

2014 Exhibition of School Planning and Architecture

Mira Costa High School Math & Science Building & Campus-wide MP

Manhattan Beach Unified School District
Manhattan Beach, CA



Restored Finger Classroom Buildings

New Central Commons

New Performing Arts Complex

New Math and Science Building

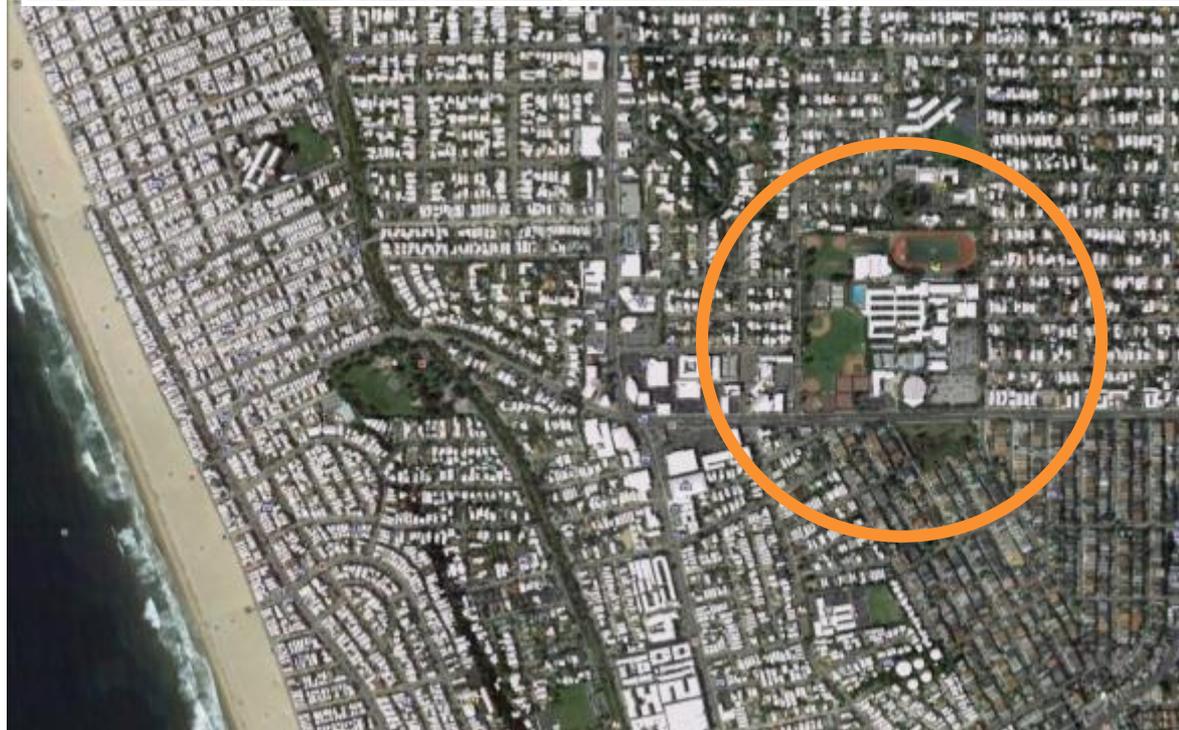


Vicinity Map

Community Environment:

The Master Plan resulted from an inclusionary process that engaged the community in establishing a strong consensus for the direction of the school.

A key goal was to take maximum advantage of existing features and amenities. This required a major shift in direction away from that proposed in the initial bond measure scheme, in order to preserve the buildings with strong character and demolish those of minimal value. This attitude respected the strong ties of alumni to the campus, maintaining and restoring such features as the Eco-land, the landscaped courtyards, and the original finger buildings. As a result, the final master plan clarified the organization of the campus, simplifying wayfinding and easing congestion, while minimizing campus disruption and interim housing costs.



