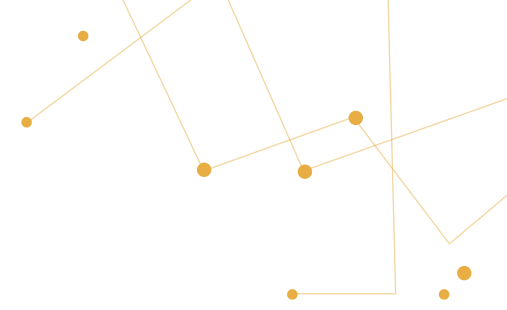# RUSD STEM HIGH SCHOOL
Building for the Future

A state of the art public STEM high school on the premises of a world class public research university, University of California, Riverside

Ruhnau Clarke Architects
Design Presentation
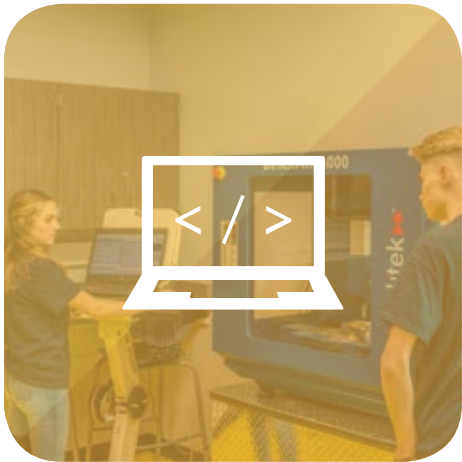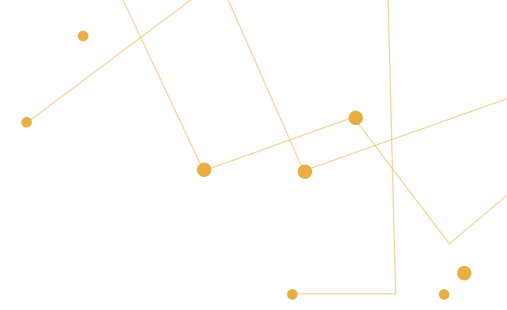September 2018

RUHNAU CLARKE ARCHITECTS

WHY
STEM

FOUNDATIONAL TENETS

1 **Quality**
Provide high level of STEM teaching and learning.

2 **Equity**
Ensure equitable Access and Success for ALL students at the Riverside STEM High School.

3 **Experience**
Offer a variety of interdisciplinary STEM areas of study with capstone projects and industry certification.

4 **Partnerships**
Create a STEM Partnership Forum to facilitate robust partnerships with higher education, business and industry.

5 **STEM Ambassadors**
Ensure all students graduate with strong STEM knowledge, develop into socially responsible citizens and cultivate a joy of learning.

