000 – 9,000 daily visitors currently enter through back or southern entrance from bus stop and parking lot, and the other half come through the Cates entry. University Recreation anticipates higher volume of visitors will enter through the Cates Ave. entrance at the completion of the project.
- m) The site is designed to be cohesive with commonalities but 3 distinct areas:
 - i. The North Plaza: it is larger, more welcoming, with a planter between the street and path for slope control, and street trees per the Cates Avenue Master Plan for shade plus signature tree locations. The steps make up the 2-3’ grade change with a path that has less than 5% slope for ADA accessibility. The site drops 15’ from the head wall to the southeast. Students surveyed indicated they wanted a variety of spaces.
 - ii. The East Garden: it is more of a collector where people flow through, but it has opportunities for seat walls for shorter encounters. The landscape areas are terraced to avoid the need for guardrails.
 - iii. The South Promenade: has the relocated bike racks, will declutter and enrich pedestrian experience with relief opportunities with new seating and landscaping.

Panel Action:

The Panel requests the following directives be incorporated:

- 1) *Provide a larger context site map that shows the bus shelters and circulation paths from the transit hub.*
- 2) *The new south building entrance needs further design development. The Cates Avenue entrance is special and inviting. A similar level of consideration should be given to the south entry. It is the secondary building entrance but will be heavily used.*
- 3) *Provide further design development of the promenade and include images that show the design of the south building elevation, including the bridge to the 2007 Rec Center.*
- 4) *Consider a design option that aligns the east elevation glass feature wall on the top three floors (no offset on the 4th floor).*
- 5) *Provide a sun screening overview for the building, including orientation of solar blades. If frit glass will be required, show design solutions that provide another level of detail for visual interest.*
- 6) *The north exterior entry stairs should be perpendicular to the path of travel.*
- 7) *Consider design options for wayfinding that require less signage.*
- 8) *Address the bike parking issue near building entrances. The location and function of the bike parking should reward bike travel over the car.*
- 9) *Provide information on site lighting.*
- 10) *The Office of the University Architect will lead the discussion to approve final exterior material selections based on field-erected sample panels.*

3. Case Academic Center Dining Addition, Submittal #149

Site: Central Campus Precinct

Designer: RND with Charles Nickelson

Facilities Project Manager: Angkana Bode

- a) This is the first Panel review for the Case Dining project.
- b) Project Description: This project will build an approximately 2,200 gross square foot (GSF) addition to the south side of Case Academic Center (CAC) dining facility located on the north side of Cates Avenue adjacent to Reynolds Coliseum. The existing dining facility consists of approximately 12,000 GSF of enclosed dining and 800 GSF of outdoor patio dining space. The current 118-seat facility will be increased to 200+ seats to meet student demand at peak times. This project will also upgrade the entire dining interior space and will expand the mechanical space.
- c) Master Plan Summary: The architectural character of the Dining Addition will draw cues from the pattern, rhythm, style and material palette of the adjacent Case Commons Residence Hall to unify the street front. The project will incorporate the principles of Universal Design to ensure to the greatest extent possible the facility is useable by everyone regardless of age, ability or circumstance.

Presentation and Panel Discussion:

- a) Charles Nickelson reviewed project background. The addition takes design cues from the Case Commons Residence Hall project, currently under design.
- b) There is an accessible route from the upper level of Case Academic Center through the building down to 1st floor via the elevator; however, a new bridge will provide an accessible path to the reworked entry where new the structure will be added. The north-south path is too steep to be accessible.
- c) The purpose of the addition to the south is to maximize the enclosed seating area, which increases from 118 to 210 seats. A small addition on the rear houses new HVAC equipment. The existing servery will be renovated to modernize the serving stations and provide a new cashier station.
- d) The storefront system will sit on a brick knee wall with a spandrel panel above. A frit pattern on the glass up to table height provides modesty for seated patrons. Solar shading blades and frit glazing above will minimize solar heat gain. The wood soffit takes its cue from the Case Commons entry (the exact wood will be determined).
- e) The roof will be colored PVC to provide some interest and reduce glare for the above occupants' view out.

Panel Action:

The Panel recommends approval of the building design subject to the following directives to be reviewed by the Office of the University Architect:

- 1) *Provide a sun screening overview for the new addition.*
- 2) *Provide details and samples of the frit glass design.*
- 3) *Consider another level of detail in the storefront mullion pattern, perhaps highlighting the existing column lines.*
- 4) *The dining seating near the Cates Avenue entrance may be uncomfortable during extreme weather conditions. Consider design solutions that improve this condition.*
- 5) *The Office of the University Architect will lead the discussion to approve final exterior material selections based on field-erected sample panels.*

Status of Projects in Planning

The Bureau of Mines Renovation and the Plant Sciences projects are slated for review in November.

