GILSANZ . MURRAY . STEFICEK . LLP

Structural Engineers & Building Envelope Consultants
129 West 27th Street, 5th Floor
New York . NY . 10001
Tel 212 . 254 . 0030
Fax 212 . 477 . 5978
www.gmsllp.com

September 23, 2016

Mr. Elias Slaiby
The General Investment & Development Companies
1345 Avenue of the Americas, Suite 200, 2nd Floor
New York, NY 10105

Re: Riverside Center Building 1 (aka 400 West 61st Street), New York, NY
Independent Structural Engineering Review for 80% CDs
GMS Project Number 16360

Dear Mr. Slaiby,

As per your request, Gilsanz Murray Steficek LLP conducted an independent structural engineering peer review of the proposed Riverside Center building 1, 80% CD level of completion. We reviewed drawings prepared by WSP dated 04/15/2016 (80% construction documents).

Based on our review, the structural design shown on the plans and specifications is generally in conformance with the structural and foundation requirements of the NYC Building Code. The results of the peer review are detailed in the attached report, and are summarized as follows:

1. The design loads generally conform to the requirements of the NYC Building Code.

2. The structural design criteria and design assumptions conform to the NYC Building Code, and are in accordance with generally accepted engineering practice.

3. The existing conditions at the site have been investigated by a geotechnical engineer and by a wind tunnel consultant. We have reviewed the geotechnical investigation report and the wind tunnel results and confirmed that the design generally incorporates their results. The wind tunnel report is presently being peer reviewed by another wind tunnel consultant. This is a procedural step and we do not expect the design load to increase, and we understand the EOR will revise the design as required in the unlikely event that the wind loads do increase.

4. The structure has a complete load path.

5. Calculations have been performed for a representative fraction of the system, members, and details, and we have confirmed their code adequacy. We understand that WSP will revise the design based on our comments. We have some serviceability comments on the design, which we noted in the report.

6. We have reviewed the design for the structural integrity provisions. We understand that WSP will revise the design based on our recommendations.

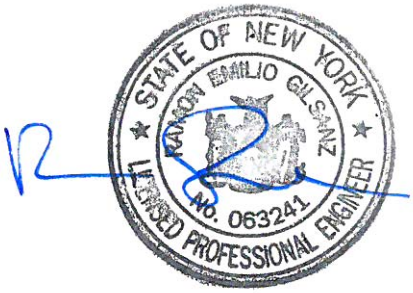
7. The structural plans are in general conformance with the architectural plans available at this time. Further coordination of the architectural and structural plans should occur for the 100% drawings.

8. The major mechanical items shown on the architectural drawings at this time are accommodated in the structural plans. Further coordination of the mechanical and structural plans should occur for the 100% drawings.

9. It is our opinion that the general completeness of the plans and specifications is adequate for an 80% level of completion. Further development of the plans and specifications will be required to reach the 100% level of completion.

I trust this information is sufficient for your current purposes. If you have any questions or comments, please do not hesitate to contact us.

Very truly yours,



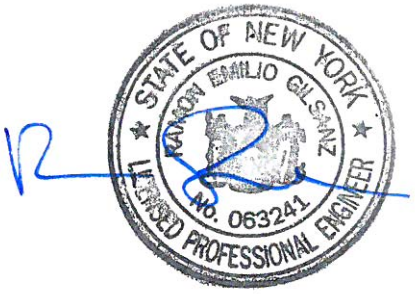
Ramon Gilsanz, PE
Partner
Gilsanz Murray Steficek, LLP

Jennifer Lan, PE
Associate
Gilsanz Murray Steficek, LLP

INDEPENDENT STRUCTURAL ENGINEERING 80% CDS PEER REVIEW

RIVERSIDE CENTER BUILDING 1
NEW YORK, NY

September 23, 2016



GMS
GILSANZ . MURRAY . STEFICEK . LLP

129 West 27th Street. 5rd Floor. New York. NY. 10001. Tel 212-254-0030. Fax 212-477-5978
619 River Drive Center 1. 2nd floor Elmwood Park. NJ . 07407 . Tel 973-273-0077 . Fax 973-273-0117
725 South Figueroa Street Suite 1530. Los Angeles . CA . 90017 . Tel 213.943.4850 . Fax 213.943.4851
www.gmsllp.com

Executive Summary

Gilsanz Murray Steficek LLP conducted an independent structural engineering peer review of the proposed Riverside Center building 1, 80% CD level of completion. We reviewed drawings prepared by WSP dated 04/15/2016 (80% construction documents).

