



PEXSISEN and CENTRE MOUNTAIN LELLUM Schools

Growing up in Westhills

Date
Oct 20, 2023

Meeting
A4LE BC Chapter – Fall 2023 Conference



1 project overview

Date

Oct 20, 2023

Meeting

A4LE BC Chapter – Fall 2023 Conference

Project title

PEXSISEN and CENTRE MOUNTAIN LELLUM Schools





- 16 acres
- 40m+ in elevation change across site
- 2 schools (elementary + middle)
- 2 athletic fields
- LEED Gold v4 target



PEXSISEN Elementary School



Credit: SMCN Consulting (Isaac LeBlanc)

CENTRE MOUNTAIN LELLUM Middle School



Date
Oct 20, 2023

Meeting
A4LE BC Chapter – Fall 2023 Conference

Project title
PEXSISEN and CENTRE MOUNTAIN LELLUM Schools





Credit: SMcN Consulting (Isaac LeBlanc)

PEXSISEN Elementary School

PUXX/SEE/SUNG – “the opening of hands” or
“to have one’s hands wide open”
(gifted by Songhees First Nation)

- 500 students
- 4,195 m²
- 2 storeys
- 21 classrooms
- before & after school care, pre-school

CENTRE MOUNTAIN LELLUM Middle School

LAY/LUM – the meaning of house and the idea of community, where we raise our children
(gifted by Sc'ianew First Nation)

- 700 students
- 6,345 m²
- 3 storeys
- 25 classrooms
- shop, foods/textiles, music, choral, science, art



Credit: SMcN Consulting (Isaac LeBlanc)

Consultant Team

Owner – School District 62

Contractor – Farmer Construction

Architectural – **hcma**

Structural – Herold Engineering

Mechanical – SMcN Consulting

Electrical – AES Engineering

Civil – On Point Project Engineers

Landscape – Associated Engineering

Envelope – Morrison Hershfield

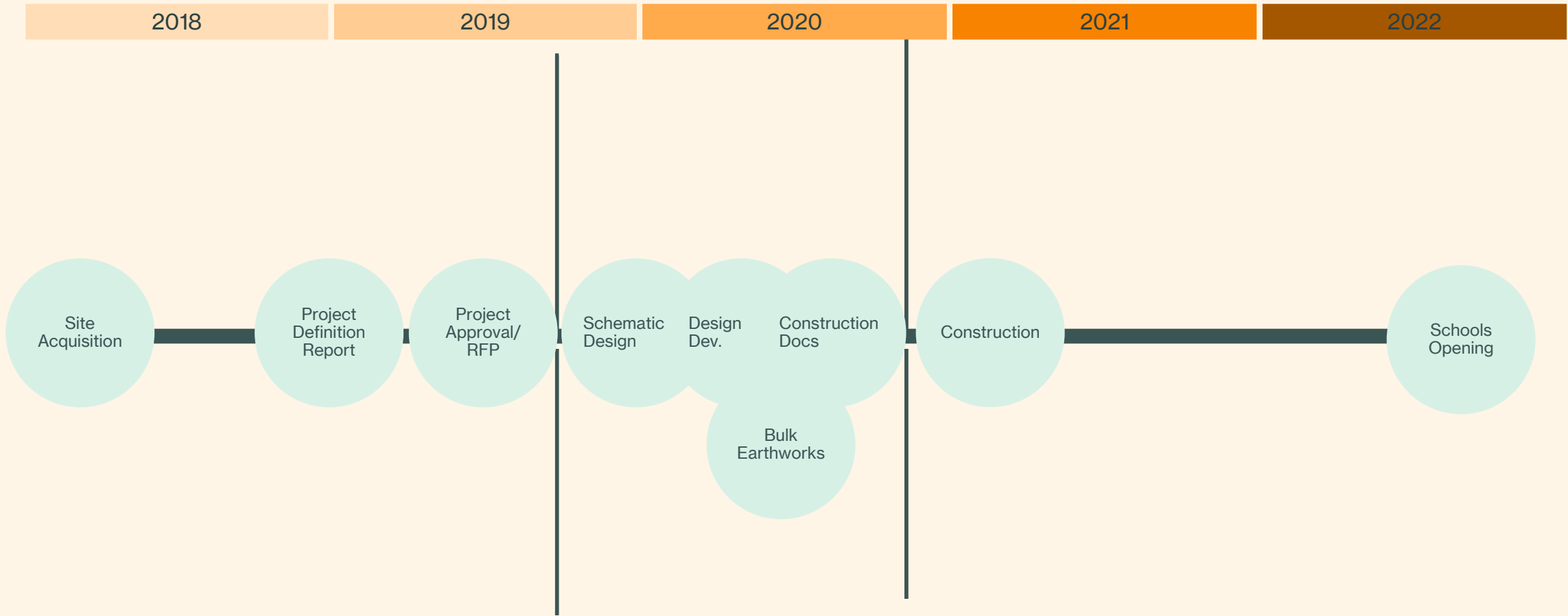
Geotech – Ryzuk Geotechnical

Code – Celerity Engineering

Energy Modelling – Enersys Analytics

Acoustics – RWDI







How did we get here?

guiding principles: we believe in

01

Fostering **a sense of belonging** among students, teachers, staff, community members, and families, where everyone is an essential member of the building and school community.

04

Being flexible and fluid, giving opportunity to all to explore, collaborate, and adapt to the future **at their own pace**.

02

Building a vibrant, inspiring, and livable **place for human connection**, where everyone is energized to take part and take care of each other.

05

Providing **a supportive environment** for thorough inquiry and conscientious learning for students, teachers, staff, and community members.

03

Creating a safe and comfortable atmosphere for learning, teaching, and growing, and everyone has the security of knowing they can **participate without barriers**.



neighbourhood context

- 01 an area of rapid growth
- 02 anticipate significant changes in coming years
- 03 contribute to the emerging identity & character
- 04 educational but also social and recreational anchor



2 the approach

Date

Oct 20, 2023

Meeting

A4LE BC Chapter – Fall 2023 Conference

Project title

PEXSISEN and CENTRE MOUNTAIN LELLUM Schools



What's the essential element that will spring the design forward?

Date

Oct 20, 2023

Meeting

A4LE BC Chapter – Fall 2023 Conference

Project title

PEXSISEN and CENTRE MOUNTAIN LELLUM Schools



One building or two?

Date

Oct 20, 2023

Meeting

A4LE BC Chapter – Fall 2023 Conference

Project title

PEXSISEN and CENTRE MOUNTAIN LELLUM Schools



elementary

middle



What are the requirements?

elementary

middle

Space Function	NOMINAL CAPACITY																	
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	
	Core area in (m2)																	
Admin./ Health	125	135	145	155	155	155	190	190	190	190	190	210	210	210	210	210	210	
Counselling	50	50	50	50	50	50	50	50	50	50	50	50	50	60	60	60	60	
General Storage	60	60	70	70	80	80	90	90	90	90	100	100	100	100	105	105	105	
Gym Activity	500	500	500	500	500	600	600	600	600	600	600	600	600	600	750	750	750	
Gym Ancillary	100	100	100	100	100	150	150	150	150	150	150	150	150	200	200	200	200	
Media/ Tech. Centre	225	235	250	255	265	270	280	290	310	320	330	340	350	355	365	375	385	
Multi-Purpose	100	100	100	100	100	160	160	160	160	160	240	240	240	240	240	240	240	
Special Ed.	100	160	160	160	240	240	240	320	320	320	400	400	400	480	480	480	560	
Total	1260	1340	1375	1390	1490	1705	1760	1850	1870	1880	2060	2090	2100	2395	2410	2420	2510	
Junior Middle Sch.																		
Instructional Space	880	1115	1295	1500	1660	1820	1980	2140	2300	2500	2660	2820	3000	3160	3340	3540	3700	
Mechanical Space (3%)	80	95	105	110	120	135	145	155	160	170	180	190	195	215	220	230	240	
Design Space (28%)	600	690	750	810	880	990	1050	1120	1170	1225	1320	1375	1430	1555	1610	1670	1740	
Max. Gross Area	2820	3240	3525	3810	4150	4650	4935	5265	5500	5775	6220	6475	6725	7325	7580	7860	8190	
Senior Middle Sch.																		
Instructional Space	1020	1180	1335	1540	1700	1920	2100	2320	2480	2685	2865	2945	3135	3370	3530	3710	3965	
Mechanical Space (3%)	90	95	105	110	125	140	150	160	170	175	190	195	200	220	230	235	250	
Design Space (28%)	640	705	760	820	895	1015	1080	1170	1220	1280	1380	1410	1465	1615	1665	1715	1815	
Max. Gross Area	3010	3320	3575	3860	4210	4780	5090	5500	5740	6020	6495	6640	6900	7600	7835	8080	8540	



What are the requirements?

40m elev difference!

rocks!

elementary

middle

roads!

parking!

fields have to be super flat!

Space Function	NOMINAL CAPACITY																	
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	
	Core area (m ²)																	
Admin./ Health	125	135	145	155	155	190	190	190	190	190	210	210	210	210	210	210	210	
Counselling	50	50	50	50	50	50	50	50	50	50	50	50	50	60	60	60	60	
General Storage	60	60	70	70	80	80	90	90	90	90	100	100	100	100	105	105	105	
Gym Activity	500	500	500	500	500	600	600	600	600	600	600	600	600	750	750	750	750	
Gym Ancillary	100	100	100	100	100	150	150	150	150	150	150	150	150	200	200	200	200	
Media/ Tech. Centre	225	235	250	255	265	270	280	290	310	320	330	340	350	355	365	375	385	
Multi-Purpose	100	100	100	100	100	160	160	160	160	160	240	240	240	240	240	240	240	
Special Ed.	100	160	160	160	240	240	240	320	320	320	400	400	400	480	480	480	560	
Total	1260	1340	1375	1390	1490	1705	1760	1850	1870	1880	2060	2090	2100	2395	2410	2420	2510	
Junior Middle Sch.																		
Instructional Space	880	1115	1295	1500	1660	1820	1980	2140	2300	2500	2660	2820	3000	3160	3340	3540	3700	
Mechanical Space (3%)	80	95	105	110	120	135	145	155	160	170	180	190	195	215	220	230	240	
Design Space (28%)	600	690	750	810	880	990	1050	1120	1170	1225	1320	1375	1430	1555	1610	1670	1740	
Max. Gross Area	2820	3240	3525	3810	4150	4650	4935	5265	5500	5775	6210	6475	6725	7325	7580	7860	8190	
Senior Middle Sch.																		
Instructional Space	1020	1180	1335	1540	1700	1920	2100	2320	2480	2685	2865	2945	3135	3370	3530	3710	3965	
Mechanical Space (3%)	90	95	105	110	125	140	150	160	170	175	190	195	200	220	230	235	250	
Design Space (28%)	640	705	760	820	895	1015	1080	1170	1220	1280	1380	1410	1465	1615	1665	1715	1815	
Max. Gross Area	3010	3320	3575	3860	4210	4780	5090	5500	5740	6020	6495	6640	6900	7600	7835	8080	8540	



What are the requirements?

40m elev difference!

rocks!

elementary

one building?

middle

roads!

parking!

fields have to be super flat!

Space Function	NOMINAL CAPACITY																
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
Core area (m ²)																	
Admin./ Health	125	135	145	155	155	155	190	190	190	190	190	210	210	210	210	210	210
Counselling	50	50	50	50	50	50	50	50	50	50	50	50	50	60	60	60	60
General Storage	60	60	70	70	80	80	90	90	90	90	100	100	100	100	105	105	105
Gym Activity	500	500	500	500	500	600	600	600	600	600	600	600	600	600	750	750	750
Gym Ancillary	100	100	100	100	100	150	150	150	150	150	150	150	150	200	200	200	200
Media/ Tech. Centre	225	235	250	250	265	270	280	310	310	320	330	340	350	350	365	375	385
Multi-Purpose	100	100	100	100	100	160	160	160	160	160	160	160	160	240	240	240	240
Special Ed.	100	100	160	160	240	240	240	320	320	320	320	320	480	480	480	480	560
Total	1260	1340	1375	1390	1490	1765	1760	1850	1870	1880	2060	2090	2170	2395	2410	2420	2510
Junior Middle Sch.																	
Instructional Space	880	1115	1295	1500	1660	1820	1980	2140	2300	2500	2660	2820	3000	3160	3340	3540	3700
Mechanical Space (3%)	80	95	105	110	120	135	145	155	160	170	180	190	195	215	220	230	240
Design Space (28%)	600	690	750	810	880	990	1050	1120	1170	1225	1320	1375	1430	1555	1610	1670	1740
Max. Gross Area	2820	3240	3525	3810	4150	4650	4935	5265	5500	5775	6220	6475	6725	7325	7580	7860	8190
Senior Middle Sch.																	
Instructional Space	1020	1180	1335	1540	1700	1920	2100	2320	2480	2685	2865	2945	3135	3370	3530	3710	3965
Mechanical Space (3%)	90	95	105	110	125	140	150	160	170	175	190	195	200	220	230	235	250
Design Space (28%)	640	705	760	820	895	1015	1080	1170	1220	1280	1380	1410	1465	1615	1665	1715	1815
Max. Gross Area	3010	3320	3575	3860	4210	4780	5090	5500	5740	6020	6495	6640	6900	7600	7835	8080	8540

What are the requirements?

40m elev difference!

rocks!

elementary

middle

one building?

roads!

parking!

fields have to be super flat!

Space Function	NOMINAL CAPACITY																		
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000		
Core area (m2)																			
Admin./ Health	125	135	145	155	155	155	190	190	190	190	190	210	210	210	210	210	210		
Counselling	50	50	50	50	50	50	50	50	50	50	50	50	50	60	60	60	60		
General Storage	60	70	70	70	80	80	90	90	90	90	100	100	100	100	105	105	105		
Gym Activity	500	500	500	500	500	600	600	600	600	600	600	600	600	750	750	750	750		
Gym Ancillary	100	100	100	100	100	150	150	150	150	150	150	150	150	200	200	200	200		
Media/ Tech. Centre	225	235	250	250	270	280	300	300	300	330	330	340	350	350	365	375	385		
Multi-Purpose	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
Special Ed.	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
Total	1260	1340	1375	1390	1400	1765	1760	1850	1850	1850	2060	2090	2100	2395	2410	2420	2510		
Junior Middle Sch.																			
Instructional Space	880	1110	1295	1500	1660	1820	1980	2140	2300	2500	2660	2820	3000	3160	3340	3540	3700		
Mechanical Space (3%)	26	95	105	110	120	135	145	155	160	170	180	190	200	215	220	230	240		
Design Space (28%)	600	690	750	810	880	990	1050	1120	1170	1225	1320	1375	1430	1500	1610	1670	1740		
Max. Gross Area	2820	3240	3525	3810	4150	4650	4935	5265	5500	5775	6200	6475	6725	7325	7860	8190	8190		
Senior Middle Sch.																			
Instructional Space	1020	1180	1335	1540	1700	1920	2100	2320	2480	2685	2865	2945	3135	3370	3530	3710	3965		
Mechanical Space (3%)	90	95	105	110	125	140	150	160	170	175	190	195	200	220	230	235	250		
Design Space (28%)	640	705	760	820	895	1015	1080	1170	1220	1280	1380	1410	1465	1615	1665	1715	1815		
Max. Gross Area	3010	3320	3575	3860	4210	4780	5090	5500	5740	6020	6495	6640	6900	7600	7835	8080	8540		



What's the experience?



elementary



middle

What's the experience?



elementary

what gives it shape?



middle

What's the experience?



elementary

it's growing up



middle

What's the experience?



familiarity

trepidation

anticipation

transition

excitement



discovery

What's the experience?



familiarity

the breathing room
in between
is really important



discovery

3 working with the site

Date

Oct 20, 2023

Meeting

A4LE BC Chapter – Fall 2023 Conference

Project title

PEXSISEN and CENTRE MOUNTAIN LELLUM Schools



How does the idea of growing up inform our approach to the site?

