



ONUMA Planning System

- buildingSMART alliance / USACE Demonstration
- OPS and COBIE Process
 - SCIE
 - COBIE Design Demonstration



ONUMA Planning System

- OPS is:
- BIM Model Server
- Web Based Editor
- Multi User Real Time System
- Web Feature Service using OGC Standard



SCIE Demonstration (Spatial Compliance Information Exchange) & COBIE Design Data

- OPS will be used to demonstrate the rapid way in which SCIE data can be exported directly from the OPS Model server.
- OPS will be used to demonstrate the rapid way in which COBIE Design data can be exported directly from the OPS Model server.
- Both can be exported from individual projects or a list of projects from the OPS Model Server
- Web services as a list or from a Google Map view can export COBIE and IFC for viewers without an OPS account.

(Web Feature Services was used in OGC Demonstration to show Bentley Architecture, getting IFC file from OPS Model Server.)



SCIE & COBIE Design Data Demonstration

OPS Process

1. Open Site Plan in OPS
2. Open Floor Plan
3. Revision Challenge in OPS
 - Change space name or area
 - Settings change
 - Show Floor Plan Revision

Export to COBIE SCIE, Export > Building > Data COBIE SCIE

Open Excel file to show changes in COBIE

1. Show multiple tabs
2. Created from scratch from OPS Model Server not through IFC

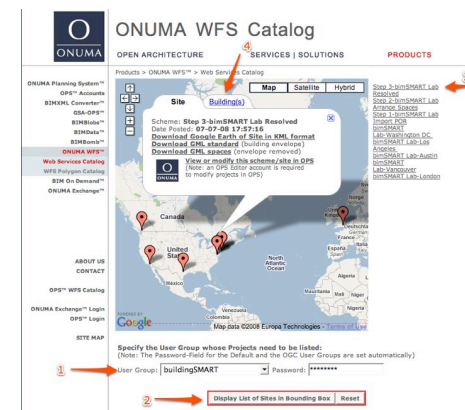
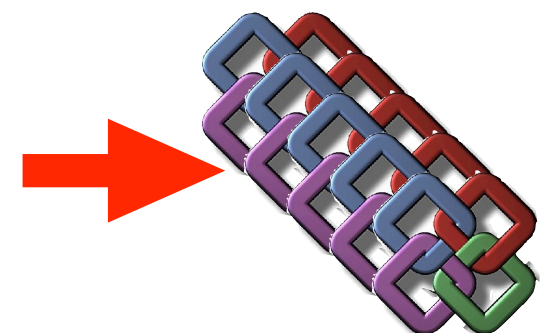
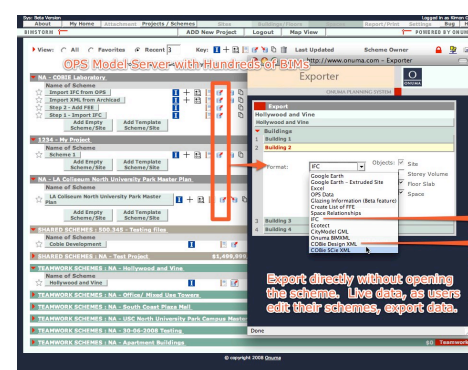
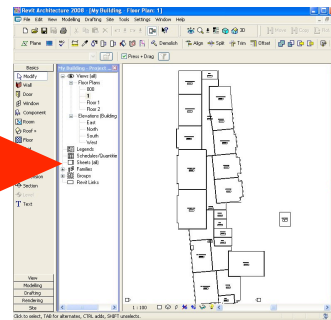
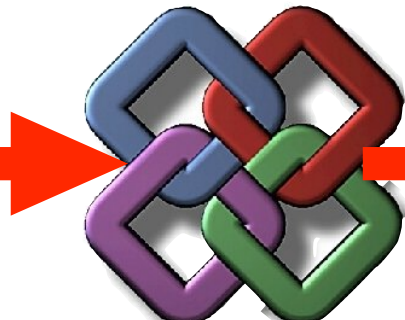
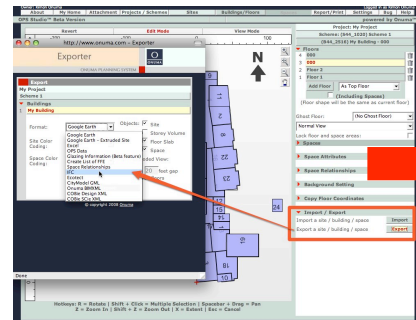
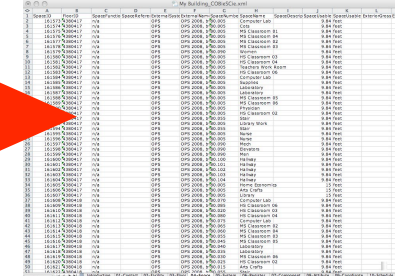
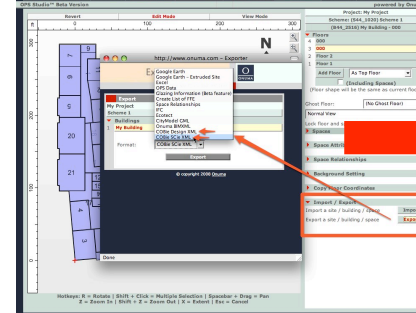
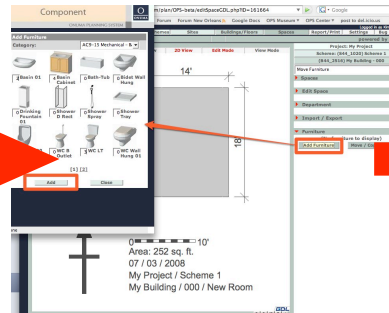
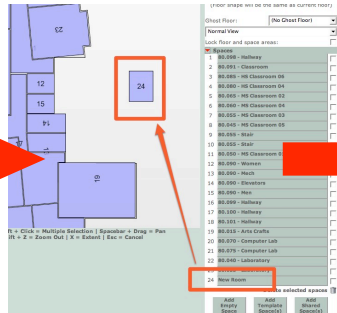
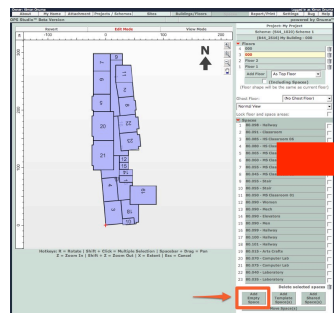
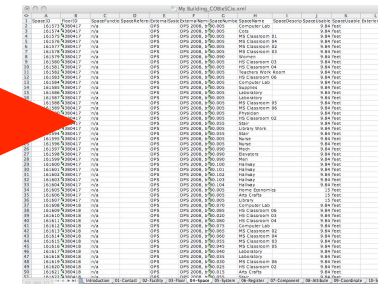
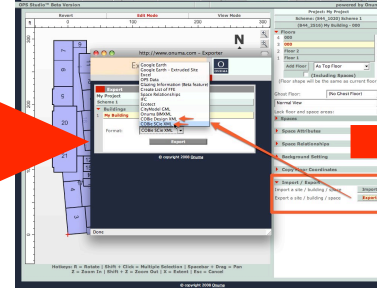
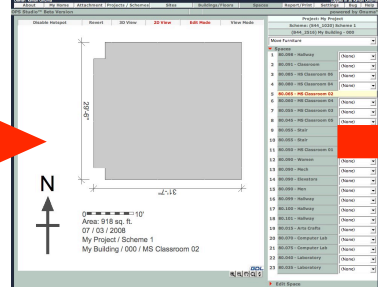
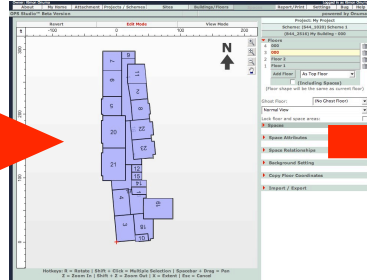
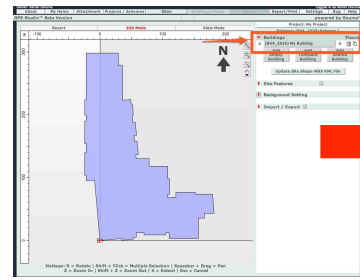
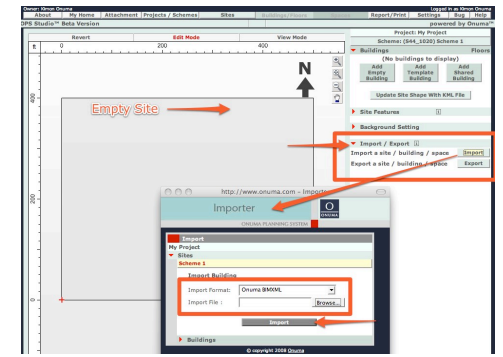
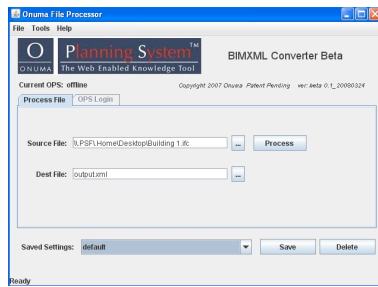
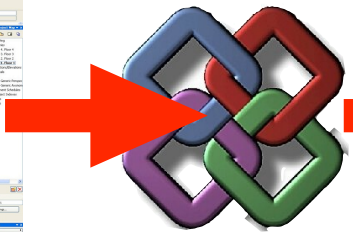
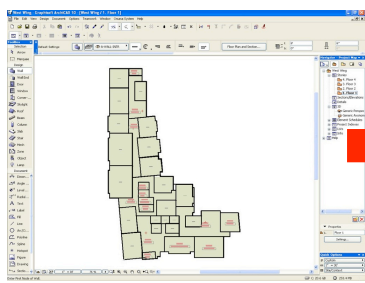
Export to COBIE SCIE, Export > Building > IFC

Optional Processes

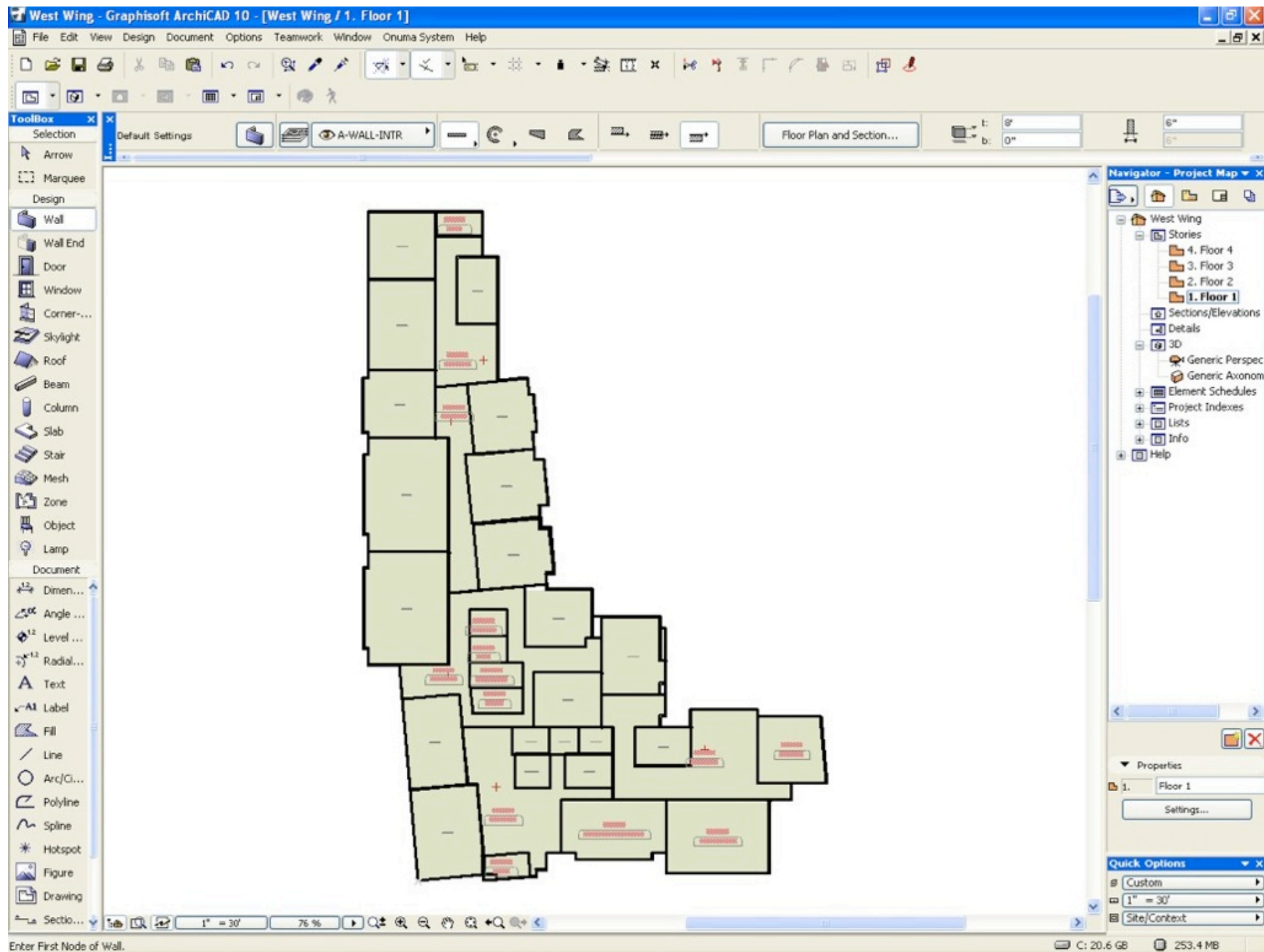
- Export Excel of Furniture and Equipment, Edit Component Name and Register for COBIE on multiple components.
- Inject changes back to OPS for export to COBIE
- OPS Web Services, Live link to COBIE data and IFC changes for reviewer and audience

