

Version 1.0

**Building Information Modeling
Site Safety Submission
Guidelines and Standards
(BIM MANUAL)**



This Page Intentionally Left Blank

TABLE OF CONTENTS

1.0	ABOUT THIS DOCUMENT	5
1.1	BIM SITE SAFETY SUBMISSIONS	5
1.2	THE PROGRAMS BENEFITS.....	5
1.3	GENERAL NOTES	5
2.0	BIM SUBMISSION GUIDELINES	6
2.1	GENERAL REQUIREMENTS	6
2.1.1	Introduction	6
2.1.1.1	The NYC DOB use of Digital Data	6
2.1.2	Model Requirements	6
2.2	PROCESS AND QUALITY OF DELIVERABLES	7
2.2.1	Model Quality	7
2.2.2	Naming Convention.....	7
2.3	MODEL PROGRESSION	8
2.3.1	Version Control and Phasing.....	8
2.3.2	Making Revisions.....	8
3.0	SECTION 3 – BIM STANDARDS	9
3.1	GENERAL	9
3.1.1	Software Requirements	9
3.1.2	Digital Submittal Requirements.....	9
3.1.3	Digital Submittal Expectations / Requirements.....	9
3.1.3.1	File Formats and submissions	10
3.1.4	Naming Conventions	11
3.1.4.1	File Naming Convention	11
3.1.4.2	Media and Identification	11
3.1.5	Accessing the DOB Revit Support Files.....	11
3.1.5.1	Using the Support Files.....	11
3.1.6	Supplied Revit Content	11
3.1.6.1	Vehicles.....	11
3.1.6.2	Conveyance.....	12
3.1.6.3	Safety Barriers.....	12
3.1.6.4	Site Elements	12
3.1.6.5	Street and Sidewalk Information.....	13
3.1.6.6	Contacts Figures.....	13
3.1.6.7	Revit Template.....	14
3.1.7	Supplied AutoCAD Architecture Content.....	14
3.2	CREATING CONTENT FOR SUBMISSIONS ON ALTERNATIVE SOFTWARE.....	14
3.2.1	What you must include	14
3.3	STEPS REQUIRED TO UTILIZE OR CREATE YOUR OWN REVIT CONTENT	14
3.3.1	Using the correct parameters	14
3.3.2	Note on Content Levels of Detail.....	15
4.0	SECTION 4 – PARAMETERS	17
4.1	GENERAL	17
4.1.1	Data usage for Revit and AutoCAD.....	17
4.1.2	Parameters Utilized in the Permit Review Process.....	17
4.1.2.1	Vehicles.....	17
4.1.2.2	Conveyance.....	18
4.1.2.3	Safety Barriers.....	18
4.1.2.4	Site Elements	18
4.1.2.5	Street and Sidewalk Information.....	19
4.1.2.6	Contact Figures	19

5.0	SECTION 5 – NYC DOB BIM SUBMITTAL PROCESS	20
5.1	GENERATING ACCEPTIBLE FORMAT DOCUMENTS	20
5.1.1	Exporting to Navisworks.....	20
5.1.2	Exporting to Design Review.....	21
5.1.3	Creating your ZOHO Account	22
5.1.4	Uploading your Site Safety Models	24
5.1.5	Sharing your Site Safety Models with the DOB Reviewers	25
5.2	NOTES	26
5.3	ZOHO TROUBLESHOOTING	26
6.0	SECTION 6 – NYC DOB BIM REVIEW PROCESS.....	27
6.1	ONCE MODELS AND DOCUMENTAION ARE RECIEVED.....	27
6.1.1	File and Requirements Check	27
6.2	Receiving review results	27
6.3	Notifications	28
6.3.1	Notifications	28
6.3.1.1	Instruction to request start of work	28
6.3.1.1	Close out instructions.....	28
7.0	APPENDIX A – APPLYING PARAMETERS.....	29
7.1	GENERAL	29
7.1.1	Applying Parameters.....	29
7.2	Linking to External documents with Relative Pathing.....	31
7.2.1	Setting up Relative Paths for linking to external documentation.....	31
8.0	APPENDIX B – REVIT BEST PRACTICES	32
8.1	GENERAL	32
8.1.1	How to Use – Revit Standards	32
8.1.2	DOB Revit Standards Version.....	34
8.1.2.1	Building Elevations.....	34
8.1.3	Environment Setup.....	34
8.1.3.1	Import / Export Settings	34
8.2	BEST PRACTICES AND PROCEDURES	34
8.2.1	General Guidelines	34
8.2.2	Restarting Revit	35
8.2.3	Compacting Central and Local Files	35
8.2.4	AutoCAD Files	35
8.2.5	Importing and Linking Files.....	35
8.2.6	Views.....	35
8.2.7	Modeling.....	36
8.2.8	Saving	36
8.2.9	Worksets.....	36
8.2.10	Project Template	36
8.2.11	View Templates.....	36
8.2.12	Levels and Plan Views.....	37
8.2.13	Creating Sheets	37
8.2.13.1	Project Information	37
8.2.13.2	Loading the Cover Sheet and Title Sheets	38
8.2.13.3	Drawing Information.....	38
8.2.14	Updates and Revisions	39
9.0	APPENDIX C GLOSSARY	40
9.1	GLOSSARY OF TERMS AND ACRONYMS	40

1.0 ABOUT THIS DOCUMENT

1.1 BIM SITE SAFETY SUBMISSIONS

The Department's new 3D Site Safety Plans Program will use Building Information Modeling (BIM) software to allow the construction industry to create and electronically file site safety plans. The program enables the Department to virtually tour sites, see step-by-step how a building will be built, readily visualize its complexities and challenges, and run tools to check for basic code compliance prior to manual review. Under this program and initiative, site safety plans will be digitally submitted, amended and reviewed, improving the compliance review process and accelerating the approval process like never before.

1.2 THE PROGRAMS BENEFITS

This new process will be a benefit to the public, the construction industry, as well as the New York City Department of Buildings (DOB). The benefits are outlined below.

- Increased Site Safety
 - Safety risks will be identified early in the process before issues arise in the field;
- Faster Approvals
 - Three-Dimensional, real-time images and models enhance the communication between field inspectors and office supervisors to help them resolve issues immediately; and
- Better Service and Fewer Office Visits
 - Site safety plans submitted through this process will be reviewed, modified and approved all through the online document management website and tools.

1.3 GENERAL NOTES

Note: while this document focuses on the requirements of BIM submissions, it is important to note that all work will comply with all applicable sections of Chapter 33 of the NYC Building Code and all OSHA 1926 Standards for construction. For site workflow and procedure requirements such as the example below please refer to the applicable submission documents.

For all submissions, please include the following general note as a pdf to the Project Board element outlining the Material Handling Plan which must be followed on all construction sites where applicable. The process of linking the pdf to the board is listed in Section 7.2

Safety Logistic Plan Requirements:

Material handling Plan as required RS18-7 Section 26.7

This will pertain to all rack and pinion Hoists not just personnel hoists and all Construction Equipment.

1. Before a loaded boom is swung over a hoist, the hoist cage(s) must be brought down to its lowest level, and everyone must exit the hoist.
2. At no time can any construction equipment come within two feet (24") of any moving part of the hoist (excluding hoist setup and jumping of the hoist).
3. At any time, if any construction equipment comes within fifteen feet of the hoist, a protocol must be established. This is a minimum standard. If any equipment is to be used within the fifteen foot buffer, it must be included in the plan.
4. All crane signal personnel and hoist operator(s) must be in radio communication with each other during operations within fifteen feet of the hoist.
5. Whenever a piece of construction equipment comes within fifteen feet of the hoist, at least one signal person must be assigned to that operation.
6. If a loaded boom is swung over a hoist, see option one, and when the load is off the boom, the signal person lets the hoist operator know that they can precede as normal.
7. If any construction equipment is to be permanently located within 15' of the hoist it must be listed in this protocol. (State whether or not this is the case)

2.0 BIM SUBMISSION GUIDELINES

2.1 GENERAL REQUIREMENTS

In general, the New York City Department of Buildings' Building Information Model (BIM) Guidelines and Standards for Site Safety Submissions, which shall be followed by all those who wish to submit a 3D model for review, describes the processes, procedures, and requirements that shall be followed for the preparation and submission of BIM Models for DOB reviews, as well as to produce, release, and receive data in a consistent format. In order to achieve this goal, the DOB has chosen to utilize several "Autodesk" products. Therefore, terminology and references that are unique to the "Autodesk" based software applications are utilized throughout these Guidelines and Standards.

2.1.1 Introduction

The purpose of this manual is to provide support to applicants and contractors in the pursuit of permits within New York City. Secondly, DOB seeks to encourage the use of Building Information Modeling (BIM) and related software products as a tool, which would, amongst other things, assist in the review process and increase the level of safety on the jobsite and the surrounding area. Several other benefits:

- improve the decision making process
- produce better designs
- reduce costs
- reduce requests for information
- reduce change orders
- improve overall construction quality and schedule

This manual will be supported by content that is generated in Revit and AutoCAD Architecture to be reviewed in Navisworks Manage. However if you are not using Revit or AutoCAD to create the model for submission, the requirement will be to provide DOB with an nwd, nwc (Navisworks) or dwf (design review) file with the required information for review. This information is detailed in Section 3.

2.1.1.1 DOB use of Digital Data

All BIM Models and other BIM related electronic files and data provided by an applicant shall always be through approved DOB channels. DOB will provide example BIM electronic files and content for an applicant's use and benefit but will not provide building or site models relevant to an applicant's permit.

2.1.2 Model Requirements

All BIM Models shall be developed in accordance with the most current version of DOB's BIM Guidelines and Standards and shall be compatible with the current version of the BIM application currently in use by the DOB and shall be provided to DOB as per the latest version of "Navisworks" and Design review.

2.2 PROCESS AND QUALITY OF DELIVERABLES

2.2.1 Model Quality

In addition to adhering to DOB Standards, the files submitted should follow good BIM practices. These should include, but are not limited to the:

- Maintenance of parametric linkages within the model at all times;
- In the absence of DOB standards, use Industry Standard nomenclature for objects and spaces; and
- Use appropriate and interoperable viewing, checking, and output file formats

TDOB requires that all Revit Models shall be developed using object-based elements only, such as Columns, Beams, Walls, Doors, Windows, etc. along with their associated parametric information. This will benefit the review process.

2.2.2 Naming Convention

All models and files to be uploaded shall be named as per the following specified formatting. All names will be based on 4 fields, each separated by an underscore.

The fields to be utilized are below:

FOLDER	DESCRIPTION
Date	YYYY-MM-DD
Boro Code	MH, BX, BK, QN, SI
Revision Number	XX
Address	Must fully spell out street names i.e. Avenue, Street, Boulevard, etc.

Once submissions have been reviewed, the files will be appended with an 'A' or 'D' for approved/disapproved when returning file to the applicant, for example: i.e. 2013-05-06_MH_01_56 Leonard Street-A

All other relevant documents submitted with the job must follow this same convention
i.e.: 2013-05-06_MH_01_56 Leonard Street_CD5

Note:

It is important that any Zoho Login Coversheets have their date field match the date listed in the name of the uploaded documentation.

