

University of Denver

DU Indoors: User Manual

LandTech Consultants Inc.

DU Indoors is an implementation of ArcGIS Indoors that has been configured and extended to meet the requirements of FMP – Space Management. It includes a collection of data layers, maps, applications, and automations that work together to provide a complete space management solution. The system has been fully developed and refined to support daily operations and decision-making.

Below, you will find a bullet list describing the key components and workflows within the DU Indoors system. These outline the functionality available to users and provide guidance on how to interact with each part of the solution.

All content can be accessed from the [DU Indoors Landing page](#).

Terminology

Unit: An individual room or space inside a building, such as an office, meeting room, cubicle, or lab. Units are the core spaces that can be assigned to occupants, departments, or specific uses.

Occupant: An employee assigned to a unit. In Space Planner, occupants are placed into offices, desks, or shared areas to support space management and workplace planning.

Details: Includes linear assets that partition spaces on an indoor map and provide visual context, such as walls, doors, and windows.

Level: A floor of a building. Levels group all the units on the same floor so they can be viewed and managed together.

Facility: Refers to a building and can contain many levels, units, and details.

Functional Allocation: The way each unit is categorized by purpose for a given fiscal year. A unit's allocation is expressed as percentages that must total 100, spread across categories such as Auxiliary Operations & Non-DU Entities (ARC), Research: Non-funded/Departmental Research (DPR), Instruction: General Academic Instruction (INS), Academic Support: Other (OSA), Other Institutional Activities (OIA), and Research: Sponsored Projects: Sponsored Instruction (SIT).

Related Record: Additional information linked to a Unit, such as grants or functional allocation details. Related records provide context about how a unit is funded or categorized.

Hotel: Reservation-based work environments use office hotels as office spaces that can be booked for use by occupants that don't have an assigned space using Indoors Viewer and the Indoors mobile apps.

Hot Desk: Hot desks are general spaces in a workspace area that support occupants in their work without assignments to a specific office or desk. Occupants are not assigned to a specific hot desk, but they can use whatever space is available in the area that meets their needs.

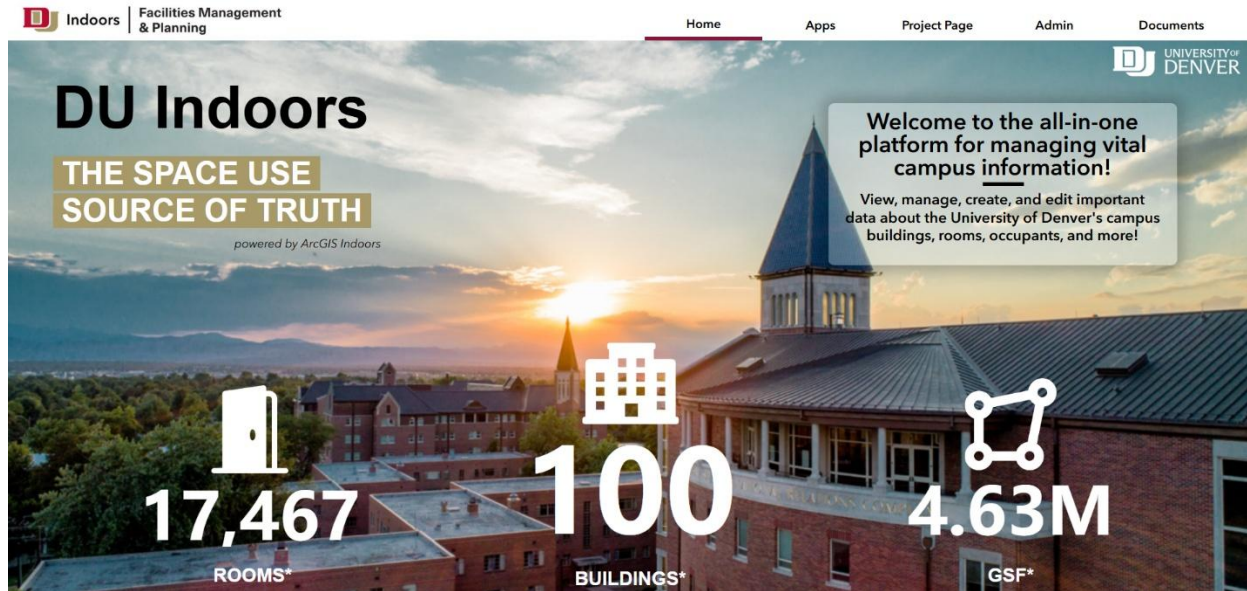
Organization Area: Organization areas help with space allocation across an organization. Spaces can be allocated to different organization areas or reallocated to other organization areas based on growing or shrinking business needs, or when undergoing restructuring. Allocating spaces to an organization area also facilitates workspace area planning by giving space planners insight into which units are available for assignment.