BENEFITS OF A STEM HIGH SCHOOL

STEM PATHWAYS

Computer Science

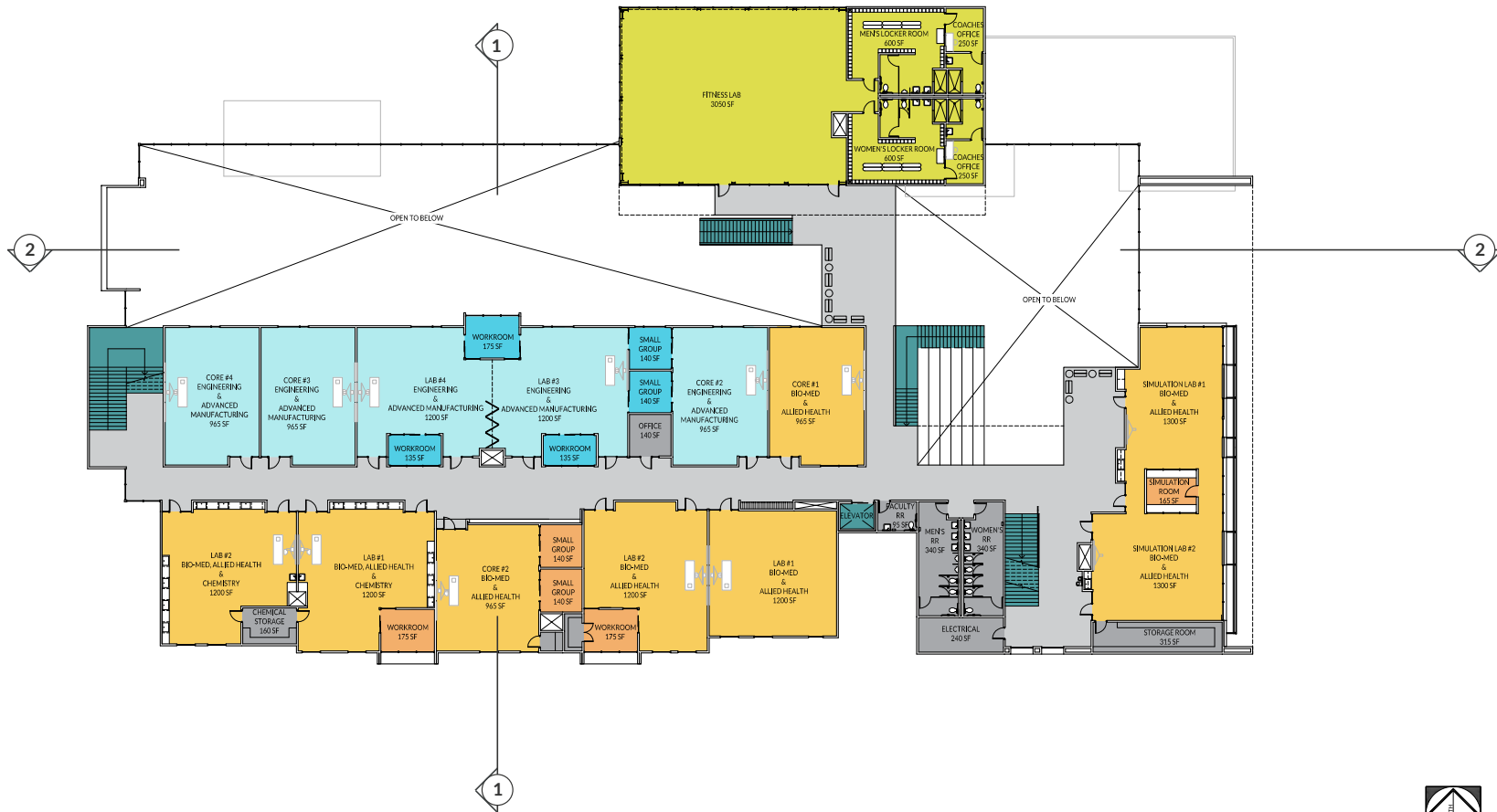Environmental/Agricultural Science

Bio-Medical/Allied Health

Engineering & Advanced Manufacturing
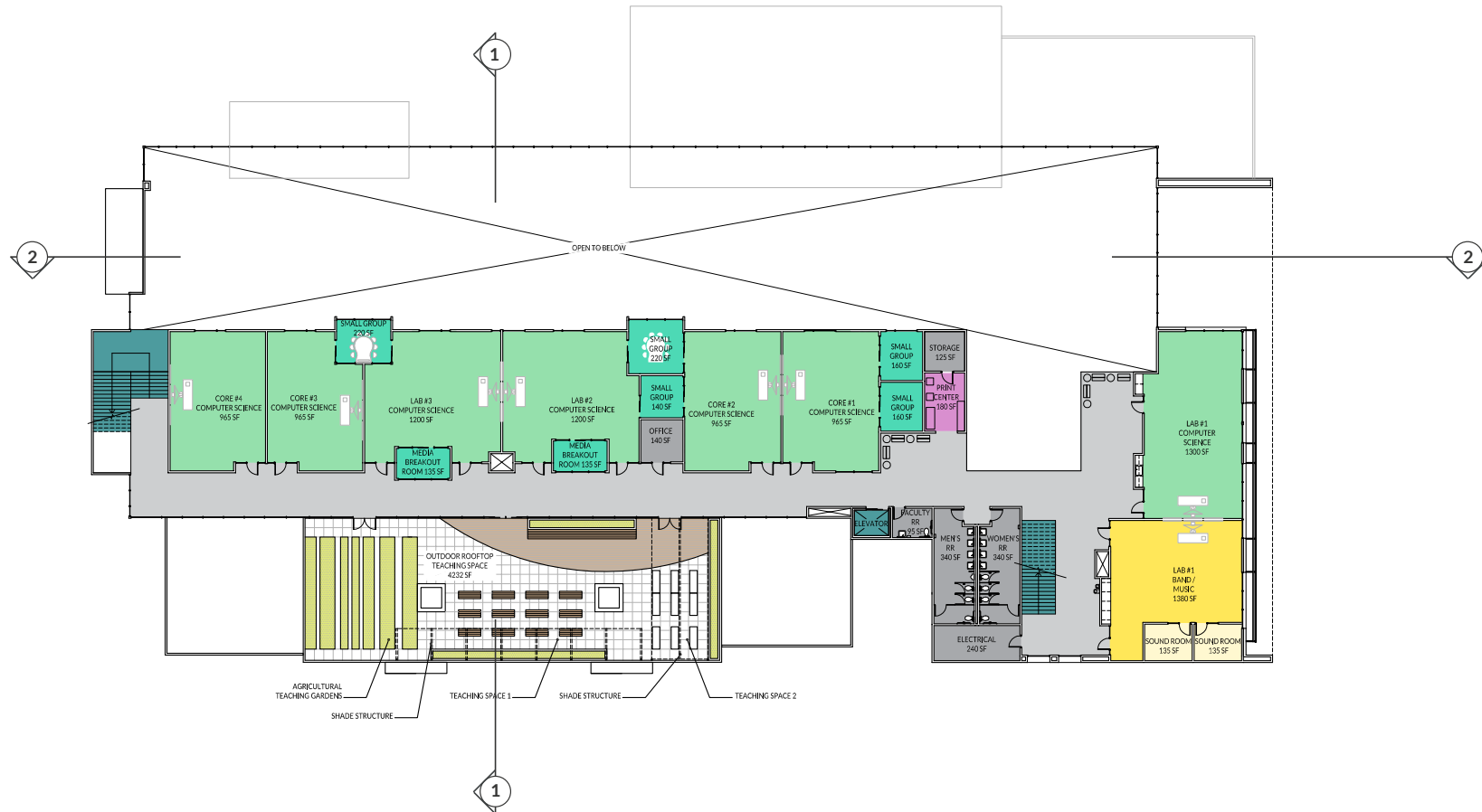
CONCEPTUAL FLOOR PLAN:
1ST FLOOR

