



Margaret Mead Elementary School

Modernization vs. New-in-lieu of Modernization Report

January 2016

Summary

In consideration for a potential 2016 Bond measure for the Capital Facilities Program, Mead Elementary School was evaluated to determine whether modernization/addition or building New-in-lieu (i.e., rebuild) of the existing school on site was the better approach to meeting the district’s long-range educational and facilities goals. Based on enrollment projections, the 30 classroom (550 students) Educational Specification standard was applied to both modernization and rebuild new approaches; with a building program of 78,000 square feet. The process included on-site visits, physical condition analysis, evaluation of the existing school’s program fit with the District’s educational delivery standards, review of OSPI guidelines, construction-phase logistics and comparative cost estimates.

To most effectively meet the District goals, it is recommended that Mead Elementary School be rebuilt new rather than modernized.

Considerations	Modernization/Addition	New in Lieu (Rebuild)
Temporary Housing	Requires more temporary housing during construction	Requires less temporary housing during construction
Moving & Disruption	Greater disruption to the educational process – requires numerous moves and program disruption	Less disruption to the educational process
Phasing	Complicated and more phasing	Less complicated and fewer phases
Schedule	Extended due to phasing	Less extended due to phasing
Bus and Parking Program	Limited improvement	Potential improvement
	Does not fully meet current Ed Spec due to existing building constraints	Fully meets current Ed Spec
Maintenance, Operations and Resource Impact	Less efficient and more impactful on resources due to building configuration	More efficient and less impactful on resources, meeting current performance standards
Site Safety	Building built to outdated safety standards	More safety improvements with rebuild
Future Expansion	Few expansion options due to existing layout and site constraints	Includes future expansion options

Construction Cost Estimate Comparison Chart (2016\$)

	Modernization/Addition	New-In-Lieu (Rebuild)
New Construction	-	\$21,060,000
Addition	\$11,650,500	-
Modernization	\$9,963,000	-
Demolition	\$485,235	\$539,150
Site Construction	\$2,750,000	\$2,753,500
Temporary Housing	\$800,000	-
General Conditions	\$2,172,000	\$2,172,000
Totals	\$27,820,000	\$26,520,000

The Cost Model illustrated above demonstrates that the cost to modernize Mead Elementary School exceeds building new in lieu. Actual bond program costs will reflect inflation to year of construction and other considerations.

Phasing Narrative

Following describes the general sequence of activities associated with each approach.

Modernization/Addition Project

1. Mobilize contractor to site—fence off work area, establish site safety perimeter
2. Construct addition adjacent to existing school
3. Establish temporary housing
4. Relocate students to new addition and temporary housing
5. Complete renovation of existing school
6. Relocate students to completed structure
7. Complete site work, restore site

New-in-Lieu Project

1. Mobilize contractor to site—fence off work area, establish site safety perimeter
2. Construct new school
3. Relocate students to new school
4. Demolish existing school
5. Complete site work, restore site

Analysis of Conditions and Considerations for Mead Elementary School

Existing Conditions

Existing School date of Construction	1979
Site Area	16.02 acres
Building Area, GSF	47,135 square feet (Per District 2011 inventory of permanent school facilities report to Superintendent of Public Instruction)
	6 Portable Classrooms
Student Capacity	449/587 with portables (per 2011 OSPI)
2015 Enrollment	600 approx. (current enrollment with portable classrooms)
Proposed Ed Specification Capacity	30 classroom model (550 students)

The Mead Elementary School site is located on 216th Avenue NE., Sammamish, with approximately 16 acres site area. The existing one story elementary school building is located in the central portion of the site with a playfield to the west and all weather play field at northwest corner of site, and a wooded area along the sloped northern side of the site. Site access circulation and parking for bus, parent and staff is a one-way loop off of 216th at the front of the school. There are currently 6 portable classroom buildings on site and a portable storage unit.

The school houses students in grades K-5. The existing facility is 6 separate buildings that are connected by covered outdoor walkways and does not have a controlled access point for entry. It is organized into 3 pods of 6 classrooms each with a shared entry vestibule at each group of 3 classrooms serving as a coat and backpack storage area and limited pull-out instruction area. Flex space in the center of each pod is currently used for Student Support Services (Counselor, OT/SLP, Safety net) and classrooms. Movable partitions between teaching areas present acoustical and program issues. Three classroom Kindergarten space located at northeast corner of building providing direct access for drop-off and pickup at front of school.

