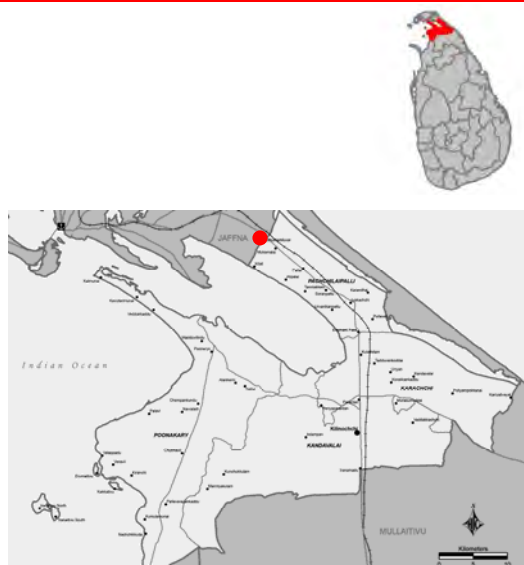




Projects library of the specialized group for construction

SCHOOLS

Project	Postconflict School Reconstruction	
Project name	Eluthumadduval Sri Ganesha Vidiyalayam, Thenmaradchy Jaffna	
Country	Sri Lanka	
Town/Region	District Jaffna, DS Division Thenmaradchi, Eluthumadduval Sri Ganesha Vidialayam	
Project type	New school structure, 1 new toilet block, 1 toilet block repair , new water tank, new waste management hut, new security hut, repair kitchen, new cycle shed, rainwater-intrusion	
Typology	11 classrooms, library, computer room, science lab for primary / secondary school, principle office, grade 1-11 in new 2-storey building	
Approach	Private sector contracted construction	
Beneficiaries	Affected people in response to the conflict (IDP's, Refugees, Returnees)	
Climate	Tropical, hot and humid	
Special constraint	-	
Start / End of project	2014/ 2015	
Country GNP	2'004 USD/cap (2013)	
Pictures	SDC Jaffna/Maps UN OCHA	



Partners	
Organization (Donor)	SDC-HA
IO/NGO partners	-
Government partners	PTF Presidential Task Force Ministry of Education Provincial Education Director Zonal Education Director School Works Branch (SWB), Jaffna

Context to project

Initial situation	<p>Just after the Indian Peace keeping force left the Island, the fighting between the Srilankan Army & LTTE restarted during the early part of 1990. Consequently the 1st displacement had been taken place while LTTE made an offensive operation against the Elephant Army camp during July 1991. Before displacement, about 500 children of the 3 villages Muhamalai, Eluthumadduval and Karampakam were attending the school.</p> <p>The people around the "buffer zone" (hard-fought border between LTTE and Sri Lankan Army) got displaced after 1993 and started returning after 2011. The resettlement is still ongoing and slow because of the immense mine field in this area, which is only partly cleared.</p> <p>The school was abandoned for approximately 20 years and reopened in 2012 in a temporary school building, built by UNICEF In 2013 SDC started the reconstruction of the a 2-storey Building to provide permanent learning environment to all children. Presently around 80 students are attending the school, but with the ongoing resettlement the number will increase every year.</p>
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Humanitarian Aid construction group

Goals, Beneficiaries	The aim was to facilitate the resettlement and also to restore adequate school condition to the resettling student population. The rehabilitation of the school was done in close collaboration with the relevant Government Authorities. Through the reconstruction of the Eluthumadduval Sri Ganesha Vidiyalayam school, the principle expects around 125 students to benefit once resettlement process is completed.
Implementations	SDC-HA pledged to reconstruct on behalf of the request of the School Development Society, the principal of the School and the teachers. The request was supported by the Government Agent, the additional Director of Education and the School Works Branch Office Jaffna.
Results by September 2014	80 students are currently attending the school & 14 teachers are employed at the school.

