



Watseka School Addition

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Jude Pargulski, and Krishon Seemann**

Acknowledgements

- The Mayor of Watseka Illinois, John Allhands
- Mr. Scott Ragan
- The School of Engineering at Olivet Nazarene University

Outline

- Background Information of the Sponsor
- Problem Statement
- Design Alternatives
- Final Design & Validation
- Conclusion
- Questions

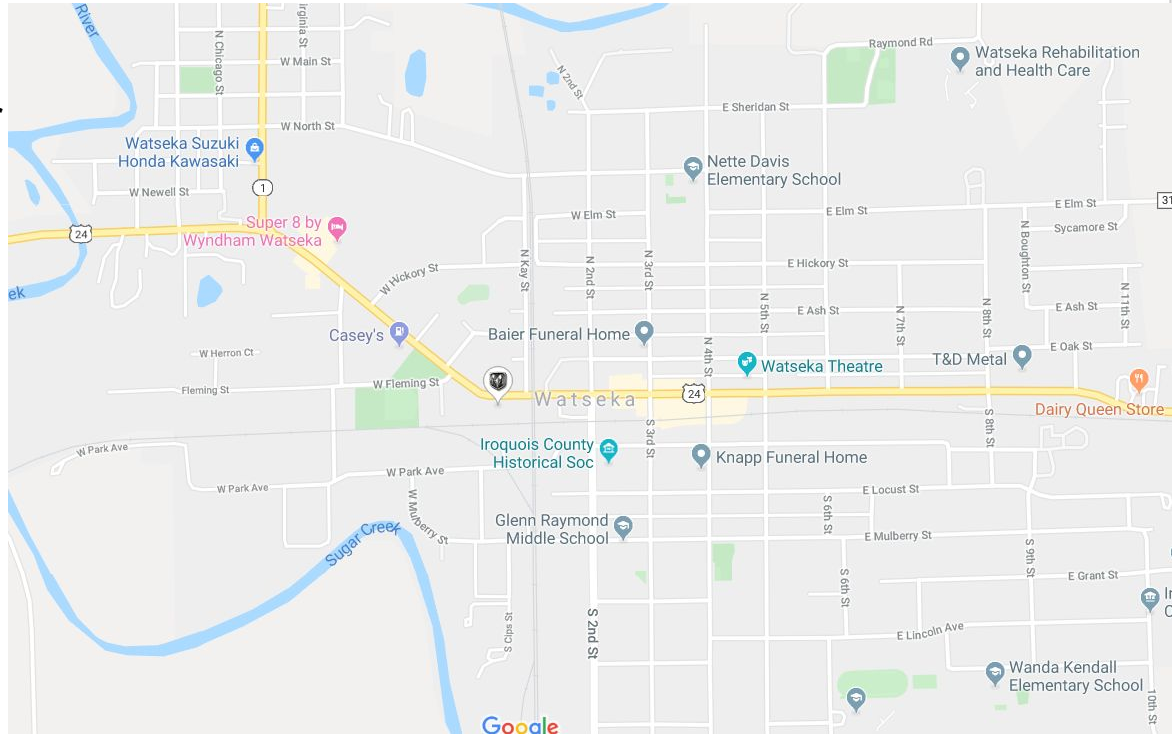
Sponsor Background

City of Watseka

- The Mayor John Allhands
- Superintendent Gary Miller
- Secretary Jessica Heldt

Current schools

- (PK-1)
- 2-4*
- 5-8
- 9-12

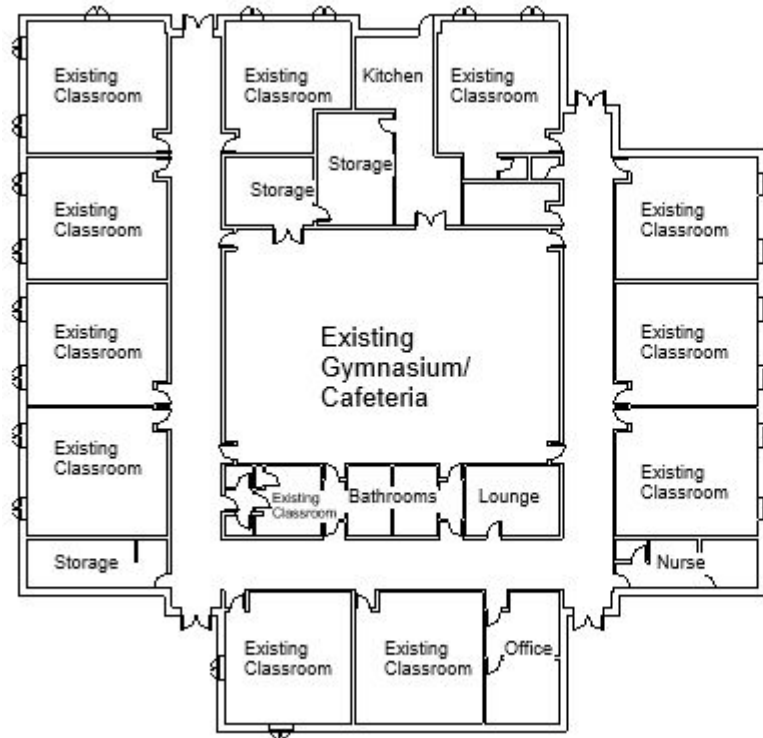


Mission Statement

Design a safe alternative space at the Wanda Kendall Elementary School for both the Nettie Davis and Wanda Kendall students.