3.0 SECTION 3 – BIM STANDARDS

3.1 GENERAL

This section of BIM Guidelines and Standards (BIM Manual) establishes the technical criteria required to develop a BIM site safety model for review by DOB.

3.1.1 Software Requirements

DOB has adopted Autodesk Revit and Navisworks Manage as its standard BIM software. The Autodesk products currently in use by DOB are listed below, the release version of each of these are to be 2012 or 2013.

1. Autodesk Revit
2. Autodesk AutoCAD Architecture
3. Navisworks Manage
4. Design Review

3.1.2 Digital Submittal Requirements

All submitted electronic files must be compatible with the version of the Autodesk Revit software currently being used by DOB and must conform and comply with the latest version of these BIM Guidelines and Standards.

Models to be submitted must contain all site and building elements relevant to the construction process and the site safety submittal application. While DOB will be supplying some support content in an effort to standardize data and the review process, it is the responsibility of those submitting for permit to source or develop and create the 3D model needed.

3.1.3 Digital Submittal Expectations / Requirements

The 3D models that will be submitted as part of the review process are expected to have the same breadth of information and detail as existing 2D submittal information would contain as per Chapter 33 of the NYC Building Code and DOB requirements.

In addition to filling out all possible parameters available to your application (as detailed in Section 4), the following information is required where applicable to be included with your submission.

Site and Egress:

- Landmarks, DOT, DOB, including but not limited to NB, Fence, Sheds/ scaffolds, Hoist, Crane, SOE, Foundation/ Excavation, Transit, ETC.
- Site in question, Lot lines / site boundary lines & Adjacent Building within 20' of the lot line.
- Adjoining building exits to the street and any common yards within 20'-0" of the building under construction
- Cross street (3307.2, 3307.2.1, 3307.3)
- Sidewalks (3307.2, 3307.3)
- Provide widths of all roadways and number of lanes, sidewalk including dimensions of fence to curb line.
- Grade elevations
- Lot Dims/ Meets & Bounds
- Vehicular traffic flow on and off the site (3303.3)(3307.4.3)
- Guard booth /watch person calculations (3307.5.1)
- Temporary walkways (3307.2.1, 3307.3)
- Show the site enclosed with a construction fence if required (331.9.3) (3304.4.3)
- The truck and personnel gates and fence types
- Fire department access
- True North presented
- Submittal elevations based off buildings ground floor, not sea level
- Hole coverage/protection

- Location of ramp with means of egress for the works (3315.1.2, 3315.1.3, 3315.1.4)
- All structures on the site
- Show protection of pedestrians, egress & adjoining property (3306.2)
- Storage of Materials (3303.4)
- Temp electrical and water (3303.2)
- Sanitary Facilities (3303.2)
- Chutes (3303.5.5)
- Watch person & Flag persons (3307.5) types of barriers (DOT & controlled access)
- Show location of crane and maximum / minimum radius of the boom & the radius of the counter weight. If a tower crane is to be used provide the weathervane radius.

Street Furniture:

- Standpipe (3303.8)
- Containers (3303.4.3)
- Sidewalk shed if required (3307.3.1)
- Show all existing services and street furniture (i.e. waste, gas, electric, sewer, signs, HYD, lights, Muni-meters, etc)
- Signs (3307.1.1, 3301.9 & 3301.10)
- Fire hydrant and cutouts at construction fence
- Signage for the gate scaffolding and sidewalk sheds
- Siamese and manual release valve with details (3303.8.1 {4.2})

Construction:

- Height of your building and its setbacks and all adjoining buildings and their setbacks within 20' of the lot line, in feet and stories.
- Adjoining Property Protection
- Extent, sequence and means of demolition.
- All Bracing and Shoring necessary
- Horizontal safety on floors
- Vertical Safety on floors
- Types of roof protection
- Typical Adjacent Window Protection
- Show protection at all foundation exposures with railings and fences (3304.4.4)
- Show pads for cranes, elevator pits, and hoists

Excavation / Foundation

- All excavation must have ramps with a ratio of 1:4 to be used as egress: show second means of egress for workers (3315.1.2, 3315.1.3, 3315.1.4)
- Show protection of utility poles, trees, etc. (3309.11)
- Show gates with flagmen at each side and project signage.
- Show protection at all excavations, including railing and fencing (3304.4.4)
- Show extents of shoring, underpinning, auguring, reshores, rakers etc. (3304.4, 3304.5)

3.1.3.1 File Formats and submissions

Applicants are required to submit their files when exchanging information with DOB. The process to do this is outlined in SECTION 5 – NYC DOB BIM SUBMITTAL PROCESS.

The following formats are required on every submission:

NWC/NWD - Autodesk Navisworks Cache files/ Navisworks Document files

The Navisworks models shall contain all model content and geometry required for submission of site safety permits.

DWF - Autodesk Design WEB Format files

The DWF Files shall include all 2D plans and details in addition to any 3D model content relevant to the review process

PDF / DOC – PDF and DOC formats are acceptable for permits and paperwork. All details and model submissions should either be in Navisworks or Design Review format. Any such documents being referenced by model elements should be connected via a url link that is linked to the relative location of the document. An explanation of this procedure is listed in Section 7.2

3.1.4 Naming Conventions

All electronic project information should be named following DOB Revit Standards naming conventions.

3.1.4.1 File Naming Convention

All electronic files should be named following the File Naming Convention listed in Section 2.2.2, including Revit files (RVT), Review files (DWF), AutoCAD files (DWG), NavisWorks files (NWF, NWC).

Ex:

Date_BoroCode_RevisionNumber_Address

3.1.4.2 Media and Identification

All project-related files must be submitted on via Zoho docs, delivered virus free, and according to the methods described in Section 5.

3.1.5 Accessing the DOB Revit Support Files

The DOB Revit Standard Content Library includes a series of support files that are stored in a folder named “*Version of Revit*”, i.e. “2013” and are located on DOB’s website at:

<http://www.nyc.gov/html/dob/html/development/bim.shtml>

The libraries are available for download at:

http://www.nyc.gov/html/dob/downloads/misc/DOB_Revit_Content.zip

and

http://www.nyc.gov/html/dob/downloads/misc/DOB_AutoCAD_Content.zip

3.1.5.1 Using the Support Files

Following is a brief description of the contents of each sub-folder within the DOB folder:

FOLDER	DESCRIPTION
Content	Contains DOB agency specific content for AutoCAD Architecture and Revit.
Shared Parameters	Includes the DOB custom Revit Shared Parameters file.
Template	Is a Revit template file that already has DOB specific content loaded.

3.1.6 Supplied Revit Content

The following is the list of Revit content that is available to all those submitting for site safety model review. The provided content is specific to Site Safety Requirements. Also, DOB will not provide existing conditions models or architectural documentation to the applicants. It is the responsibility of the applicant to create the model required for review.

3.1.6.1 Vehicles

Construction vehicles

- Cement trucks
- Delivery Trucks

Cranes, Mobile Cranes, earthmovers

- Articulating Boom Crane
- Commercial Truck Mounted Crane (Boom Truck)
- Crawler Crane
- Tower Crane
- Wheel Mounted Crane
- Clamshell Earth Mover
- Mast Climber

3.1.6.2 Conveyance

Hoists

- Hoisting Machine
 - Material Hoist
- Personnel Hoist

Temporary and Permanent stairs and egress

- Stairs
- Elevators
- Ladders
- Ramps

3.1.6.3 Safety Barriers

Netting and Guardrails

- Vertical Nets
- Horizontal Nets
- Guardrails

Cocoon Systems

Roof Protection

Scaffolding

- Angle Scaffold
- Pipe Scaffold
- Suspension Scaffold
- Mobile Scaffold
- C-hook Scaffolding
- Outrigger Scaffolding
- Multi-Point Adjustable Suspension Scaffold

3.1.6.4 Site Elements

Areas of Interest – 3D Cube that can designate spaces or objects

- Areas of Controlled Access
- Tunnels
- MTA Entrances
- Landmark Designations
- Public Owned Plazas

Construction Fence and Perimeter Protection/ Enclosure

Materials Storage

Waste dumpsters, debris boxes and skip boxes

Waste Chute

Ladders

Gates

Fire extinguishers

Fire Hydrants/Siamese Connections/ Standpipes - Red Light over Siamese Connection.

Project Board

Permit Board

Flag Person

Porta Johns

Security Booth

Sidewalk Shed

- Heavy duty Sidewalk Shed
- Light duty Sidewalk Shed
- Contractors Shed

3.1.6.5 Street and Sidewalk Information

DOT Barriers and Traffic Guards

- Jersey Barrier
- Timber
- Plastic

Lane Closures

Foot Bridges

Ramps

Temporary Walkways

Hazards to remove

Street furniture (Signs, trees, tree protection, poles, manholes)

3.1.6.6 Contacts Figures

Project Contacts

- Property Owner
- Contractor
- Superintendent
- Site Safety Coordinator
- Concrete Safety Manager

- Construction Fire Safety Manager

3.1.6.7 Revit Template

The Revit template is provided as is to be used to promote compatibility and compliance with DOB standards. All Revit projects that are not created from this will need to ensure compliance with the data and information that is expected.

This file includes all the previous content with associated parameters created.

3.1.7 Supplied AutoCAD Architecture Content

The AutoCAD content that is supplied to those submitting for site safety model review will follow the format given by the Revit content. The fields of information that are listed as being required in Section 4 are the same but will be fulfilled by Attributes instead of Parameters. Note that the provided content is specific to Site Safety Requirements for the purposes of permit and review. Also, DOB will not provide existing conditions models or architectural documentation to applicants. It is the responsibility of the applicant to create the model required for review.

3.2 CREATING CONTENT FOR SUBMISSIONS ON ALTERNATIVE SOFTWARE

If you would prefer to utilize a software program that is not AutoCAD or Revit based for your model based submission, it can still be accepted as long as certain data and modeling requirements are met.

3.2.1 What You Must Include

For acceptance via the 3D Model Site Safety submission, you must supply the information contained in the Revit parameters listed in Section 4 for all relevant entities involved and required in your submission based on type of construction to be done and elements to be reviewed.

3.3 STEPS REQUIRED TO UTILIZE OR CREATE YOUR OWN REVIT CONTENT

If you would prefer to utilize your own existing or custom Revit / AutoCAD content for your model based Site Safety Permit Review, you will need to ensure that it meets the minimum needs for the review process. This will typically involve adding relevant parameters and information and/or flexibility depending on the type of elements involved.

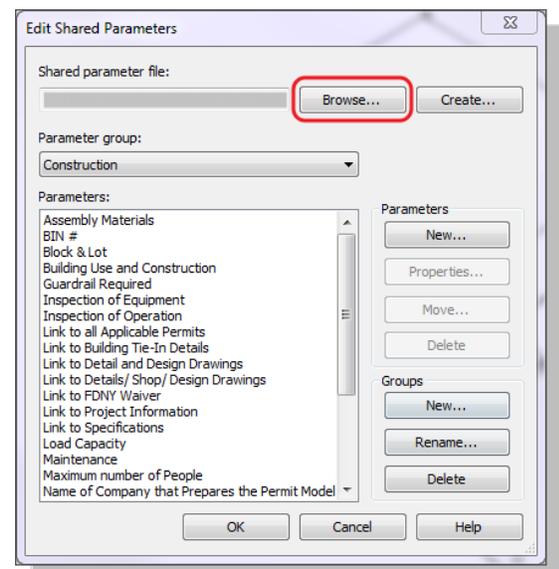
3.3.1 Using the Correct Parameters

To ensure that data is reviewed consistently, a shared parameter file will be supplied to all applicants. This file can be accessed and downloaded with all other DOB supplied content as instructed by Section 3.1.5 and is available at:

http://www.nyc.gov/html/dob/downloads/misc/DOB_Revit_Content.zip

After downloading that content, you will connect and assign the appropriate parameters to your own Revit files and content with the DOB Shared Parameters file that is supplied to all applicants.

