CONSTRUCTION PLANNING AND PROGRESS MEETING
BROUGHT TO YOU BY INFRASTRUCTURE PLANNING AND FACILITIES
Thursday, Oct. 9, 2014

Twitter hashtag #msuconstruction
Today’s agenda

• MSU Board of Trustees updates

• New presentations
  o Facility for Rare Isotope Beams – Power Plant Connection
  o Natural Gas Distribution System – Upgrade Infrastructure at T.B. Simon Power Plant
  o Engineering Building – Chiller Replacement
  o Grand Rapids Research Center
  o Cyclotron – Addition 16 – Office
  o MSU Community Music School – Reconstruct Parking Lot

• Progress updates
  o Pathways – Red Cedar Greenway – Sparty to Farm Lane
  o Bessey Hall – Renovate Third Floor
  o Bio Engineering Facility
  o Biomedical Physical Sciences – Lab Facility Monitoring Aircuity Optinet System / Implement Energy Conservation Measures
  o Clinical Center – C-Wing HVAC Replacement

• Summer 2014 Construction Roundup video
Step 1: Authorization to Plan
• Cyclotron – Addition 16 – Office

Step 2: Authorization to Proceed
• Life Sciences – Renovations – A Wing
• Lease Amendment College of Osteopathic Medicine at the Detroit Medical Center
• Duffy Daugherty Football – Renovate Locker Room and Training Room
• Berkowitz Basketball Complex – Alterations to Basketball Offices
Step 2: Authorization to Proceed

- Cyclotron – Addition 16 – Office
- North Campus Infrastructure Improvement – West Circle Drive 2015
- Grand Rapids – Real Estate and Research Facility Development
- MSU Community Music School – Reconstruct Parking Lot
- Facility for Rare Isotope Beams – Power Plant Connection
- T.B. Simon Power Plant – Upgrade Utility Substation
- Natural Gas Distribution – System – Upgrade Infrastructure at T.B. Simon Power Plant

Step 3: Bid and Contract Award

- Life Sciences – Renovations – A Wing
Facility for Rare Isotope Beams – Power Plant Connection

Proposed switch house location
Why?
- To provide an interface point for connecting the FRIB 25 MW circuits to the T.B. Simon Power Plant.
- To provide an interface point for connecting a future upgraded utility substation to the T.B. Simon Power Plant.

Scope
- The project consists of the following three elements:
  - Switch house containing circuit breakers as connection points for:
    - The FRIB 25 MW circuits
    - Connections to T.B. Simon Power Plant
    - Connections to a future upgraded utility substation
  - Duct bank and interconnecting cable between the switch house and T.B. Simon Power Plant.
  - New circuit breakers in T.B. Simon Power Plant to connect the interconnecting cables.
Facility for Rare Isotope Beams – Power Plant Connection

Schedule

• Construction start: January 2015
• Energizing of FRIB: March 2016
• Project completion date: March 2017
Proposed switch house location
Switch house set in place
Design representative:  
Van Frazee  
rfrazee@ipf.msu.edu  
(517) 353–9578
Natural Gas Distribution System – Upgrade Infrastructure at T.B. Simon Power Plant
Why?

• Project goal
  o Installation of a reliable 1500 MCFH (thousand cubic feet per hour) natural-gas delivery system to meet campus needs.
  o This project is an off-shoot of the T.B. Simon Power Plant – Capacity and Future Needs project to increase the capacity of the natural gas delivery system.

• Scope
  o Installation of a new high-pressure service from Mount Hope Road to the T.B. Simon Power Plant.
  o Installation of a new meter stand.
  o Augmentation to several miles of high pressure main throughout the Lansing area.

• Out of scope
  o Gas pipeline and meter stand construction will be performed by Consumers Energy.
  o Site restoration will be performed by the Infrastructure Planning and Facilities Landscape Services department.
Impact

- Project site is isolated to the service district of south campus at the T.B. Simon Power Plant and adjacent areas.

Schedule

- Construction start: April 2015
- Gas service complete: May 2016
- Project completion date: October 2016
Natural Gas Distribution System – Upgrade Infrastructure at T.B. Simon Power Plant

Potential routes
Natural Gas Distribution System – Upgrade Infrastructure at T.B. Simon Power Plant

Design representative:
Chris Barnes
cbarnes@ipf.msu.edu
(517) 355–1628
Engineering Building – Chiller Replacement
Why?

• Replace aging cooling equipment at the end of its useful service life.

