Office of Planning and Budgets
Facilities Planning and Space Management

Financial Administrators Workshop
Barbara Kranz and Eric Boatman
June 3, 2015
AGENDA

• Introduction
• Organization
• Overview
• Space Management
• Facilities Planning
• Summary
• Q&A
TODAY’S GOAL

• Expand knowledge and understanding of facilities planning and space management principles, policies and procedures
QUESTIONS

• What space issues do I need to consider for a faculty hire, a new course, an administrative realignment?
• Where are we headed in 3-5-10 years?
• What delegated authority resides at the MAU level?
• Is there a university space policy?
• What is the MSU Space Inventory?
• What is the procedure for requesting new space?
• What is the procedure for requesting renovation?
• How are renovations funded?
Contrary to popular belief, we’re not the space police
FACILITIES PLANNING & SPACE MANAGEMENT

• Team
  – Barbara Kranz, Director
  – Eric Boatman, Assistant Director
  – Lisa Sudia, Space Management Coordinator
  – Kerry Gernert, Space Management Coordinator
  – Pamela Carpenter, Data Resource Analyst
  – Nestor DeOcampo, Data Resource Analyst
  – Andrew Midgley, Data Resource Analyst
  – Paula Palmiter, Facility Coordinator
RESPONSIBILITIES

• Barrier Free Planning
• Budget Planning and Management
• Capital Planning
• Instructional Space Planning
• Long Range Strategic Planning
• Programming and Space Planning
• Project Coordination
• Reporting and Analysis
• Space Inventory
• Space Metrics
• Space Planning and Management
WHY IMPORTANT

- Support University mission
- Bolder by Design
- Align space resources with strategic vision
- AAU Standings
- Strengthen Research
- Stewardship of space resources
- 2\textsuperscript{nd} largest university asset
- Accountability to internal and external constituents
- Fiscal stewardship
- Energy and environmental stewardship
INTEGRATED PLANNING

ACADEMIC PLANNING

FINANCIAL PLANNING

FACILITIES PLANNING

SPACE MANAGEMENT
SPACE MANAGEMENT

- SPACE POLICY
- SPACE INVENTORY
- METRICS AND UTILIZATION
- ANALYSIS REPORTING

Michigan State University Office of Planning and Budgets
SPACE POLICY

• MSU Space Policy
  – All MSU land, facilities, and buildings belong to the University as a whole and are subject to assignment and reassignment to meet the overall needs and best interest of the institution
  – Executive Committee for Buildings, Facilities and Space
  – Deans delegated authority

• Space Policy can be found at: http://opb.msu.edu/facilities
COMMITTEES

- Executive Committee for Buildings, Facilities and Space
- Health Colleges
- Food Safety & Toxicology Building
- Giltner Hall
- Residential & Hospitality Services
- University Classroom Planning Group
SPACE INVENTORY SYSTEM

• Basic system tracks all buildings and rooms including
  – MAU/Department
  – Room Use
  – Room Function
  – Occupant

• Follows the National Center for Education Statistics - Postsecondary Education Facilities Classification Manual

• Used for planning, management, reporting
  – MAU’s, Departments, University
  – Reporting such as NSF Survey, Federal Indirect Cost Recovery rate negotiation
# FICM Classification

