

# HIGHLAND MIDDLE SCHOOL

## DESIGN DEVELOPMENT PROJECT OVERVIEW



# DESIGN TEAM

Bellevue School District

Highland Middle School

Architect: McGranahan Architects

Civil Engineer: LPD Engineering PLLC

Landscape Architect: Weisman Design Group

Structural Engineer: Coughlin Porter Lundeen

Mechanical Engineer: Metrix Engineers

Electrical Engineer: Hargis Engineers, Inc.

Acoustical Design: BRC | Acoustics & Audiovisual Design

Food Service: Halliday Associates, Inc.

Hardware: Allegion

Cost Estimating: The Robinson Company

# INDEX

Mission, Beliefs and Brief

Concept Narrative

Parti Diagrams

Organizational Features

Project Strategies

Imagery

Floor Plans

Site Plans



# MISSION, BELIEFS AND BRIEF

## Mission Statement

*Every student without exception and without excuse will develop their character and become proficient or advanced in reading, writing and math.*

The beliefs of Highland Middle School include:

"We value a high variety of learning experiences, programs, clubs, services for students and families. Partnerships in and for the community are important. Community, empathy, inclusion, and breaking down barriers. We value connections with families; the new building should invite them. We value collaboration, among teachers and staff, among students, among parents and community."

## Project Brief and Process

This new Highland Middle School is to serve a diverse socio-economic population within the Crossroads neighborhood in Bellevue. The current school serves approximately 540 students and the new school is programmed for 1,200 students. The program calls for approximately 172,000 square feet of new building, upgraded fields and a covered play area. The project will also include space for the Central Services program that supports middle school and high school students.

We worked with a group of academic and administrative representatives from the school to develop a program and spatial relationship that suits the needs of the teaching methodologies and needs of this learning community. We met numerous times to establish goals and refine the plan and spatial relationships.

The current school uses many creative programs and partnerships to engage and teach their students. Highland Middle School also serves a physically and mentally disabled population through their Pacific Program. The inclusion of this program has provided a nurturing environment for the Pacific Program students and created an empathetic culture within the entire school.

The school is located on a busy arterial and on a site with a significant grade change. The street provides good opportunities for presence and identity. The aesthetics of the new school are important to the stakeholders as the existing building is a poor representation of the positive spirit and awareness of the community, student body and staff.

The desire is to provide a new school that assists in overcoming the challenges that these students face through educational transparency, collaboration, creative programming and access to a diverse array of programs and settings. To create a building that serves its civic purpose while providing a warm, inviting and serene learning atmosphere. STEAM program space should be interspersed within the groupings to

increase exposure to hands-on, project, science, art and technical subject matter. The building and setting should be structured and playful to allow each student to find their passion with connections to indoor and outdoor learning environments. The building vocabulary should be used to identify programmatic utilization while allowing playful accents and features. The site topography provides challenges and opportunities and must be considered in the situation.

Community partnerships are important to the school population and their success. The commons, gym, performance spaces and outdoor spaces will be thought of as educational space and partnership space.



*Existing library cantilevered space.*



# CONCEPT NARRATIVE

Highland Middle School has a unique blend of student and community influences. A diverse and inclusive student population characterized by a wide range of ethnicities, challenging socio-economic conditions and diverse physical abilities/conditions. This school has the most ethnically diverse population within the District, where students hear languages other than English as the primary language at home. The school also addresses the needs of the physically and behaviorally disabled population through the Pacific Program. The learning needs of most schools are complex. The context and diverse array of needs at Highland demands thoughtful consideration of how architecture can support social and educational growth.

The new school will assist in overcoming the challenges that Highland students face through educational transparency and collaboration, including spatial and programmatic access to a diverse array of learning experiences and settings. Educational settings will include visual and physical access to various natural and social surroundings. Figurative and physical dead-ends are avoided so the whole learning community is part of a connected pathway. Within this continuous loop, classroom groupings of 3-5 are utilized to create connected and collaborative stations for identity and concentration. STEAM program space will be integrated within the groupings to increase exposure to hands-on, project-based, science, art and technical activities. The building and settings will be structured and playful to allow each student to cultivate their interests and find their passion,

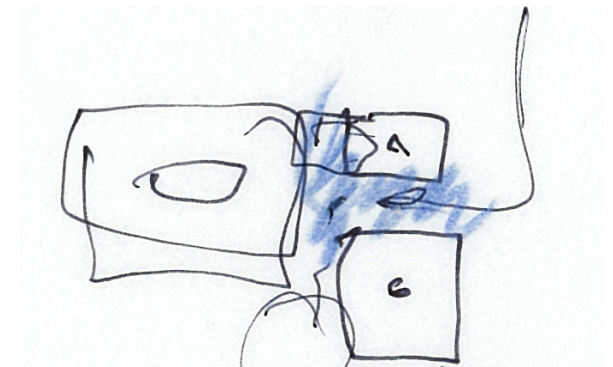
with connections to indoor and outdoor learning environments. Seven Learner Profiles (Honest, Caring, Problem Solvers, Resilient, Growth Minded, Communicators and Self-Aware) are highlighted at each educational grouping to provide interactive engagements throughout the building blending bilingual messages and graphic interfaces.