DISCOVERY LAB
2202 SF

MATERIAL STORAGE
805 SF

WORK ROOM
435 SF

BREAK ROOM
150 SF

ADVISOR
150 SF

ADVISOR
150 SF

ASSISTANT
150 SF

DIRECTOR
225 SF

STORAGE
95 SF

TEST LAB
440 SF

TEST LAB
440 SF

HEALTH
160 SF

ADMIN
250 SF

CONFERENCE
ROOM
225 SF

RR
85 SF

RR
85 SF

RR
95 SF

PARENT
LIASON
165 SF

ADVISOR
165 SF

RECEPTION
350 SF

ENTRY
250 SF

LECTURE
2
475 SF

DISCOVERY CENTER
7600 SF

STAIR
3

ENTRY / STUDENT COMMONS /
DINING
3150 SF

STAIR
1

CORE #4
ENVIRONMENTAL
SCIENCE
&
AGRICULTURE
965 SF

CORE #1
ENGINEERING
&
ADVANCED
MANUFACTURING
965 SF

LAB #2
ENGINEERING
&
ADVANCED MANUFACTURING
1200 SF

WORKROOM
175 SF

LAB #1
ENGINEERING
&
ADVANCED MANUFACTURING
1200 SF

SMALL
GROUP
140 SF

SMALL
GROUP
140 SF

OFFICE
140 SF

CORE #2
ENVIRONMENTAL
SCIENCE
&
AGRICULTURE
965 SF

CORE #1
ENVIRONMENTAL
SCIENCE
&
AGRICULTURE
965 SF

STORAGE
540 SF

LECTURE
1
1500 SF

SERVING AREA
770 SF

OUTDOOR
EATING
SPACE

WORKROOM
175 SF

LAB #4
ENVIRONMENTAL
SCIENCE
&
AGRICULTURE
1200 SF

LAB #3
ENVIRONMENTAL
SCIENCE
&
AGRICULTURE
1200 SF

CORE #3
ENVIRONMENTAL
SCIENCE
&
AGRICULTURE
965 SF

SMALL
GROUP
175 SF

SMALL
GROUP
175 SF

LAB #2
ENVIRONMENTAL
SCIENCE
&
AGRICULTURE
1200 SF

LAB #1
ENVIRONMENTAL
SCIENCE
&
AGRICULTURE
1200 SF

FACULTY
RR
95 SF

ELEVATOR

STAIR
2

MEN'S
RR
340 SF

WOMEN'S
RR
340 SF

PREP

TEACHING KITCHEN
1370 SF

OFFICE
100 SF

RR
85 SF

DRY
STOR.

CUST
95 SF

ELECT
160 SF

AGRICULTURE
STORAGE
160 SF

DATA
130 SF

ELECTRICAL
110 SF

RUHNAU
CLARKE
ARCHITECTS

CONCEPTUAL FLOOR PLAN:
2ND FLOOR

FITNESS LAB
3050 SF

MEN'S LOCKER ROOM
600 SF

COACHES OFFICE
250 SF

WOMEN'S LOCKER ROOM
600 SF

COACHES OFFICE
250 SF

OPEN TO BELOW

OPEN TO BELOW

CORE #4
ENGINEERING
&
ADVANCED
MANUFACTURING
965 SF

CORE #3
ENGINEERING
&
ADVANCED
MANUFACTURING
965 SF

LAB #4
ENGINEERING
&
ADVANCED MANUFACTURING
1200 SF

LAB #3
ENGINEERING
&
ADVANCED MANUFACTURING
1200 SF

WORKROOM
175 SF

SMALL
GROUP
140 SF

SMALL
GROUP
140 SF

OFFICE
140 SF

CORE #2
ENGINEERING
&
ADVANCED
MANUFACTURING
965 SF

CORE #1
BIO-MED
&
ALLIED HEALTH
965 SF

WORKROOM
135 SF

WORKROOM
135 SF

SIMULATION LAB #1
BIO-MED
&
ALLIED HEALTH
1300 SF

SIMULATION
ROOM
165 SF

LAB #2
BIO-MED, ALLIED HEALTH
&
CHEMISTRY
1200 SF

LAB #1
BIO-MED, ALLIED HEALTH
&
CHEMISTRY
1200 SF

CORE #2
BIO-MED
&
ALLIED HEALTH
965 SF

SMALL
GROUP
140 SF

SMALL
GROUP
140 SF

LAB #2
BIO-MED
&
ALLIED HEALTH
1200 SF

LAB #1
BIO-MED
&
ALLIED HEALTH
1200 SF

FACULTY
RR
95 SF

ELEVATOR

MEN'S
RR
340 SF

WOMEN'S
RR
340 SF

SIMULATION LAB #2
BIO-MED
&
ALLIED HEALTH
1300 SF

CHEMICAL
STORAGE
160 SF

WORKROOM
175 SF

WORKROOM
175 SF

ELECTRICAL
240 SF

STORAGE ROOM
315 SF

SECOND FLOOR | 2

NORTH

CONCEPTUAL FLOOR PLAN:
3RD FLOOR

CONTEXT DIAGRAM

5-Minute walk
(1/4 mile)

STEM HIGH
SCHOOL SITE

BLAINE ST.

FUTURE NORTH DISTRICT
DEVELOPMENT

WATKINS DR.

W. LINDEN ST.

CANYON CREST DR.

ABERDEEN DR.

VALENCIA HILL DR.

ARROYO

N. CAMPUS DR.

BIG SPRINGS RD.

10-Minute walk
(1/2 mile)

LEGEND

◄──►	**SCIENCE LAB CONNECTION 1**
◄──►	**SCIENCE LAB CONNECTION 2**
◄──►	**SCIENCE LAB CONNECTION 3**
◄◆►	**FUTURE PEDESTRIAN & BICYCLE ONLY STREET**
◄◆►	**VEHICULAR STREET**
◄◆►	**LIMITED ACCESS STREET**
‖‖‖‖	**MAJOR PEDESTRIAN/BICYCLE WAY**
‖‖‖‖	**PEDESTRIAN/BICYCLE BRIDGE**
▮	**PARKING STRUCTURE**
– – –	**CAMPUS BOUNDARY**
– – –	**PROJECT BOUNDARY**