- Flood-resistant
- Sufficient space for both student bodies (PK-4)

Wanda Kendall



E. Porter Ave

Design Objectives

- Avoid the floodplain that runs through the middle of the property
- Design new parking lots, new roads, and a bus lane
- Include a gymnasium, cafeteria, tornado shelter, and space for a future performing arts center

Functional Requirements

- Nettie Davis (PK-1): 146 Students
- Wanda Kendall (2-4): 225 Students
- 73 Teachers/Staff

Iroquois Unit 9 Population since 2009

Year	Total Students
2009	1256
2010	1230
2011	1223
2012	1200
2013	1177
2014	1166
2015	1117
2016	1084
2017	1056
2018	1020
2019	974

Source: Mayor John Allhands

Includes Pre School

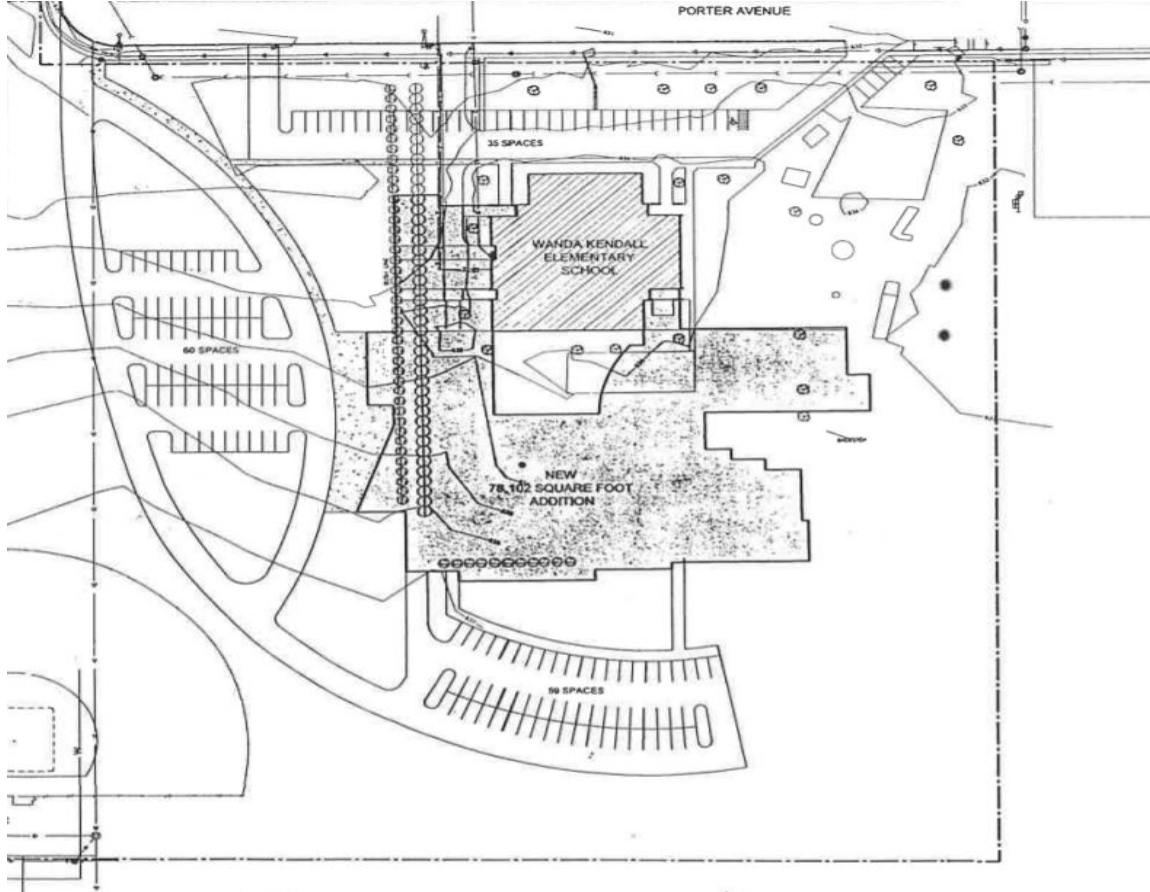
Functional Requirements

- Local & National Building Codes
- Parking for staff and visitors
- Sufficient room numbers and sizes

Design Constraints

- First design constraint is to not disturb the existing building
- One story to avoid unnecessary codes and regulations
- Design the building for the allotted space the school owns
- Under budget (\$26.5-32.1M)
 - DLR group prediction

Design Alternatives



GENERAL NOTES

20 001 SCALE DRAWINGS ARE CONSIDERED ONLY.
CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING
ALL DIMENSIONS.
INFORMATION HEREON IS CONFIDENTIAL.