This file allows Revit-based applications to ensure custom fields are consistently reviewed. To make the required modifications and add these parameters in Revit, go to the **MANAGE** Ribbon Tab and select *Shared Parameters*. This will open the EDIT SHARED PARAMETERS Dialog Box as shown in the image to the right.



To select the file, click on the “Browse” button and navigate to the folder that you are storing or have downloaded the file to:

Then select “NYCDOB_SSP_Shared_Parameters.txt” and click on the “OK” button.

NOTE:

The Autodesk Revit Products can reference only one shared parameter file at a time, so make sure this is the default file when working on DOB projects.

This enables the Shared Parameter file to be used when adding parameters to Families or the Project itself in Revit.

An example of this process can be found in Appendix A

3.3.2 Note on Content Levels of Detail

One of the benefits of a 3D model for a reviewer is an understanding of the equipment in use, as well as seeing how they work spatially. With that in mind, it’s understandable that some may want to make their models as physically accurate as possible. While having a model of an element that looks exactly like its real world counterpart can be beneficial, it is not needed for site safety review. Having content that is dimensionally accurate and contains all the required data listed in Section 4 is more functionally usable at this stage than a picture-perfect model with no data or information.

Example:

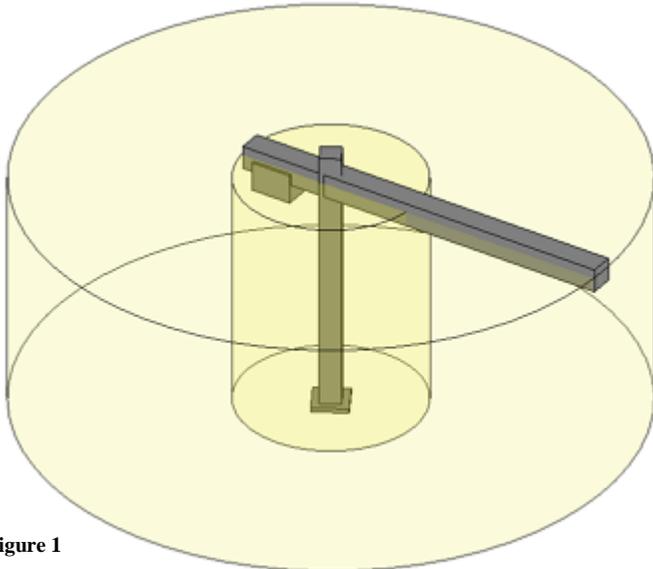


Figure 1

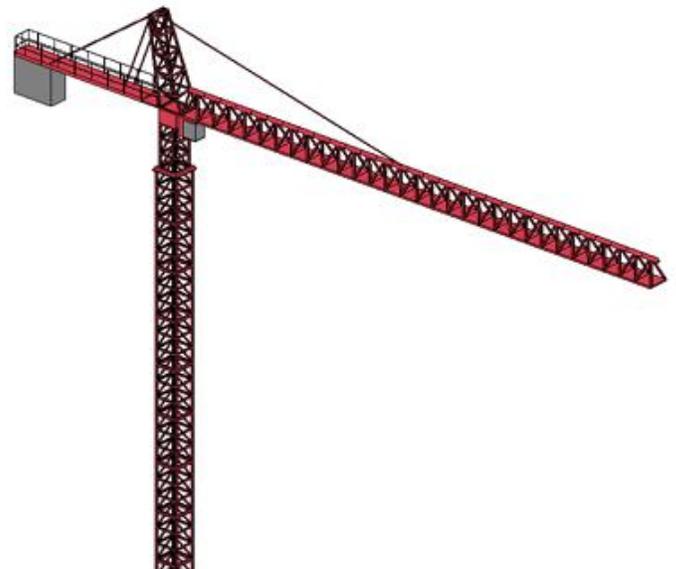


Figure 2

Using these crane families as an example, we see two directions for modeling this content. In the above images, figure 2 is obviously more detailed and physically accurate, but it is missing an important requirement, showing the crane’s swing radius and area of concern.

While Figure 1 looks exceedingly simple it covers the requirements, it shows the physical space taken up by the crane, its ballast and clearly gives the reviewer an understanding of its range.

The model geometry however is part of what needs to be submitted, the other part being the information or data, and that is covered in the next section. However do not feel that your content's geometry needs to look exact. As the example above shows basic forms that convey the needed information is acceptable.

4.0 SECTION 4 – PARAMETERS

4.1 GENERAL

This Section of the DOB BIM Site Safety Submission Guidelines establishes and lists the parameters associated to the supplied content technical criteria required to submit a project using Revit or 3D AutoCAD content for the DOB.

4.1.1 Data usage for Revit and AutoCAD

As Revit Families have the benefit of being able to utilize parameters to store and describe elements, standard parameters for submissions are being utilized and provided via a shared parameter file. As AutoCAD does not have parameters, blocks supplied by the NYC DOB, and expected to be received by the NYC DOB will take advantage of Attributes for the same relevant information as given below. It is important that these standards are followed to insure consistent and speedy reviews.

4.1.2 Parameters Utilized in the Permit Review Process

A safety category instance parameter will be assigned to each element that is relevant to the submittal and review process to ensure that it is recognized in the Navisworks review process. Acceptable Safety Category usages are below:

- Construction Vehicle
- Cranes
- Hoists
- Safety Barriers
- Site Elements
- Street and Sidewalk
- Project Contacts

4.1.2.1 Vehicles

Construction vehicles

- Type
- Manufacturer
- Permit Number
- Link to Specifications

Cranes, Mobile Cranes, earthmovers

- See overlap and issues between things like a crane and netting or a crane and hoist cars etc.

Information to Include

- Type
- Manufacturer
- Permit Number
- Link to Permit
- Link to Specifications
- Link to Building Tie-In Details
- Radius of swing and length of boom
- Load Capacity

4.1.2.2 Conveyance

Hoists

- Type
- Manufacturer
- Permit Number
- Link to Specifications
- Link to Building Tie-In Details

Temporary and Permanent stairs and egress

- Link to Details/ Shop/ Design Drawings

4.1.2.3 Safety Barriers

Netting and Guardrails

- Height
- Link to Detail and Design Drawings
- Assembly Materials

Cocoon Systems

- Permit Number
- Copy of approved CCD1
- Link to Detail and Design Drawings
- Assembly Materials

Roof Protection

- Link to Detail and Design Drawings

Scaffolding

- Link to Detail and Design Drawings

4.1.2.4 Site Elements

Construction Fence and Perimeter Protection/ Enclosure

- Height
- Material
- Permit Number

Gates

- Width
- Height
- Material
- Operation (ex: swing, slide, etc)

Fire extinguishers

- Location
- Type

Fire Hydrants/Siamese Connections/ Standpipes - Red light over Siamese Connection.

- Width

- Height

Project Board

- General Notes
- Link to Project Information

Permit Board

- Link to all applicable permits
- Block and Lot
- Zone and Map number
- Number of stories and Height
- Building use and Construction
- BIN#
- Name of Company preparing the plan/models

Flag Person

- Location

Porta Johns

- Location

Security Booth

- Location

Sidewalk Shed

- Link to Construction Details
- Type (ex: heavy duty, light duty, etc.)
- Location

4.1.2.5 Street and Sidewalk Information

DOT Barriers and Traffic Guards

- Height
- Type

Street furniture (Signs, trees, tree protection, poles, manholes)

- Type

4.1.2.6 Contact Figures

Project Contacts

- Name
- Address with City and State
- Phone Number
- Tracking Number for Contractors
- License # for Safety Coordinator/ Managers

5.0 SECTION 5 – NYC DOB BIM SUBMITTAL PROCESS

5.1 GENERATING ACCEPTIBLE FORMAT DOCUMENTS

This section will review the process of generating an acceptable Navisworks and Design Review file for submission from Revit. Some settings referred to in this section exist in the supplied NYC DOB template file for your convenience.

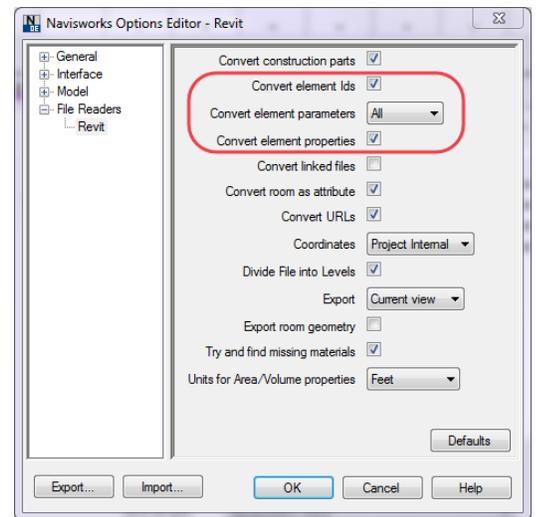
5.1.1 Exporting to Navisworks.

To Export to Navisworks you may need to install the exporter plugin for your chosen modeling tool if you do not have Navisworks already installed on your computer. If that is the case it can be downloaded for free from this location:

<http://www.autodesk.com/products/autodesk-navisworks-family/autodesk-navisworks-nwc-export-utility>

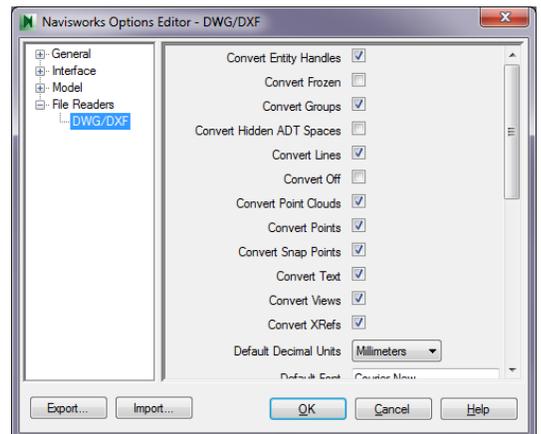
When exporting to Navisworks, confirm your settings to ensure that the needed elements are checked and that the options are correct. Depending on what program you have used the options may differ.

For example, in Revit ensure that element properties are checked to ensure the data in them is exported for the reviewer to be able to see them. If you are taking advantage of the url parameter in Revit for linking to additional materials ensure the Convert URL's is checked as well. Additionally, if you are exporting multiple files for review ensure the coordinates are consistent as showing True north location is required as part of the submittal process.



