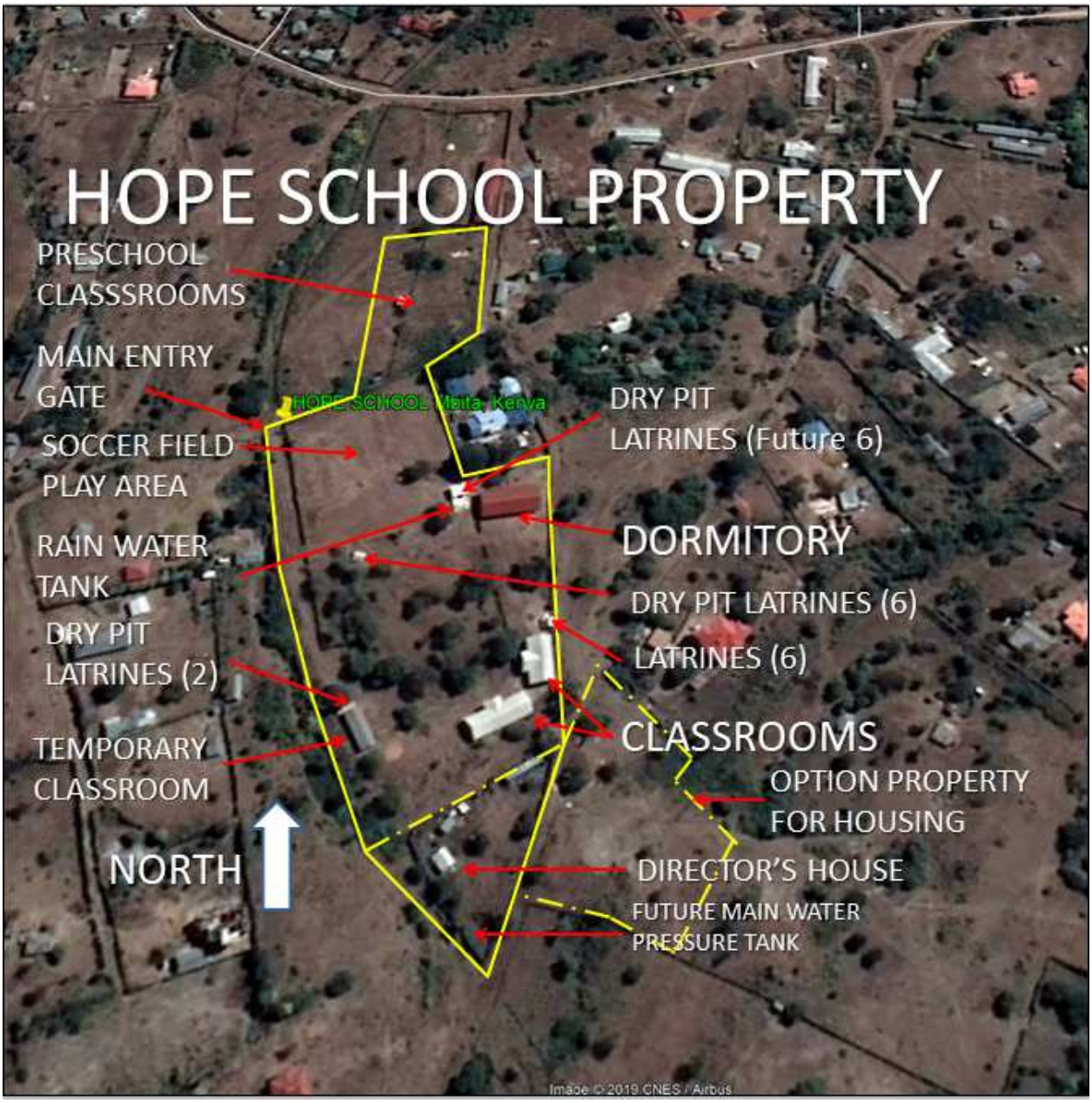


HOPE SCHOOL USARE PROGRAM

GENERAL DESCRIPTION

Mercy Youth Initiative (MYI) includes two campuses. One is in the town of Mbita. The other, Hope School that is the focus of this project, is about 1.25 miles south of the center of Mbita (CBD), in the middle of Usare village. The local residents are engaged in fishing as well as livestock keeping and periodic subsistence farming. Mbita is located on scenic Lake Victoria and is supported to some extent by tourism with a variety of resort compounds along the lake in the general vicinity. The primary language is Swahili with English as a second language for some.