Based on our review, the structural design shown on the plans and specifications is generally in conformance with the structural and foundation requirements of the NYC Building Code. The results of the peer review are detailed in the attached report, and are summarized as follows:

1. The design loads generally conform to the requirements of the NYC Building Code.

2. The structural design criteria and design assumptions conform to the NYC Building Code, and are in accordance with generally accepted engineering practice.

3. The existing conditions at the site have been investigated by a geotechnical engineer and by a wind tunnel consultant. We have reviewed the geotechnical investigation report and the wind tunnel results and confirmed that the design generally incorporates their results. The wind tunnel report is presently being peer reviewed by another wind tunnel consultant. This is a procedural step and we do not expect the design load to increase, and we understand the EOR will revise the design as required in the unlikely event that the wind loads do increase.

4. The structure has a complete load path.

5. Calculations have been performed for a representative fraction of the system, members, and details, and we have confirmed their code adequacy. We understand that WSP will revise the design based on our comments. We have some serviceability comments on the design, which we noted in the report.

6. We have reviewed the design for the structural integrity provisions. We understand that WSP will revise the design based on our recommendations.

7. The structural plans are in general conformance with the architectural plans available at this time. Further coordination of the architectural and structural plans should occur for the 100% drawings.

8. The major mechanical items shown on the architectural drawings at this time are accommodated in the structural plans. Further coordination of the mechanical and structural plans should occur for the 100% drawings.

9. It is our opinion that the general completeness of the plans and specifications is adequate for an 80% level of completion. Further development of the plans and specifications will be required to reach the 100% level of completion.

Information Provided to GMS for Review:

Structural drawings, prepared by WSP, dated 04/15/2016 (80% Design Development).

Structural specification Section 033000 "Cast-in-Place Concrete" and Section 032000 "Concrete Foundation Work", prepared by WSP, dated 04/15/2016.

Structural Narrative, prepared by WSP, dated 06/30/2016.

Architectural drawings, dated 02/05/2015, prepared by GHWA and KPF.

Geotechnical Investigation Report, dated 02/20/2016, prepared by LANGAN.

Wind tunnel tests for Riverside Center Building 1, New York, NY – CPP Project # 8180, dated 02/19/2016, prepared by CPP.

Riverside Center Building 1 400 West 61st Street, New York, NY Structural Narrative, prepared by WSP, dated 06/30/16.

ETABS model prepared by WSP, sent on 06/30/2016.

Revised Wind Loads issued by CPP, sent on 9/20/2016.

Design Codes

New York City Building Code 2014 Edition

ACI-318 Building Code Requirements for Structural Concrete

Building Description:

The project, known as Riverside Center Building 1, is located in 400 West 61st Street, New York, NY. It is a residential building consisting of two towers with two levels below ground levels. The west tower will be 39 stories and approximately 456 feet above the street level. The east tower will be 27 stories and approximately 300 feet above the street level.

Foundations:

The building has 2 floors below grade. The shear walls and columns are supported on pile caps and/or footings. There is a pressure slab for the flood loads. The site contains foundation walls at the perimeter on three sides and shares a foundation wall with an existing structure to the east.

Superstructure:

The superstructure consists of cast-in-place slabs, shear walls, and columns. The floor slabs are of two-way flat plate construction and variable thicknesses that are typically in the range of 8"-12". Column walks/transfers occur at multiple floors such as 3rd floor and 19th floor.

Lateral System:

The lateral system consists of cast-in-place shear walls that vary in thickness. There is a central core and two lines of north/south walls that make up the lateral system of each tower.

Structural Review:

Design Criteria & Loads:

Dead & Live Loads:
The gravity loading criteria is based on occupancy per loading schedule on drawing FO-001.01. The structural design loads and assumptions conform to the NYC Building Code, and are in accordance with generally accepted engineering practice.

