



**Lakewood Storage**  
**Project No.**

**City of Lee's Summit – Code Modification Request**

**Re:** Determining Occupant Load to Calculate Toilet Rooms in Storage – 2018 IBC

**Date:** 05.25.2021

**Attn:** Development Services Engineer – for review

Section 1004.5 Exception has the following exception: *Where approved by the building official, the actual number of occupants for whom each occupied space, floor or building is designed, although less than those determined by calculation shall be permitted to be used in the determination of the design occupant load.*

Please review the design conditions and requirements below to determine if a modification to the IBC Calculated Occupant Load can be accomplished to reflect the Actual Occupant Load. The Actual Occupant Load will only be utilized to modify Toilet Room requirements only. All other Code issues will be based on the 2018 IBC Calculated Occupant Load.

**Intended Use:**

Lakewood Storage Building is a single 3-story building containing climate-controlled self-storage units and non-climate units, and storage office.

**Proposed Occupant Load (for toilet room fixture count only):**

B1 Office	4
B1 Storage	10 (1 <sup>st</sup> Floor)
B1 Storage	10 (2 <sup>nd</sup> Floor)
B1 Storage	10 (3 <sup>rd</sup> Floor)
Total	34

**Explanation regarding why the calculation method prescribed in Section 1004.1 is not applicable to the particular design:**

- The change in Occupant Load is driven by the following items:
  - To modify the Toilet Room requirements from 2 Male and 2 Female to One Men & One Women's Toilet Room.
  - All other Occupant load dependent calculations (means of egress, required fire protection systems, etc.) will remain consistent with the original IBC calculations.
- Storage Facilities, of similar size, are located all over the states and designed with one Unisex Toilet Room or one Men & one Women's Toilet Rooms.
- The Code Analysis (attached) details the Occupant Load per the 2018 IBC Table 1004.5. The calculations do not accurately represent the actual number of occupants in the building at any given time.
  - The Office, per Code, calculates 10 occupants (928 sf). There are three to four people in the Office during operating hours.



- The Climate-Controlled Storage Building per Code, calculates 220 storage occupants (103,272 sf), 75% (77,454 sf) of the space are storage units. The storage units are unoccupied spaces. The remaining 25% (25,818 sf) of the space consists of corridors, stairs, elevators, air handling closets, sprinkler riser rooms, and electrical rooms.

As shown above, the IBC Calculated Occupant Load differs greatly from the Actual Occupant Load. The traffic of a Self-Storage Facility is very low and there have never been any issues with providing fewer Toilet Rooms at any previously designed storage facilities. Please consider the reality of the function of the facility when determining your approval for this request.

**Explanation regarding why Access prescribed in Section 2902.3.3 is not applicable to the particular design:**

- Self-Storage facility customers have access to the first floor, office and utility spaces (toilet rooms) and the floor their unit is on. Therefore, not everyone will have access to the upper floors for security purposes. The elevator travels to the floor of their unit and the first floor only. For example, having toilet rooms on the third floor would only be accessible for those with units on that floor. Since there is only one upper floor accessible to the customer in addition to the first floor, having the toilet rooms solely on the first floor at the main office entry seems to meet the intent of the code.

Thank you for your time and consideration.

Sincerely,

Cheryl L. Cole  
Sr. Project Manager

A handwritten signature in black ink that reads 'Cheryl Cole' in a cursive script.

Attachments:

- Code Analysis
- Site Plan

# International Building 2018

## Code Analysis

05.25.2021

Occupancy Classification (311.2) Group S-1 Moderate Hazardous Storage  
(304.1) Group B Business

Bldg. – 1st Floor - Storage (S-1)	34,201 S.F.
Office (B)	1,223 S.F.
Bldg. – 2nd Floor - Storage (S-1)	34,424 S.F.
Bldg. – 3 <sup>rd</sup> Floor - Storage (S-1)	34,424 S.F.
<b>Total Building</b>	<b>103,272 S.F.</b>

\*Occupant load (Table 1004.5):

Bldg. – 1st Floor - Storage :( 1/500 gross warehouse)	69
Office :(1/100 gross business)	13
Bldg. – 2nd Floor - Storage :( 1/500 gross warehouse)	69
Bldg. – 3 <sup>rd</sup> Floor - Storage :( 1/500 gross warehouse)	39
<b>Total Building</b>	<b>220</b>