School circulation occurs through covered walkways and open courts located outside of each pod. Administration and Library spaces are centrally located in the middle of the pod clusters. The campus has a small Gymnasium space but no Multi-Purpose space, impacting the Food Service and Music/Performing Arts programs.

Site Considerations

The site is located in Sammamish on 216th Avenue NE, in an established residential neighborhood with residential development to the north, south and east across the street. East Sammamish Park is located immediately west of the site and provides some pedestrian access from that direction. The only vehicle access to the site at present is a one-way loop from 216th Avenue. On-site, this results in congestion and conflicts between pedestrian, drop-off, parking, service and bus traffic. Off-site, this layout results in congestion on the street before and after school with cars stacking up for turning onto the site.

Site slopes upward from east to west with a play field and all-weather field located on an elevated terrace at the back and northwest side of site. An undeveloped woodland area is located upslope at the northern portion of the site, screening the residential area to this side of the site.

Hard court play areas wrap around 3 sides of school, breaking play area into small less effective areas and making supervision difficult. Covered play areas are adjacent to Kindergarten and at south side of site and adjacent to the Gym. The covered play area near the Gym is undersized and dark.

Modernization/Addition or Rebuild Considerations

Site area to modernize and add to the existing school or to rebuild a new school with ongoing school operations is difficult. The best possible building area for the rebuild school, or for an addition, is located at the back of the site, posing difficult access and sloped terrain constraints. Construction of either new facility or an addition would require a phased construction approach requiring temporary student housing. Further study is needed to determine the best location for the rebuild project.

Application of the Education Specification

The current school building area of 47,135 square feet is less than the District standard 78,000 sf for a 30 classroom (550 student) elementary school.

Education Specifications are based on clusters of classroom learning settings centered on shared learning areas with direct access to small group/planning rooms and teacher workrooms. Current classroom pod layout begins to approximate that approach but current loading has impacted the shared flex space, currently used for student support programs. Current flex space is also undersized for current program, shared learning space, and does not incorporate small group/planning and teacher workroom/prep areas are missing. Current pod classroom count of 6 does not correspond to Education Specification recommendation of 4-5 classrooms (learning settings) per learning suite.

Existing Support Space Areas are undersized or missing, for instance no Cafeteria/Commons area exists, which impacts Gymnasium space usage and other program elements. Currently Food Service program is done in circulation space near gym and students eat in classroom areas. There is no Art/Science Lab Classroom and the Music program is located in a portable classroom. Adding missing program areas to the current plan would be difficult and the desired program adjacencies would be difficult to provide.

Core Instruction/Learning Clusters

The current District Education Specifications for the elementary school level incorporates a shared learning space in a learning cluster, which incorporates 4-5 learning settings (classrooms), small group areas, teacher prep and storage areas, and toilet room facilities. The current layout of the Mead Elementary does not support this model. Classrooms are grouped in clusters of 6 accessed through shared entry areas via exterior covered walkways and courtyards. A vestibule at each end of the cluster provides entry and storage area for 3 classes typically, but is undersized for pull-out or group activity spaces. Flex space located in each cluster currently houses classrooms or student support programs and would be too small to provide the required shared learning, small group and teacher prep area for a 6 classroom cluster. Given the current floor plan, configuration footprint and circulation it would be difficult to add or create shared instructional space in the existing building layout.

Performance of the existing classroom spaces are acoustically challenged due to moveable partition systems originally installed between classroom spaces but not currently used. Natural lighting and ventilation is also compromised and inadequate due to classroom configuration and layout and would be difficult to correct given existing structure and plan configuration.

Specialized Instruction

Art/Science Studio - The existing Mead Elementary does not have an Art/Science instructional studio lab as required by the Education Specification. While one of the existing classrooms left in the conversion to the 550 student program could be converted to the Art/Science Studio, the space would be undersized per the current program.

Music Room

The Music program is currently housed in an undersized space that does not provide the proper room acoustics, storage space or adjacency to the Gym or Commons with the possibility of opening up to the area as a performance stage in lieu of the folding stage from the previous Ed Spec.