Next Meeting

Subsequent to this meeting, the August 30 and September 27, 2017 meetings were canceled due to the lack of agenda items. The next meeting will be October 25, 2017 at 1:30 in the Winslow Hall Conference Room 100.



CAMPUS DESIGN REVIEW PANEL
MEETING MINUTES – May 31, 2017
Primrose Hall Conference Room
1:30 – 4:00 PM

Attendees:	Chip Andrews	Lisa Johnson	Doug Morton
	Tim Blair	Sumayya Jones-Humienny	Randy Ramsey
	Gene Bressler	Eric Hawkes	Tom Skolnicki
	Bill Davis	David Hill	
Additional	Brian Boothe	Kate Meurs	Julieta Sherk
Distribution:	Lauren Joyner Cook (for Jeff Bandini)		

General Business

Randy Ramsey’s term expires this June and he will be joining the Board of Governors.

Approval of Minutes

The March 29, 2017 meeting minutes were approved.

Projects for Review:

1. Thermal Energy Storage (TES), Submittal #149

Site: Centennial Campus Precinct

Designer(s) Name(s): Greg Carnathan with RMF Engineering, and Tzu Chen with Ewing Cole (formerly BBH Design)

Facilities Project Manager: Damian Lallathin, Capital Project Management

- a. This is the first Panel review for the project.
- b. Project Background: This project will increase chilled water supply capacity via installation of a thermal energy storage (TES) tank while reducing the electrical demand associated with the generation of chilled water to serve about 400,000 GSF of new building construction on Centennial Campus.
- c. Project Description: The new thermal storage tank is 85 feet tall and 90 feet in diameter. It is a steel tank that will be clad in two-foot wide insulated metal vertical planks. The pattern of planks will consist of three tones of gray. Longer, darker color planks will populate the majority

of the planks at the tank bottom. The pattern then gradually turns to lighter, shorter panels as it moves towards the top of the structure. A wrap-around stair will wrap the perimeter of the tank on the side closest to the existing central utility plant.

- d. Master Plan Summary: NC State's utility systems are developed as centralized district systems to conserve resources, increase energy efficiency, and enhance sustainable development. The 2014 Physical Master Plan included a placeholder for the Centennial Campus thermal energy storage tank.

Presentation and Panel Discussion:

- a. Greg Carnathan with RMF Engineering, and Tzu Chen with Ewing Cole presented the project.
- b. Greg explained that chillers in plants are used to make cold water and distribute it across campus through a network that is efficient and sound. A TES operates like cell battery for chilled water: it charges the tank with cold water overnight when utility rates are lower and discharges the water during the day when rates are higher. This approach provides further enhancement because it does not require adding another chiller unit. It is like a smart grid device that provides more energy when it is needed and less when it is not.
- c. The site drops 15-20 feet from east to west. The TES is at the bottom of the slope and will displace a grove of trees. The proposed expansion of the chiller plant building will obscure some of the views from the new Catholic Cathedral.
- d. The TES is 85' tall and 90' in diameter with metal panels that have three gray tone colors: light, medium, and dark. These steel-clad insulated metal panels progress from darker and larger to lighter and smaller from the base towards the top. The finish falls somewhere between matte and glossy, but is not very reflective. Mockup options will provide more specific selections from which to choose. The pattern is based on forty-foot panel lengths at the bottom and shorter panels at the top for constructability ease. The intent is for the lighter panels is to blend in with the sky. The mottled look provides for visual interest since it is not immediately adjacent to the plant building and will also help with masking any staining that occurs in future.
- e. A wrap-around stair for safety and easy accessibility has two landings for resting and where temperature sensors will be located, which will be monitored in the plant's control room. Additional safety features include a rail at the top and a fence around the bottom. The retaining wall is designed to hold back dirt.
- f. Concern was expressed regarding shading on the greenhouses nearby; however, existing trees already shade them and the tank is approximately the same height. By 9:00 a.m. on the equinox, which is the worst-case scenario, any shading will be gone. The College of Natural Resources (CNR) operates those green houses and the design team has shared the shading studies with them.
- g. A landscape plan is needed. CLH is the landscape architect on the design team and their landscape plan will be reviewed through the normal processes.
- h. Concern was expressed about accessibility to non-authorized people, as an eight-foot retaining wall is not enough. Additional protection measures are needed, such as a removable section of stairs and an attractive picket fence with pointed tops that curves.