NORTH

RUHNAU CLARKE

CONTEXT:
SITE IMAGES

WATKINS DR. LOOKING EAST | 1

WATKINS DR. LOOKING WEST | 2

CORP YARD | 3

CORP YARD | 4

GLEN MOR HOUSING | 5

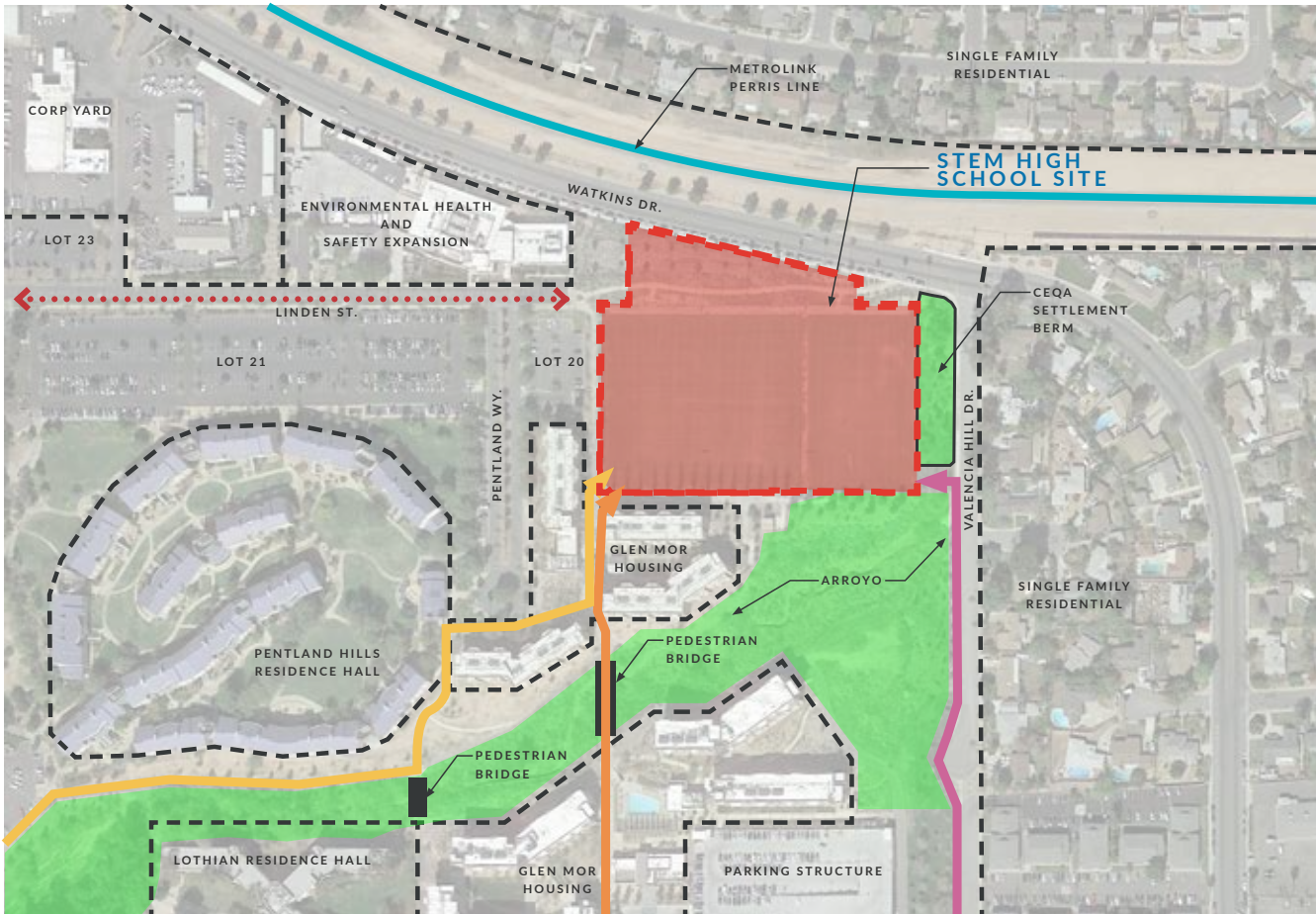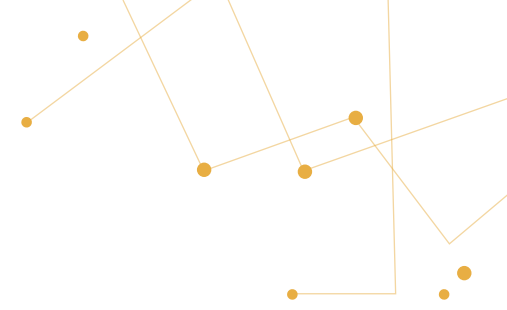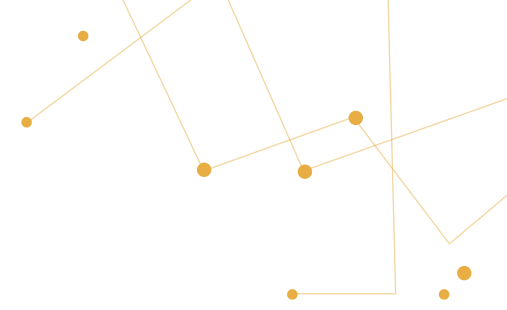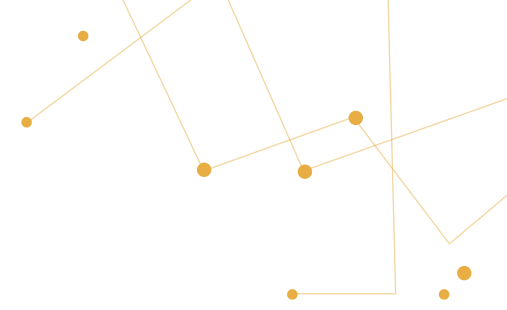GLEN MOR HOUSING | 6

RUHNAU CLARKE ARCHITECTS

CONTEXT:
SITE PLAN

LEGEND

- ⟷ SCIENCE LAB CONNECTION 1
- ⟷ SCIENCE LAB CONNECTION 2
- ⟷ SCIENCE LAB CONNECTION 3
- ◆◆ FUTURE PEDESTRIAN & BICYCLE ONLY STREET
- – – – PROJECT BOUNDARY

METROLINK PERRIS LINE

SINGLE FAMILY RESIDENTIAL

CORP YARD

STEM HIGH SCHOOL SITE

ENVIRONMENTAL HEALTH AND SAFETY EXPANSION

LOT 23

WATKINS DR.

CEQA SETTLEMENT BERM

LINDEN ST.

LOT 21

LOT 20

PENTLAND WY.

VALENCIA HILL DR.

