

integrus  
ARCHITECTURE

# STEM at the Elementary Level

2017 A4LE International Conference – Atlanta, GA



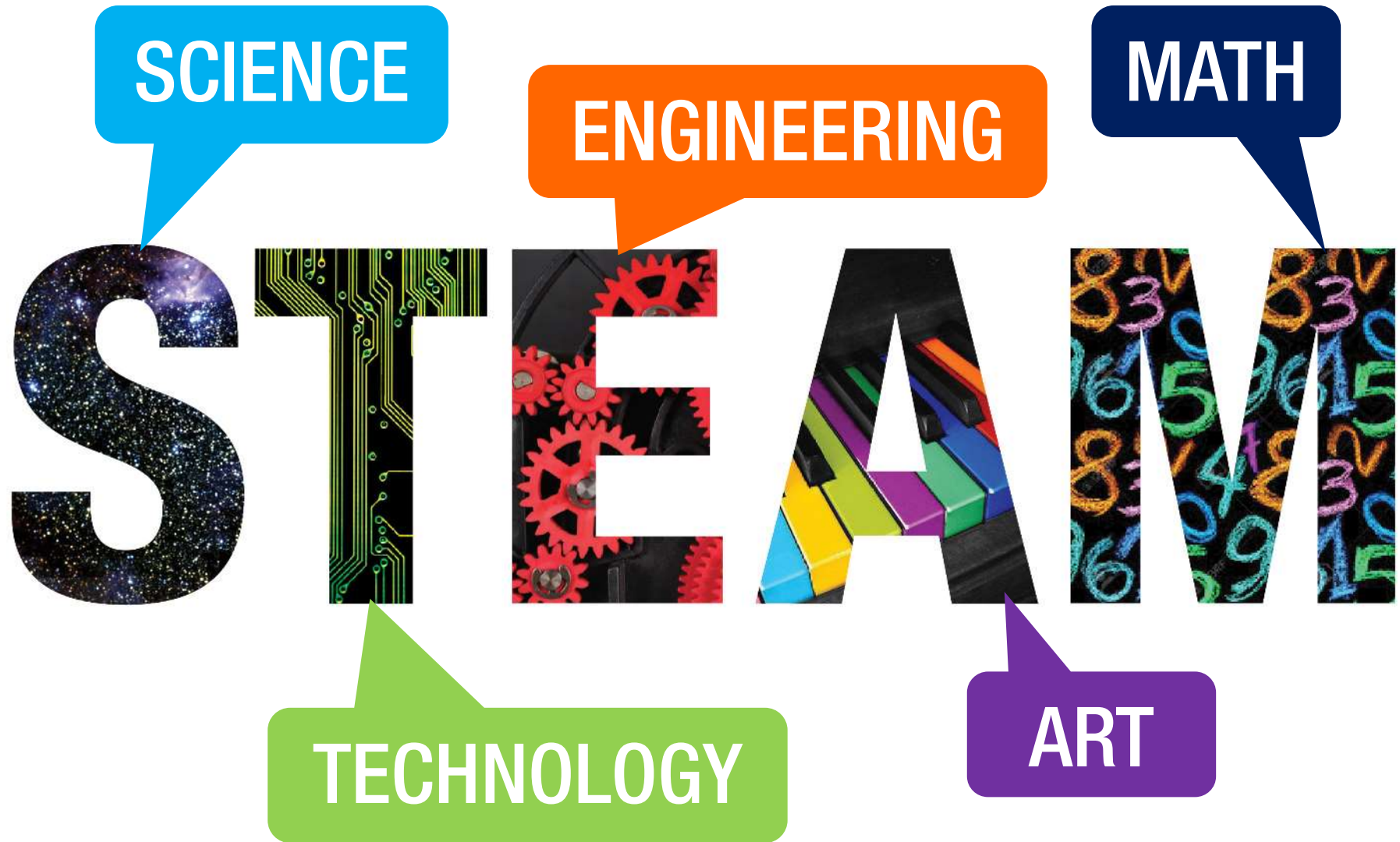
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Bellevue School District  
Bellevue, Washington



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Integrus Architecture  
Seattle, Washington





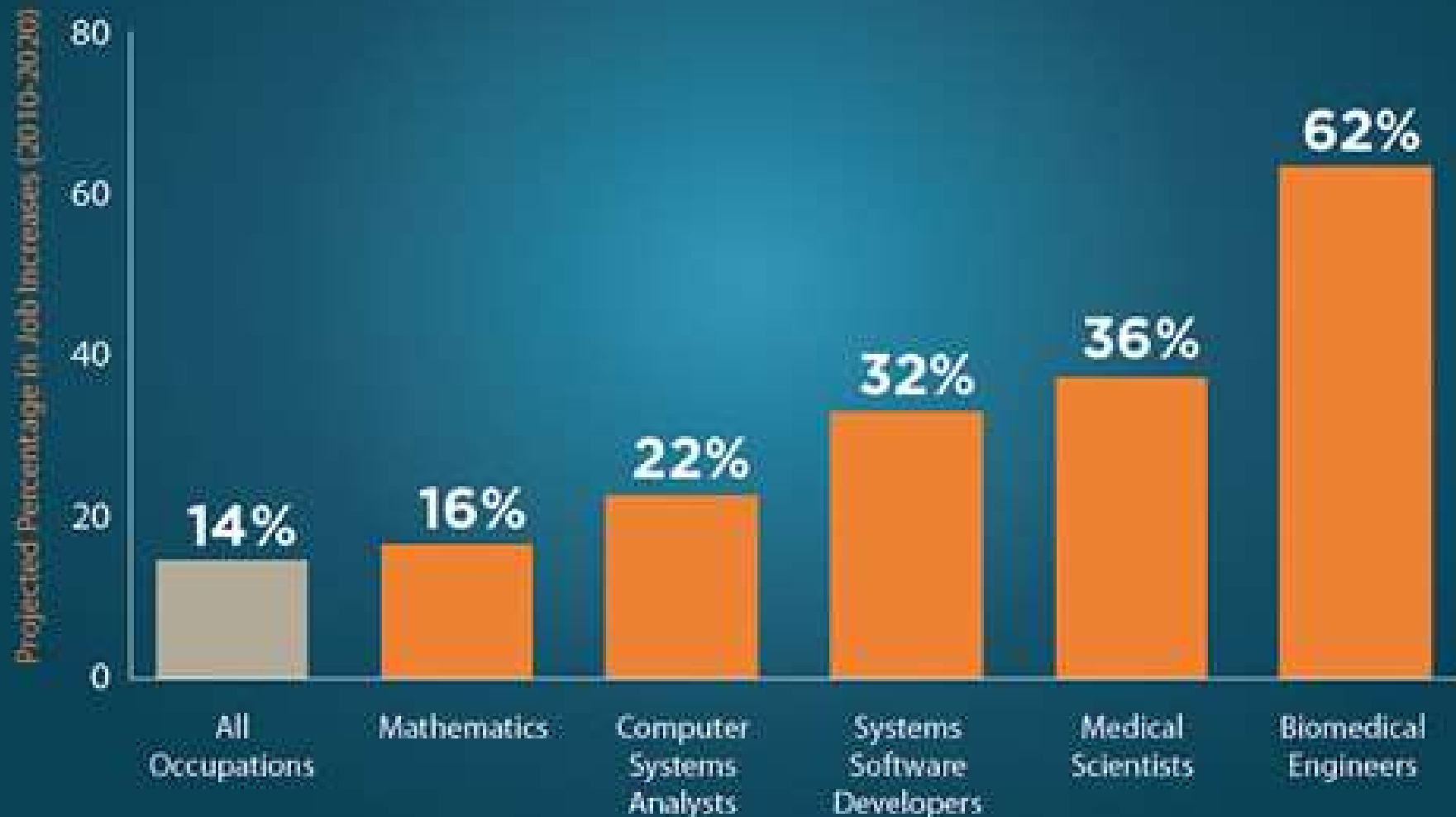
# Science, Technology, Engineering and Math: Education for Global Leadership

**"[Science] is more than a school subject, or the periodic table, or the properties of waves. It is an approach to the world, a critical way to understand and explore and engage with the world, and then have the capacity to change that world..."**

— President Barack Obama, March 23, 2015



# PROJECTED PERCENTAGE INCREASES IN STEM JOBS: 2010-2020















# Regional High Demand and High Wage Job Opportunities for students.

## Top Kid Wants

1. Arts and AV technology (3,000 stu.)
2. Health Sciences (1,600 stu.)
3. STEM Careers (1,205 stu.)
4. Human Services (800 stu.)
5. IT & Business and Marketing (273 stu.)
6. Architecture
7. Sustainable Design & Business

# Regional High Demand and High Wage Job Opportunities for students.

## National Job Opportunities:

1. Manufacturing and Aerospace
2. IT Tech Jobs
3. Engineering Jobs
4. Health Care Jobs
5. Human Service Jobs
6. Arts & Digital Communication Jobs



# 2030

Engineering

Robotics

Computer  
Science



## What are 21st Century Skills? These four C's:

C

### COMMUNICATION

Sharing thoughts,  
questions, ideas &  
solutions

C

### COLLABORATION

Working together to  
reach a goal. Putting  
talent, expertise and  
smarts to work.

C

### CRITICAL THINKING

Looking at problems in  
a new way and linking  
learning across  
subjects and disciplines.

C

### CREATIVITY

Trying new approaches  
to get things done  
equals innovation and  
invention.