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Landing Page – Home Tab

The landing page serves as the central entry point to the DU Indoors system. With multiple applications and different use cases, it provides a single starting point where users can quickly navigate to the tools or information most relevant to them. The Home page includes dynamic highlighted data that is directly linked to DU Indoors data.



Apps Page – Lists all main applications built for the DU Indoors solution.

Project Page – Provides an overview of the DU Indoors project, including its timeline, steps, Focus Group members, and overall goals.

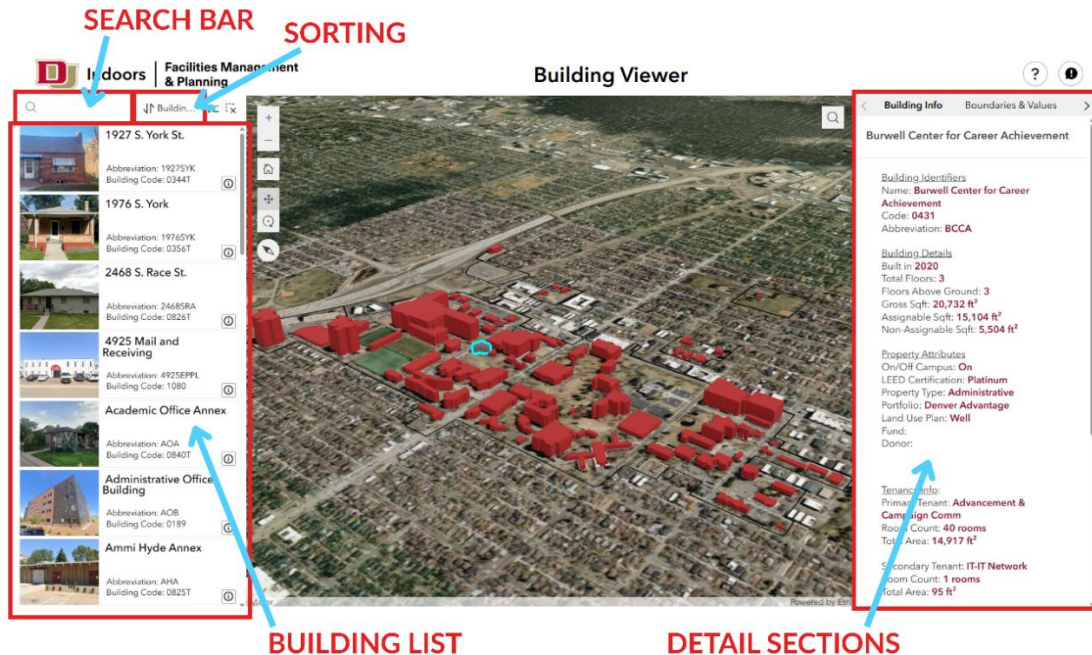
Admin Page – Grants administrative users access to all applications, including those on the Apps page and additional apps designed for behind-the-scenes operations and maintenance.

Documents Page – Stores manuals, instructions, data schema, policies, and other reference documents.

Apps Tab

Building Viewer Application

The Building Viewer application provides users with easy access to detailed information about campus buildings, including their locations, details, boundaries, ERM values, FICM information, and more. Ultimately, enhancing DU's Facility Management & Planning by simplifying navigation and providing essential building details in one convenient tool.



Building List – Scroll through or search for a building in the list on the left to select.

- Search can be performed by full building name, building abbreviation, or building code.
- The list can also be sorted alphabetically.

Building Details Sections – On the right, two sections populate with information specific to the selected building.

- **Building Info** – Displays building identifiers, building details, property attributes, tenancy info, contact info, and location info. Scroll through to view and inspect the data.
- **Boundaries & Values** – Shows property boundary information, Enterprise Risk Management (ERM) values, and Renovation records if known.
 - Census and Denver boundary information is pulled directly from data published by the U.S. Census Bureau and The City of Denver.