Show export of multiple building data (optional to show OPS)

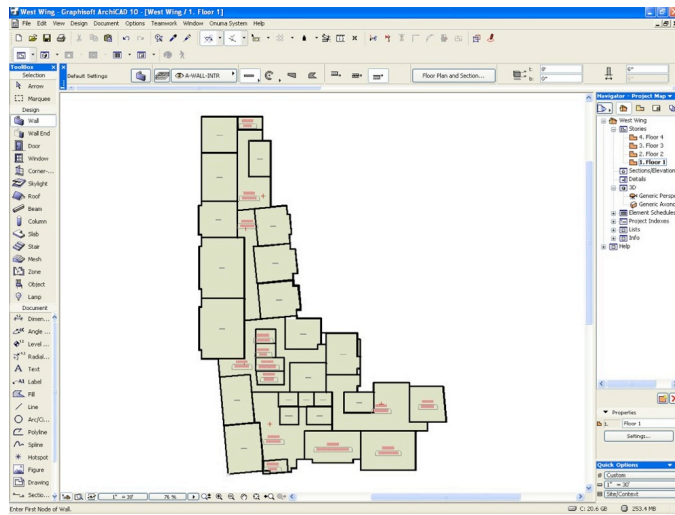
1. From Project list export button
2. Model server has many buildings, no need to open them to export data.



Desktop BIM

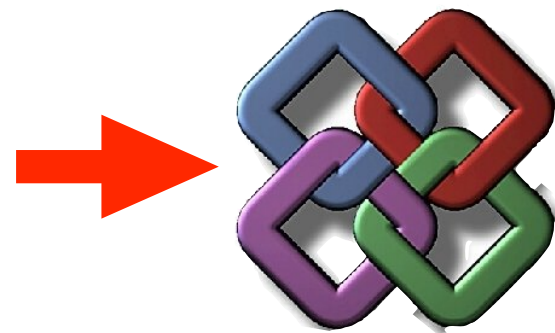


A-Desktop BIM to OPS, Excel to OPS

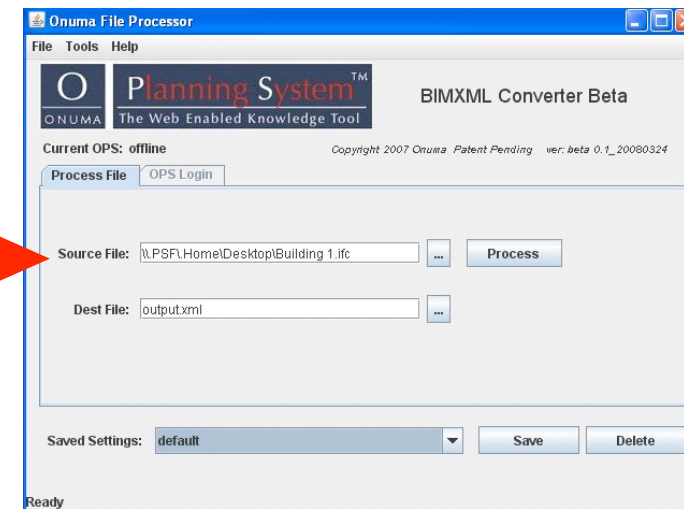


1- Desktop BIM

This sample is Archicad.



2-Save IFC



3-OPS BIMXML Converter

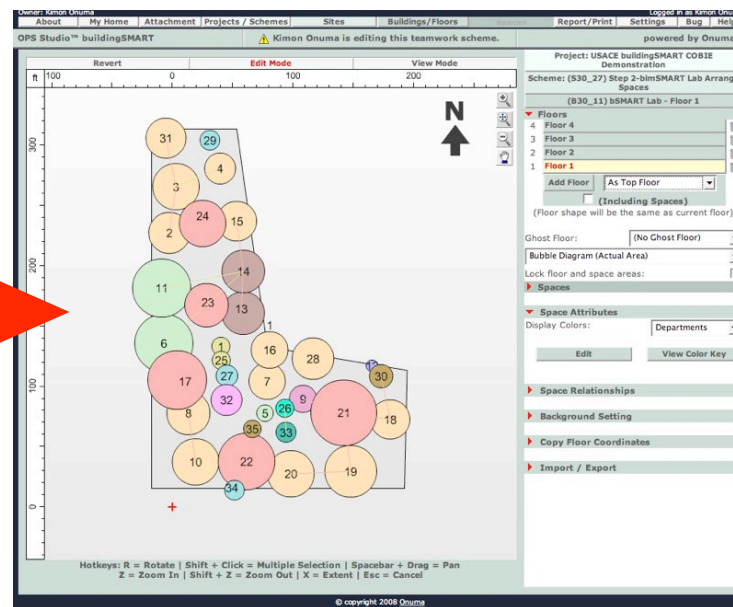


4-Save OPS BIMXML

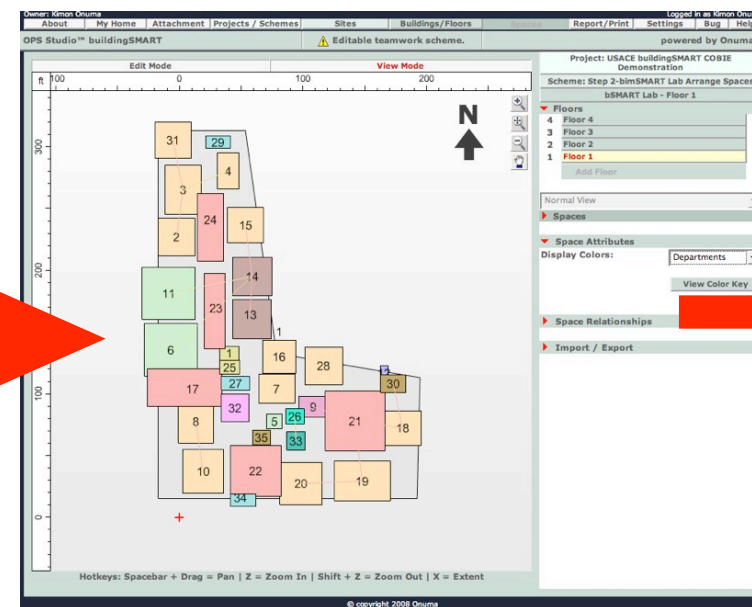
*Note: BIM does not have to be imported from Desktop BIM Applications.
A BIM IFC file can also be created directly in OPS.*

| ID | Floor Name | Space Name | Furniture Name | Register ID | Component Name | Default Cost | Cost (user defined) | SKI Number | URL |
|-----|--------------|------------------|----------------------|-------------|----------------|--------------|---------------------|------------|----------------------|
| 411 | 2012 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-1 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 412 | 2013 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-2 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 413 | 2014 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-3 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 414 | 2015 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-4 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 415 | 2016 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-5 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 416 | 2017 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-6 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 417 | 2018 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-7 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 418 | 2019 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-8 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 419 | 2020 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-9 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 420 | 2021 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-10 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 421 | 2022 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-11 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 422 | 2023 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-12 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 423 | 2024 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-13 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 424 | 2025 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-14 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 425 | 2026 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-15 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 426 | 2027 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-16 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 427 | 2028 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-17 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 428 | 2029 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-18 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 429 | 2030 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-19 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 430 | 2031 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-20 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 431 | 2032 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-21 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 432 | 2033 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-22 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 433 | 2034 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-23 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 434 | 2035 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-24 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 435 | 2036 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-25 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 436 | 2037 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-26 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 437 | 2038 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-27 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 438 | 2039 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-28 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 439 | 2040 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-29 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 440 | 2041 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-30 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 441 | 2042 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-31 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 442 | 2043 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-32 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 443 | 2044 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-33 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 444 | 2045 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-34 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 445 | 2046 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-35 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 446 | 2047 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-36 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 447 | 2048 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-37 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |
| 448 | 2049 Floor 1 | 301 - LABORATORY | Lab Base-Multidrawer | 0 CB-38 | 100 | 123456 | 123456 | 123456 | http://www.onuma.com |

1-Excel



2-Import to OPS



3-Design in OPS



B-Create Project and Scheme in OPS

Products
OPEN ARCHITECTURE
SERVICES | SOLUTIONS

Products > OPS™ Login

OPS™ Login
Need an OPS Account?
[Sign Up Here:](#)

ONUMA Planning System:

Username
Password

[Forgot your password?](#)

Cookies and JavaScript must be enabled to use this system.

(Instead of allowing all cookies you can also specifically add this domain "onuma.com" to a list of "allowed" websites in most browsers.)

Username and Password are not case sensitive.

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OPS™ WFS Catalog

1- Log In

ONUMA Planning System
OPEN ARCHITECTURE
SERVICES | SOLUTIONS

OPS Help
OPS™ Studio Selection
OPS™ Change Password
OPS™ Logout
OPS™ System Requirements
OPS™ EULA

Available OPS Studios™:

| | |
|---|------------|
| AECOO | V 8.5 |
| Beta Version | V 8.5 |
| BFGC | V 8.5 |
| BIMeducation | V 8.5 |
| BIMsmart | V 8.5 |
| BIMsmart - New OPS Test | V 8.5 Test |
| BIMstorm | V 8.5 |
| BIMstorm - USC | V 8.5 |
| BIMstorm AGC | V 8.5 |
| BIMstorm Alexandria Federal Friendly Zones | V 8.5 |
| BIMstorm Boston | V 8.5 |
| BIMstorm Capital Alliance: Tswane, South Africa | V 8.5 |

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OPS™ WFS Catalog

ONUMA Exchange™ Login
OPS™ Login

2-Select Studio

About | My Home | Attachment | **Projects / Schemes** | Logout | Map

BIMSTORM

ADD New Project

View: All Favorites Recent 3 Key: 1 +

Search Projects / Schemes By Name / ID:

NA - COBIE Laboratory

NA - LA Coliseum North University Park Master Plan

SHARED SCHEMES : 500.345 - Testing files

3-Add New Project

OPS Studio™

Create Project

Date: 07-03-2008

Project Title: My Project

Project Number: 1234

Project Budget: 12000000

Project Description: Add Description Here

Template: None

4-Name Project

1234 - My Project

Name of Scheme

5-Add Scheme to Project

Project: My Project

Date: 07-03-2008

Scheme Name: Scheme 1

Early Planning Stage: (Spaces will be displayed with rounded corners and no polygonal shaped spaces will be allowed)

Scheme Unit: Imperial Metric

Scheme Currency: US Dollars (\$)