Date

Oct 20, 2023

Meeting

A4LE BC Chapter – Fall 2023 Conference

Project title

PEXSISEN and CENTRE MOUNTAIN LELLUM Schools



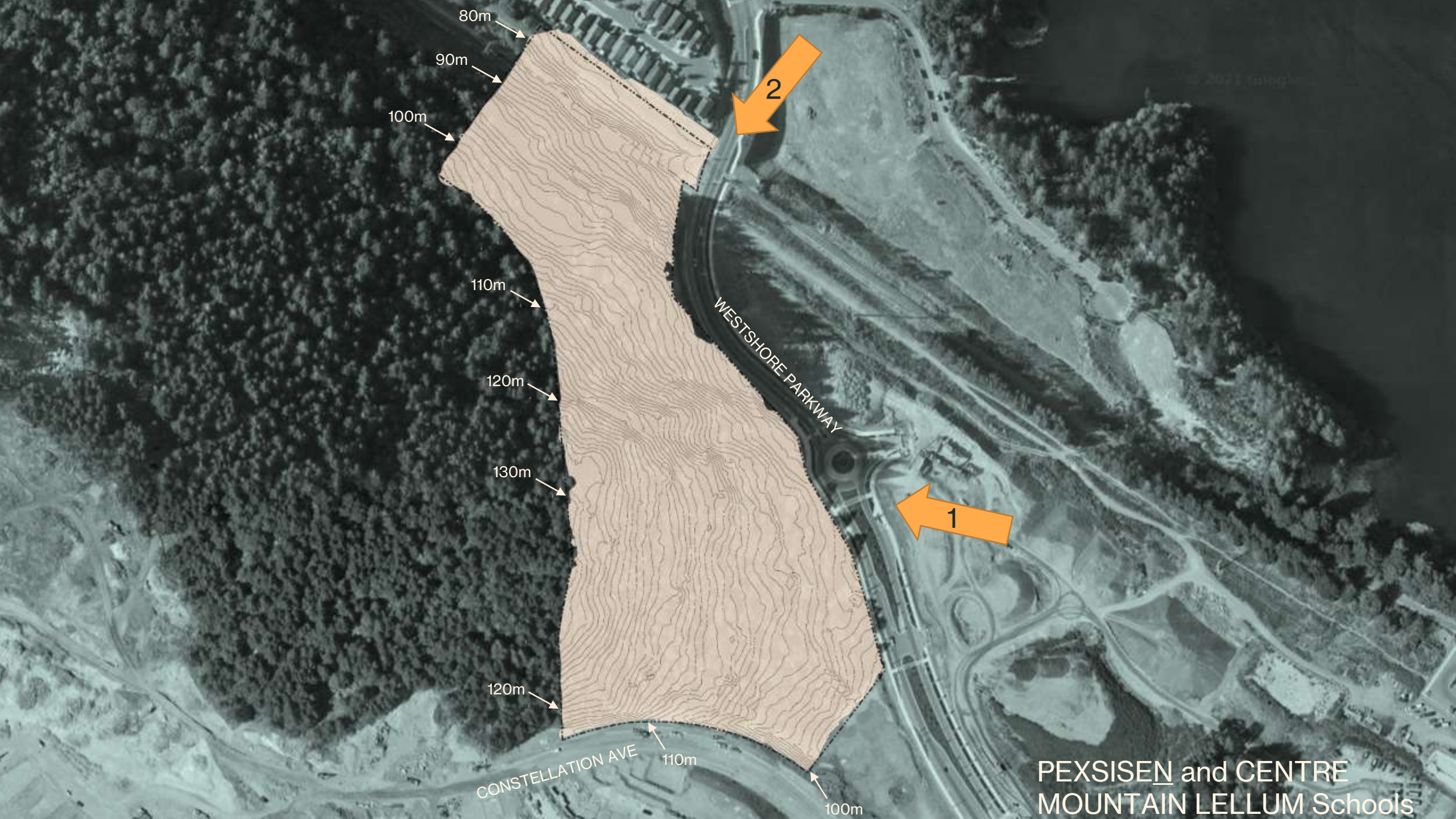


© 2021 Tomlin

WESTSHORE PARKWAY

CONSTELLATION AVE

PEXSISEN and CENTRE
MOUNTAIN LELLUM Schools



80m
90m
100m

110m
120m
130m

120m
110m
100m

WESTSHORE PARKWAY

CONSTELLATION AVE



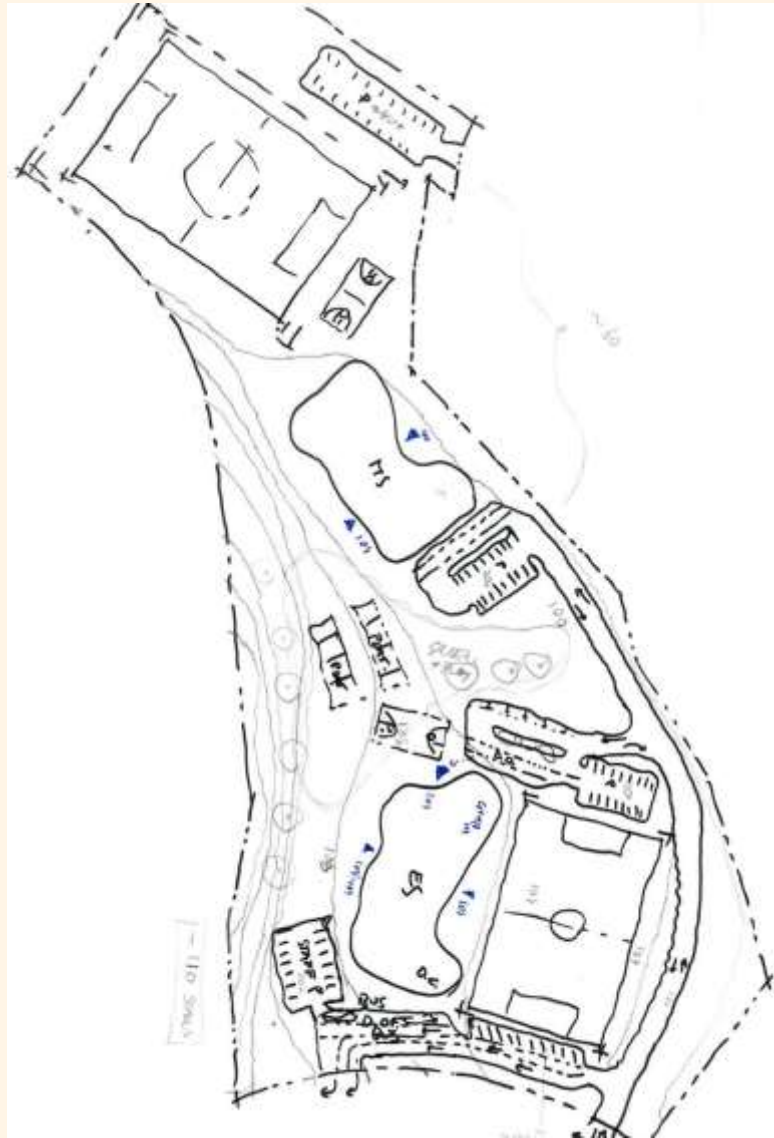
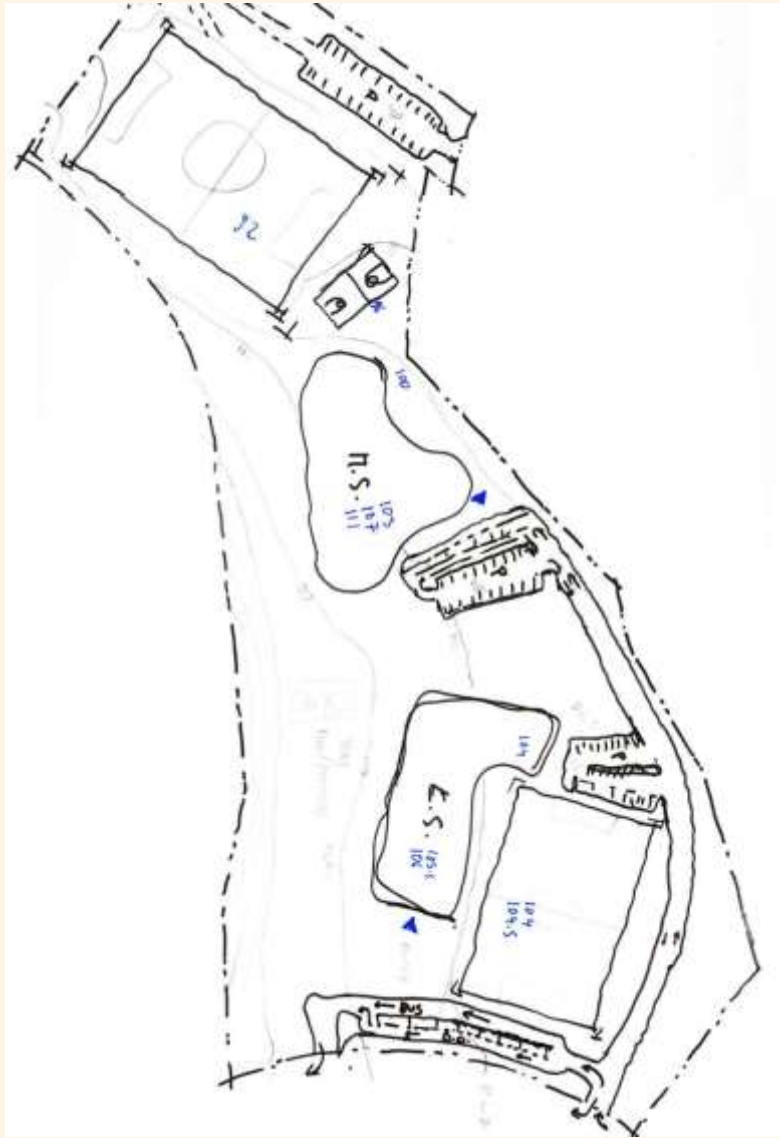
PEXSISEN and CENTRE
MOUNTAIN LELLUM Schools



1 south to north



2 north to south





shear cut

shear cut

mid-site cut

WESTSHORE PARKWAY

CONSTELLATION AVE

PEXSISEN and CENTRE
MOUNTAIN LELLUM Schools

+97.5m

+108m

+110m

+101m

+106m

+112m

+103m



turf field
+97.5m

+108m

+110m

+112m

grass field
+106m

+101m

+103m

WESTSHORE PARKWAY

CONSTELLATION AVE

PEXSISEN and CENTRE
MOUNTAIN LELLUM Schools



turf field
+97.5m

+108m
ms

+110m

+112m
es

grass field
+106m

+101m

+103m

WESTSHORE PARKWAY

CONSTELLATION AVE

PEXSISEN and CENTRE
MOUNTAIN LELLUM Schools



turf field

ms

es

grass field

WESTSHORE PARKWAY

CONSTELLATION AVE

PEXSISEN and CENTRE MOUNTAIN LELLUM Schools



turf field

ms

es

grass field

WESTSHORE PARKWAY

CONSTELLATION AVE

PEXSISEN and CENTRE MOUNTAIN LELLUM Schools



turf field

ms

es

grass field

WESTSHORE PARKWAY

CONSTELLATION AVE

PEXSISEN and CENTRE
MOUNTAIN LELLUM Schools



turf field

ms

es

grass field

WESTSHORE PARKWAY

CONSTELLATION AVE

PEXSISEN and CENTRE
MOUNTAIN LELLUM Schools



turf field

ms

es

grass field

WESTSHORE PARKWAY

CONSTELLATION AVE



PEXSISEN and CENTRE MOUNTAIN LELLUM Schools

Challenges: cut and fill

Earthworks component was a large undertaking:

- mass rock blasting – 210,000m³
- reuse of rock for fill – 80,000m³
- re-use of rock for road pavement – 5,000m³
- total area of walls – 5,000m²



Challenges: cut and fill

- mass rock blasting – 210,000m³
 - 6,363 x 20ft shipping containers



Challenges: cut and fill

- mass rock blasting – 210,000m³
 - 6,363 x 20ft shipping containers



Opportunities: geothermal



Date
Oct 20, 2023

Meeting
A4LE BC Chapter – Fall 2023 Conference

Project title
PEXSISEN and CENTRE MOUNTAIN LELLUM Schools



Challenges: access

single entry onto the site



Credit: SMCN Consulting (Isaac LeBlanc)

Opportunities: experiential quality of the site



Date
Oct 20, 2023

Meeting
A4LE BC Chapter – Fall 2023 Conference

landscape spine



turf field

ns

es

grass field

WESTSHORE PARKWAY

CONSTELLATION AVE

PEXSISEN and CENTRE
MOUNTAIN LELLUM Schools

landscape spine



CONSTELLATION AVE

WESTSHORE PARKWAY

PEXSISEN and CENTRE MOUNTAIN LELLUM Schools

4 expressing growing up

Date

Oct 20, 2023

Meeting

A4LE BC Chapter – Fall 2023 Conference

Project title

PEXSISEN and CENTRE MOUNTAIN LELLUM Schools



How do we celebrate the experience of growing up?