**\*Note: Bldg. is 75% unoccupied space with the remainder being: Corridor, AHU Closets, Electrical Rooms, Riser Rooms, Stairs/Elevators, etc.**

\*\*Toilet Count (Table 2902.1): 1 per 100  
Men: 1 Water Closet, 1 lavatory  
Women: 1 Water Closet, 1 lavatory  
General: Hi/Lo D.F., Service Sink

**Code Modification Request will be filed for consideration to decrease the Occupancy Load Count to an actual number of occupants for whom each occupied space, floor or building is designed. The change in Occupant Load Variance Request is driven solely by the Toilet Room Calculations.**

Construction Type (Table 601): **Type II-B**

Height Allowed (Table 504.4): 3 stories allowed **3 stories provided**

\*Floor Area Allowed (Table 506.2): S-1: 70,000 G.S.F. per floor (S1)

Sprinkler System (903.2.9): **Required / Provided**

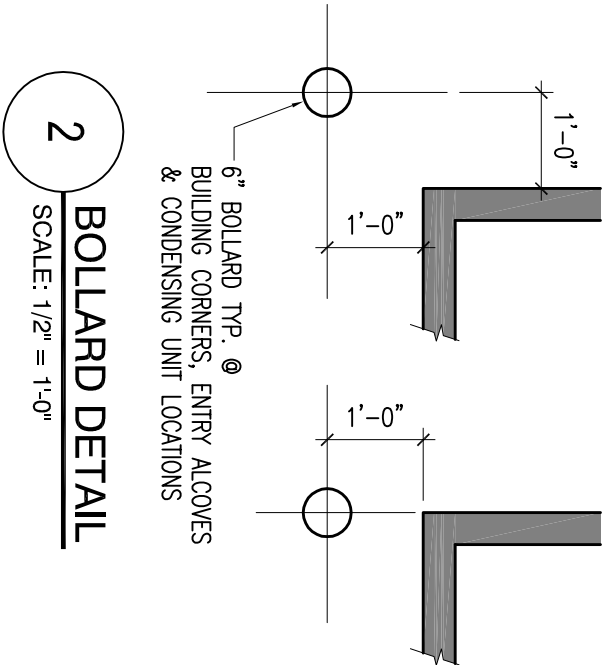
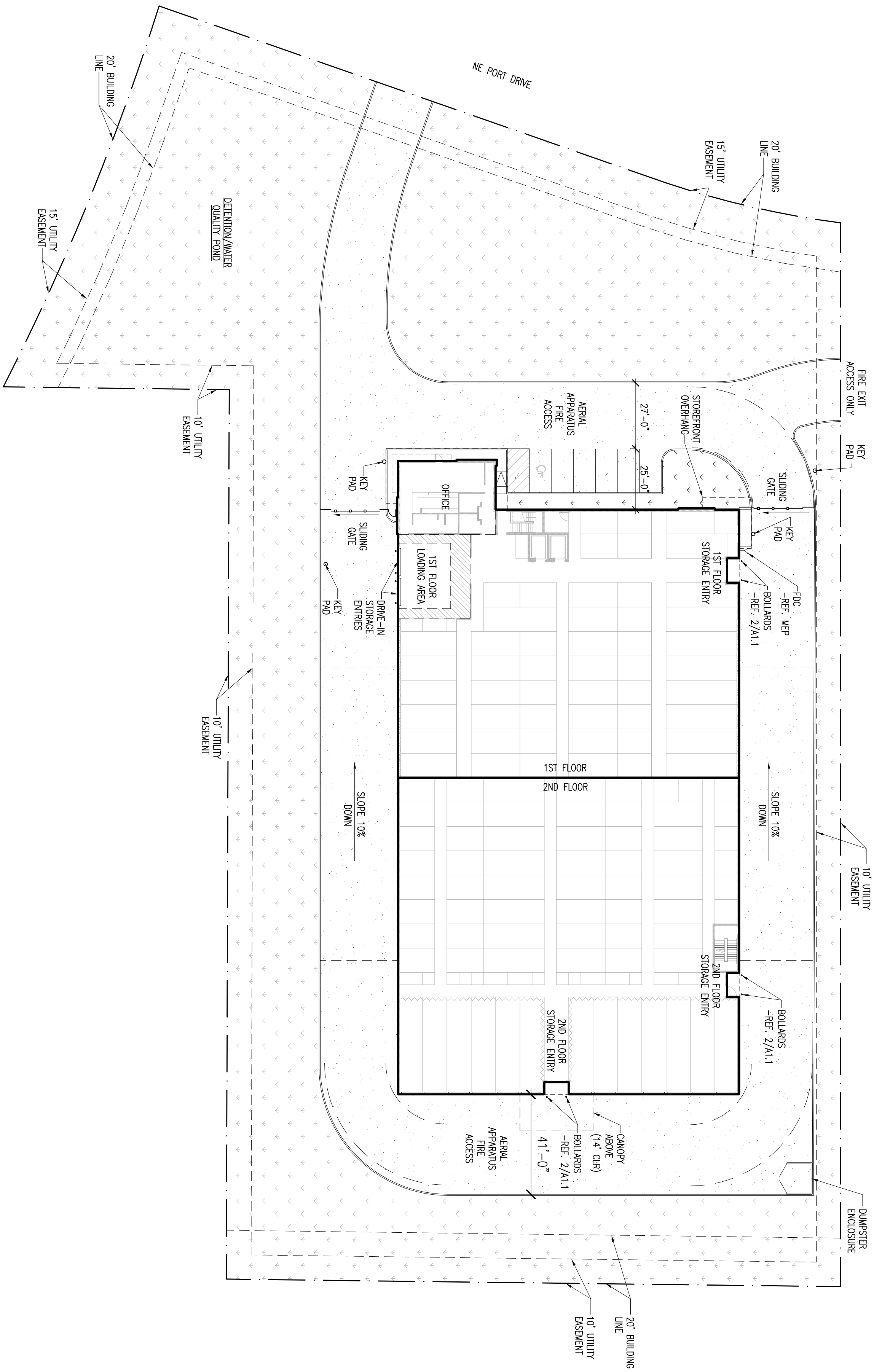
Fire Separation (Table 508.4): **None Required / Provided**