• Implement a comprehensive, long-range plan to create a regional chilled water loop among six buildings:
  o Engineering Building
  o Anthony Hall
  o Food Science
  o Natural Resources
  o Packaging
  o Communication Arts and Sciences

• Create a chilled-water network serving the affected buildings as efficiently as possible.
Scope

• Chilled-water loop
  o Site excavation near Engineering Building south wing
  o Site excavation between Engineering’s Dow wing and Anthony Hall
  o New chilled-water main piping

• Equipment upgrades in satellite buildings (Phase II)
  o Addition of pumps and controls in Natural Resources, Packaging and Communication Arts and Sciences
  o De-commission aging electric chiller at Communication Arts

• Chiller replacement at Engineering Building (Phase II)
  o Replace steam absorption chillers with new electric chillers
  o Expand building electrical substation
  o New roof-mounted cooling towers
Energy and sustainability

• New chillers at the Engineering Building produce chilled water using 60% less energy than the absorption machines currently installed.
• New chillers will fit in the existing mechanical room, avoiding excessive site disturbance for a building addition.
• Engineering chillers will be large enough to be “base loaded” vs. Anthony and Food Science chillers.
  o Most efficient machines in the loop will meet cooling demand at all six buildings for majority of the year.
• Project will avoid investing in a chiller plant at both the Engineering Building and Communication Arts and Sciences.
Safety and security
• Pedestrian detours will be clearly marked during site construction.
• Construction zones will be properly separated to prevent unauthorized access.
• Building crane lifts will be coordinated in advance (Phase II).

Parking
• No adverse parking impacts.
• Site access will require contractor coordination and just–in–time deliveries.

Circulation
• Pedestrian circulation on-site will be impacted in Summer 2015, with minimal impacts lasting until April 2016.
Schedule

• Construction start: May 2015
• Substantial completion of chiller system: April 2016
Map of site showing tentative detours and entrance closures
Map of site showing tentative detours and entrance closures – Phase II
Design representative:
Jacob Sabins
jsabins@ipf.msu.edu
(517) 355–6493
Grand Rapids Research Center

Project location
Presented for information

- Grand Rapids, Michigan
  - New off-campus facility
  - Located on the Medical Mile
  - MSU acquired property in 2012
Why?

• Bio-medical research building
  o Phase I
    ▪ 36 principal investigator teams
    ▪ 146,500 gross square feet
    ▪ Five stories plus mechanical penthouse
    ▪ No basement
    ▪ Opens in 2017
  o Phase II
    ▪ Addition of 12 principal investigator teams
    ▪ Date TBD

• Enhance researcher
  o Collaboration
  o Recruitment
  o Retention

• Build on success of MSU partnerships and medical education in west Michigan
Project delivery options

• Dual paths being explored
  o Public/private partnership (P3) vs. traditional MSU construction
  o Issued P3 request for proposal based on MSU schematic design basis of design

• Current status
  o MSU completing design development
  o Reviewing P3 submissions
  o Engaged consultants to assist with financial assessment

• Next steps
  o Evaluation of both models
  o Recommendation to MSU administration
Site plan

Development Zone

Development Zone
First-floor plan
Typical lab-floor plan
Schedule

• Construction start: February 2015
• Building construction complete: June 2017
• Project completion: November 2017
Design representative:
Dick Temple
dick.temple@hc.msu.edu
(616) 234-2603
Why?

• Project goal
  o To expand the office portion of the facility to accommodate the new staff, faculty and students that are being hired in support of the FRIB project

• Scope
  o The project consists of the following three elements:
    o Partial demolition of the existing Cyclotron
    o New six-story office addition envisioned
    o Build out of electrical and mechanical systems
Project requirements

• Safety and security
  o The office addition will include access control

• Parking
  o Parking is not affected and no additional parking is required

• Utilities
  o This project is being coordinated with existing site utilities

Schedule

• Construction start: January 2015
• Substantial completion or occupancy: April 2016
Aerial view of site
Construction representative:
Jim Wagner
wagner@ipf.msu.edu
(517) 908–7391
Why?

• Project goal
  o Reconstruct and reconfigure the existing parking lot

• Project scope
  o Reconstruct the lot to meet MSU standards, including:
    ▪ Safety
    ▪ Accessibility
    ▪ Re-use of existing site lighting
    ▪ Pavement design
    ▪ Storm water management
  o Demolish existing house
Schedule

- Construction start: May 11, 2015
  - May pursue earlier start for house demolition
- Parking lot re-open: April 7, 2016
- Project completion date: July 7, 2016
MSU Community Music School – Reconstruct Parking Lot

Birds-eye view looking north
Existing conditions
Existing conditions
Existing conditions
Existing conditions
Design representative:
Dave Wilber
dwilber@ipf.msu.edu
(517) 884–2186
Project area
Why?