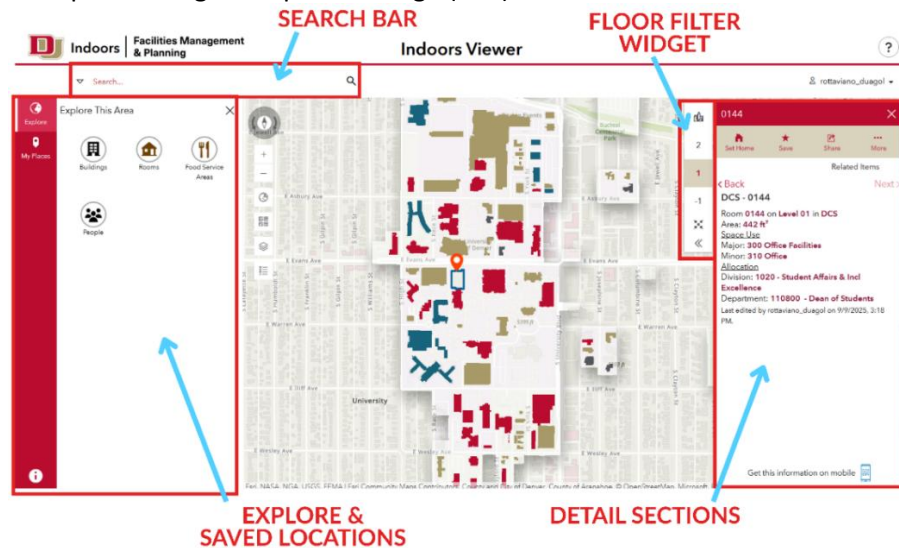
FICM Dashboard – Each building in the list has a button in the lower right corner. Clicking this button opens a pop-up window showing the FICM 5-2 Dashboard for that building. Click anywhere outside the pop-up to close it.

- **Upper Right Buttons** – Two buttons are available:
 - **App Help** – Opens a pop-up window with information about the application and how to use it.
 - **Report Building Change Request** – Opens a form to submit a change request for the selected building. A building must be selected from the list first, as the Facility ID is auto-populated in the form.

Indoors Viewer Application

The Indoors Viewer application provides users with an interactive view of building interiors, allowing navigation through floors, rooms, and spaces. Users can locate specific rooms, units, or occupants, explore floor layouts, and access associated information such as room names, numbers, and occupant details. This tool enhances DU's Facility Management & Planning by consolidating indoor spatial data into a single, easy-to-use interface, simplifying navigation, and supporting informed operational and planning decisions.

Two versions of the app are available depending on account permissions: the *Standard* app, which provides access to basic room and floor information, and the *Advanced* app, which includes additional details such as occupants and gross square footage (GSF).



Search Bar – Located in the upper left, the search bar allows you to search by:

- Buildings – Full name.
- Units – By number, building abbreviation, or use type.
- Occupants – By name, job title, or department.

Explore Tab – Click through categories to locate a building, unit, or occupant of interest. Categories include Buildings, Rooms, Food Service Areas, and People.

Floor Filter Widget – Located on the right-hand side of the map:

- Select the building icon at the top to open a list of buildings. Scroll or search for a specific building.
- The floor dropdown updates based on the selected building. Navigate through levels to view the corresponding floor on the map.

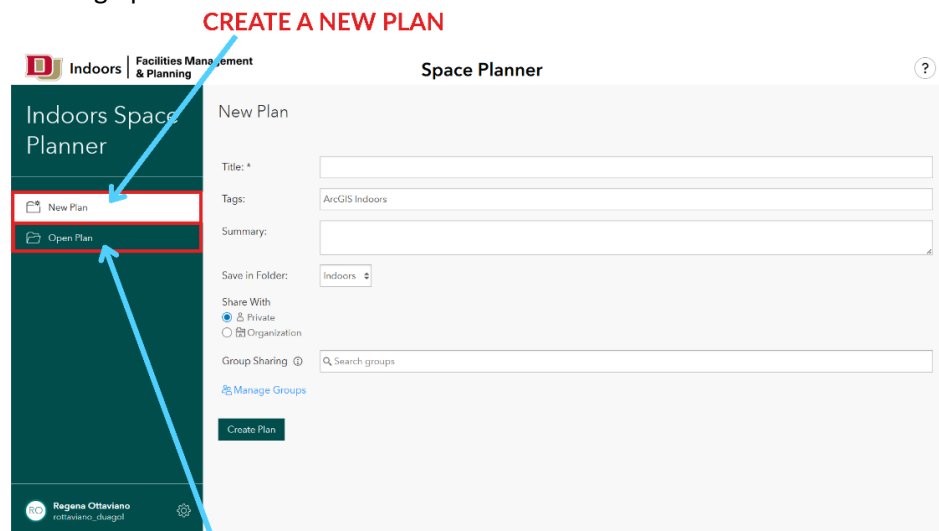
Pop-up Pane – Clicking on a building, unit, or occupant displays important details on the right side of the application.

- For units, you can submit a change request:
 - In the pop-up pane, select More in the top right, then click Change Requests.
 - This opens a new browser window with a form to complete and submit.

App Help Button – In the Standard App, there is an 'About' button located in the lower left corner. This button opens a pop-up window with information about the application, how to use it, and a link to view the DU Indoors – User Manual document. In the Advanced App, there is the same 'About' button and an additional button located in the top right corner.