Wind Loads:
The wind loads are based on loading provided in CPP's wind tunnel test report.

Wind loads were based upon the following natural building frequencies:

West Tower and Podium:
- Mode 1: 0.3175 Hz , T= 5.15 sec (primary torsion)
- Mode 2: 0.2703 Hz, T= 3.7 sec (primary Y-sway)
- Mode 3: 0.1942 Hz, T= 3.15 sec (primary X-sway)

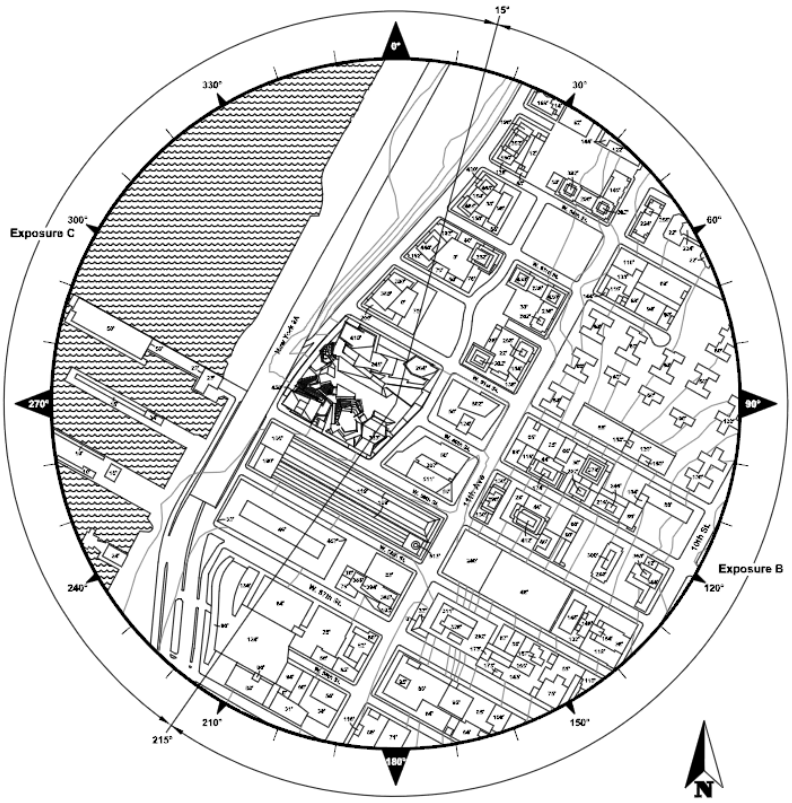
East Tower:
- Mode 1: 0.5714 Hz , T= 1.75 sec (primary torsion)
- Mode 2: 0.6667 Hz, T= 1.5 sec (primary Y-sway)
- Mode 3: 0.8929 Hz, T= 1.12 sec (primary X-sway)

A comparison of the base overturning moments are provided below:

	Mx (1000 kip-ft)	My (1000 kip-ft)
Exposure B Code	850	420
Exposure C Code	1050	558
80% Exposure B Code	680	336
80% Exposure C Code	840	450
WSP Design	610	377
CPP Revised	670	377

CPP has defined the wind exposure at the site based on the figure below, which is different from the code definition of the exposure categories. The wind loads will be peer reviewed by another wind tunnel consultant for code compliance, and in the event that a consensus is not reached, another wind tunnel

test will be done to confirm that the design wind load meet code. CPP does not anticipate that the design wind load will increase due to the additional test.



Seismic Loads:

The seismic design loads are in conformance with the requirements of the code and the recommendations outlined in the geotechnical report. A response spectra analysis was used for seismic design.