There are National, Regional High schools serving Mbita region. The Kenyan government focuses funding on high schools, tertiary institutions, vocational training centers and institutions of higher learning (Middle-level Colleges and Universities). Primary education is not adequately supported and the primary schools are typically privately funded and managed. The few government run public or subsidized primary schools are overcrowded with a classroom enrolling up to 90 pupils against a ratio of one teacher! Some families are able to hire private teachers to provide supplemental education after school hours. However, children without parents or whose parents are unable to pay are unable to demonstrate educational attainment criteria needed to gain entry into high school. Most remain largely uneducated.

Hope School-Usare under the direction of Kennedy Onyango is a community-based, co-educational facility focusing on orphans, vulnerable and poor children in order to provide quality early childhood and elementary education. Hope School serves children from very poorest families mostly infected and affected by HIV/AIDS. The school is in its infancy, doesn't have regular donors or funding for teachers, and depends on small donations from well-wishers to fund key activities like purchase of books and supplies.

The Usare campus now serves 200 students from 2 years of pre-school through 8 years of primary school. School is presently staffed by volunteer teachers and 2 support staff. On the site are two classroom structures with 2 classrooms in each and an enclosed structure intended to serve as a dormitory to accommodate 60 children/students. (*No children are staying in the dormitory yet as school still lacks other essential amenities like kitchen, toilets, and running water*).

The Hope School and Usare village community have a goal to increase the school student population to 400 in 3 years. The school will provide a 2 year preschool and grades 1-8. If evenly distributed, there would be 40 students in each grade, and 10 classrooms to serve them. Preschool is a morning-only program. Approximately 60 girls and 60 boys will be housed at the school in the future.

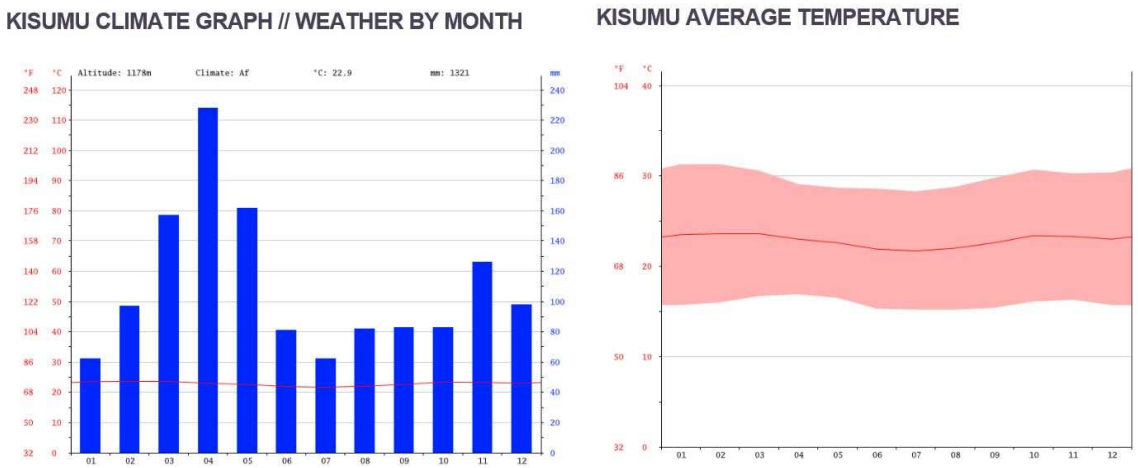
Water is an ongoing challenge. There is a municipal water connection but it is irregular and unreliable. At times it takes 3 months before water flows the taps! There is an idea to lay pipe and pump water directly from the Lake Victoria (700 meters distant) which would provide service water year round. Alternately a deep well may be possible which could provide potable and service water. In any case water would be pumped to a holding/pressure tank at the high point on the site thereby providing some storage and gravity water pressure for all areas of the site. The current assumption is 3000 liter roof top tanks placed above washing areas would be gravity fed. Rainwater is harvested and should be harvested where possible. One rainwater tank currently exists, next to the unused dormitory building.