## Function Codes and Room Use

<table>
<thead>
<tr>
<th>PCS FUNCTION CODE</th>
<th>PCS FUNCTION TITLE</th>
<th>ROOM USE CATEGORY</th>
<th>ROOM USE CATEGORY DESCRIPTION</th>
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<tr>
<td>1.0</td>
<td>INSTRUCTION</td>
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<td>UNASSIGNABLE SPACE</td>
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<tr>
<td>10.0</td>
<td>INDEPENDENT OPERATIONS</td>
<td>100</td>
<td>CLASSROOM FACILITIES</td>
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<tr>
<td>11.0</td>
<td>HOSPITALS</td>
<td>200</td>
<td>LABORATORY FACILITIES</td>
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<tr>
<td>12.0</td>
<td>SERVICE CENTER</td>
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<td>OFFICE FACILITIES</td>
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<tr>
<td>13.0</td>
<td>UNOCCUPIED SPACE</td>
<td>400</td>
<td>STUDY FACILITIES</td>
</tr>
<tr>
<td>2.0</td>
<td>ORGANIZED RESEARCH</td>
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<td>SPECIAL USE FACILITIES</td>
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<tr>
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<td>RESEARCH INSTITUTES AND CENTERS</td>
<td>600</td>
<td>GENERAL USE FACILITIES</td>
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<td>2.28</td>
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<td>700</td>
<td>SUPPORT FACILITIES</td>
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<tr>
<td>2.29</td>
<td>DEPARTMENTAL (FUNDED) RESEARCH</td>
<td>800</td>
<td>HEALTH CARE FACILITIES</td>
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<tr>
<td>3.0</td>
<td>PUBLIC SERVICE</td>
<td>900</td>
<td>RESIDENTIAL FACILITIES</td>
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<tr>
<td>3.1</td>
<td>CLINICAL TRIALS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.0</td>
<td>ACADEMIC SERVICE</td>
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<td></td>
</tr>
<tr>
<td>4.1</td>
<td>LIBRARIES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2</td>
<td>DEPARTMENTAL ADMINISTRATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.3</td>
<td>MUSEUMS AND GALLERIES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.4</td>
<td>OTHER ACADEMIC SUPPORT</td>
<td></td>
<td></td>
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<td>5.0</td>
<td>STUDENT SERVICES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.1</td>
<td>GENERAL (NON-ACADEMIC) ADMINISTRATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.2</td>
<td>PR DEVELOPMENT/ALUMNI AFFAIRS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.3</td>
<td>SPONSORED PROJECTS ADMINISTRATION</td>
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</tr>
<tr>
<td>7.0</td>
<td>PLANT OPS AND MAINTENANCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.0</td>
<td>AUXILIARY ENTERPRISES</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SPACE DISTRIBUTION - 19 MILLION NET SQ FT

Distribution by Room Use Category

- **CLASSROOM FACILITIES** 573,075 (3%)
- **GENERAL USE FACILITIES** 1,492,621 (8%)
- **HEALTH CARE FACILITIES** 176,283 (1%)
- **LABORATORY FACILITIES** 1,729,253 (9%)
- **OFFICE FACILITIES** 2,305,622 (12%)
- **RESIDENTIAL FACILITIES** 2,757,437 (15%)
- **SPECIAL USE FACILITIES** 1,695,008 (9%)
- **STUDY FACILITIES** 520,367 (3%)
- **SUPPORT FACILITIES** 1,175,810 (6%)
- **UNASSIGNABLE SPACE** (Circulation Areas, Stairways, Hallways, Restrooms, Mechanical Rooms, etc.) 6,082,556 (32%)
- **NOT CATEGORIZED** 350,120 (2%)
SPARTAN SPACE

- Recently developed new web based application and reporting tool to interface with our FAMIS application
- Allows Colleges and Departments to update information on their assigned rooms online
- Expected to significantly improve the efficiency of the space management system
- Reduce administrative time for data updates
- More timely data and reporting capability
## SPARTAN SPACE

### My Locations

<table>
<thead>
<tr>
<th>Location</th>
<th>Assigned Department</th>
<th>Department Allocation</th>
<th>Function Allocation</th>
<th>SQFT</th>
<th>Allocation Effective</th>
<th>Actions</th>
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<tbody>
<tr>
<td>310 OFFICE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>310-ABRAMS PLANETARIUM</td>
<td>10032902-ABRAMS PLANETARIUM</td>
<td>Not Available 100%</td>
<td></td>
<td>210.73</td>
<td>17-APR-14 to Present</td>
<td></td>
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<tr>
<td></td>
<td>HORVATI3, HORVATIN SHANE, MORF, FRENCH, FRENCH JOHN S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>312 OFFICE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>312-ABRAMS PLANETARIUM</td>
<td>10032902-ABRAMS PLANETARIUM</td>
<td>Not Available 100%</td>
<td></td>
<td>275.02</td>
<td>17-APR-14 to Present</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GOWANS, GOWANS, MARY MILLER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>250 LAB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>250-ABRAMS PLANETARIUM</td>
<td>10002902-BIOSYSTEMS &amp; AGRICULTURAL ENGINEERS</td>
<td>Not Available 100%</td>
<td></td>
<td>2422</td>
<td>01-JUL-13 to Present</td>
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<tr>
<td></td>
<td>-VACANT ONE IN LOCATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>310 OFFICE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SPACE METRIC INITIATIVE