The school makes great efforts to engage and support families to mitigate the impact on children and their ability to learn. Providing a clinic, the Jubilee outreach program and a Family Connection Center within the school addresses fundamental needs allowing the school to serve as a vital community resource and provide space for multiple aspects of learning and awareness. Beyond addressing fundamental needs and creating capacity for learning, these additive resources and activities will support familiarity with school and learning while encouraging parental engagement as a fundamental aspect of improved student success.

Highland is located on a busy arterial and a site with a significant grade change. The street provides good opportunities for presence and identity while creating a welcoming front along the arterial to designate a safe and identifiable school frontage. The site topography and learning settings are woven together. The building represents different ways space and form can engage with surroundings by setting into the hillside, on the ground at access points and hovering over the site providing different perspectives on the site, building and learning environments. Sustainability

is incorporated through passive and active means. The building's performance is optimized with a strong east to west longitudinal orientation. The instructional wings are narrowed to improve the penetration of daylight and views to the outdoors. A photovoltaic array, solar hot water heating, super insulated envelope, ground source loop and chilled beam HVAC system are key features that contribute to the building's efforts towards environmental responsibility.

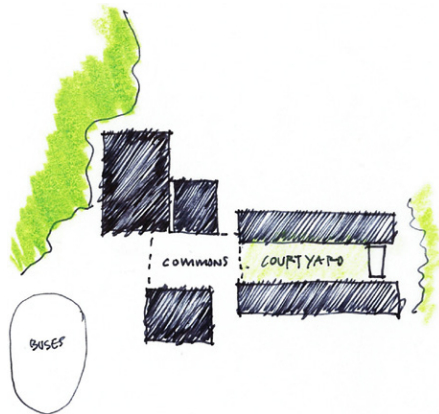
The new building represents the positive spirit and awareness of the community, student body and staff through connection to programs, site and different spacial experiences. A building that serves its civic purpose while providing a warm, integrated and serene learning atmosphere.



*Courtyards, common space, portals and pathways are used to bring together students, faculty, nature, individual and group settings that foster multiple learning styles, engagement and cultural awareness to improve learning, development and citizenship.*

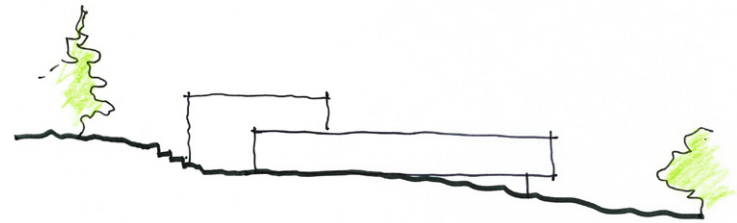
# PARTI DIAGRAMS

A gathering of different relationships between man-made forms and natural settings can provide a more comfortable and variable setting for the learner profiles at Highland Middle School. Learning, creating and creativity can happen indoors and out. The site and context are an inherent influence in the result.



## Plan Parti

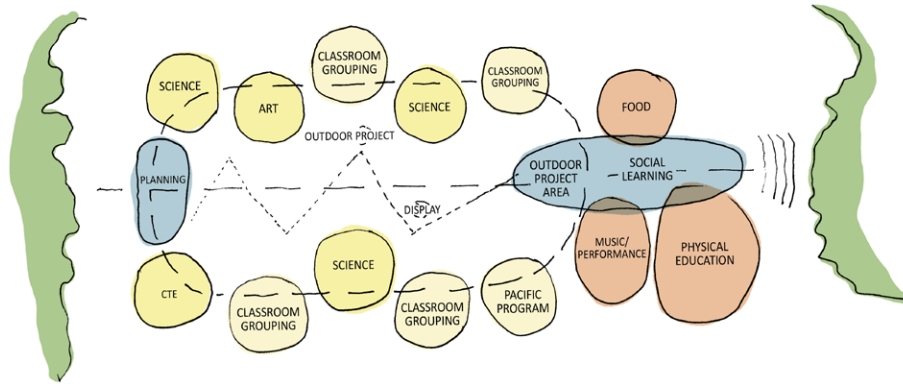
Learning spaces organized around common space (indoor and outdoor).