WANDA KENDALL ADDITION
PROLOGIS SCHOOL DISTRICT #9
138 SOUTH BELMONT AVENUE
WATSEKA, ILLINOIS 60970

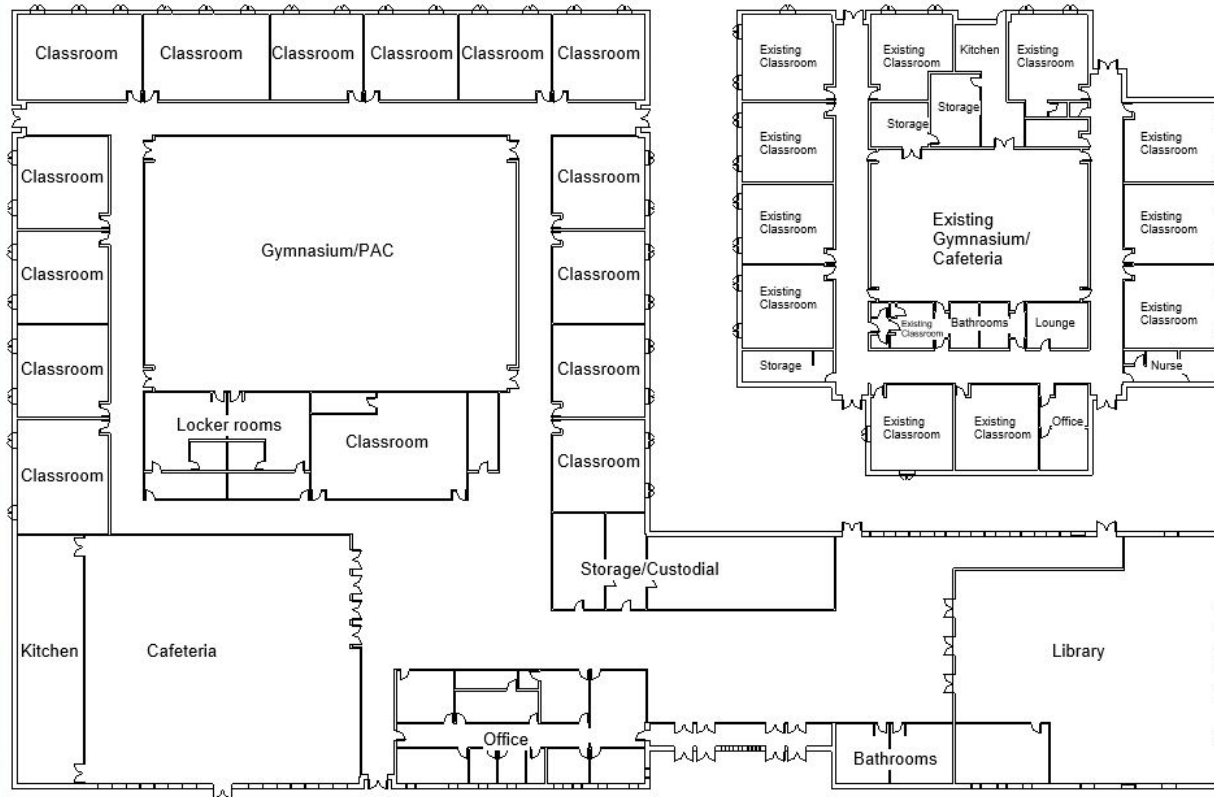
RTS PLAN



Engineering