Communication

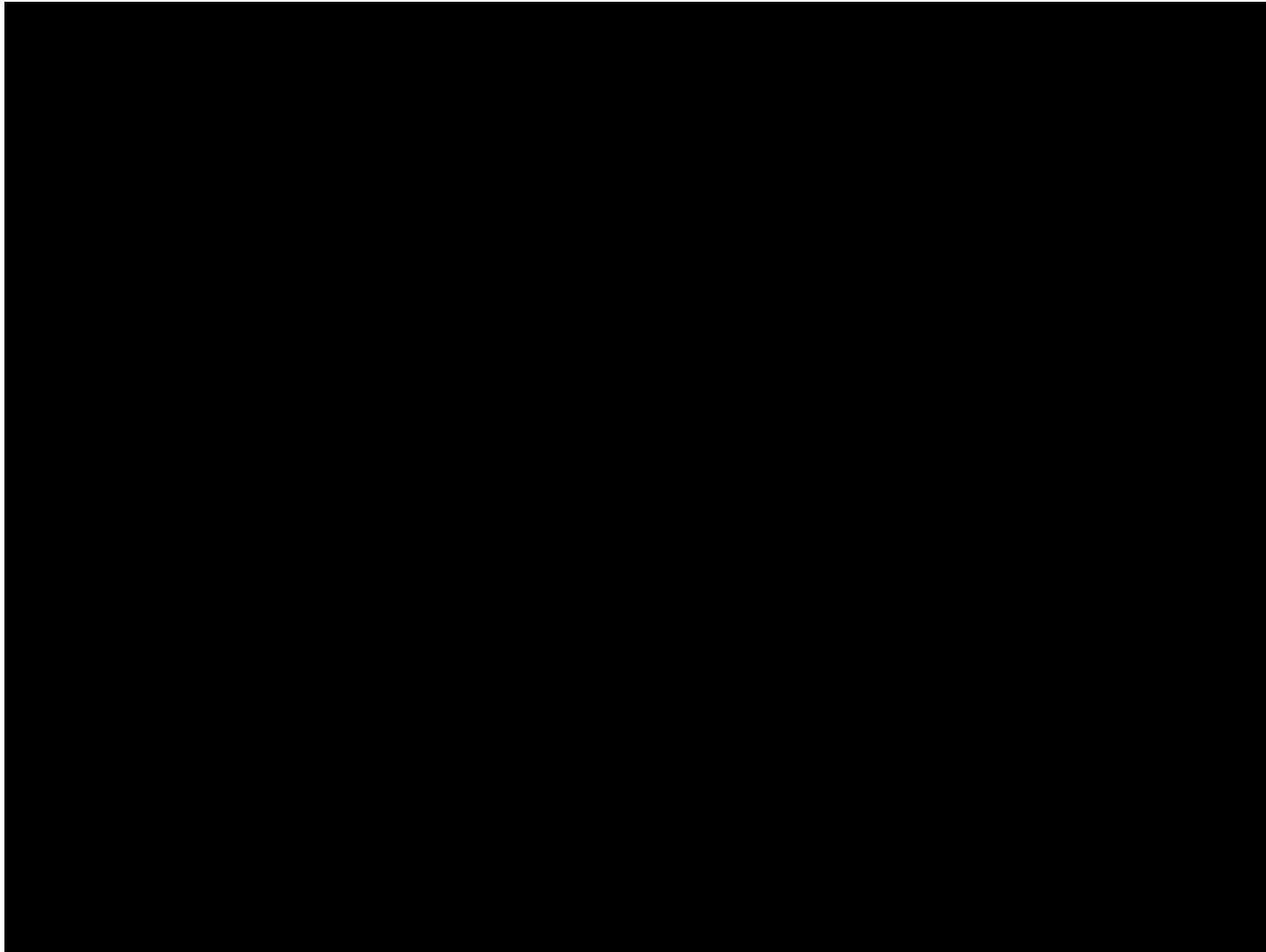
Collaboration

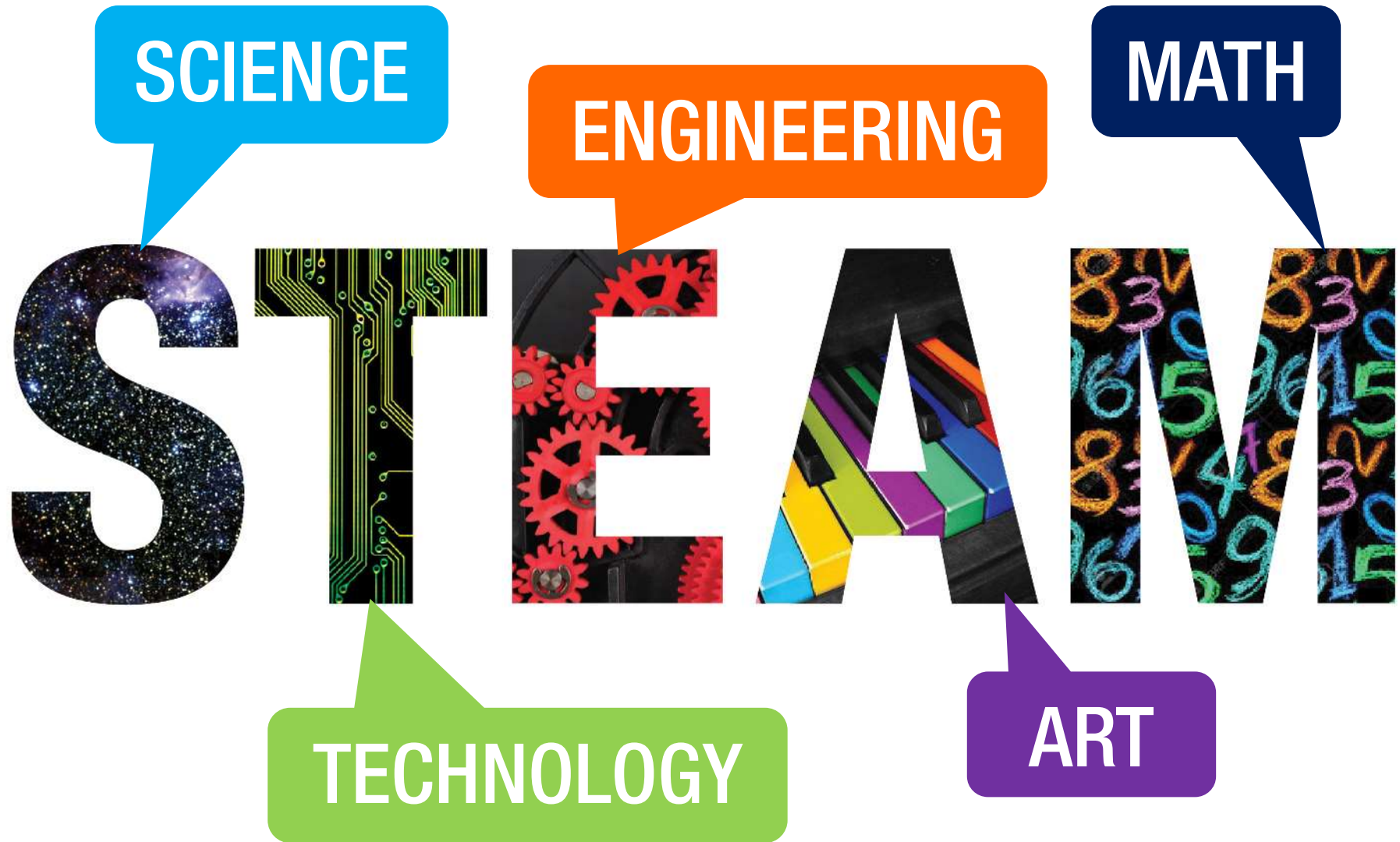
Critical Thinking

Creativity

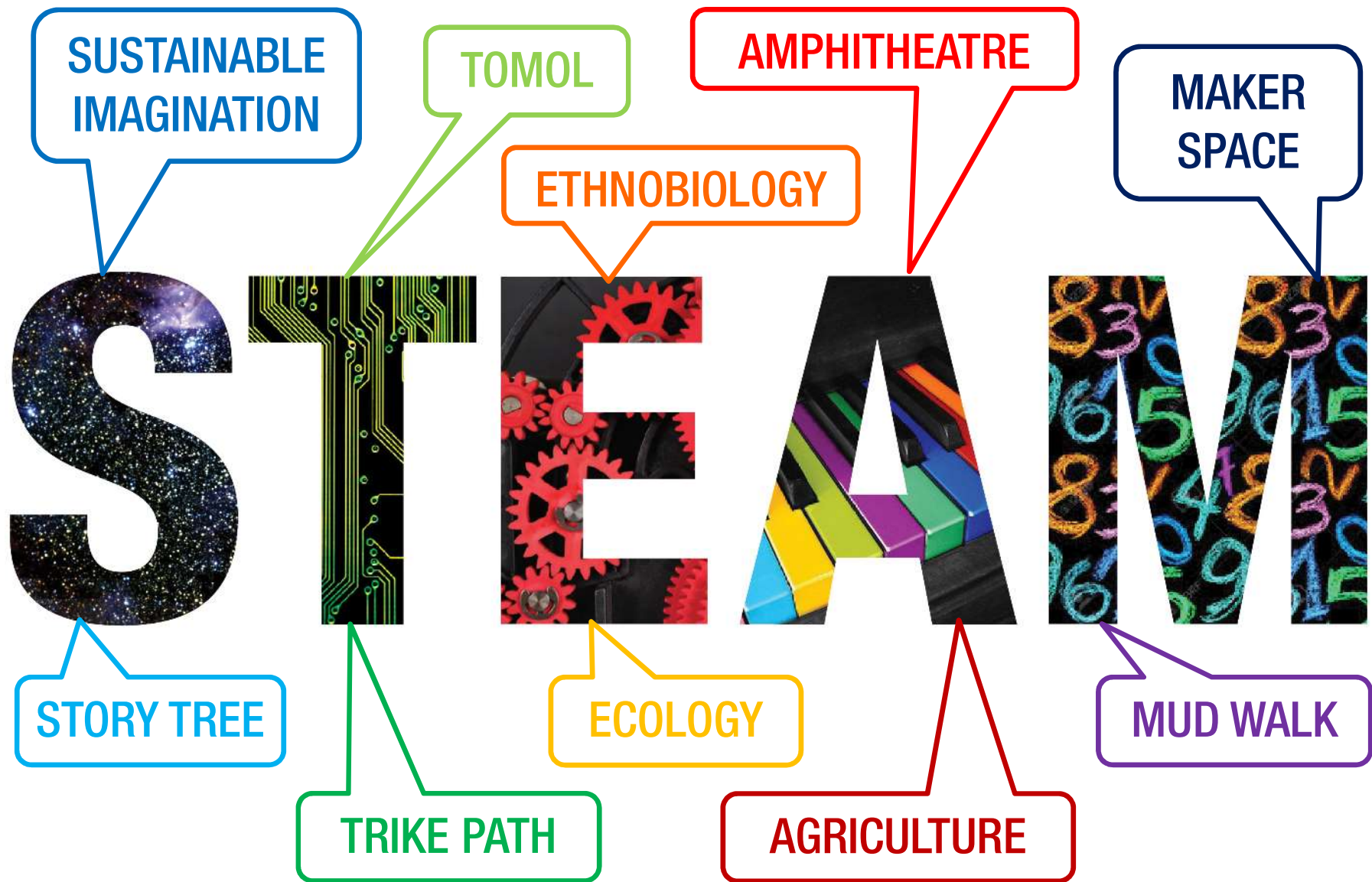


## K-12 Computer Science: Creating Paths, Setting the Pace









Da Vinci Studio

Espresso Studio

Jamie Oliver Studio

Black Box Theater



Da Vinci Studio

Espresso Studio

Jamie Oliver Studio

Black Box Theater





Da Vinci Studio

Espresso Studio

Jamie Oliver Studio

Black Box Theater





Da Vinci Studio

Espresso Studio

Jamie Oliver Studio

Black Box Theater



Shared Spaces

Test Ideas

Power/Water

Outdoor Access

Presentation



Shared Spaces

Test Ideas

Power/Water

Outdoor Access

Presentation





Shared Spaces

Test Ideas

Power/Water

Outdoor Access

Presentation





Shared Spaces

Test Ideas

Power/Water

Outdoor Access

Presentation



Shared Spaces

Test Ideas

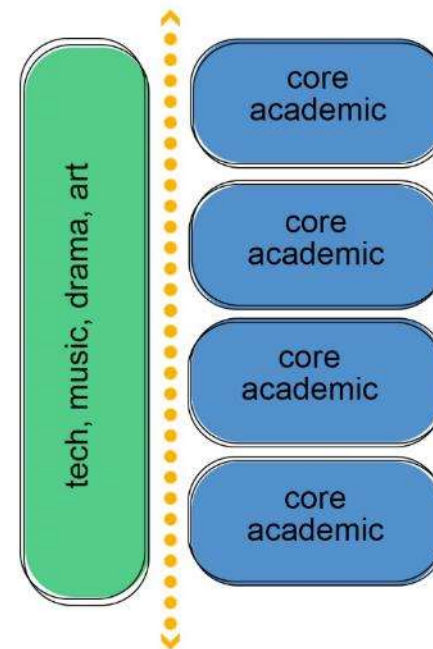
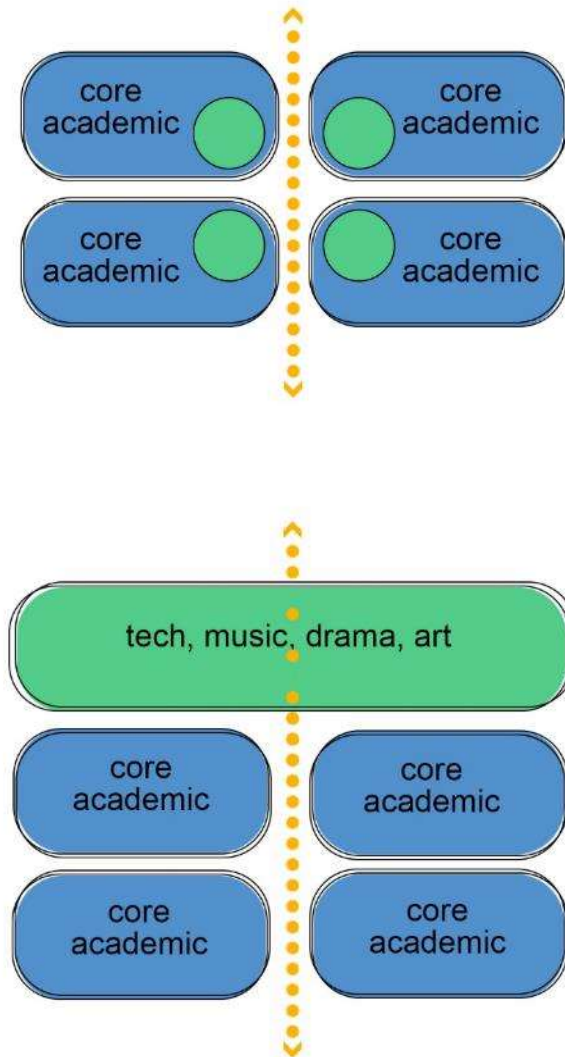
Power/Water