## Sectional Parti

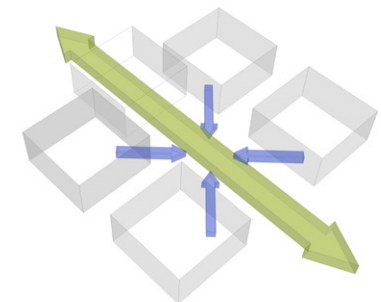
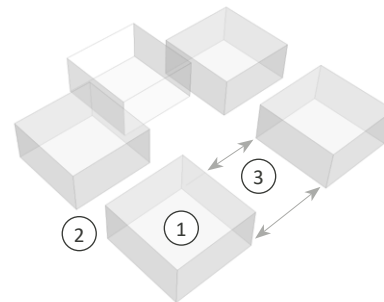
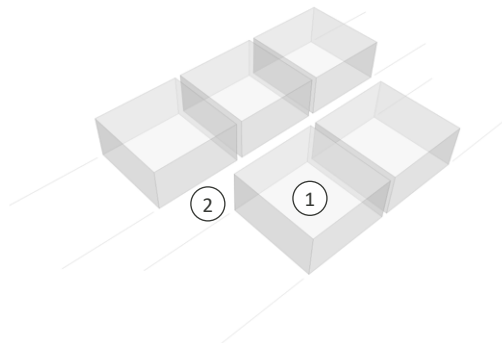
A building in, on and over the site.

# ORGANIZATIONAL FEATURES



## Educational Pathways

Connecting a diverse array of indoor and outdoor settings.



## Connection

A simple morphing of a double-loaded hallway can provide efficient and effective shared space and connections to daylight and the outdoors. Organizing areas around a shared space is a building block of learning groups and the building's overall arrangement.

- ① Classroom
- ② Hallway
- ③ Shared Space



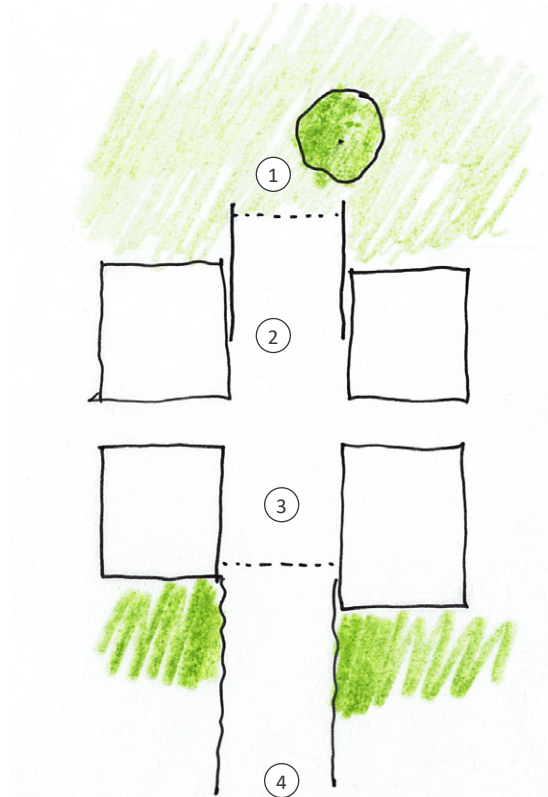
# PROJECT STRATEGIES

## Social / Educational

The school leadership believes this cohort of students will benefit from a variety of learning settings that address large and small spaces/groups and an array of connected subject matter. We have set up learning groupings of 90-150 students around a shared space that includes at least one STEAM-oriented space along with general classrooms.

The students at Highland benefit from the presence of the Pacific Program students that provide a reminder of the different needs and abilities within community and have responded in an empathetic, nurturing way.

School Learner Profiles and educational stations are created at each grouping to reinforce their values and to provide emphasis and identity to each grouping.



## Connection — Shared Learning and the Outdoors

Learning is done in groups and individualized settings bringing together a collection of different learning and teaching styles. Middle school students are transitioning from a single classroom setting to a variety of settings. Shared spaces are the nucleus of smaller learning communities within the overall school. Collaborative and contemplative spaces are intentionally grouped to allow for a diverse array of arrangements while providing identity within a school of 1,200 students.

- ① Landscaped foreground
- ② Portal classroom — connection/view to daylight
- ③ Shared Activity Space
- ④ Access to protected outdoor courtyard

# PROJECT STRATEGIES

## Site

The site arrangement is organized from North to South, public to private. The building presents a welcoming gate to the indoor learning environments and fields beyond.