Date

Oct 20, 2023

Meeting

A4LE BC Chapter – Fall 2023 Conference

Project title

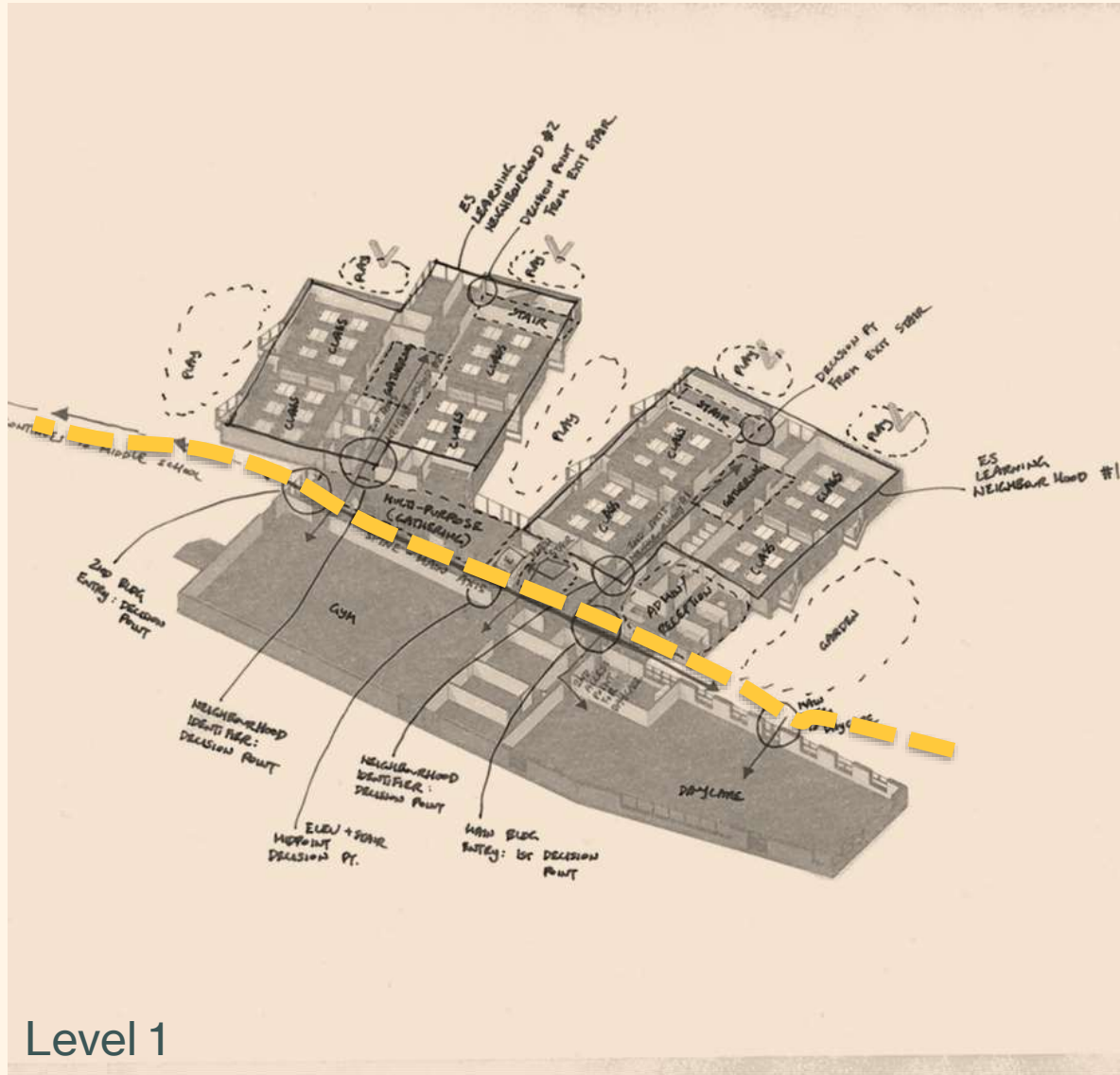
PEXSISEN and CENTRE MOUNTAIN LELLUM Schools



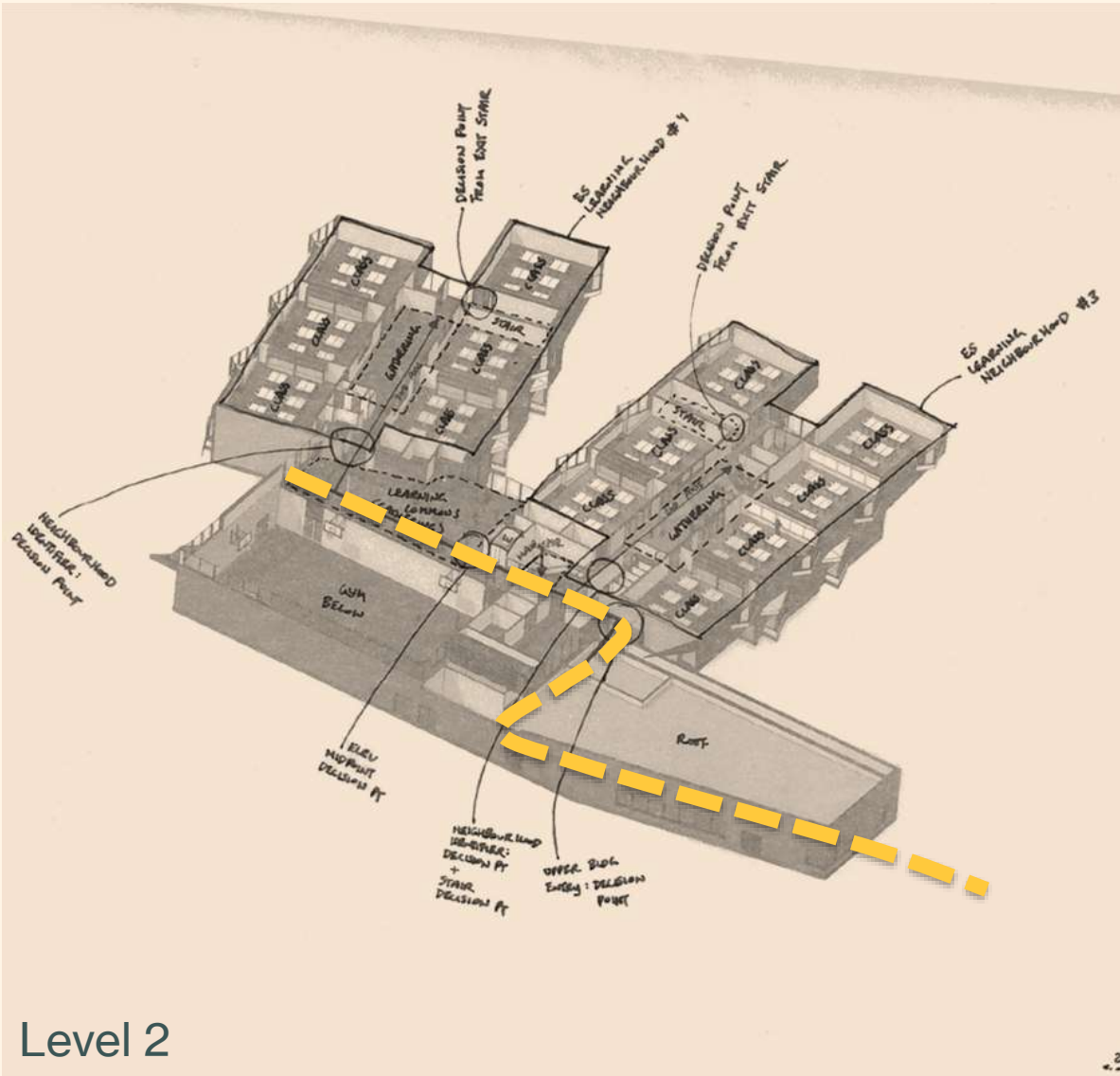


Qualities of ES learning

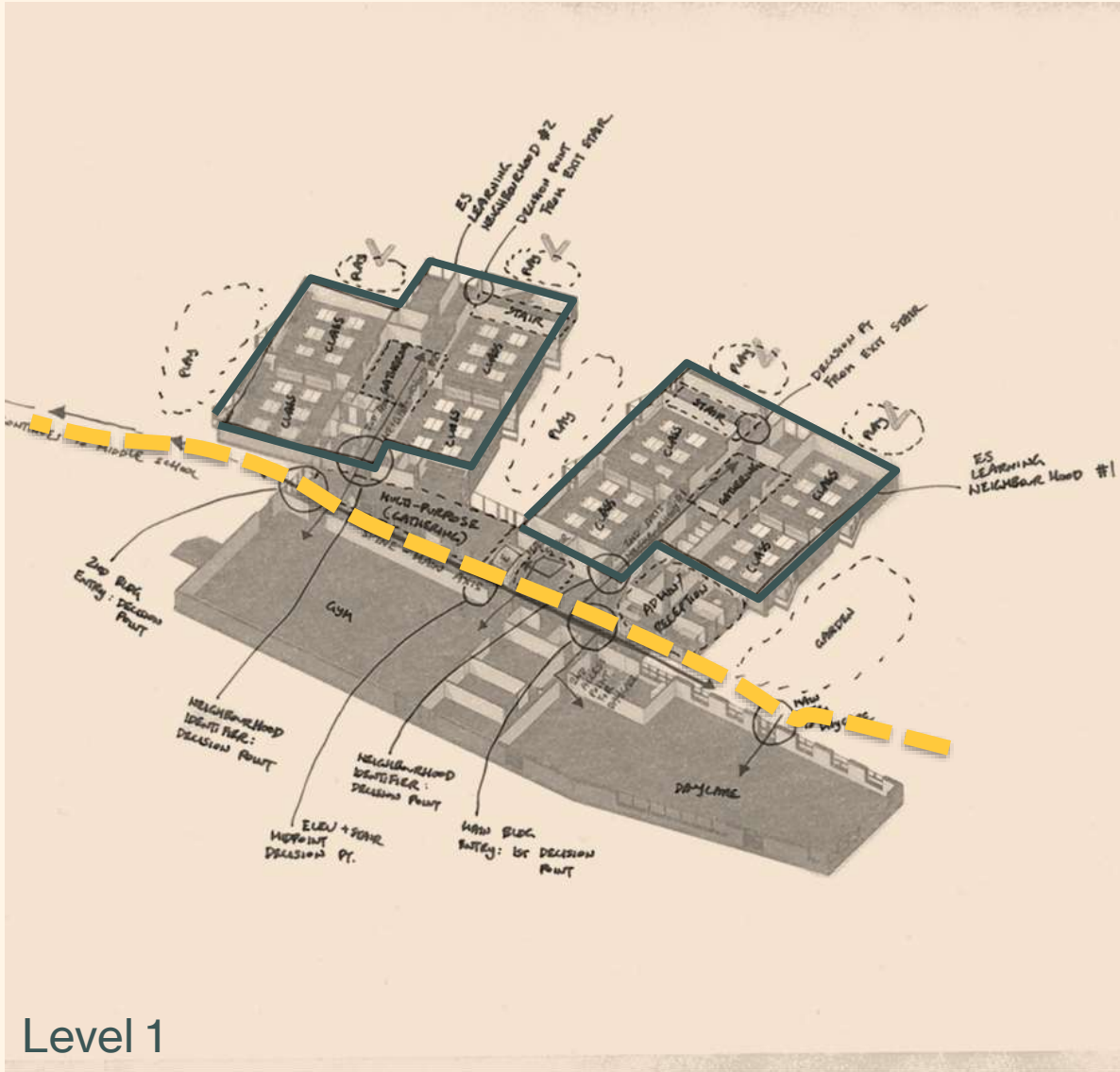
- students typically stay in their learning neighbourhoods
- classrooms are multi-purpose
- higher levels of supervision
- flex space to facilitate play and movement
- visual and physical connection to outdoors
- interior needs a calm environment
- exterior needs an active environment
- variety of play spaces and playful elements throughout