Accreditation
Commission

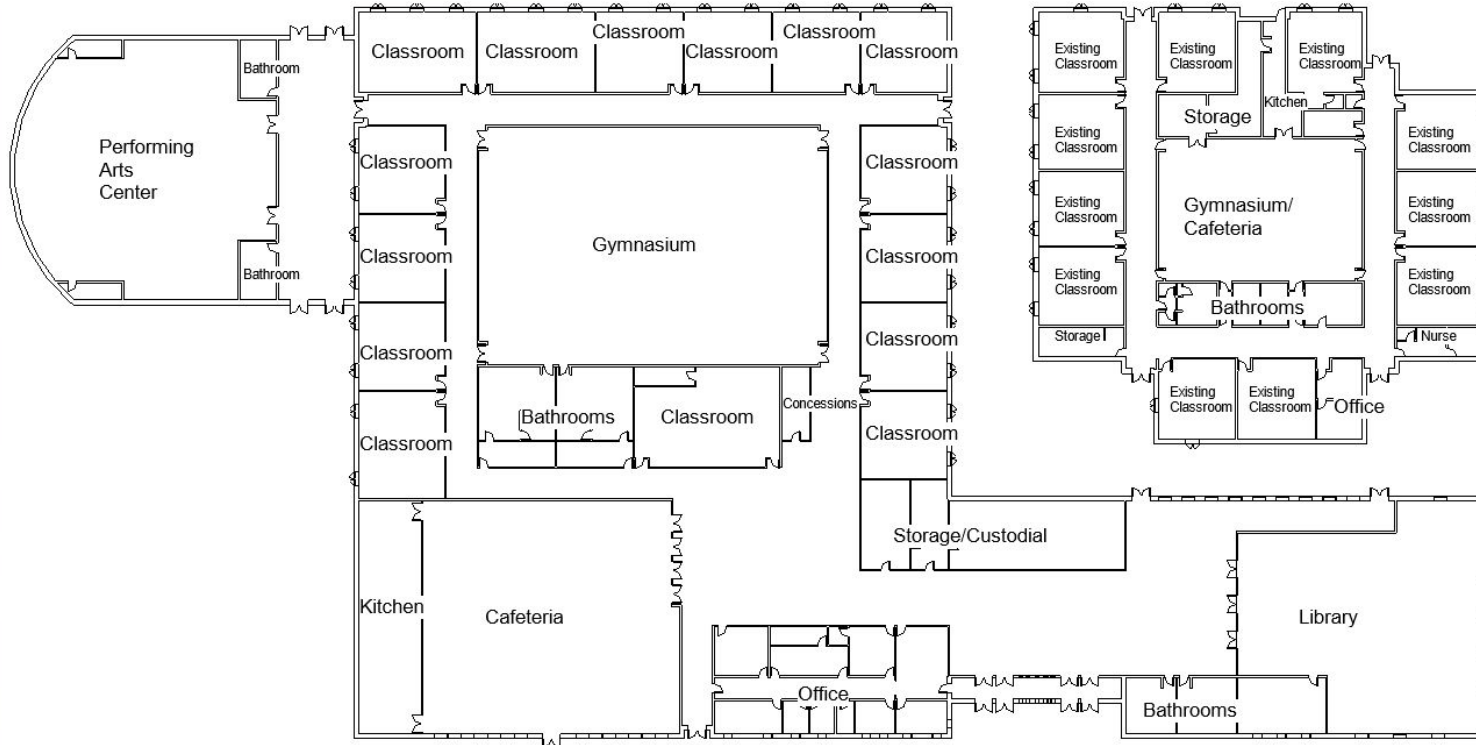


Preschool - 8th



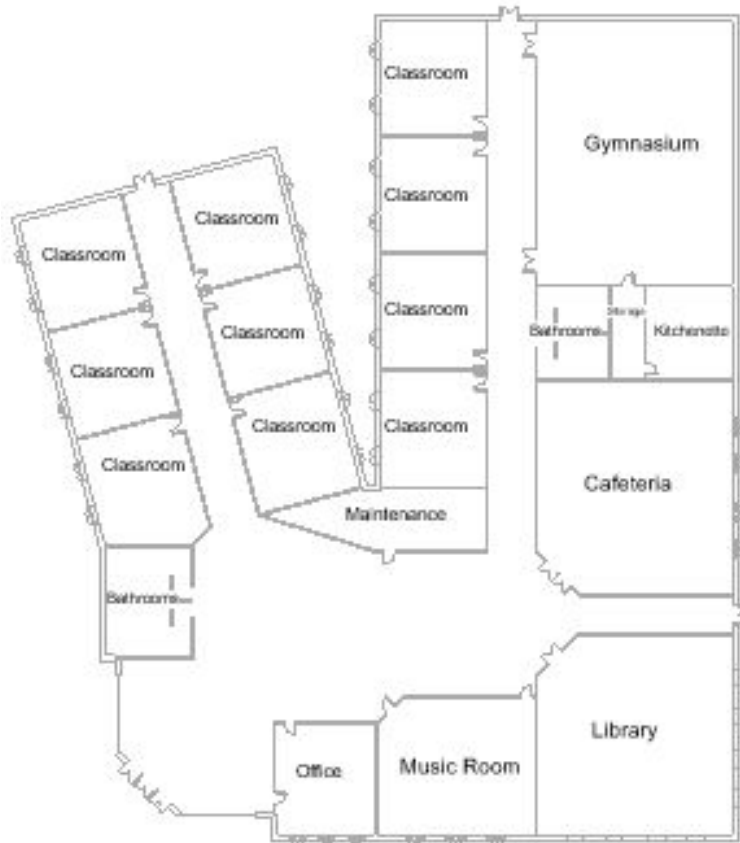
E. Porter Ave

Preschool - 8th cont.