When Exporting 3D models from AutoCAD to Navisworks you can access the Export Settings to confirm they are correct via the command **“nwcopt”**

To then export your model to Navisworks type the command **“nwcout”**



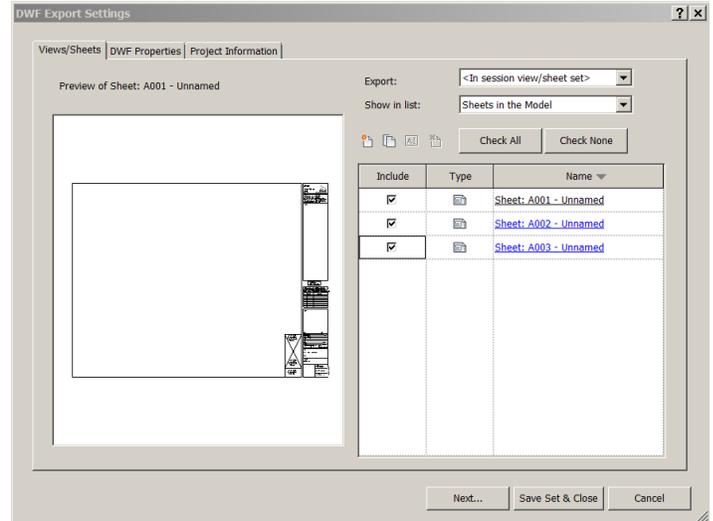
5.1.2 Exporting to Design Review.

In order to Export Sheets to DWF, go to the APPLICATION menu and select the “Export” button followed by the “DWF” option.

This will open the DWF EXPORT SETTINGS Dialog Box showing the Views/Sheets tab as shown in the image on the right.

In the “Export” drop-down list, select the “In session view/sheet set”. This will enable the “Show in List” drop-down list from which to select the “Sheets in the Model” option to select which sheets to export.

Switch to the “DWF Properties” tab and select the “print Setup” button.

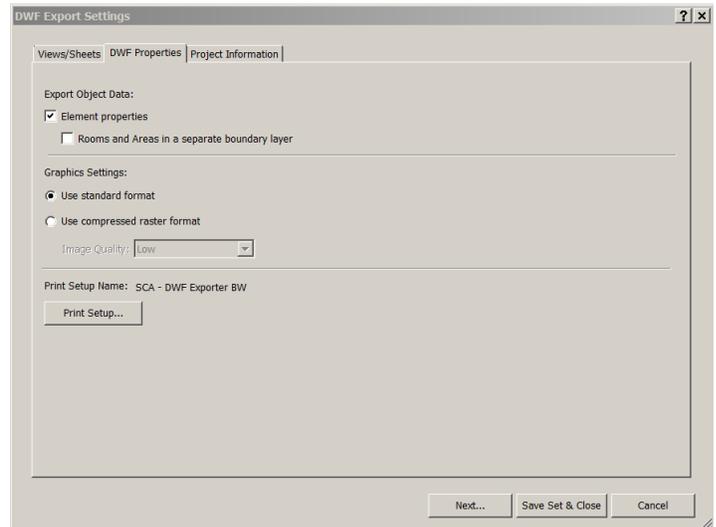


This will enable the “Print Setup” Dialog Box as shown in the image to the right.

This Dialog Box includes two DWF configurations:

- DOB – DWF Exporter B&W
- DOB – DWF Exporter Color

Pick one and click the “OK” button

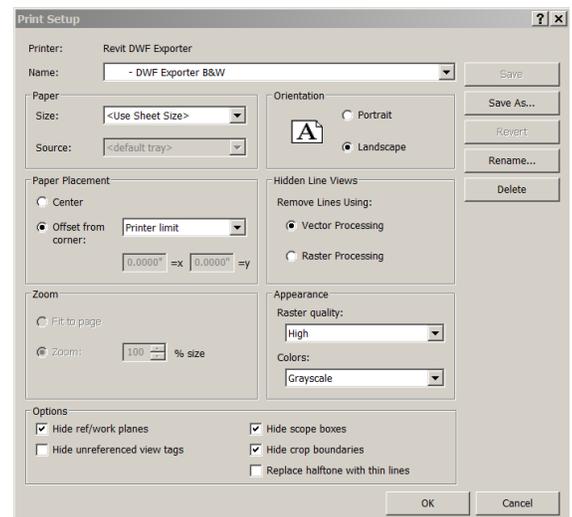


This will open the EXPORT DWF Dialog Box as shown in the image on the right.

Browse to the designated folder as specified by Model Manager/System Administrator by selecting the drop-down button.

Under the “File name/prefix” option, type the desired name of the DWF file and under the “Files of type” option, select “DWF Files (*.dwf)”

Under the “Naming” option, select “Automatic - Long (Specify Prefix)”. This option will append the selected sheet at the end of the file name. Rename this file or files as describe in Section – 2.2.2 Naming Conventions



SUBMISSION PROCESS

The first step to submitting your models and data through this process is to notify the DOB of your intent to do so. Please include your company’s name, contact information and job application number for the site safety process to correspond to.

Once this step is complete you will need to register for a login to upload your content. This is done by creating a free account with Zoho Docs. Zoho Docs is a secure online document management service which allows storage and management of electronic files in one central location. In addition, the features of Zoho Docs are designed to make it simple to upload, create, edit and share documents with individuals and groups. To register with Zoho Docs, please follow the steps described below

5.1.3 Creating your ZOHU Account

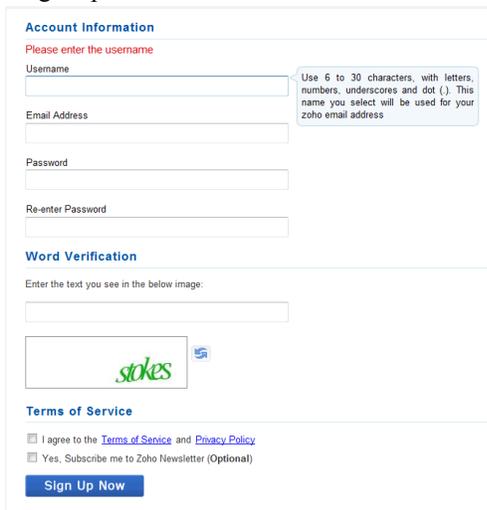
1. Open your desktop web browser and visit <https://www.zoho.com/docs>



2. Click on “SIGN UP FREE” which appears in red text in the top-right portion of the web page



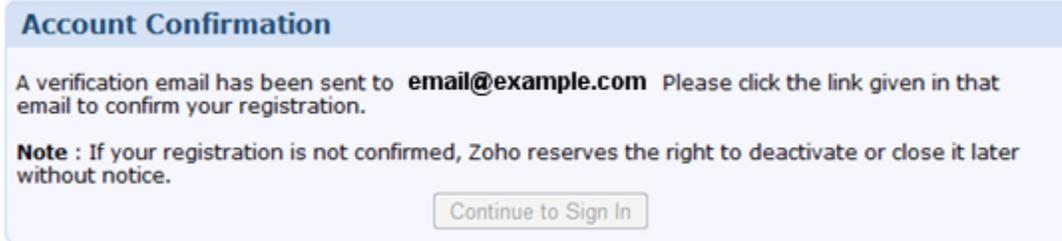
3. The “Account Information” window should then display. Complete the information requested in the window and click on “Sign Up Now” to continue.



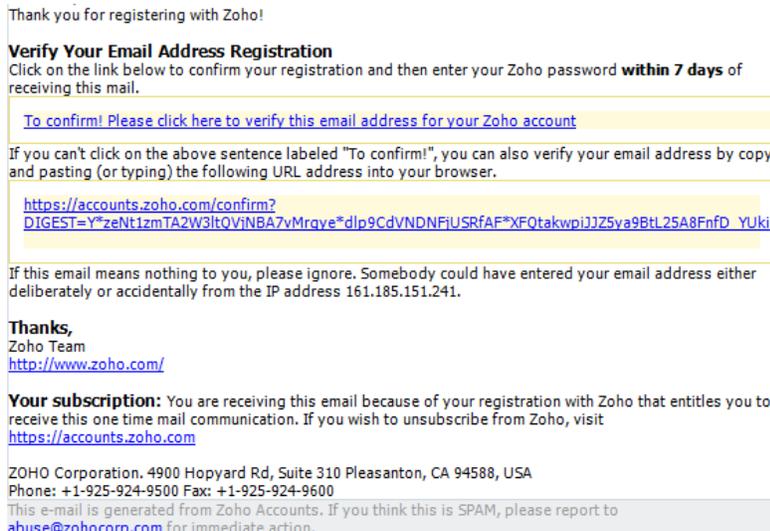
The screenshot shows the "Account Information" registration form. It includes the following fields and sections:

- Account Information** (Section Header)
- Please enter the username** (Text)
- Username** (Text input field)
- Email Address** (Text input field)
- Password** (Text input field)
- Re-enter Password** (Text input field)
- Word Verification** (Section Header)
- Enter the text you see in the below image:** (Text)
- A CAPTCHA image showing the word "stokes" in a stylized font.
- Terms of Service** (Section Header)
- I agree to the [Terms of Service](#) and [Privacy Policy](#)
- Yes, Subscribe me to Zoho Newsletter (Optional)
- Sign Up Now** (Blue button)

- The “Account Confirmation” window should then display. You should now check your e-mail inbox for an account confirmation message from Zoho Docs (while this may take several minutes, you may also need to check your spam folder if you have not received it after a reasonable time). Once the e-mail arrives, proceed to the next step.



- Follow the instructions within the Zoho Docs account confirmation e-mail to verify your e-mail address and activate your account.



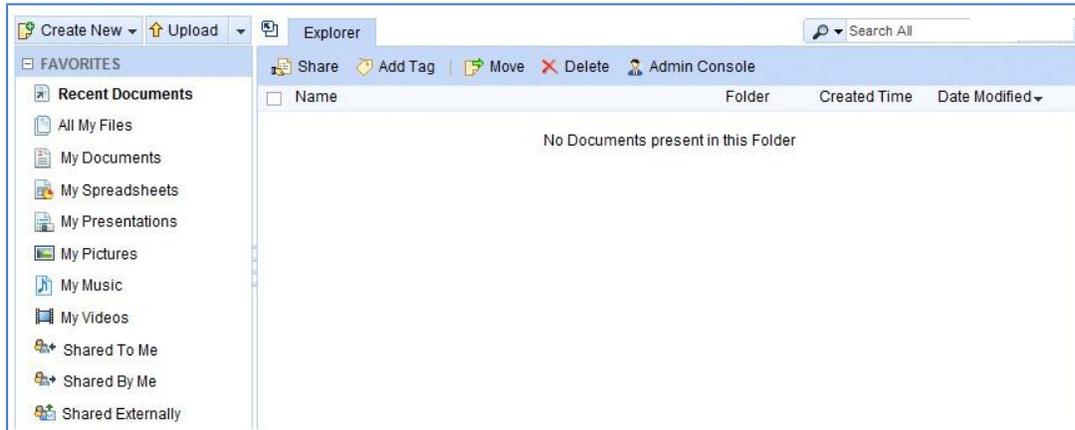
- Once you click on a confirmation link, the following page should appear. Provide your account password and click on “Confirm” to activate your Zoho Docs account.



- A confirmation message will appear notifying you that your account is now active. To sign-in, click that “Continue to Sign In” link.