Sanitary facilities are basic dry pit latrines and urinals. When full they are abandoned. Those adjacent to the dormitory lack a pit and are not functional. Given the planned population on the site, this approach should be reconsidered. Pumped septic is possible here since there is a Government waste disposal/processing facility that is built about 800 meters from Hope School. We can send the toilet waste there though at a small cost. They are using a new technology to recycle human wastes. Pumped septic would require periodic access by sewage pumping and disposal trucks.

The school is connected to electrical power supply from the national grid. The capacity of the supply is likely limited. Communications (Voice and data) are cellular only and there are sporadic interruptions.

General description of the setting: Latitude: 0 degrees 26'32"S, Longitude: 34 degrees 12'51"E. Hillside in the southern outskirts of Mbita. Mbita Sub County in the expansive Homa Bay County sits in a prominent position to be a lead destination in the Western Tourism Circuit. The county also hosts events and sites of mythical interest like the Tom Mboya Mausoleum, the Mfangano Rock Art, Homa Hills Hot Spring and Simbi Nyaima.

a. **Climate:** Mbita lies approximately 30 miles south of the equator at 1141m/3743ft above sea level. The climate is tropical, with average daily temperatures varying less than 4 degrees F throughout the year. Average daily high temperature varies from 83F to 88F, average daily low temperature varies from 59F to 63F. In winter, there is much less rainfall than in summer. The rainfall here is around 1001 mm | 39.4 inch per year. Mbita doesn't experience major climatic changes or harsh weather patterns. (*Reportedly there are periodic violent thunder storms on the lake*)



Precipitation and temperature graphs for Kisumu, about 45 miles ENE of Mbita, also on the shore of Lake Victoria (closest available data)

b. **Topography of site: local and regional:** Hope School is on uplands overlooking Lake Victoria. The site slopes to the north at 7 to 8%. The site is about 125 feet above Lake Victoria at its lower north end and 200 feet above the lake at its higher south end. The closest part of Lake Victoria is about 2300 feet to the northeast.

c. **Soils/Geology:** Mbita region is "black cotton soil". However both campuses of Hope School are built in areas with rocky soil with wider murrum coverage. The soil is well drained, sandy, and provides good bearing capacity (EWB-WYO report).

d. **Predominant flora and fauna**: In Homa Bay County, there are over 18 islands, peninsulas and bays some with unique fauna and flora and an impressive array of physical features with great aesthetic value. It is home to Ruma National Park which is the only park where unique and rare species like the roan antelope can be found.It also boasts of breath-taking scenery and forested landscape leading to and around the Lake Victoria coast line, especially within Mbita and Suba, such as is the case with the Sikri peninsula. There are also opportunities for sports and cultural tourism especially as relates to the way of life of the Luo and the Abasuba whose traditional boat racing and artifacts continue to attract a lot of local and international tourists.

Facility Needs

To achieve its 3 year goals the school first needs a facilities masterplan and drawings that will be used in the process of engaging donors and supporters. The masterplan for the Usare site includes the following elements:

- **Classrooms:** new spacious, well ventilated building(s) partitioned into six rooms (27ft by 24ft) serving as classrooms. The government has few conditions, but a standard classroom must be 24ft (Width) and 27ft (Length). There are also two existing classroom structures. One is 24 x 70 feet with classrooms at each end and a 16ft x 24ft area in the middle that is used as an office. The second is 24 x 54 feet divided into two spaces and currently used for early childhood education. Classrooms will be daylight illuminated.

- **Library and Computer Training Room:** This building/space will house shelving for a small library, a reading table (most will take books to other areas to read) and a classroom area for computer learning serving the school and after school adult learning. Training will require 40 seats and deskspace and some sharing of computers. There will be a secure office where computers and projection equipment can be stored. Space will be controlled daylight illuminated and have general artificial lighting as well.