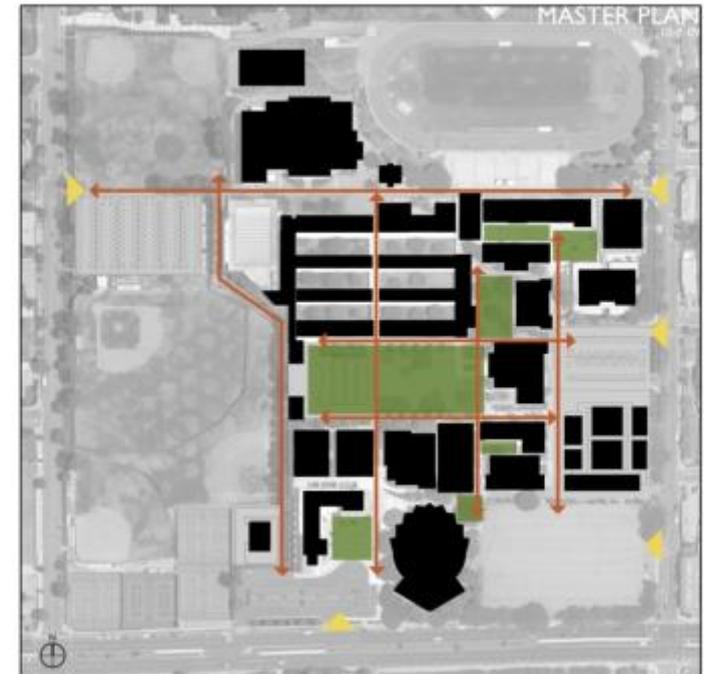
Campus Commons

Community Environment:

The reconfiguration of the campus strengthens the high school community by giving it a new heart and focus through the creation of the Student Commons. It also strengthens outreach to the surrounding community by placing its most public components like the new multi-purpose hall at the perimeter of the campus close to public parking and other forms of access.



Existing Campus



Master Plan
Open Space
Diagram

Environments to support a range of learning styles

Learning Environment:

New and existing spaces are combined to provide expanded program opportunities to better accommodate a high-performing comprehensive high school:

- Improved clustering of programs:
Humanities/STEM/Fine and Vocational Arts/Performing Arts
- STEM labs in a variety of configurations: Super Labs, Shared Labs, and Individual Labs
- Multi-purpose Black Box Hall with retractable seating, suitable for performances, lectures, symposia, and group meetings
- Outdoor learning environments at a variety of scales: Eco-land, Rooftop Science Lab, Outdoor Stage, Small Courtyards
- Specialty vocational classrooms

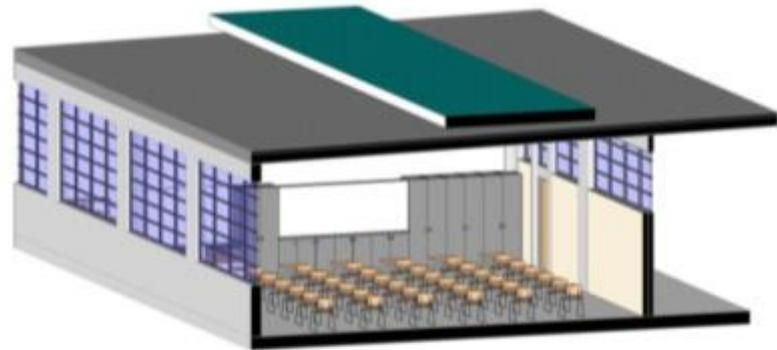


Learning Environments

- Original classrooms restored for sustainability and high performance learning environments, with natural ventilation and daylighting

MAXIMIZING ENERGY EFFICIENCY

1. Sectional perspective of renovated classroom in "Finger Classroom Wing"
2. Finger Buildings natural ventilation diagram



TYPICAL CLASSROOM - 3D SECTION



Student Commons

Physical Environment –

The master plan creates a new commons at the heart of the campus at the site of three obsolete and deteriorated buildings. The commons is large enough for the entire student body to gather for school spirit activities and other events. Tiered seating lawns face an outdoor stage at the west end of the commons, with space allocated for a future satellite café. Abundant seating areas provided, both in sun and under shade canopies. Existing mature trees are maintained. Student activities classrooms and a student store are clustered together adjacent to new central commons.



1. Aerial view of commons from SE
2. Landscape plan for Central Student Commons with stage/ amphitheater on left
3. Satellite Food Service Pavilion

Sustainable Diagram

Physical Environment –

The vision for Mira Costa High School includes comprehensive strategies for sustainability to locate MBUSD on the forefront of green building. High-performance learning environments emphasize daylighting, natural ventilation, and non-toxic environments. A focus on conserving resources and reducing energy consumption will guide this vision. Photovoltaic panels on the math/science building & energy consumption.