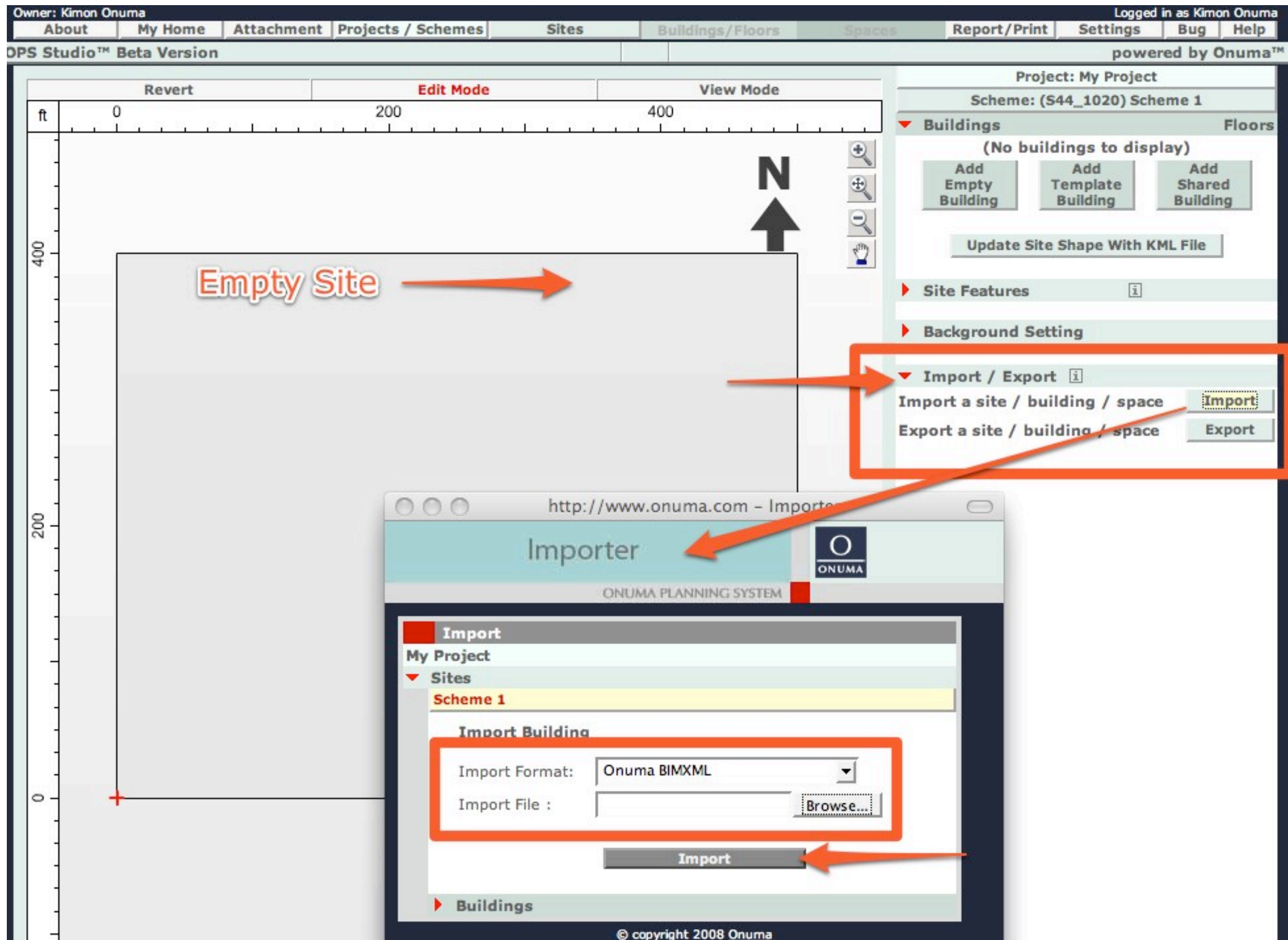
Site Area: Please type in the site square footage (A square foot is equal to 144 square inches) or provide the length and the width of the site: 500 SQFT FT x 400

Scheme Description:

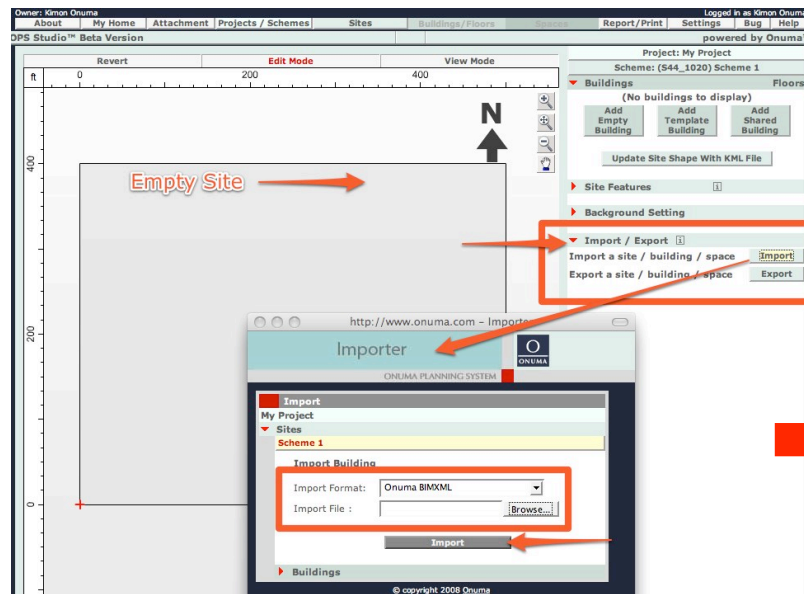
5-Name Scheme

A project can end up having multiple schemes.

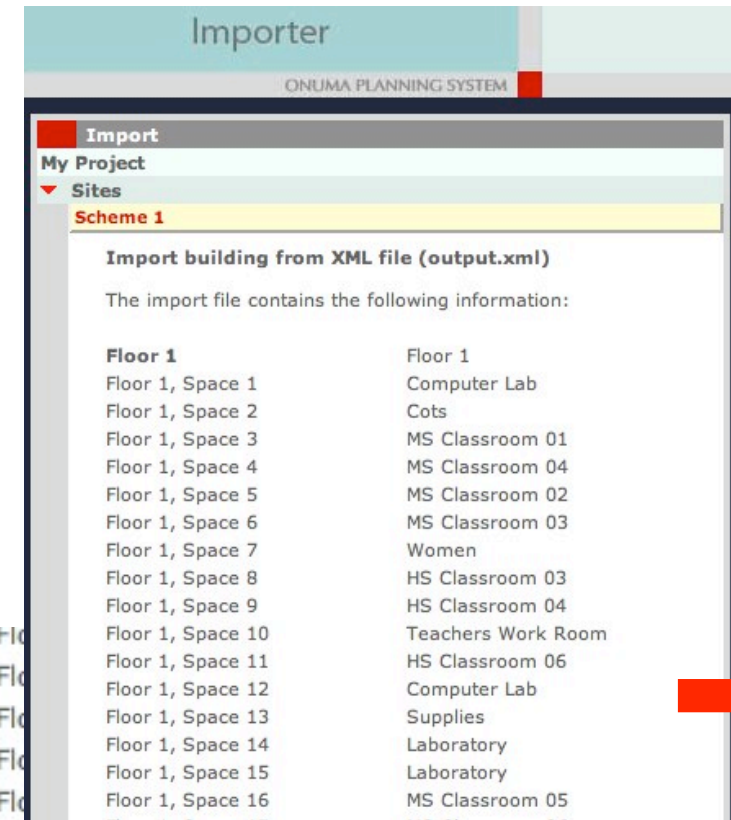
C-Import BIMXML File to OPS



D-Create Building from Import



1- Import



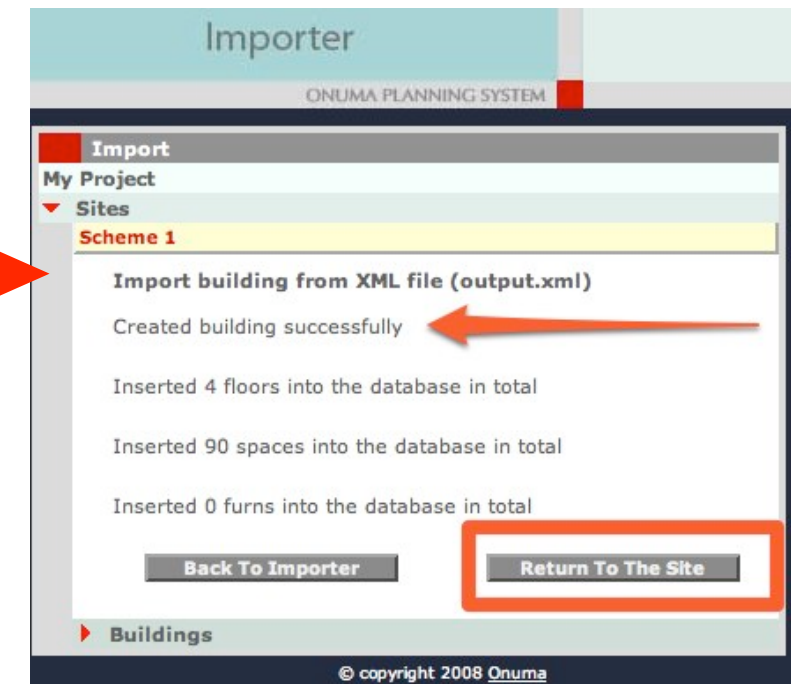
Building Name:

My Building

Back

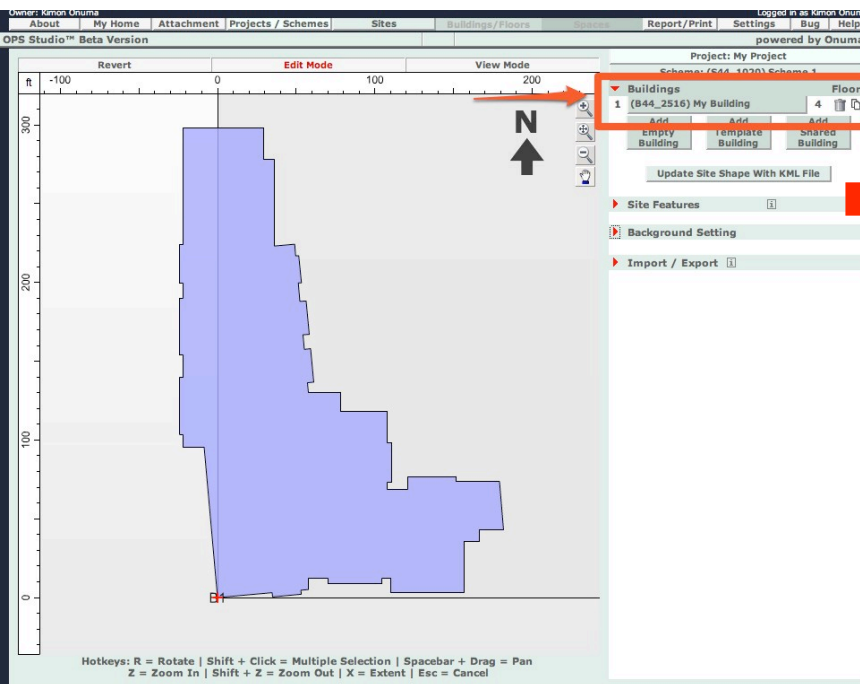
Proceed

2-Name Building

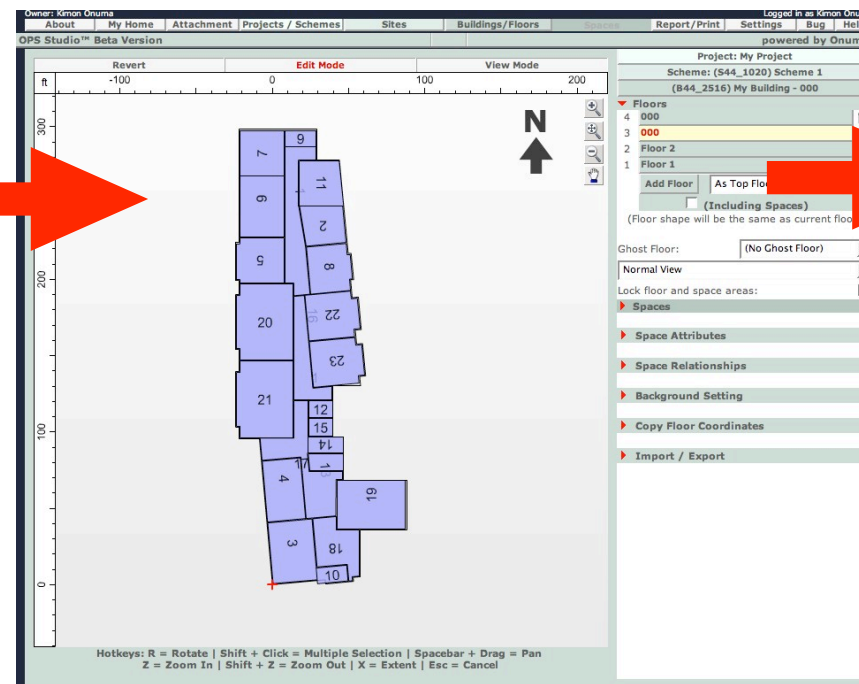


3-Confirm Import

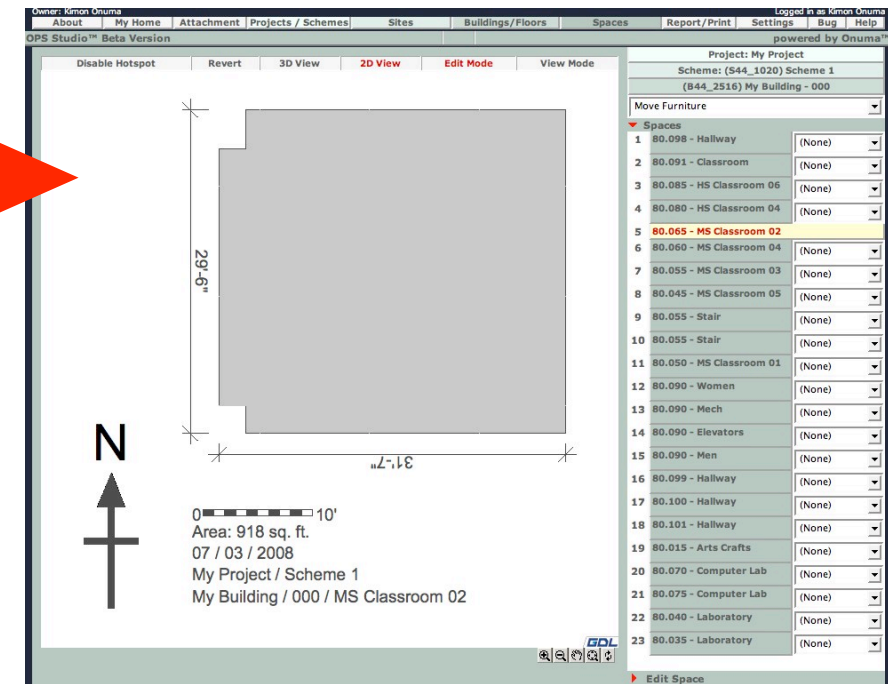
E-Building Imported to OPS



Site Plan

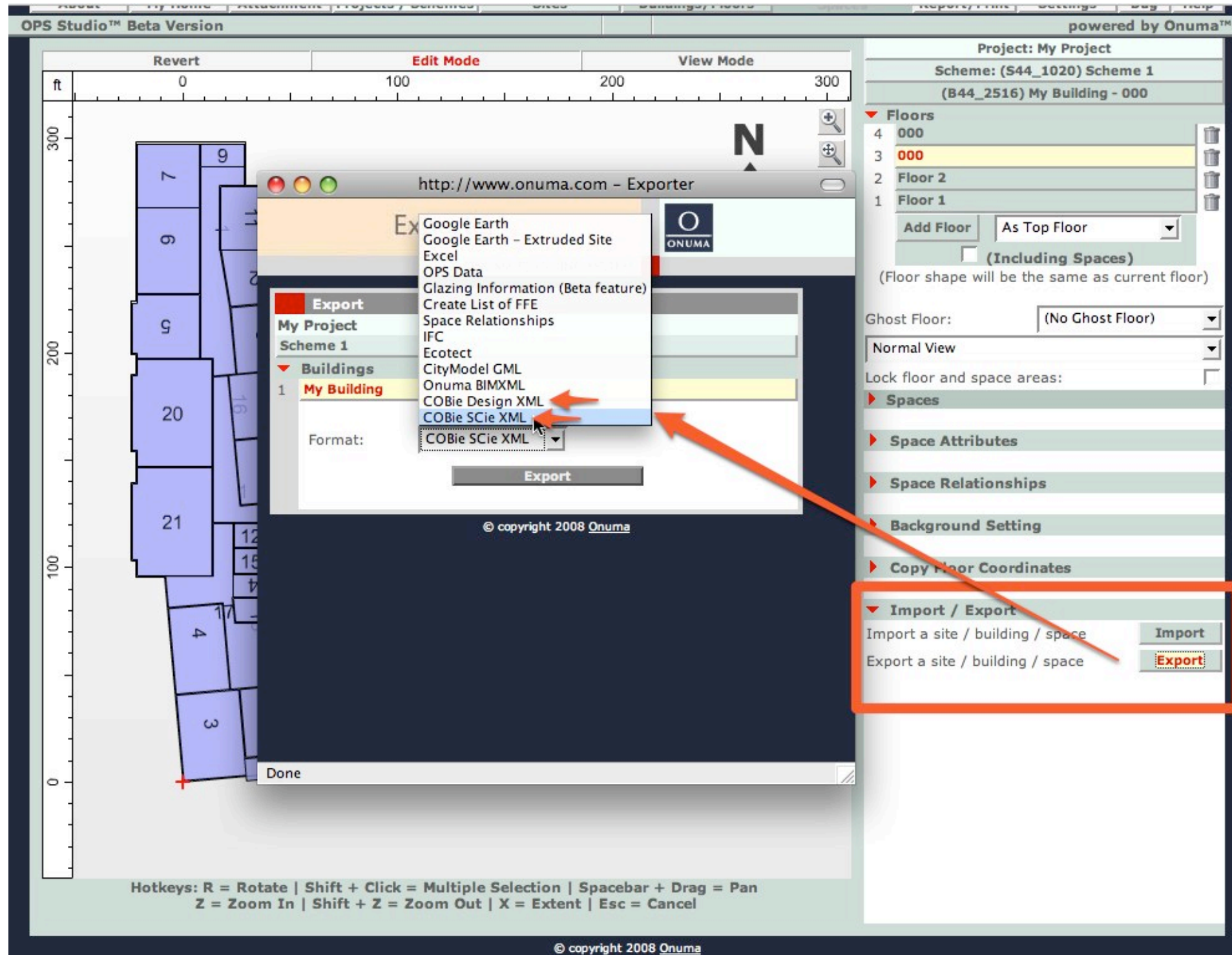


Floor Plan



Room Plan

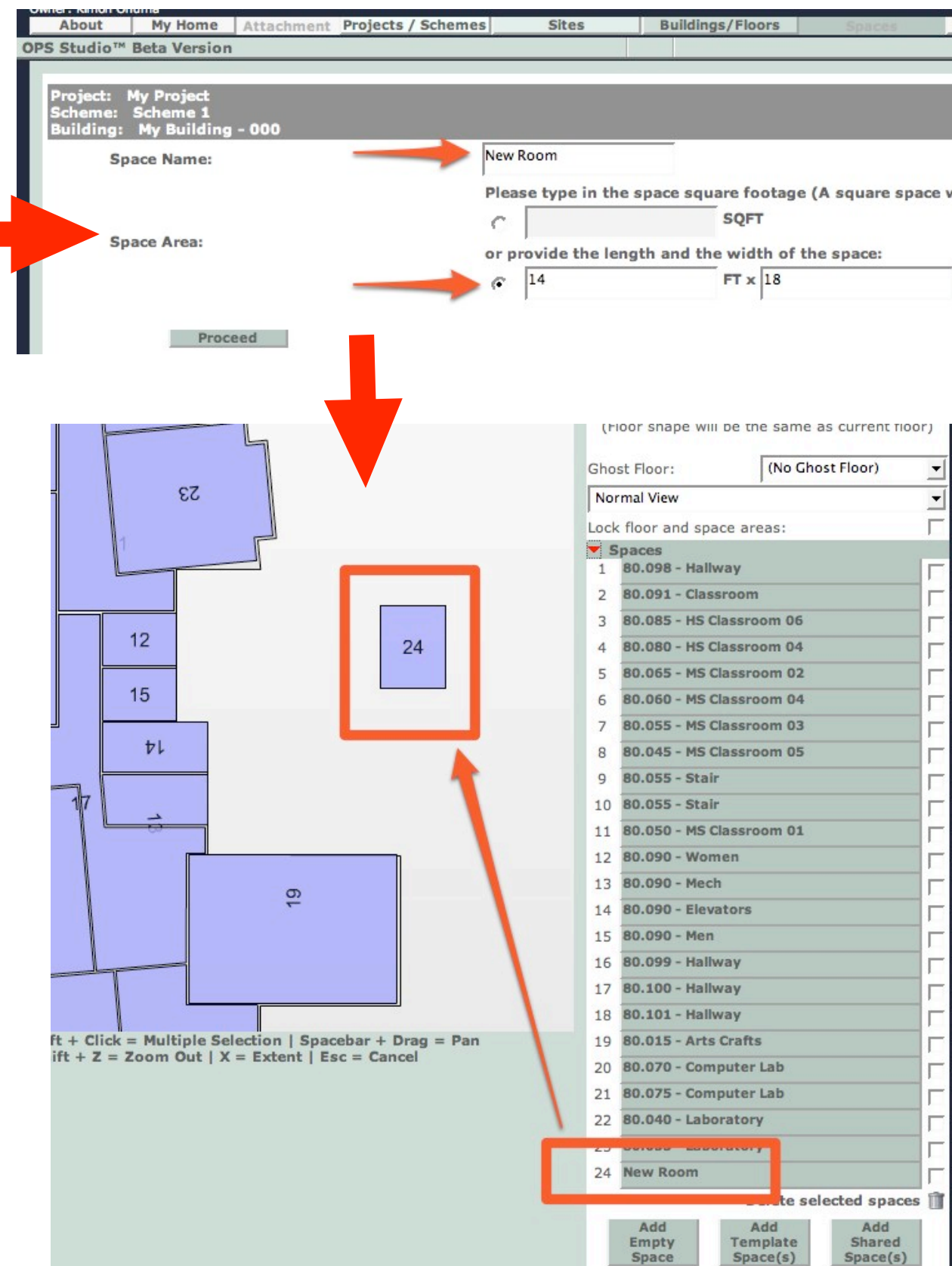
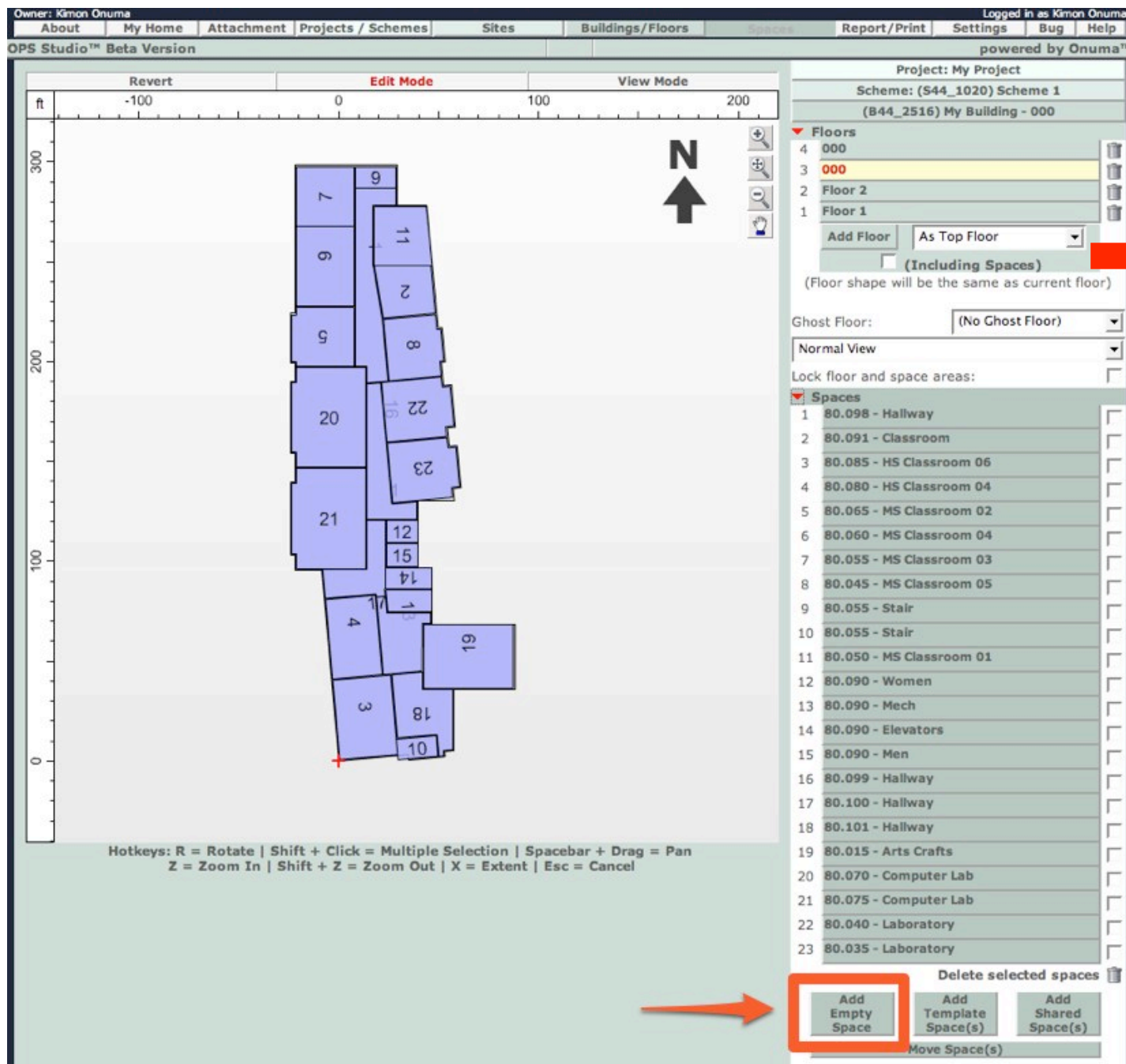
F-Export to COBIE