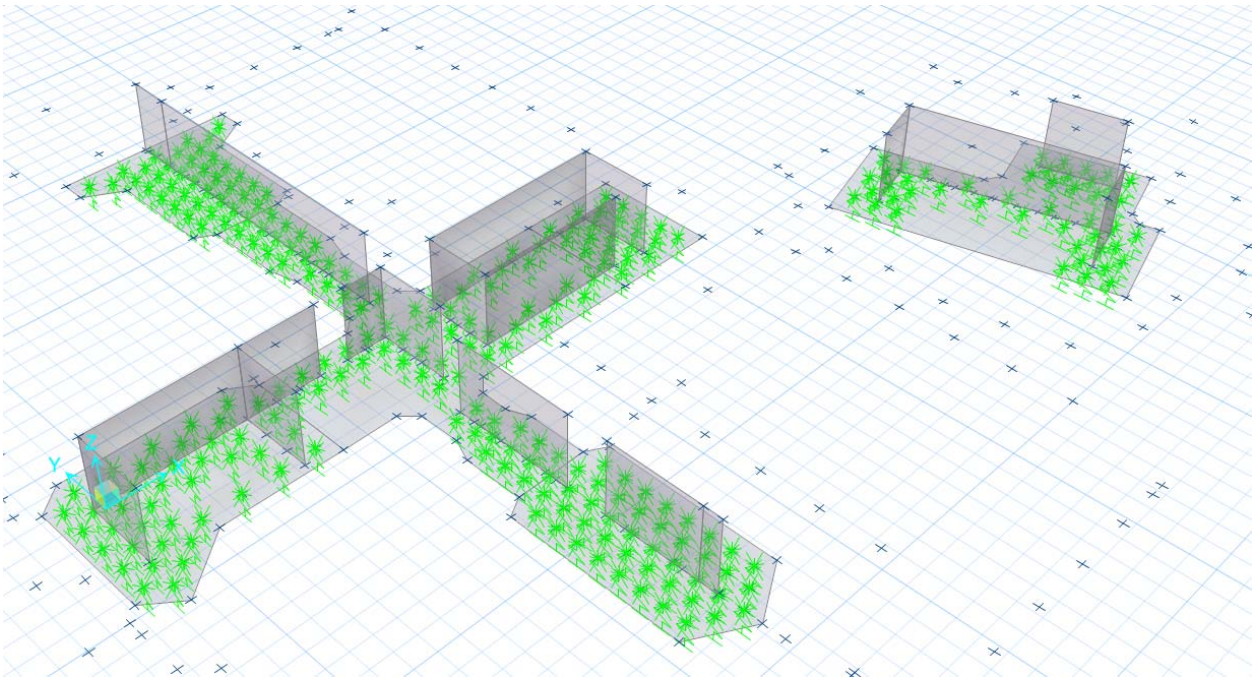
Foundation Review

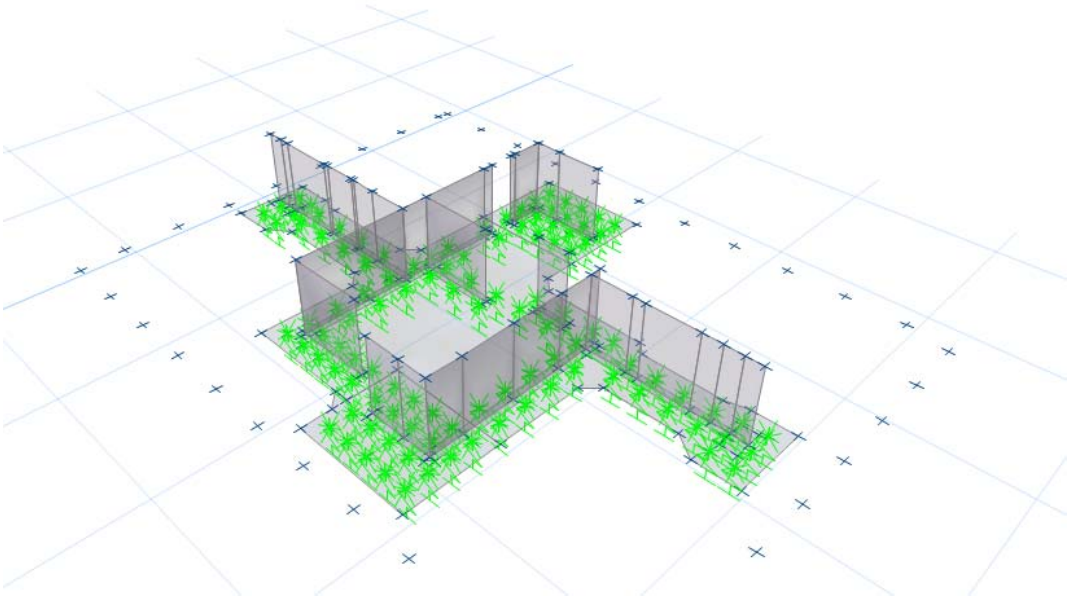
Foundation Mat

We created finite element models of shear wall pile caps using CSI SAFE, which accounted for spring stiffness of the soil subgrade. Our model includes:

- Models were made for foundation mat SP 225, SP 112, and SP 47
- F'c=8600 psi
- All geometry per structural drawings
- Spring with stiffness of 400 k/in based on Langan's Geotech report.
- Shear wall reactions exported from ETABS model

We checked the pile capacity and pile cap reinforcing. Screenshots of our model are provided on the next page.