Sectionally, the building interacts with the site topography in three aspects: in, on and over. The eastern edge of the building is built into the site to help soften the impact of the large athletic volumes to the adjacent apartments. The main building entries sit on the grade for easy accessibility. The west end cantilevers over the lower grades providing a different relationship to site and echoing the cantilever of the existing building.

## Environmental

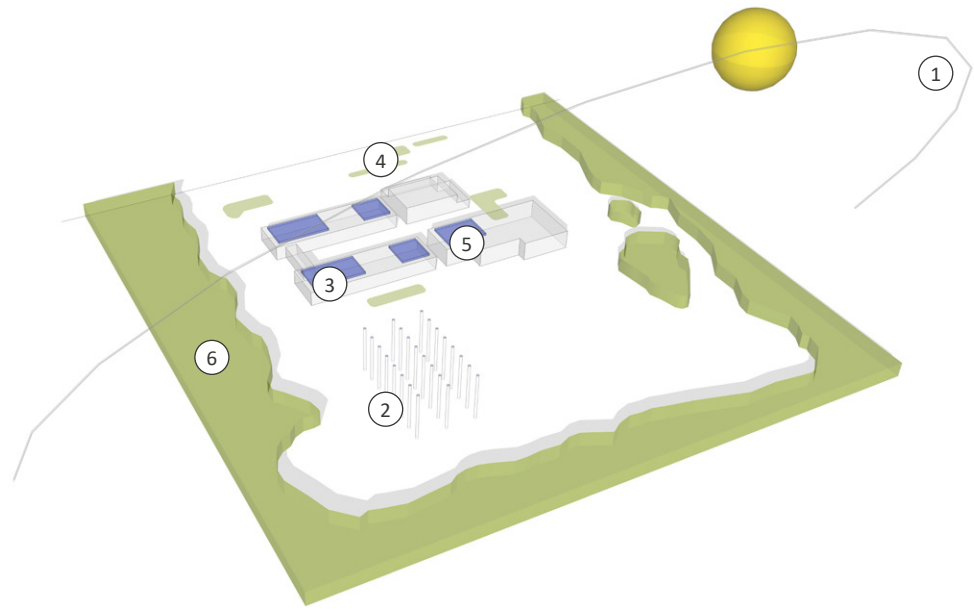
Regular exposure and awareness of the outdoors, daylight, and context are a part of the passive strategies used. Good solar orientation, sun control, super insulated enclosure as well the incorporation of effective passive and active systems are all a part of the equation. Daylight studies in Sefaira have been used to maximize even and appropriate harvesting of daylight. The EUI goal for this building is 22.5 which is 70% below the national average of 75.

## Sustainability Elements – Passive and Active

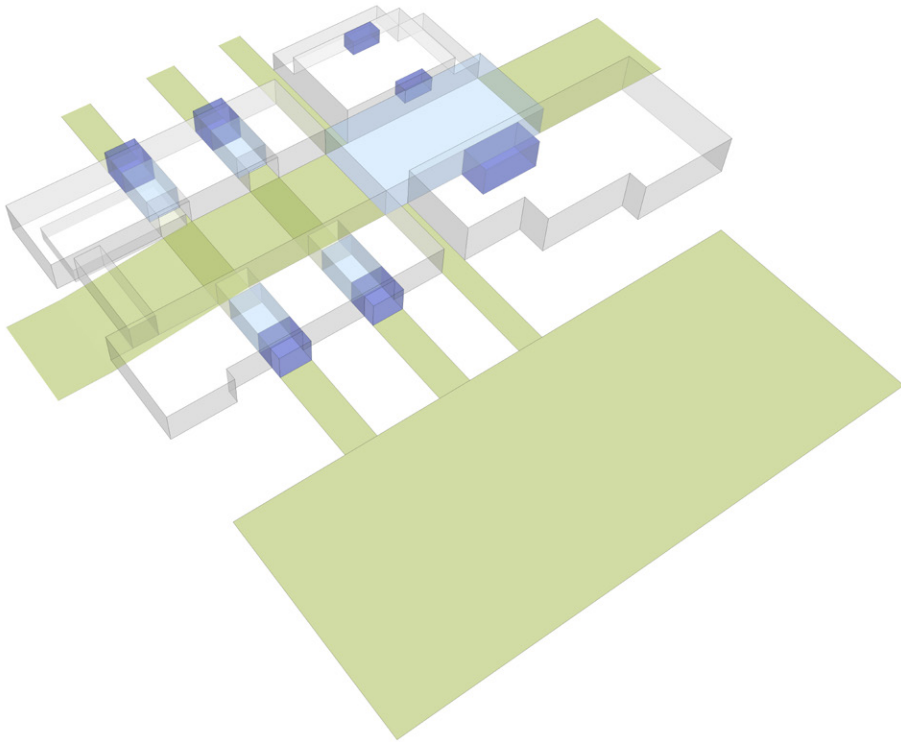
- ① Solar orientation – primary north/south
- ② Geothermal loop
- ③ Roof PV array
- ④ Improved stormwater conditions
- ⑤ Solar hot water heating
- ⑥ Retaining majority of wooded borders

