

Owner / Applicant Information

Bryan Duncan, PE
Indiana State University
951 SYCAMORE STREET

TERRE HAUTE IN 47809

Phone 8122378195

Email BRYAN.DUNCAN@INDSTATE.EDU

Submitter Information

Edwin Rensink
RTM Consultants Inc
6640 Parkdale Place

Indianapolis IN

Phone 3173297700

Email rensink@rtmconsultants.com

Designer Information

William Browne, Jr., FAIA
Ratio Design
101 South Pennsylvania Street

Indianapolis IN

Phone 3176334040

Email bbrowne@ratiodesign.com

Project Information

Indiana State University Sycamore Dining Commons
400-410 Mulberry Street

Terre Haute IN 47809

County MARION

Project Type New ☐ Addition ☒ Alteration ☒ Existing ☐ Change of Occupancy ☐

Project Status ☒ U F=Filed U or Null=Unfiled

IDHS Issued Correction order? ☒ No Has Violation been Issued? ☒ No

Violation Issued by: NA

Local Building Official

Phone:

Email:

Local Fire Official

Phone:

Email:

Variance Details

Code Name: Other Code (Not in the list provided)
403, 2014 IBC

Conditions: The project area will not fully comply with the requirements of the current code for high rise buildings, which requirement is technically triggered by the 1-story dining additions proposed - the existing Sycamore Towers is classified as a high rise building per current code.
The existing 1-story + basement dining and food services commons is part of the 1960's era Sycamore Towers. The commons is centered among the four (4) connected residence towers. Sycamore Towers is constructed of a combination of cast-in -place and precast concrete. The project scope is a complete renovation of the existing dining and food services area, and two (2) separate additions totaling 10,826 square feet of additional floor area.

DEMONSTRATION THAT PUBLIC HEALTH, SAFETY, AND WELFARE ARE PROTECTED:

1=Non-compliance with the rule will not be adverse to the public health, safety or w

☐ 1 2= Applicant will undertake alternative actions in lieu of compliance with the rule to ensure that granting of the variance will not be adverse to public health, safety, or welfare. Explain why alternative actions would be adequate (be specific).

Facts: 1. The dining hall will be protected throughout with a sprinkler system per NFPA 13 as part of this project, which completes sprinkler protection throughout the Sycamore Towers building.
2. A voice-alarm system (required for high rise) will be provided in the dining hall as part of this project, which will complete the installation of the system throughout the Sycamore Towers building.
3. Exits will be provided directly to the exterior from the additions - a total of four (4) exits to the exterior will be provided from the finished dining hall.
4. Two (2) separate standby power generators are provided; one for the fire pump, and one to serve elevators, emergency lighting, the fire alarm system, and the existing stair pressurization system.
5. Based upon the fire and life safety improvements proposed, the lack of complete compliance with current code high rise requirements will not be adverse to safety.
6. Similar variances were granted for additions to each of the attached residential towers, completed in previous phases of the Sycamore Towers renovation: Rhoads Hall 17-03-11, Cromwell Hall 16-01-03, Bloomberg Hall 15-01-18, and Mills Hall 14-01-37.

DEMONSTRATION OF UNDUE HARDSHIP OR HISTORICALLY SIGNIFICANT STRUCTURE:

☐ Imposition of the rule would result in an undue hardship (unusual difficulty) because of physical limitations of the construction site or its utility services.

☐ Y Imposition of the rule would result in an undue hardship (unusual difficulty) because of major operational problems in the use of the building or structure.

☐ Y Imposition of the rule would result in an undue hardship (unusual difficulty) because of excessive costs of additional or altered construction elements.

☐ Imposition of the rule would prevent the preservation of an architecturally or a historically significant part of the building or structure

Facts: The additional area is needed to increase capacity to serve student population and to improve dining and food service operations. The project will also provide two (2) new dining hall entrances and enhance accessibility.

Variance Details

Code Name: 12-4-12 Existing Buildings; Additions or Alterations
Rule 4, Section 12(f), GAR

Conditions: The proposed 1-story additions will be made to a building not meeting the required Type IA Construction requirements per current code based upon the height (12 stories) of the

construction requirements per current code based upon the height (12 stories) of the existing building to which the additions will be made. All existing building elements are a minimum of 1-hour rating, but less than required per Table 601 requirements for Type IA Construction.

The existing 1-story + basement dining and food services commons is part of the 1960's era Sycamore Towers. The commons is centered among the four (4) connected residence towers. Sycamore Towers is constructed of a combination of cast-in -place and precast concrete. The project scope is a complete renovation of the existing dining and food services area, and two (2) separate additions totaling 10,826 square feet of additional floor area.