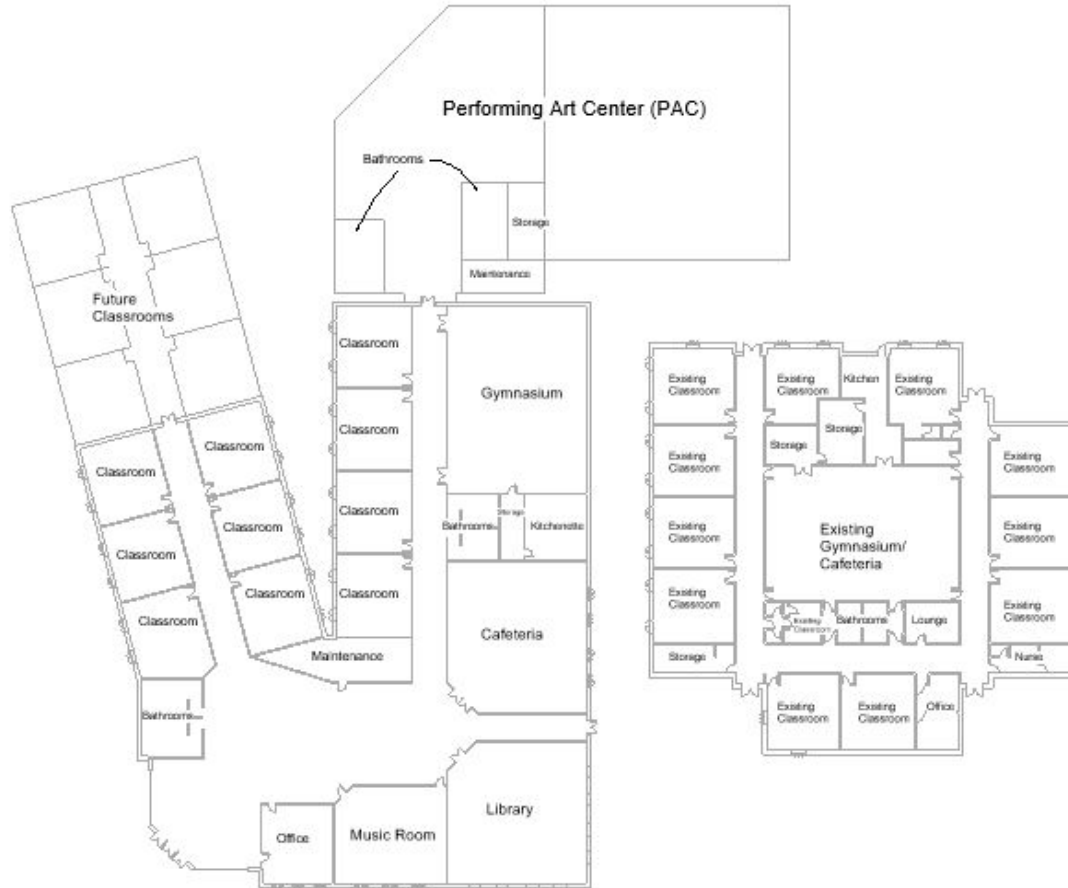
E. Porter Ave

Final Design Proposal



E. Porter Ave

Final Design Proposal Cont.