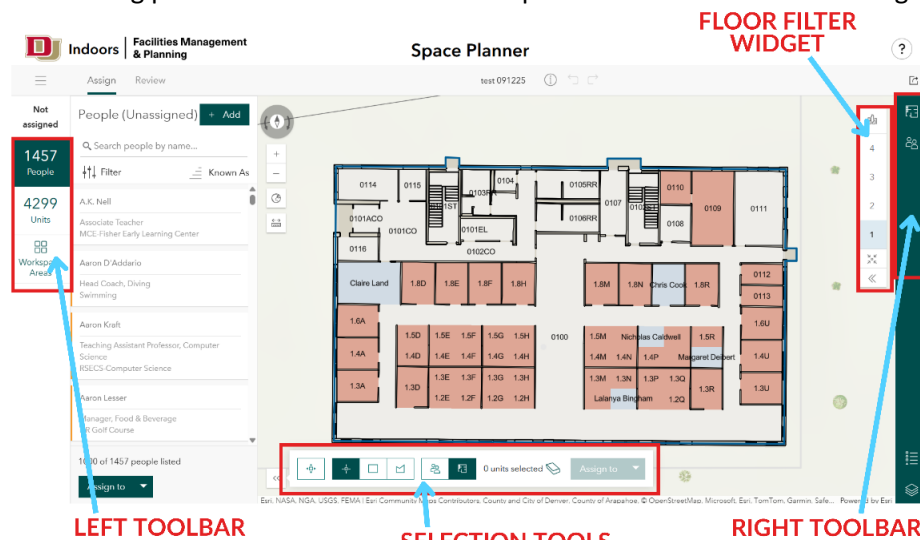
Space Planner Application

The Indoors Space Planner application provides users with tools to manage and plan interior spaces within buildings. Users can view and edit room layouts, assign or reassign occupants, and make adjustments to space configurations. This tool enhances DU's Facility Management & Planning by enabling efficient space management, improving occupancy planning, and supporting data-driven decisions for building operations and renovations.



OPEN EXISTING PLANS

Plans – Select an existing plan or create a new one. New plans can be shared with the organization.



Left Toolbar – Manage workspace areas, occupants, and units:

- Add Workspace Areas – Create Hot Desk or Hotel areas by providing an area name.
- Assign Unassigned Occupants to Units – Select occupants and assign them to units or workspace areas.
- Assign Unassigned Units to Occupants/Areas – Select units and assign them to occupants or workspace areas.
- Bulk assignments can be performed using the Assign to button.

Map Interaction – Navigate and manage assignments directly on the map:

- Pan and zoom to move around the building.
- Use the Floor Filter widget to view different levels.
- Reassign occupants by dragging and dropping between units.
- Click on a unit to assign occupants, assign workspace areas, or view unit properties.

Select Tool – Use the various selection options to select multiple units or occupants at once.

Right Toolbar – Displays all occupants and units, including assigned ones:

- Assign Any Occupants to Units – Select occupants and assign them to units or workspace areas.
- Assign Any Units to Occupants/Areas – Select units and assign them to occupants or workspace areas.
- Bulk assignments can be performed using the Assign to button.

Review Tab – Provides an overview of all moves/changes made in the current plan.

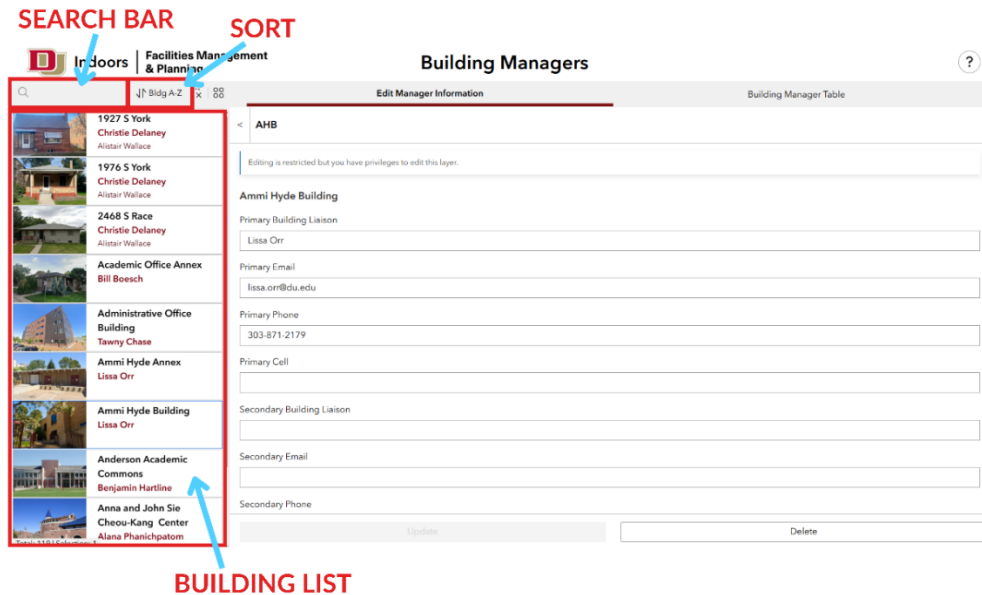
- Users can apply comments for collaboration.