DEMONSTRATION THAT PUBLIC HEALTH, SAFETY, AND WELFARE ARE PROTECTED:

1=Non-compliance with the rule will not be adverse to the public health, safety or w

1

2= Applicant will undertake alternative actions in lieu of compliance with the rule to ensure that granting of the variance will not be adverse to public health, safety, or welfare. Explain why alternative actions would be adequate (be specific).

Facts:

1. The dining hall will be protected throughout with a sprinkler system per NFPA 13 as part of this project, which completes sprinkler protection throughout the Sycamore Towers building.
2. A voice-alarm system will be provided in the dining hall as part of this project, which will complete the installation of the system throughout the Sycamore Towers building.
3. Exits will be provided directly to the exterior from the additions - a total of four (4) exits to the exterior will be provided from the finished dining hall.
4. Based upon the fire and life safety improvements proposed, the additional floor area and lack of compliant fire rating for existing building structure will not be adverse to safety.
5. Similar variances were granted for additions to each of the attached residential towers, completed in previous phases of the Sycamore Towers renovation: Rhoads Hall 17-03-11, Cromwell Hall 16-01-03, Bloomberg Hall 15-01-18, and Mills Hall 14-01-37.

DEMONSTRATION OF UNDUE HARDSHIP OR HISTORICALLY SIGNIFICANT STRUCTURE:

☐

Imposition of the rule would result in an undue hardship (unusual difficulty) because of physical limitations of the construction site or its utility services.

☐

Imposition of the rule would result in an undue hardship (unusual difficulty) because of major operational problems in the use of the building or structure.

☒

Imposition of the rule would result in an undue hardship (unusual difficulty) because of excessive costs of additional or altered construction elements.

☐

Imposition of the rule would prevent the preservation of an architecturally or a historically significant part of the building or structure

Facts:

The additional area is needed to increase capacity to serve student population and to improve dining and food service operations. The project will also provide two (2) new dining hall entrances and enhance accessibility.

Variance Details

Code Name: Other Code (Not in the list provided)

Table 601, 2014 IBC

Conditions: The roof structure over the 1-story dining hall additions will be unprotected. Based upon the required Type IA Construction and roof height of less than 20 feet above the floor, the roof structure is required to be 1.5-hour rated. Roof construction will be metal deck supported by structural columns and beams. The roof deck in the addition ranges from approximately 10 feet to 16 feet in height.
The existing 1-story + basement dining and food services commons is part of the 1960's era Sycamore Towers. The commons is centered among the four (4) connected residence towers. Sycamore Towers is constructed of a combination of cast-in -place and precast concrete. The project scope is a complete renovation of the existing dining and food services area, and two (2) separate additions totaling 10,826 square feet of additional floor area.

DEMONSTRATION THAT PUBLIC HEALTH, SAFETY, AND WELFARE ARE PROTECTED:

1=Non-compliance with the rule will not be adverse to the public health, safety or w

2

2= Applicant will undertake alternative actions in lieu of compliance with the rule to ensure that granting of the variance will not be adverse to public health, safety, or welfare. Explain why alternative actions would be adequate (be specific).

Facts: 1. The dining hall will be protected throughout with a sprinkler system per NFPA 13 as part of this project, which completes sprinkler protection throughout the Sycamore Towers building.
2. The sprinkler system protecting the area under the unprotected roof structure will be designed for ordinary hazard occupancy in lieu of the minimum required light hazard occupancy (for seating and circulation space).
3. Automatic sprinkler protection is an effective method of ensuring structural fire-resistance by limiting fire size and the heat release rate, and therefore significantly limiting the effects of fire. The use of enhanced sprinkler protection will provide an additional safety factor for the unprotected roof structure.
4. Columns will be fire-proofed as required.
5. A virtually identical variance was granted for a new Dining Hall at Ball State University - Variance 17-12-55a. Other similar variances for nonrated roof structure have also been approved based upon enhanced sprinkler protection, including 18-06-54, 18-03-70b, 17-12-54d, 17-06-24a, 17-05-43a, 16-03-53, 15-11-11c, 15-01-28a, and 14-03-15c.

DEMONSTRATION OF UNDUE HARDSHIP OR HISTORICALLY SIGNIFICANT STRUCTURE:

☐ Imposition of the rule would result in an undue hardship (unusual difficulty) because of physical limitations of the construction site or its utility services.

☒ Y Imposition of the rule would result in an undue hardship (unusual difficulty) because of major operational problems in the use of the building or structure.

☒ Y Imposition of the rule would result in an undue hardship (unusual difficulty) because of excessive costs of additional or altered construction elements.

☐ Imposition of the rule would prevent the preservation of an architecturally or a historically significant part of the building or structure

Facts: The use of a fire-rated ceiling would not allow exposed piping, ducts, and other utilities, and would vertically compress the space - the cost and appearance of fireproofing is undesirable.