Fire Alarms (907): **None Required / Provided**

Rated Corridors (Table 1020.1): **None required/provided with sprinkler system**

<u>Exiting:</u> (Table 1006.3.2):	Exits req. per floor: 2	<b><u>Exits provided 2/floor min.</u></b>
(Table 1017.2):	Exit Distance	<b><u>250' allowable</u></b>
(Table 1020.2):	Exit width req. 44"	<b><u>60" width provided</u></b>

SITE PLAN LEGEND	
	BUFFERS/ EASEMENTS
	PROPERTY LINES
	6'-0" HIGH ORNAMENTAL IRON FENCE
	CONCRETE PAVING -REF. CIVIL DWGS.
	EXISTING PERIODIC COVER
	6" STEEL PIPE BOLLARD -REF. 2/A.1.1
<b>SITE PLAN NOTES</b>	
1. REFER CIVIL DRAWINGS FOR RECORDED PLAT/SURVEY FOR PROPERTY BOUNDARIES, EASEMENTS, SETBACKS, ETC. REPORT ANY DISCREPANCIES TO ARCHITECT PRIOR TO CONSTRUCTION.	
2. REFER CIVIL DRAWINGS FOR ALL DRIVE, PARKING, AND CURB LOCATIONS, DETAILS, AND DIMENSIONAL INFORMATION.	
3. REFER CIVIL DRAWINGS FOR EXTENTS OF REQUIRED LANDSCAPING.	
4. PROVIDE CONCRETE FILLED STEEL TUBE BOLLARD AT BUILDING CORNERS AND BUILDING ENTRIES AT DRIVE AREAS (REF. DETAIL 2/A.1.1 FOR LOCATIONS, CIVIL FOR DETAIL).	



1 SITE PLAN  
SCALE: 1" = 30'-0"  
PLAN NORTH

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**LAKEWOOD  
STORAGE**

NE PORT DRIVE  
LEE'S SUMMIT, MISSOURI 64064

PROJECT NO. 2035  
DATE: 06.08.2021  
DRAWN: VP  
REVISIONS:

60%  
REVIEW

SITE  
PLAN

SHEET NO.

**A1.1**