



NEW ECO-FRIENDLY PASSIVE SOLAR SPRING DALES PUBLIC SCHOOL

W A K H A / M U L B E K H - K A R G I L - L A D A K H - J A M M U & K A S H M I R - I N D I A

S P R I N G D A L E S P U B L I C S C H O O L C A M P U S C O N C E P T D E S I G N P R E S E N T A T I O N

Priorities of the SDPS Development Project:

A Vision for a financially and environmentally sustainable school that provides equal access to quality education for all social classes in Ladakh.

Quality Education

- To provide its students with a well-rounded, and modern educational scheme of the highest standard;
- To support the preservation and growth of Ladakhi traditions and culture;

Equal Access

- Provide equal access to education for all social classes, regardless of economic status;
- Decrease the male/female literacy gap.

Experienced Teachers

- Recruit and retain (on a long-term basis) experienced and qualified local teachers; plus additional training

Financial Stability

- Long-term, sustainable school income is required to fund teacher and staff salaries, equipment, etc.

Development Plan & Management

- School Development Plan: long-term plan that will be used to guide the school's success and vision
- A management team needs to be created

Infrastructure

- New School Campus Design

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SPRING DALES PUBLIC SCHOOL CAMPUS CONCEPT DESIGN PRESENTATION

Existing school difficulties:

Female Literacy:

- 33% gap in literacy between males and females in the Kargil District

Migration:

- This can lead to a loss of culture, traditions, and identity as well as impacted family connections;
- Due to the migration of educated people it is very difficult to recruit and retain qualified and experienced teachers in more remote areas - especially for the long-term.

Geography:

- Many villages are farther then walking distance from the nearest school (3-5 km);

Shortage of:

- quality classrooms
- quality school equipment
- school furniture
- qualified and experienced teachers

Absence of:

- computer and science labs
- comprehensive School Development Plan
- school financial plan to support students from poor families
- electricity supply
- accommodation and facilities for students and staff

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SPRING DALES PUBLIC SCHOOL CAMPUS CONCEPT DESIGN PRESENTATION

The SDPS Campus design is:

- fully based on passive solar energy:
 - passive solar heated buildings (both day and night use buildings)
 - passive solar water heating
 - photovoltaic panels to generate electricity
- using insulated local roller blinds in front of thermal walls
- using insulated rammed earth double walls
- using a double glazing
- using an improved typical Ladakhi compost toilets
- using a local construction techniques and materials blended with influence of modern technologies
- using a local irrigation canal system, both ground and improved underground, for greenery inside the campus
- is dealing with waste and brown water management
- reducing campus carbon footprint to its possible minimum

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W A K H A / M U L B E K H - K A R G I L - L A D A K H - J A M M U & K A S H M I R - I N D I A



VIEW OF EXISTING SPRING DALES PUBLIC SCHOOL

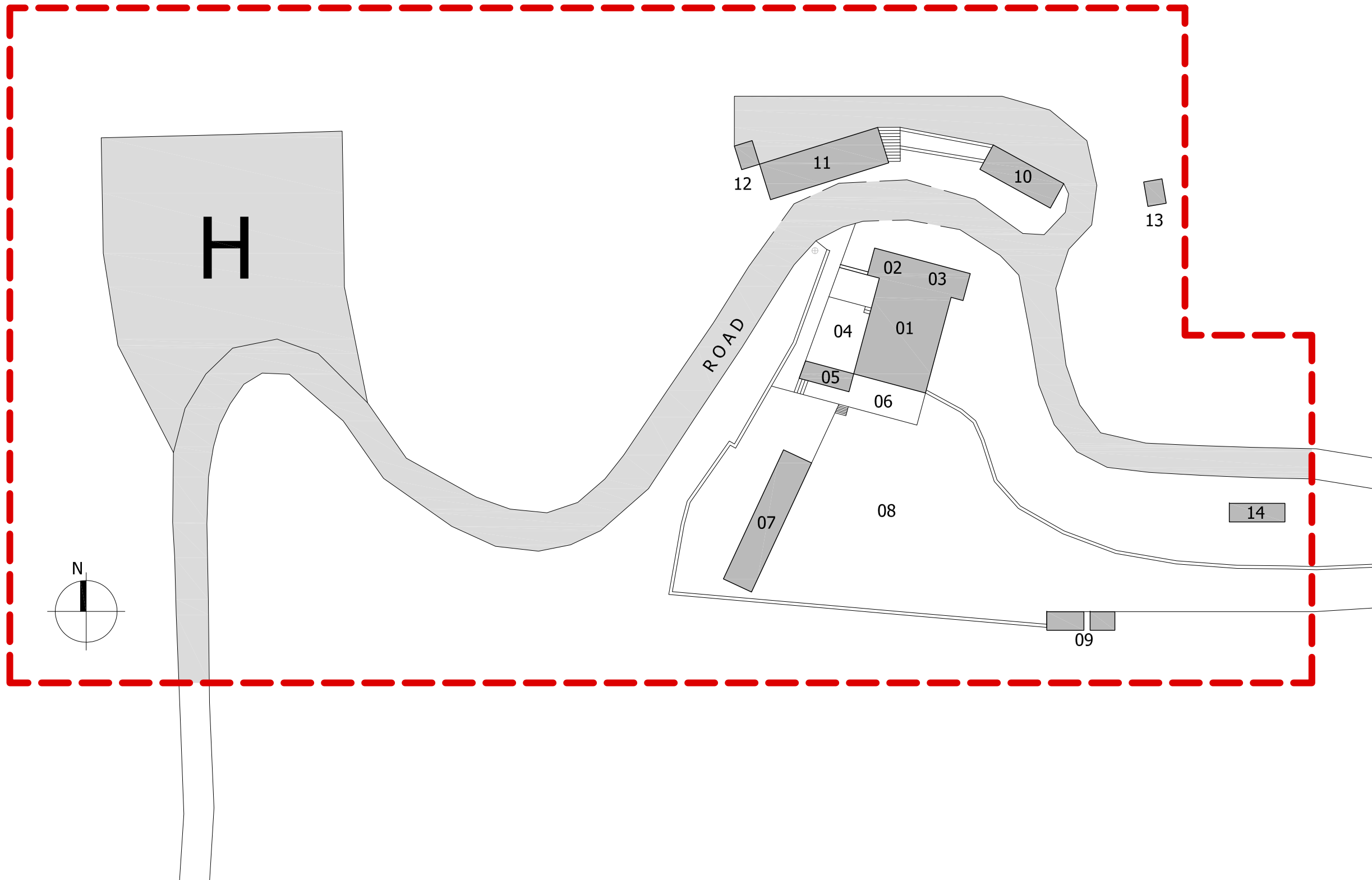
NEW ECO-FRIENDLY PASSIVE SOLAR SPRING DALES PUBLIC SCHOOL

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S P R I N G D A L E S P U B L I C S C H O O L C A M P U S C O N C E P T D E S I G N P R E S E N T A T I O N

EXISTING SITE PLAN

- 01... MAIN HALL
- 02... KITCHEN + STAFF DINING
- 03... LABS
- 04... ASSEMBLY AREA
- 05... LIBRARY
- 06... COVERED PLATFORM
- 07... CLASSROOMS
- 08... OUTDOOR PLAYING AREA
- 09... SCHOOL TOILETS
- 10... NURSERY + MEETING ROOMS
+KITCHEN + ACCOMODATION
- 11... CLASSROOMS + OFFICE
- 12... STAFF TOILET
- 13... SCHOOL TOILET
- 14... PUBLIC TOILET
- H ... HELIPORT