8. After logging into your Zoho Docs account, you should see a web page similar to the image below.

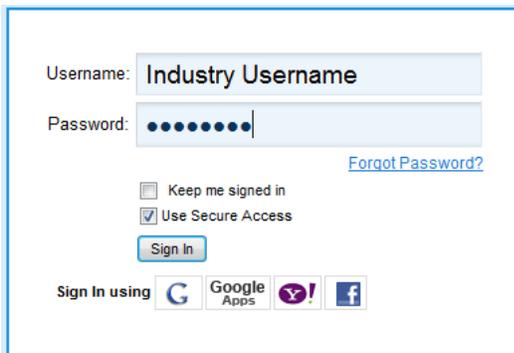


You have now completed your Zoho Account and can submit your 3D Site Safety documents to the Department for Review

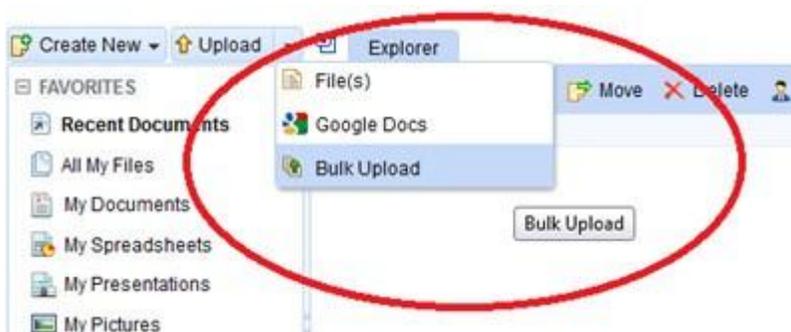
5.1.4 Uploading your Site Safety Models

The process for uploading your content is below

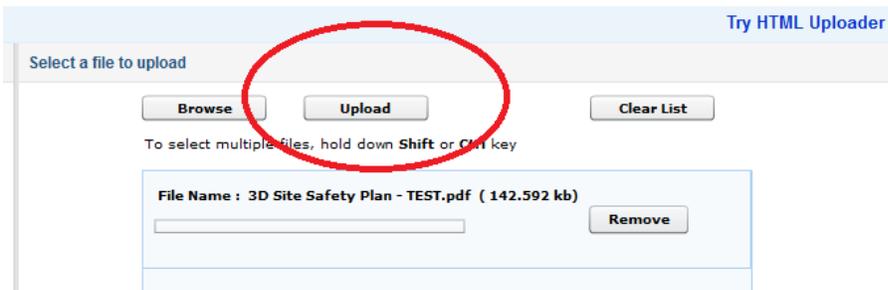
1. Visit <https://www.zoho.com/docs> and click on “SIGN IN” to log into your Zoho Docs account.
2. Enter your Username and Password, and then click on “SIGN IN”. The Department also recommends you check-on the “Use Secure Access” checkbox



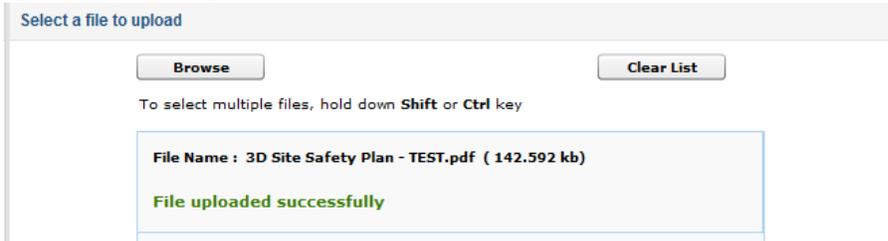
3. Click the down arrow next to “Upload” and select the Bulk Upload feature.
 - a. Please note: although Zoho supports file uploads using the Files(s) feature, the Bulk Upload feature supports larger file sizes and therefore is more suitable for uploading 3D Site Safety Plans



- Click on “Browse” to find the file on your local computer to upload. Then click on “Upload” when you are ready to upload that file to Zoho Docs.



- Once the file is successfully uploaded, “File uploaded successfully” will display. Zoho Docs allows you to transmit up to 500 files in a single Bulk Upload session. Zoho Docs allows each individual file to be up to 500 MB in size. If you need to upload larger files, please read the information in the Technical Considerations section of this document.



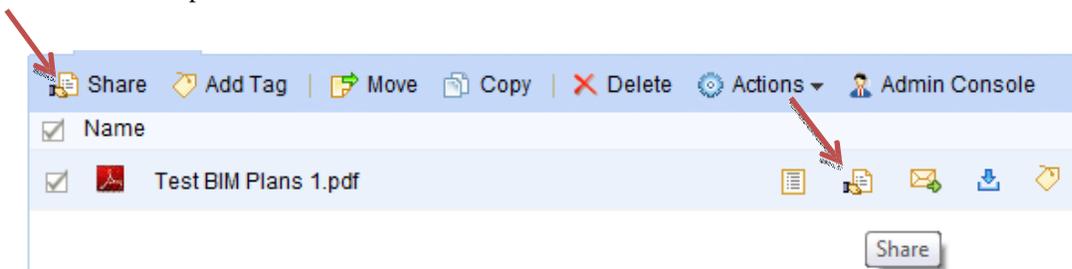
5.1.5 Sharing your Site Safety Models with the DOB Reviewers

Once your content has been uploaded, you then need to set it to be shared with the Department reviewers to start the review process. The process for setting the content to be shared is below.

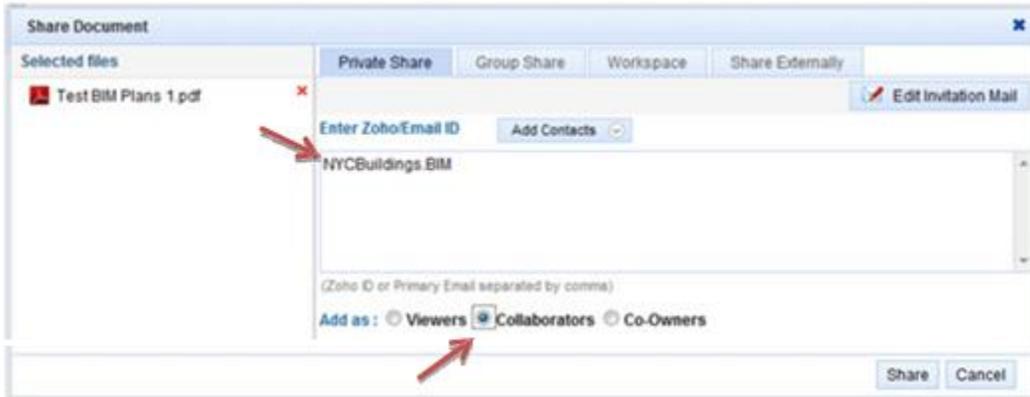
- From your Zoho Docs main page, click in the check box next to the file(s) you want to share with/submit to the Department.



- Click on either the “Share” tab at the top of the page or on the share icon that displays to the right of the file you want to share with the Department.



- On the “Share Document” screen that appears, enter “bim@buildings.nyc.gov” under “Enter Zoho/Email ID” and select the “Collaborators” radio button option from “Add as:” on the “Private Share” tab. Once done, click on “Share”



- If your file was shared successfully with the Department, “Shared Successfully” will appear. Congratulations your permit is now in process.



5.2 NOTES

Please note: only filings for New Buildings (NBs) and Alteration Type-2 (Alt 2s) for façade renovations that require Site Safety Plans are eligible to submit plans through this program at this time.

File Size Limitations – 500 MB is the maximum file size supported by the Zoho Docs “Bulk Upload” feature. While the Department expects the vast majority of industry users to be supported by this limit, there may be instances when files are beyond this maximum. For these larger files, the Department suggests that industry explore opportunities to compress the files prior to upload when possible. This may include changing the settings impacting file size or compressing the file (e.g. .ZIP). If you experience challenges with files over 500 MB, please reach out to BIM@buildings.nyc.gov.

More information for Zoho users can be found on Zoho Doc’s FAQ webpage at <http://www.zoho.com/docs/documents-faq.html>.

5.3 ZOHO TROUBLESHOOTING

For issues related to registering your account on Zoho or with uploading / accessing your 3D Site Safety Plan files to your Zoho account, contact Zoho Doc support directly at: <https://support.zoho.com/portal/zohocorp/HomePage.do>.

For additional information or to ask questions regarding the Department’s 3D Site Safety Plans Program please contact BIM@Buildings.nyc.gov.

6.0 SECTION 6 – NYC DOB BIM REVIEW PROCESS

6.1 ONCE MODELS AND DOCUMENTAION ARE RECIEVED

Files uploaded to Zoho will start the following process:

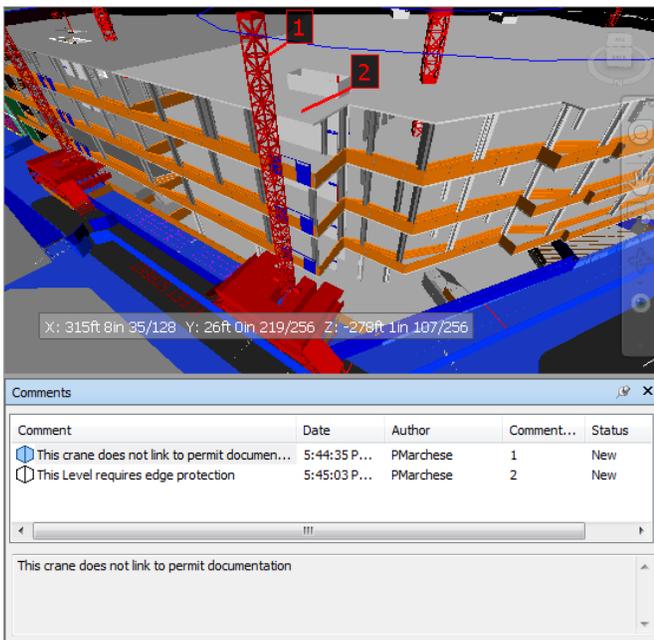
6.1.1 File and Requirements Check

Reviewer is notified of content upload and begins checking uploaded data and documentation

- An email from the BIM account is sent to the applicant and the GC on the coversheet for notification purposes.
- Necessary permits are verified.
- Information on approved permits is matched with what is on the SSP submission
- Model is run through software “pre-check” to make sure it meets the minimum submission standards.

Once documents have been reviewed they are marked up where applicable to allow those submitting to understand what areas need to be addressed.

- Any deficiencies are tagged in a 3D model to direct applicant to areas of concern.
- 2D models are also tagged with comments.



Example of view with comments

6.2 Receiving review results

Once the reviewer has completed their review the files will be stamped accordingly and uploaded back to the Zoho project page as per the naming convention in Section 2.22

- Approved models are stamped with plan reviewer’s 3D stamp near the project permit board and saved as a dwf file.
- 2D models are stamped with dated 2D approval stamp and flattened so plan examiner’s stamp cannot be extracted
- Approved/Disapproved files are returned back to the applicant through Zoho.
- An email from BIM review account is sent to the applicant and GC informing them of the approval/disapproval result.

6.3 Notifications

Once your submission has been accepted you will still be required to notify the NYC DOB prior to certain events, including those listed below and as may be otherwise required by law.