Outdoor Access

Presentation



# Adjacency Diagrams



# What needs to shift (or continue) to support elementary learners?

ONLINE  
WORDLE

TEXT

Share







# What needs to shift (or continue) to support elementary learners?

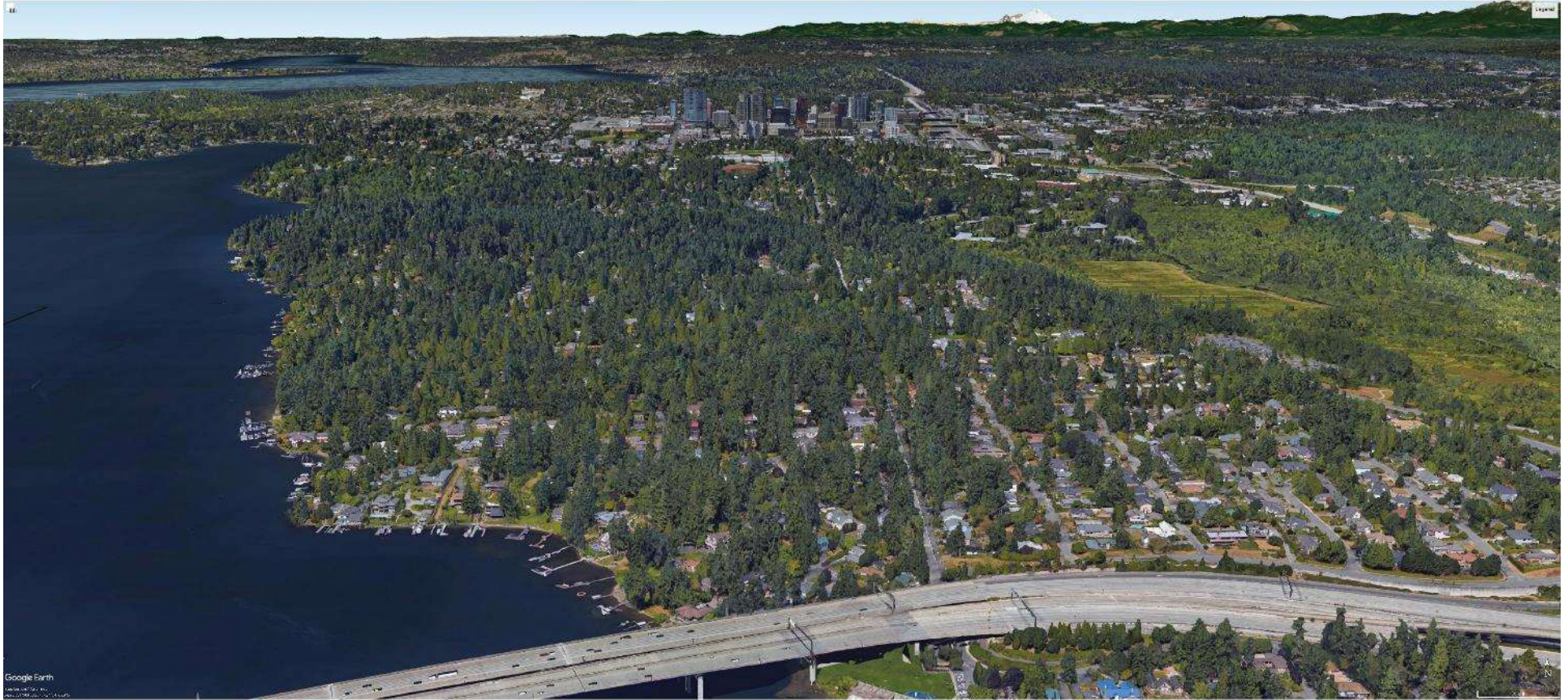


## Start the presentation to activate live content



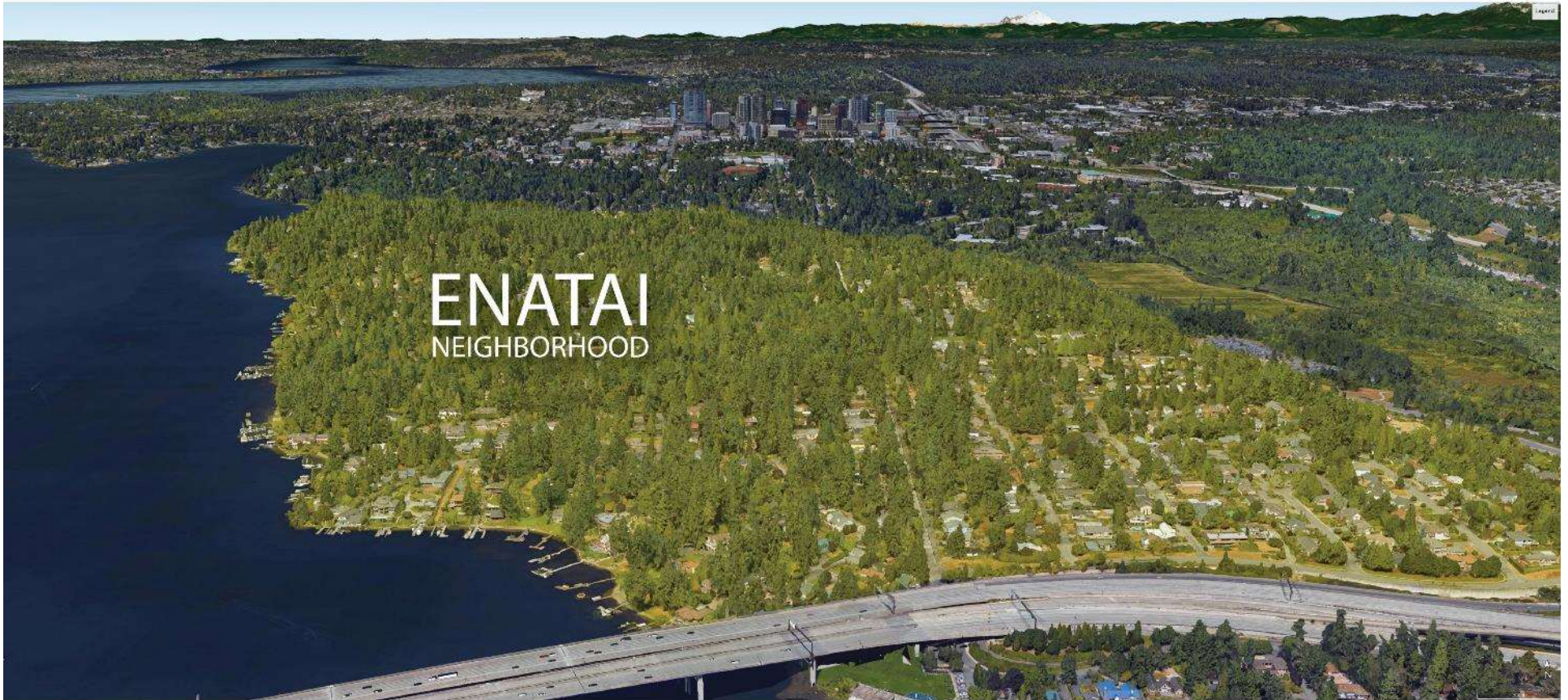
If you see this message in presentation mode, install the add-in or get help at [Pollev.com/app](https://Pollev.com/app)