Panel Action:

The Panel recommended approval of the design subject to the following directives being reviewed and approved by the Office of the University Architect:

1. Consider options for providing a secure perimeter around the base of the tank to keep unauthorized people from accessing the tank and exterior stair.
2. Provide a landscape planting plan.
3. Final exterior material selections will be based on field-erected sample panels.

Project Overview

Carmichael Rec Addition and Renovation

Site: Central Campus Precinct

Designer Name: CRA and HOK. Presentation by Bob Cwikla of Capital Project Management and Erik Hawkes of University Recreation

Project Manager: Bob Cwikla, Capital Project Management

- a. The project comprises new construction for University Recreation and Health and Exercise Studies administration, classrooms, and fitness/wellness space, plus renovations where new construction meets existing space.
- b. The overall Carmichael Gym complex has 4 stories and 343,575 GSF total. Constructed in 1961, the building with the barrel vaults facing Cates Ave contains: a pool, fitness space, weight rooms, locker rooms, racquetball courts, multipurpose gym with 8 basketball courts and gymnastics space. The 1987 Addition (130,000 GSF) added an Olympic-size swimming pool, an indoor jogging track, a dance studio, and a rock climbing wall.
- c. In 2007, The Carmichael Recreation Center was built across Morrill Drive from the Dail Softball Stadium. It houses fitness and wellness studios, recreation space and some meeting rooms.
- d. The project obtained student buy-in and is funded by student fees.
- e. This project addresses numerous needs: from adding new fitness space to fixing \$8 M worth of deferred maintenance costs for the existing building and bringing it up to current code requirements.
- f. Because there is no visibility into the existing space, students have said that the building is intimidating and un-welcoming. The Talley Student Union Renovation and Addition project was a great example of how to transform a building and involve students. Similarly, this project will be student-led with student government representation and participation throughout the design process.
- g. Corley Redfoot Architects (CRA), a local firm, joined forces with HOK again (they did Reynolds renovation project) to lead the design effort.
- h. The Basement will be filled in and the new First Floor will be at the lower grade level to the south. There will be selective bridge connectors to the 2007 building.
- i. The Cates Ave Masterplan identified 16 different cross-sections. This project will improve the adjacent street condition by removing adjacent parking. The Transportation Masterplan will also be studying this area. The trees on the north side of building will be removed along Cates Avenue, but new street trees will be planted. Those along Morrill Drive will be preserved. The desire is to harvest the wood from the removed trees for furniture or a feature in the building.
- j. One project goal is to create a strong pedestrian connection between Talley and Carmichael at the new entry on Cates Ave. 3,000 students pass through Carmichael daily versus the 10,000 that pass through Talley, but that number is anticipated to increase when the project completes. Measures will be considered to accommodate more pedestrians, including a speed table and a pedestrian scramble. The Talley site walls funnel traffic to the corner, but a more prominent entry will help with safety. The aspiration of the Cates Avenue Masterplan is to remove parking at the intersection, which will also help make the area safer.

Panel Discussion:

1. A significant street tree program to provide shade for pedestrians is needed.
2. There is a major viewshed opportunity on the east side termination of west-bound Cates Ave. traffic.

3. Fitness buildings cycle through different trends every few years. The building needs to be adaptable with multipurpose spaces. For example, classrooms can be used as fitness space and vice versa. One current trend is to have windows for daylight and views, but more private space should also be provided for those who don't want to be on display while working out.
4. The building massing holds the corner well. Talley's sidewalk widens to accommodate its entry. Carmichael's site plan currently shows too many paths and no widening at its entry. There needs to be an overhang and a place to gather.
5. There is a great display opportunity on the east side of the building from the Cates Ave west-bound approach.

Status of Projects in Planning

1. On July 26th, the second panel review will occur for the Engineering Building Oval project and the first panel review for the Carmichael Gym Addition and Renovation and the Case Academic Dining Addition projects.
2. On September 27th, the first panel review will occur for the Bureau of Mines Renovation project.

Next Meeting

Subsequent to this meeting, the June 28 meeting was canceled due to the lack of agenda items. The next meeting will be on July 26, 2017 at 1:30 **in Winslow Hall Conference Room 100 (not Primrose Hall due to construction).**

Meeting Adjourned at 3:00 p.m.