6.3.1 Notifications

As per 3310.2(7) of the New York City building code, Site Safety Coordinators and Managers must immediately report incidents to the Building Department. A call must be made to the call center 212-566-3199.

6.3.1.1 Instruction to request start of work

- For Demolition only
 - A call to Call Center (212) 227-4416 24 hours before start of work
- For Excavation only;
 - A call to Call Center (212) 227-4416 24 hours before start of work
 - Then send the BEST Squad their 24 hours notification.
- For all other Site Safety jobs;
 - 24 hours before work starts of work, on company letterhead or E-mail (BEST@Buildings.NYC.gov), send a letter of notification to the BEST Squad and copy of PW2. (To the attention of Best Chief)

6.3.1.1 Close out instructions

- Partial removing Sidewalk sheds requires an amended plan, notification to the BEST Squad and an inspection by the BEST Squad
- Permanently removing Sidewalk sheds requires notification to the BEST Squad and an inspection by the BEST Squad
- Removal of Site Safety requires notification to the BEST Squad and an inspection by the BEST Squad

7.0 APPENDIX A – APPLYING PARAMETERS

7.1 GENERAL

This Section of the DOB BIM Guidelines and Standards (BIM Manual) gives an example of how to apply the required parameters to existing or custom Revit content.

7.1.1 Applying Parameters

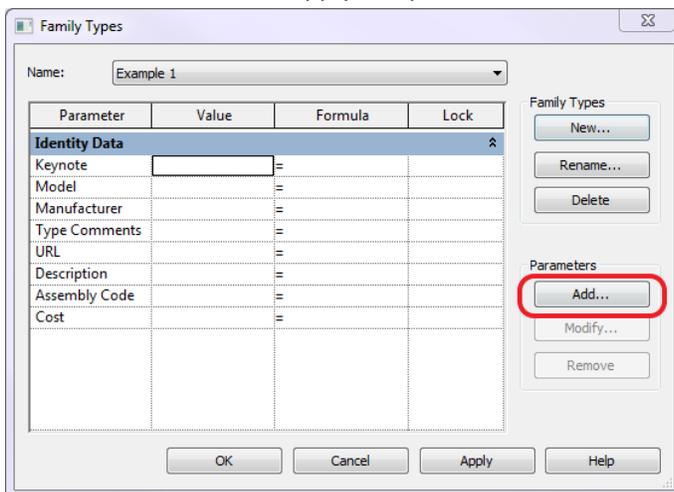
As stated in Section 3.3.1 we will be providing a shared parameter file to ensure that beneficial information is both consistent and available to all reviewers. If you are using the supplied content the parameters are already applied for usage. If you are using your own content or content from another source you will need to apply these yourself.

To apply the parameters you must first connect to the parameter file as laid out in 3.3.1. Once that is done you can start to apply them to your content. This is done while editing the family file in Revit.

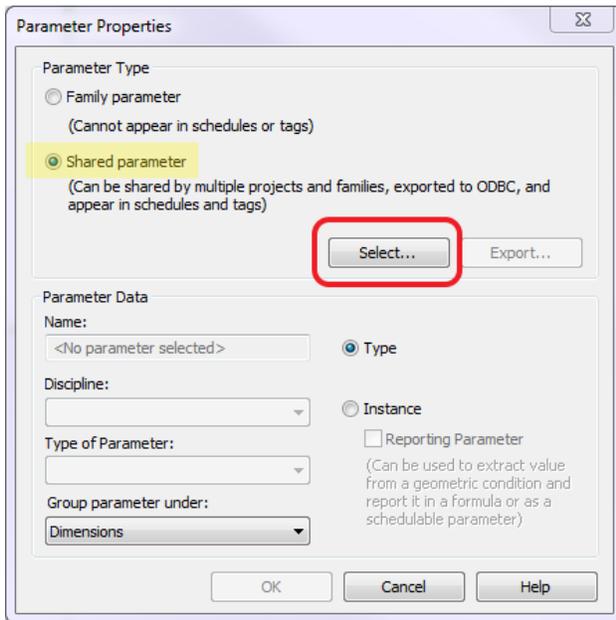
1. When you are in the family you wish to edit, click on the properties button in the upper right hand corner:



2. From here we will look to apply the relevant parameters to our content. What information is required is defined in Section 4. To apply our parameters click on the Add button on the right side.

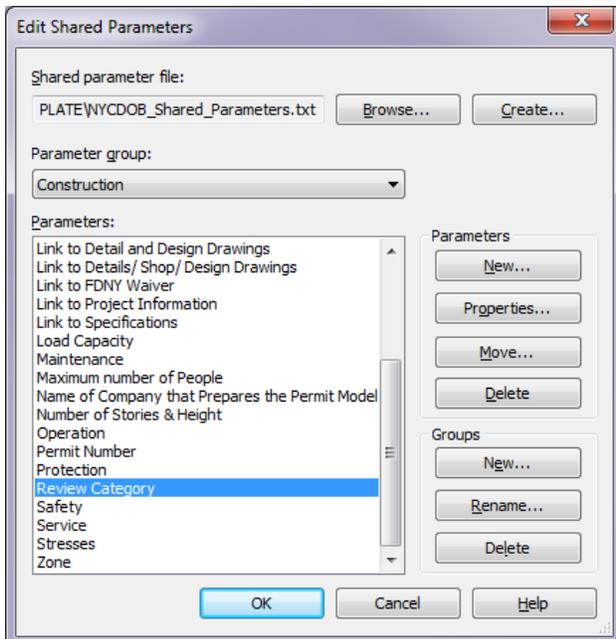


- First we will choose the Shared Parameter type on the top, and then press the select button to choose it.

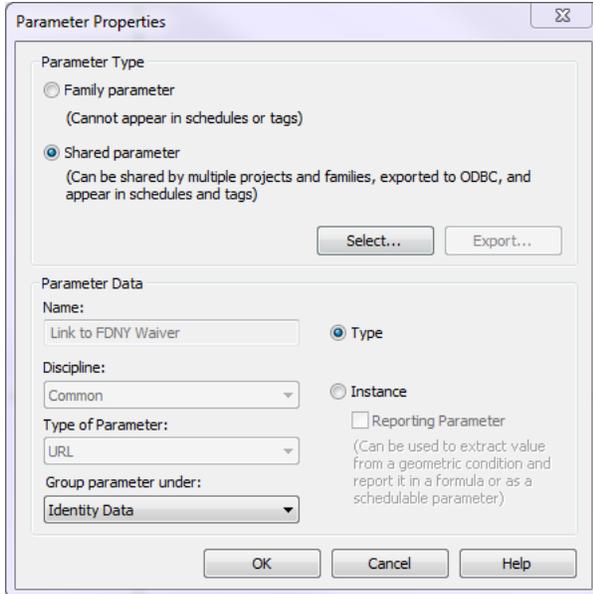


- Here we will choose which parameter we would like to apply to our current family. In the example below the Review Category parameter is selected. This parameter will be included in all content to insure the reviewers can quickly find specific types of elements and thus provide timely reviews.

Note: if you have not yet pointed to the shared parameter file as noted in 3.3.1 you will need to do so.



- Once you have chosen which parameter to add, you will be brought back to the previous screen and can then choose how you would like the parameter to be applied, as a type or instance as well as where in the parameter list it will be grouped. These are at your discretion.



The screenshot shows the 'Parameter Properties' dialog box. It is divided into two main sections: 'Parameter Type' and 'Parameter Data'.
 In the 'Parameter Type' section, there are two radio buttons: 'Family parameter' (which is unselected and has a note '(Cannot appear in schedules or tags)') and 'Shared parameter' (which is selected and has a note '(Can be shared by multiple projects and families, exported to ODBC, and appear in schedules and tags)'). There are 'Select...' and 'Export...' buttons below this section.
 In the 'Parameter Data' section, there are several fields and options:
 - 'Name': A text box containing 'Link to FDNY Waiver'.
 - 'Discipline': A dropdown menu set to 'Common'.
 - 'Type of Parameter': A dropdown menu set to 'URL'.
 - 'Group parameter under': A dropdown menu set to 'Identity Data'.
 - Under 'Parameter Data', there are two radio buttons: 'Type' (selected) and 'Instance' (unselected).
 - There is a checkbox for 'Reporting Parameter' which is unchecked. A note next to it says '(Can be used to extract value from a geometric condition and report it in a formula or as a schedulable parameter)'.
 At the bottom of the dialog are 'OK', 'Cancel', and 'Help' buttons.

- Now your parameter has been added to this family, you can repeat to add as many parameters as needed and then load the family to your project file so you can fill in the information needed for your submission.

7.2 Linking to External documents with Relative Pathing

While we are submitting 3D models, there will still be certain 2D files such as permits, and other documentation that still will need to be submitted. To ensure that they are referenced to appropriate 3D elements we will use relative pathing.

7.2.1 Setting up Relative Paths for linking to external documentation

As links between elements in models and their related documents will need to be maintained during the submission relative pathing will be employed. This allows a link to be created that stays connected as long as the folder structure of the included documents stay consistent

For example, a file linked to this location will not work after submitting because the folder structure is completely different.
 C:\Users\username\projects\NYC\2013\12345\2013-05-06_MH_01_56 Leonard Street_CranePermit.doc

However, if that doc file is located in the same folder as the Revit model and other related project files that will be submitted, it can be referenced as such and will maintain its connection:
 2013-05-06_MH_01_56 Leonard Street_CranePermit.doc

8.0 APPENDIX B – REVIT BEST PRACTICES

8.1 GENERAL

This Section of the DOB BIM Guidelines and Standards (BIM Manual) establishes the technical criteria required to develop a BIM site safety model for review by the NYC DOB.

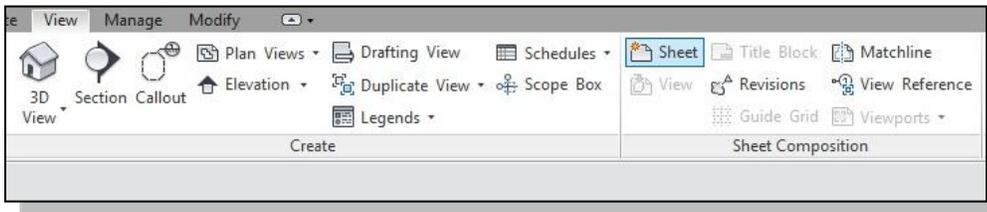
8.1.1 How to Use – Revit Standards

To ensure that the DOB Revit Standards are clearly understood, the following nomenclature is used throughout this document:

- When referring to tools launched from the Ribbon Tab, **BOLD-FACEUPPER CASE** text is used to describe the Ribbon Tab, and ***Bold-Faced Title Case Italicized*** text to describe the Ribbon Panel and *Title Case Italicized* text is used to describe the Tool.

Example:

To make the required modifications, go to the **VIEW** Ribbon Tab, *Sheet Composition* Panel and click on the *Sheet* tool.