### Additional Features:

Reduced footprint  
Two-story where programmatically compatible  
EUI goal of 18-22  
Low flow fixtures  
LED lighting  
Chilled beam HVAC system

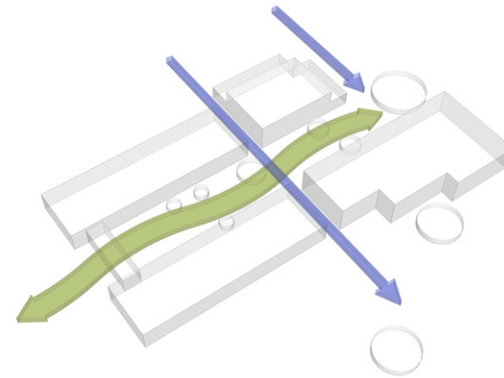


# PROJECT STRATEGIES



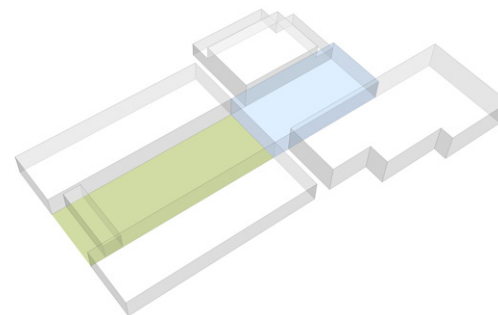
## Nature and Building Overlap

Through an array of pathways and portals the outdoors (daylight, views, nature, surrounding context) is woven into the fabric of building and learning experiences.



## Approach, Activities Zones

The blue arrows represent key public circulation paths while the green depicts a pathway through the building axis on a courtyard and common space.



## Organization

Four wings around (indoor and outdoor) common space.



# PROJECT STRATEGIES

## Spatial

The idea of in, on and over is illustrated in form and space. Different space types reflect a collection of focused activity at classrooms. Group learning at larger spaces, individual and more socially oriented learning at shared space. One of the fundamental spatial devices is a formal grouping of learning spaces around shared common space. This is true of the four primary forms that surround the courtyard and commons as well as the 3-5 classrooms that surround shared learning space. Group spaces are neither destination pods or just a wide spot in the hallway. They are generously sized space that is easily accessible and monitorable by all.

A combination of one and two story volumes, bridges and connections happen through different means illustrate the in, on and over concept in multiple ways.

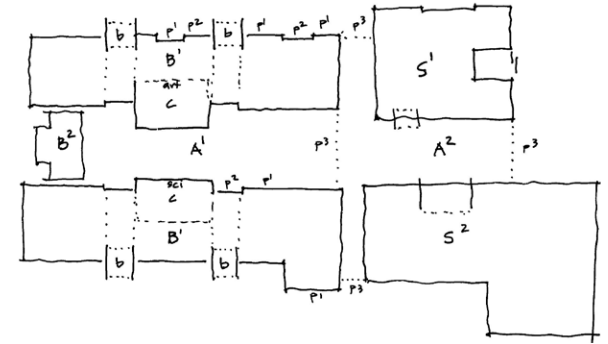
## Material

Strong materials represent strong values. Brick, metal, color and materials will be used for playfulness and identification. Material choices will represent traditional (ironstone brick) and contemporary (light colored metal panels) conditions. The idea of connection is illustrated through the use of a combination of panel types and element relationships.

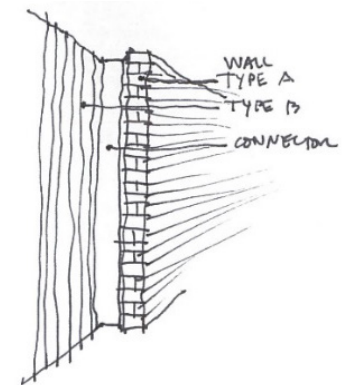
Materials are used to identify the four core buildings of the layout and feature key components. Exterior materials are brought inside to accentuate the connection of indoor and outdoor spaces.