- **Dining Hall & Kitchen**: The dining area will seat 420. Walls should provide secure enclosure but need not extend to the roof. This room will serve multiple purposes including meeting and performance. The kitchen includes food prep, cooking, and servery, scullery and tableware storage, dry foods including grains and chilled storage room with space for a large freezer. Adjacent outdoor covered areas will provide space to slaughter and clean fish and chicken. Cooking will use wood and propane. The building will have an adjacent component serving as a secure storage room. This space will also serve as a community meeting room and performance space.

- **Administration Block**: A double story building housing office spaces (10ft by 10ft square) for School Manager/Director, School Principal, Deputy Principal, Dean of Studies, Games/Creative Arts Master, Counseling & Guidance, Child's Welfare, and Accounts Clerk ; also an open space area to serve as Teaching Staffroom (30ft by 30ft) and a Reception Area (12ft by 20ft).

- **Teaching Staff Housing**: 12 family houses built in a double story, dormitory-like building with each family space including a living room, 2 bedrooms, kitchen/storage and verandah.

- **Sports field**: Ground leveling of 1 acre space of land to install outdoor games equipment like goal posts, volleyball, handball and other games pads.

- **Dormitories**: There is an existing structure designed as a 56 bed dormitory with separate sides for boys and girls and rooms for adult chaperones. This structure is dysfunctional as constructed. It is a virtual oven and planned washing and toilet facilities are unbuilt. This will need to be retrofitted to become a viable 60 bed dormitory for boys. There will be a second structure housing 60 girls. Both will be single story structures with latrines, washing, and shower facilities. The government requires that the children are housed in shared rooms with up to 4 beds per room.

The Overall School Infrastructure Development Plan is divided into three phases:

1st Phase
Classrooms
Dormitories
Dining Hall and Kitchen
Library/Computer Training
Outdoor Play/Games Equipment Storage
Playground
Water and Sewer Infrastructure

2nd Phase
Administration Block
Teaching Staff Housing

3rd Phase (future, at the Mbita town school site)
Community Cultural Center – a beautiful custom-built facility with seating capacity of 1,000, with instructional space for physical education and performance space(s) for music, drama, dance and art. It should include an open-air amphitheater and a professionally-equipped main auditorium for perfromances, assemblies and other events. The building may also have a print and digital library.

AWB – Oregon's Role
The purpose of AWB-Oregon's work is to help the school community establish a vision for the full build-out for phase 1 and 2. The population served is not capable of funding the development of such a school and will rely on substantial donations from grants and benefactors to be realized. To accomplish this requires that the vision is very practical to construct in phases as funds become available. But the vision must also be sufficiently attractive, contextually appropriate, and environmentally innovative to attract donor attention.

Building Standards and Codes:
Manufactured materials and building codes are heavily influenced by standards used in India. Studies indicate that the larger region is seismically active but with no quakes greater than 5.0. Local construction standards do not account for seismic activity. However there is no plan review or inspection and no building codes. Construction trades use metric system although sizes and areas may be discussed in terms of imperial feet and inches.

Buildings are typically single/double story with corrugated metal roof on trusses. Walls are to be at least 10 feet high for heat dissipation. Walls use a reinforced concrete frame with locally available on-site faced stone for infill. Windows are typically steel frame with glazing on intrusion resistant sash – hinged or fixed, no screens (*images or available product needed).*

Two-story structures may be considered for the administration building as well as teacher housing and classrooms.

Space Requirements

Classroom Buildings or Cluster

Q	Description	Approx Size (ft)	AREA (SF)UNO	Comments
1	Existing structure with 2 Classrooms (preschool)	24ft x 70ft	1680 GSF	2 years, 40 students per room (7:30am-12:30noon). with office/storeroom.
1	Existing structure with 2 Classrooms	24 x 54	1300 GSF	40 seats per classroom.
6	Classrooms	24 x 27	3890	8 grades 1-8, 40 seats per classroom. Acoustic separation.
6	Lockable Storage	6 x (length varies)	120	Provide about 20 SF per classroom and at least one for each building. Space for electrical panel and supplies
6	Veranda (New classrooms)	6x (length varies)	1000	Continuous veranda on entry side of classrooms
	Structure (new)	10% of above	400	
1	Library/Computer TrainingCenter		1300 GSF	inclusive
1	Training area	27 x 25	675	40 seats, adult size
	Computer/AV storage	6 x 10	60	30 laptops, workbench, etc
1	Shelving area	14ft x 10ft	140	
1	Reading table area	10ft x 10ft	100	
1	Staff office	10ft x 8 ft	80	
1	Janitor/Electrical	6ft x 5ft	30	
1	Entry circulation area	10% of above	240	
1	Veranda	8 x length		
	Structure	10% of above	260	