My Building_COBieSCie.xml

| F | G | H | I | J | S |
|-------------|--------------|-------------|--------------------|------------------|-------------|
| System | ExternalName | SpaceNumber | SpaceName | SpaceDescription | SpaceUsable |
| OPS 2008, b | 80.005 | | Computer Lab | | 9.84 f |
| OPS 2008, b | 80.005 | | Cots | | 9.84 f |
| OPS 2008, b | 80.005 | | MS Classroom 01 | | 9.84 f |
| OPS 2008, b | 80.005 | | MS Classroom 04 | | 9.84 f |
| OPS 2008, b | 80.005 | | MS Classroom 02 | | 9.84 f |
| OPS 2008, b | 80.005 | | MS Classroom 03 | | 9.84 f |
| OPS 2008, b | 80.090 | | Women | | 9.84 f |
| OPS 2008, b | 80.005 | | HS Classroom 03 | | 9.84 f |
| OPS 2008, b | 80.005 | | HS Classroom 04 | | 9.84 f |
| OPS 2008, b | 80.005 | | Teachers Work Room | | 9.84 f |
| OPS 2008, b | 80.005 | | HS Classroom 06 | | 9.84 f |
| OPS 2008, b | 80.005 | | Computer Lab | | 9.84 f |
| OPS 2008, b | 80.005 | | Supplies | | 9.84 f |
| OPS 2008, b | 80.005 | | Laboratory | | 9.84 f |
| OPS 2008, b | 80.005 | | Laboratory | | 9.84 f |
| OPS 2008, b | 80.005 | | MS Classroom 05 | | 9.84 f |
| OPS 2008, b | 80.005 | | MS Classroom 06 | | 9.84 f |
| OPS 2008, b | 80.005 | | Physician | | 9.84 f |
| OPS 2008, b | 80.005 | | HS Classroom 02 | | 9.84 f |
| OPS 2008, b | 80.055 | | Stair | | 9.84 f |
| OPS 2008, b | 80.005 | | Library Work | | 9.84 f |
| OPS 2008, b | 80.055 | | Stair | | 9.84 f |
| OPS 2008, b | 80.005 | | Nurse | | 9.84 f |
| OPS 2008, b | 80.005 | | Nurse | | 9.84 f |
| OPS 2008, b | 80.090 | | Mech | | 9.84 f |
| OPS 2008, b | 80.090 | | Elevators | | 9.84 f |
| OPS 2008, b | 80.090 | | Men | | 9.84 f |
| OPS 2008, b | 80.100 | | Hallway | | 9.84 f |
| OPS 2008, b | 80.101 | | Hallway | | 9.84 f |
| OPS 2008, b | 80.102 | | Hallway | | 9.84 f |
| OPS 2008, b | 80.103 | | Hallway | | 9.84 f |
| OPS 2008, b | 80.104 | | Hallway | | 9.84 f |
| OPS 2008, b | 80.005 | | Home Economics | | 15 f |
| OPS 2008, b | 80.005 | | Arts Crafts | | 15 f |
| OPS 2008, b | 80.005 | | Library | | 15 f |
| OPS 2008, b | 80.070 | | Computer Lab | | 9.84 f |
| OPS 2008, b | 80.085 | | HS Classroom 06 | | 9.84 f |
| OPS 2008, b | 80.020 | | HS Classroom 03 | | 9.84 f |
| OPS 2008, b | 80.080 | | HS Classroom 04 | | 9.84 f |
| OPS 2008, b | 80.075 | | Computer Lab | | 9.84 f |
| OPS 2008, b | 80.065 | | MS Classroom 02 | | 9.84 f |
| OPS 2008, b | 80.060 | | MS Classroom 04 | | 9.84 f |
| OPS 2008, b | 80.055 | | MS Classroom 03 | | 9.84 f |
| OPS 2008, b | 80.045 | | MS Classroom 05 | | 9.84 f |
| OPS 2008, b | 80.040 | | Laboratory | | 9.84 f |
| OPS 2008, b | 80.035 | | Laboratory | | 9.84 f |
| OPS 2008, b | 80.030 | | MS Classroom 06 | | 9.84 f |
| OPS 2008, b | 80.025 | | HS Classroom 02 | | 9.84 f |
| OPS 2008, b | 80.015 | | Arts Crafts | | 9.84 f |
| OPS 2008, b | 80.055 | | Stair | | 9.84 f |

G-Edit Design in OPS



H-Add COBIE System and Register

Settings

ONUMA PLANNING SYSTEM

Admin Settings General Settings Site Settings Building Settings Space Settings

Bldg Settings Floor Matrix PPD Uniformat LEED **COBie** Cost Est

COBie Settings All Buildings

Laboratory Building

COBie Systems

| System Name | Function Number | Function Name |
|----------------------|-----------------|---|
| Radiant heaters | 51 51 12 11 | Heat Generation for Single Facility |
| Ventilation | 51 51 16 11 | Ventilation |
| Heat pump | 51 51 18 00 | HVAC Distribution |
| Potable hot and cold | 51 31 11 11 | Water Supply |
| Air compressor | 81 31 32 41 | Compression Equipment |
| Fire Alarm System | 51 11 11 00 | Fire and Smoke Detection and Alarm |
| Electrical Service | 51 71 11 14 | Electric Service and Distribution for Single Facility |
| Fluorescent Fixtures | 51 71 15 11 | Interior Lighting |
| Exterior Floods | 51 71 15 51 | Exterior Lighting |
| LED Exit Signs | 51 71 15 91 | Emergency Lighting |
| Comm Inside Plant | 51 71 17 00 | Communications for Single Facility |
| Power Distribution | 71 61 67 00 | Electrical Power Distribution |
| Comm Outside Plant | 71 61 68 00 | Communication Utility Distribution |
| Windows | 41 51 13 11 | Transparent Openings |

Add a new system:

System Function: 61 00 00 00 00 - Facility Equipment and Furnishing

System Name: Cabinets Built In

System Description: Wall and floor cabinets

61 11 00 00 00 Equipment and Furnishings

61 11 21 00 00 Work Environment Equipment and F

61 11 21 61 00 Office Equipment and Furnishings

Omni Class 21 Level 5: not specified...

Add Cancel

COBie Registers

| Name | Type Num | Type Name | System Name |
|-------------------------------|----------------|-------------------|-------------|
| Metal Roof Panel | 35 20 14 11 11 | Metal Roof Panels | (None) |
| Metal Roof Panel | 35 20 14 11 11 | Metal Roof Panels | (None) |
| Doors, frames and Accessories | 30 10 00 00 | Doors | (None) |
| Doors, frames and Accessories | 30 10 00 00 | Doors | (None) |
| Overhead Coiling Doors | 30 10 00 00 | Doors | (None) |

| | | | |
|----------------------|----------------|--|---------|
| FA System | 85 30 21 11 | Fire Detection, Monitoring and Alarm | (None) |
| FA System | 85 30 21 11 | Fire Detection, Monitoring and Alarm | (None) |
| FA System | 85 30 21 11 | Fire Detection, Monitoring and Alarm | (None) |
| FA System | 85 30 21 11 | Fire Detection, Monitoring and Alarm | (None) |
| Record Documents | 85 30 21 11 | Fire Detection, Monitoring and Alarm | (None) |
| Lighting Controls | 85 80 11 27 | Lighting Controls | (None) |
| Lighting Controls | 85 80 11 27 | Lighting Controls | (None) |
| Grinder Pump Station | 70 50 11 14 14 | Packaged Sewage and Sludge Pump Stations | (None) |
| Grinder Pump Station | 70 50 11 14 14 | Packaged Sewage and Sludge Pump Stations | (None) |
| Metal Windows | 30 20 14 11 | Metal Windows | Windows |

Add a new register:

Product Type: 40 00 00 00 00 00 - Equipment and Furnishings

40 35 00 00 00 00 Casework

40 35 11 00 00 00 Casework Components

40 35 11 11 00 00 Cabinets

Omni Class 25 Level 5: not specified...

Omni Class 23 Level 6: not specified...

Register Name: Cabinets

Asset Type: Fixed

Approval By: Contractor Certified

Cobie System: Cabinets Built In

Register Type: Product Data

Register Reference: 1

Expected Life: 10 Year

Replacement Cost: 500 Dollars

Add Cancel

© copyright 2008 Onuma

J-Add Furniture and Equipment

http://www.onuma.com - ONUMA OPS - ...

Component

ONUMA PLANNING SYSTEM

ONUMA

Onuma is editing this teamwork scheme.

powered by Onuma™

Project: USACE buildingSMART COBIE Demonstration

Scheme: (S30_13) Step 3-bimSMART Lab Resolved

(B30_4) Laboratory Building - Floor 1

Move Furniture

Spaces

Edit Space

Department

Import / Export

Furniture

Show Furniture Numbers:

- 1 Room Seating
- 2 Projector
- 3 Plasma/LCD Display
- 4 Plasma/LCD Display
- 5 VTC
- 6 W/S Type I
- 7 Standard File Cabinet
- 8 EQ Rack
- 9 Table Type 3
- 10 Speaker Phone
- 11 Telephone
- 12 Passage / Door
- 13 AHU Ceiling
- 14 Return
- 15 Supply Diffuser
- 16 Supply Diffuser
- 17 Supply Diffuser
- 18 Supply Diffuser

Delete selected furniture

Add Furniture Move / Copy Furniture

14'

20'

0 10'

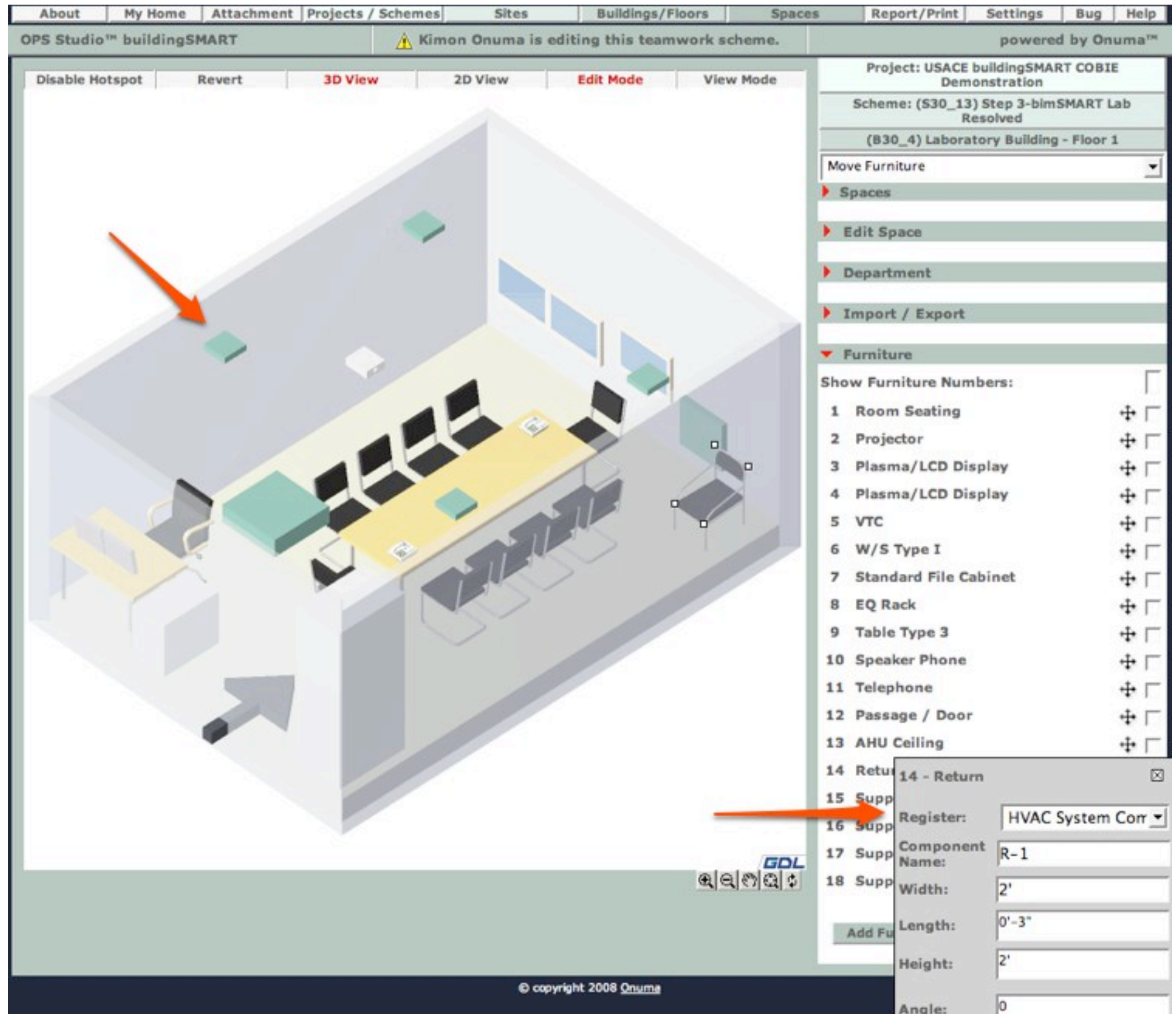
Area: 280 sq. ft.