Options Menu – Allows users to export their plan and/or merge their plan.

- Merge latest changes from default plan into current plan:
 - Updates the current plan with any modifications made in the default DU Indoors configuration while keeping the current plan's existing assignments and edits.
- Merge latest changes from current plan into default plan:
 - Updates the default DU Indoors configuration with any modifications made in the current plan, ensuring that changes from the current plan are reflected in the DU Indoors data.

Building Managers Application

The Building Manager application provides users with an organized view of building manager information, including primary and secondary contacts. Users can search, edit, and save manager details, as well as access the full dataset in a table format for reference or export. This tool streamlines management of building contact information and supports accurate, up-to-date records for facility operations.



SEARCH BAR **SORT**

BUILDING LIST

Building List – Scroll through or search for a building on the left.

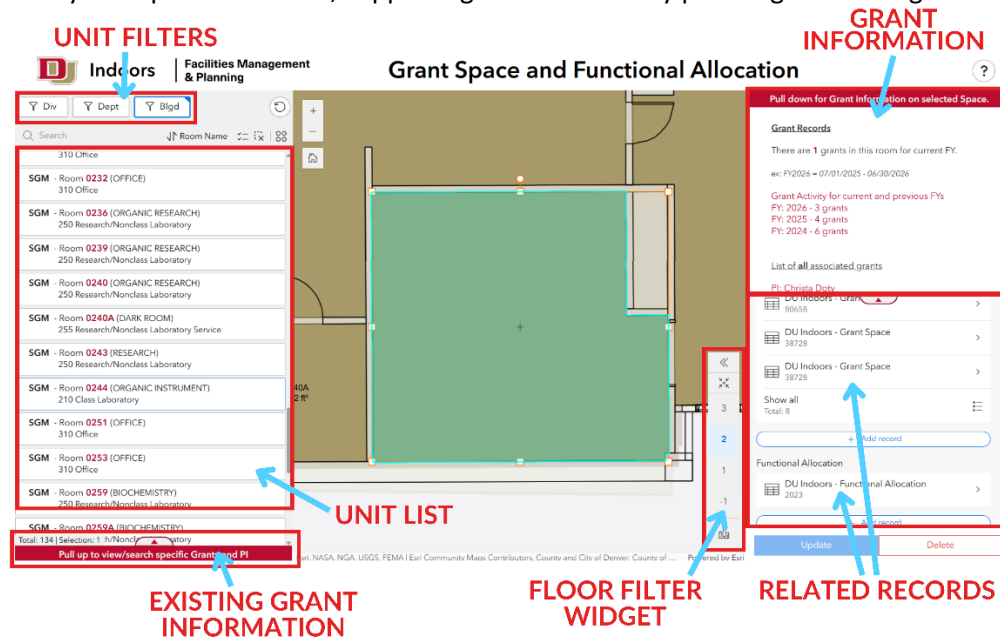
- Search can be performed by full building name, building abbreviation, manager name, manager email, or manager phone number.
- The list can also be sorted alphabetically.

Manager Details – Selecting a building displays the primary and secondary building manager information, which can be edited and saved.

Building Manager Table – Switch to this tab to view, search, and export building manager data in a tabular format.

Grant Space and Functional Allocation Application

The Grant Space and Functional Allocation applications allow users to manage research and space usage data within DU Indoors. Grant Space tracks grants associated with specific units, including student support information, while Functional Allocation records how each unit was used during a fiscal year, with percentages assigned to different functions. Together, these tools provide a clear, organized view of research activity and space utilization, supporting informed facility planning and management.



Grant Space Workflow – allows users to capture and maintain records of grants associated with specific units. Each grant can be linked to zero, one, or multiple units where research is occurring, enabling users to identify both the grant and its corresponding unit(s).