Note: The first two items above are existing classroom buildings, each housing 2 regular classrooms. Ten total classrooms at completion. Plan for phased construction of the six new classrooms in clusters of 2, 3 or 6. Library/computer room may be free standing, attached to classroom cluster, or integrated into the administrative block. Consider a new structure at the north end of the property for preschool classrooms.

Dining Hall

Q	Description	Approx Size (ft)	AREA (SF)	Comments
1	Dining hall	66 x 90	5940	Seating, tables and circulation for 400 students plus 20 staff @ 14sf per seat
1	Kitchen prep/serve	20 x 16	320	Duel fuel used (wood and propane)
1	Scullery/tableware	20 x 16	320	
1	Table and chair storage	10 x 30	300	
1	Performance area	20 x 40	800	
1	Dry good storage	6 x 10	60	Wall shelving
1	Chilled storage	12 x 12	144	With space for 3x6 freezer
1	Janitor/ Electrical	8 x 8	64	
1	Structure for above	10%	795	
2	Staff latrines and wash	7 x 10	140	
1	Hand wash area	4 x 20	80	Covered trough sink
1	Water storage	Roof top	Roof top	3000 litre tank, roof top location for gravity feed and hot water
1	Veranda	10 wide		In front of dining area
1	Covered slaughter and cleaning area	16 x 20	320	Chicken and fish
1	Covered work yard	20 x 20	400	Chickens, wood, waste
1	Propane Storage	6ft x 6ft	36	
	Solar PV panels			

Note: Sample plan has similar elements especially the dining hall.

Boys Dormitory

Q	Description	Approx Size (ft)	AREA (SF)	Comments
15	Sleeping Rooms			60 beds, boys, 4 per room
1	Prefect Room			
1	Linen and supplies			Includes janitor supplies
1	Secure storage			Includes electrical
1	Toilet/ shower room			3 pit latrines, trough urinal for 5, 6 wash sinks, 5 shower stalls, janitor sink
1	Water storage		Roof top	3000 litre tanks, gravity feed and solar hot water
1	Game room	24 x 24		
1	Structure/circulation			
	Solar PV panels			

Note: Sample plan has similar elements. The existing 70 x 30 was designed to house 56 students in bunk beds and 4 adult caretakers (RE: EWB WYO project description). 50 bed frames have been purchased; but lacking are mattresses, sheets, blankets and mosquito nets, etc. The toilet and shower area has not been constructed. The low wall height (8 feet), lack of end wall or roof venting, and metal roof on steel trusses make this a virtual oven. The structure is reinforced concrete frame with stone infill. Interior walls are the same. It will need to be retrofitted to become a viable 60 bed dormitory.

Girls Dormitory

Q	Description	Approx Size (ft)	AREA (SF)	Comments
15	Sleeping Rooms			60 beds, girls, 4 per room
1	Prefect Room			
1	Linen and supplies			Includes janitor supplies
1	Secure storage			Includes electrical
1	Toilet/ shower room			4 pit latrines, girls urinals for 4, 6 wash sinks, 5 shower stalls, janitor sink
1	Water storage		Roof top	3000 litre tanks, gravity feed and solar hot water
1	Game room	24 x 24		
1	Structure/circulation			
	Solar PV panels			

Note: Sample plan has similar elements. New structure.

Pit Latrines

Q	Description	Approx Size (ft)	AREA (SF)	Comments
8	Toilet/ shower rooms			TBD- see requirements for each facility

There's a need for one new structure housing 8 door toilets and 8 door showers and it should have wash sink area.

Note: As noted above, AWB is recommending reassessment of plans to continue long term use of dry pit latrines and alternatives should be included in the program. Existing structures housing dry pit latrines are shown on the site plan. Two are 6 door dry pit latrines for a total of 12 for urine and feces. The system is typical for all on site latrines. Another structure (incomplete) is partitioned into six door (septic channeled toilets) and six door shower stalls(?).