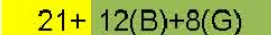



NEW ECO-FRIENDLY PASSIVE SOLAR SPRING DALES PUBLIC SCHOOL

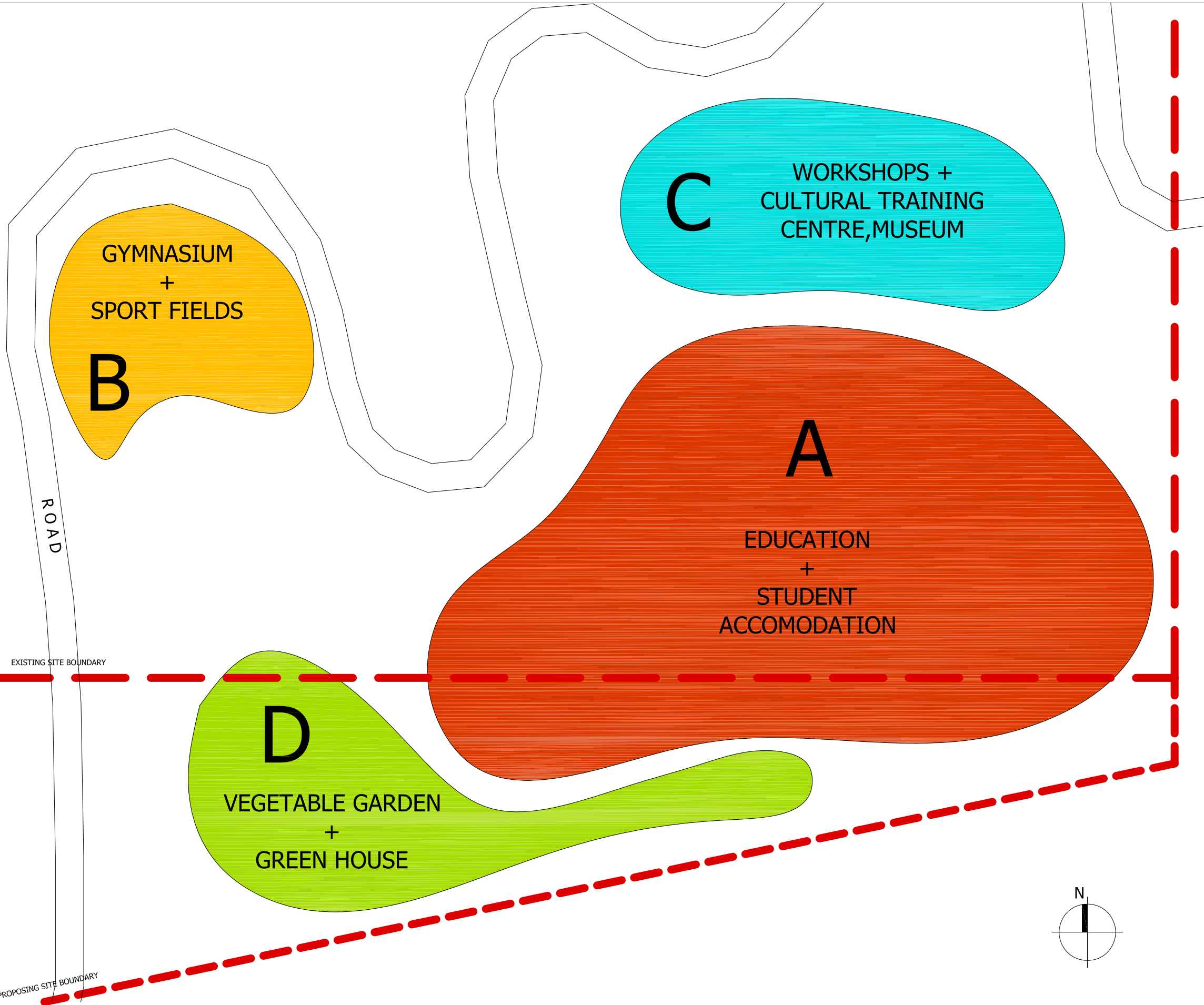
W A K H A / M U L B E K H - K A R G I L - L A D A K H - J A M M U & K A S H M I R - I N D I A

SPRING DALES PUBLIC SCHOOL CAMPUS CONCEPT DESIGN PRESENTATION



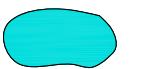

2011 - 2021 OUTLOOK OF STUDENT'S ENROLLMENT

CLASS	2011		2012		2013		2014		2015		2016		2017		2018		2019		2020		2021	
	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
LKG	21		24	27	28	31	30	20	25	27												
UKG	21		58		24	27	28	31	30	20	25	27										
1 ST	16		41		58		24	27	28	31	30	20	25	27								
2 ND	13		16		41		58		24	27	28	31	30	20	25	27						
3 RD	8		13		16		41		58		24	27	28	31	30	20	25	27				
4 TH	13		8		13		16		41		58		24	27	28	31	30	20	25	27		
5 TH	4		13		8		13		16		41		58		24	27	28	31	30	20	25	27
6 TH	17		4		13		8		13		16		41		58		24	27	28	31	30	20
7 TH	14		17		4		13		8		13		16		41		58		24	27	28	31
8 TH	7		14		17		4		13		8		13		16		41		58		24	27
9 TH	8		7		14		17		4		13		8		13		16		41		58	
10 TH	15		8		7		14		17		4		13		8		13		16		41	
11 TH																						
12 TH																						
TOTAL	157		250		301		344		382		365		361		348		340		327		311	
Accommod. required			33	35	48	46	69	55	79	69												
			68		94		124		148													

-  NUMBER OF CHILDREN EXPECTED TO BE ENROLLED AS OF ACADEMIC YEAR 2012 (BASED ON SURVEY DONE IN DECEMBER 2010)
-  58  21+ 20(B)+17(G) NUMBER OF CHILDREN ENROLLED FOR ACADEMIC YEAR 2011 (LKG AND UKG) +
-  41  21+ 12(B)+8(G) NUMBER OF CHILDREN EXPECTED TO BE ENROLLED AS OF ACADEMIC YEAR 2012 (UKG AND 1ST CLASS)
-  NUMBER OF CHILDREN ENROLLED FOR ACADEMIC YEAR 2011
-  UNBORN CHILDREN
-  CONSIDERED SCHOOL UPGRADE FROM 10 TO 12 GRADES



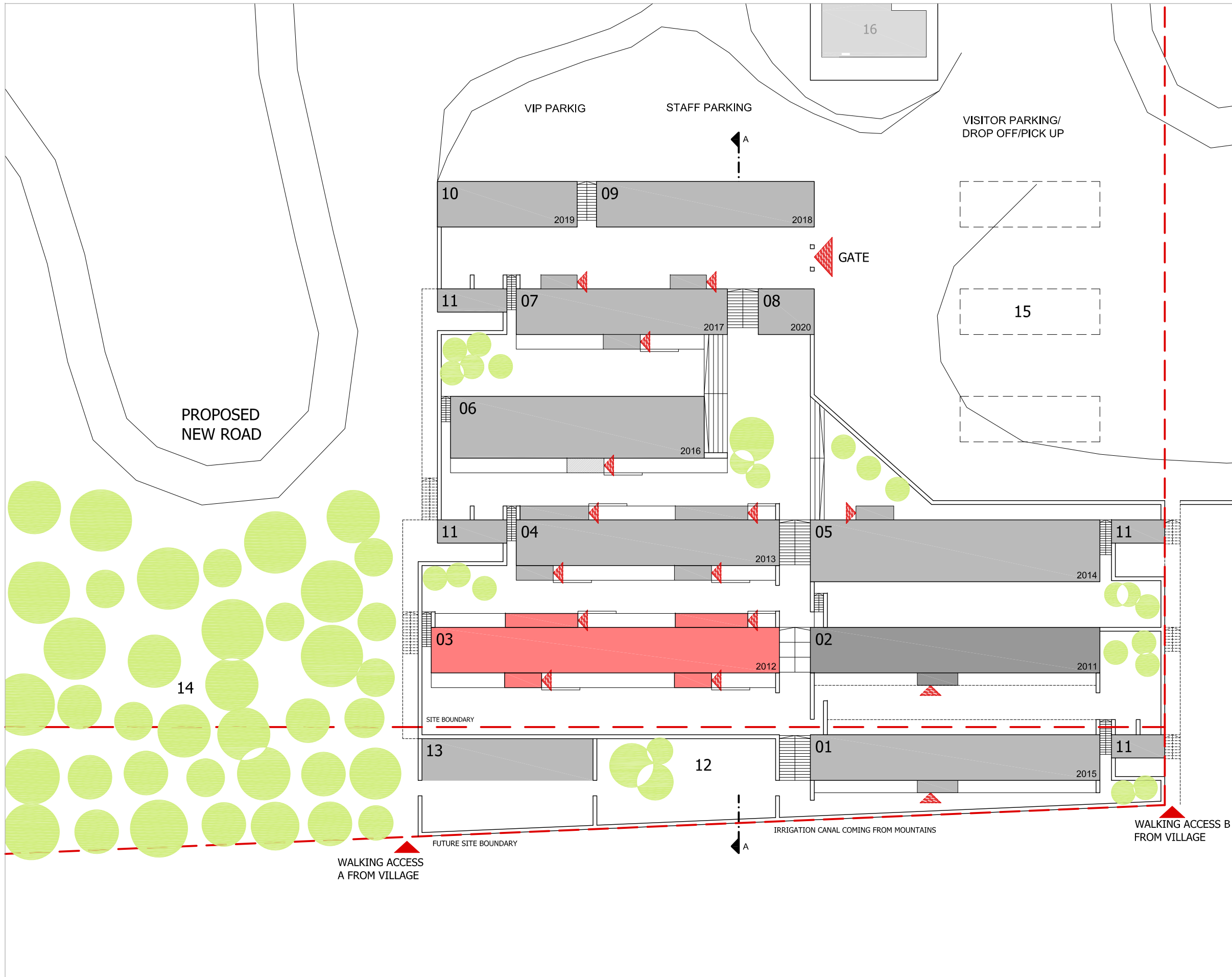
LEGEND:

-  **STAGE A**
EDUCATION + STUDENT ACCOMODATION
-  **STAGE B**
GYMNASIUM + SPORT FIELDS
-  **STAGE C**
WORKSHOPS + CULTURAL TRAINING CENTRE, ACCOMMODATION FOR VOLUNTEERS AND TOURISTS)
-  **STAGE D**
GREENHOUSE, VEGETABLE GARDEN, ORCHARD

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S P R I N G D A L E S P U B L I C S C H O O L C A M P U S C O N C E P T D E S I G N P R E S E N T A T I O N



PROPOSED SITE PLAN

- 01... STUDENT ACCOMMODATION - BOYS
- 02... STUDENT ACCOMMODATION - GIRLS
- 03... 8 No. CLASSROOMS
- 04... 4 No. CLASSROOMS
- LABS
- 05... DINING HALL, CANTEEN, KITCHEN, FOOD STORAGE, LAUNDRY, IRONING, STORAGE, MAINTENANCE ROOM, WORKSHOP
- 06... PRAYER HALL
- ART, MUSIC, THEATRE CLASSROOMS
- 07... LIBRARY, STUDY, COMPUTER CLASSROOM
- NURSERY
- 08... VISITOR CENTER
- 09... STAFF/OFFICE BLOCK
- 10... ACCOMMODATION - TEACHERS/VISITORS
- 11... COMPOST TOILETS
- 12... VEGETABLE GARDEN
- 13... GREENHOUSE
- 14... FRUIT ORCHARD
- 15... WORKSHOPS, CULTURAL CENTER/MUSEUM
- 16... PHOTOVOLTAIC PANELS

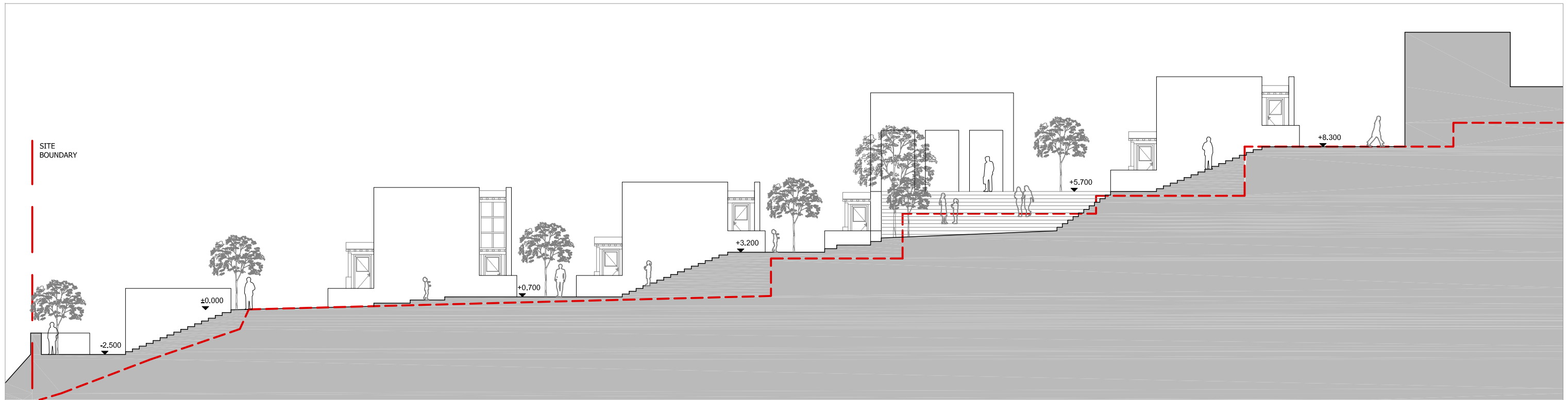
LEGEND:

- BLOCK OF CLASSROOMS - FINANCIALLY SUPPORTED BY THE DALAI LAMA TRUST
- HOSTEL - FINANCIALLY SUPPORTED BY BRONTOSAURUS MOVEMENT AND HIMALAYAN DIALECT
- PROPOSED BUILDINGS OF THE NEW SDPS CAMPUS

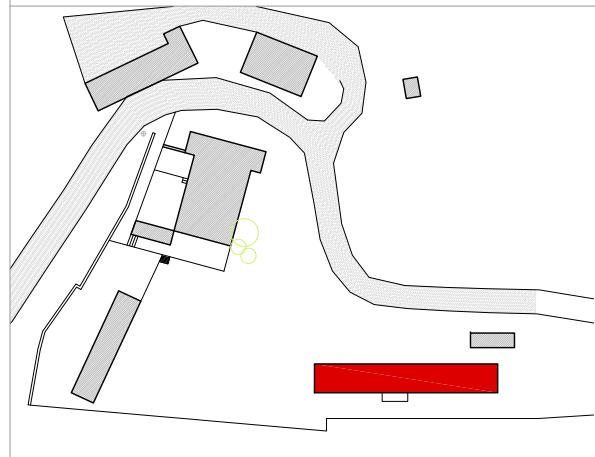
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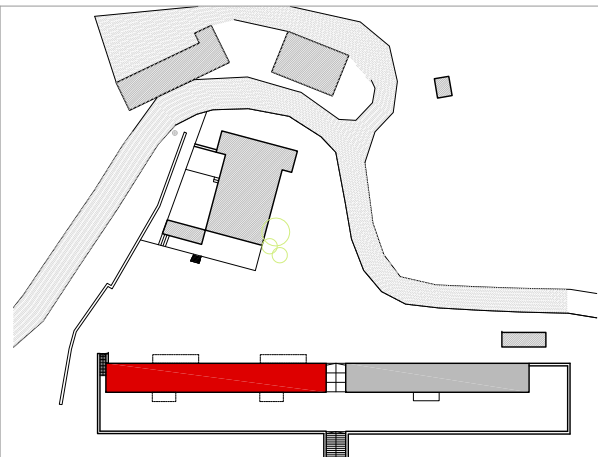
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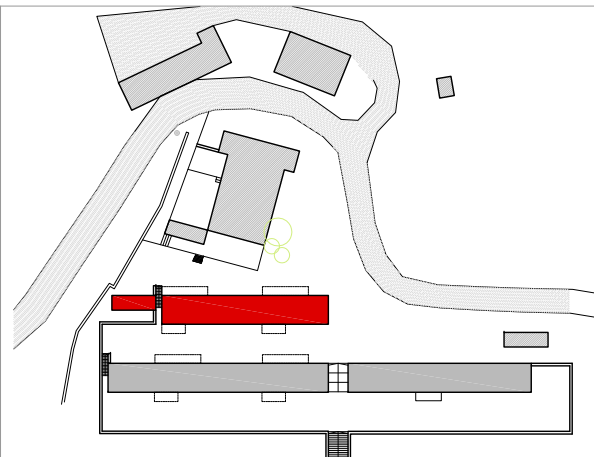
PROPOSED SITE SECTION



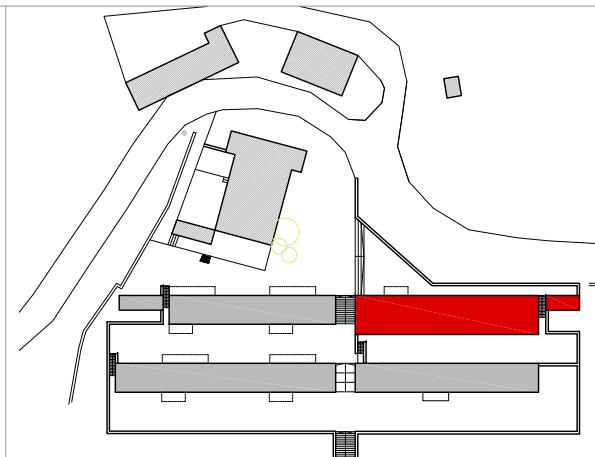
PHASE A1 - 2011
BLOCK 1 - STUDENT ACCOMMODATION