Reference data new buildings

Eluthumadduval Sri Ganesha Vidiyalayam			
GPS data	Latitude: - 9° 40' 33.14"	Longitude: 80° 1' 42.70"	
Land plot	11122 m ²		
Total No of class rooms	13 + 1 Library + 1 Principle office	Number of units	14
Beneficiary /classroom	12	Total beneficiaries	80 students
Sanitary facilities	repaired toilet for teachers. 1 toilet for disabled persons 6 toilets for students (2 for boys, 4 for girls) 4 urinals (boys)	Other infrastructure	Hall (24.0m X 6.0m) Library Computer room Science Laboratory Dining area (former school area) Kitchen (repair) Water Tank Cycle park Security Hut Waste management hut
Ground floor (covered area)	372.47m ²	Floor levels	1 & 2
Total surface Building	476.29 m ²	Surface / beneficiary	4.66m ² / beneficiary
Total surface Ramp / Rainwater harvesting	115.29m ² / 16.25m ²	Volume / beneficiary	41.90m ³ / beneficiary
Volume (outside dim.)	2857.74 m ³	Electrification	Yes
Cost per classroom (1 CHF=135 LKR)	12,490.69/1,686,243.78	Total cost / Student (1 CHF=135 LKR)	2640.49/356,466.40
Total cost (1 CHF=135 LKR)	211,239.35/28,517,311.76		



Approach to results	
Project concept	<p>In agreement with the Ministry of Education, the School Works Branch (SWB), the village authorities and the principal, SDC decided to rebuild the Eluthumadduval School (approx.100 students) and therewith establish a decisive return factor for the former residents of the area.</p> <p>A new 2-storey school structure was constructed, including assembly hall, science lab, library, computer room and principle office.</p> <p>A new security hut inclu. store room was constructed.</p> <p>Waste management was introduced in the schools and therefore a waste collection point was built. The goal is to teach the children how to separate waste, collect waste and do composting.</p> <p>Construction of a new water tank, renovation of well.</p> <p>A new toilet block was constructed. The existing toilet was renovated to a teachers toilet.</p> <p>A new cycle shed was constructed.</p> <p>The existing kitchen was renovated and improved</p> <p>All pathways have been newly constructed.</p> <p>Programme manager, engineer, technical officer attached to SDC and the school works branch technical division managed to complete the above described tasks.</p> <p>A maintenance manual was prepared by SDC & handed over to the principal & teachers to organize & to carryout regular maintenance along with support of the parents and school work society.</p>
Project procedure	<p>Based on bills of quantities and through public bidding procedures, the lump sum contract was given to the private sector construction contractor. Through a set of specific criteria in terms of price, quality and performance, capable contractor has been identified and the contract awarded. Contract documents were derived and adapted from international FIDIC standards.</p> <p>The construction started in 10.09.14 and finished 31.08.2015. Site supervision was carried out directly by the technical officer employed by SDC & with the support of the School works branch engineer & technical officer, project engineer and project manager of SDC. The finishing standards are of good quality.</p> <p>Legal handing over certificates and maintenance plans were provided upon project completion.</p>
Structural concept and finishing design	<p>RCC frame with pad foundation / confined masonry on strip foundation for walls; roof with steel trusses, timber frame work and tiles; floor finish in cement rendering; walls cement block masonry & plaster, internal & external walls emulsion/enamel paint, doors, windows applied with vanish; ramp for wheelchair access</p> <p>16 students/classroom, black board on one wall, toilet walls & floors with glazed tile, plumbing pipes installed inside walls, 3-phase electrification, elevated water tank of pad footing, columns, all of reinforced G25 concrete.</p>
Issues/Constraints	-
Lessons learned	<p>Assembly hall: Slab height got raised by 45cm.</p> <p>Plumbing: Use of better quality plumbing material, maintenance valves and inside wall installation add to a more sustainable plumbing system (if the water quality allows it).</p> <p>Aluminium sliding windows are available now and allow more daylight in the classrooms.</p> <p>Glass tiles in toilets allow more light in toilet rooms. It improves the security in the toilets and makes dirt visible.</p> <p>2nd floor Veranda drainage system</p> <p>Bird nets and Aluminium teeth to avoid pigeon nests</p>