**CAMPUS DESIGN REVIEW PANEL
MEETING MINUTES – January 25, 2017
Primrose Hall Conference Room
1:30 – 4:00 PM**

- Attendees:** Chip Andrews David Bristol Doug Morton
Carolyn Axtman Eric Hawkes Tom Skolnicki
Gene Bressler David Hill Kate Meurs
Lauren Joyner Lisa Johnson
(for Jeff Bandini) Sumayya Jones-Humienny
Tim Blair
- Additional Distribution:** Julieta Sherk Brian Boothe

General Business

A round of introductions was made to welcome David Hill from the Interim Department Head for Architecture College of Design and Doug Morton, AVC for Facilities.

Approval of Minutes

The November 30, 2016 meeting minutes were approved.

Project(s) for Review:

1. Reedy Creek Equine Farm Theriogenology Phase A, Submittal #145

Site: Reedy Creek Farm
Designer Name: Szotak Design, Inc.
Facilities Project Manager: Steve Bostian

- a. This is the first Panel review for the Reedy Creek Equine Farm Theriogenology Phase A project.
- b. Project Description: This \$2.3 million phase relocates the existing CVM Theriogenology facilities from Southern Pines to the existing Reedy Creek Farm to consolidate the university's equine science and health care facilities. It includes the construction of a Theriogenology Facility (8,000 GSF), an Equipment/Hay Shed (1,150 GSF), a Recipient Building (2,300 GSF), and 15 acres of associated site work. The Theriogenology Facility will include approximately 1,700 GSF of occupied, conditioned office, lab, and support space with the remainder as open-air horse barn

space. The project will also include 8 supporting paddocks, roadways, parking, utilities, fencing, storm water management, signage, and security.

- c. Master Plan Summary: The configuration of the new buildings will provide an efficient connection between the various farm animal facilities, offices and classrooms while preserving the views along Reedy Creek Road and the Edwards Mill corridor. Phase 1A will create an architectural transition between the existing buildings and the pastures by enhancing the farm-like character of the area while maintaining the rural aesthetics of the roads, fencing, scale, massing, materials, density and siting of the structures.

Presentation and Panel Discussion:

- a. This project does not involve an academic or campus building; therefore, it does not need to relate to the master plan as such. It does, however, need to be grounded in an agrarian character that relates to Reedy Creek.
- b. Theriogenology is the study and practice of female (obstetrics and gynecology) and male (andrology) reproductive medicine.
- c. This 300-acre site has a double-gambrel barn at the front end of the site with an old barn that the College of Agriculture and Life Sciences (CAL S) uses for equine teaching.
- d. The site orientation of the buildings takes into account sun orientation and prevailing winds as well as truck traffic.
- e. The project will expand parking capacity for faculty and increase the number of horse paddocks.
- f. The Recipient Barn's purpose is for surrogate mares to receive egg donations from mares too valuable to risk breeding.
- g. The Dry Lot is intended to hold 27 mares to preserve wear on the pastures.
- h. The material palette of the buildings consists of "graphite" brick, metal galvalume roofing and some natural wood trellis features.
- i. The Recipient Barn has clerestory windows for additional daylighting over the exam and stallion collection areas.
- j. The natural wood trellis on one side of Recipient Barn is designed to keep the horses' heads inside; however, the gates are on timers to allow the mares automatically controlled access to the dry paddock.
- k. There is some control of temperature with ventilation and heat.
- l. There are no gutters; rainwater drips off of the rooves onto a 4'-0" gravel area around the buildings' perimeters.
- m. The safety lighting at each paddock and around the site is at a lower lumen level than around other areas of campus, which is appropriate for an agrarian use.
- n. There are no paved areas; all roads are gravel, but have steel edging to keep gravel contained.
- o. Rig/trailer parking occurs in a separate area from car parking and both will not interfere with other traffic. The tractor-trailer circulation has a path designed to avoid U-turns.
- p. Signage will help direct first-time visitors, including those for truck rigs and other service vehicles.
- q. For intuitive wayfinding, the entry, which has a wider porch and more glass, is pushed toward the road.
- r. The design section of the gravel road will be harder than that of a typical road to prevent rutting; however, the rise in cost of water and sewer taps have made the project over budget. The project team is still working through budget issues. If additional funds are found, the roads will need to be paved.
- s. For safety and maintenance, there are several fence types: a diamond wire tight mesh that a foal cannot go under; a board fence for public areas, which will match the existing painted black wood; and electric fencing. It was suggested that vinyl tape on the top and bottom of the electric fence is less expensive to maintain, safer than a single wire, and allows it to stretch.