Level 1



Level 2

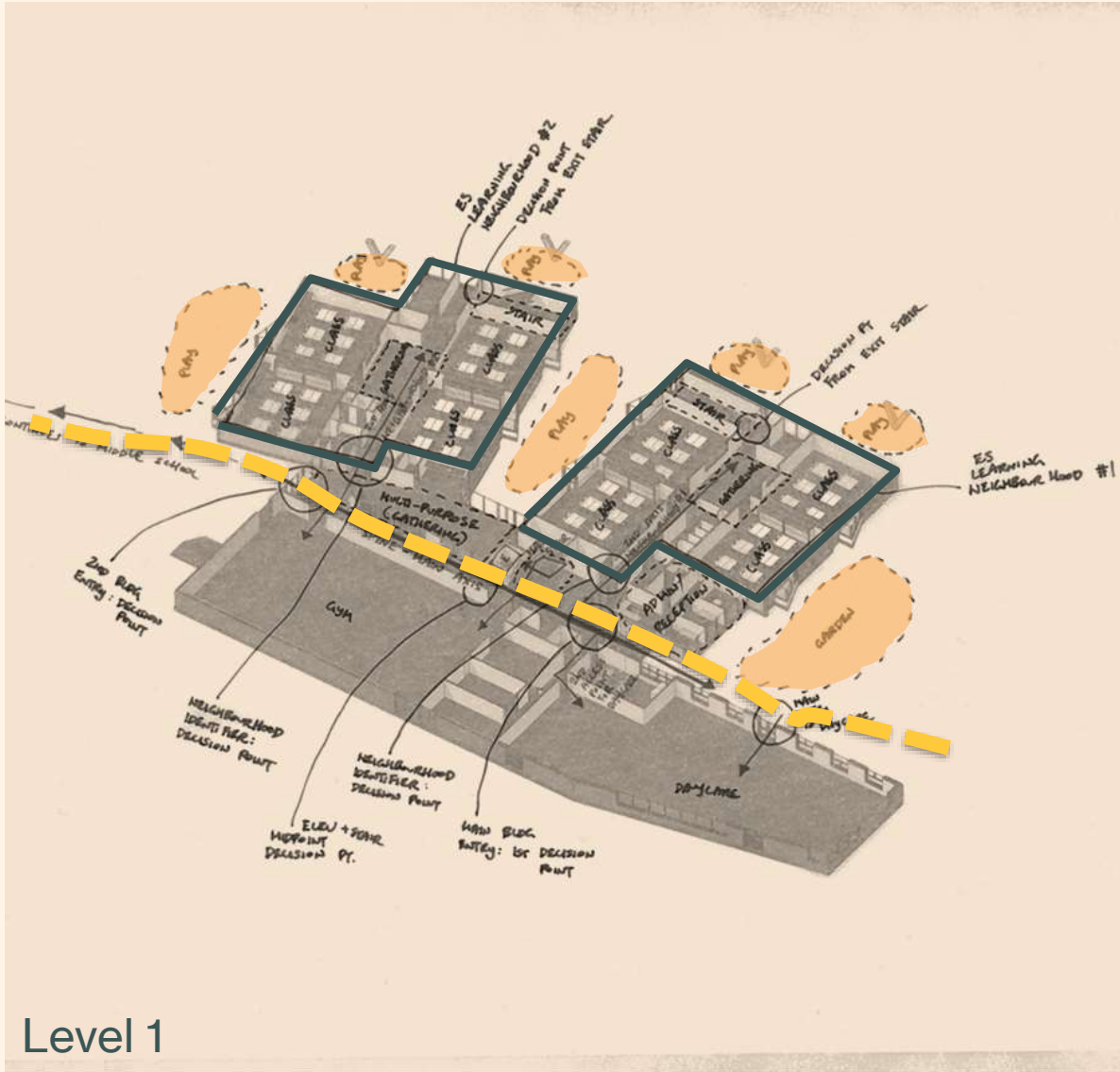


Level 1

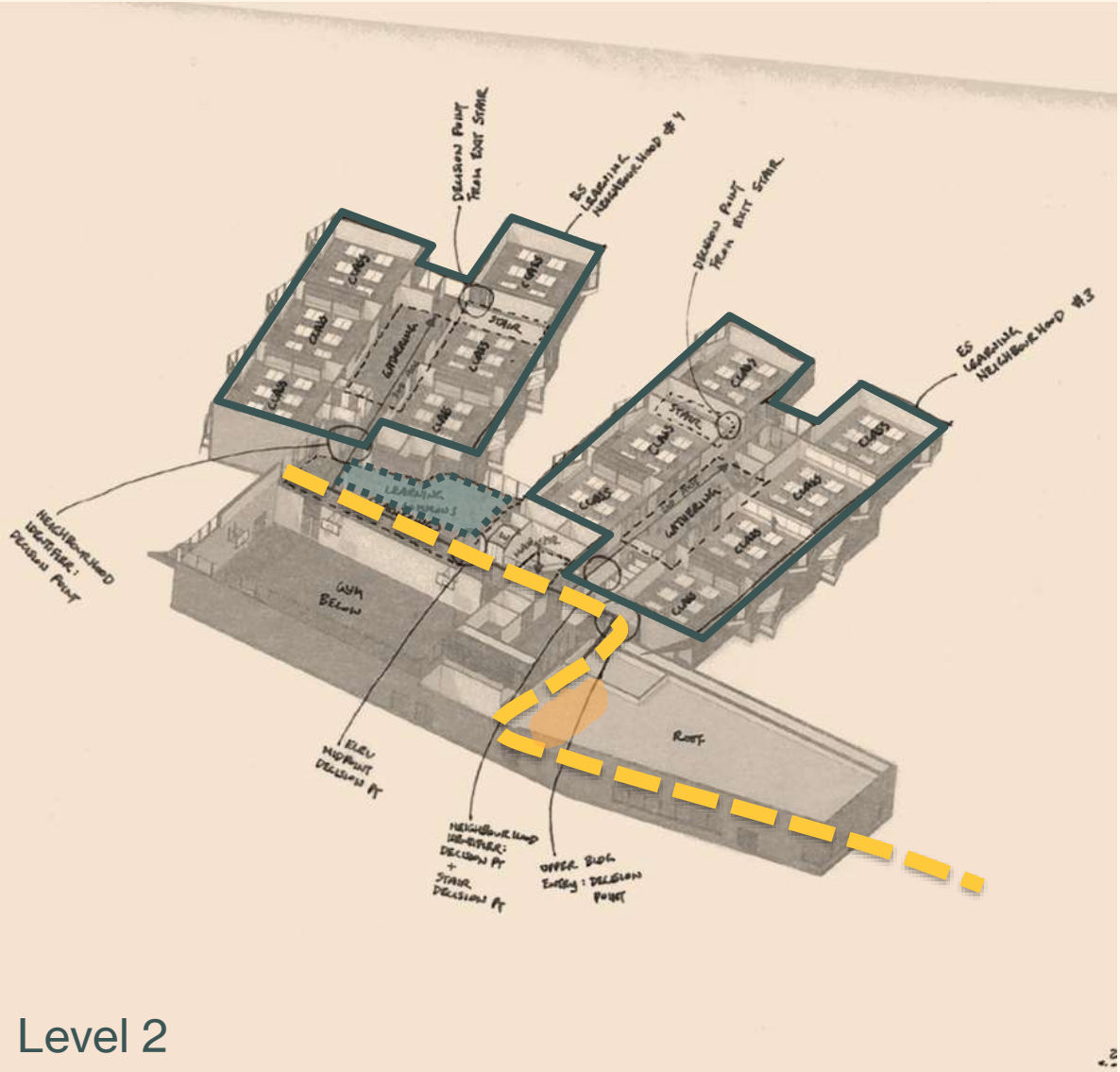


Level 2



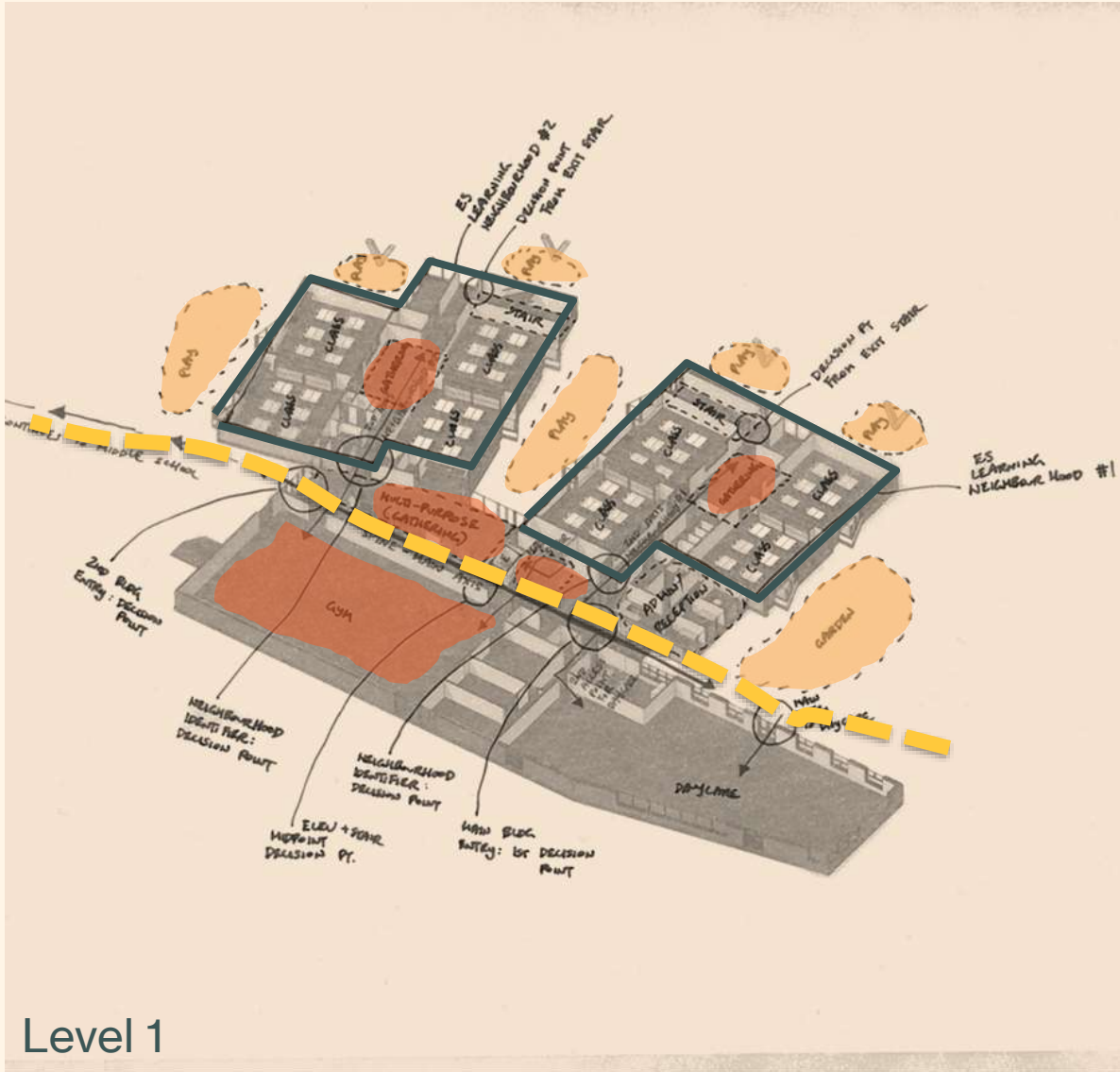


Level 1

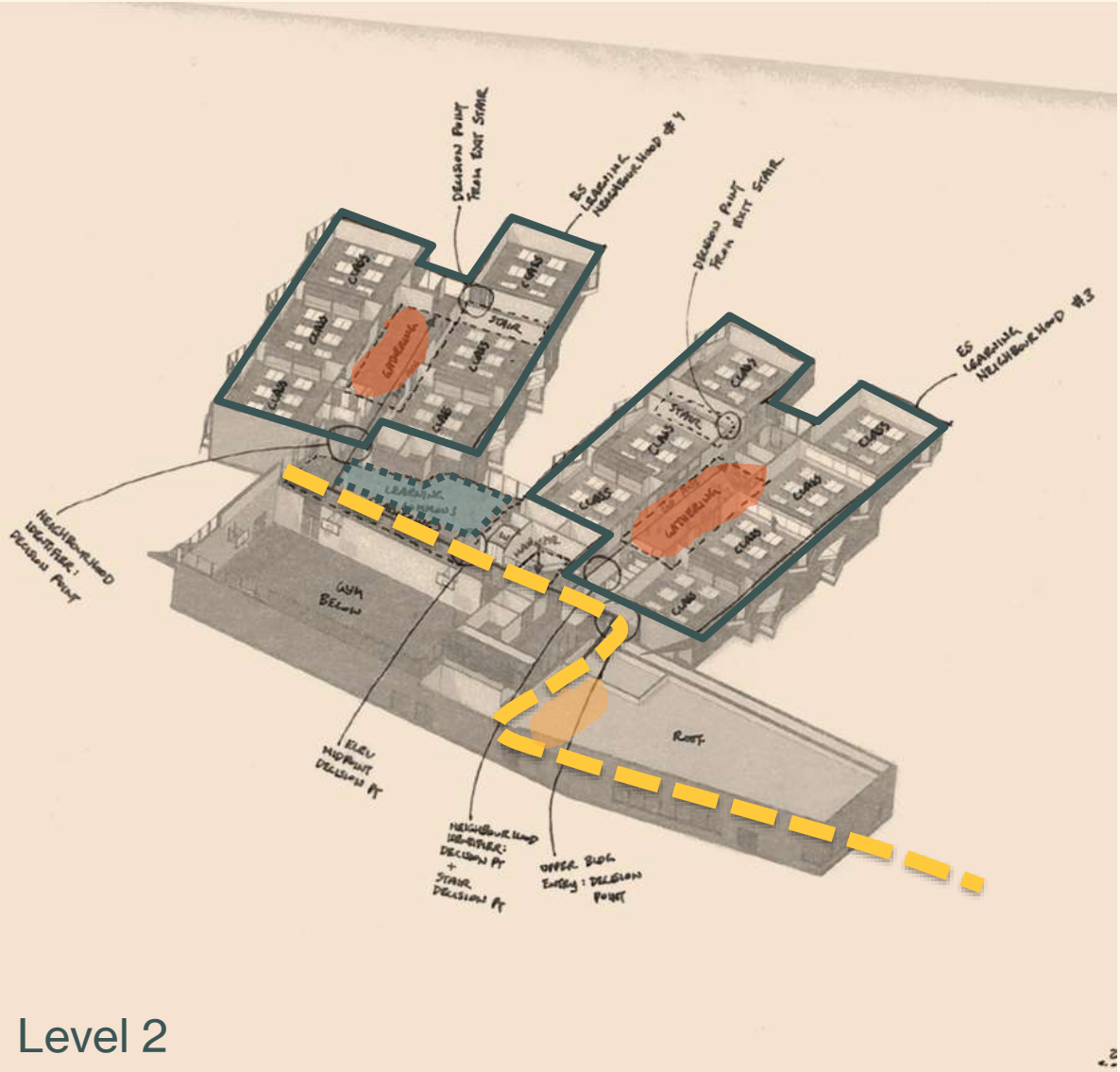


Level 2



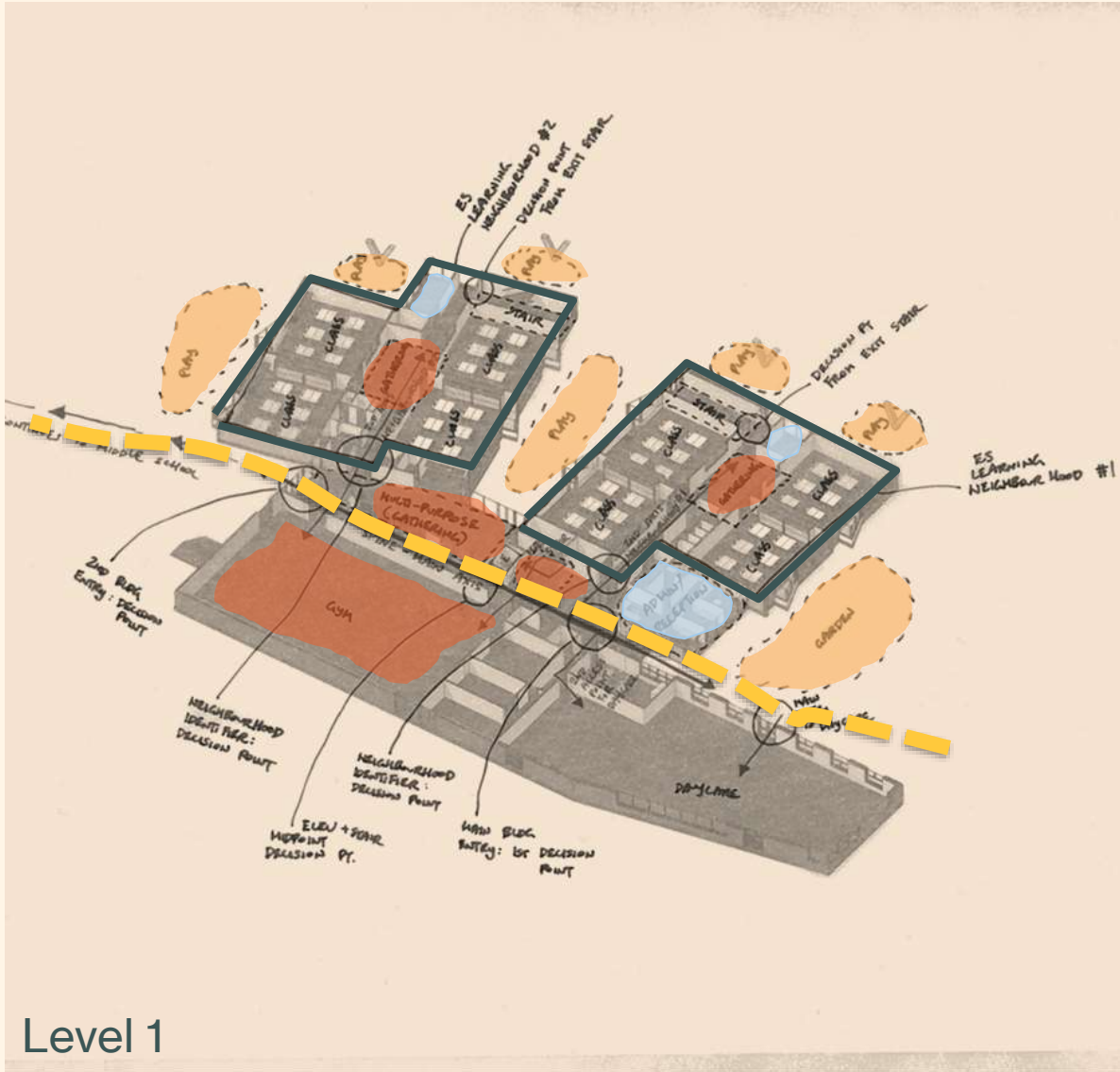


Level 1