Community Workshops

Planning Process:

Workshops encompassed infrastructure, open space planning, renovations, infill construction, and new facility expansion. The Workshops were focused as follows:

- *Workshop 1* Community Vision on Issues and Opportunities for Campus Redevelopment
- *Workshop 2* Opportunities for Sustainability
- *Workshop 3* Alternate Program Distribution Concepts, Evaluation
- *Workshop 4* Presentation and Evaluation of Final Concept



Workshop Survey Summary

Planning Process:

The development of the final Master Plan resulted from an extended process of stakeholder input, including:

- Workshops
- Surveys
- Eblasts and websites
- Student newspaper
- Extensive programming with small User group meetings
- Detailed on-site needs assessments

Participants included:

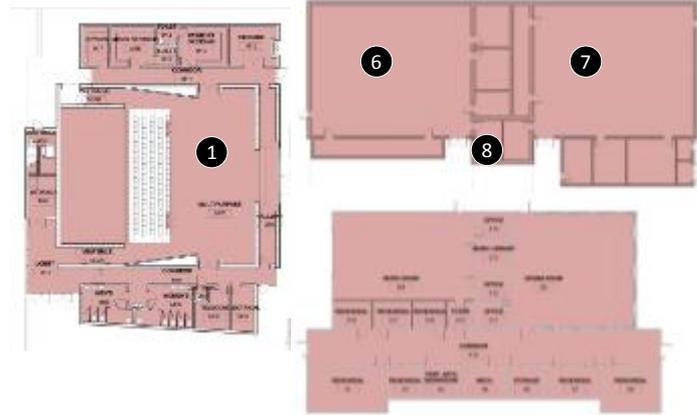
- Steering Committee
- Bond Oversight Committee
- Faculty
- Staff
- Students
- Parents
- Community Members

Mira Costa High School
Community Workshop #3 Survey
12 September 2009

Scheme	1	2	3	4	4.5	5
Prefer scheme A						
Prefer scheme B	x	x				x
Prefer scheme C					x	
Science should be in new building	x	x		x	maybe	x
Prefer parking version 1						x
Prefer parking version 2	x					
Like expanded performing arts per scheme A	yes	no	no			
Like amphitheater in scheme A	x			x		
Like big commons per scheme B	x	x		x		
Like new library	no		yes			
Like Peck drop-off and walkways	x					
Like student activities per scheme B			x			
Prefer to refurbish smaller finger buildings	yes			no		
Foreign language too dispersed in scheme A		x				
Like clustering in scheme B		x		x		
Like multi-purpose hall in scheme B		x	x	x		x
Students want career center to be in library		x				
Like District Office to move to admin building		no		so-so		
Maximize footprint of new building			x			
Provide single main parking lot for students			x	x		
Move attendance office near health office			x	x		
Like admin to move to current library in future			x	x	x	
Likes arcade if of high quality				x		
Current parking at admin doesn't work				x		
Provide dispersed parking for teachers				x		
Consider new Eco-land at new science bldg				x		
Likes to keep science near Eco-land					x	
Put multipurpose hall on top of scheme C rehearsal					x	
Reduce size of scheme C new English building					x	
Adjust parking version 2 to keep small field					x	
Add shade/rain cover at satellite food service					x	
Create bigger lecture halls in existing science labs (for English/Social Science combo classes)						x
Reorganize scheme B English/foreign lang. horizontally						x

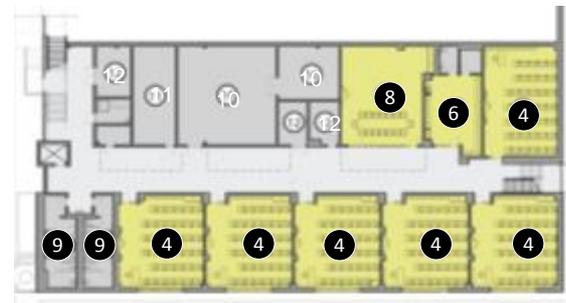
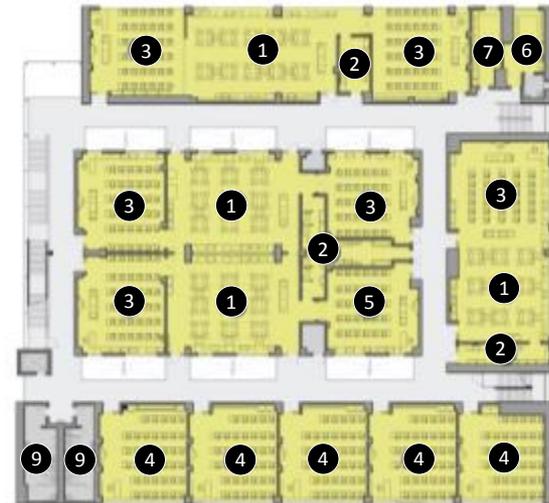
Performing Arts Complex

