

# MEMORIAL & ESSEX ELEMENTARY SCHOOLS:

## Facilities Needs Assessment

Planning  
Architecture  
Interiors

H&A  
HABEEB & ASSOCIATES  
ARCHITECTS



September 3, 2013

# MEMORIAL & ESSEX ELEMENTARY SCHOOLS:

## The Process

### Project objective was to provide:

- An overview of existing facility conditions at the MERSD's two elementary schools, including costs to bring facilities up to date - [Phase 1](#)
- A proposal of potential improvement options, considered from a financial and feasibility standpoint, to align existing conditions with identified needs – [Phase 2](#)

### To achieve these objectives, H&A Architects performed the following:

- 8 staff members involved in project (5 on-site)
- Existing document collection, field observations, photographs, new site analysis, discussions with administration (space, future enrollment, etc)
- On-site field work = several days. In-house work = 4 weeks
- Use of industry standards as baselines for space and programmatic needs and costs

# MEMORIAL & ESSEX ELEMENTARY SCHOOLS:

## Phase One – Overview of Existing Facility Conditions

### Priority 1 – Currently Critical (Immediate)

- Correct a cited safety hazard
- Stop accelerated deterioration
- Return facility to operation

### Priority 2 – Necessary/Not Yet Critical (years 1-5)

- Predictable deterioration
- Potential downtime
- Associated damage or higher costs if deferred further

### Priority 3 – Recommended (years 6-10)

- Sensible improvements to existing conditions that are not required for the basic function of the facility
- Overall usability improvement
- Long term maintenance cost reduction

### Priority 4 – Does Not Meet Current Codes for new construction but “Grandfathered”

- No action required at this time – however, if a substantial renovation and a substantial building addition is performed in the future, building codes may require this corrective work in addition to the work planned

# MEMORIAL & ESSEX ELEMENTARY SCHOOLS: FACILITIES NEEDS ASSESSMENT

## Physical Conditions Assessment: Summary of Priorities

Building	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Total
<b>Executive Summary</b>						
Memorial Elementary School	0	5,299,155	1,365,834	914,625		7,579,614
Essex Elementary School	0	986,027	2,204,933	1,105,245		4,296,205
Total	0	6,285,182	3,570,768	2,019,870		11,875,819
Total Inflated @ 3% Compounded Annually	0	6,667,949	4,138,520	2,713,897		13,520,366

Category	Priority 1	Priority 2	Priority 3	Priority 4	Total
<b>Memorial Elementary School</b>					
1. Site	0	4,860	361,800	270,000	636,660
2. Building Envelope	0	4,345,048	149,623	67,500	4,562,171
3. Building Interior	0	0	375,030	393,525	768,555
4. Mechanical	0	949,247	160,007	183,600	1,292,855
5. Electrical	0	0	319,374	0	319,374
Total	0	5,299,155	1,365,834	914,625	7,579,614
Total Inflated @ 3% Compounded Annually	0	5,621,874	1,583,002	1,228,890	8,433,765

<b>Essex Elementary School</b>					
1. Site	0	0	144,990	69,660	214,650
2. Building Envelope	0	656,964	1,300,973	0	1,957,937
3. Building Interior	0	48,263	118,125	366,930	533,318
4. Mechanical	0	280,800	488,430	597,240	1,366,470
5. Electrical	0	0	152,415	71,415	223,830
Total	0	986,027	2,204,933	1,105,245	4,296,205
Total Inflated @ 3% Compounded Annually	0	1,046,076	2,555,518	1,485,007	5,086,601

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## Priority 2 Major Issues (100K+; Need to Address in 1-5 Years)

### Memorial Elementary

- Parking Areas / Access Drives
- Sidewalks / Paved Play Areas
- Roofs
- Windows
- Handicap Accessibility
- Ceilings
- Painting
- Floors
- Kitchen
- Window Shades
- Interior and Exterior Doors
- Boilers
- Controls
- Hot Water Unit Ventilators
- HVAC
- Supplemental Air Conditioning
- Fire Protection
- Sink and Faucet Fixtures
- Electric Service

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## Memorial Elementary School: Roof – \$1.8 million





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## Memorial Elementary School: Windows - \$2.4 million



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## Memorial Elementary School: Boilers & Controls - \$355K





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## Memorial Elementary School: Handicap Accessibility - \$ 539K



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## Memorial Elementary School: Parking & Sidewalks - \$365K



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## Priority 2 Major Issues (100K+; Need to Address within 1-5 Years):

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### Essex Elementary

- Windows
- Handicap Accessibility
- Boilers
- Controls
- Steam Unit Ventilators



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## Essex Elementary School: Windows - \$ 595K





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## Essex Elementary School: Handicap Accessibility - \$360K



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## Essex Elementary School: Boilers and Controls - \$258K



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## Space Shortages

### Memorial Elementary

Classrooms Required By Grade: Memorial Elementary	1,200 sq ft 19 Students per Classroom		950 sq ft 20 Students per Classroom		950 sq ft 22 Students per Classroom		
	Pre-K	K	1	2	3	4	5
<b>Memorial Elementary (2025 Projected Population= 606)</b>	33	87	82	85	112	104	103
Classrooms Needed (25 @ 950 sq ft, 7 @ 1,200 sq ft)	2	5	4 or 5	4 or 5	5	5	5
Classrooms Existing	1	3	3	3	4	3	3
Shortage	1	2	1 or 2	1 or 2	1	2	2