Level 2





Level 1



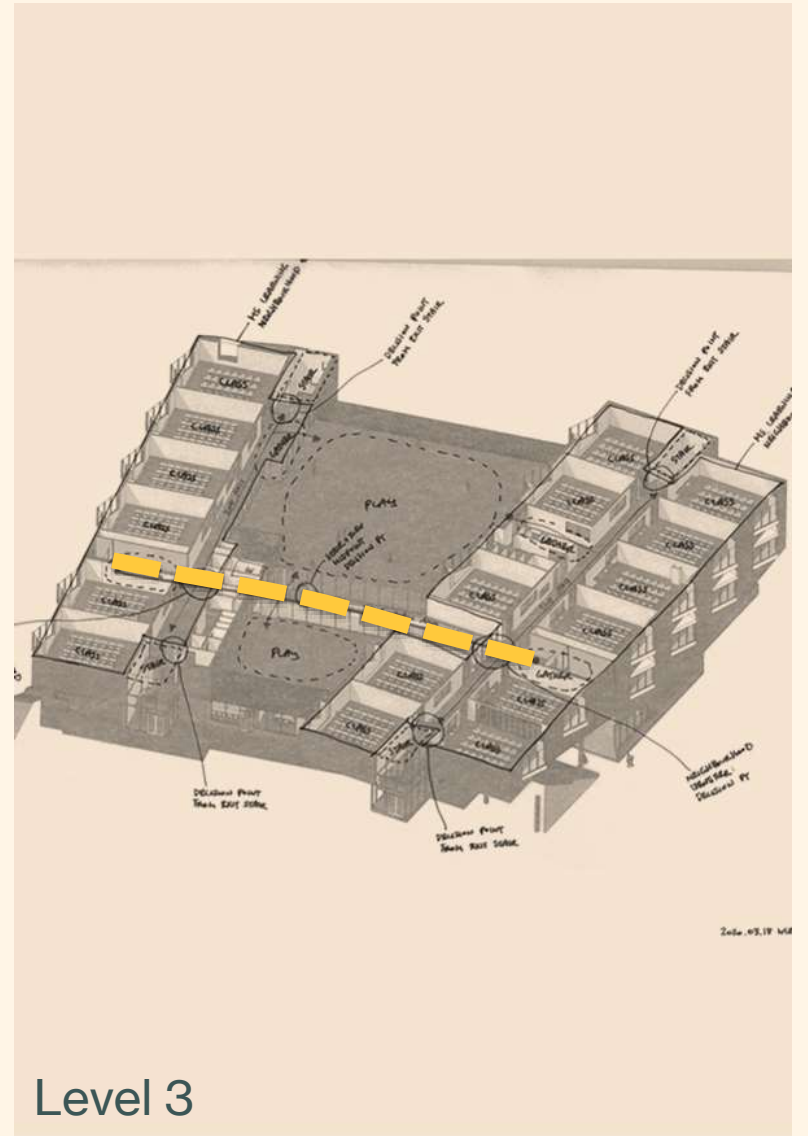
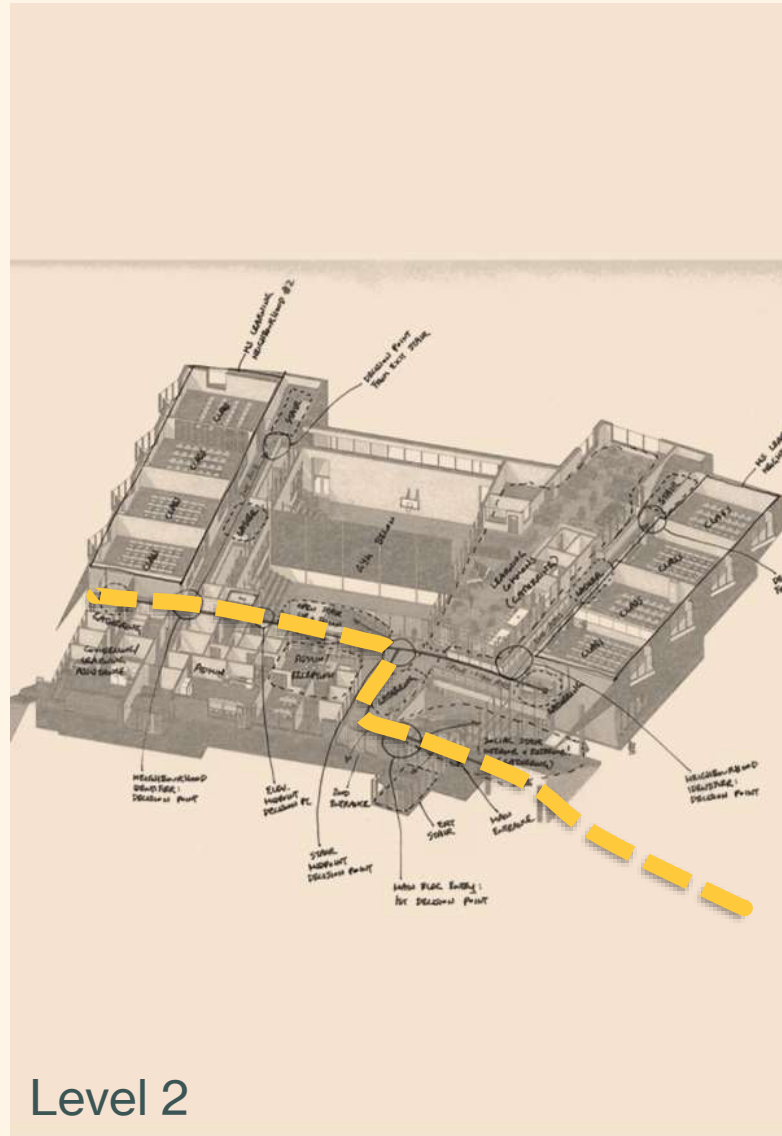
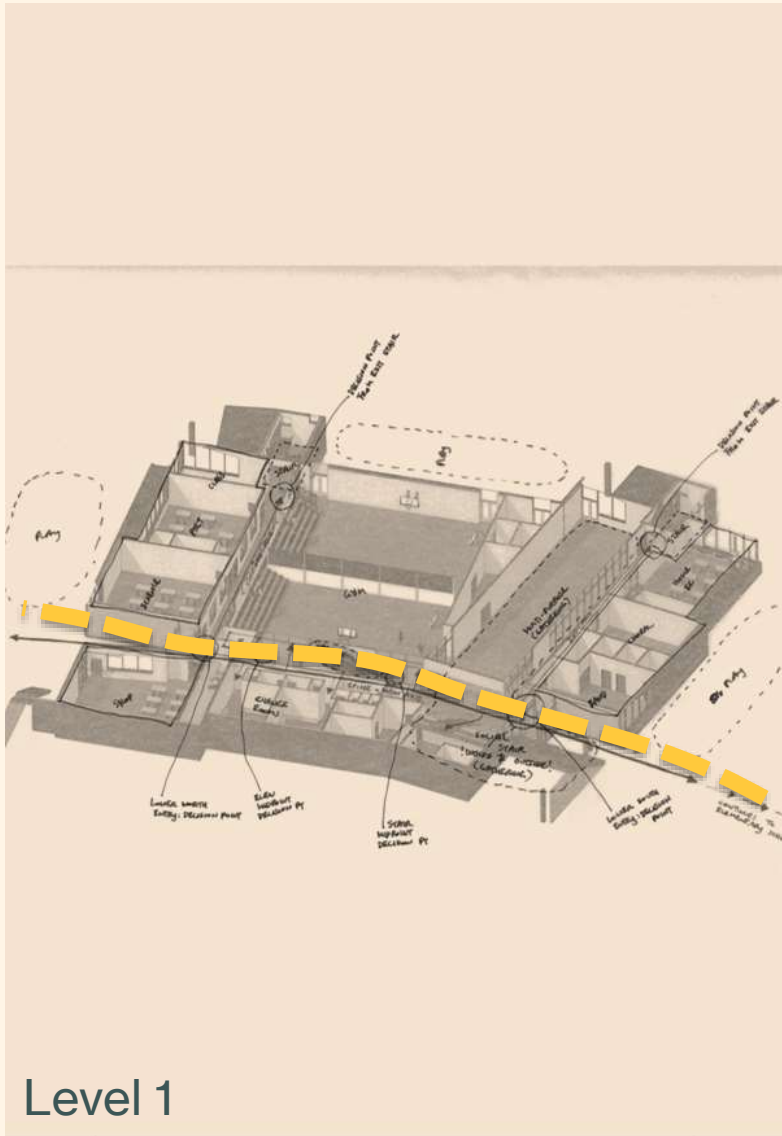
Level 2

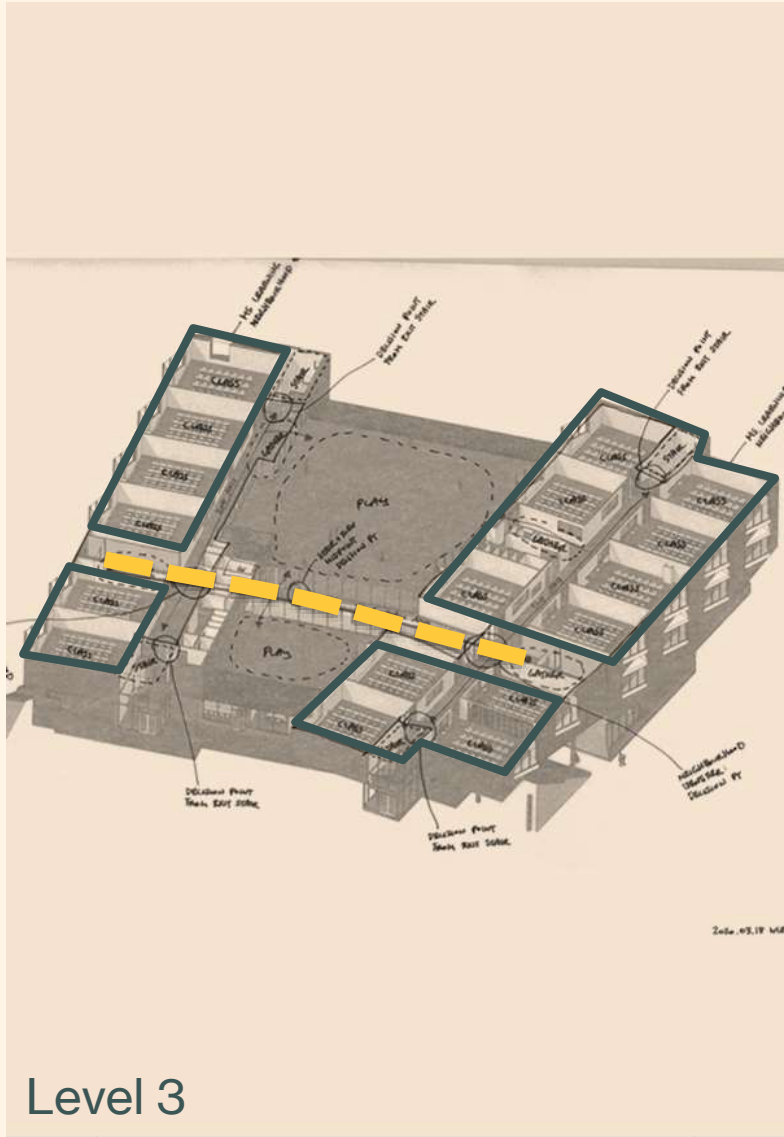
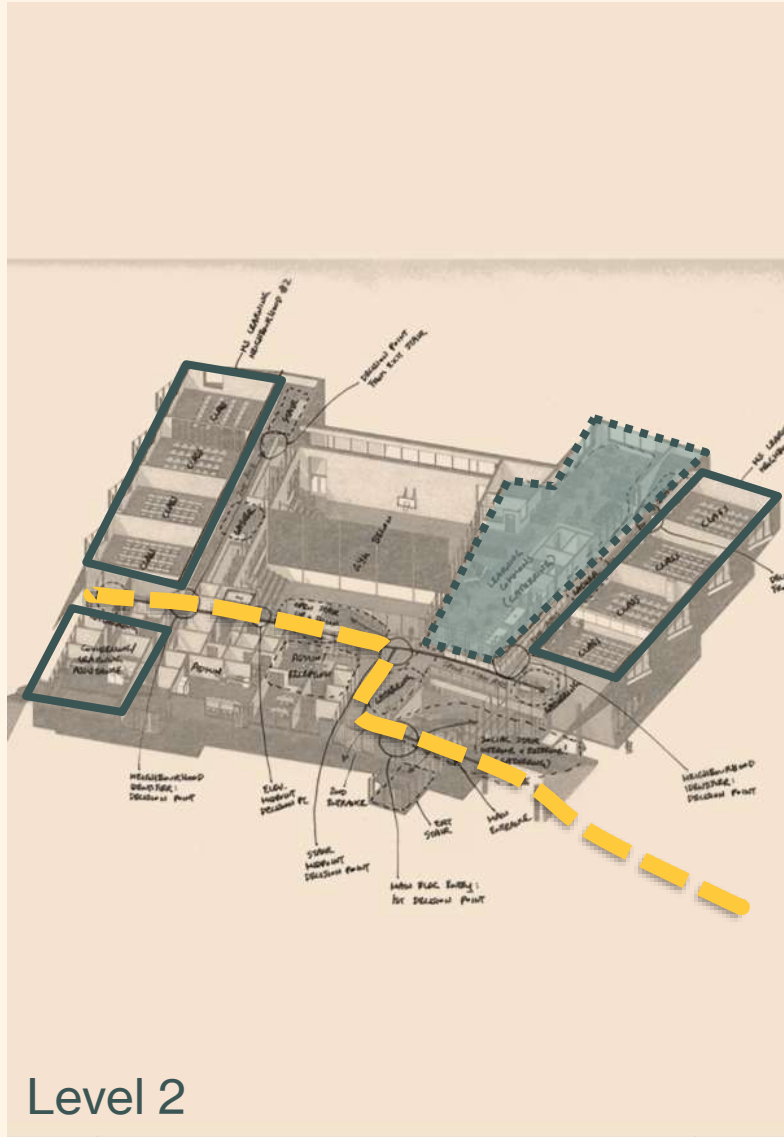
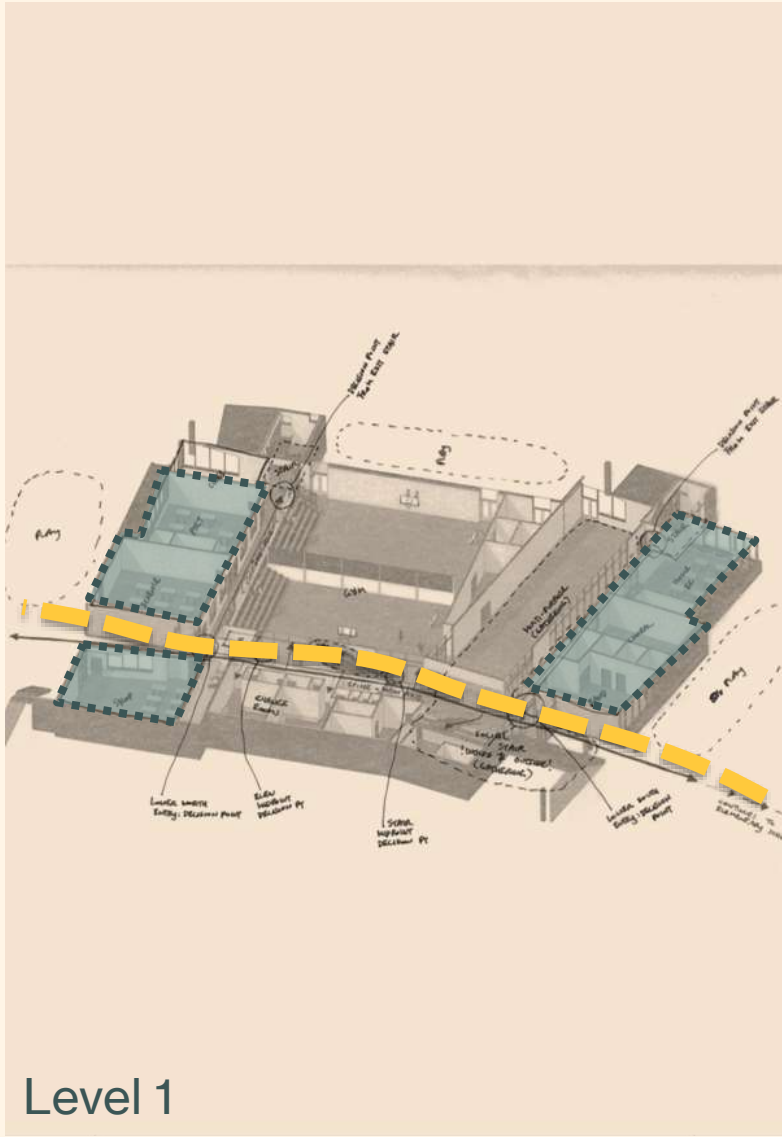