1. Multi-Purpose
2. Music Library
3. Drama Room
4. Music Room
5. Rehearsal
6. Band Room
7. Orchestra Room
8. Offices



Math & Science Building

1. Science Lab
2. Lab Prep
3. Science Classroom
4. Math Classroom
5. STEM Computer Lab
6. Faculty Work Room
7. Lab Tech Office
8. Conference Room
9. Restroom
10. Storage
11. Receiving
12. Utilities



Submitting Firm :	
Project Role	Harley Ellis Devereaux
Project Contact	John Dale
Title	Pre-k-12 Studio Leader and Principal-in-Charge
Address	601 South Figueroa Street, Suite 500
City, State or Province, Country	Los Angeles, CA
Phone	213.542.4500

Joint Partner Firm:	
Project Role	N/A
Project Contact	N/A
Title	N/A
Address	N/A
City, State or Province, Country	N/A
Phone	N/A

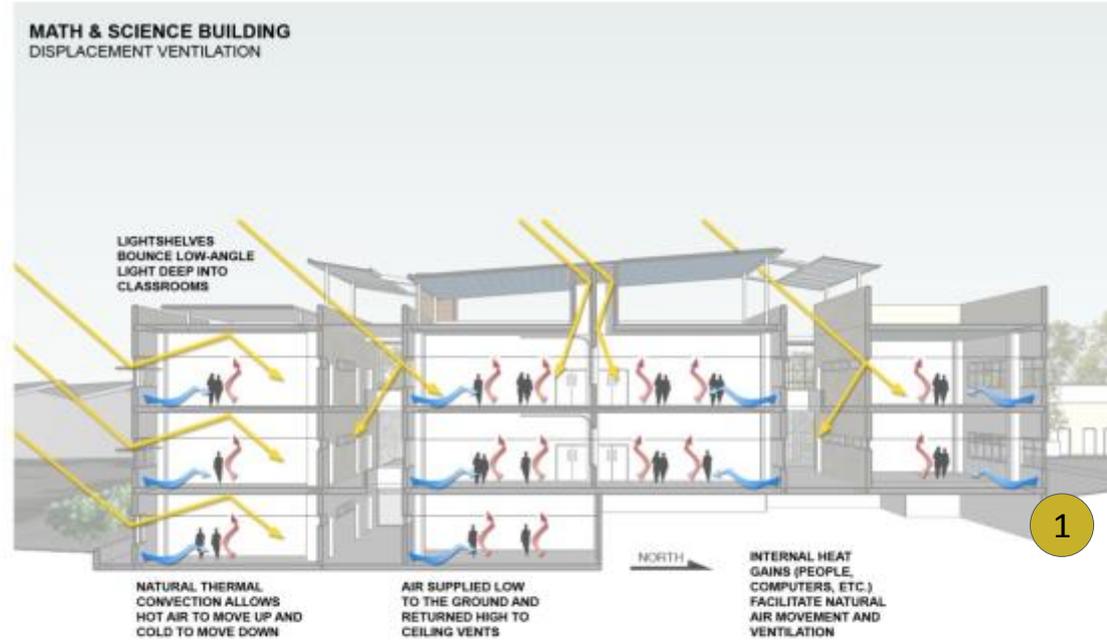
Other Firm:	
Project Role	N/A
Project Contact	N/A
Title	N/A
Address	N/A
City, State or Province, Country	N/A
Phone	N/A

Construction Firm:	
Project Role	Bernards Construction
Project Contact	Sebastian Choularton
Title	310.798.2738
Address	2569 McCabe Way
City, State or Province, Country	Irvine, CA 92614
Phone	949.461.3650