Legal framework

Political attachment	Through the bilateral agreement between SDC and the Government of Sri Lanka followed by an MoU between SDC-HA and PTF
Type of ownership	District Education Department on behalf of Ministry of Education Northern Province

Relevant building construction costs (excl. planning, design and supervision)

Construction / Renovation	In SLR	In CHF
Renovation of Main 2 story Building (27m x 7.5m)	22,166,751.29	167,056.68
Renovation of existing Toilet Block	100,787.55	759.57
Construction of Toilet Block incl. Septic Tank	2,554,887.37	19,254.56
Construction of Water tank and Plumbing work	1,383,494.68	10,426.52
Construction of Well	67,590.15	509.38
Construction of Waste Collection Hut	387,160.12	2917.78
Construction of Security Hut	803,408.76	6054.78
Construction of Cycle Shed (45m x 2.4m)	405,817.98	3058.39
Ramps/Pathways/Rainwater Harvesting	206,535.47	1,556.53
Renovation of existing School Building	440,878.39	3322.62
(1 CHF/ 132.69)		
Total	28,517,311.76	214,916.81

Urban planning

Eluthumadduval Sri Ganesha Vidiyalayam	
Distance to main area -- Palai	5.0 km
Public transport	Regular public transport , A9 road is very close, train station

For further information

Involved SDC-HA construction group consultants	Martin Studer / Lea Moser Haug / Andri Gartmann
Other involved SDC-HA consultants	Rajkumar Kumararajaratnam
Author / Contact:	Rajkumar Kumararajaratnam, rajkumar.kumararajaratnam@sdc.net
Recommended Institutions:	N / A
Recommended partners:	N / A
Recommended books/reports:	Further information (drawings, contract, etc.) on construction group website or email above available
Relevant other projects (links):	Project Document of the Cash for School Program, Sri Lanka, containing the reconstruction of Schools. Website: www.cfhsrilanka.com

Relevant illustrations



1L	New main building and rainwater intrusion
2R	New main building with water point



1L	Backside new main building
2R	New main building, class room



1L	New main building corridor ground floor
2M	New main building corridor 1 st floor