We have confirmed that the pile cap design is adequate. Top bars are not present at some parts of the pile cap, which may lead to cracking at the top of the pile cap.

Foundation Walls:

The design of the foundation wall was checked based on the loading provided by Langan's geotechnical report. The design was found to be adequate.

Superstructure:

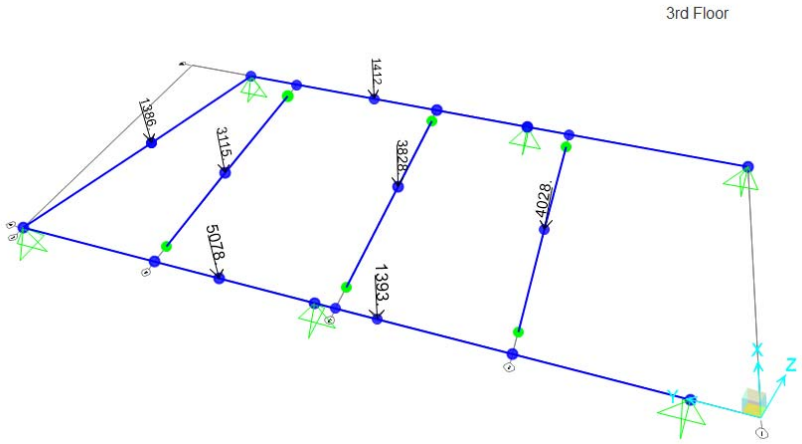
Columns:
We performed an independent load takedown of Column 2, 2A, 62, and 63, and found the loads shown on the column schedule to be adequate. We confirmed that the design of these columns are adequate.