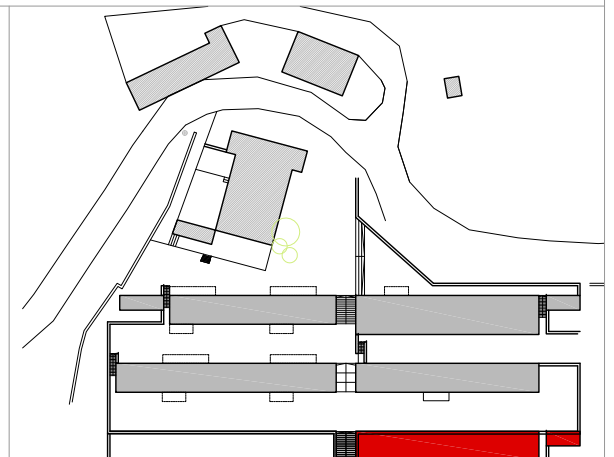
PHASE A2 - 2012
BLOCK A - 8 No. CLASSROOMS



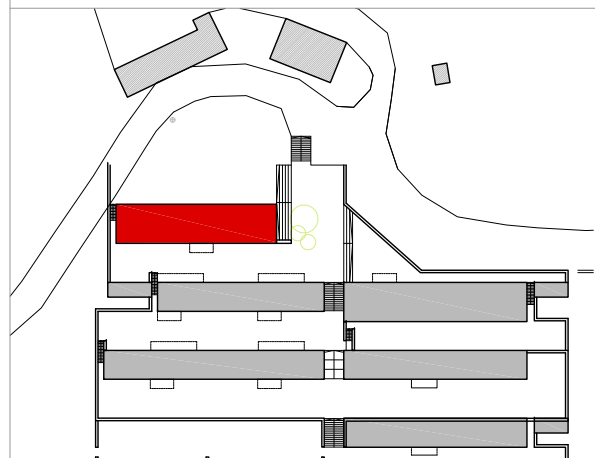
PHASE A3 - 2013
BLOCK B - LABS + 4 No. CLASSROOMS



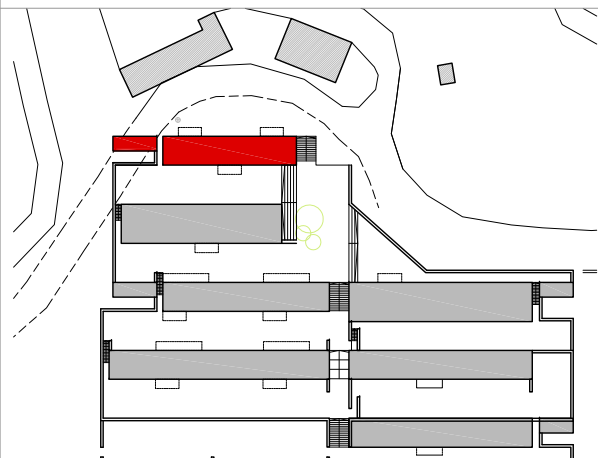
PHASE A4 - 2014
BLOCK 3 - DINING HALL, KITCHEN, LAUNDRY, STORAGE, FACIL.



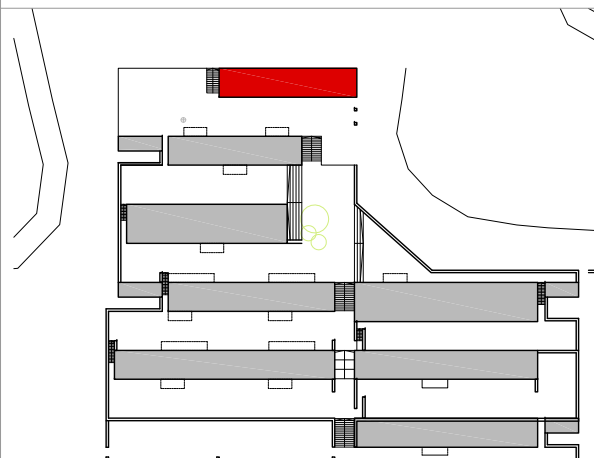
PHASE A5 - 2015
BLOCK 2 - STUDENT ACCOMMODATION



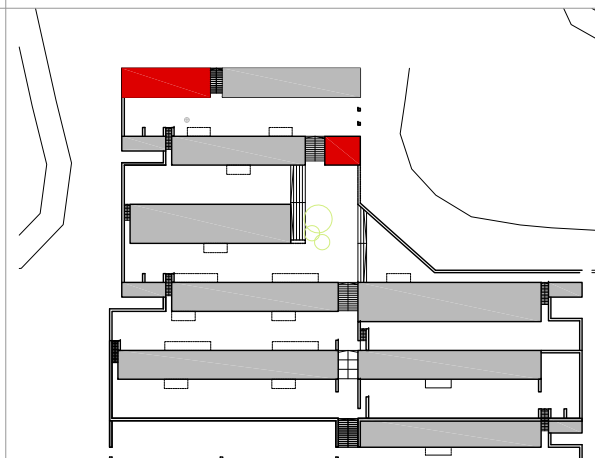
PHASE A6 - 2016
BLOCK C - PRAYER HALL, ART & MUSIC & THEATRE CLASSROOMS



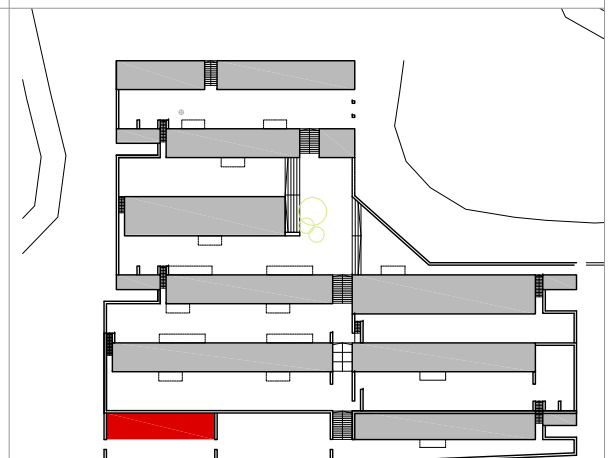
PHASE A7 - 2017
BLOCK D - KINDERGARTEN, LIBRARY, COMPUTER CLASSROOM



PHASE A8 - 2018
BLOCK E - ADMINISTRATIVE BLOCK, TEACHER OFFICES



PHASE A9 - 2019
BLOCK F, G - TEACHER'S ACCOMMODATION, VISITOR CENTER



PHASE A10 - 2020
GREENHOUSE, GARDEN, LANDSCAPE

NEW ECO-FRIENDLY PASSIVE SOLAR SPRING DALES PUBLIC SCHOOL

WAKHA / MULBEKH - KARGIL - LADAKH - JAMMU & KASHMIR - INDIA

SPRING DALES PUBLIC SCHOOL CAMPUS CONCEPT DESIGN PRESENTATION

WATER TANK ROOM
SOLAR PANELS FOR HOT WATER
SUPPLY

SOLAR WALL SUMMER SOLAR SHADE

LADAKHI WINDOW DECORATION
AS WINDOW SHADE IN SUMMER

ROLLER BLIND WALL INSULATION FOR
WINTER

DOUBLE GLAZED
SOLAR WALL

THERMAL WALL - RAMMED EARTH

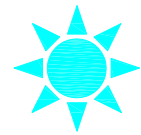
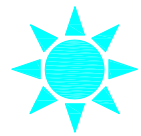
SOLAR WALL
SUMMER SOLAR SHADING