## Tectonic

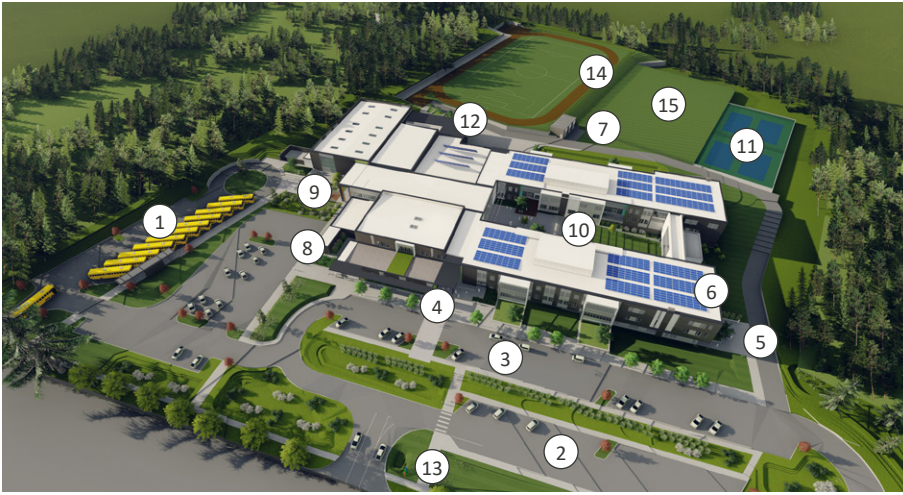
- A combination of features are used to depict different enclosure types and forms of connection and articulation
- Emphasize collection and connection of elements
- Articulated panelization through distinguishing transitions materially
- Collection of volumes
- Captured top and bottom with coping and metal base
- Volumes and transitions
- Distinguish different volume types (see typology diagram) with material and detail assignments
- Different metal panel types to represent different uses behind
- Chimneys are used as vertical compositional elements and illustrate functional services



*Typology Diagram: the building is a set of four primary forms and supporting elements that reflect connection, intersection and prospect.*