1L	New toilet block
2R	New toilet block inside



1L	New Cycle shed
2R	Escape stairs, storage room



1L	Waste management hut
2R	Hut for security guard



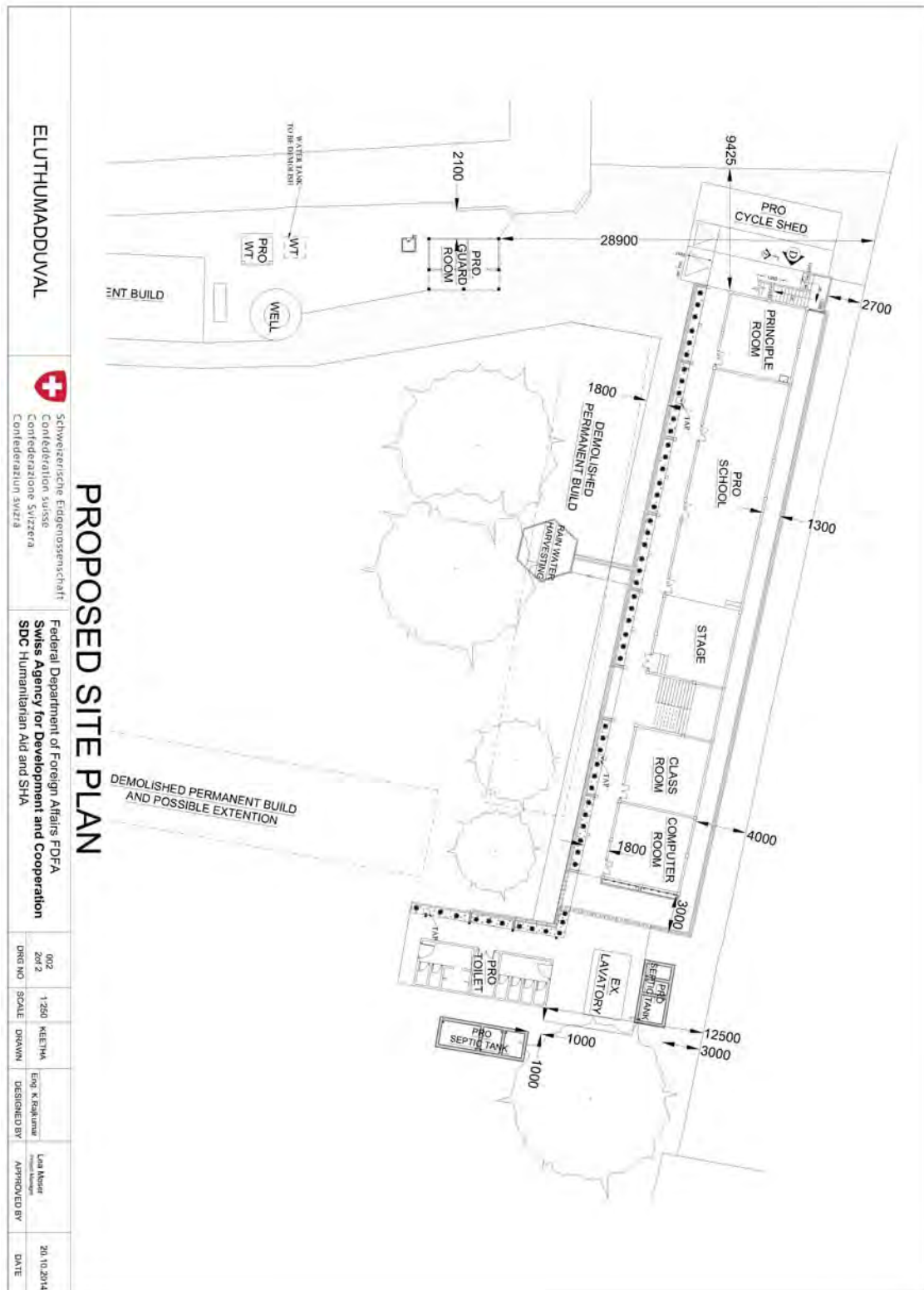
1L	Kitchen repair with outside water point
2R	Well repair, new water tower