- Initial focus on research laboratory space
- Expands space data to include
  - Room occupant(s)
  - Occupant information
    - Appointment type
    - Research expenditures
    - Grants submitted/pending, awarded
- Data obtained from various sources
  - MAU’s/Departments
  - Human Resources
  - Contract and Grant Administration

<table>
<thead>
<tr>
<th>EMPLOYEE NAME:</th>
<th>RESEARCHER A</th>
</tr>
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<tbody>
<tr>
<td>TITLE:</td>
<td>FAC W/TENURE</td>
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<tr>
<td>TOTAL SF OF SPACE</td>
<td>874</td>
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<tr>
<td>PI SHARE OF AWARD</td>
<td>$1,300,701</td>
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<tr>
<td>EXP SHARE 08_09</td>
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<td>EXP SHARE 09_10</td>
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<td>$214,836</td>
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<td>EXP SHARE PER SF</td>
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<td>POTENTIAL GRANTS</td>
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<tr>
<td>APPS NOT YET AWARDED</td>
<td>18</td>
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<tr>
<td>PI TOTAL REQUESTED AMT IF AWARDED</td>
<td>$2,543,251</td>
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</table>
SPACE METRICS

• Research Expenditures/Assignable Square Feet

• Assignable Square Feet/Full-Time Equivalent

• University, College, Department, and Individual Levels
RESEARCH DOLLARS PER SQUARE FOOT

RESEARCH EXPENDITURES PER SQ FT OF RESEARCH LAB AND LAB SUPPORT SPACE

Beginning of Metrics Initiative
ANNUALLY REPORTED SPACE METRICS

Research & Indirect Cost Recovery per Square Foot of Research Space

- Total Indirect Cost Recovery/Research Space
- Research & Indirect Cost Recovery per Square Foot of Research Space
ANNUALLY REPORTED SPACE METRICS

Research & Indirect Cost Recovery per Square Foot of Office Space

- Total Indirect Cost Recovery/Office Space
- Sponsored Research Exp (ICR)/Office Space

<table>
<thead>
<tr>
<th>Department</th>
<th>Total ICR</th>
<th>Sponsored Research Exp</th>
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<tbody>
<tr>
<td>Dean</td>
<td>$0</td>
<td>$7</td>
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<tr>
<td>CompSci</td>
<td>$497</td>
<td>$97</td>
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<tr>
<td>Mech Eng</td>
<td>$743</td>
<td>$205</td>
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<tr>
<td>Div Eng...</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Co Ma StC</td>
<td>$235</td>
<td>$69</td>
</tr>
<tr>
<td>MS CEGR</td>
<td>$530</td>
<td>$97</td>
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<tr>
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<td>$70</td>
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<tr>
<td>Div Eng...</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>Elect CE</td>
<td>$178</td>
<td>$853</td>
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</tbody>
</table>
OFFICE & RESEARCH SPACE BY COLLEGE

Square Foot Per FTE of Office and Research Space Per College (2013)

<table>
<thead>
<tr>
<th>College</th>
<th>Office and Office Support</th>
<th>Research Labs &amp; Lab Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Univ</td>
<td>135</td>
<td>73</td>
</tr>
<tr>
<td>EGR</td>
<td>107</td>
<td>175</td>
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<tr>
<td>NS</td>
<td>104</td>
<td>207</td>
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<tr>
<td>JMC</td>
<td>256</td>
<td>0</td>
</tr>
<tr>
<td>SS</td>
<td>165</td>
<td>23</td>
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<tr>
<td>CAS</td>
<td>200</td>
<td>44</td>
</tr>
</tbody>
</table>

Michigan State University Office of Planning and Budgets
DEPARTMENTAL OFFICE & LAB ALLOCATIONS

Office and Office Support Square Feet

- DeanCEng: 20%
- CompSci Eng: 7%
- MechEng: 9%
- DivEngCom Serv: 12%
- Co Ma StCCEGR: 13%
- CE MS CEGR: 8%
- Civ EE CEGR: 10%
- MechEng: 9%
- DivEngRes EGR: 0%
- Elec. CE EGR: 5%