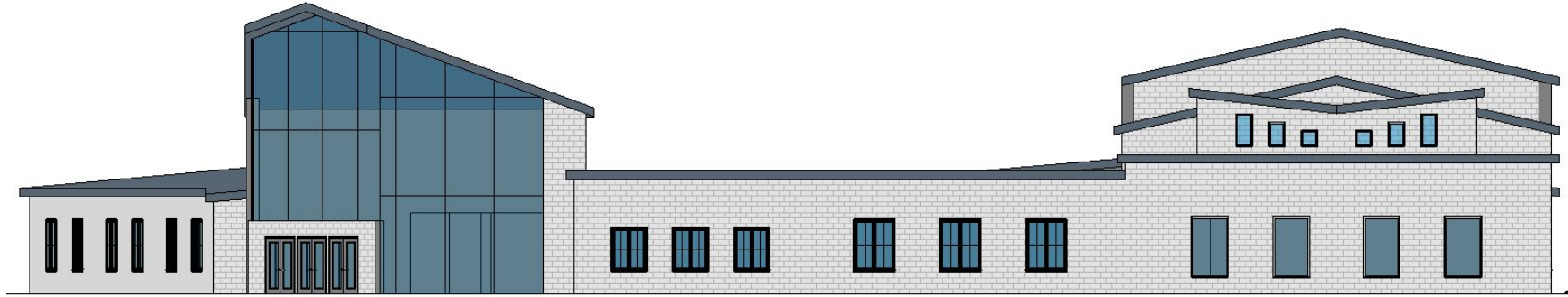
E. Porter Ave

Final Design Proposal

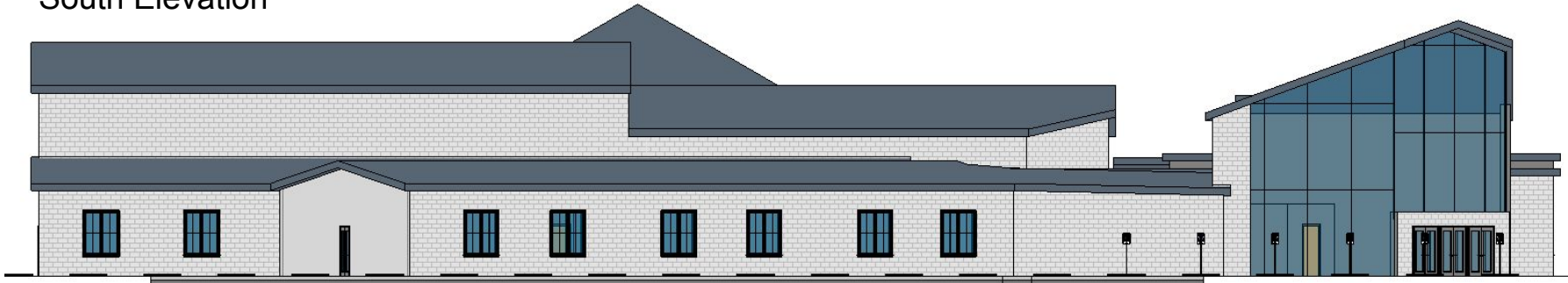


Final Design Proposal

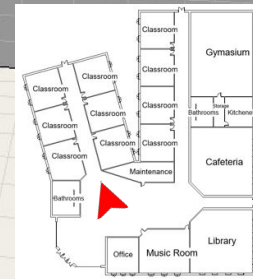
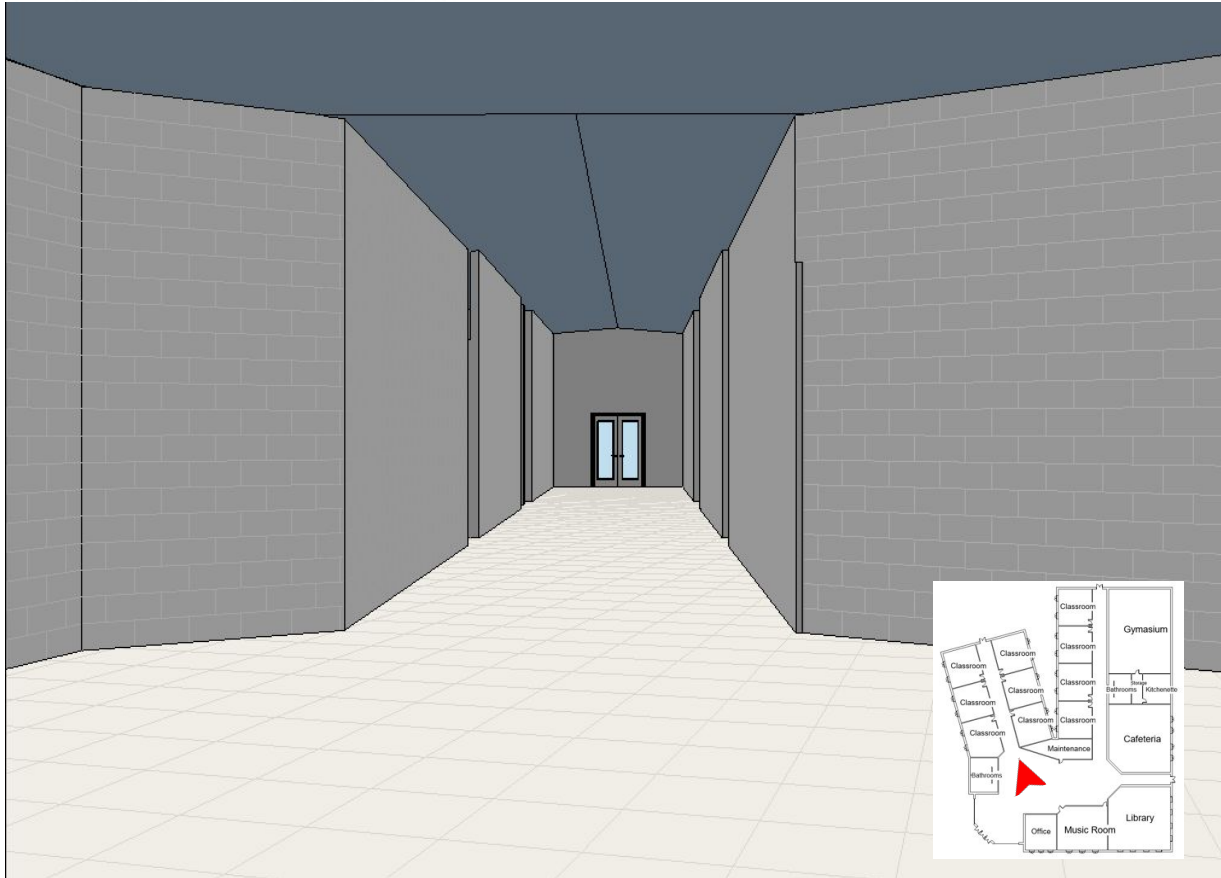
East Elevation