• Upgrade and improve the Red Cedar River Trail.
• Increase user capacity to include separately dedicated paths for pedestrians and bicyclist.
• Improve safety of the pathway for all users by improving the pavement and lighting.
• Provide an accessible route on the south side of the river, which meets ADA design standards.
• Project to be done in three phases. First phase begins at Sparty intersection and ends at Erickson Hall.

Timeline

• Construction start: May 2014
• Substantial completion: August 2014 – project is complete
Looking east near Wells Hall bridge
Erickson Hall looking east
Pathway markings
Project phases
Video comparing marked and unmarked paths

Bicycling on an unmarked Sidewalk vs. the Newly Redesigned River Path on the MSU Campus

Sept. 18, 2014
Design representative:
Dave Wilber
dwilber@ipf.msu.edu
(517) 884–2186
Why?

• Comprehensive renovation of 11 classrooms in Bessey Hall; included rooms 304-307 and 310-316 and limited renovation to room 317.
• Renovations included
  o new ceilings
  o lighting, flooring
  o paint, white boards
  o window treatments
  o technology and furniture
  o room 317: new ceiling, lighting, painting and flooring only
• Two of the existing classrooms were converted into REAL (Rooms for Engaged and Active Learning) classrooms.
• Informal learning and collaborative areas were created within the corridor.
Work area

BESEY HALL
Corridor
Water-filling station
Standard classroom
Enhanced classroom
REAL classroom
Design representative:
Dan Klann
klann@ipf.msu.edu
(517) 353–3113
Why?

• This project involves a four–story research lab building that is designed to facilitate interdisciplinary research and interaction among all occupants.

• The building will be physically connected to the existing Clinical Center C-Wing and Life Science B-Wing, with proximity to the Radiology Building to facilitate the sharing of core research resources.

Timeline

• Construction start: September 2013

• Substantial completion: September 2015
Impacts

• The two east doors on the southeast side of Life Science are for emergency egress only (directional fencing in place).
• The north drive off of Service Road will be closed to on-street parking and open to construction traffic and deliveries only.
• Increased construction traffic.
Crane lifting heavy equipment to the roof on the south side of building
Completed second-floor walls, overhead systems and paint primer
View down a third-floor hallway. Wall studs are up and the curtain-wall glass is in place.
Road closed to the public. Construction and delivery use only beginning June 23.

Three–way stop
Construction representative:
Ken Gottschalk
kjgottsc@ipf.msu.edu
(517) 353–7234
Why?

• Building laboratory controls upgrades, and indoor air quality monitoring system installation, will facilitate energy conservation.

• Updating the controls will allow the building automation system to setback the air exchange rate within the building laboratories, to save energy when the indoor air quality system indicates that a safe environment is being maintained.

Timeline

• Project start: Aug. 1, 2014

• Tentative project completion: Dec. 31, 2014 (lab schedules and availability control the installation schedule)

Impacts

• Each lab is being taken offline for a three-day period while new equipment is installed and then turned back over to researchers.
Construction representative:
Todd Wilson
tdwilson@ipf.msu.edu
(517) 432-4355
Why?
• To replace existing aged HVAC systems with more energy-efficient systems.
• To provide chilled water to the facility year-round.
• To provide procedure space within the Clinical Center for researchers.

Impacts
• Area immediately behind the Clinical Center Animal Quarters Wing (C-Wing) will be fenced.
• Parking spaces adjacent to the C-Wing loading dock will be unavailable.

Timeline
• Construction start: March 2014
• Substantial completion: December 2014
New building chiller
Epoxy floor coating in procedure areas
Construction detour plan (March 1 – Dec. 31)
Construction representative:
Todd Wilson
tdwilson@ipf.msu.edu
(517) 432-4355
SUMMER 2014 CONSTRUCTION ROUNDUP
IPF website

- Alerts feed
- Construction
  - Detours
  - CJ info
  - Project info
  - Contact info
- Resources
- Listservs

www.ipf.msu.edu
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PLEASE FILL OUT A SURVEY!

They are available on the table at the front of the room

- Please fill out your surveys and return them to the front table before you leave.
- We want your thoughts and suggestions about how you feel Construction Junction went, and what we could do to improve.
- Thank you in advance!
Construction Junctions continue monthly

Meetings are at 8:30 a.m.
the second Thursday of the month

- Nov. 13 (College of Law, room 343)
- Dec. 11 (Location TBD)
- Jan. 8 (Location TBD)

Please sign in and take a survey before you go!