Research Labs & Lab Support Square Feet

- CoMa StCCEGR: 24%
- CE MS CEGR: 16%
- MechEng: 9%
- Elc. CE EGR: 4%
- DivEngRes EGR: 9%
- MechEng: 9%
- CompSci Eng: 5%
- DivEngCom Serv: 3%
- Civ EE CEGR: 9%
- Co Ma StCCEGR: 9%
SPACE METRICS

• Liberal Arts and Instructional-Focused Colleges
  – Publications
  – Performances
  – Enrollment
  – Course Load
RESEARCH LAB SPACE ALLOCATION
SPACE UTILIZATION MODEL

- Integrated View of Space Utilization
- Four Interrelated Components
- Each Evaluated Quantitatively or Qualitatively
- Metrics Provide Quantitative Measure for Activity
ANALYSIS & REPORTING

• Space Audits
• National Science Foundation (NSF) Survey
• Higher Education Facilities Management Association (HEFMA) Survey
• Instructional Space Utilization
• Space Metrics
• Indirect Cost Recovery Rate Negotiation
• Space Requests
## EXTERNAL BENCHMARKING – 2011 NSF SURVEY

<table>
<thead>
<tr>
<th>Institution</th>
<th>Research Expenditures 2011</th>
<th>Research Space 2011</th>
<th>Res $/SqFt</th>
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</thead>
<tbody>
<tr>
<td>U. MI – Ann Arbor</td>
<td>$1,213,090</td>
<td>1,793</td>
<td>$677</td>
</tr>
<tr>
<td>U. IA</td>
<td>$433,088</td>
<td>660</td>
<td>$656</td>
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<tr>
<td>OH State U.</td>
<td>$794,023</td>
<td>1,447</td>
<td>$549</td>
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<tr>
<td>Purdue U.</td>
<td>$520,001</td>
<td>1,083</td>
<td>$480</td>
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<tr>
<td>U. WI Madison</td>
<td>$1,022,723</td>
<td>2,936</td>
<td>$348</td>
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<tr>
<td>IN U. Bloomington</td>
<td>$160,038</td>
<td>592</td>
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<tr>
<td>PA State U.</td>
<td>$776,945</td>
<td>2,929</td>
<td>$265</td>
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<tr>
<td>U. MN, Twin Cities</td>
<td>$824,489</td>
<td>3,531</td>
<td>$234</td>
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<tr>
<td>MI State U.</td>
<td>$423,766</td>
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<tr>
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<td>$522,769</td>
<td>4,631</td>
<td>$113</td>
</tr>
<tr>
<td>U. NE Lincoln</td>
<td>$220,141</td>
<td>2,224</td>
<td>$99</td>
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</table>
CLASSROOM UTILIZATION

• MSU currently serves over 50,000 students with a variety of teaching and learning environments, from informal areas to classrooms and laboratories

• There are approximately 320 rooms in the University Classroom pool

• University classrooms are centrally scheduled for courses and events

• Utilization is based on a 50 hour week; 10 class periods per day/ 5 days per week

The instructional space accounts for what percentage of the overall university square footage?
CLASSROOM UTILIZATION

University Classroom Course and Event Utilization

Univ Classroom Use by Class Period

Univ Classroom Use by Day
CLASSLAB UTILIZATION

• There are approximately 200 rooms in the University Classlab pool
• Classlab utilization for 2013 was 32%
• Classlabs encompass a variety of instructional spaces such as:
  – Music Practice rooms
  – Chemistry Wet Bench Teaching Labs
  – Art Studios
FACILITIES PLANNING

- Annual Planning
- Space Planning and Programming
- Short and Long-term Capital Planning
- Project Approval & Implementation

Facilities Planning
ANNUAL PLANNING PROCESS

• Annual Budget Planning – Programs, People, Space
• Fall Planning Alterations & Improvements Requests
• Fall Planning Space Requests
• Technology and Learning Environment Requests
• Just in Time (JIT)/Utilities/Maintenance Repair and Replacement (MRR) Planning
• Capital Outlay 5-Year Plan Request
ALTERATIONS & IMPROVEMENTS & SPACE

• Requests align with Bolder by Design

• Requests align with Academic Plan and Budget

• Project rationale, work scope, funding request
  – If approved unit and FPSM work on initiating project, including establishment of a plant account