South Elevation



Final Design Proposal



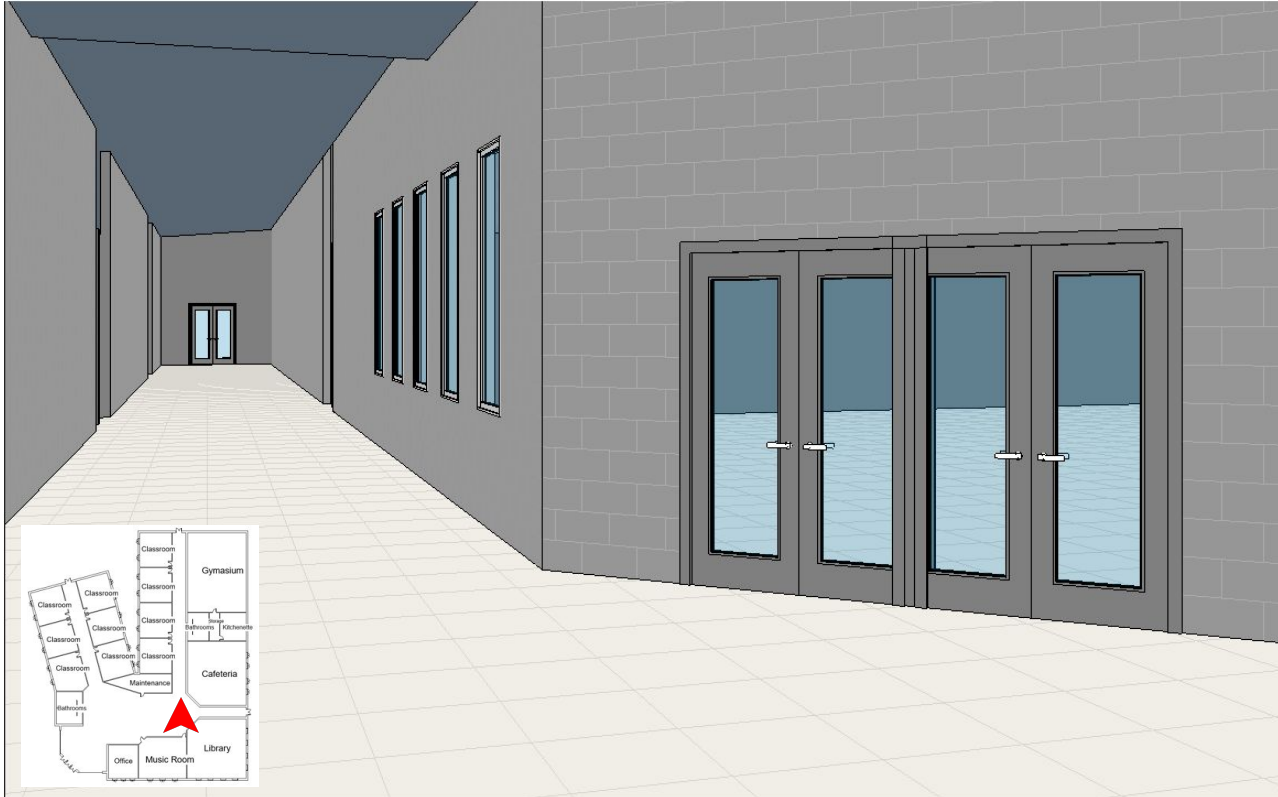
Final Design Proposal



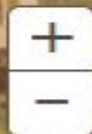
Final Design Proposal



Final Design Proposal







636 FEET

Zone AE

City of Watseka
170297

17075C0390E
eff. 8/16/2011

0.2 PCT ANNUAL CHANCE FLOOD HAZARD
Zone X



Verification and Test Plan

- Flooding Resistance
 - Raised elevations
 - Burms
 - Detention pond

Contour Map

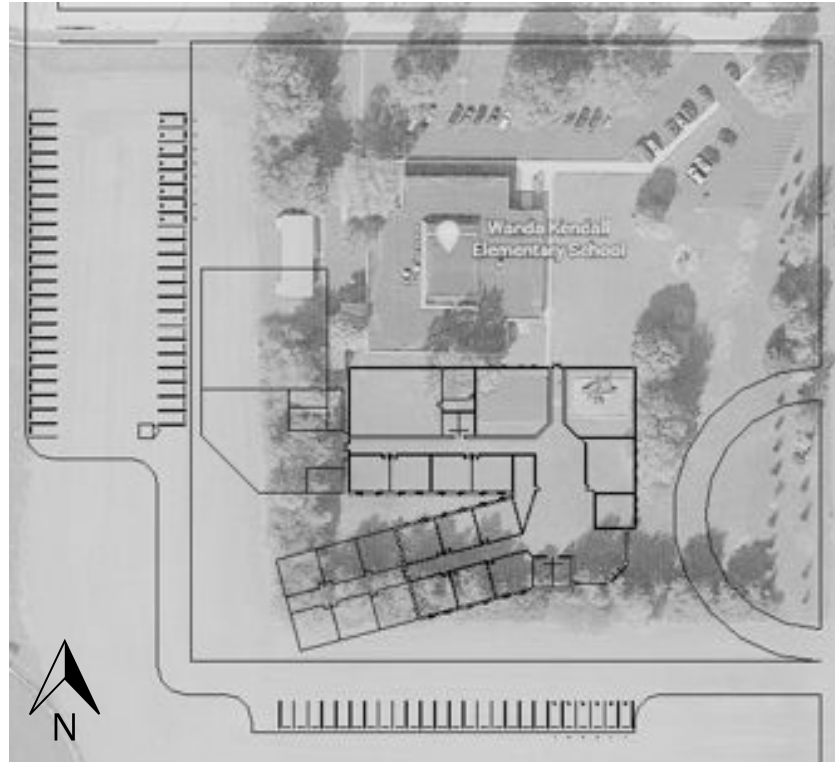


Vertical Scale Grouped by 2 :
641-642
639-640
638-637
636-635

Verification and Test Plan

- Flooding Resistance - raised elevation, burms, and detention ponds
- Ease of Accessibility
 - New roads
 - New parking lots
 - New bus lane

Verification and Test Plan



Verification and Test Plan

- Flooding Resistance - raised elevation, burms, and detention ponds
- Ease of Accessibility - new roads, parking lots, and bus lane
- Occupational Capacity - transfer students
- Budget Adherence - from \$30 mil. to \$16.5 mil.
- Aesthetical & Professional Design Rendering - Revit
- Local & National Code Requirements

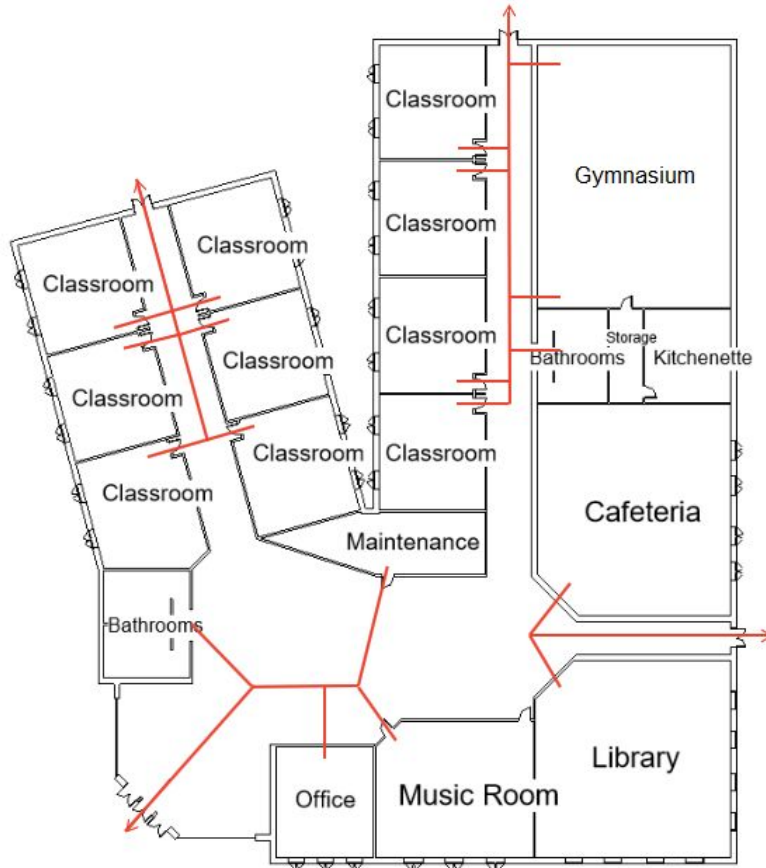
Watseka Code Requirements

- Following is a list of the codes required by the city Watseka:
 - 2006 international building code