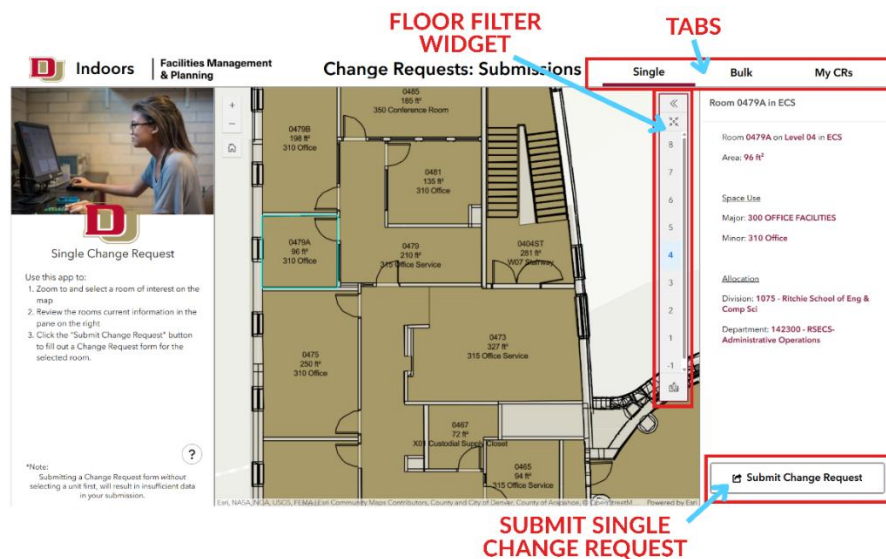
1. Search for the desired unit.
2. Add a new Grant record.
3. Enter the Grant ID.
4. Answer any relevant questions regarding graduate or undergraduate student support.
5. Submit the record.

Functional Allocation Workflow – allows users to record how a given unit was used for a specific fiscal year. Each unit should have only one record per fiscal year, or none if no activity occurred.

1. Search for the desired unit.
2. Add a new record.
3. Enter the Fiscal Year.
4. Input the usage percentage for each function within the unit for that year.
 - Percentages *must* total 100%.
5. Submit the record.

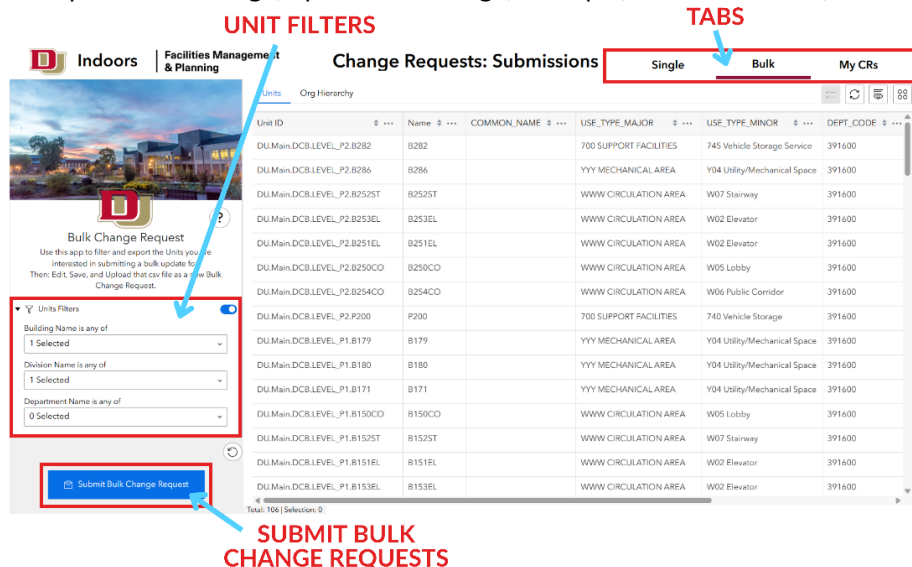
Change Requests Application

The Change Request application allows users to submit and manage updates to unit and space information within DU Indoors. Users can submit individual requests or bulk requests, view the status of submitted requests, and access detailed information about each change. This tool streamlines the process of maintaining accurate and up-to-date space and occupancy data for facility management and planning.



Single Change Request Tab – Submit change requests one at a time. This functionality is also accessible from the Indoors Viewer using the Launch Action.

- Navigate buildings and floors using the Floor Filter.
- Inspect floorplans and select a unit to submit a change request.
- Available request types include:
 - Department Change, Space Use Change, Multiple, Data Correction, Remodel




Bulk Change Request Tab – Submit multiple updates at once, ideal for annual space surveys or managing many units.

- The table initially displays *all* units in the Indoors system.
- Use the filters to narrow down units of interest.
- Export the filtered data as a CSV.
- Edit the CSV carefully, updating fields such as Dept Code, Dept Name, Div Code, Div Name, and Use Type.
- Submit the bulk change request by attaching the edited CSV and completing the form.