• Requests submitted are for upcoming fiscal year funding
SPACE PLANNING AND PROGRAMMING

- Ranges from small scale requests/renovations to large scale capital projects
- Alignment with Academic Plan/Rationale
- Functional Requirements
- Spatial Requirements
- Work scope, estimate and budget development if applicable
ANNUAL MULTI-YEAR PLANNING

- Capital Outlay
- MAU Faculty Hires
- Instructional Space Improvements
- Barrier Free Planning
- Programmatic Initiatives
ACTIVE LEARNING

• Rooms for Engaged and Active Learning (REAL Rooms)
  – McDonel Hall (2), Union Building, Bessey Hall (2), Chemistry, Music Building, Life Science, Holmes Hall (in planning)
  – Spaces utilize advanced technology and are designed specifically to enable lively interaction, enhance learning and increase faculty and student engagement

• Proposals for additional REAL Rooms under consideration

• Workshop on “Learning by Design”
LONG-RANGE PLANNING

• Larger-scale Academic Projects

• Supporting future University Growth Areas and Initiatives

• Strategic Funding

• Capital Renewal Planning – Program and Infrastructure
LONG-RANGE PLANNING

• Improve Utilization of Existing Space
• Reduce Future Demand on Utility Infrastructure
• Generate Revenue for New Building Needs
• Respond to State Funding Trend
• Drive Long-Range Cultural Change
PROJECT APPROVAL AND IMPLEMENTATION

• Alterations and Improvements
  – >$20,000

• Board of Trustee Process
  – >$1.0 Million

• Plant Cash Accounts

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SERVICE REQUEST PROCESS

Unit
Identifies A & I

Unit Submits Service Request for Estimate

Infrastructure Planning and Facilities (IPF) Work Order to Provide Requested Estimate

IF ESTIMATE < $20,000

Unit can approve, sign and submit service request

IF ESTIMATE > $20,000
Authorization to Proceed must be obtained from OPB/FPSM

STEP 1.
Dept. Chair or Director must approve and sign service request

STEP 2.
Dean or Designated representative must approve & sign service request

STEP 3.
OPB/Facilities Planning and Space Management

Review Criteria:
1. Space Assignment
2. Work Scope and Estimate
3. Space Utilization and Rationale
4. Funding Plan
5. University Planning

Additional Planning Needed/Required

Further Review
Or
Alternate Options
Or
Not Approved

IPF: Assign to appropriate service provider

* $100,000 Plant cash

IF $1.0M

IF $1.0M

BOT Process

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FUNDING AND FINANCE STRATEGIES

Funding Strategies

• Major Administrative Unit
• Private Donor
• Central Administration
• State Appropriation
• Federal or State Grant

Finance Strategies

• Bonds/Debt Service
• Cash
## Funding Examples

<table>
<thead>
<tr>
<th>Project</th>
<th>MAU(s)</th>
<th>Private Donor</th>
<th>Central Administration</th>
<th>State Appropriation</th>
<th>Federal or State Grant</th>
<th>Auxiliary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry Animal Care Renovation</td>
<td>45%</td>
<td></td>
<td>55%</td>
<td></td>
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<td></td>
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<tr>
<td>Linton Hall Office Upgrades</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Bio Engineering</td>
<td></td>
<td></td>
<td>50%</td>
<td>50%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bott Nursing Building</td>
<td>70%</td>
<td></td>
<td></td>
<td></td>
<td>30%</td>
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<tr>
<td>McDonel Hall / River Trail Engagement Center</td>
<td></td>
<td></td>
<td>60%</td>
<td></td>
<td></td>
<td>40%</td>
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</tbody>
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SUMMARY

- University mission and annual academic planning guides space and facilities planning
- Deans delegated authority to reassign space within MAU to meet programmatic needs
- Early identification of space and/or alterations and improvements to meet programmatic commitments improves time to implementation
- MSU Space Inventory data informs the space metrics, federal IDC rate negotiation, and space planning and management
- Space metrics as a tool to assist in space allocation decisions
- Awareness of the Alterations and Improvements process – approvals, funding, planning and implementation
- Space is the 2nd largest campus asset – impacting planning and budget decisions
QUESTIONS?