 - 2008 electrical code
 - 2006 international property maintenance code
 - 2004 plumbing code

National Codes & Regulations

- FEMABC - Federal Emergency Management Agency Building Code
- IDOTDM - Illinois Department of Transportation Drainage Manual
- IDOT BLRSM - Illinois Department of Transportation Bureau of Local Roads and Streets Manual
- ACI 318- American Concrete Institute Manual 318
- ASCE 7 - American Society of Civil Engineers 7
- NFPA - National Fire Protection Association
- ISBE - Illinois State Board of Education
- OSFM - Office of the State Fire Marshal

Means of Egress



Means of Egress governed by NFPA *Life Safety Code* & ISBE *Health/Life Safety Code* & OSFM

Classroom size: 28' x 30' = 840 sq.ft

Occupant Load Factor: 20 sq.ft/occupant

$840 \text{ sq. ft} / 20 \text{ sq.ft/occupant} = 42 \text{ occupants}$

Capacity Factor: 0.2 for most doors

Width of door: 36"

$36" / 0.2 = 180 \text{ occupants}$

$76" / 0.2 = 360 \text{ occupants}$

Conclusion & Recommendation

- This space will offer a safe and fun learning environment.
- Nettie Davis can be closed and students transferred.
- This plan allows for further growth.

Recommendation

- Expand this design with structural drawings, MBS & EBS drawings.

Thank you!

- Questions?