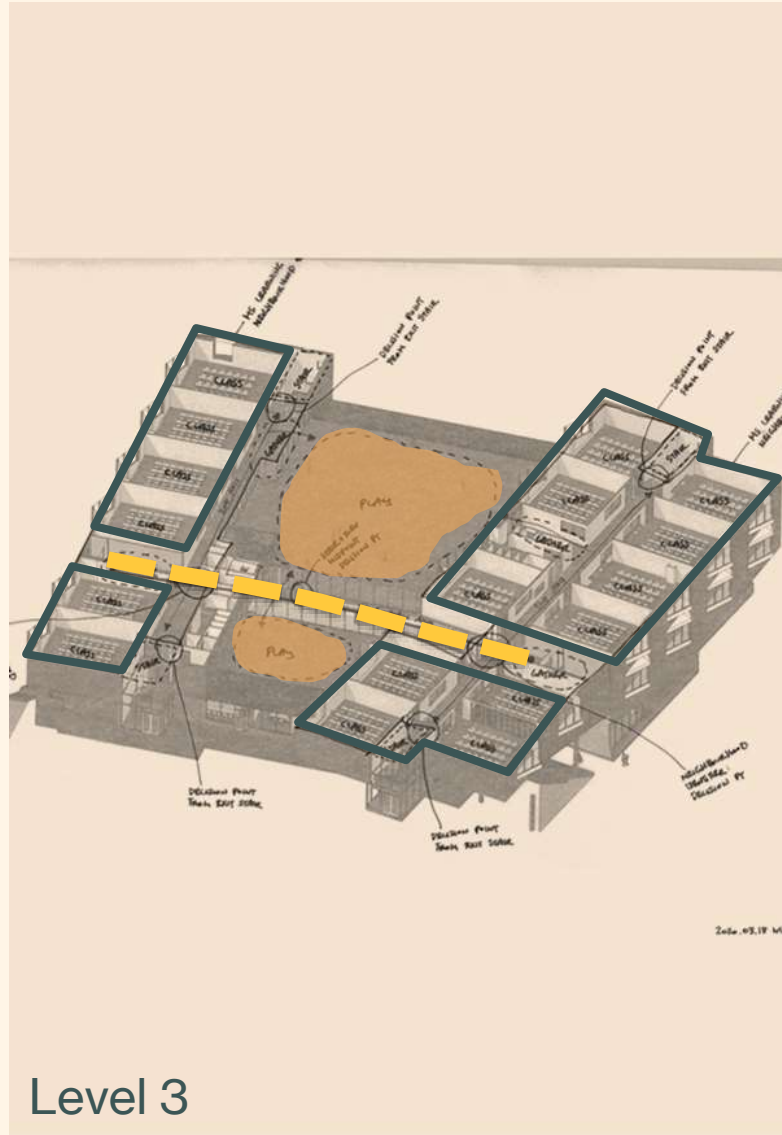
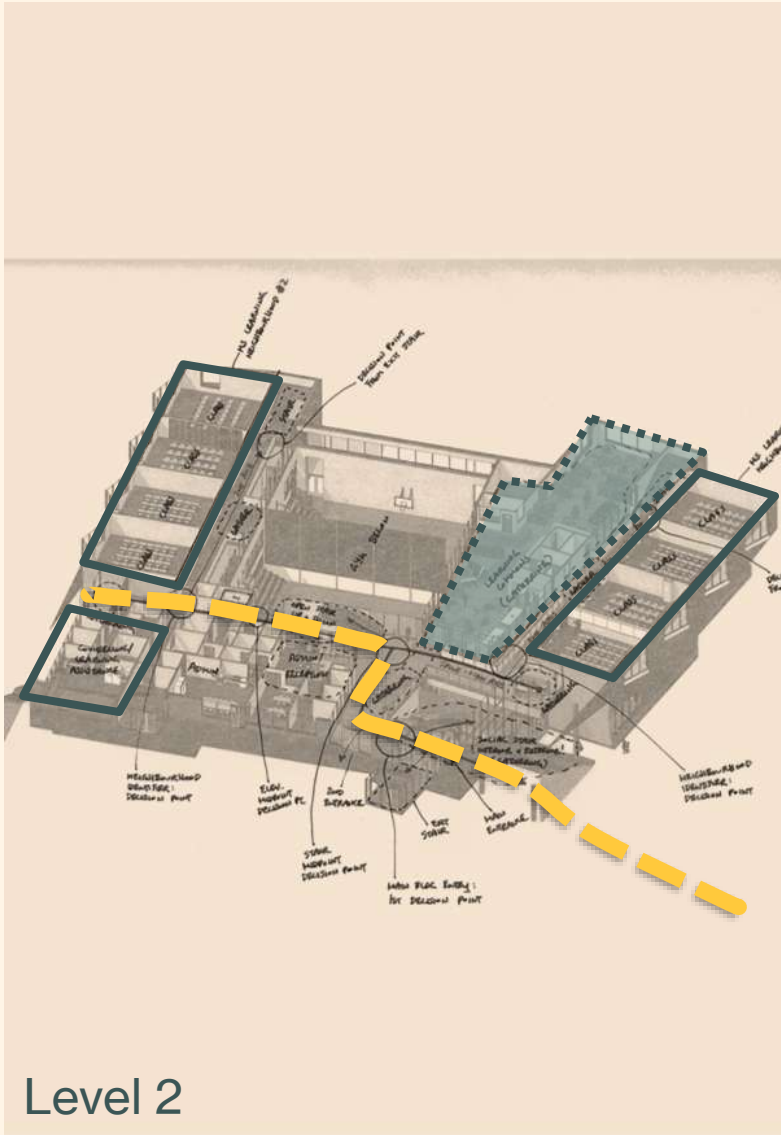
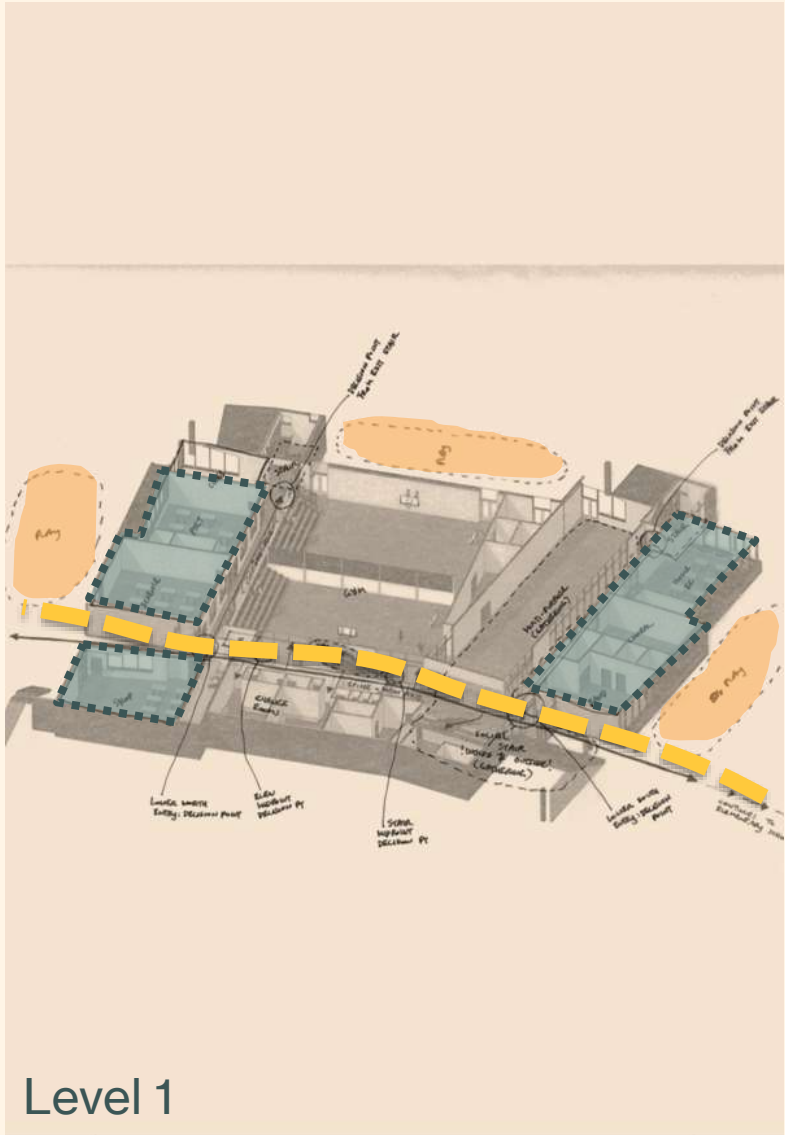
Qualities of MS learning

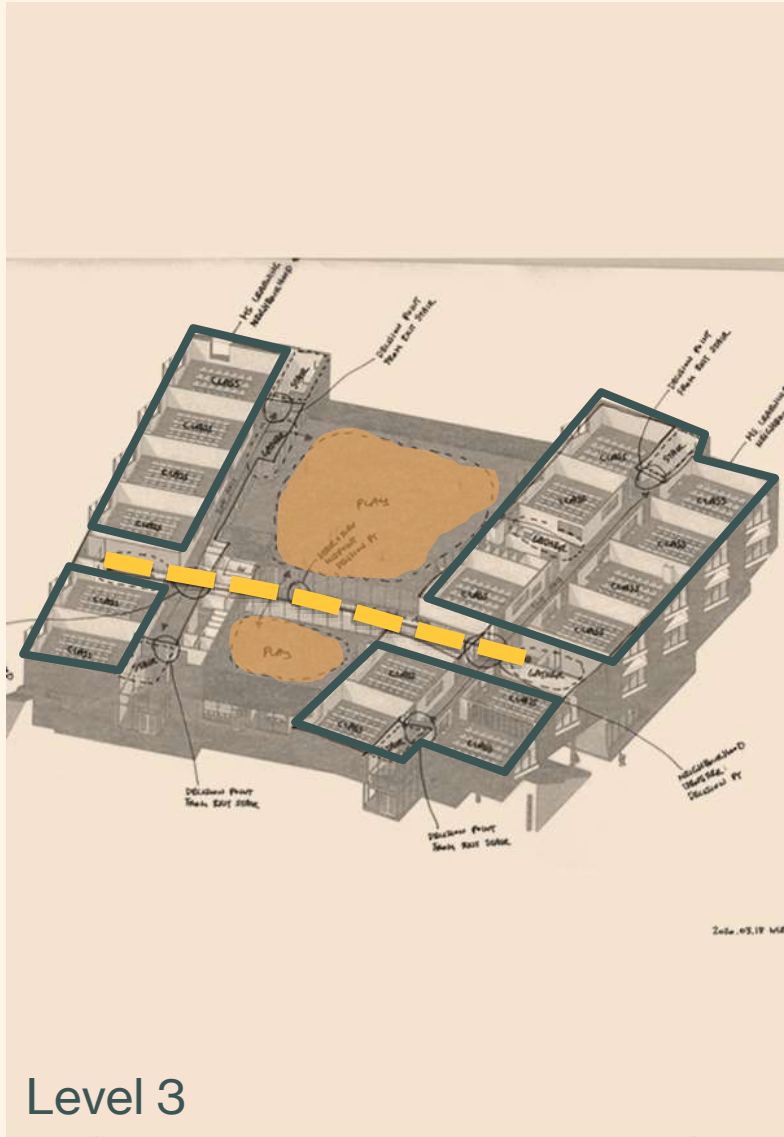
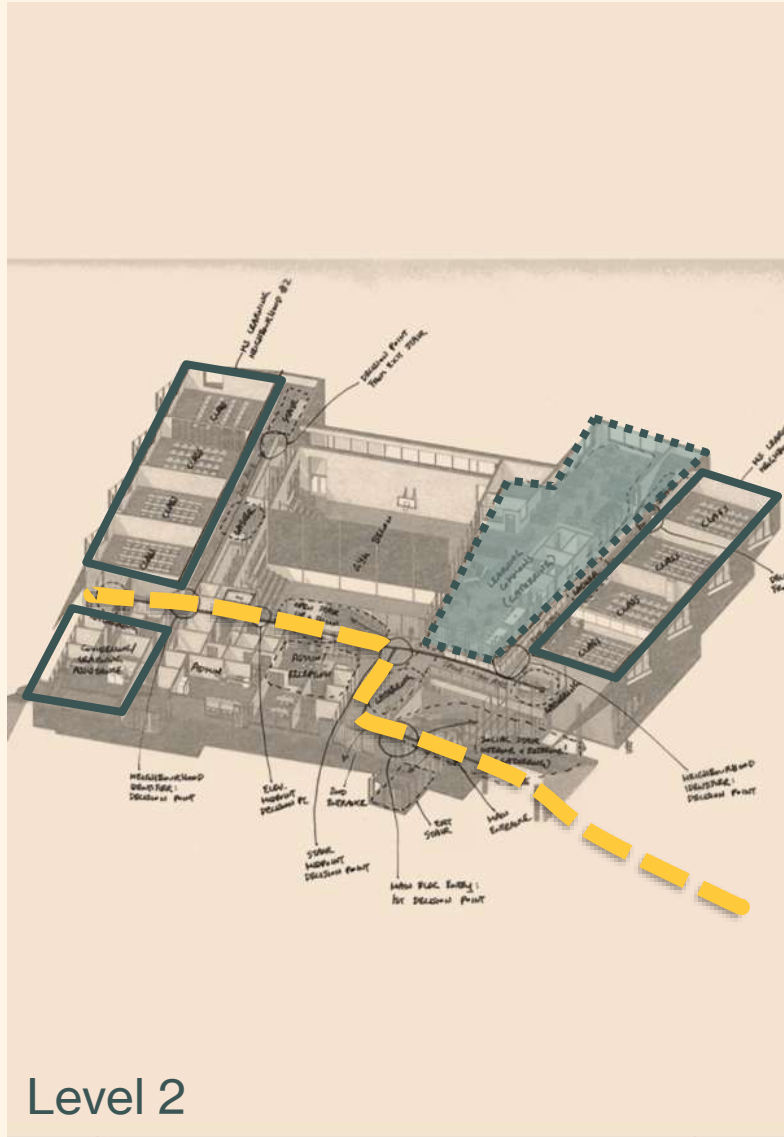
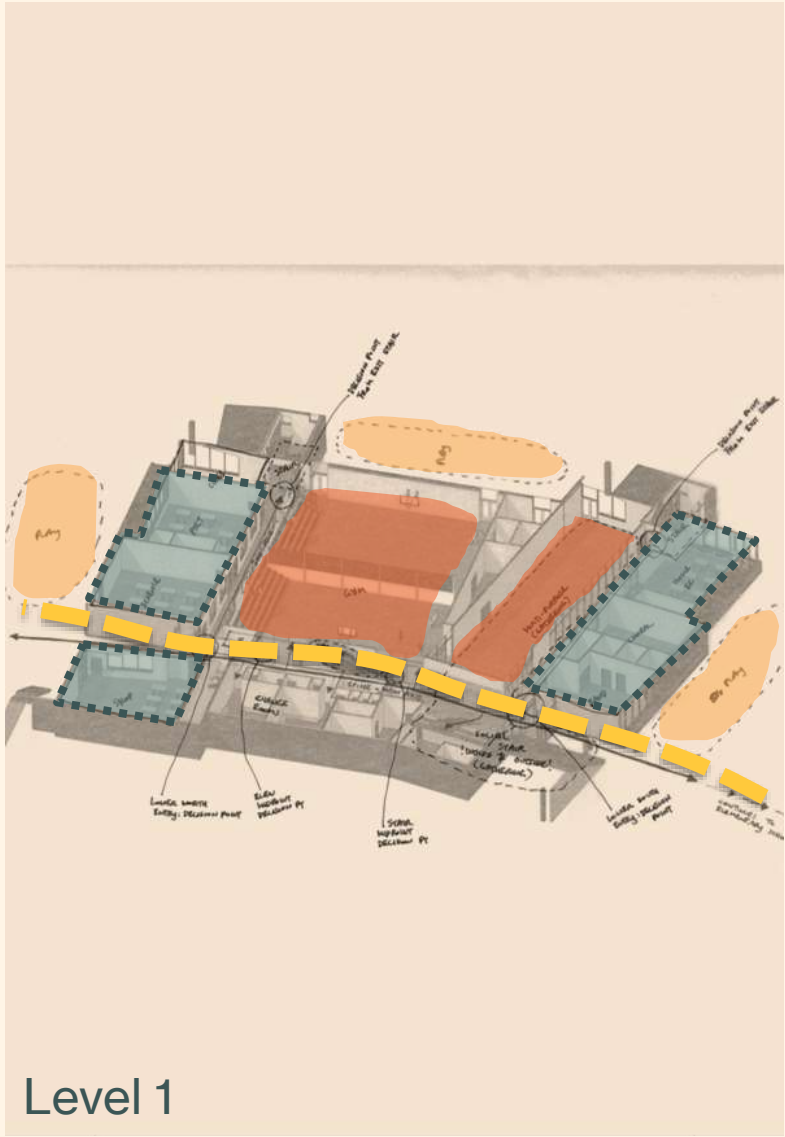
- students are in learning neighbourhoods, but they move around
- more specialized/focused classrooms
- gradual shift to some self supervision
- flex space to facilitate study and quiet time
- visual and physical connection to outdoors
- interior needs a calm environment
- exterior needs an active environment
- variety of play spaces and playful elements throughout