LADAKHI WINDOW DECORATION
AS WINDOW SHADE

ROLLER BLIND WALL INSULATION FOR
WINTER

DOUBLE GLAZED SOLAR WALL

THERMAL WALL - RAMMED EARTH



WINTER SUN

WINTER SUN

SUMMER SUN

SUMMER SUN

SUN RADIATION - HEAT ACCUMULATION INSIDE WALLS DURING DAY

STUDENT ROOM

CORRIDOR

ACCUMULATED HEAT
RELEASES DURING
NIGHT - RADIATION

HEAT RADIATION TRAVELS
AND ACCUMULATES/RELEASES
IN/FROM SURROUNDING
STRUCTURES

CROSS SECTION THROUGH THERMAL
WALLS

CROSS VENTILATION

CROSS VENTILATION

STUDENT ROOM

CORRIDOR

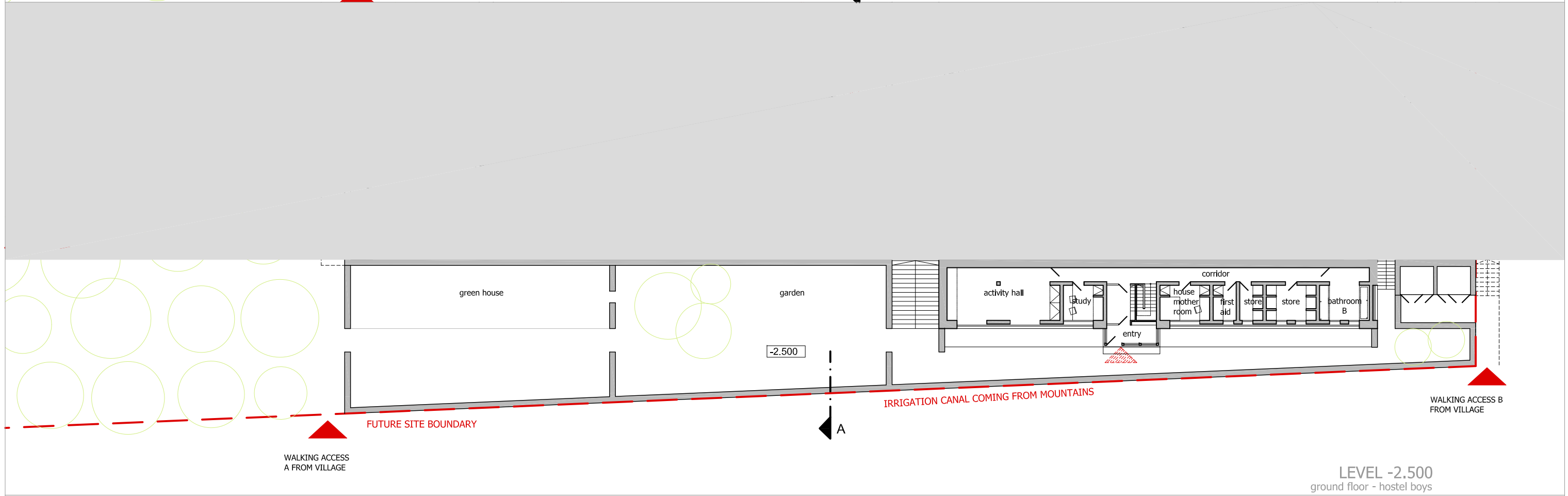
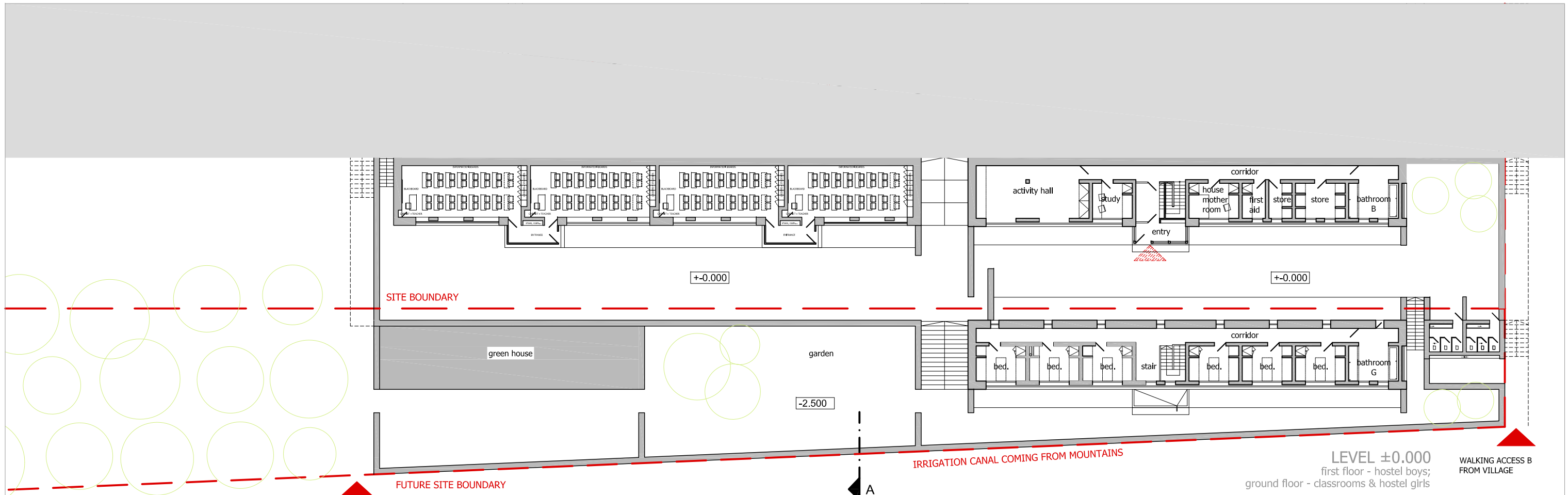
CROSS SECTION THROUGH OPENINGS

HEATING CONCEPT

NEW ECO-FRIENDLY PASSIVE SOLAR SPRING DALES PUBLIC SCHOOL

W A K H A / M U L B E K H - K A R G I L - L A D A K H - J A M M U & K A S H M I R - I N D I A

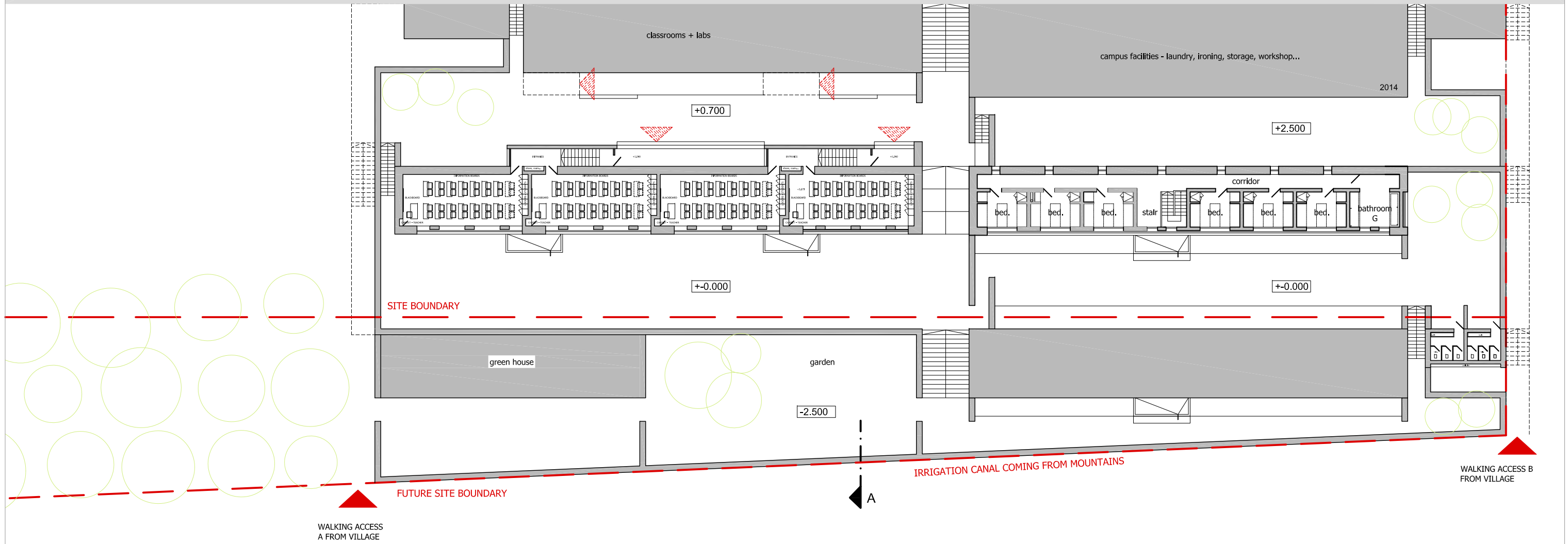
S P R I N G D A L E S P U B L I C S C H O O L C A M P U S C O N C E P T D E S I G N P R E S E N T A T I O N