GDL

© copyright 2008 Onuma

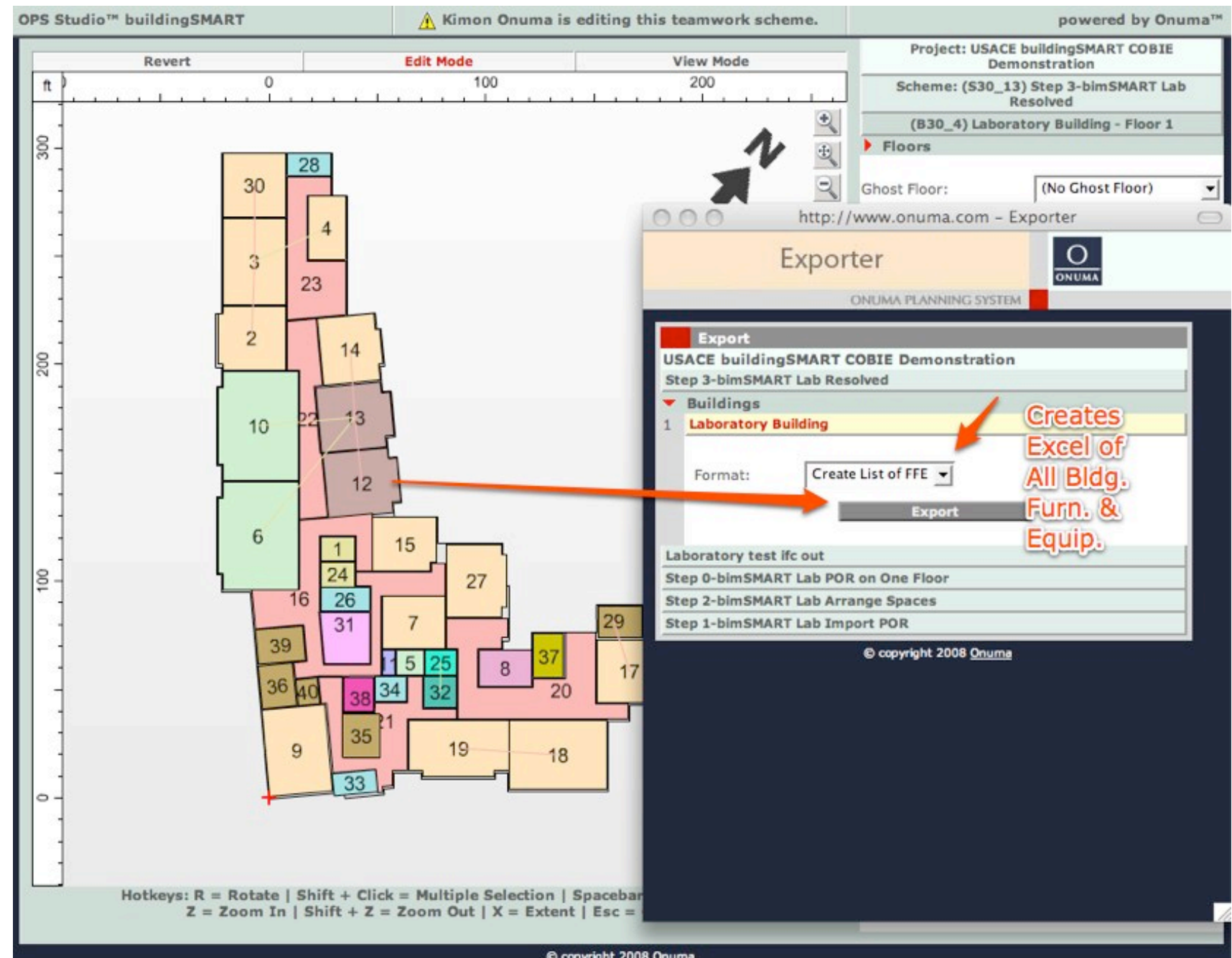
The screenshot displays the ONUMA OPS software interface for editing a teamwork scheme. The top navigation bar includes tabs for Sites, Buildings/Floors, Spaces, Report/Print, Settings, Bug, and Help. The main workspace shows a floor plan of a laboratory building with dimensions 14' by 20' and an area of 280 sq. ft. A scale bar is located at the bottom left. On the left, the 'Component' panel is open, showing a 'Mechanical' category with various equipment icons. On the right, a panel lists furniture items with checkboxes. Arrows indicate the workflow from the component panel to the floor plan and then to the furniture list.

K-Move into Room, Register and Name



L-Edit Entire Building Furniture and Equipment

Step 1.
Export
Furniture &
Equipment to
Excel.
3374 pieces in
this example.



M-Edit data in Excel for Injection Back to OPS

| | A | B | C | D | E | F | G | H | I | J |
|-----|------|---|------------------|----------------------|-------------|----------------|--------------|---------------------|------------|---|
| 1 | | The columns "Cost (user defined)", "SKU Number", and "URL" can be modified and the CSV file re-imported to update user defined values. | | | | | | | | |
| 2 | | The columns "ID", "Floor Name", "Space Name", "Furniture Name", and "Default Cost" cannot be modified (changes will be ignored). | | | | | | | | |
| 3 | | Note: The default cost cannot be adjusted by user and is used in the cost calculations if the field "Cost (user defined)" is empty or zero. | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | ID | Floor Name | Space Name | Furniture Name | Register ID | Component Name | Default Cost | Cost (user defined) | SKU Number | URL |
| 431 | 2912 | Floor 3 | 301 - LABORATORY | Cab Base-MultiDrawer | 0 CB-1 | | 160 | 350 | 123456 | http://cabinets.com |
| 432 | 2913 | Floor 3 | 301 - LABORATORY | Cab Base-MultiDrawer | 0 CB-2 | | 160 | 350 | 123456 | http://cabinets.com |
| 433 | 2928 | Floor 3 | 301 - LABORATORY | Cab Base-MultiDrawer | 0 CB-3 | | 160 | 350 | 123456 | http://cabinets.com |
| 434 | 2931 | Floor 3 | 301 - LABORATORY | Cab Base-MultiDrawer | 0 CB-4 | | 160 | 350 | 123456 | http://cabinets.com |
| | | | LABORATORY | Cab Base-MultiDrawer | 0 CB-5 | | 160 | 350 | 123456 | http://cabinets.com |
| | | | LABORATORY | Cab Base-MultiDrawer | 0 CB-6 | | 160 | 350 | 123456 | http://cabinets.com |
| | | | LABORATORY | Cab Base-MultiDrawer | 0 CB-7 | | 160 | 350 | 123456 | http://cabinets.com |
| | | | LABORATORY | Cab Base-MultiDrawer | 0 CB-8 | | 160 | 350 | 123456 | |
| | | | LABORATORY | Cab Base-MultiDrawer | 0 CB-9 | | 160 | 350 | 123456 | |
| | | | LABORATORY | Cab Base-MultiDrawer | 0 CB-10 | | 160 | 350 | 123456 | |
| | | | LABORATORY | Cab Base-MultiDrawer | 0 CB-11 | | 160 | 350 | 123456 | |
| | | | LABORATORY | Cab Base-MultiDrawer | 0 CB-12 | | 160 | 350 | 123456 | |
| | | | LABORATORY | Cab Base-MultiDrawer | 0 CB-13 | | 160 | 350 | 123456 | |
| | | | LABORATORY | Cab Base-MultiDrawer | 0 CB-14 | | 160 | 350 | 123456 | |
| | | | LABORATORY | Cab Base-MultiDrawer | 0 CB-15 | | 160 | 350 | | |
| | | | LABORATORY | Cab Base-MultiDrawer | 0 CB-16 | | 160 | 350 | | |
| 447 | 2994 | Floor 3 | 301 - LABORATORY | Cab Base-MultiDrawer | 0 CB-17 | | 160 | 350 | | |
| 448 | 2995 | Floor 3 | 301 - LABORATORY | Cab Base-MultiDrawer | 0 CB-18 | | 160 | 350 | | |
| 449 | 3000 | Floor 3 | 301 - LABORATORY | Cab Base-MultiDrawer | 0 CB-19 | | 160 | 350 | | |
| 450 | 3003 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-20 | | 160 | 350 | | |
| 451 | 3004 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-21 | | 160 | 350 | | |
| 452 | 3005 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-22 | | 160 | 350 | | |
| 453 | 3010 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-23 | | 160 | 350 | | |
| 454 | 3011 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-24 | | 160 | 350 | | |
| 455 | 3012 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-25 | | 160 | 350 | | |
| 456 | 3013 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-26 | | 160 | 350 | | |
| 457 | 3014 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-27 | | 160 | 350 | | |
| 458 | 3019 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-28 | | 160 | 350 | | |
| 459 | 3020 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-29 | | 160 | | | |
| 460 | 3021 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-30 | | 160 | | | |
| 461 | 3027 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-31 | | 160 | | | |
| 462 | 3056 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-32 | | 160 | | | |
| 463 | 3060 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-33 | | 160 | | | |
| 464 | 3065 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-34 | | 160 | | | |
| 465 | 3069 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-35 | | 160 | | | |
| 466 | 3071 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-36 | | 160 | | | |
| 467 | 3074 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-37 | | 160 | | | |
| 468 | 3077 | Floor 3 | 302 - LABORATORY | Cab Base-MultiDrawer | 0 CB-38 | | 160 | | | |

N-Import Excel back to OPS

OPS Studio™ buildingSMART

Kimion Onuma is editing this teamwork scheme.

powered by Onuma™

Project: USACE buildingSMART COBIE Demonstration

Scheme: (S30_13) Step 3-bimSMART Lab Resolved

(B30_4) Laboratory Building - Floor 1

Floors

Ghost Floor: (No Ghost Floor)

Revert Edit Mode View Mode

ft 0 100 200

300

200

100

0

Hotkeys: R = Rotate | Shift + Click = Multiple Selection | Spacebar = Zoom In | Shift + Z = Zoom Out | X = Extent | Esc =

Importer

ONUMA PLANNING SYSTEM

Import

USACE buildingSMART COBIE Demonstration

Sites

Step 3-bimSMART Lab Resolved

Buildings

1 Laboratory Building

Update Furniture Cost

Import Format: Update FFE

Import File: /Users/Kimon/Desktop/La Browse...

Fields in the CSV files are separated by commas
 "(Comma delimited)" - this is the default for most English versions of MS Excel

Fields in the CSV files are separated by semicolons (";") - this is the default for most non-English European versions of MS Excel

Import

Note: The layout of the table has to correspond exactly to the layout of the furniture export file exported earlier.