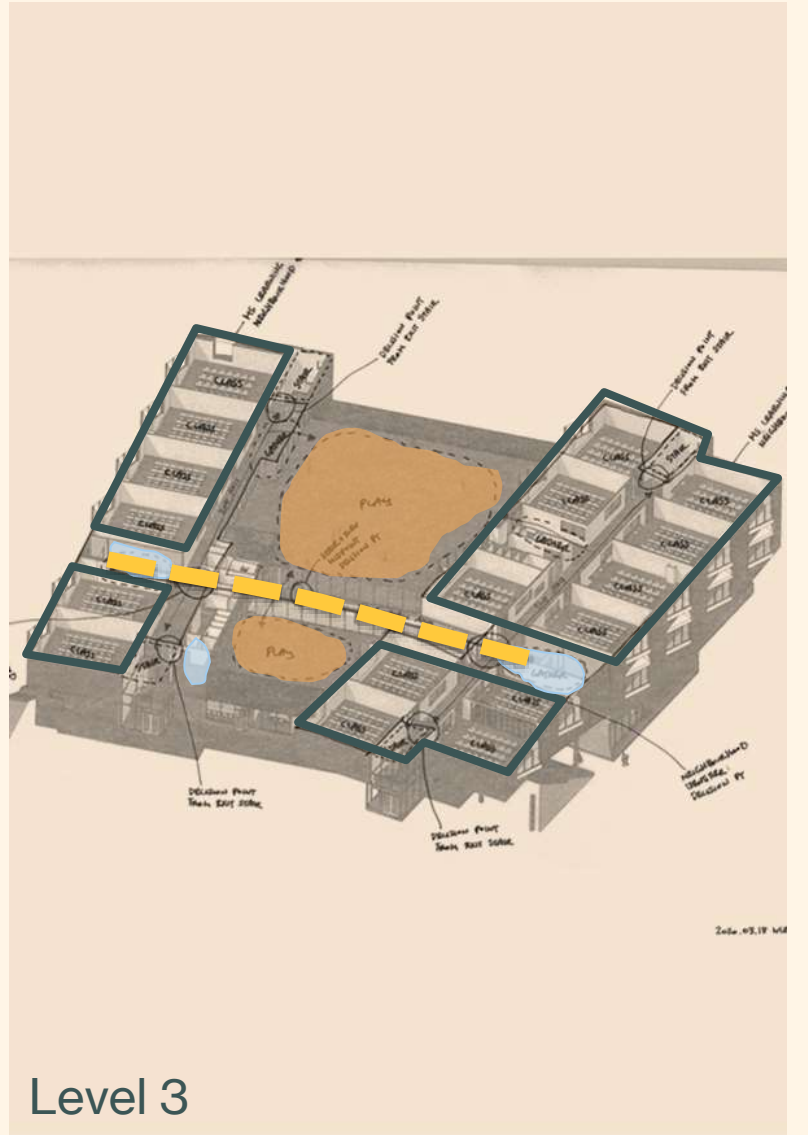
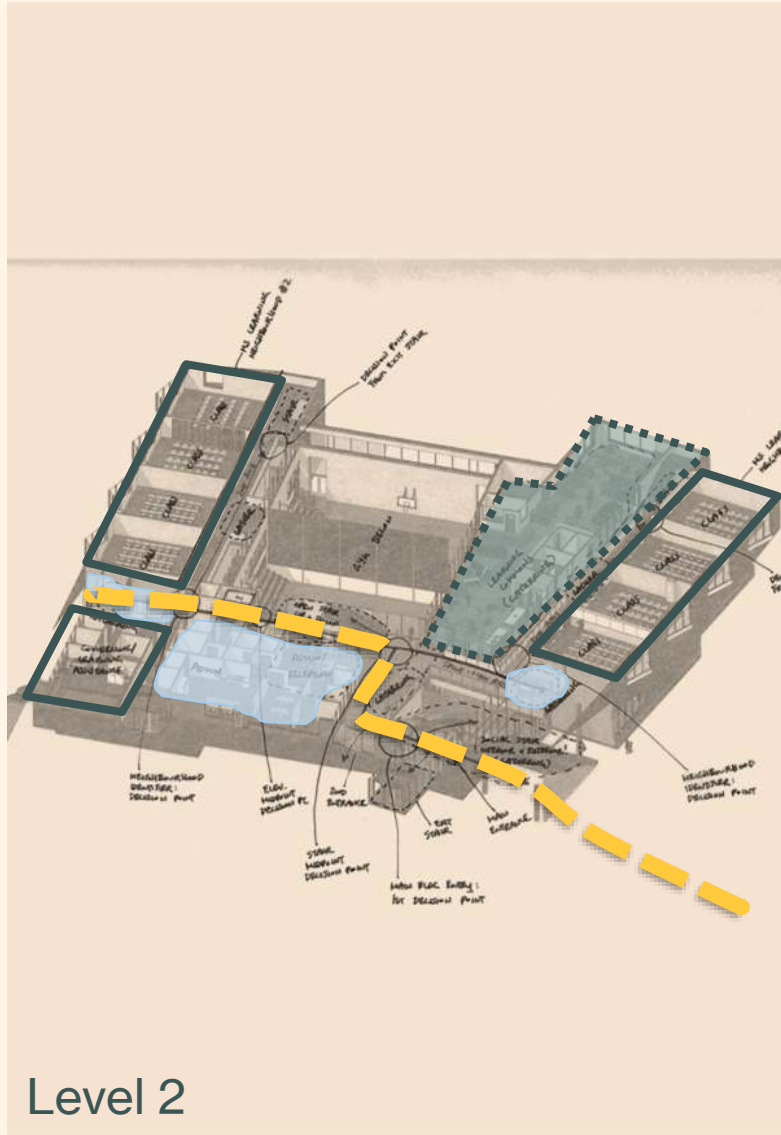
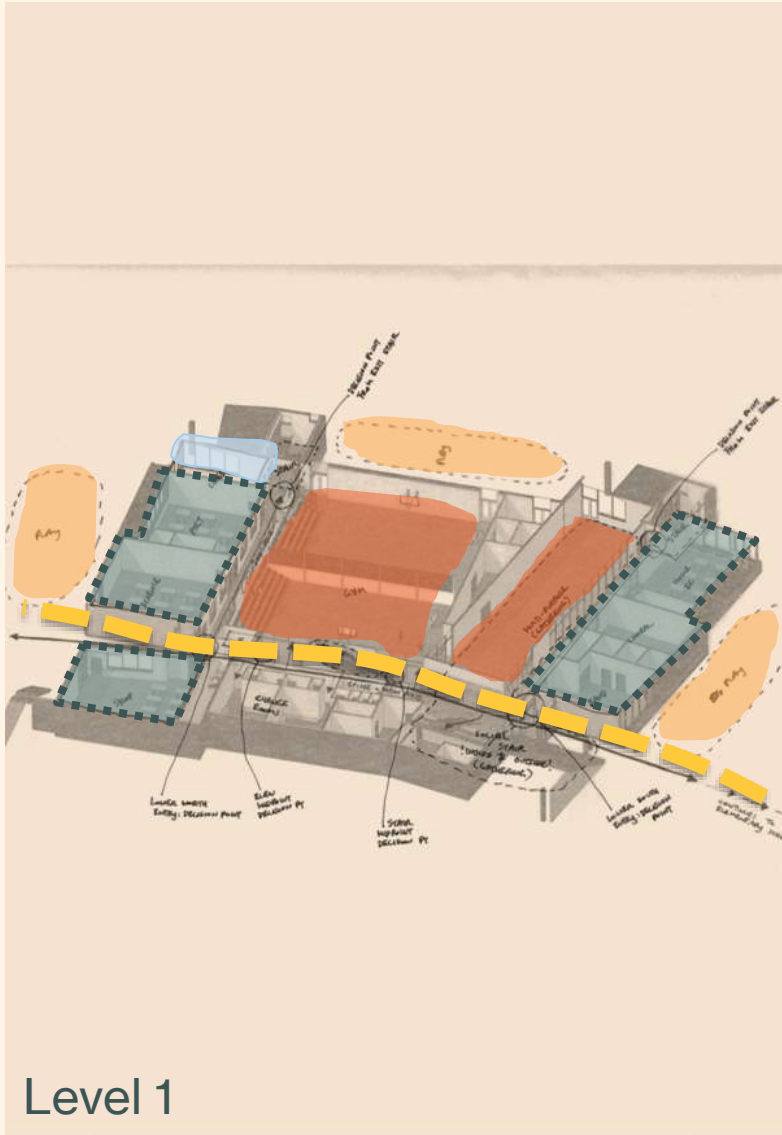












each is unique, but part of the same family

Date

Oct 20, 2023

Meeting

A4LE BC Chapter – Fall 2023 Conference

Project title

PEXSISEN and CENTRE MOUNTAIN LELLUM Schools









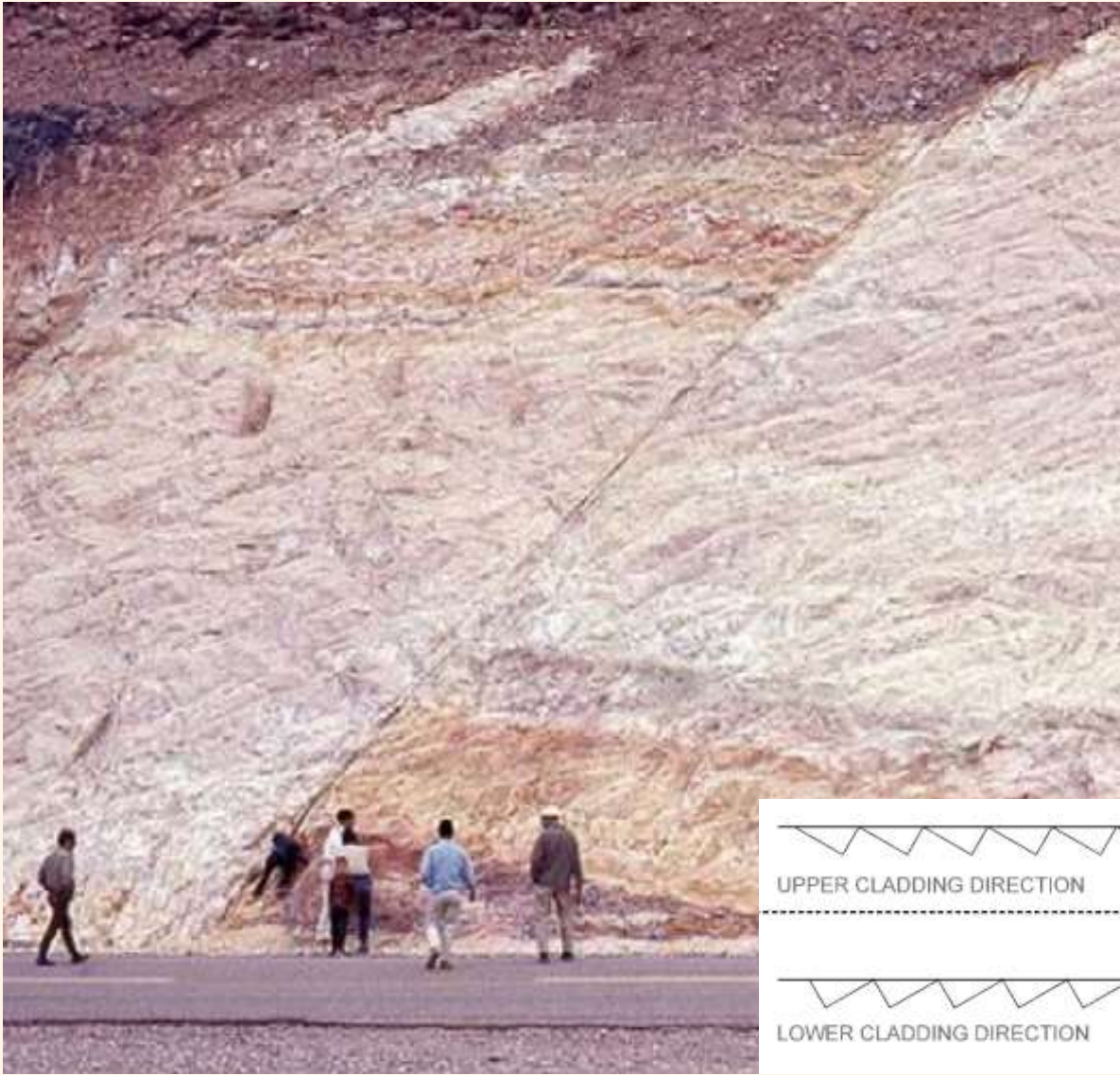
Date
Oct 20, 2023

Meeting
A4LE BC Chapter – Fall 2023 Conference



Project title
PEXSISEN and CENTRE MOUNTAIN LELLUM Schools







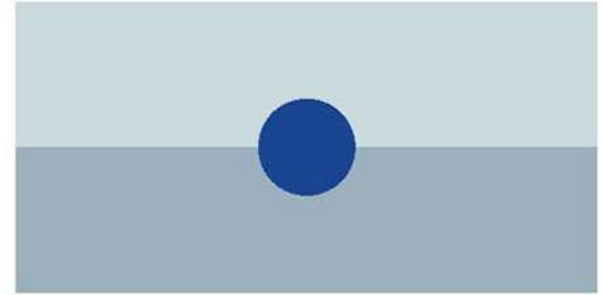
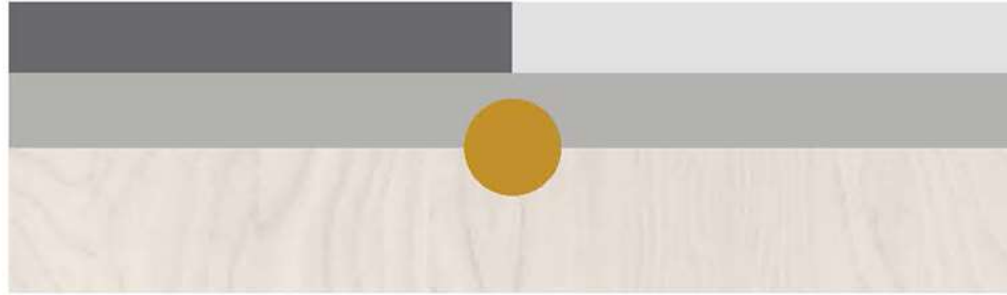
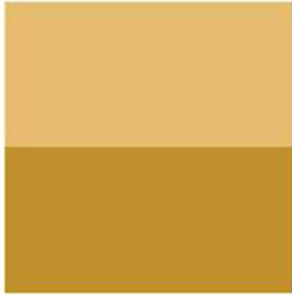
Date
Oct 20, 2023