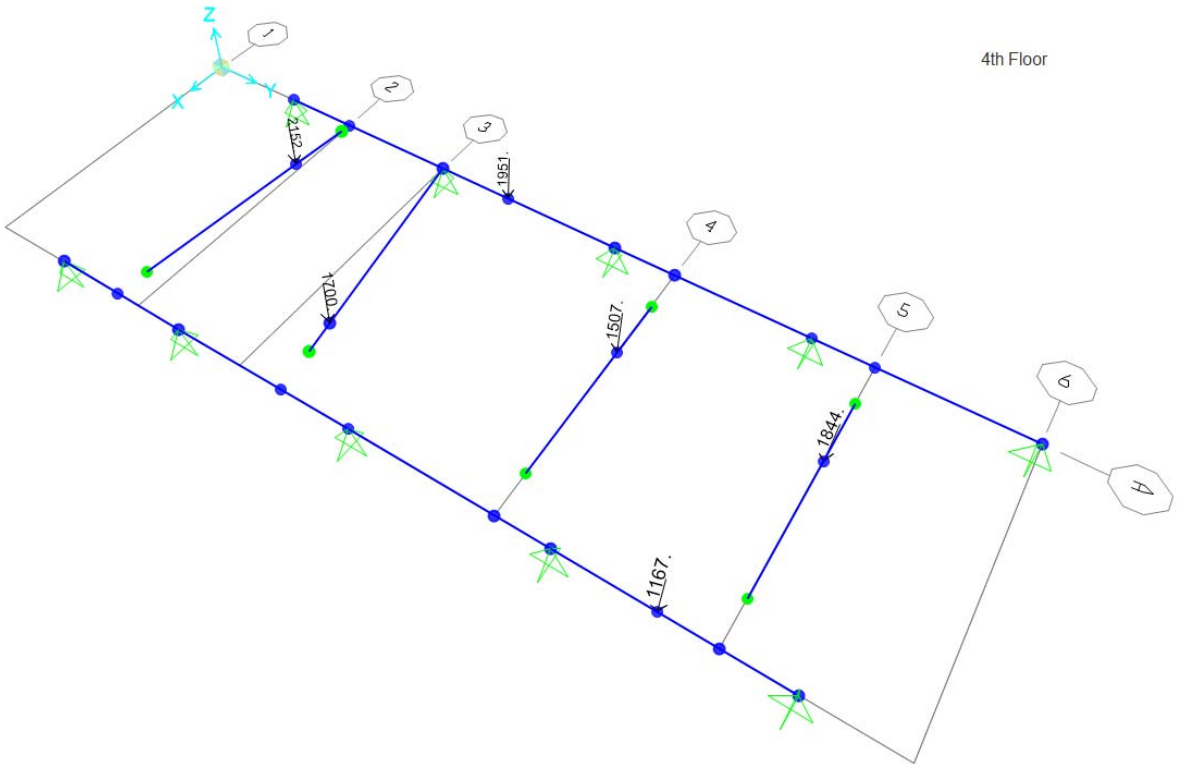
We reviewed the design of cantilevered walking column 1(1A), 2(2A), 3(3A), and 4(4A). We confirmed the load path is adequate at these transfers.

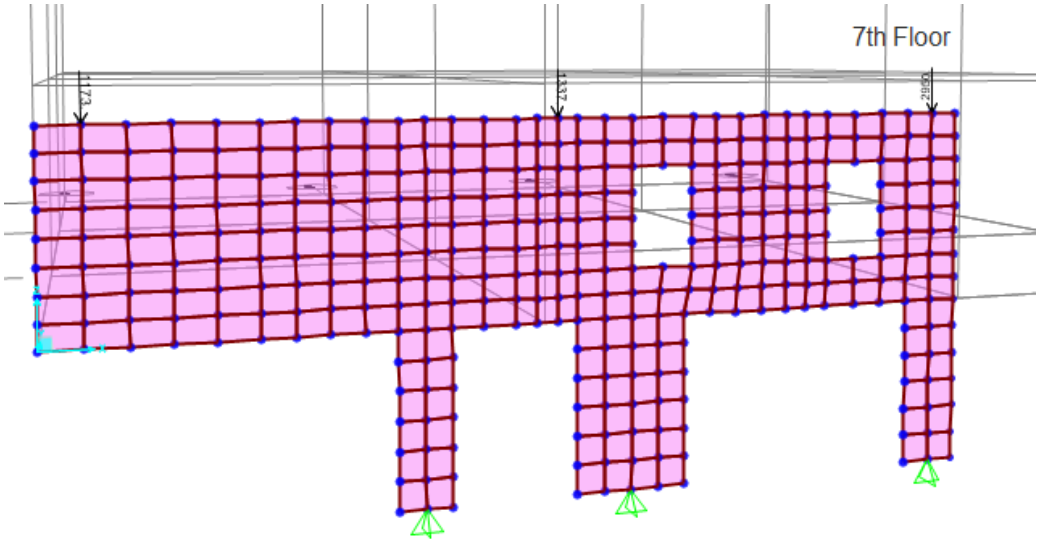
We reviewed the design of two columns (Col. 62 and 218) that are unbraced for more than one floor. We understand that WSP will incorporate our comments and revise the column design.

Gravity Transfers:

We performed an independent check for transfer beams on 3rd floor, 4th floor and 7th floor and found the design to be adequate. Images of our analysis model for these transfers are provided on the next page.