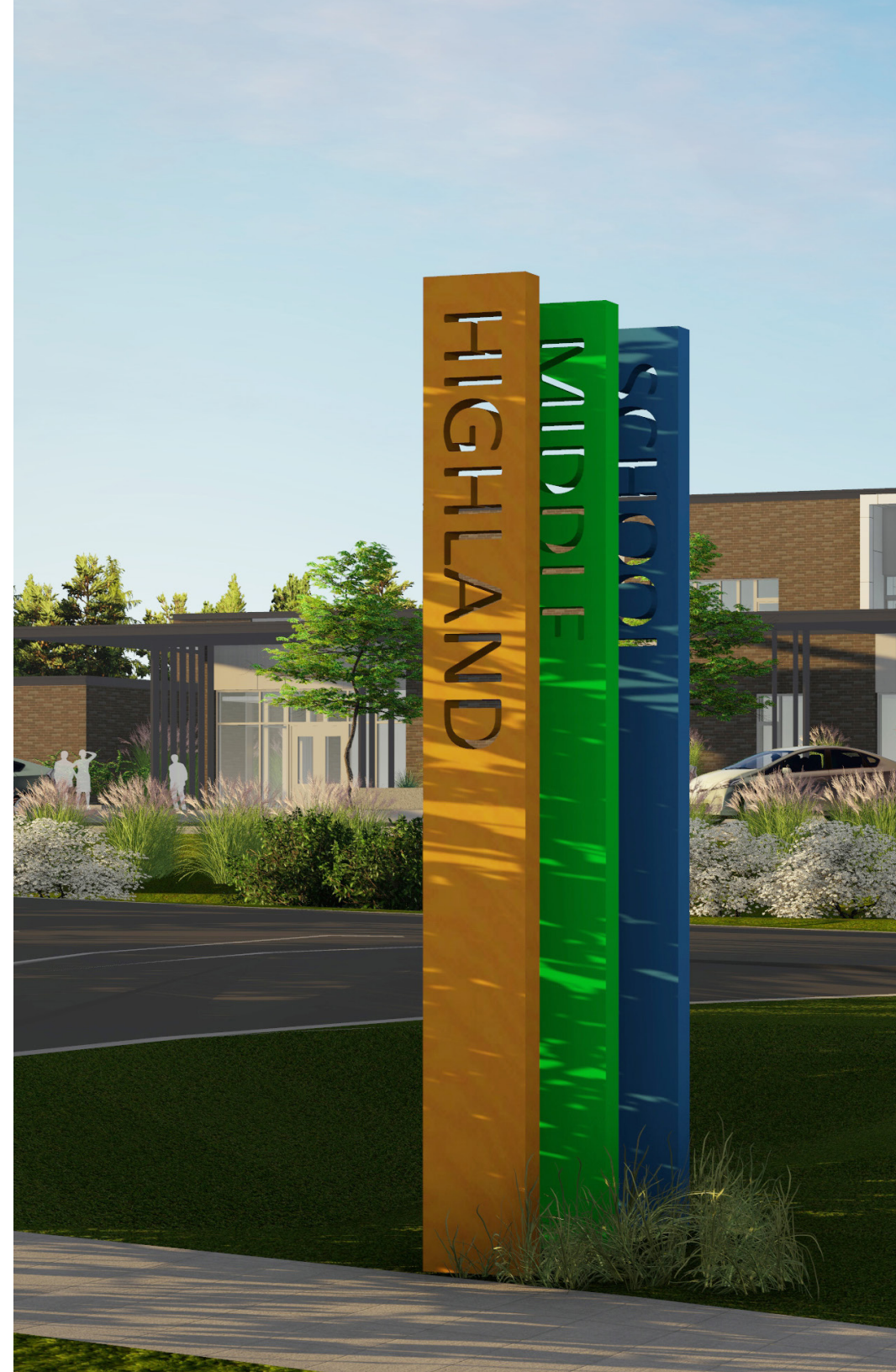


*This project is an assemblage of many variables. How we craft Highland will provide a place; an identity, functionality, and support their values (character, curiosity, consciousness, proficiency, perseverance, optimism, self control, partnerships and passion).*



## BUILDING ELEMENTS

- |                              |                     |
|------------------------------|---------------------|
| ① Bus Drop-Off               | ⑨ Commons Entry     |
| ② Guest Parking              | ⑩ Secure Courtyard  |
| ③ Parent Drop-Off            | ⑪ Tennis Court      |
| ④ Main Entry                 | ⑫ Covered Play Area |
| ⑤ Emergency Vehicle Drive    | ⑬ Entry Sign        |
| ⑥ Photovoltaic Panels        | ⑭ Track             |
| ⑦ Equipment Storage Building | ⑮ Play Fields       |
| ⑧ Trash Enclosure            |                     |











## COMMUNITY CONNECTIONS

The new Highland Middle School has two primary access points, one along Bel Red Road on the north side and the Commons entry on the east that is linked to the bus drop-off area. This front elevation provides the first level of public presentation of the school and will be where parents drop off their children in the morning. The north side also includes the entries to the Family Connection Center and Clinic that are critical community oriented spaces and programs to support the families and children of Highland.











## OUTDOOR COURTYARD

The courtyard provides a protected and connected outdoor space for instructional and community activities. Each classroom grouping looks out onto the courtyard space to provide access to daylight, views and outdoor learning space. The courtyard is protected by a fence and gate at the west end to allow teachers and staff to use the space safely and securely. The west end of the building contains the Central Services program at the ground level and a central teacher planning space, which helps bridge the two instructional wings.











# EDUCATIONAL PATHWAYS

The walk-up the path from Bel Red Road and for students who arrive by bus will guide them to the Commons entry. The Commons is the primary gathering place for the school and is a key part of the connectivity of a school that is organized around shared outdoor and indoor gathering spaces. The Commons provides visual links to an entry plaza, the eastern edge of the site and into the protected courtyard that completes the main axis of the building's arrangement.











## INDOOR AND OUTDOOR CONNECTIONS

The Commons and Library are two of the spaces that will serve the students during the day and support community and school events in the evening. The Commons brings outdoor materials inside to strengthen the connection of the courtyard and shared spaces as well as the linkage between indoor and outdoor space and activities.







## INFORMAL GATHERING SPACES

The fundamental building/learning block of this school is about gathering learning spaces around shared spaces. Three to five classrooms huddle around a shared learning space providing an array of learning environments for the different types of activities, programs and learners at the school. Similarly, on a macro scale the building has four wings that surround a commons and a courtyard echoing the fundamental instructional learning block.