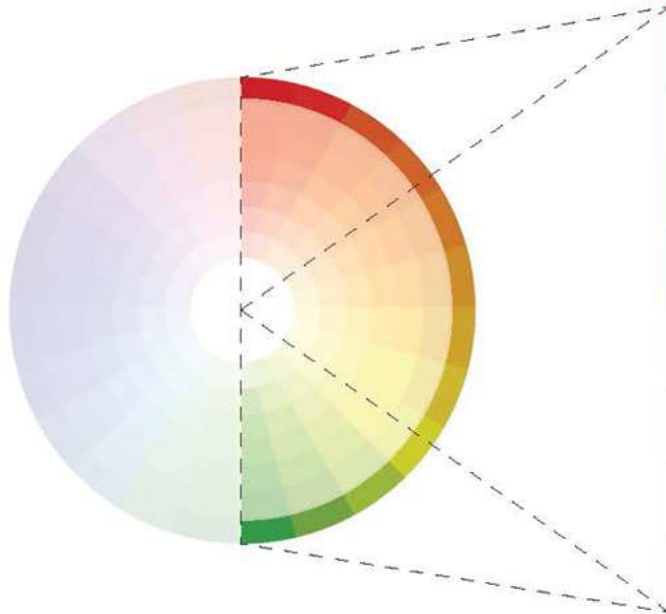
Meeting
A4LE BC Chapter – Fall 2023 Conference

Project title
PEXSISEN and CENTRE MOUNTAIN LELLUM Schools



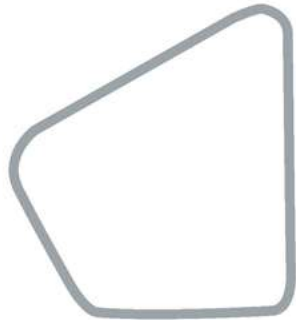




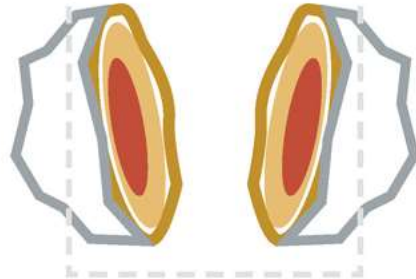




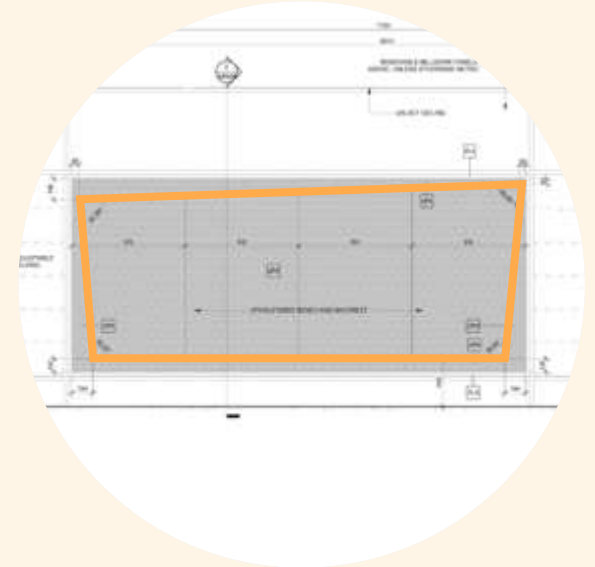
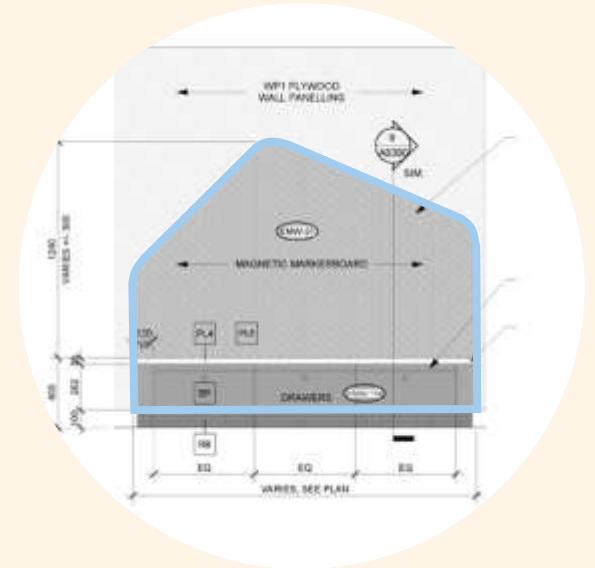
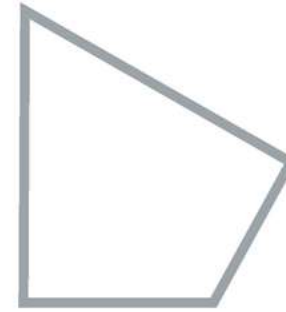
▼ Elementary School

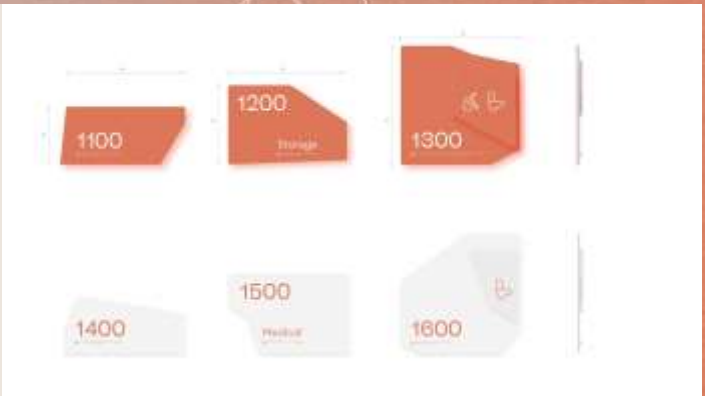
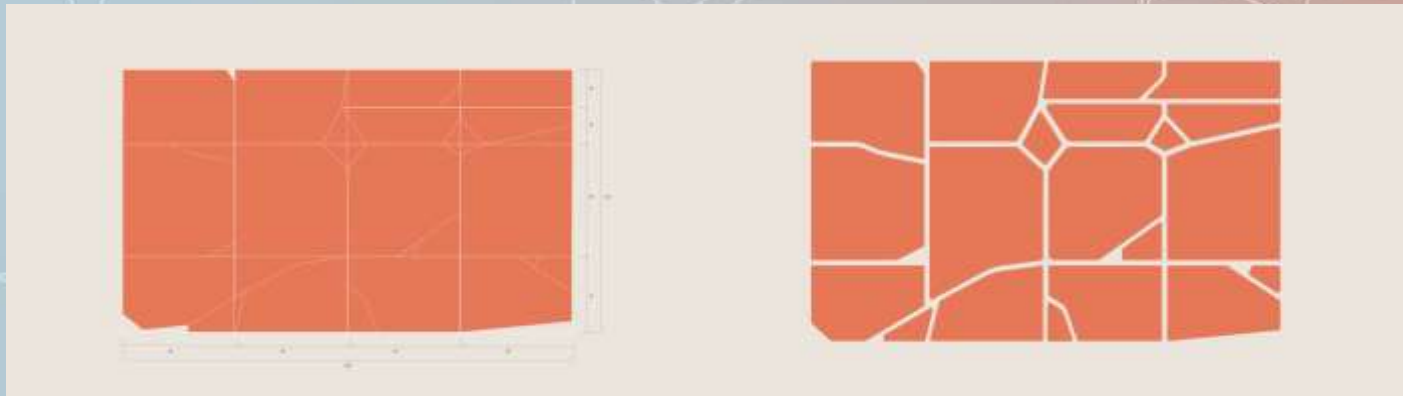
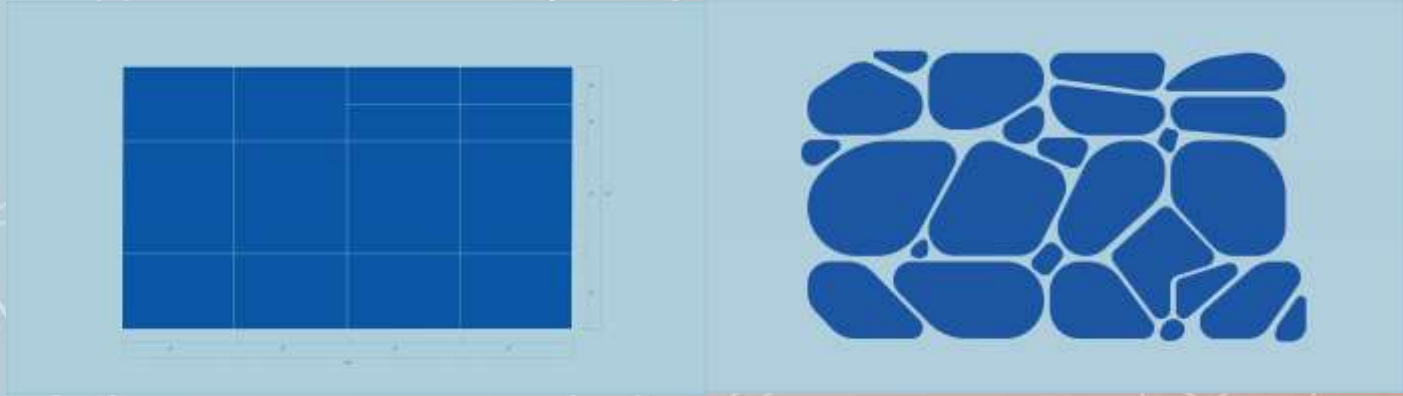


Fissure Point

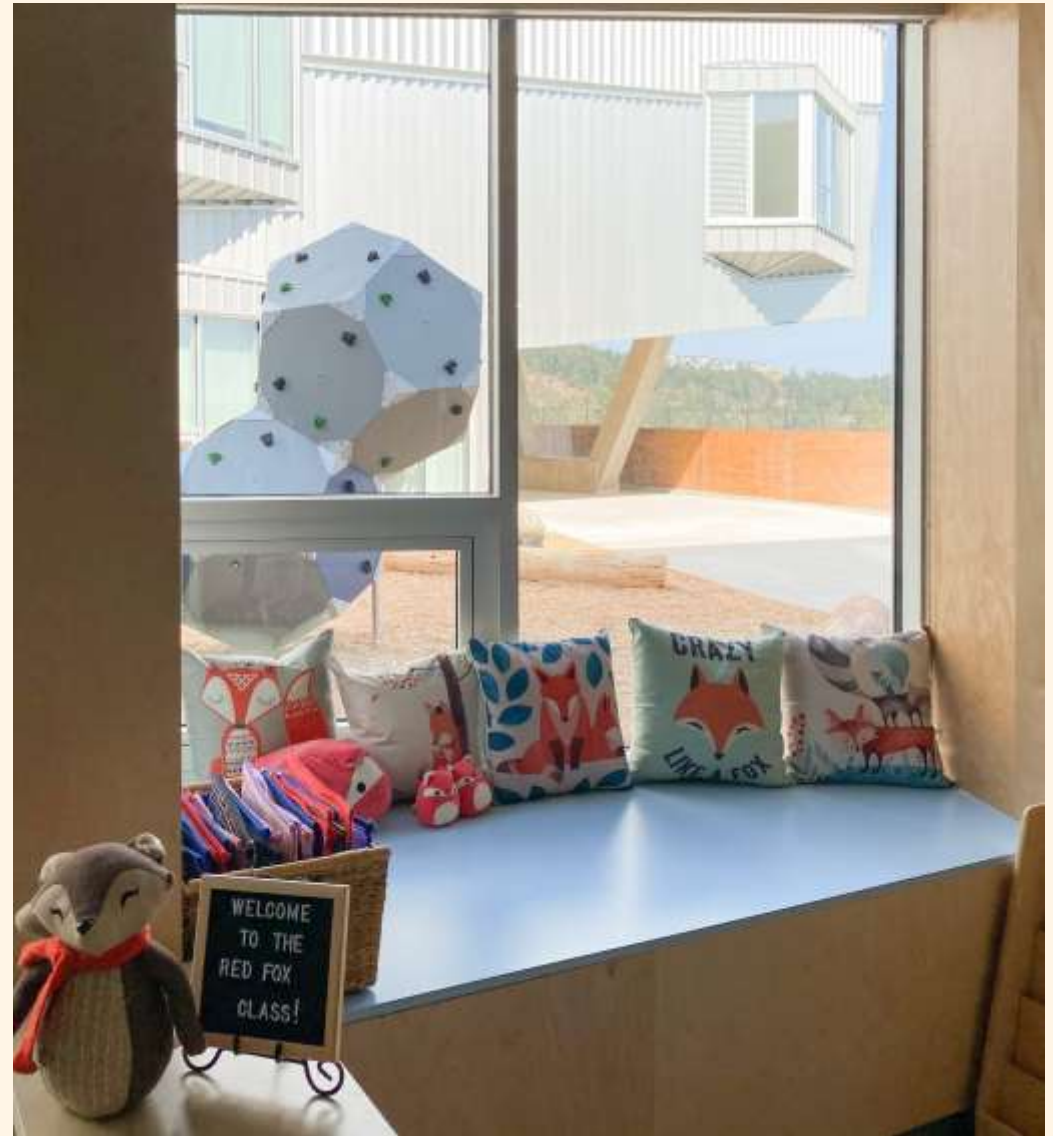


▼ Middle School











Credit: SMcN Consulting (Isaac LeBlanc)