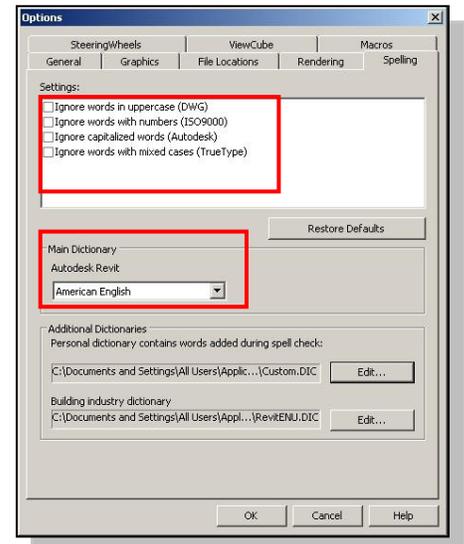
- When referring to Dialog Boxes, UPPER CASE text is used. For Tabs within a Dialog Box, *Title Case Italicized* text is used. Any references to a Pull-Down Menu, a Check Box, an Option Button, a Text Box, or a Drop Down list within a Dialog Box will be marked with a red rectangle. Referenced titles will be identified between quotes (" ") using "*Title Case Italicized*" text and followed by a brief explanation.

Example:

Within the **OPTIONS** Dialog Box, select the *Spelling* tab and make the necessary changes as shown in the image to the right

Under "*Settings*", ensure that none of the boxes are checked.

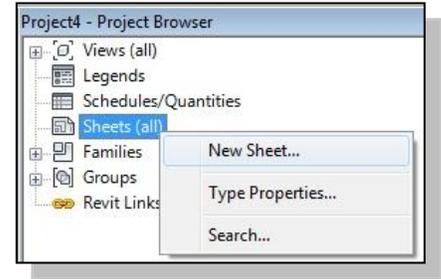
Under "*Main Dictionary*", ensure that the "*American English*" option is selected.



- When referring to tools launched from the Project Browser, *UPPER CASE ITALICIZED* text is used to describe the View Type and *Title Case Italicized* text is used to describe the command.

Example:

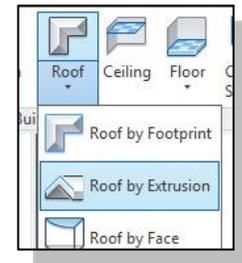
In the Project Browser, right-click on top of *SHEETS* header and select *New Sheet*.



- When referring to pull-down menus, *UPPER CASE ITALICIZED* text is used to describe the menu option and *Title Case Italicized* text is used to describe the command.

Example:

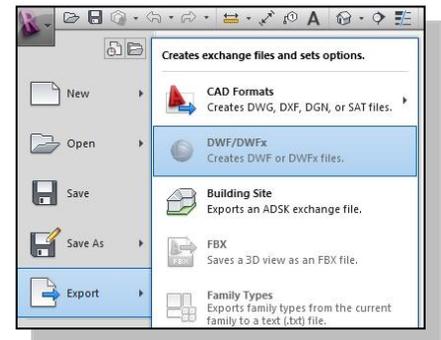
Go to the *ROOF* pull-down menu and select *Roof By Extrusion*



- When referring to tools launched from the Application Menu, they will be referred to as buttons and *Title Case Italicized* text is used to describe them.

Example:

To export files as DWF go to the APPLICATION Menu in the upper left hand corner of your screen and select the *Export* button followed by the *DWF/DWFX* button.



- When referring to folders, **bolded** text is used to describe the folder location, and *italicized bolded* text refers to user/firm defined folder location.

Example:

The local version of the Revit central file is saved on the user's workstation under the following folder:

Firm_designated_Local_Path\LOCAL\PID_LOCAL_username.rvt

8.1.2 DOB Revit Standards Version

The DOB will be constantly looking for ways to improve their Revit practice; therefore, the DOB Revit Standards along with the Support Files may be reviewed on a regular basis.

To that extent, there is included a parameter named **DOB – Revit Standards Release Date** as shown in the image to the right that can be found within the Project Information.

NOTE

We strongly encourage Applicants to check the DOB WEB Site on the regular basis to see if updates have been posted.

8.1.2.1 Building Elevations

The NYC DOB requests that all building datum’s and elevation callouts be based on having the buildings ground floor referenced as 0’-0” as opposed to using sea level elevations. Following this format will ensure your application is reviewed in a timely manner.

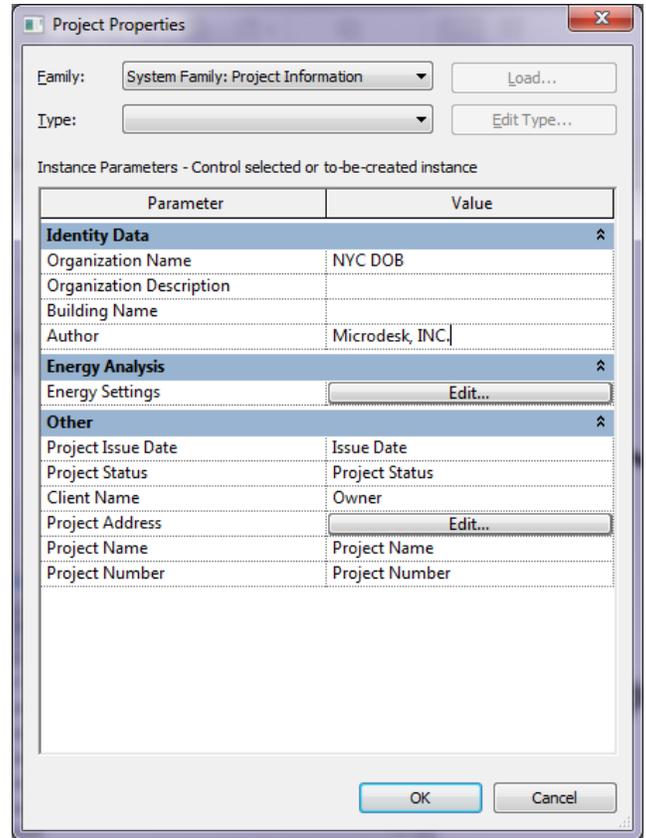


Figure 1 - FIX

8.1.3 Environment Setup

This section describes the process of setting up the Autodesk Revit products to ensure proper use of the application under the DOB requirements.

8.1.3.1 Import / Export Settings

The Revit-based applications have the ability to import and export AutoCAD files into and from the 3D Model, respectively.

8.2 BEST PRACTICES AND PROCEDURES

The following sections describe application-specific best practices as well as procedures used on all DOB Revit projects.

8.2.1 General Guidelines

The following characteristics of a Revit Model can affect performance:

- Complex Geometry
- Multiple Parametric Relations
- Multiple Constraints
- Linked Files

8.2.2 Restarting Revit

The Revit-based applications maintain model data in memory and hard disk caches to increase performance against repeated data access. Revit platform performance may benefit from a workstation restart once or twice a day, and especially before triggering the following memory-intensive tasks:

- Printing
- Rendering
- Exporting

8.2.3 Compacting Central and Local Files

Compacting the Central and Local files reduces file sizes when saving Workset-enabled files. During a normal save, Revit-based applications only write new and changed elements to the existing files. This can cause files to become large, but it increases the speed of the save operation. The compacting process rewrites the entire file and removes obsolete parts to save space. Because it takes more time than a normal save, use the compact option when the workflow can be interrupted.

8.2.4 AutoCAD Files

- Minimize the number of linked or imported DWG files.
- Avoid importing unnecessary data like hatching or line-work such as construction lines. Delete unnecessary parts and layers of the DWG file within AutoCAD and import only the cleaned, smaller DWG.
- Avoid exploding the geometry imported from DWG files. The exploding operation within a Revit-based application can change a DWG from a single-managed element to hundreds or thousands of additional elements depending on the number of entities in the imported DWG.
- Only link essential DWG files into necessary views.
- DWG files shall be saved using the World Coordinates System (WCS) before they are linked into Revit in order to be correctly aligned.
- Linked files should not contain External References.
- Elements within the DWG cannot be more than 2 miles apart from each other.
- In order to control the AutoCAD Lineweight from Revit, the Lineweight column within the Layer Properties Manager Dialog Box should be set to Default.

8.2.5 Importing and Linking Files

- Unload links of all types if not used.
- Temporarily unload links if not needed in the view and reload them as required to limit memory resources necessary to open a project file.

8.2.6 Views

- Use “Wireframe” or “Shading” display modes when working in linked file environment. “Wireframe” and “Shading” modes can be three times faster than “Hidden Line” or “Shading with Edges” modes.
- Zoom in to speed up drawing and snapping.
- Clear the “Snap to Remote Objects” setting in the snap dialog if you have a very dense view and snap lines appear to be shooting off in all directions.
- Close unnecessary windows.
- Turn off shadows in views where they are unnecessary.

8.2.7 Modeling

- Until component types are determined, use the generic version of elements such as walls, doors, windows, slabs and roofs, which incorporate less geometry.
- Break up large models into 150MB-200MB each.
- Regularly review and fix warnings by going to the MODIFY Ribbon Tab and clicking on the Warnings option located under the INQUIRY Panel.

8.2.8 Saving

- Before closing a file, keep only a simple Drafting View open to accelerate saving and subsequent opening of the file.
- It is recommended that 3D views should be closed when saving to Central, since the Revit-based applications will regenerate this complex view as part of the save process.
- Save to Central several times a day.
- Reload Latest several times a day.
- Relinquish your Workset(s) at the end of the day.

8.2.9 Worksets

When working with Worksets, users must follow these steps to ensure changes are saved to both the Local and the Central versions of the Revit 3D Model file, as well as relinquishing previously owned Worksets.

- Synchronize with Central
- Save to Local
- Relinquish All Mine

8.2.10 Project Template

The Project Template provides initial conditions and predefined settings for a project, such as generic project information, unit settings and families.

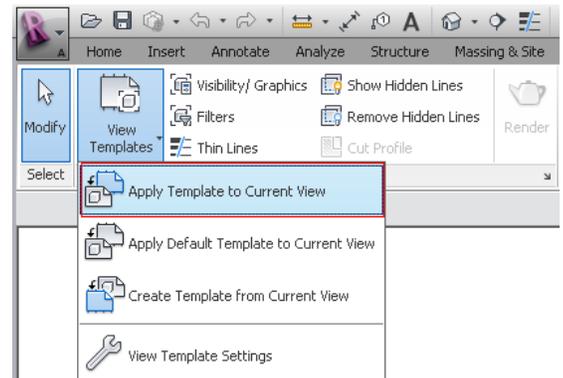
8.2.11 View Templates

View Templates are a collection of View Properties, such as the Discipline, the Sub-Discipline, the View DOB, the Detail Level, and Overrides of Model and Annotation Objects that are common for a View Type, such as a Plan View, an Elevation View a 3D View, etc.

NOTE

View Templates have been associated with their respective Project Browser Category, so when applying a View Template to a specific View this will automatically move to the right Category.

To apply a View Template to a View, go to the *VIEW* Ribbon and under the *GRAPHICS* Panel click on the *View Templates* Pull Down Menu and select the *Apply Template to Current View* Tool.



8.2.12 Levels and Plan Views

The Revit-based applications create a relationship between the Level and the first Floor Plan and Ceiling Plan, so when the Level Name is changed, the associated name for the Floor Plan and the Ceiling Plan updates automatically.

Users will be giving the option to rename the corresponding Level Views (Floor Plan and Ceiling Plan) if the Level Name is changed. If so, the relationship between both will be broken. It is crucial to maintain this name relationship between the Level and the Floor Plans on a multi-disciplinary practice as ours for coordination purposes.