- t. Further investigation is needed for the wood slats at the barns and fencing. If a horse kicks them, it could get injured.
- u. Regarding the other materials on the barns, the gable end stucco should be more neutral color and the glass needs a knee wall to prevent damage.
- v. The use of brick around the entry helps clients with wayfinding and is more substantial and durable.
- w. Approximately 5 - 6 trucks per day will bring in mares. There are gravel paths for service vehicles between the buildings and paddocks. A smaller gravel is used since horses don't like gravel, but it is actually better for horses' hooves than asphalt. The dry lot is made up of vertical layers of sand.

Panel Action:

The Panel recommended approval of the project design subject to the following directives to be reviewed by the Office of the University Architect:

1. *Further evaluation of the paddock fence design is needed to ensure the wood fence design is safe for the horses. There was concern that the wood fences may be a safety issue.*
2. *Provide a knee wall under windows in the office area of the Theriogenology building in lieu of extending glass to the floor.*
3. *Consider other options for the road material that reduce long-term maintenance, as the project budget allows.*
4. *Final exterior material selections will be based on field-erected sample panels approved by my office.*

Project Overview

1. Engineering Building Oval (EBO)

Site: Centennial Campus Precinct

Designer Name: ClarkNexsen Architects

Project Manager: Bill Davis, Capital Project Management

- a. L. Johnson state that the panel has not seen a large project since the Talley Student Union project. This preliminary overview is intended to help everyone better understand the project before it is reviewed in March.
- b. The departments of Civil, Construction and Environmental Engineering (CCEE) and the Fitts Industrial Systems Engineering (ISE) plus the Dean's administration will be housed in the building. In 1995, university administration made the critical decision to move the College of Engineering (COE) to Centennial Campus to accommodate anticipated growth, which allows the landlocked North Campus to grow other colleges. With this project, eight of the nine COE departments will have moved: Nuclear Engineering has strong ties to Physics in the College of Sciences and will remain in Burlington as the nuclear reactor will not move.
- c. EBO will have teaching and research space for CCEE and ISE and there is great demand for slab-on-grade programs given the equipment used. The site grade falls about 30'-0" from north to south and about 18'-0" from east to west. The service access is the major driver for the finish floor elevation (FFE) of ground floor.
- d. The Oval's north terrace is more formal in design, while Hunt's lower terrace is finer grained, so the mid terrace at EBO transitions between the other two.
- e. The vision parsed from the Building Committee includes: transcending the now; think and do mentality; engineering on display to reveal teaching and research within; a sense of community for students and faculty; promoting sustainability as a teaching tool (e.g., storm water management best practices on site); smart technology and other flexibilities; and the "knapsack problem" (how to maximize program in less space through sharing).

- f. The design principles are grounded in the Physical Master Plan with the building designed to be an architectural bridge between Hunt and Engineering Building I: it will have more glass and metal than other engineering buildings. The architecture will express a learning landscape, with a “long life loose fit” (flexibility and adaptability) approach. The spaces should “make me smile” and intuitive wayfinding will be integral to the building circulation, such as the yellow stairs in Hunt.
- g. EBO will connect The Oval to Partners Way with two entry points: one at The Oval and one at Partners way. As one moves through the building from one level to the other, “Engineering on Display” will be evident.
- h. The EB I open arcade on the southeast corner will terminate at the EBO’s entry plaza on The Oval; but the southwest end of EB I is the service side, so a connection not desired.
- i. The committee reviewed the building organization diagrams. Heavy equipment labs and service are primarily located on the Ground floor, classrooms and lighter equipment labs are on the second floor at The Oval level, and upper 2 floors house light labs and department offices.
- j. EBO will maintain The Oval edge with its building massing to preserve the heart of the academic core.

Panel Discussion:

1. G. Bressler noted that the rain garden plantings at Hunt look terrible and asked about a landscape Master Plan for this area. It was noted that there is a Tree Master Plan, which has been partially implemented. The EBO project will plant the entire west edge of The Oval. Funding is still needed to increase the variety of trees on The Oval.
2. The finish on the benches was sealed when they were supposed to weather, so they are not wearing as intended.
3. It will be a challenge for the design team to prove the learning landscape concept.
4. Project COE growth will drive keeping two bus stops so they will not be combined into one stop.

Status of Projects in Planning

1. Engineering Building Oval will be reviewed at the March 29, 2017 meeting.
2. Carmichael Gym Addition and Renovation project will be reviewed at the 7/26/2017 meeting.
3. Plant Sciences Building project will be reviewed at the 10/25/2017 meeting.

Next Meeting

The meeting slated for February 22, 2017 was canceled due to lack of agenda items. The next meeting will be on March 29, 2017 from 1:30 – 4:30 pm in the Primrose Hall Conference Room.