# Case Study: Enatai Elementary School



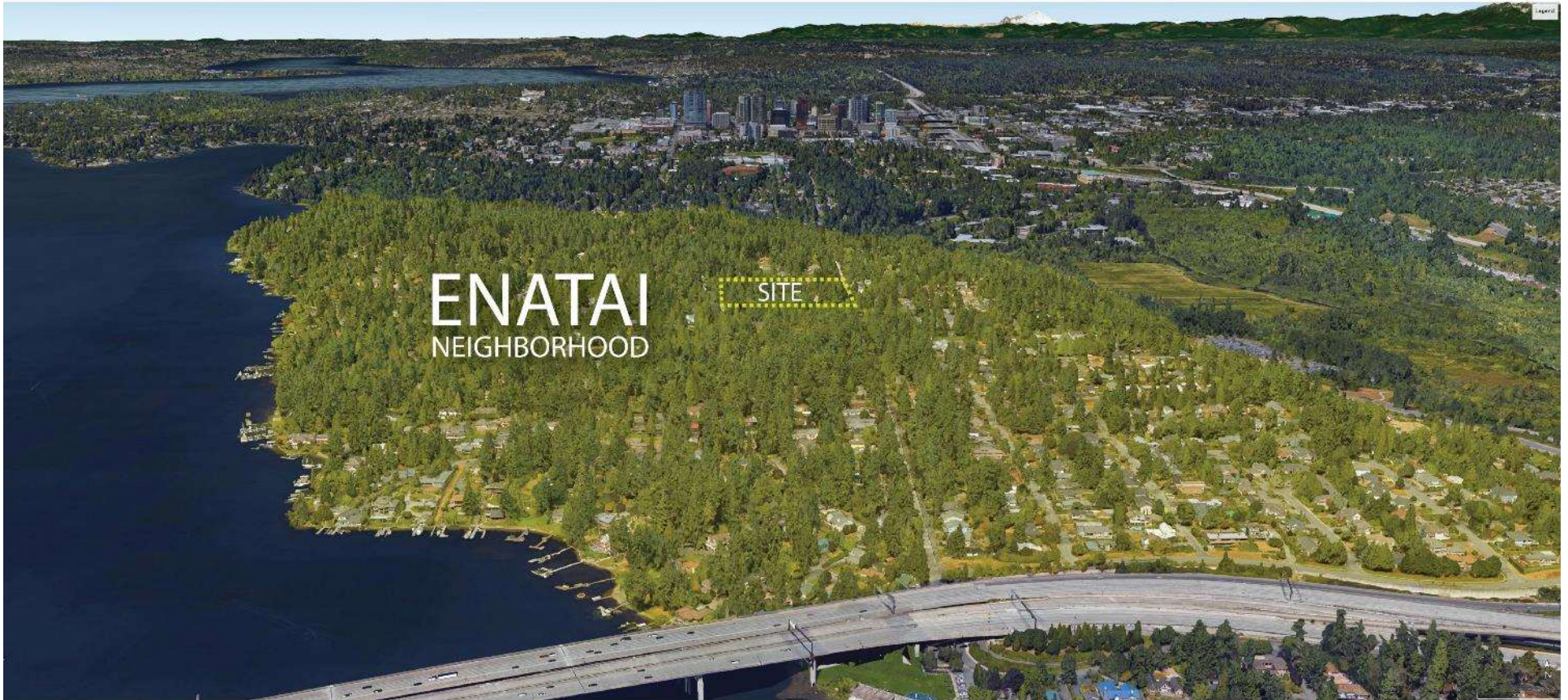


# Enatai Elementary School





# Enatai Elementary School



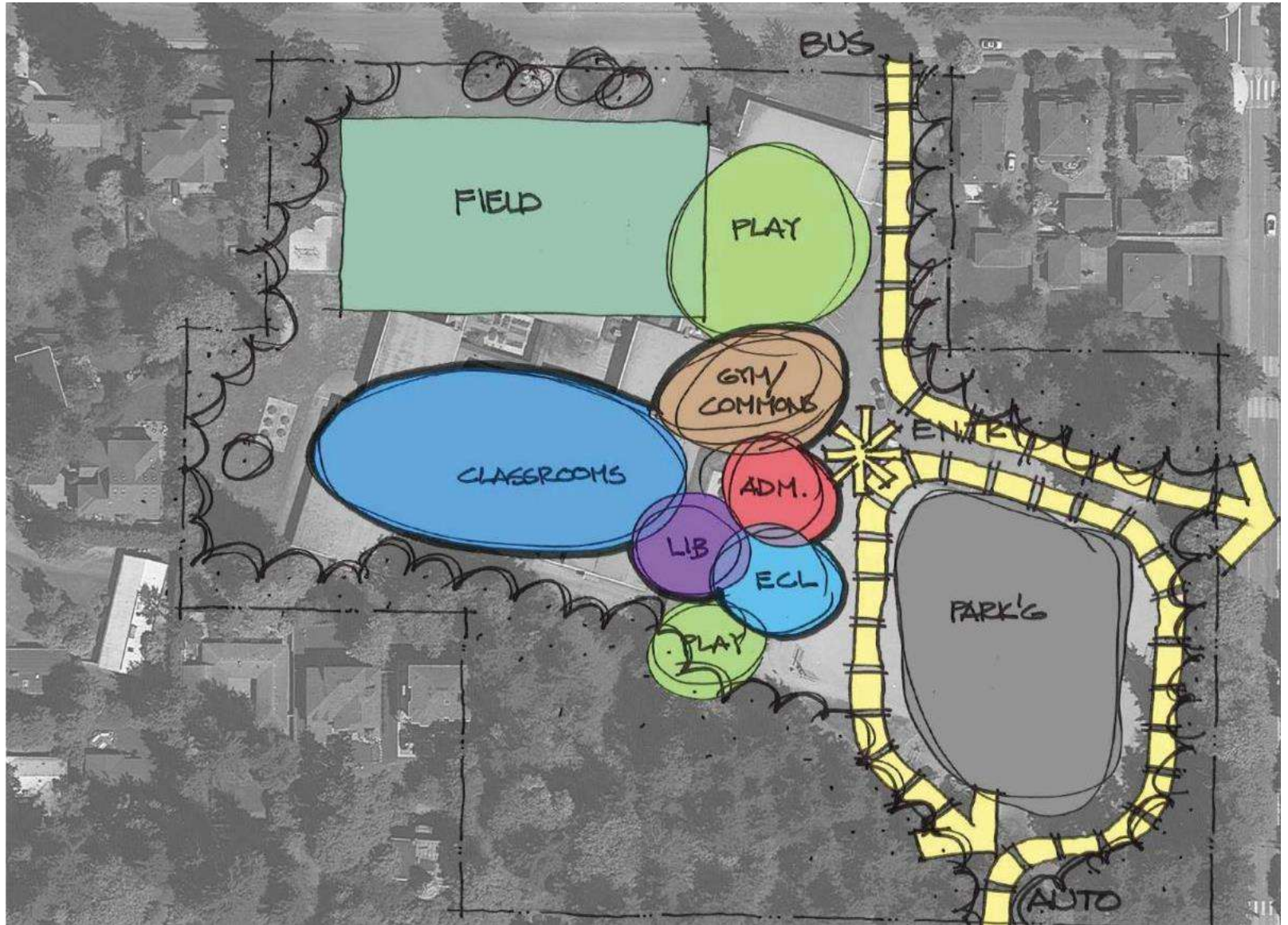


# Enatai Elementary School





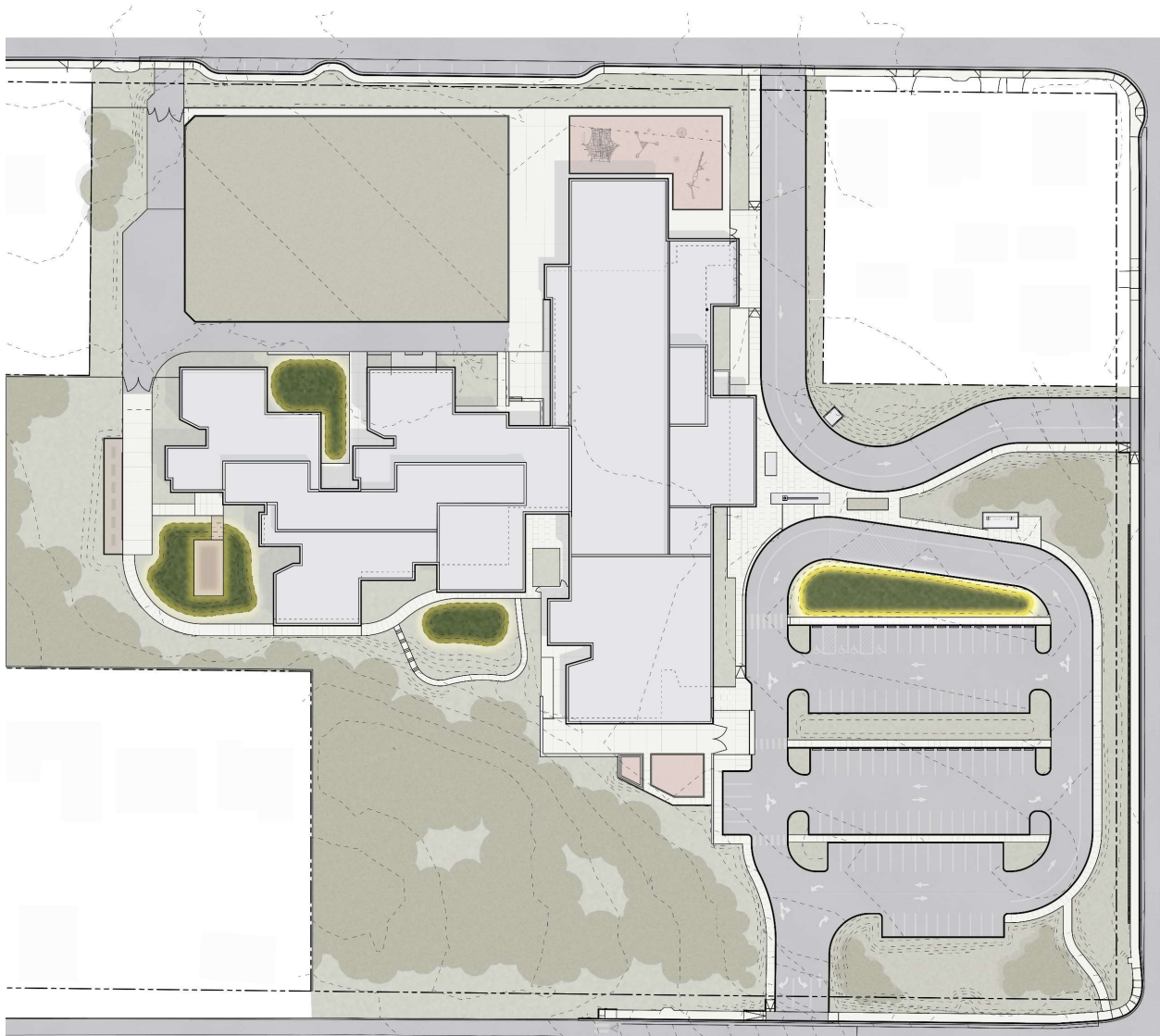