8.2.13 Creating Sheets

Creating Contract Documents in “Revit” is accomplished through sheets, in which Views have been added.

8.2.13.1 Project Information

Project Information is data that remains the same on all sheets of a project, such as the Project Name, DOB Submission Number, , Project Address, Project Issue Date, Submission Status, etc.

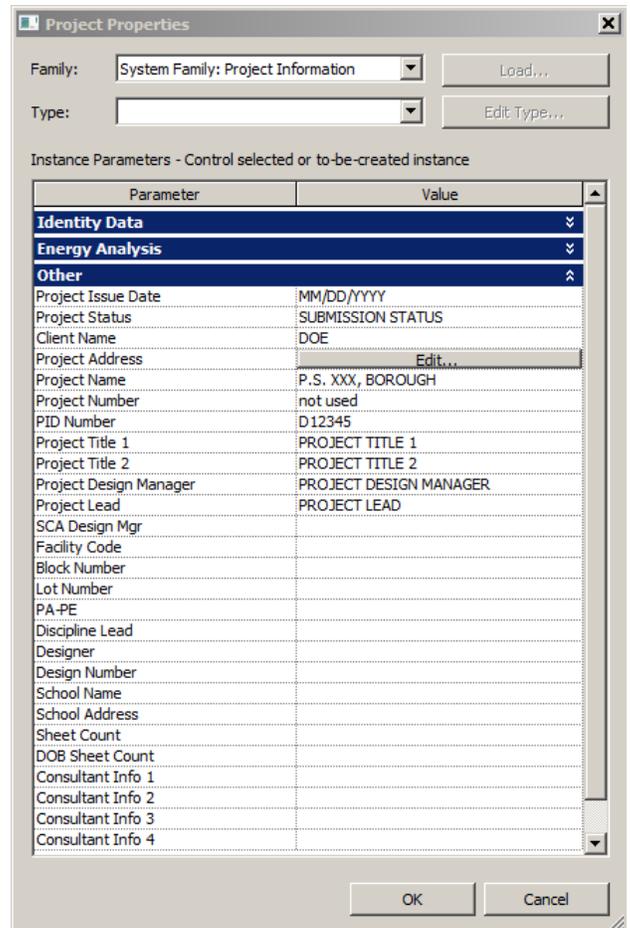
To make the required modifications, go to the **MANAGE** Ribbon Tab and click on the *Project Information* Tool located under the *Project Settings* Panel. The image on the right illustrates the Project Information Dialog Box.

All the available Project Information fields are listed under the “Other” parameter category.

Another option to enter the Project Information is by typing it directly on a sheet by clicking on the text placeholder and updating the text as desired.

NOTE

The Revit-based applications will update all sheet views based on the information provided here.



8.2.13.2 Loading the Cover Sheet and Title Sheets

The Cover Sheet and Title Sheets can be loaded using one of the following methods:

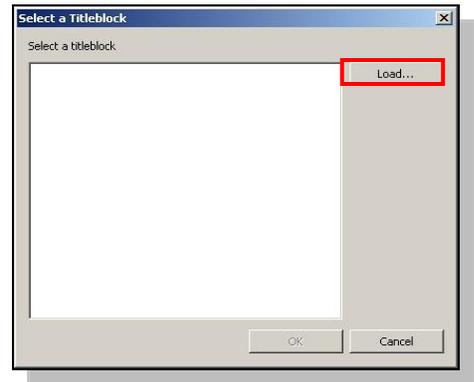
- In the **VIEW** Ribbon Tab, select the *New Sheet* Tool located under the *Sheet Composition* Panel.
- In the Project Browser, right-click on top of *SHEETS* and then select *New Sheet*.

Either of these methods will display the SELECT A TITLEBLOCK Dialog Box as shown in the image on the right.

Click on the “Load” button to import the title blocks provided with the DOB Revit Standards and then click “OK.”

The titleblocks can be found under:

*Firm_designated_Path\”Version of Revit\”\Titleblocks\
(Please note that the DOB Revit Standards Library needs to be downloaded, extracted and placed on the network)*



NOTE

Once the Cover Sheet and Title Sheets are loaded, they will get populated with the Project Information provided in Section -8.2.13.1 Project Information.

8.2.13.3 Drawing Information

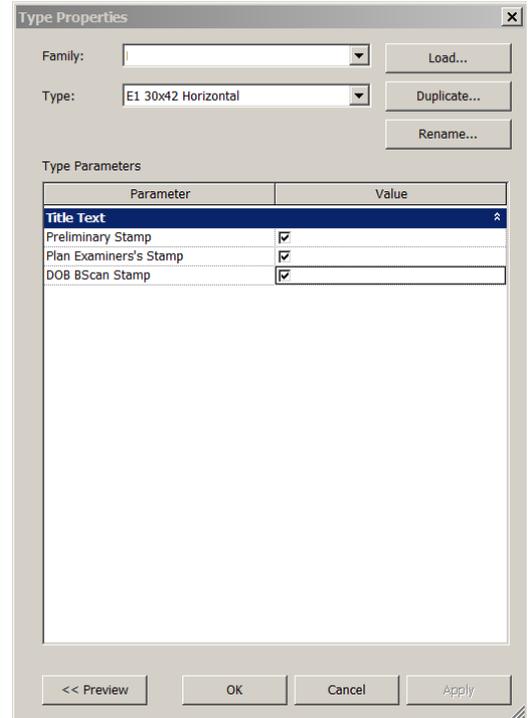
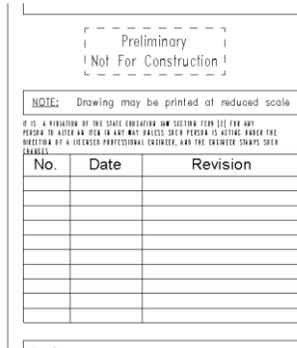
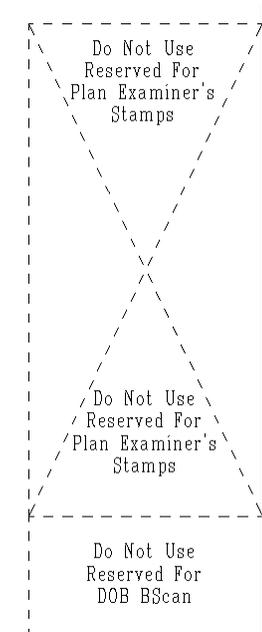
Drawing Information is data relating to an individual sheet of the Border Sheets in a project. All the available Cover Sheet Information fields are listed under the Identity Data and Title Text Parameter columns.

To update the Drawing Information of a sheet, use either one of the following methods:

- Enter the information directly on a sheet by clicking on the text placeholder within the sheet and update the text as desired.
- Click in an empty space in a sheet view and this will open the Sheet INSTANCE PROPERTIES Dialog Box. Change the values as desired.

All DOB Title Blocks have been created with a specific area for Stamps which are controlled at the Project level by selecting the Title Block and enabling their Property Types which will open the Type Properties Dialog Box as shown in the image to the right.

The following two images illustrate the parameters we just mentioned.



8.2.14 Updates and Revisions

The dynamic nature of BIM technology dictates that this document will change over time. Changes to this document will be made by following strict procedures and guidelines.

Changes may be made based on errors and omissions, as well as to enhance or update the standard based on changes in the Revit environment. When changes are approved, it will be incorporated into the next version of this document and all support files will be modified.

Updates to this document and the related support files will be posted on:

<http://www.nyc.gov/html/dob/html/development/bim.shtml>

The information in this BIM Manual is subject to change prior to formal updated versions being issued due, for example, to impacts to changes in BIM or DOB technology, or to errors or omissions in the manual. When you have questions, please email BIM@buildings.nyc.gov. The DOB is not responsible for any errors or omissions or use of the information provided in this Manual.

9.0 Appendix C Glossary

9.1 GLOSSARY OF TERMS AND ACRONYMS FOR THE PURPOSE OF THIS MANUAL

Applicant	Contractor or other Party responsible for and active in submitting models and documentation needed for permit review.
Building Element / System	Individual components and/or systems of a building such as, but not limited to, doors, windows, walls, partitions, roofs, floor slabs, beams, columns, pipes, ducts, conduits, equipment and fixtures.
Building Information Model (BIM)	The digital representation of physical and functional characteristics of a Project.
Central File	The Master Project File that is saved to a network drive and acts as the distribution point for publishing work to the rest of the team. The Central File stores the current ownership information for all the elements of the project.
Component Element	An individual <i>Building Element</i> whose geometry, size, shape, information, and data may be provided within another Building Element / System.
Component Model(s)	A single and distinct Model that is a part of the larger complete project model. An example of this would be an architectural model where there are other disciplines or where there are separate construction models of the site and different building components.
Composite Model	A Model that is the result of the merging of all Component Models.
C3D	Civil 3D.
Drawings	Amongst other things, plans, details, sections, elevations, schedules, and diagrams as described herein, and by the NYC DOB.
Design Web Format - DWF	A highly compressed non-editable vector file format created out of CAD/BIM applications. A DWF file can represent sheets for plotting purposes (2D DWF) or the entire 3D Model (3D DWF) for visualization or estimating purposes.
Element Borrowing	The ability to edit an element located in a Workset owned by another user. If no one owns the Workset, permission to borrow the element is automatically granted.
Entourage	Items related to the Site work, such as bike racks, benches, flagpoles, etc.
Extracted / Extraction	A Drawing, information or data that is obtained from a Model.
Level of Detail	Shall mean the degree of information that is provided within a model (building) element at a given time (Design Phase, Construction Phase, etc.). This "information richness" grows as the project advances throughout the development of the Models / Drawings.
Local File	The copy of the Central File located directly on the user's workstation. The main purpose of the Local File is faster data access. The Workset processes establish a link between the Central File and the Local File for data sharing.

Model(s) / 3D Model(s)	The digital representation of physical and functional characteristics of a building element and/or system within a Project generated from a CAD and/or Revit application.
Point Cloud	A set of vertices in a three-dimensional (X, Y, Z) coordinate system.
Project Information Model	The finalized Revit-based and Civil 3D-based models as a record of a completed project
Revit Families	Groups of elements with a common set of parameters, identical use, and similar graphical representation
NYC DOB	New York City Department of Buildings.
DOB Families	A group of three dimensional (3D) Building Elements, which have a common set of parameters, identical uses, and similar graphical representation that have been derived from DOB Design Standards.
Shared Parameters	Parameters that can be added to projects and then shared with other families or projects. They give the ability to add specific data that is not already predefined in the Revit-based applications.
Site Model (SM)	The centralized Revit-based file where all models share coordinates with each other and at the same time will control true north, project north, and elevations.
Sub-contractor	A person, persons, firm, partnership, corporation, joint venture, business association, or any entity under contract with the Contractor or any Subcontractor of any tier, to perform any portion of the Work.
WCS	World Coordinates System.
Worksets	Worksets create the ability to divide the Revit project in functional areas allowing the propagation and coordination of changes between modelers, enabling multiple members of a team the ability to simultaneously work on different portions of a project.

CONTACT INFORMATION

Questions regarding the DOB BIM Manual provided within this Manual should be forwarded via email to BIM@buildings.nyc.gov