**SUBMITTED
CHANGE REQUESTS**

TABS


Indoors | Facilities Management & Planning

Change Requests: Submissions

Single

Bulk

My CRs

My Change Requests

This dashboard shows all Change Requests (CRs) that YOU have submitted. Click on any one of them to view more details.

| Date Submitted | Status | Room Name | Change Type | Description |
|--------------------|-----------|-----------|-----------------------------------|--|
| 2025-05-09 @ 13:05 | Submitted | 0196A | Other | testing for autopopulated name and email |
| 2025-01-06 @ 11:01 | Submitted | 0121 | | test3 |
| 2025-01-06 @ 11:01 | Submitted | 0102EL | Other | test2 |
| 2025-01-06 @ 11:01 | Submitted | | Other | TESTTTT |
| 2024-12-30 @ 13:12 | Submitted | 0101 | Space Use Change | Test |
| 2024-05-06 @ 12:05 | Processed | 515 | Bulk Status Update | TEST |
| 2024-04-26 @ 17:04 | On Hold | 0017A | Remodel (Structural Modification) | |
| 2024-04-24 @ 10:04 | Declined | 0421 | Space Use Change | |
| 2024-03-07 @ 12:03 | Processed | 0316 | Space Use Change | Please change this from office to lab, thank you |

Total CRs
9

Active
6

Approved
2

Declined
1

Error
0

CR Details

Space Change Requests: 0316

| | |
|-----------------|--|
| Change Type | Space Use Change |
| Date Submitted | 3/7/2024, 12:00 PM |
| Department Code | |
| Department Name | |
| Description | Please change this from office to lab, thank you |
| Division Code | |
| Division Name | |
| Facility ID | DU Main MRB |
| RMP Notes | This is approved |

Current Data for Unit

0316

| | |
|-------------|---------------------------|
| ObjectID | 11107 |
| Unit ID | DU Main MRB LEVEL_03_0316 |
| Use Type | 315 Office Service |
| Name | 0316 |
| Long Name | Kitchenette |
| Level ID | DU Main MRB LEVEL_03 |
| COMMON_NAME | |
| DESCRIPTION | |
| Gross Area | 182.26339 |
| Contact | |

CHANGE REQUEST
STATUS DATA

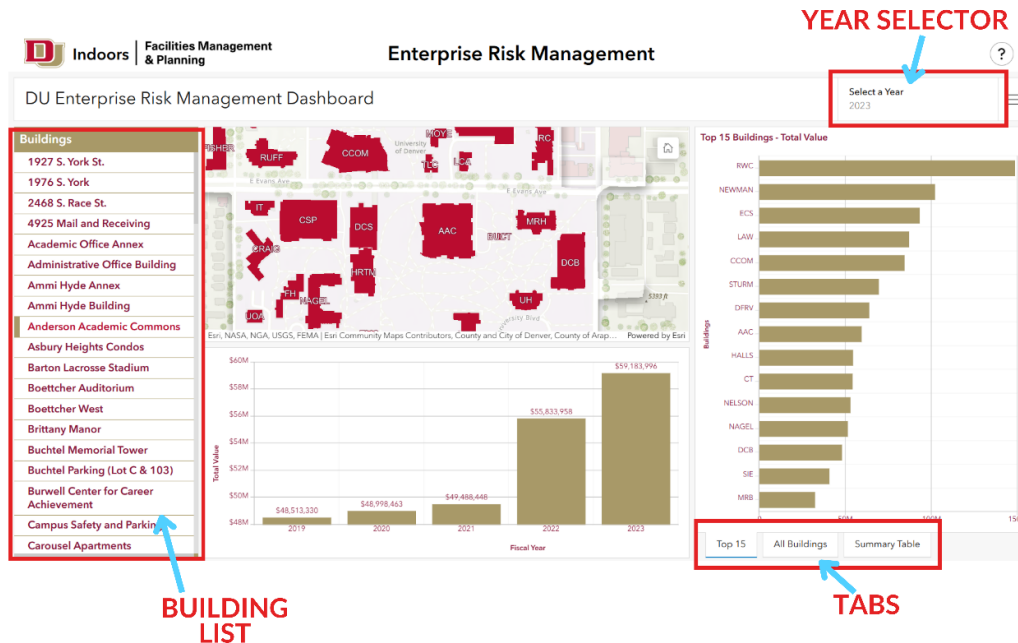
PROPOSED & ORIGINAL
UNIT INFORMATION

My CRs Tab – View your submitted change requests in a personal dashboard.

- Only your change requests are displayed.
- Click a request to view detailed information and associated unit data for single change requests.

Risk Management Application

The Risk Management application provides users with an interactive view of building values across fiscal years. Users can explore individual building values on a map, compare top-performing buildings, and access detailed graphs and tables for all buildings. This tool supports facility management and planning by presenting building value data in a clear and accessible format.



Building List – Scroll through and select a building from the list on the left.