# Enatai Elementary School





# Enatai Elementary School





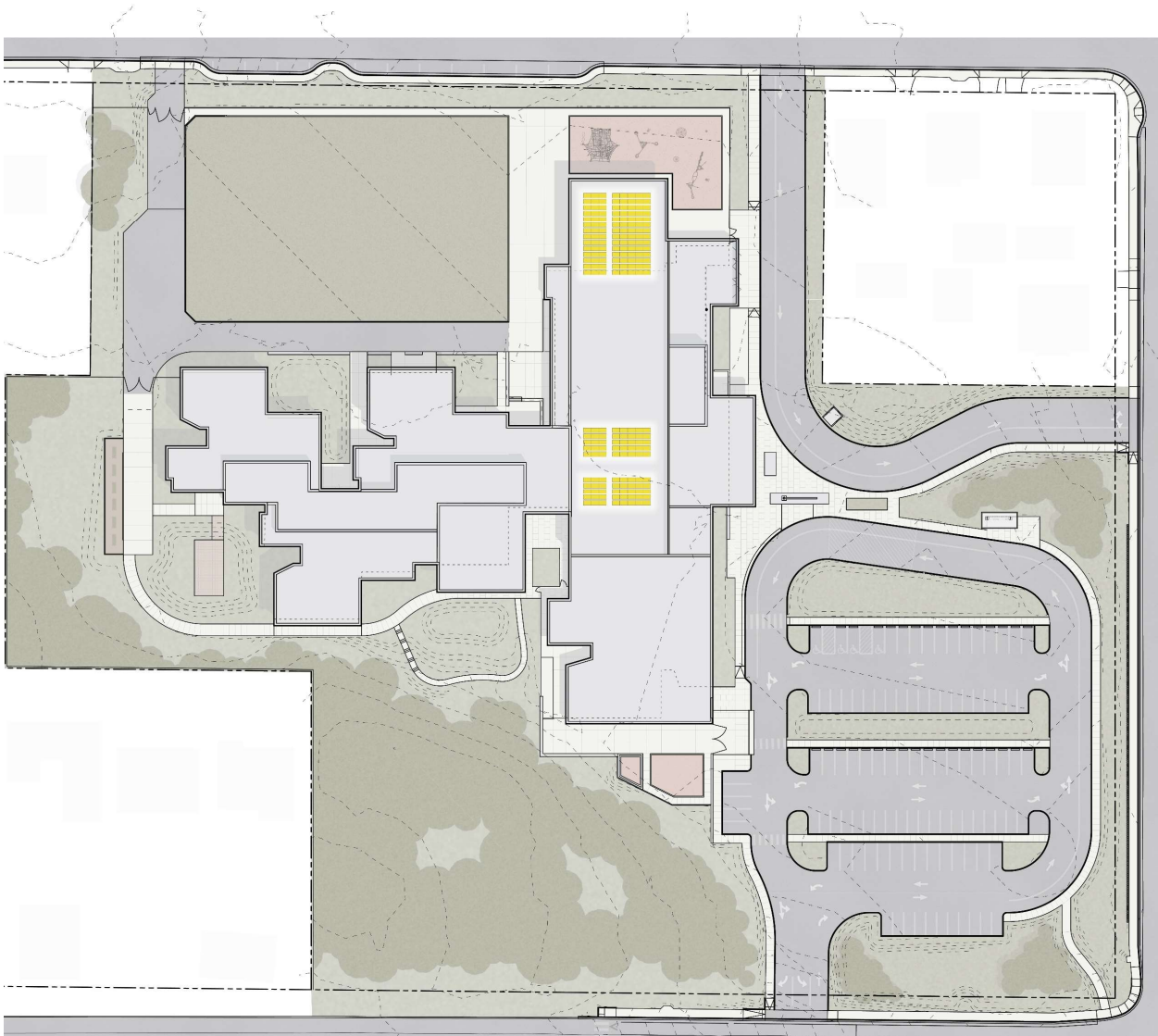
## BIORETENTION





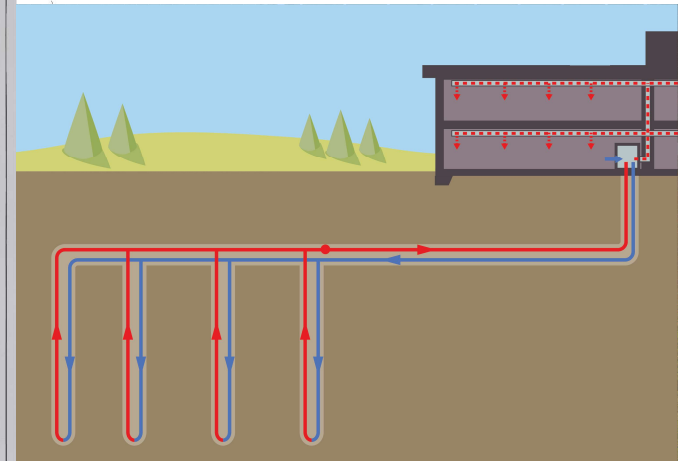
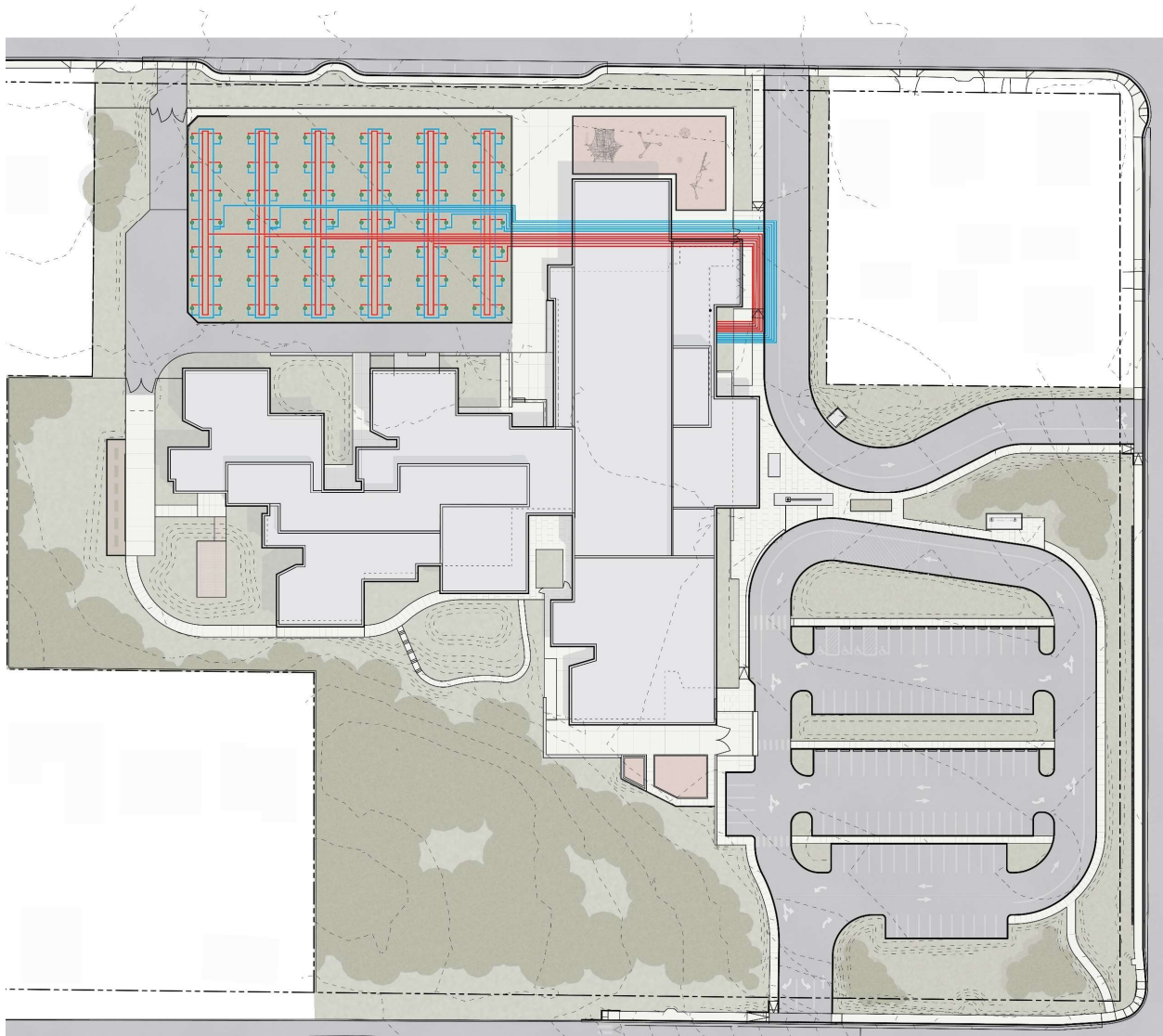
# Enatai Elementary School