### Essex Elementary

Classrooms Required By Grade: Essex Elementary	1,200 sq ft 19 Students per Classroom		950 sq ft 20 Students per Classroom		950 sq ft 22 Students per Classroom		
	Pre-K	K	1	2	3	4	5
<b>Essex Elementary (2025 Projected Population = 349)</b>	0	51	58	66	55	59	60
Classrooms Needed (16 @ 950 sq ft, 3 @ 1,200 sq ft)	0	3	3	3 or 4	3	3	3
Classrooms Existing	0	2	2	2	3	2	2
Shortage	0	1	1	1 or 2	0	1	1

- Charts take into account the special education and support spaces for the anticipated enrollment and educational program

# MEMORIAL & ESSEX ELEMENTARY SCHOOLS: FACILITIES NEEDS ASSESSMENT

## Effective Educational Capacity

*Effective capacity measures classroom space that is available for current enrollment after setting aside large rooms/spaces needed for special programs (e.g., music, library, art, student support services, etc.). In some cases, dedicated space does not currently exist for these special programs. Effective capacity is calculated as the number of large spaces after the set aside, times MERSD's guideline class size.*

### Memorial Elementary

Current Enrollment:	465
Effective Capacity:	374
Current Needs:	4 Additional Classrooms
Future Needs (for projected enrollment growth):	7 or 8 Additional Classrooms

### Essex Elementary

Current Enrollment:	272
Effective Capacity:	264
Current Needs:	0 Additional Classrooms
Future Needs (for projected enrollment growth):	5 or 6 Additional Classrooms



# MEMORIAL & ESSEX ELEMENTARY SCHOOLS:

## Facilities Needs Assessment – Phase Two: Potential Solutions



# MEMORIAL & ESSEX ELEMENTARY SCHOOLS: FACILITIES NEEDS ASSESSMENT

## Option A: Neighborhood Schools

### RENOVATE AND ADD TO EACH SCHOOL.

#### Pros

- Most similar to existing
- Less costly than a new building

#### Cons

- Construction in occupied buildings
  - Disruption to educational program
  - Safety concerns
- One project will need to wait
- Impact to open space on site
- Requires Two MSBA applications

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## Option B: Unified Schools

### RENOVATE AND ADD TO EACH SCHOOL: ESSEX AS AN EARLY CHILDHOOD EDUCATION CENTER, MEMORIAL AS AN UPPER ELEMENTARY

#### Pros

- Creation of Early Childhood Education Center
- Less costly than a new building

#### Cons

- New grade organization
- Construction in occupied buildings
  - Disruption to educational program
  - Safety concerns
- One project will need to wait
- Impact to open space on site
- Requires Two MSBA applications

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## Option C: Unified Schools

### ONE NEW BUILDING ON A NEW SITE

#### Pros

- No disruption
- Brings both towns together
- Creates parity in facilities
- Educational collaboration
- Completed more quickly than A or B
- Requires only one MSBA approval
- Potential lower operational costs
- Existing sites available for fields

#### Cons

- More costly than A or B
- Requires locating a suitable site



# MEMORIAL & ESSEX ELEMENTARY SCHOOLS: FACILITIES NEEDS ASSESSMENT

## All Options: Summary

	Recommended Operating Capacity	Facility Upgrades <sup>1</sup> as Per Physical Conditions Assessment		Interior Alterations <sup>2</sup>		New Construction <sup>3</sup>		Site Acquisition <sup>4</sup>	30 Years Operational Expenses <sup>5</sup>	Total Project Cost
		Grades Pre-K to 5 (2025 Projected)	Square Feet	Cost	Square Feet	Cost	Square Feet	Cost	Cost	
<b>Option A</b> Renovate and Add Space to Each of the Two Schools to Serve Each Town	955	119,473	\$13,520,366	29,900	\$6,727,500	39,313	\$14,938,940	\$0	\$4,980,000	<b>\$40,166,806</b>
<b>Option B</b> Renovate and Add Space to Each of the Two Schools with Essex to Serve Pre-k, K, Grades 1 & 2 and Memorial to Serve Grades 3, 4 & 5	955	119,473	\$13,520,366	29,900	\$6,727,500	39,375	\$14,962,500	\$0	\$4,980,000	<b>\$40,190,366</b>
<b>Option C</b> Construct a New School to House All Students Pre-K Through Grade 5 and Serve Both Communities	955	0	\$0	0	\$0	108,000	\$41,040,000	\$6,000,000	\$0	<b>\$47,040,000</b>



- 1 - Facility Upgrades: cost to bring buildings up to date with no structural design changes
- 2 - Interior Alterations: cost to redesign existing structure to align with current programmatic needs
- 3 - New Construction: cost to add space to address programmatic needs and projected enrollment growth
- 4 - Site Acquisition: rough cost of most promising sites from 2005 site selection study.
- 5 - 30 Years Operational Expenses: present value opportunity cost of forgoing annual operational savings (e.g. utilities, custodial) associated with single unified site