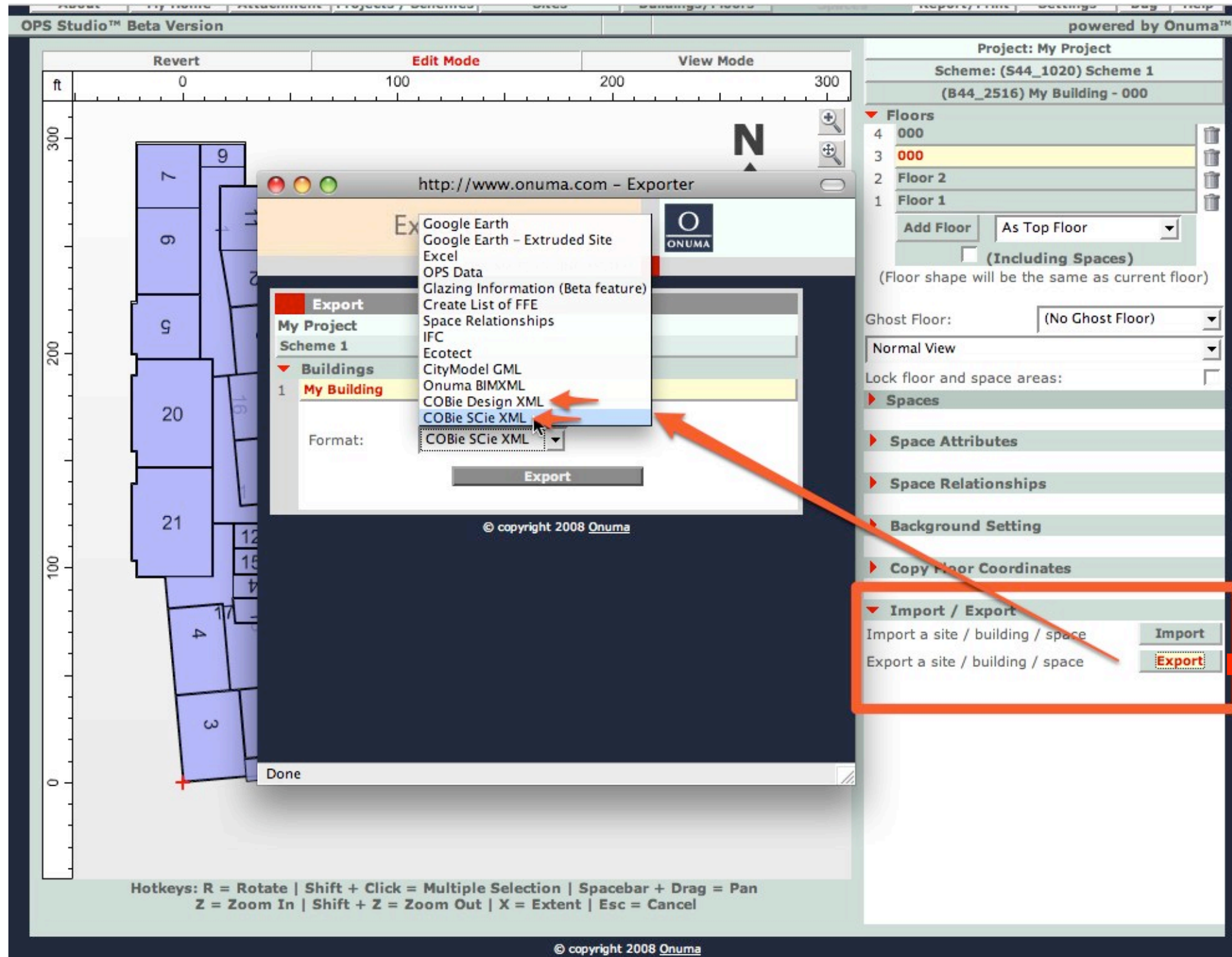
Laboratory test ifc out

Step 0-bimSMART Lab POR on One Floor

Step 2-bimSMART Lab Arrange Spaces

| ID | Floor Name | Space Name | Furniture Name | Register ID | Component Name | Default Cost | Cost (user defined) | SKU Number | URL |
|-----|--------------|------------|----------------|----------------------|----------------|--------------|---------------------|------------|----------------------|
| 431 | 2912 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-1 | 160 | 350 | 123456 | http://www.onuma.com |
| 432 | 2913 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-2 | 160 | 350 | 123456 | http://www.onuma.com |
| 433 | 2928 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-3 | 160 | 350 | 123456 | http://www.onuma.com |
| 434 | 2931 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-4 | 160 | 350 | 123456 | http://www.onuma.com |
| 435 | 2934 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-5 | 160 | 350 | 123456 | http://www.onuma.com |
| 436 | 2936 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-6 | 160 | 350 | 123456 | http://www.onuma.com |
| 437 | 2940 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-7 | 160 | 350 | 123456 | http://www.onuma.com |
| 438 | 2945 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-8 | 160 | 350 | 123456 | http://www.onuma.com |
| 439 | 2949 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-9 | 160 | 350 | 123456 | http://www.onuma.com |
| 440 | 2978 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-10 | 160 | 350 | 123456 | http://www.onuma.com |
| 441 | 2984 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-11 | 160 | 350 | 123456 | http://www.onuma.com |
| 442 | 2985 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-12 | 160 | 350 | 123456 | http://www.onuma.com |
| 443 | 2986 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-13 | 160 | 350 | 123456 | http://www.onuma.com |
| 444 | 2991 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-14 | 160 | 350 | 123456 | http://www.onuma.com |
| 445 | 2992 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-15 | 160 | 350 | 123456 | http://www.onuma.com |
| 446 | 2993 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-16 | 160 | 350 | 123456 | http://www.onuma.com |
| 447 | 2994 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-17 | 160 | 350 | 123456 | http://www.onuma.com |
| 448 | 2995 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-18 | 160 | 350 | 123456 | http://www.onuma.com |
| 449 | 3000 Floor 3 | 301 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-19 | 160 | 350 | 123456 | http://www.onuma.com |
| 450 | 3003 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-20 | 160 | 350 | 123456 | http://www.onuma.com |
| 451 | 3004 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-21 | 160 | 350 | 123456 | http://www.onuma.com |
| 452 | 3005 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-22 | 160 | 350 | 123456 | http://www.onuma.com |
| 453 | 3010 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-23 | 160 | 350 | 123456 | http://www.onuma.com |
| 454 | 3011 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-24 | 160 | 350 | 123456 | http://www.onuma.com |
| 455 | 3012 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-25 | 160 | 350 | 123456 | http://www.onuma.com |
| 456 | 3013 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-26 | 160 | 350 | 123456 | http://www.onuma.com |
| 457 | 3014 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-27 | 160 | 350 | 123456 | http://www.onuma.com |
| 458 | 3019 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-28 | 160 | 350 | 123456 | http://www.onuma.com |
| 459 | 3020 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-29 | 160 | 350 | 123456 | http://www.onuma.com |
| 460 | 3021 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-30 | 160 | 350 | 123456 | http://www.onuma.com |
| 461 | 3027 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-31 | 160 | 350 | 123456 | http://www.onuma.com |
| 462 | 3050 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-32 | 160 | 350 | 123456 | http://www.onuma.com |
| 463 | 3060 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-33 | 160 | 350 | 123456 | http://www.onuma.com |
| 464 | 3065 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-34 | 160 | 350 | 123456 | http://www.onuma.com |
| 465 | 3069 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-35 | 160 | 350 | 123456 | http://www.onuma.com |
| 466 | 3071 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-36 | 160 | 350 | 123456 | http://www.onuma.com |
| 467 | 3074 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-37 | 160 | 350 | 123456 | http://www.onuma.com |
| 468 | 3077 Floor 3 | 302 | LABORATORY | Cab Base-MultiDrawer | 0 Cb-38 | 160 | 350 | 123456 | http://www.onuma.com |

P-Export to COBIE with New Data



My Building_COBieSCie.xml

| F | G | H | I | J |
|-------------|--------|--------------------|---|--------|
| OPS 2008, b | 80.005 | Computer Lab | | 9.84 f |
| OPS 2008, b | 80.005 | Cots | | 9.84 f |
| OPS 2008, b | 80.005 | MS Classroom 01 | | 9.84 f |
| OPS 2008, b | 80.005 | MS Classroom 04 | | 9.84 f |
| OPS 2008, b | 80.005 | MS Classroom 02 | | 9.84 f |
| OPS 2008, b | 80.005 | MS Classroom 03 | | 9.84 f |
| OPS 2008, b | 80.090 | Women | | 9.84 f |
| OPS 2008, b | 80.005 | HS Classroom 03 | | 9.84 f |
| OPS 2008, b | 80.005 | HS Classroom 04 | | 9.84 f |
| OPS 2008, b | 80.005 | Teachers Work Room | | 9.84 f |
| OPS 2008, b | 80.005 | HS Classroom 06 | | 9.84 f |
| OPS 2008, b | 80.005 | Computer Lab | | 9.84 f |
| OPS 2008, b | 80.005 | Supplies | | 9.84 f |
| OPS 2008, b | 80.005 | Laboratory | | 9.84 f |
| OPS 2008, b | 80.005 | Laboratory | | 9.84 f |
| OPS 2008, b | 80.005 | MS Classroom 05 | | 9.84 f |
| OPS 2008, b | 80.005 | MS Classroom 06 | | 9.84 f |
| OPS 2008, b | 80.005 | Physician | | 9.84 f |
| OPS 2008, b | 80.005 | HS Classroom 02 | | 9.84 f |
| OPS 2008, b | 80.005 | Stair | | 9.84 f |
| OPS 2008, b | 80.005 | Library | | 9.84 f |
| OPS 2008, b | 80.055 | Stair | | 9.84 f |
| OPS 2008, b | 80.005 | Nurse | | 9.84 f |
| OPS 2008, b | 80.005 | Nurse | | 9.84 f |
| OPS 2008, b | 80.090 | Mech | | 9.84 f |
| OPS 2008, b | 80.090 | Elevators | | 9.84 f |
| OPS 2008, b | 80.090 | Men | | 9.84 f |
| OPS 2008, b | 80.100 | Hallway | | 9.84 f |
| OPS 2008, b | 80.101 | Hallway | | 9.84 f |
| OPS 2008, b | 80.102 | Hallway | | 9.84 f |
| OPS 2008, b | 80.103 | Hallway | | 9.84 f |
| OPS 2008, b | 80.104 | Hallway | | 9.84 f |
| OPS 2008, b | 80.005 | Home Economics | | 15 f |
| OPS 2008, b | 80.005 | Arts Crafts | | 15 f |
| OPS 2008, b | 80.005 | Library | | 15 f |
| OPS 2008, b | 80.070 | Computer Lab | | 9.84 f |
| OPS 2008, b | 80.085 | HS Classroom 06 | | 9.84 f |
| OPS 2008, b | 80.020 | HS Classroom 03 | | 9.84 f |
| OPS 2008, b | 80.080 | HS Classroom 04 | | 9.84 f |
| OPS 2008, b | 80.075 | Computer Lab | | 9.84 f |
| OPS 2008, b | 80.065 | MS Classroom 02 | | 9.84 f |
| OPS 2008, b | 80.060 | MS Classroom 04 | | 9.84 f |
| OPS 2008, b | 80.055 | MS Classroom 03 | | 9.84 f |
| OPS 2008, b | 80.045 | MS Classroom 05 | | 9.84 f |
| OPS 2008, b | 80.040 | Laboratory | | 9.84 f |
| OPS 2008, b | 80.035 | Laboratory | | 9.84 f |
| OPS 2008, b | 80.030 | MS Classroom 06 | | 9.84 f |
| OPS 2008, b | 80.025 | HS Classroom 02 | | 9.84 f |
| OPS 2008, b | 80.015 | Arts Crafts | | 9.84 f |
| OPS 2008, b | 80.055 | Stair | | 9.84 f |

Q-Export to IFC

Owner: Kimon Onuma Logged in as Kimon Onuma

About My Home Attachment Projects / Schemes Sites Buildings/Floors Spaces Report/Print Settings Bug Help

OPS Studio™ Beta Version powered by Onuma™

Revert Edit Mode View Mode

http://www.onuma.com - Exporter

Exporter ONUMA PLANNING SYSTEM

Export

My Project
Scheme 1

▼ Buildings

1 My Building

Format: Google Earth
Site Color Coding: Google Earth - Extruded Site
Space Color Coding: OPS Data
Glazing Information (Beta feature)
Create List of FFE
Space Relationships
IFC
Ecotect
CityModel GML
Onuma BIMXML
COBie Design XML
COBie SCie XML