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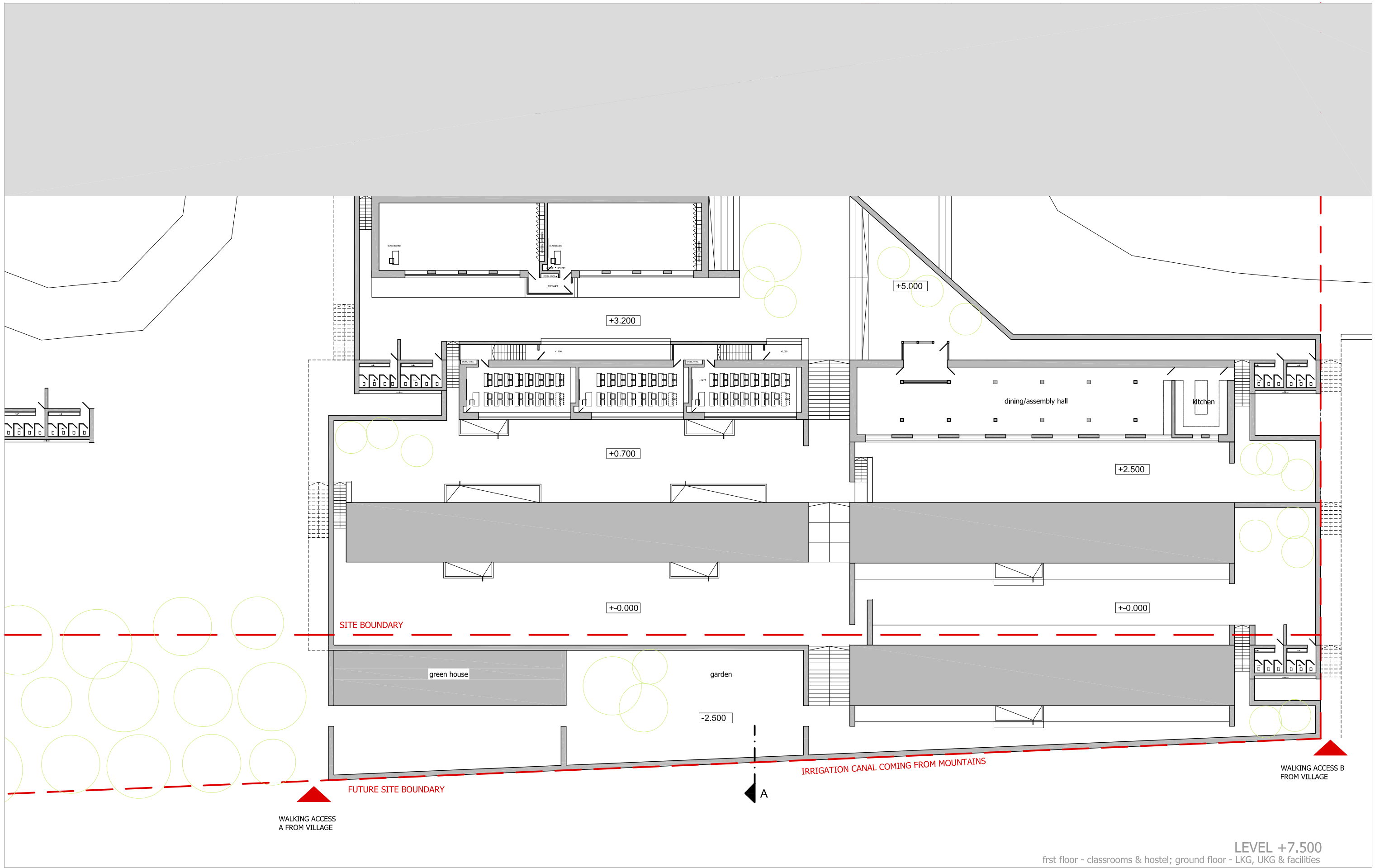


LEVEL +2.500
 first floor - classrooms & hostel; ground floor - classrooms & hostel

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S P R I N G D A L E S P U B L I C S C H O O L C A M P U S C O N C E P T D E S I G N P R E S E N T A T I O N

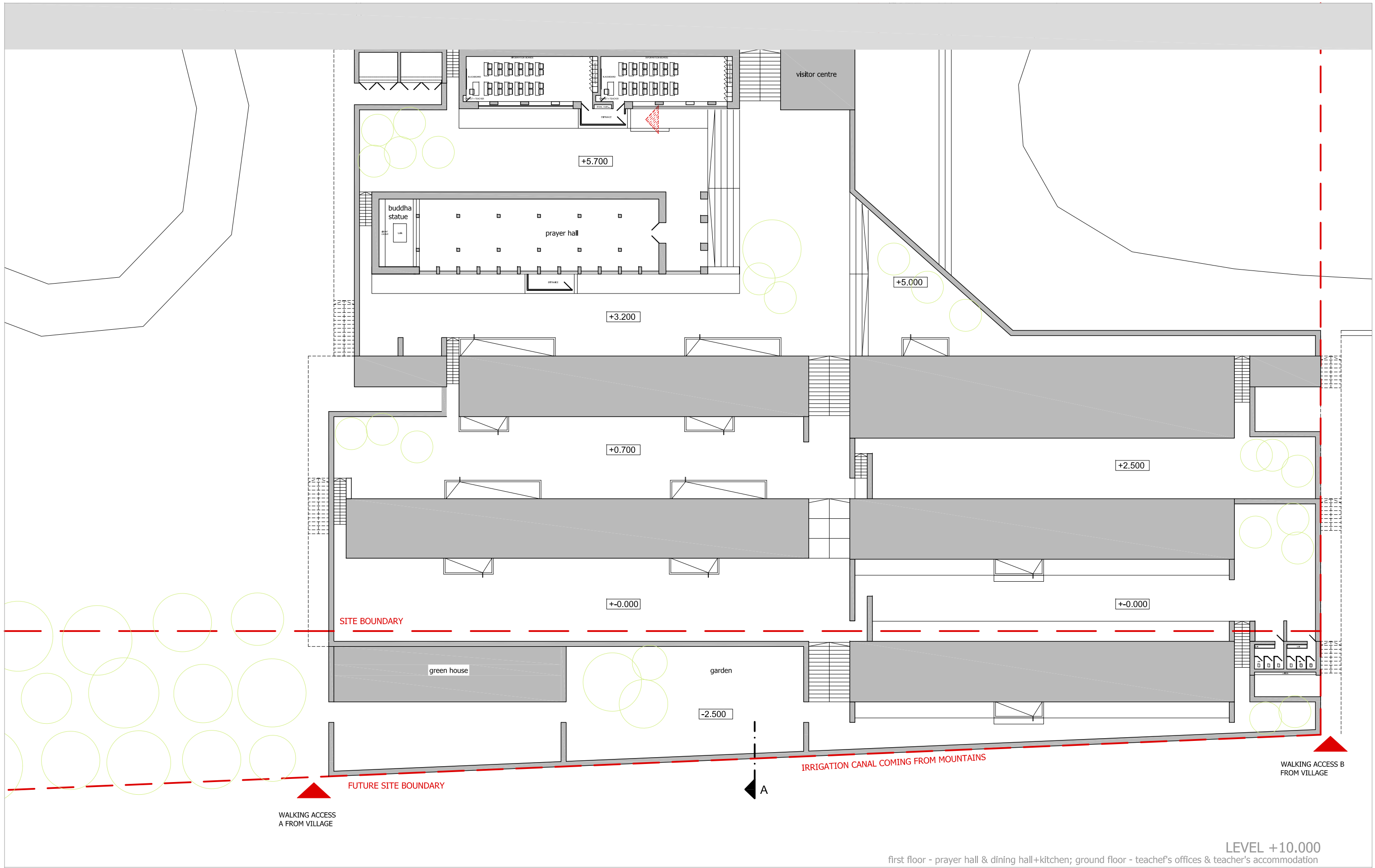


LEVEL +7.500
 first floor - classrooms & hostel; ground floor - LKG, UKG & facilities