Structural Integrity:

We have confirmed that the structural design follows the structural integrity requirements outlined in New York City Building Code Sections 1615, 1916, and ACI 318-11 Chapter 13.

- At all floor and roof levels, slabs have a mat of bottom reinforcement which is made continuous with lap, mech., or welded tension splices, and the amount of reinforcing is not less than the steel required for temperature reinforcing.
- At each floor and roof level, adequate peripheral ties are provided.

- At each column the required bottom structural integrity reinforcing steel is being provided. When additional bars are required, we understand WSP will add the bars.
- Each column and each wall carrying vertical load are vertically tied continuously from its lowest to highest level per code requirements.
- In the detailing of reinforcing and connections, members of a structure are effectively tied together.
- Where splices are needed to provide the required continuity, the top rebar are spliced at or near mid-span and bottom rebar are spliced at or near the support using tension splices.
- All bottom bars within the column strip, in each direction, are continuous or spliced with Class B tension splices. Splices are located as required by ACI 318-11 Fig. 13.3.8. At least two of the column strip bottom bars or wires in each direction pass within the column core and shall be anchored at exterior supports.
- Floor and diaphragms and other horizontal elements are tied to the lateral load-resisting system
- Column exposed to traffic from 1st floor to 3rd floor are adequate to resist vehicular impact.

Slab Design:

Finite element models of three building floors (east tower 13th-21st floor, west tower 20th-22nd floor, and west tower 19th floor) were modeled in SAFE. Our models included the following modeling idealizations:

- F'c = 6000psi at the typical floors, F'c=10000psi at the transfer floor
- Columns/walls fixed at base below, columns above fix for Rx, Ry only.
- Rigid zone modeled at column locations
- All geometry (including openings) per structural drawings

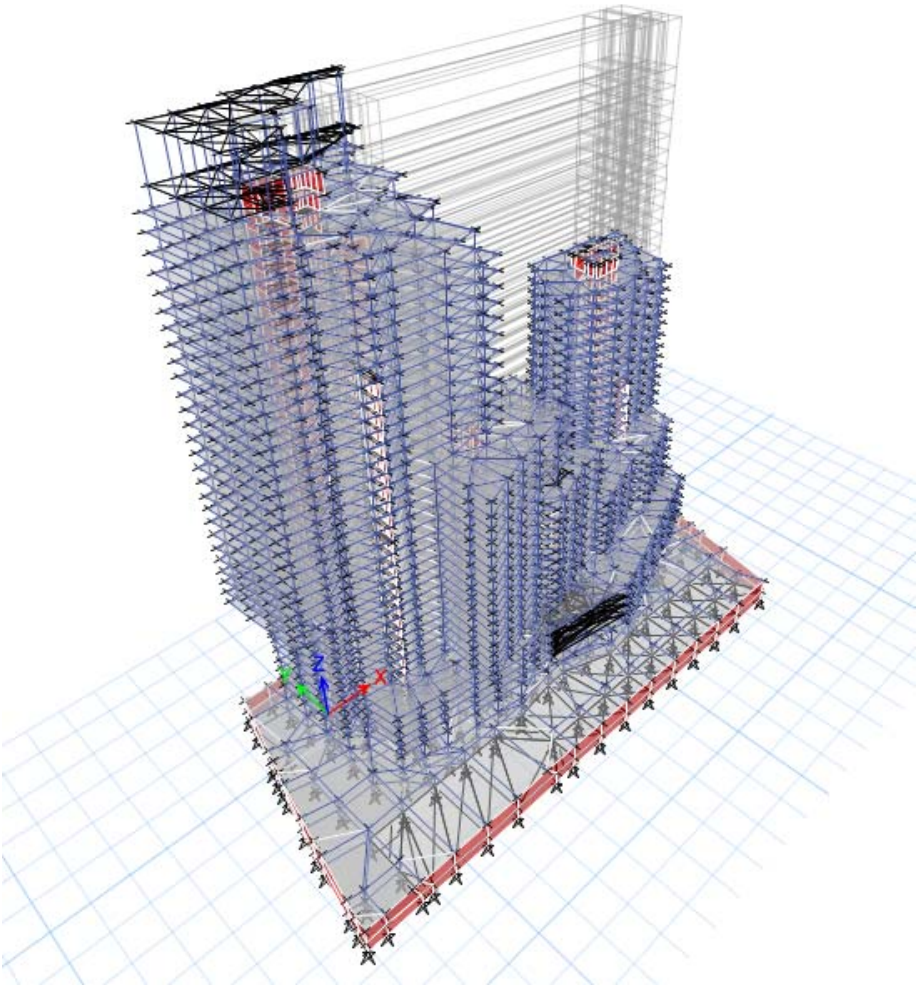
We verified the slab reinforcement and provided WSP our comments. We understand WSP will revise the design as required based on our comments.