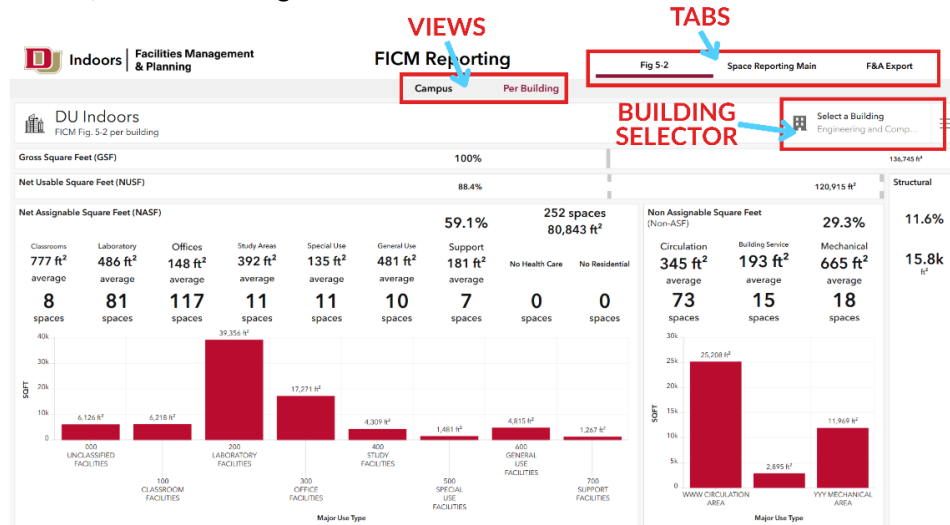
- The map will zoom to the selected building, and the bar graph at the bottom displays the total value of the building by fiscal year.

Tabs on the Right – Provide detailed views of building value data for a single fiscal year, adjustable using the Year Selector in the top right:

- Top 15:** Shows the 15 buildings with the highest total value. Hover over the bars to view individual values.
- All Buildings:** Displays all buildings in order of highest to lowest total value in a graph. Use the scroll/zoom bar on the right of the graph to focus on specific sections.
- Summary Table:** Lists all buildings in order of highest to lowest total value in a table format.

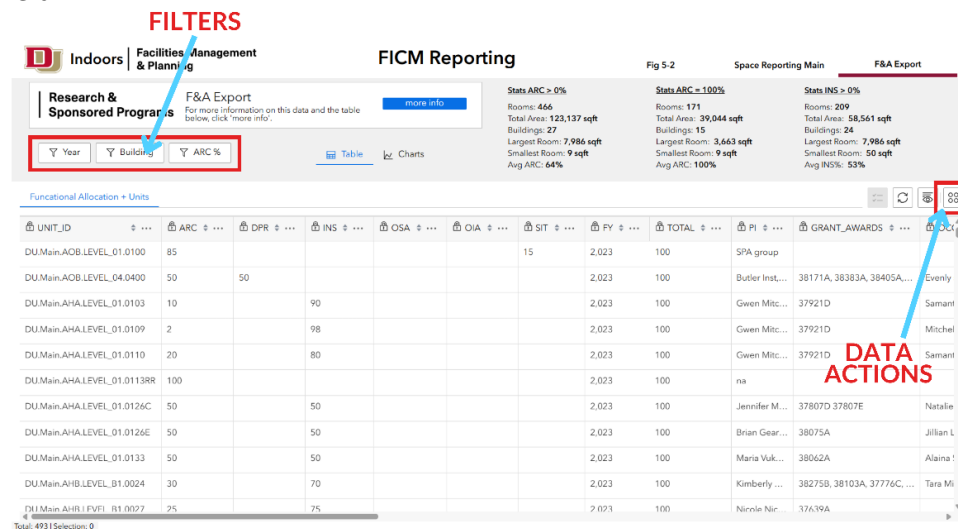
Reporting Application

The Reporting application provides users with interactive access to campus- and building-level reports, including FICM Figure 5-2 visualizations and detailed space reporting. Users can explore data breakdowns, filter information, and export customized datasets, supporting facility management and planning with clear, actionable insights.



FICM Figure 5-2 – View the figure at the entire campus level or switch to the Per Building view using the building selector in the upper right corner.

Space Reporting Main Tab – Explore different reporting views and data breakdowns using the tabs on the bottom left.



F&A Export Tab – Access and export data:

- Click the More Info button at the top to view details about the data.
- Review an overview of the data in the upper right-hand corner.
- Apply filters to create a customized data export.
- Use the Data Actions button on the right to explore available export options.

Project Page Tab

This tab provides an overview of the DU Indoors Project, outlining its purpose, key benefits, development timeline, and major phases. It also highlights the collaborative efforts behind the project, including the various departments, stakeholders, and individuals who participated in Focus Group testing. Through this overview, users can gain a better understanding of how the project was conceived, how it has evolved over time, and the value it brings to campus operations and space management.

Documents Tab

This tab offers a collection of technical documentation and supporting materials designed to offer clarity, implementation context, and procedural guidance. These resources help ensure accurate data integration, proper configuration, and consistent operational alignment within the ArcGIS Indoors implementation. Some documents and files also include templates to support proper data maintenance for procedures such as the ERM Facility SOV Update and Banner Export Updates.