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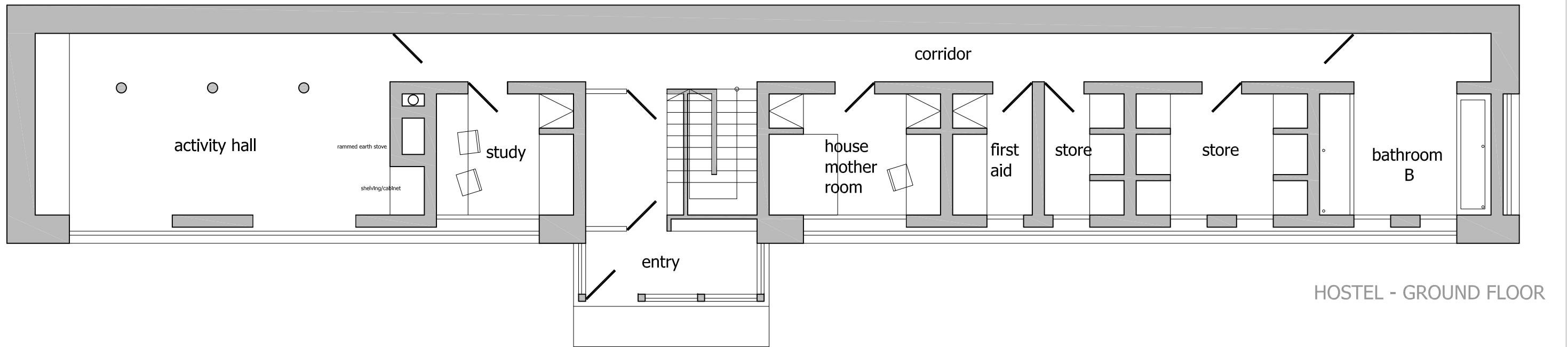
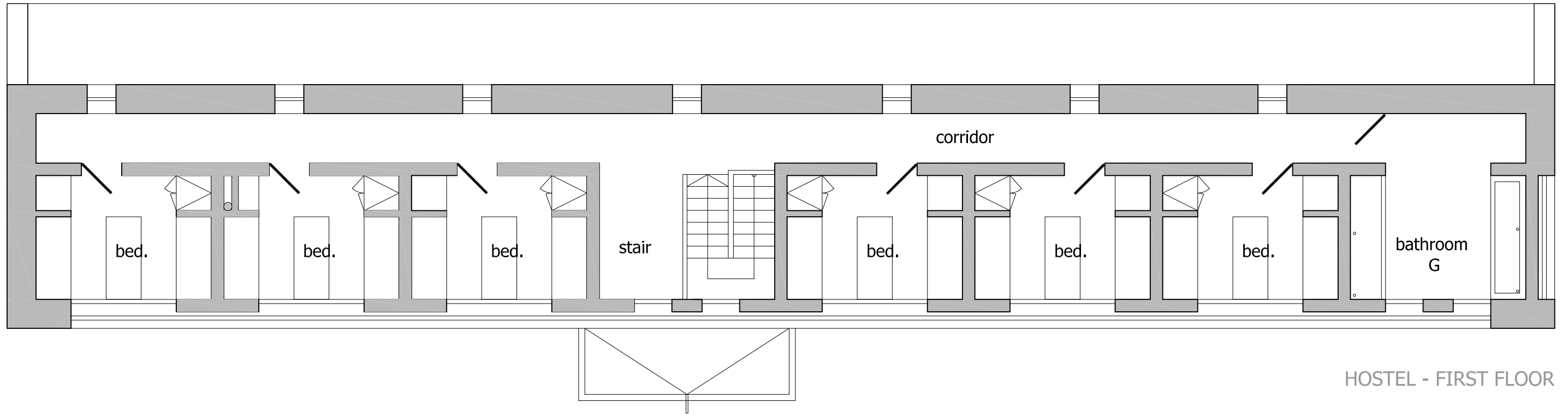


LEVEL +10.000
 first floor - prayer hall & dining hall+kitchen; ground floor - teacher's offices & teacher's accommodation

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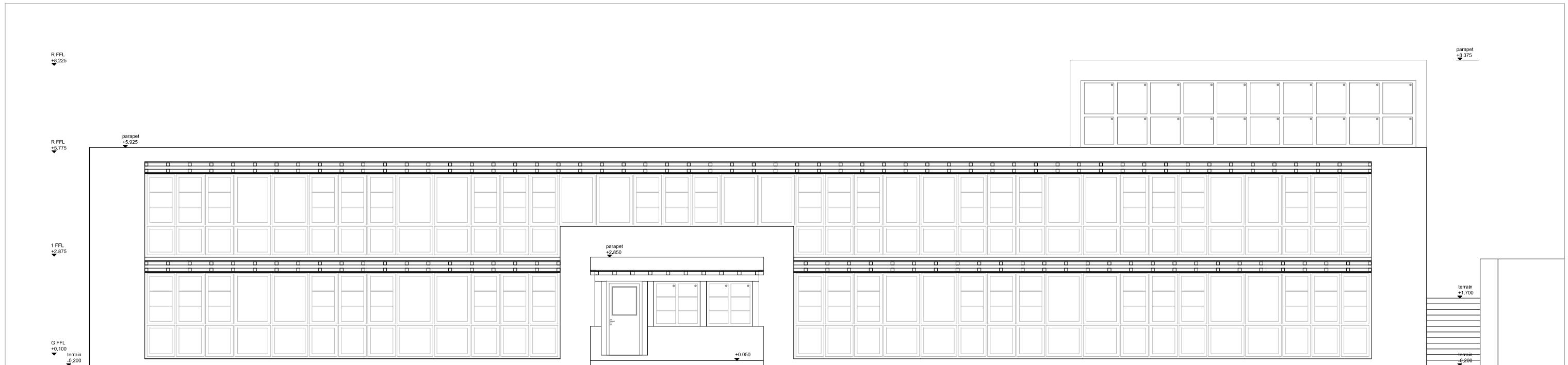
S P R I N G D A L E S P U B L I C S C H O O L C A M P U S C O N C E P T D E S I G N P R E S E N T A T I O N



NEW ECO-FRIENDLY PASSIVE SOLAR SPRING DALES PUBLIC SCHOOL

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S P R I N G D A L E S P U B L I C S C H O O L C A M P U S C O N C E P T D E S I G N P R E S E N T A T I O N