Administration

Q	Description	Approx Size (ft)	AREA (SF)	Comments
1	Private office	10 x 10	100	School Director
1	Private office	10 x 10	100	Principal/ Head teacher
1	Private office	10 x 10	100	Deputy Principal/Deputy Head teacher
1	Private office	10 x 10	100	Dean of studies/ Senior teacher
1	Private office	10 x 10	100	Accounting
1	Private office	10 x 10	100	Counseling/guidance
1	Private office	10 x 10	100	Child Welfare Officer (Community Liaison)
1	Private office	10 x 10	100	Games/Creative Arts Master Office
1	Shared workspace	30 x 30	900	Teaching staff room with coffee bar, 12 desks and lockers
1	Office/ reception	12 x 20	240	Secretary work station, counter, seating for 10
1	Electrical/ Janitorial	4 x 5	20	
1	Supplies storage, copy room	7 x 12	84	
1	Circulation	5%		
	Structure	10% of above		
	Veranda	6 feet deep		Around entry to reception
	Solar PV panels			

Note: Building of this block is important but these functions can be temporarily housed in a classroom structure until funding is available. For this reason it is a second priority despite the fact that it will be the nerve center of the school operations. This may be a two level structure.

Faculty Housing

Q	Description	Approx Size (ft)	AREA (SF)	Comments
12	Faculty housing		730 GSF	Total: 8,760 GSF
	Living/dining	12 x 20	240	
	Kitchen, storage	8 x 12	96	
	2 bedrooms/closets	12 x 12	288	
	Bathroom		40	
	Structure for above	10%	66	
	Veranda	7 x 15		

Note: These houses will have an internal bathroom with shower. The bathrooms will need to be clustered for economy of some type of shared pumped pit for latrines. Consider 3 blocks of 4 apartments. They may be 2 level structures.

Site & Support

Q	Description	Approx Size (ft)	AREA (SF)	Comments
	Sports Equipment Storage	10 X 15		New structure near the soccer field.
	Site Maintenance			A small workshop within the school compound is required.
	Playground			Playground adjacent to soccer field. It should be fenced, ground leveled and grass planted.
	Soccer field			Should be developed urgently and as a key priority
	Other			
	Kitchen garden			Backyard/kitchen garden to grow vegetables, tomatoes, kales, onions and fruit trees for use at the school.
	Water tank			Each and every building in the school should have 20,000 litre water tank to help in harvesting & storage of rainwater.
	Electrical transformer			There's no need for adding a transformer in the school, maybe we can install solar as an alternative source of power, but this ought to be weighed against other priorities of the school in terms of costs unless we find a partner just interested in solar power for the school.
	Power			Power is currently delivered by overhead distribution. We would prefer underground distribution
	Water and Waste			See General description
	Perimeter fencing			To enhance security at the school, it's advisable that a perimeter fence be installed using locally available stones which are plentiful in the area.
	Gates			We have existing gates. We will only need to improve the gate by installing 1 heavy duty gate to serve as the main entrance to the school.

Resource Center for FUTURE reference only

Q	Description	Approx Size (ft)	AREA (SF)	Comments
1	Auditorium			Multi-purpose with stage, AV equipped
1	Amphitheatre			1000, sun shading, night lighting
1	Stage			music, art, drama and dance, lighting, shared stage
2	Dressing rooms	10 x 24		
	Reception			For auditorium
	Electrical and Equipment room			
	Secure Storage			Shop, AV, lighting, performance accessories
	Janitorial			
	Latrines	5ft x 5ft, 6 doors (septic channeled latrines)		

Note: seating capacity of 1,000 people housing a space for physical education instructional space and performance spaces for music, art, drama and dance. Its architecture should include an open-air amphitheater and a professionally-equipped main auditorium used for performances, assemblies, community theatre and other events. Verify relation to library computer room.

The blue ink notes on this image show the arrangement of the site proposed by Kennedy Onyango, Hope School Director. It is not to scale but provides an indication of the preferred or possible relationships between the elements identified in the development plan.