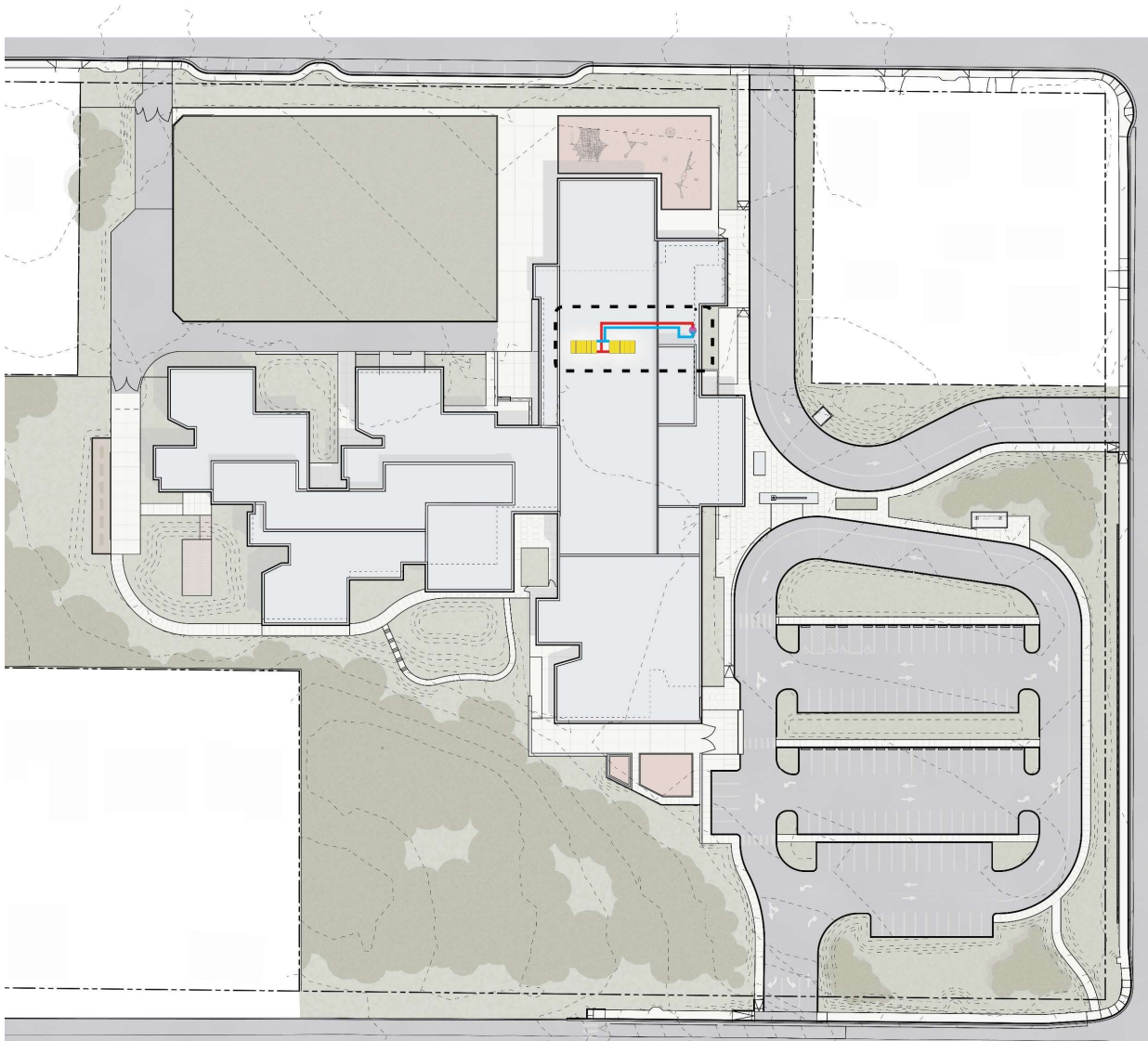
## Photo Voltaic SOLAR PANELS



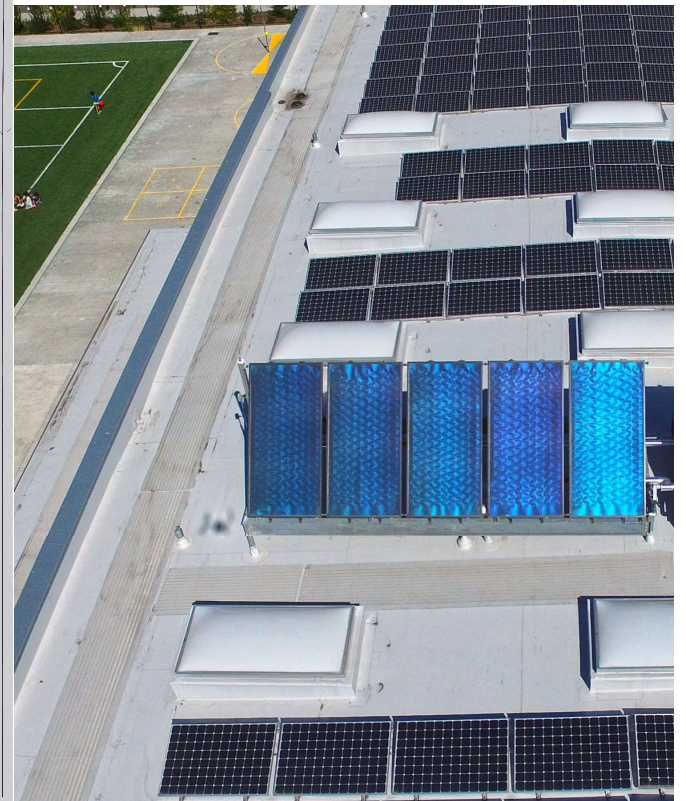


## GEOTHERMAL

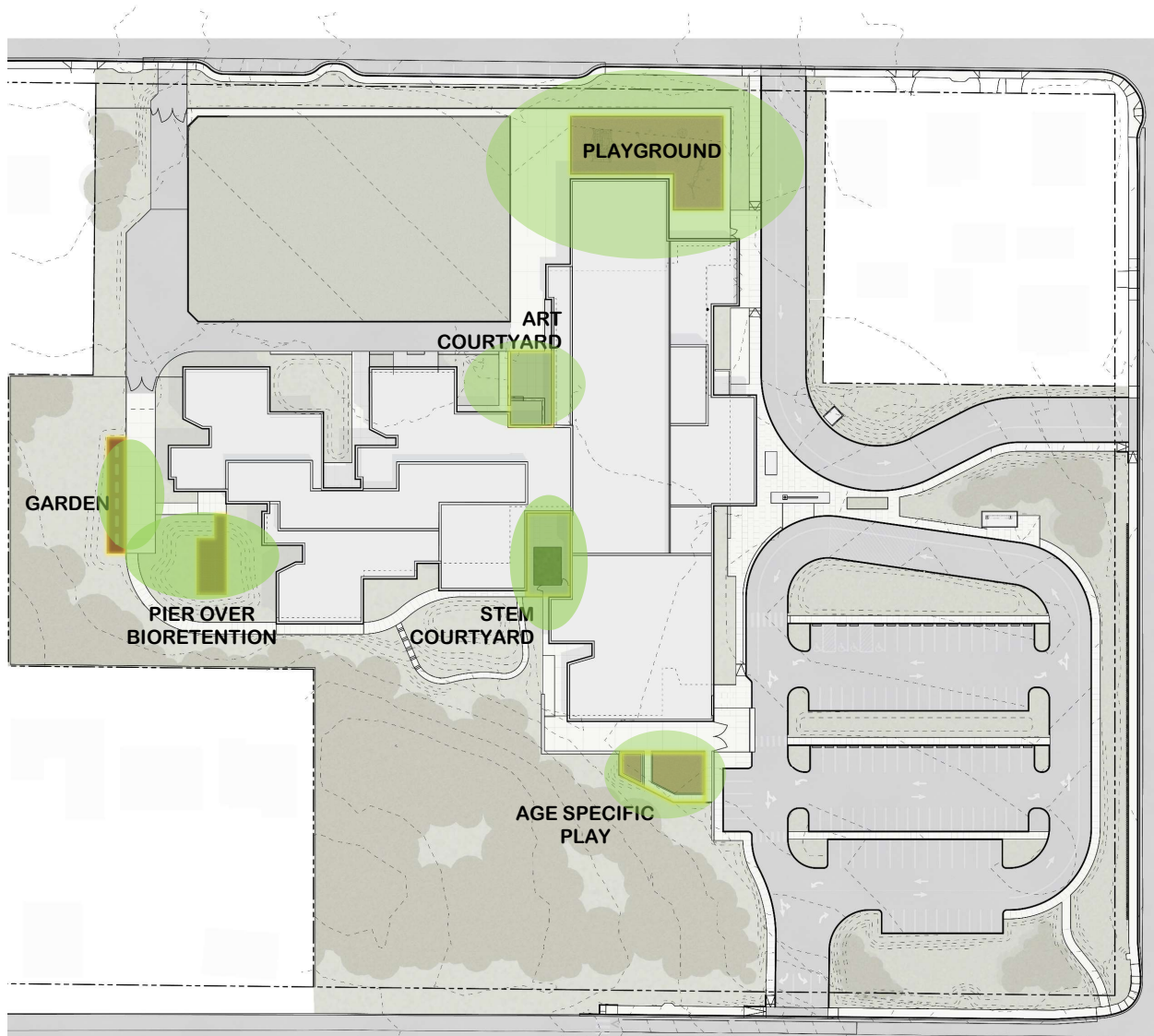




## SOLAR HOT WATER



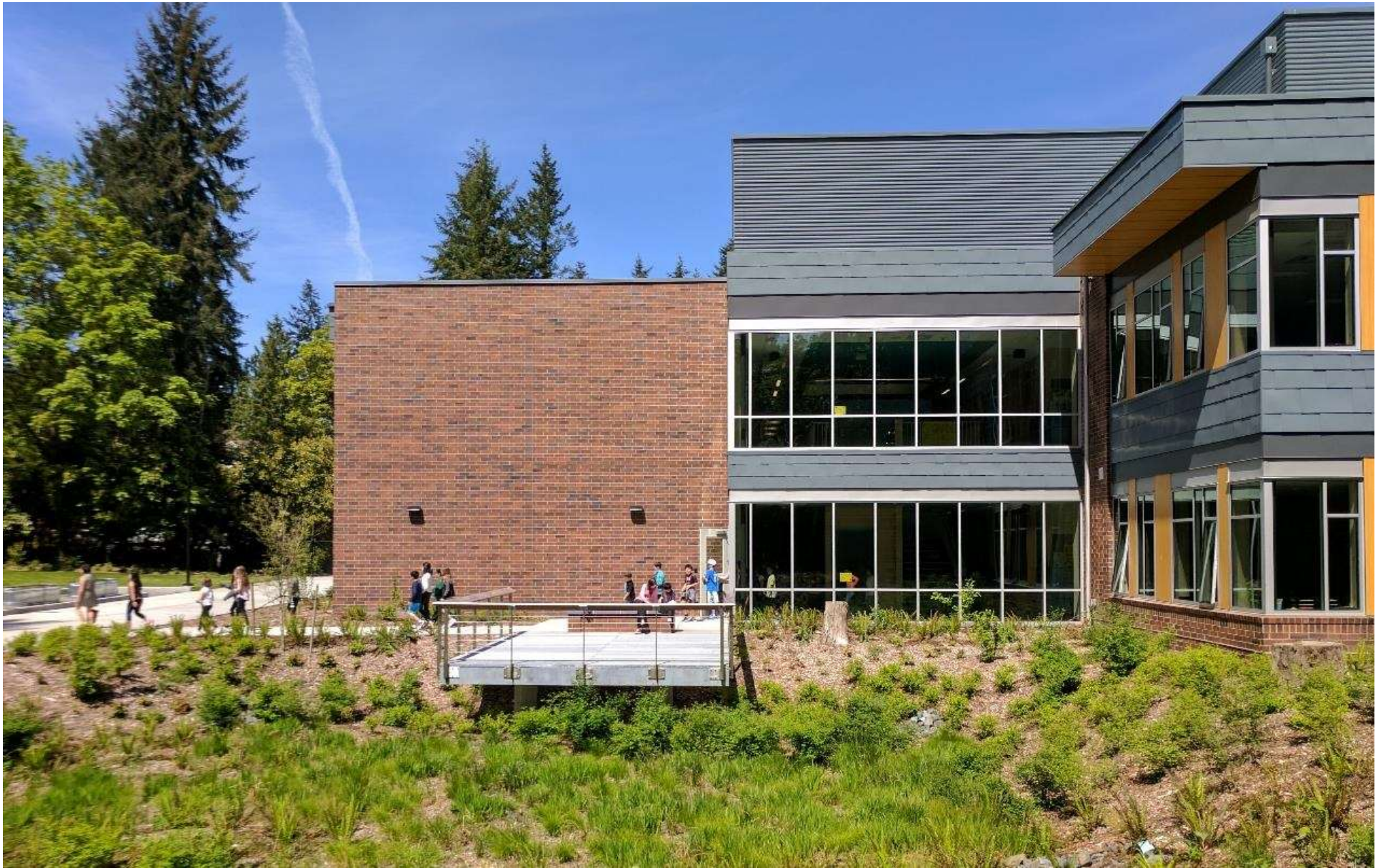




## OUTDOOR LEARNING

























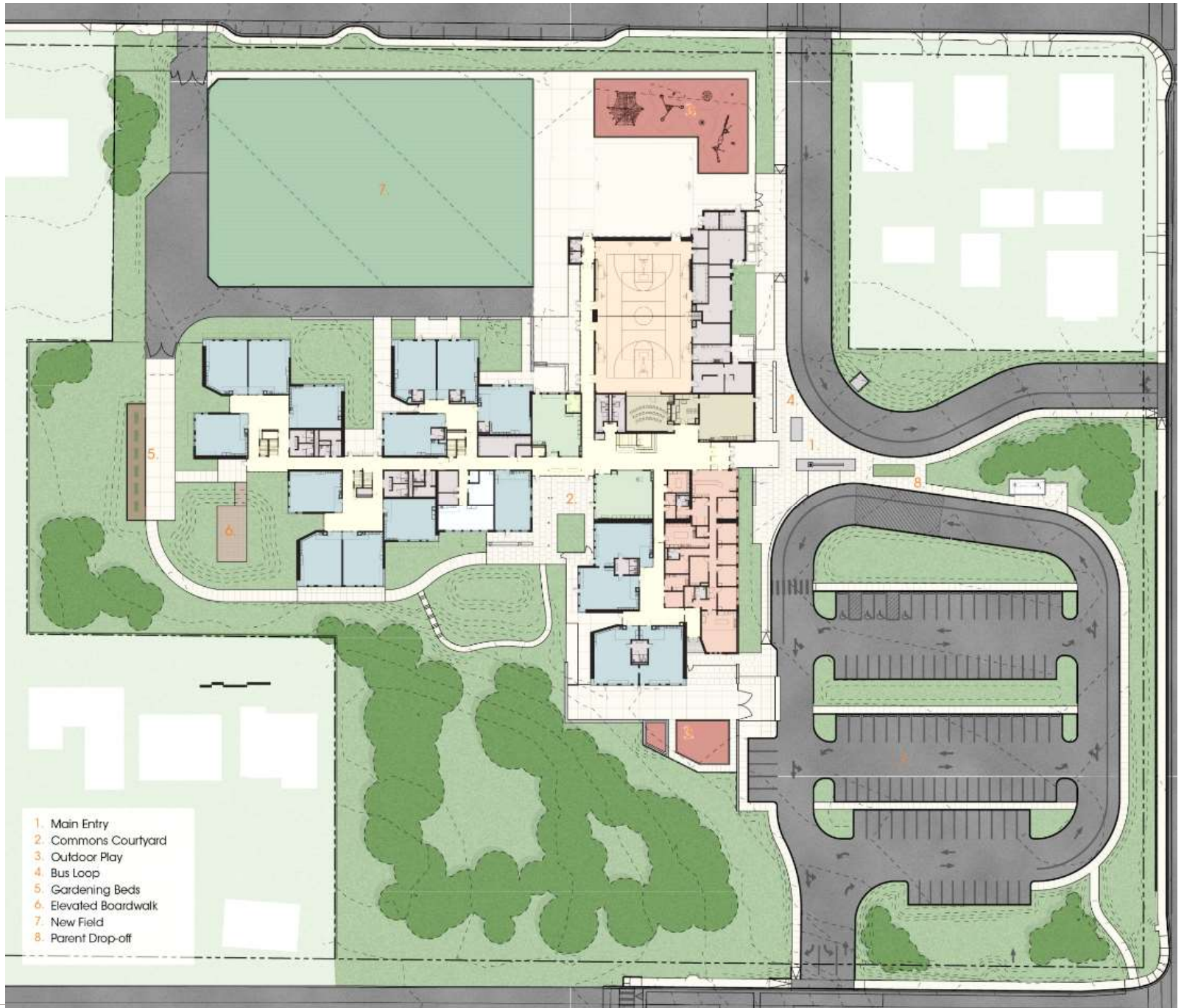










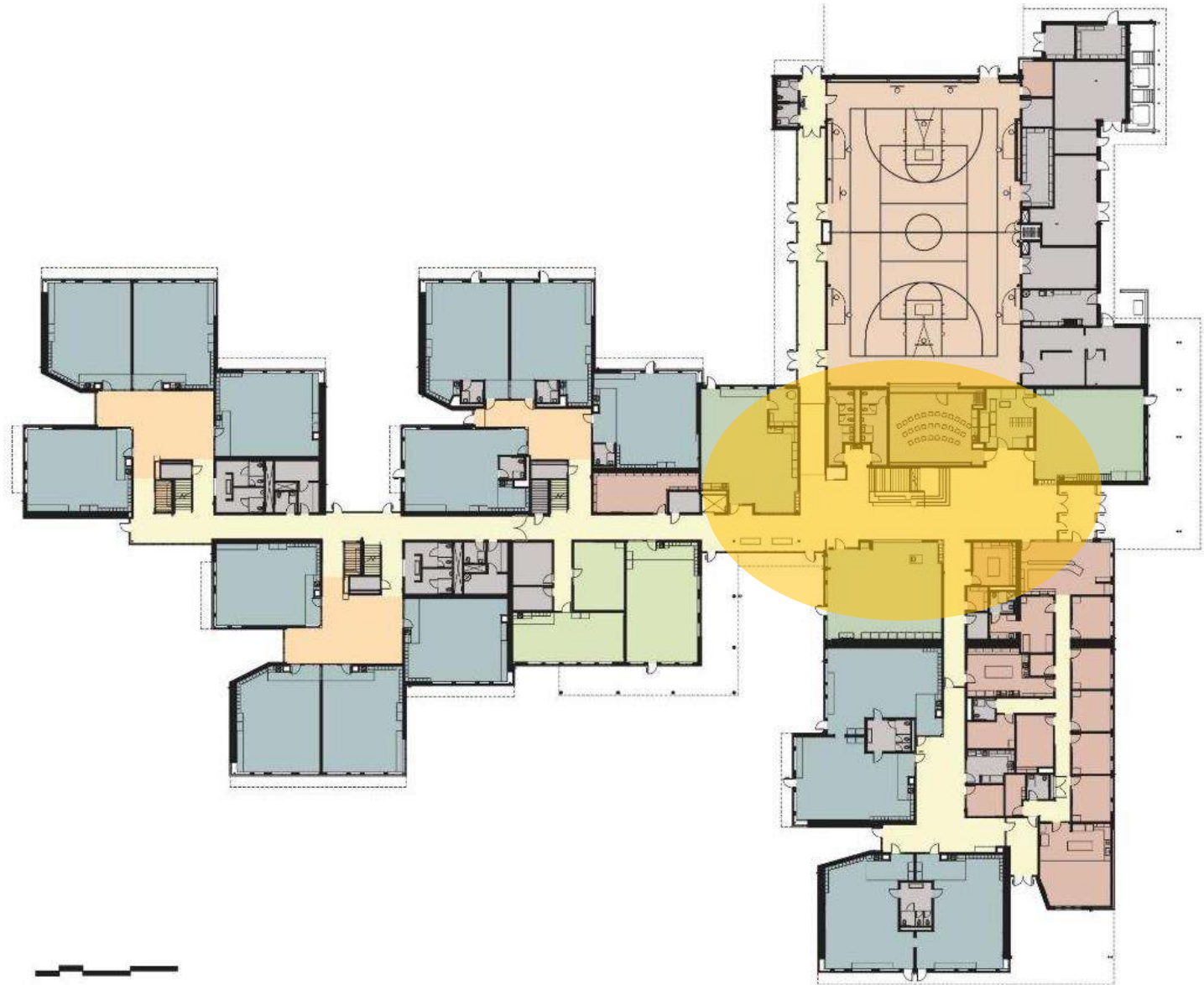