# FLOOR PLANS

- 1

Admin
- 2

Kitchen/Servery
- 3

Arts
- 4

Science
- 5

Teacher Planning
- 6

CTE
- 7

Shared Space
- 8

Classroom
- 9

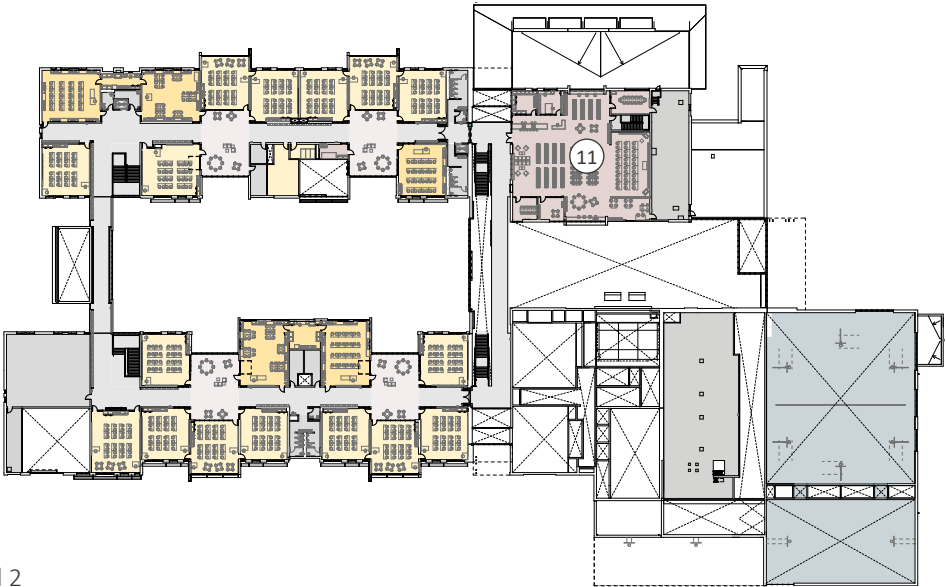
Music
- 10

Gym/Athletics
- 11

Library
- 12

Central Services
- 13

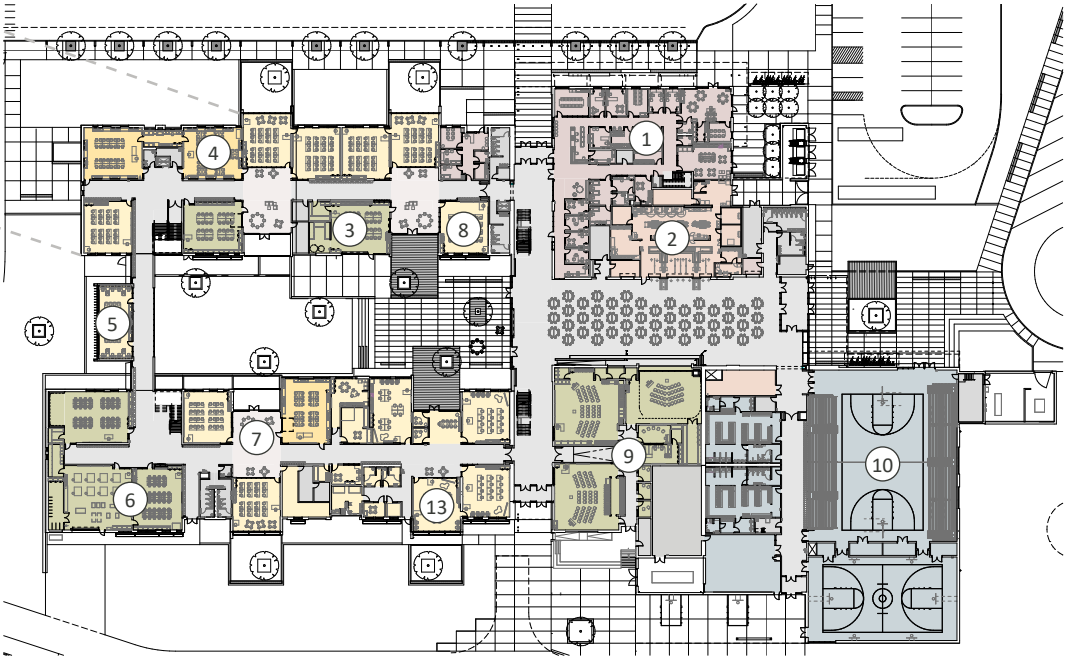
Pacific Program



Level 2



Ground Level



Level 1



# SITE PLAN



- |                              |                     |
|------------------------------|---------------------|
| ① Bus Drop-Off               | ⑨ Commons Entry     |
| ② Guest Parking              | ⑩ Secure Courtyard  |
| ③ Parent Drop-Off            | ⑪ Tennis Court      |
| ④ Main Entry                 | ⑫ Covered Play Area |
| ⑤ Emergency Vehicle Drive    | ⑬ Entry Sign        |
| ⑥ Photovoltaic Panels        | ⑭ Track             |
| ⑦ Equipment Storage Building | ⑮ Play Fields       |
| ⑧ Trash Enclosure            |                     |





**McGRANAHAN** architects

WE BELIEVE EDUCATION TRANSFORMS INDIVIDUAL LIVES AND SOCIETY; THAT  
THOUGHTFUL ARCHITECTURE FOSTERS MEANINGFUL LEARNING. COLLECTIVELY  
WE ARE DEDICATED TO THE CREATION OF INSPIRING LEARNING ENVIRONMENTS.

[www.mcgranahan.com](http://www.mcgranahan.com)