



DLR Group

Architecture Engineering Planning Interiors

1401 Lawrence Street, Suite 1000
Denver, CO 80202

November 2, 2020

Mr. Mike Weisenborn, Project Manager, Development Center
City of Lee's Summit: Development Services
220 SE Green St.
Lee's Summit, MO 64063

Re: Lee's Summit Middle School #4
DLR Group Project No. 13-20102-00
ICC500 Shelter – Independent Structural Peer Review

Dear Mr. Weisenborn,

This letter is to confirm that I am a structural professional engineer licensed in the state of Missouri and I have independently performed a structural peer review of the ICC-500 Shelter indicated on the Contract Documents for the Lee's Summit Middle School #4 project for compliance with the ICC-500 guidelines. I have reviewed all aspects of the ICC-500 shelter indicated on the drawings and I had the opportunity to discuss my initial structural review comments with Mr. Derek Smith, the Structural Engineer of Record for the project. He has satisfactorily addressed all my initial review comments with the inclusion of latest document revisions in ASI-03, dated 11/2/2020.

It is my opinion that the Contract Documents meet the intent of the ICC-500 guidelines and standards.

Please contact me if you have any questions.

Sincerely,
DLR Group

John D. Weiskopf, PE SE
Principal

JDW/ jdw

Cc: File



October 19, 2020

(AHJ)

Subject: Lee's Summit Middle School #4

Storm Shelter Architectural Peer Review Report

To (authority having jurisdiction):

I, Michael Pollmann, a registered Architect in the State of Missouri, have reviewed the construction documents for the Project: Lee's Summit Middle School #4, for purposes of compliance with Chapters 5 and 6 of the ICC-500 – "Standard for the Design and Construction of Storm Shelters – 2014", as required under the 2018 International Building Code.

The proposed storm shelter is designated as AUXILIARY GYM F104, RESTROOM F104A, and RESTROOM F104B with a total floor area of 7,361 s.f.

The following items were reviewed against their respective Sections:

Chapter 5 – Occupancy, Means of Egress, Access, and Accessibility

- 501.1.1: The capacity of the proposed storm shelter is calculated per Table 501.1.1 as follows:
 - $7,281 \text{ s.f.} / 5 =$ 1,456 occupants
 - $80 \text{ s.f.} / 10 =$ 8 wheelchair spaces (1/200 occupants required)
 - 7,361 s.f. 1,464 total occupants

Section 423.4 – Group E Occupancies, states that "The shelter must be capable of housing the total occupant load of the Group E occupancy.", and the related IBC commentary states that "Schools that include an auditorium or gymnasium where large numbers will gather for sporting events or other school activities must have shelters capable of accommodating those occupants." As noted on the Code Plan for this Project, the largest occupancy scenario is the COMPETITION GYM (F101) at 615 bleacher seats + 754 occupants on gym floor, for a total of 1,369 occupants. The capacity of the proposed storm shelter is adequate for this number of occupants and is therefore **compliant**.

- 501.1.2.2: The usable floor area is calculated as 7,582 s.f. inside-to-inside of walls, less 221 s.f. of walls, partitions, columns, fixed or movable equipment, for a net area of 7,361 s.f.
- 501.1.3: Wheelchair spaces are accounted for in the calculation for 501.1.1 above.
Compliant.

- 501.2: Number of doors is 3, based upon the normal occupant load of 258. **Compliant.**
- 501.3: Direction of door swings are in the direction of egress travel. **Compliant.**
- 501.4: The emergency escape opening is not required per section 501.2. **Compliant.**
- 501.5: Operation of both egress doors is panic-type exit hardware. **Compliant.**
- 501.6: Proposed shelter is provided with an accessible route per ICC A117.1. **Compliant.**
- 503.1: Latching mechanisms are permanently mounted on egress door assemblies F104.1, F104.3, and F104.4, and require no tools to be engaged in the latch position per hardware scheduled. **Compliant.**
- 503.2: Multilatching systems per this Section are not provided.
- 503.3: All door latches necessary for door assemblies to perform to perform for the storm shelter automatically engage with the door is in a closed position and shall not be capable of being disabled, per the scheduled hardware. **Compliant.**
- 504: Signage for Community Shelters, as described in this Section, was found on sheets A13.3 and A13.4 of the drawings. **Compliant.**

Chapter 6 – Fire Safety

- 601.1: 2-hour fire walls are provided around the perimeter of the proposed storm shelter, with door assemblies in said fire barriers rated for 90 minutes.
- 602: The required fire extinguisher was found within the storm shelter. **Compliant.**

This concludes this scope of the storm shelter peer review report for chapters 5 and 6.

Please contact our office if you have any questions.

Respectfully submitted,



Michael Pollmann, AIA

DLR Group





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Architecture Engineering Planning Interiors

7290 West 133rd Street
Overland Park, KS 66213

October 26, 2020

Mr. Mike Weisenborn, Project Manager, Development Center
City of Lee's Summit: Development Services
220 SE Green St.
Lee's Summit, MO 64063

Re: Project Name: Lee's Summit Middle School #4
DLR Group Project No.: 13-20102-00

Dear Mr. Weisenborn:

This letter is to confirm that the licensed professional listed herein has performed an independent review of the tornado shelter portion of Contract Documents for the Lee's Summit Middle School No. 4 project to verify compliance with the 2014 ICC-500 Guidelines.

Regarding Chapter 7, "Essential Features and Accessories," requirements related to Ventilation and Sanitation Facilities the review was performed by Shawn D. Cochran, PE.

It is my opinion, for the referenced requirements, that the tornado shelter portion of the Contract Documents comply with the design requirements of the ICC-500 guidelines.

Sincerely,
DLR Group



Shawn D. Cochran, PE
Senior Mechanical Engineer
Senior Associate