## ENATAI means... WHERE THE WOODS MEET THE WATER...



# Enatai Elementary School





# Enatai Elementary School











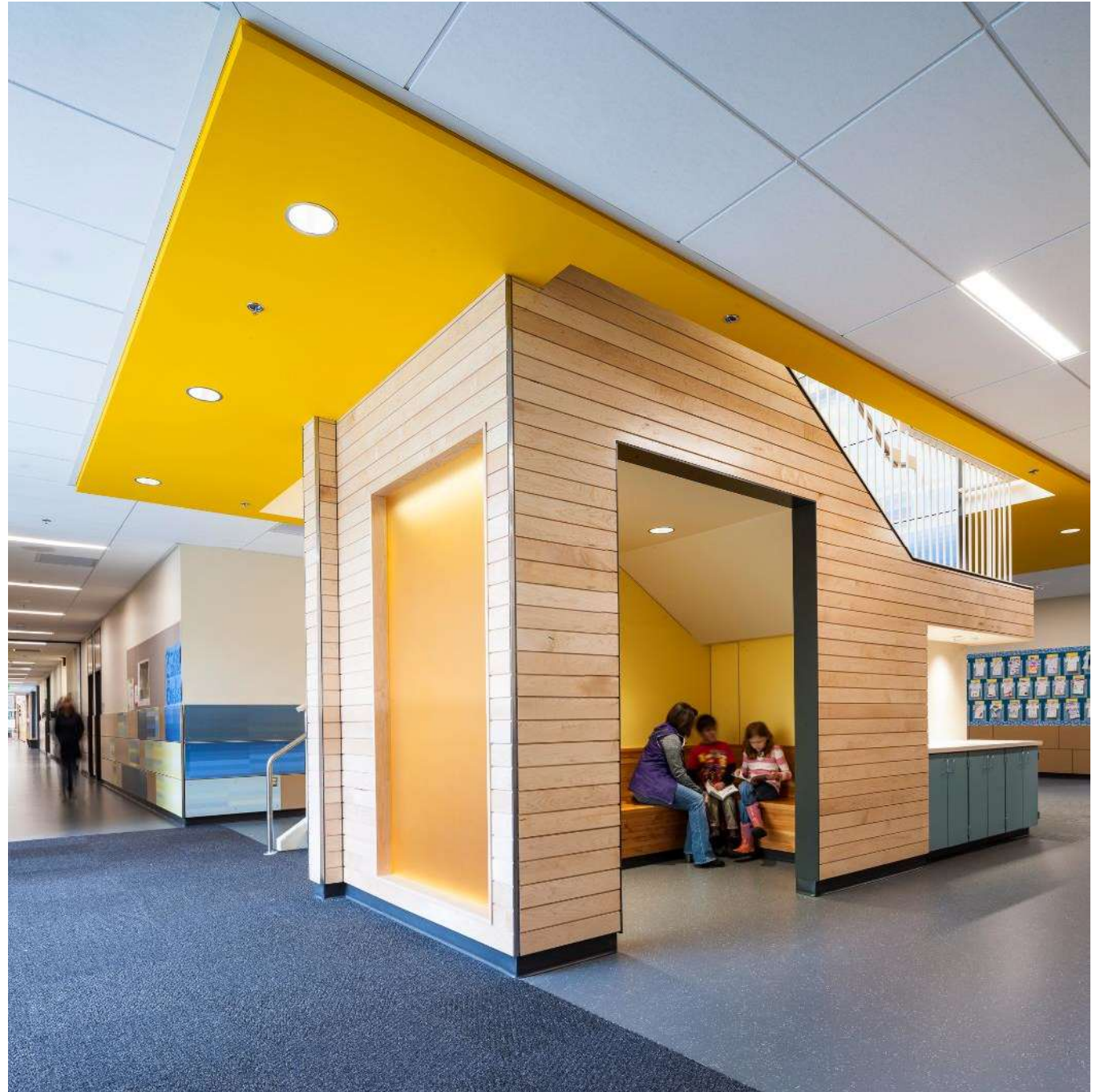


















































# Question + Answer

# Resources for Further Research

- Blue Print for Tomorrow – Redesigning Schools for Student-Centered Learning
  - By Prakash Nair
- STEM teaching tools
  - [www.STEMteachingtools.org](http://www.STEMteachingtools.org)
- Digital Media & Learning Research Hub
  - [www.dmlhub.net](http://www.dmlhub.net)
- Spigot – Aggregate news, research, and info for those working at the intersection of learning, technology, and youth
  - [www.spigot.org](http://www.spigot.org)
- Connected Learning Research Network
  - [Clrn.dmlhub.net](http://Clrn.dmlhub.net)
  - <http://www.sciencepioneers.org/parents/why-stem-is-important-to-everyone>
  - <https://www.ed.gov/Stem>