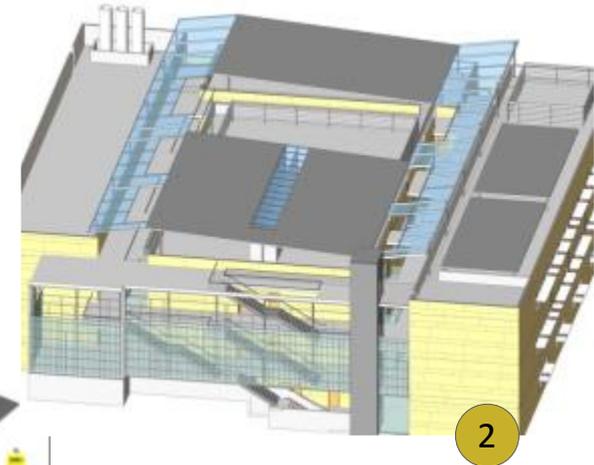
Project Name	Mira Costa High School Math & Science Buildings and Campus-wide MP
City	Manhattan Beach
State	CA
District Name	Manhattan Beach Unified School District
Supt/President	Mike Matthews
Occupancy Date	August 2013
Grades Housed	9-12
Capacity(Students)	2,300
Site Size (acres)	44
Gross Area (sq. ft.)	292,399
Per Occupant(pupil)	34 (occupancy load)
gross/net please indicate	292,399, 263,000 +/-
Design and Build?	N/A
If yes, Total Cost:	N/A
Includes:	N/A
If no,	
Site Development:	\$7.6M
Building Construction:	\$41.4M
Fixed Equipment:	\$1M
Other:	N/A
Total:	\$49M

Sustainable Features

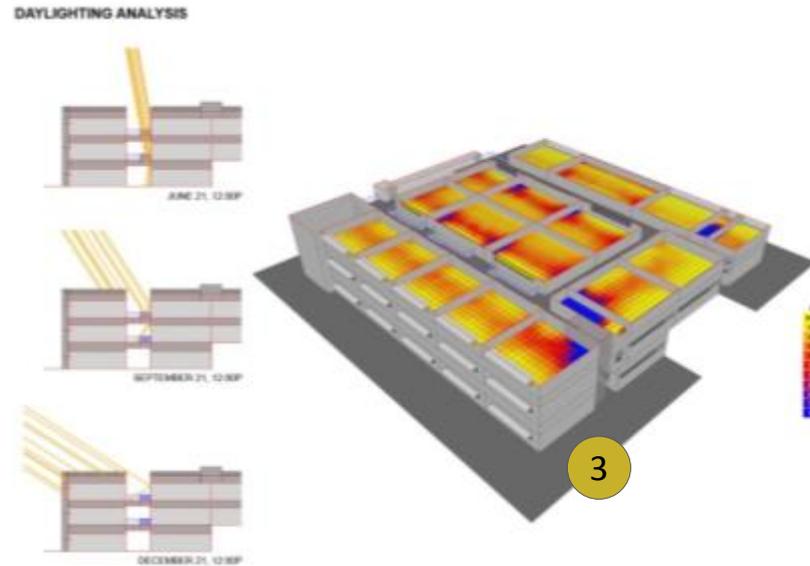
1. Cross section of Math & Science Building showing daylighting features and displacement ventilation



2. Bird's eye view from West showing main stair/Galleria + roof-top photovoltaics



3. Daylight modeling studies for the Math & Science Building



Performing Arts Complex

1. Perspective view from South showing Multi-Purpose Hall (left) + new rehearsal/practice building (right background)
2. View from Multi-Purpose Hall



Math & Science Building

1. Math & Science Building exterior from the South
2. Math & Science Building from NW showing Entry Galleria + energy tracking display
3. Axonometric study of screen and Entry Galleria depicting the number π in 3-D graphics



Performing Arts Complex

1. Interior view of flat floor from Multi-Purpose Hall with telescoping seating
2. Renovated lobby interior – main auditorium



Math & Science Building

1. Cross section perspective (science labs)
2. Section perspective through 3-story atrium with display banners



The new Math Science Building has been oriented with the majority of teaching spaces facing north and south. The building is enhanced with generous glazing with light shelves and sunshades controlling glare and penetration on the south side of the building. East-west oriented light wells bring natural light deep into the footprint of the building,



The Math Science Building clusters Math and Science together and provides 'super' labs for team teaching.