Resource Room

Space adjacent to Library currently used as Resource Room is dividable by 3, but undersized by current Ed Spec requirements. Shared provider space is also not adequate for the current standards.

Library /Media Center

While the current Library/Media Center is approximately the right size for the elementary program and the adjacent former Computer Lab area could be available for expanding the Library program, the current location is contrary to the Education Specifications intent. Although the central campus location works for student access, its location at the center of the campus limits its visibility and does not meet the current Ed Spec criteria for an easily identified public entry and direct community access to the space.

Food Service/ Commons

Currently the campus has no Commons or Cafeteria space and meals are served from serving carts in the exterior walkway area near the existing Gym. Scheduling of PE activities does not allow the Gymnasium space to be set up for food service and lunch activities. Students currently return to their classrooms to eat after picking up food at this location. The existing kitchen is undersized per current standards. A new Cafeteria/Commons and upgraded Kitchen area should be added to the build out program to meet the requirement of the Ed Spec.

Administration and Student Services

Entry to the existing Administration area is not clear and the location, while at the front of the campus, does not meet the Ed Spec goal of visually monitoring the front 'public' side of the school due to the recessed location at the center of the building. Student Services programs are typically undersized, sprinkled throughout the existing campus and are not located in spaces designed for these programs.

Adaptability/Flexibility

Extensive alteration and additions of the existing building would be required for the facility to meet current Educational Specification and educational goals as well as community expectations. Reconfiguration of building and systems would be costly and disruptive to the ongoing education program and site layout is not conducive to additions without extensive work. Phased construction activity and additions would incur the cost of temporary housing of the school program area, either on or off-site. Program support areas such as Gym/Commons, Administration and Library/Media area would need larger areas not easily accommodated within the existing building footprint. The existing building mechanical and technology systems would need extensive updating or replacement. It is unlikely that the existing building can be successfully altered to meet the current building system and educational standards.

Long Term Operating Cost – Sustainability

Given the age of the existing school building (1979) it is likely that it is performing well below current energy standards for both building envelope and systems. Mead Elementary School consumes approximately 4% more energy than modern Lake Washington School District elementary schools. This incurs an added cost of \$2,000 per year to the district operational budget.

Latest Study & Survey and ICOS scores place Mead ES near the bottom of Phase 3 facility building evaluation scores. Recent necessary upgrades have been made to the mechanical system, however, building reconfiguration would require new mechanical and electrical systems to meet current energy standards. The building envelope is also a challenge given the predominant concrete and masonry construction and would require an insulation layer added to the exterior or interior walls (reducing program area). Increasing natural daylighting and ventilation levels for a typical existing classroom pod is also a challenge given plan configuration and the existing window layout. Enclosing the existing open corridor circulation would also add a large ratio of heated/ventilated circulation space to the overall campus area resulting in less efficient operation.

School Use During Modernization/Replacement

Modernizing the Existing Facility

Modernizing the existing facility creates difficulties in housing existing educational program during this effort. Whether phased or completed all at once, temporary housing would need to be provided for the current student body. The access, circulation and site area constraints on the Mead Elementary site make it difficult to provide temporary on-site portable classrooms for the construction period, maintain a safe separation between the construction and education activities and not disturb Physical Education activities field space or construction.

Additions would also be required with a modernization approach in order to provide the correct amount of program area.

The modernization effort would not fully meet the intent of the District Ed Specs and the Design Standards and Guidelines for program spaces, goals and relationships. In addition, the modernized facility would not meet

stakeholder and community expectations. The opportunity to dramatically improve the school in function and appearance is more likely in a replacement scenario.

Constructing a New School Building in Lieu of Existing

Constructing a new replacement school on-site with current school building spaces in use, solves some of the temporary housing issue, but does not address the difficulty of site access for construction activities as well as providing a safe outdoor play/activity area for students during the construction and site work period. A phased approach with partial building demo/rebuild and phased partial student housing in portables allows a new building to be sited at the near the current building location. Though some phasing of the project would be necessary, there is adequate space on the site to rebuild the school.

Conclusion

As stated at the beginning of this report, to most effectively meet the District goals, the findings of this study recommend that Mead Elementary School be rebuilt new rather than modernized.

Report Preparation

This study and report was prepared by: McGranahan Architects; OAC Services (construction management); and, RLB – Rider Levett Bucknall (cost estimating)