GLEN MOR HOUSING

ARROYO

SINGLE FAMILY RESIDENTIAL

PENTLAND HILLS RESIDENCE HALL

PEDESTRIAN BRIDGE

PEDESTRIAN BRIDGE

LOTHIAN RESIDENCE HALL

GLEN MOR HOUSING

PARKING STRUCTURE

RUHNAU CLARKE ARCHITECTS

CONTEXT:
STREET TREE DIAGRAM

LINDEN ST. PALM TREE LINED AXIS | 1

WATKINS DRIVE

Existing Hybrid Mexican Fan Palm and continuation of Tipuana tipu

1

RUSD STEM

2

3

2

P

VALENCIA HILL DRIVE

BIG SPRINGS ROAD

VALENCIA HILL DR. CEQA BERM | 2

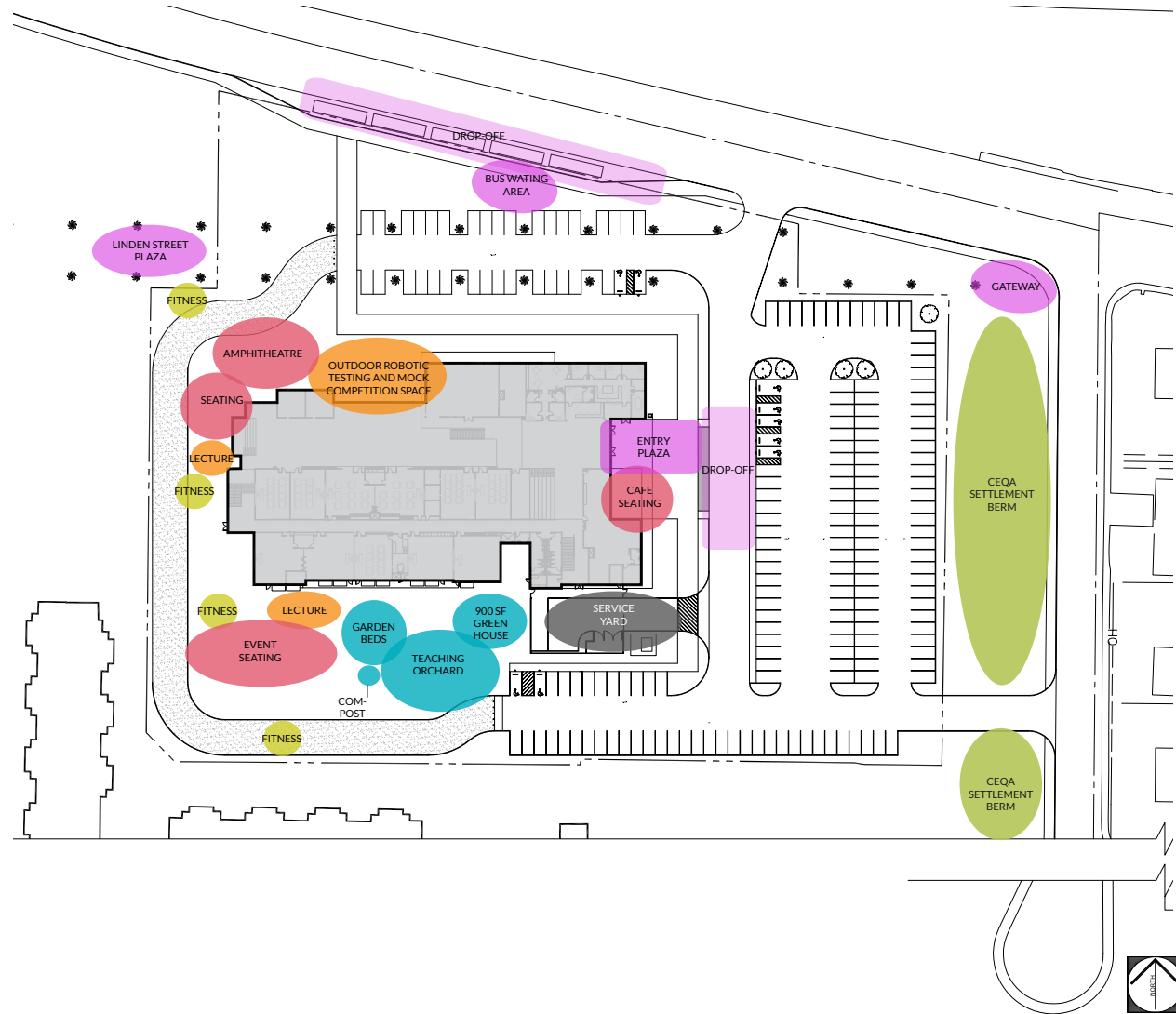Existing naturalized berm with Canary Island Pines