HOSTEL - SOUTH ELEVATION



HOSTEL - NORTH ELEVATION

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SPRING DALES PUBLIC SCHOOL CAMPUS CONCEPT DESIGN PRESENTATION



VIEW OF THE HOSTEL COURTYARD

NEW ECO-FRIENDLY PASSIVE SOLAR SPRING DALES PUBLIC SCHOOL

W A K H A / M U L B E K H - K A R G I L - L A D A K H - J A M M U & K A S H M I R - I N D I A

S P R I N G D A L E S P U B L I C S C H O O L C A M P U S C O N C E P T D E S I G N P R E S E N T A T I O N



VIEW OF THE CLASSROOM COURTYARD

NEW ECO-FRIENDLY PASSIVE SOLAR SPRING DALES PUBLIC SCHOOL

W A K H A / M U L B E K H - K A R G I L - L A D A K H - J A M M U & K A S H M I R - I N D I A

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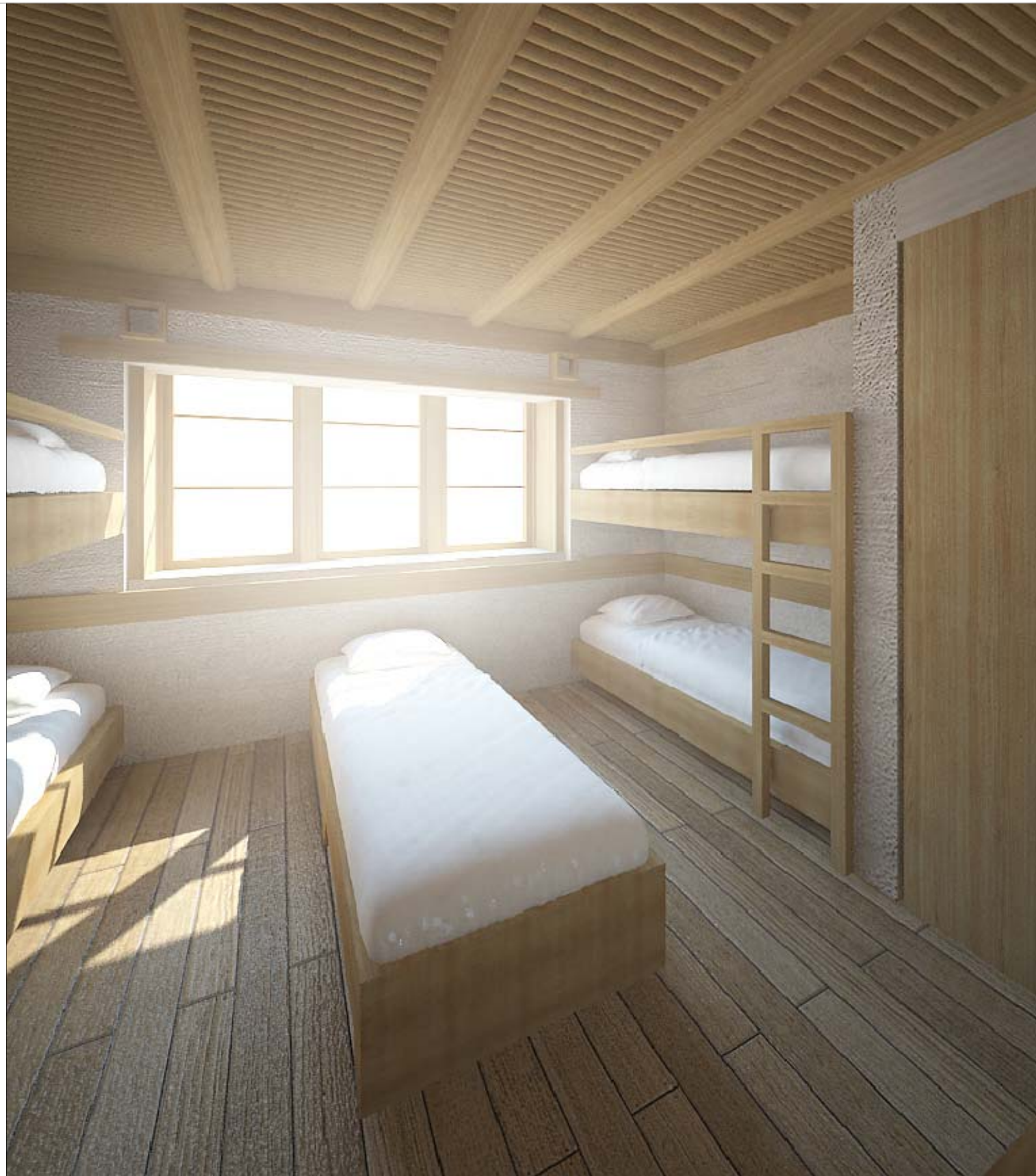


VIEW OF HOSTEL ACTIVITY HALL (WITH RAMMED EARTH STOVE)

NEW ECO-FRIENDLY PASSIVE SOLAR SPRING DALES PUBLIC SCHOOL

W A K H A / M U L B E K H - K A R G I L - L A D A K H - J A M M U & K A S H M I R - I N D I A

S P R I N G D A L E S P U B L I C S C H O O L C A M P U S C O N C E P T D E S I G N P R E S E N T A T I O N



VIEW OF HOSTEL BEDROOM

NEW ECO-FRIENDLY PASSIVE SOLAR SPRING DALES PUBLIC SCHOOL

W A K H A / M U L B E K H - K A R G I L - L A D A K H - J A M M U & K A S H M I R - I N D I A

S P R I N G D A L E S P U B L I C S C H O O L C A M P U S C O N C E P T D E S I G N P R E S E N T A T I O N



VIEW OF THE MAIN COURTYARD

NEW ECO-FRIENDLY PASSIVE SOLAR SPRING DALES PUBLIC SCHOOL

W A K H A / M U L B E K H - K A R G I L - L A D A K H - J A M M U & K A S H M I R - I N D I A

S P R I N G D A L E S P U B L I C S C H O O L C A M P U S C O N C E P T D E S I G N P R E S E N T A T I O N



VIEW OF SPRING DALES PUBLIC CAMPUS

NEW ECO-FRIENDLY PASSIVE SOLAR SPRING DALES PUBLIC SCHOOL

W A K H A / M U L B E K H - K A R G I L - L A D A K H - J A M M U & K A S H M I R - I N D I A

S P R I N G D A L E S P U B L I C S C H O O L C A M P U S C O N C E P T D E S I G N P R E S E N T A T I O N

SPRING DALES PUBLIC SCHOOL COST PLAN FOR NEW CAMPUS

Ref. Description	Unit Cost (Rs)	Construction (Rs)	Furniture/equip/other (Rs)	Total Cost (Rs)	Total Cost (Kc)	Total Cost (£)	Time table
Residential accommodation for students&staff							
Block 1 (30 students) + solar vented compost toilets	6,000,000	6,000,000	150,000	6,150,000	2,338,403	85,168	2011
Block 2 (30 students) + solar vented compost toilets	6,000,000	6,000,000	150,000	6,150,000	2,338,403	85,168	2013
Block 3 (30 students) + solar vented compost toilets	6,000,000	6,000,000	150,000	6,150,000	2,338,403	85,168	2017
Subtotal		18,000,000	450,000	18,450,000	7,015,209	255,505	
School building & Infrastructure							
Construction of 10 No. new classrooms + WC	1,000,000	10,000,000	1,500,000	11,500,000	4,372,624	159,258	2012
Construction of 8 No. new classrooms + WC	1,000,000	8,000,000	1,200,000	9,200,000	3,498,099	127,406	2014
Construction of dining room/kitchen/facility block	10,000,000	10,000,000	500,000	10,500,000	3,992,395	145,409	2015
Construction of 2 classes LKG, 2 classes UKG	1,000,000	4,000,000	200,000	4,200,000	1,596,958	58,164	2016
Construction of Prayer hall	2,000,000	2,000,000	500,000	2,500,000	950,570	34,621	2016
Construction of 12 No. new classrooms + WC	1,000,000	12,000,000	1,800,000	13,800,000	5,247,148	191,109	2018
Adaptation of 5 No. classrooms to Labs.	500,000		1,500,000	1,500,000	570,342	20,773	2018
20 No. of new computers	35,000		700,000	700,000	266,160	9,694	2018
Construction of new staff block + library	7,000,000	7,000,000	600,000	7,600,000	2,889,734	105,249	2019
Construction of V.I.P & staff block accommodation	7,000,000	7,000,000	550,000	7,550,000	2,870,722	104,556	2020
Subtotal		60,000,000	9,050,000	69,050,000	26,254,753	956,239	
Sport facilities							
Covered gymnasium	4,000,000	4,000,000		4,000,000	1,520,913	55,394	2021
Cricket, football, 2 No. volleyball courts, ice ring	1,000,000	1,000,000		1,000,000	380,228	13,848	2022
Subtotal		5,000,000		5,000,000	1,901,141	69,242	
Infrastructure: water supply, drainage, electricity	25,000,000	25,000,000		25,000,000	9,505,703	346,212	
Landscaping	8,000,000	8,000,000		8,000,000	3,041,825	110,788	
Subtotal		33,000,000		33,000,000	12,547,529	457,000	
TOTAL		116,000,000	9,500,000	125,500,000	47,718,631	1,737,986	

April 2011 values excluding future inflation

1Kc = 2.63 Rs £1 = 72.21 Rs

NEW ECO-FRIENDLY PASSIVE SOLAR SPRING DALES PUBLIC SCHOOL

W A K H A / M U L B E K H - K A R G I L - L A D A K H - J A M M U & K A S H M I R - I N D I A

S P R I N G D A L E S P U B L I C S C H O O L C A M P U S C O N C E P T D E S I G N P R E S E N T A T I O N

SPRING DALES PUBLIC SCHOOL COST PLAN FOR NEW CAMPUS

year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
currency												
	6,150,000		6,150,000				6,150,000					
		11,500,000		9,200,000	10,500,000	4,200,000						
						2,500,000						
								13,800,000				
								1,500,000				
								700,000				
									7,600,000			
										7,550,000		
											4,000,000	
												1,000,000
Rs	6,150,000	11,500,000	6,150,000	9,200,000	10,500,000	6,700,000	6,150,000	16,000,000	7,600,000	7,550,000	4,000,000	1,000,000
Kc	2,605,932	4,872,881	2,605,932	3,898,305	4,449,153	2,838,983	2,605,932	6,779,661	3,220,339	3,199,153	1,694,915	423,729
£	85,168	159,258	85,168	127,406	145,409	92,785	85,168	221,576	105,249	104,556	55,394	13,848

NEW ECO-FRIENDLY PASSIVE SOLAR SPRING DALES PUBLIC SCHOOL

W A K H A / M U L B E K H - K A R G I L - L A D A K H - J A M M U & K A S H M I R - I N D I A

S P R I N G D A L E S P U B L I C S C H O O L C A M P U S C O N C E P T D E S I G N P R E S E N T A T I O N