Objects: Site
Storey Volume
Floor Slab
Space

oded View: 20 feet gap floors

© copyright 2008 Onuma

Project: My Project
Scheme: (S44_1020) Scheme 1
(B44_2516) My Building - 000

▼ Floors

4 000
3 000
2 Floor 2
1 Floor 1

Add Floor As Top Floor

(Including Spaces)
(Floor shape will be the same as current floor)

Ghost Floor: (No Ghost Floor)

Normal View

Lock floor and space areas:

► Spaces

► Space Attributes

► Space Relationships

► Background Setting

► Copy Floor Coordinates

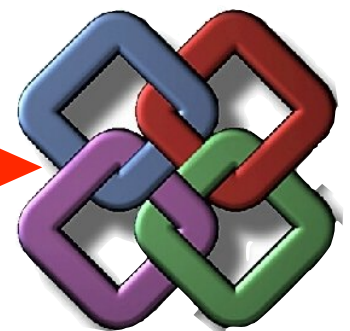
▼ Import / Export

Import a site / building / space Import

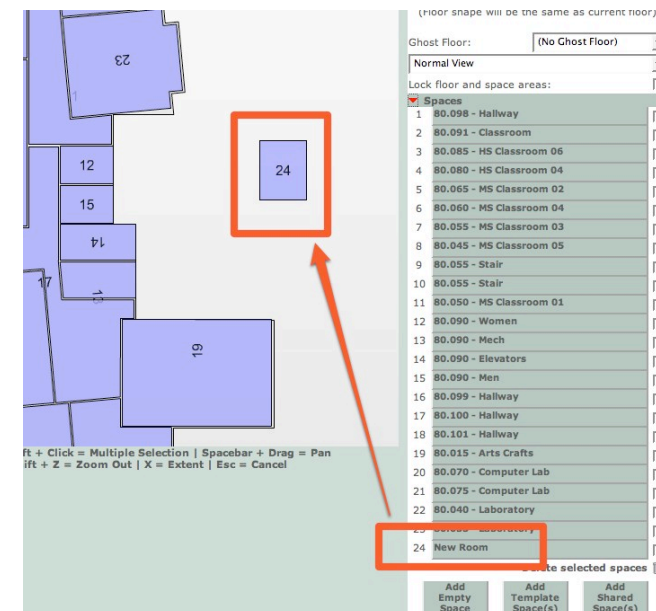
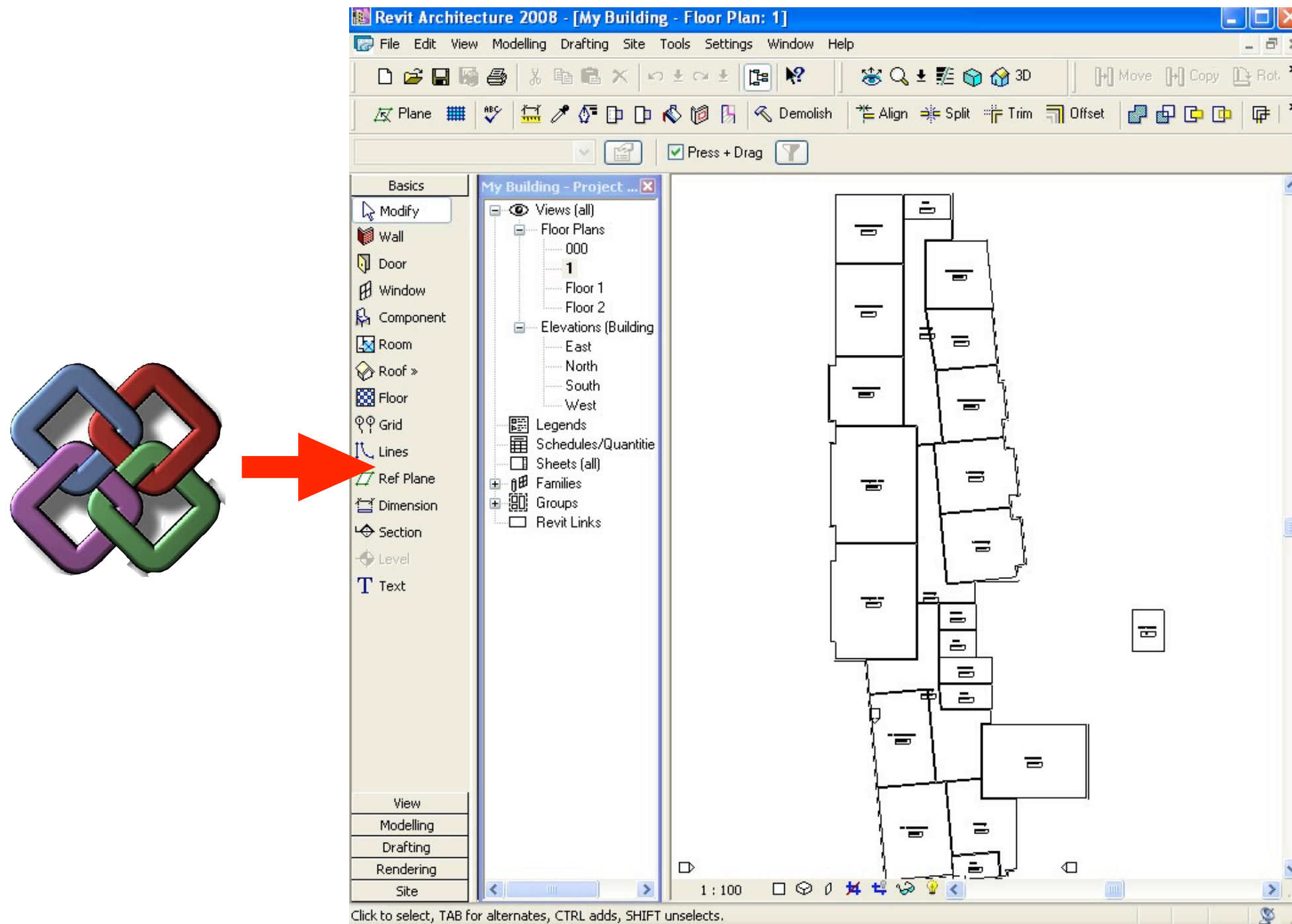
Export a site / building / space Export

Hotkeys: R = Rotate | Shift + Click = Multiple Selection | Spacebar + Drag = Pan
Z = Zoom In | Shift + Z = Zoom Out | X = Extent | Esc = Cancel

©ONUMA.com



R-Import IFC to Revit, or Other IFC BIM



Same Plan in OPS

S-Export from OPS Model Server

Sys: Beta Version Logged in as Kimon Onuma

About My Home Attachment Projects / Schemes Sites Buildings/Floors Spaces Report/Print Settings Bug Help

BIMSTORM ADD New Project Logout Map View POWERED BY ONUMA™

View: All Favorites Recent 3 Key: I + Last Updated Scheme Owner

OPS Model Server with Hundreds of BIMs

NA - COBIE Laboratory

Name of Scheme

Import IFC from OPS

Import XML from Archicad

Step 2 - Add FEE

Step 1 - Import IFC

Add Empty Scheme/Site

Add Template Scheme/Site

1234 - My Project

Name of Scheme

Scheme 1

Add Empty Scheme/Site

Add Template Scheme/Site

NA - LA Coliseum North University Park Master Plan

Name of Scheme

LA Coliseum North University Park Master Plan

Add Empty Scheme/Site

Add Template Scheme/Site

SHARED SCHEMES : 500.345 - Testing files

Name of Scheme

Cobie Development

SHARED SCHEMES : NA - Test Project \$1,499,999

TEAMWORK SCHEMES : NA - Hollywood and Vine

Name of Scheme

Hollywood and Vine

TEAMWORK SCHEMES : NA - Office/ Mixed Use Towers

TEAMWORK SCHEMES : NA - South Coast Plaza Mall

TEAMWORK SCHEMES : NA - USC North University Park Campus Master

TEAMWORK SCHEMES : NA - 30-06-2008 Testing

Exporter

ONUMA PLANNING SYSTEM

Export

Hollywood and Vine

Hollywood and Vine

Buildings

1 Building 1

2 Building 2

3 Building 3

4 Building 4

Format:

IFC

Google Earth

Google Earth - Extruded Site

Excel

OPS Data

Glazing Information (Beta feature)

Create List of FFE

Space Relationships

IFC

Ecotect

CityModel GML

Onuma BIMXML

COBie Design XML

COBie SCie XML

Objects:

Site

Storey Volume

Floor Slab

Space

Export directly without opening the scheme. Live data, as users edit their schemes, export data.

Done

T - Web Services to Export COBIE



ONUMA WFS Catalog

OPEN ARCHITECTURE

SERVICES | SOLUTIONS

PRODUCTS

Products > ONUMA WFS™ > Web Services Catalog



Step 3-bimSMART Lab Resolved
Step 2-bimSMART Lab Arrange Spaces
Step 1-bimSMART Lab Import POR
bimSMART Lab-Washington DC
bimSMART Lab-Los Angeles
bimSMART Lab-Austin
bimSMART Lab-Vancouver
bimSMART Lab-London

Products > ONUMA WFS™ > Web Services Catalog



Step 3-bimSMART Lab Resolved
Step 2-bimSMART Lab Arrange Spaces
Step 1-bimSMART Lab Import POR
bimSMART Lab-Washington DC
bimSMART Lab-Los Angeles
bimSMART Lab-Austin
bimSMART Lab-Vancouver
bimSMART Lab-London

Specify the User Group whose Projects need to be listed:

(Note: The Password-Field for the Default and the OGC User Groups are set automatically)

User Group: Password:

| | A | B | C | D | E | F | G | H | I | J | K | L |
|----|-------------|---------|-----------------|------------------|--------------|---------------|-------------|-------------|-------------|-------------|------------|-----------|
| | ComponentID | SpaceID | RegisterID | ExternalSystem | ExternalName | ComponentName | ComponentID | CreatedBy | CreatedDate | CreatedTime | ReplacesID | Withdrawn |
| 1 | 1 | 6,106 | 63,Diffusers | OPS 2008, b44108 | SD-1 | SD-1 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 2 | 2 | 6,106 | 63,Diffusers | OPS 2008, b44109 | SD-2 | SD-2 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 3 | 3 | 6,106 | 63,Diffusers | OPS 2008, b44110 | SD-3 | SD-3 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 4 | 4 | 6,106 | 63,Diffusers | OPS 2008, b44111 | SD-4 | SD-4 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 5 | 5 | 6,106 | 63,Diffusers | OPS 2008, b44112 | SD-5 | SD-5 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 6 | 6 | 7,107 | 34,HVAC Sys | OPS 2008, b44166 | RH-1 | RH-1 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 7 | 7 | 7,107 | 34,HVAC Sys | OPS 2008, b44168 | RH-3 | RH-3 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 8 | 8 | 10,110 | 63,Diffusers | OPS 2008, b44113 | SD-6 | SD-6 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 9 | 9 | 10,110 | 63,Diffusers | OPS 2008, b44114 | SD-7 | SD-7 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 10 | 10 | 10,110 | 63,Diffusers | OPS 2008, b44115 | SD-8 | SD-8 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 11 | 11 | 10,110 | 63,Diffusers | OPS 2008, b44116 | SD-9 | SD-9 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 12 | 12 | 10,110 | 63,Diffusers | OPS 2008, b44117 | SD-10 | SD-10 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 13 | 13 | 13,113 | 34,HVAC Sys | OPS 2008, b44153 | EF-2 | EF-2 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 14 | 14 | 13,113 | 63,Diffusers | OPS 2008, b44154 | SD-16 | SD-16 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 15 | 15 | 13,113 | 63,Diffusers | OPS 2008, b44155 | SD-17 | SD-17 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 16 | 16 | 13,113 | 63,Diffusers | OPS 2008, b44156 | SD-18 | SD-18 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 17 | 17 | 13,113 | 63,Diffusers | OPS 2008, b44157 | SD-19 | SD-19 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 18 | 18 | 13,113 | 63,Diffusers | OPS 2008, b44158 | SD-20 | SD-20 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 19 | 19 | 13,113 | 24,Plumbing | OPS 2008, b44159 | EEW-2 | EEW-2 | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |
| 20 | 20 | 17,117 | OPS 2008, b1559 | | | | 1,Onuma,Kin | 05-Jul-2008 | 04:13 | | | No |

01-Contact 02-Facility 03-Floor 04-Space 05-System 06-Register 07-Component 08-Attribute 09-Coordinate 10-Schedule 11-Document

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