Continuation of native and naturalized trees

UCR ARROYO | 3

SITE PROGRAM

LEGEND

- ENTRY & ARRIVAL
- STEM COMMUNAL SPACE
- LECTURE / EDUCATION SPACE
- RECREATION / FITNESS
- AGRICULTURAL PROGRAM
- CEQA

DROP-OFF

BUS WAITING AREA

LINDEN STREET PLAZA

GATEWAY

FITNESS

AMPHITHEATRE

OUTDOOR ROBOTIC TESTING AND MOCK COMPETITION SPACE

SEATING

ENTRY PLAZA

LECTURE

DROP-OFF

FITNESS

CAFE SEATING

CEQA SETTLEMENT BERM

FITNESS

LECTURE

GARDEN BEDS

900 SF GREEN HOUSE

SERVICE YARD

EVENT SEATING

TEACHING ORCHARD

COM-POST

FITNESS

CEQA SETTLEMENT BERM

NORTH

LANDSCAPE
INSPIRATIONAL IMAGES

GREEN HOUSE AND PLANTERS

OUTDOOR ASSEMBLY SEATING

RAISED GARDEN BEDS

TEACHING ORCHARD
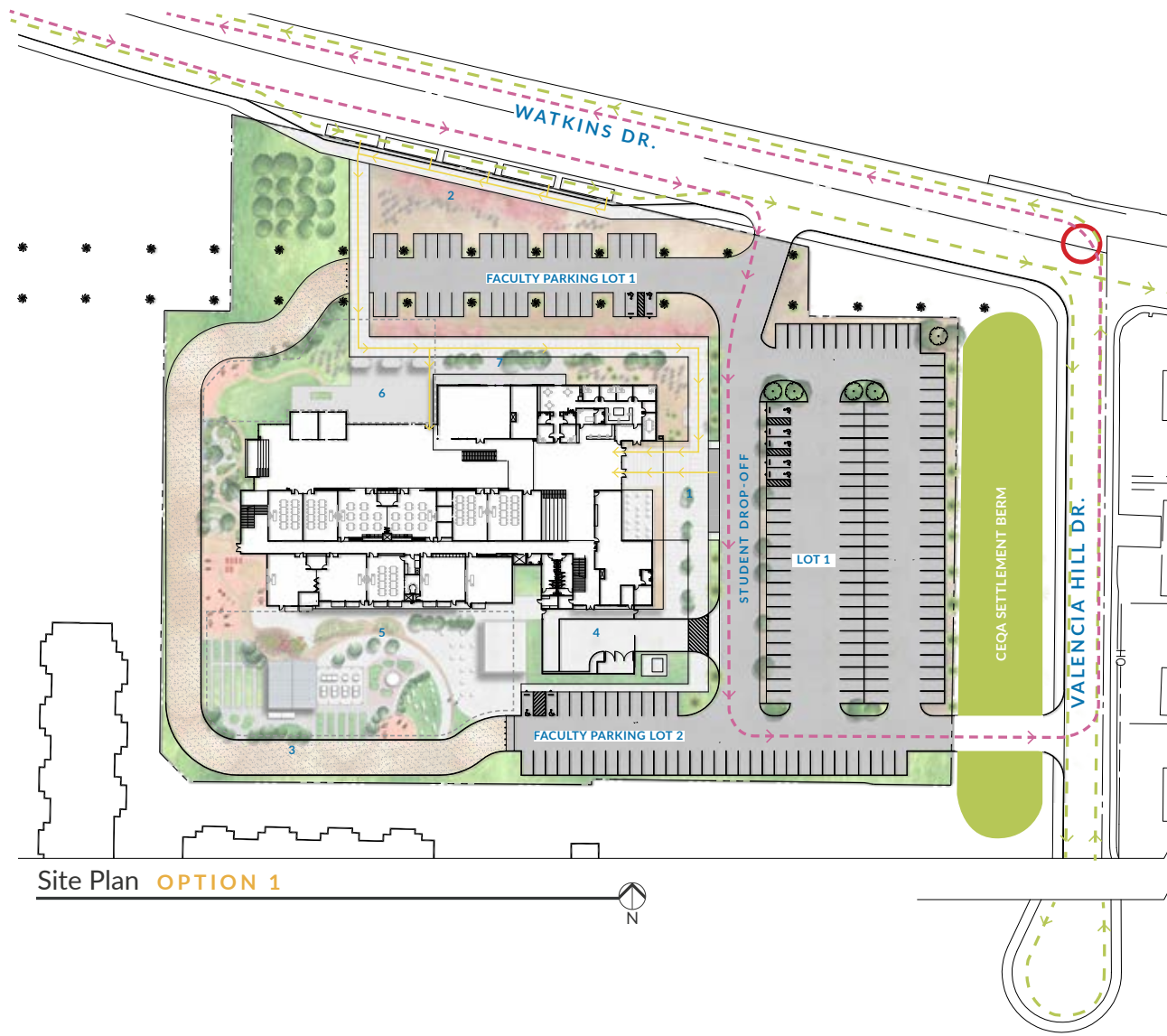

EVENT AND SCHOOL GATHERING SPACE

FITNESS & RECREATION

ENGINEERING TESTING & ROBOTICS