Our analysis shows that there may be long term deflections of over 1" some areas of the slab. We understand WSP has done further analysis and reduced the deflections. It should be confirmed that the curtain wall system can accommodate the anticipated slab edge deflections.

In addition, we verified the reinforcement of the long span slab at the ground floor. We found the design to be adequate.

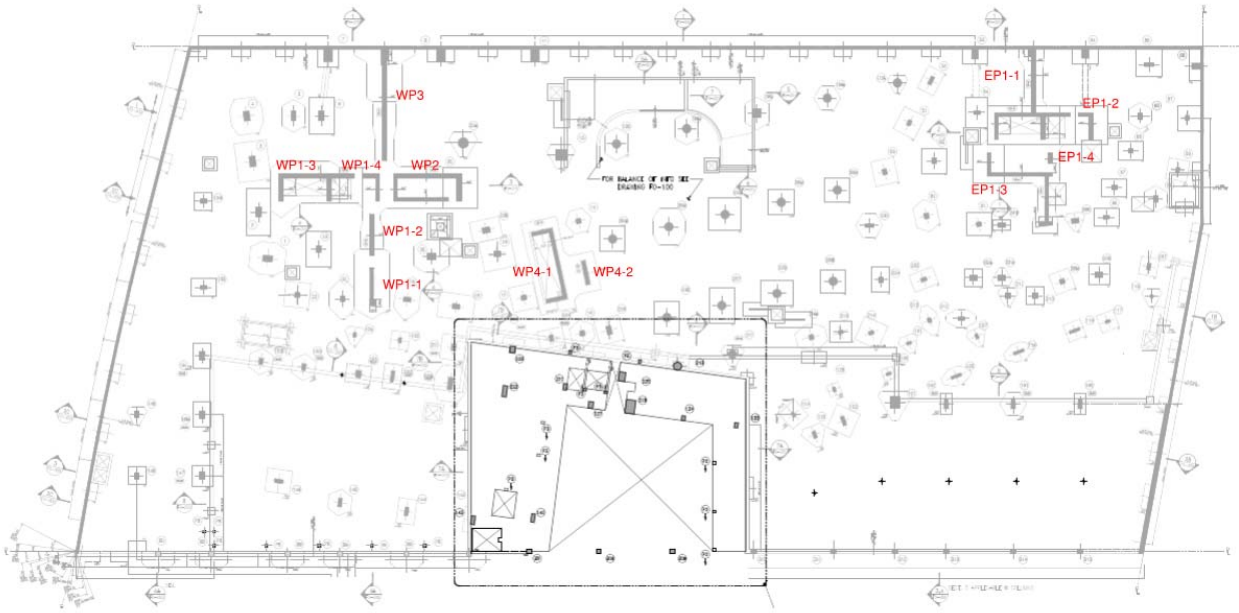
Lateral System Review

WSP provided their ETABS model, which we used to obtain the loads due to gravity and lateral loads in each shear wall. The image of the 3D model is shown below:



We checked the shear walls at the cellar 2 level and the 31st floor level of West tower for the lateral wind loads from the CPP wind tunnel report dated 02/19/2016. The adequacy of the walls were checked using spColumn. We found that the capacity in the analyzed walls are adequate for the considered loads. We understand that WSP will confirm the adequacy of the design for any updates to the wind load and make revisions as required.

The analyzed walls at cellar2 level and West tower 31st floor level are shown in figures below.



Cellar 2 level

West Tower, 31st floor level