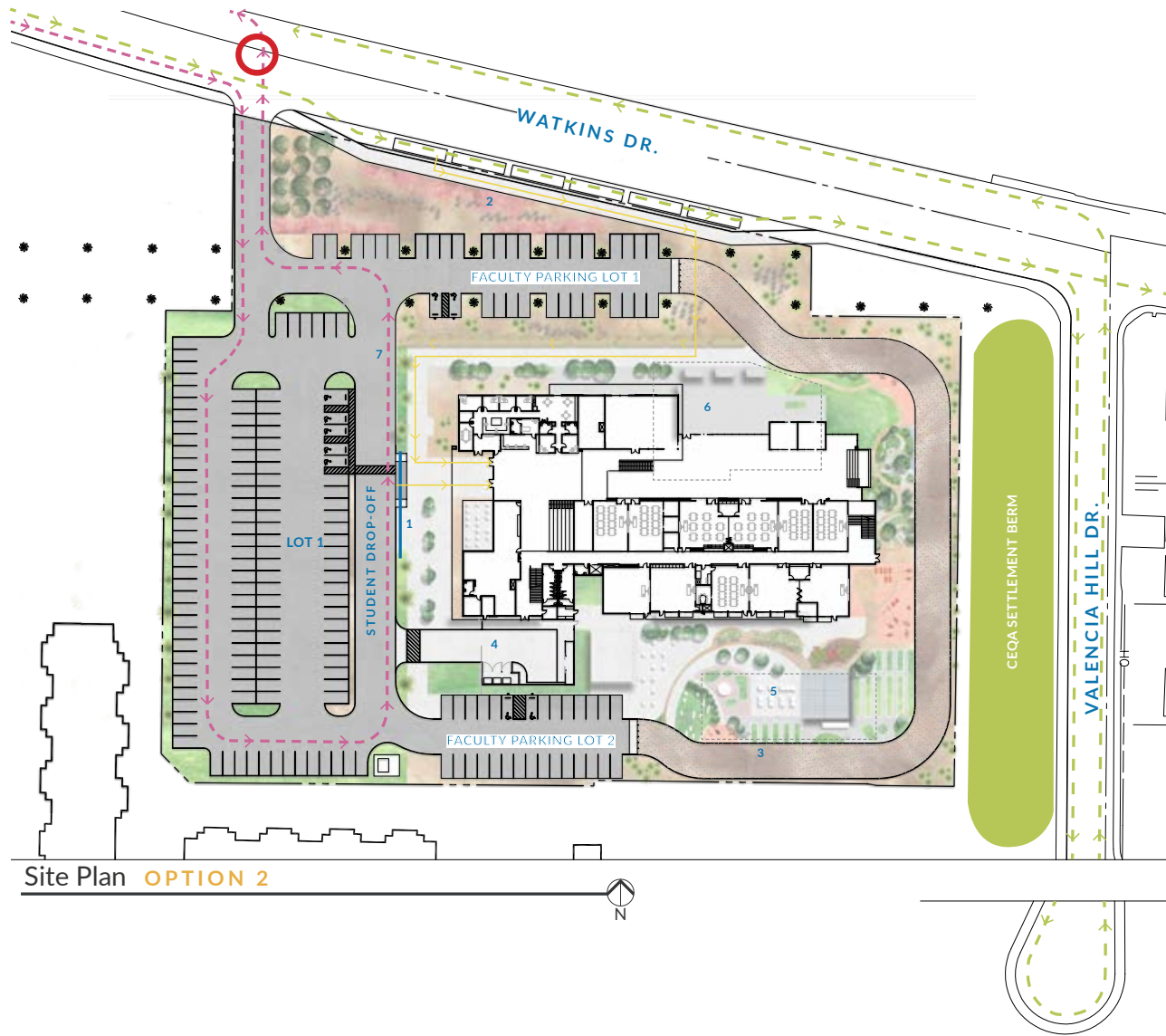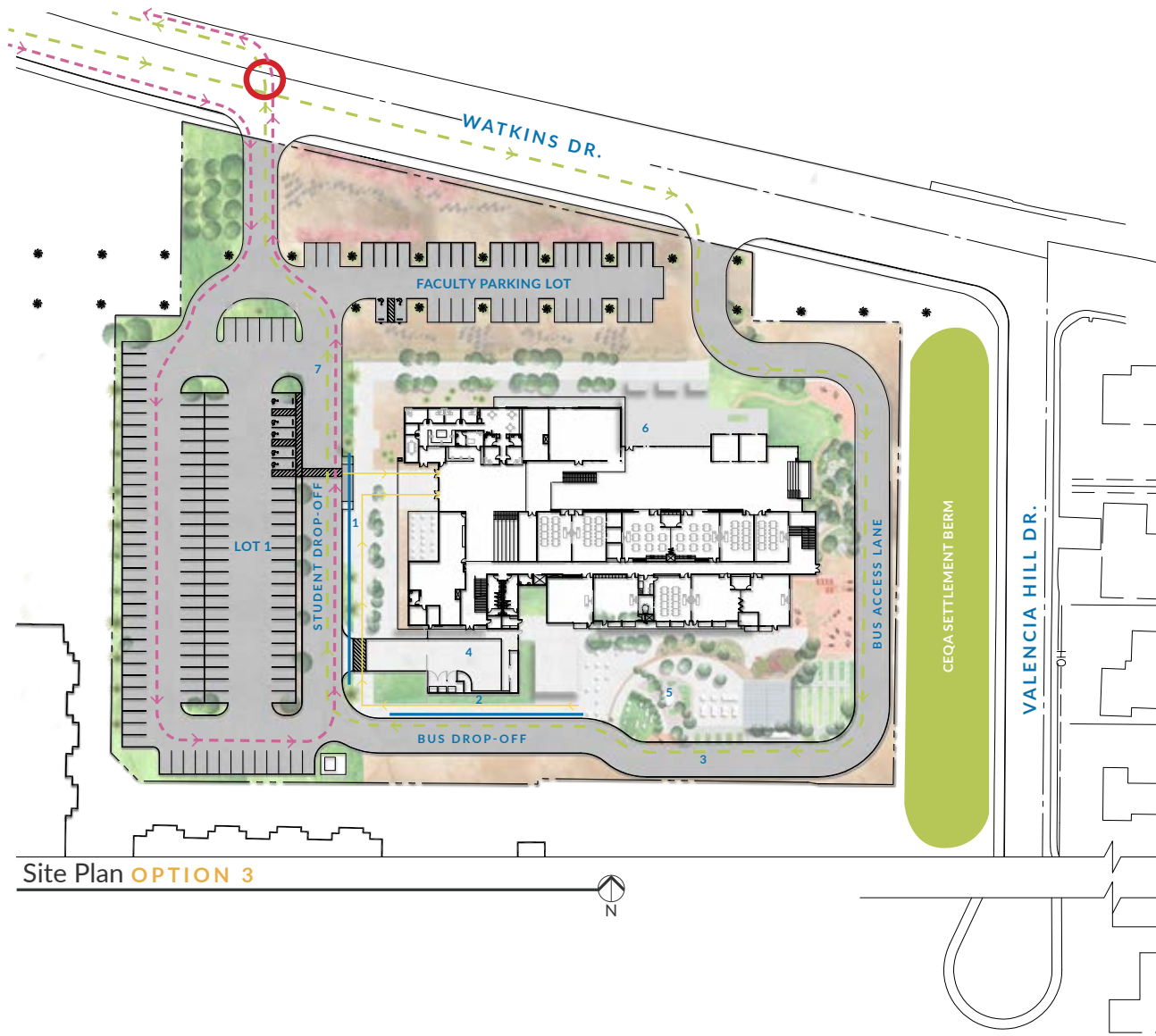

INDOOR/OUTDOOR CLASSROOM

SITE PLAN
OPTION 1

WATKINS DR.

FACULTY PARKING LOT 1

STUDENT DROP-OFF

LOT 1

CEQA SETTLEMENT BERM

VALENCIA HILL DR.

FACULTY PARKING LOT 2

Site Plan OPTION 1

N

SITE PLAN
OPTION 2

WATKINS DR.

FACULTY PARKING LOT 1

LOT 1

STUDENT DROP-OFF

FACULTY PARKING LOT 2

CEQA SETTLEMENT BERM

VALENCIA HILL DR.

2

7

6

1

4

5

3

Site Plan OPTION 2

N

SITE PLAN
OPTION 3

WATKINS DR.

FACULTY PARKING LOT

LOT 1

STUDENT DROP-OFF

BUS ACCESS LANE

CEQA SETTLEMENT BERM

VALENCIA HILL DR.

7

6

1

4

5

2

3

BUS DROP-OFF

Site Plan OPTION 3

N

CONCEPT 1
BOX SPRINGS MOUNTAINS

▲ Natural mountain terrain, vegetation and trails.

▲ Lush natural landscape in organic arrangements contrasted by clean lined hardscape.

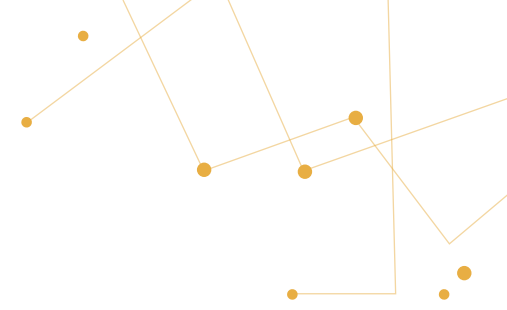▲ Landscaped mounds alongside hardscape encouraged interaction with the outdoor environment.

▲ Hard seating nestled into the landscape.

▲ Teaching spaces (amphitheater) carved out and incorporated into the landscape.

CONCEPT 2
ARROYO

▲ Natural arroyo landscape.

▲ Boulders integrated into natural arroyo.

▲ Site drainage meanders throughout the site, interacting with paths and outdoor teaching spaces.

▲ Drainage clearly expressed and integrated into circulation paths to offer teaching opportunities.

LANDSCAPE
PLANTING FRAMEWORK

Entry garden with soft desert textures and colorful accents.

Arroyo creek beds with varied grasses, native shrubs and boulders.

Topographic landforms with textural buffer planting.

Educational fruit and vegetable garden.

WATKINS DR.

VALENCIA HILL DR.

GLEN MOR
APARTMENTS

LANDSCAPE
TREE FRAMEWORK

Platanus Racemosa

Quercus Agrifolia

Parkinsonia Aculeata

Tipuana Tipu

Citrud Sinensis

Washingtonia Robusta Hybrid (Existing)

Exisiting Populus Fremontii

Exisiting CEQA Berm Trees

WATKINS DR.

VALENCIA HILL DR.

GLEN MOR APARTMENTS

LANDSCAPE
TREE SELECTION

Parkinsonia Aculeata

Acacia Podalyriifolia

Citrus Sinensis

Washingtonia Robusta (Hybrid)
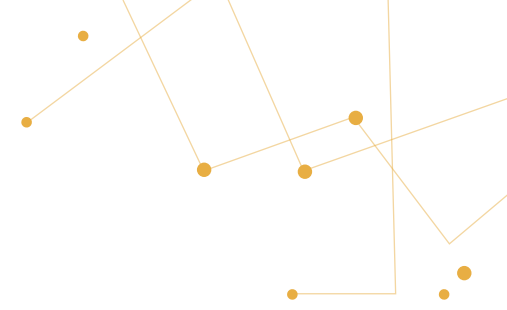

Arbutus Marina

Quercus Agrifolia

Tipuana Tipu

Platanus Racemosa

LANDSCAPE
UNDER STORY PLANTING

ENTRY GARDEN

Muhlenbergia Dubia

Aloe

Agave 'Blue Glow'

Yucca Filamentosa

Anigozanthos 'Bush Sunset'

Senecio Serpens

ARROYO

Carex Divulsa

Chondropetalum Tectorum

Dietes Bicolor

Lantana 'Gold'

Muhlenbergia Linheimerii

LANDFORMS & BUFFER

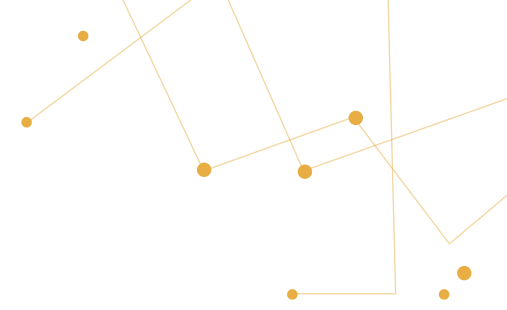Baccharis Pilularis 'Twin Peaks'

Festuca Mairei

Salvia Pozo 'Blue'

Rosmarinus Officinalis 'Tuscan Blue'

Rhamnus Umbulata 'Minor'

SITE COMPARISON

Current

Future

Light Pollution

Direct light and glare spill from lights will be contained on the site.

Noise

Limited noise impacts from outdoor activities except for limited hours of the day on North and South side of the building.

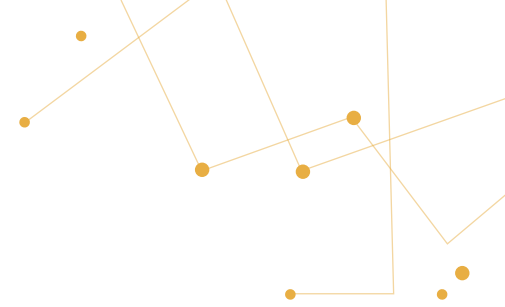Nighttime noise should be virtually eliminated.

Traffic

Through traffic will bypass school because of school zone speed limits.

Signalized intersection will make for safer traffic movements in and around school zone.
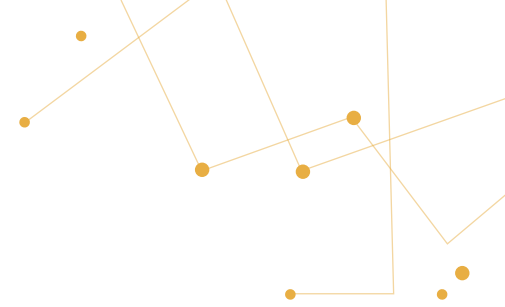
CONCEPTUAL RENDERING
EXTERIOR
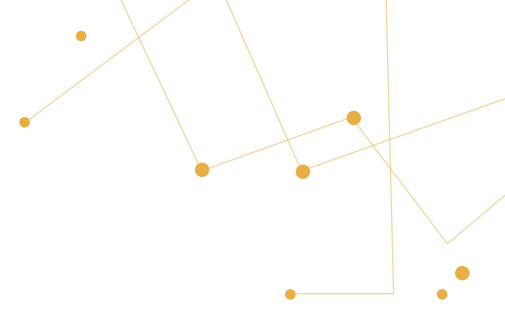
CONCEPTUAL RENDERING
MAIN ENTRANCE

CONCEPTUAL RENDERING
EXTERIOR

CONCEPTUAL RENDERING
INTERIOR