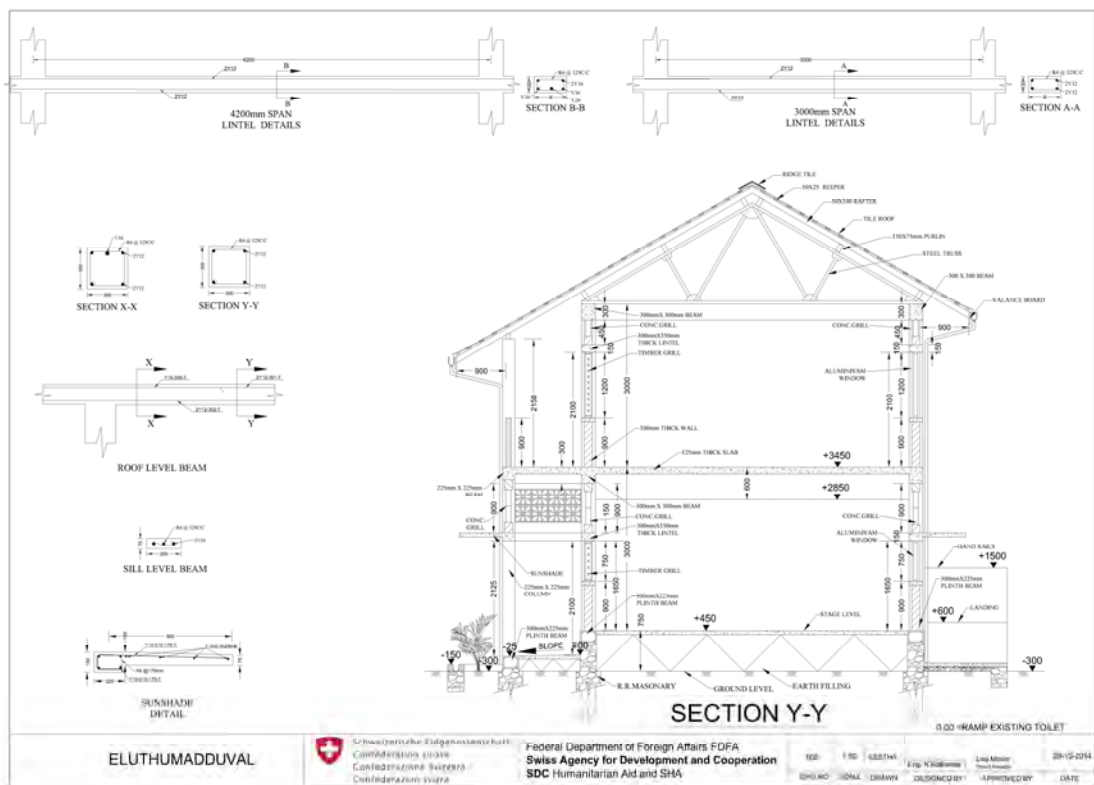


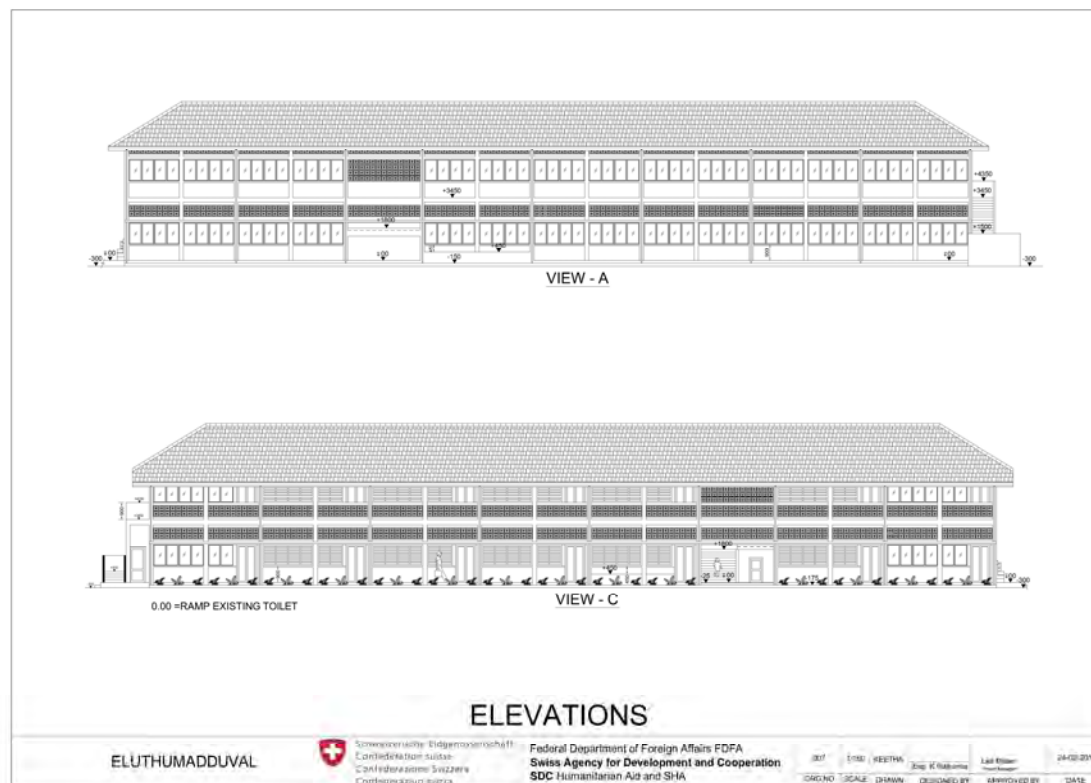
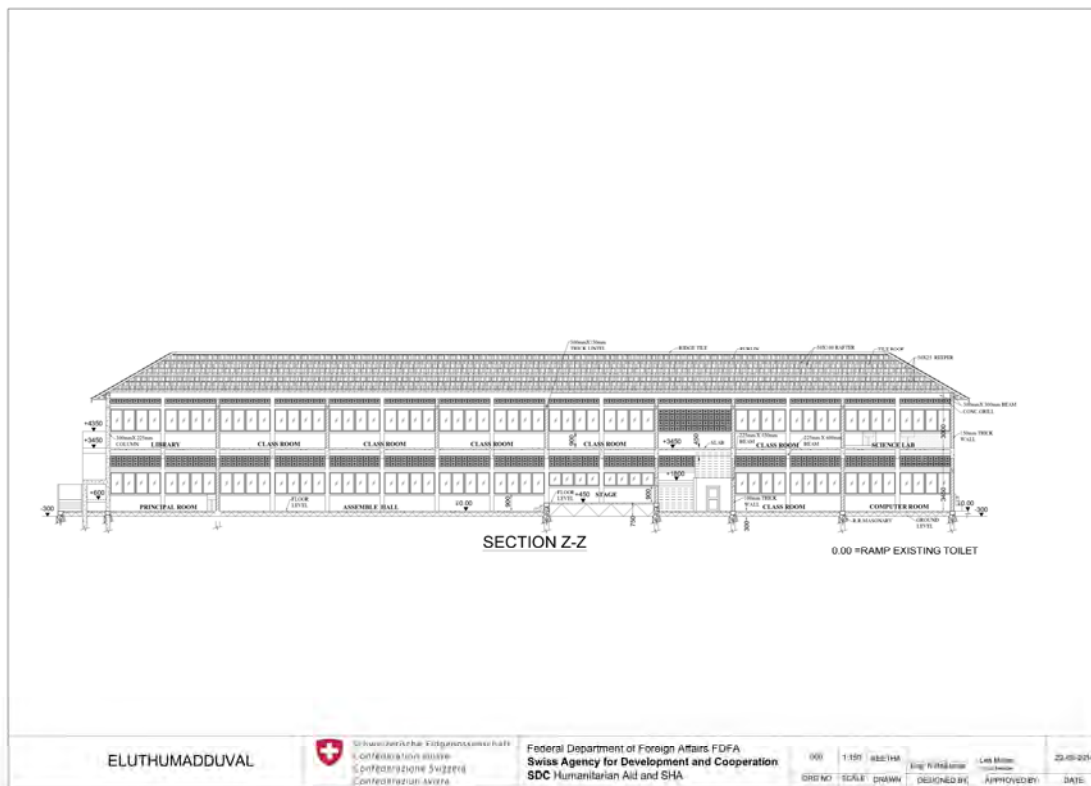
1L	Pigeon net
2R	Pigeon trap

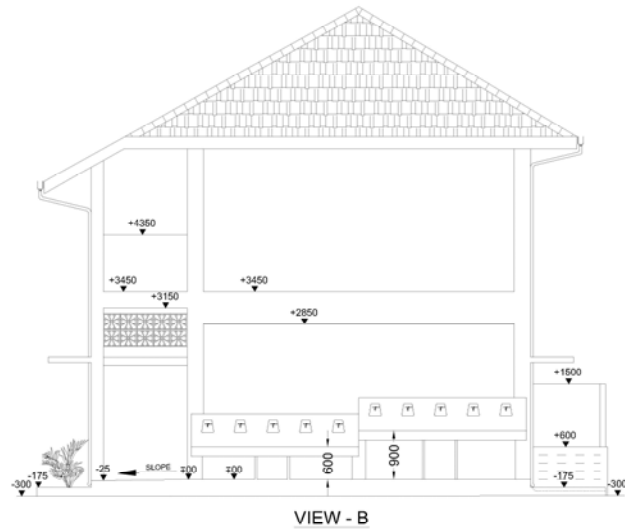


Relevant Drawings (without scale)









ELEVATION

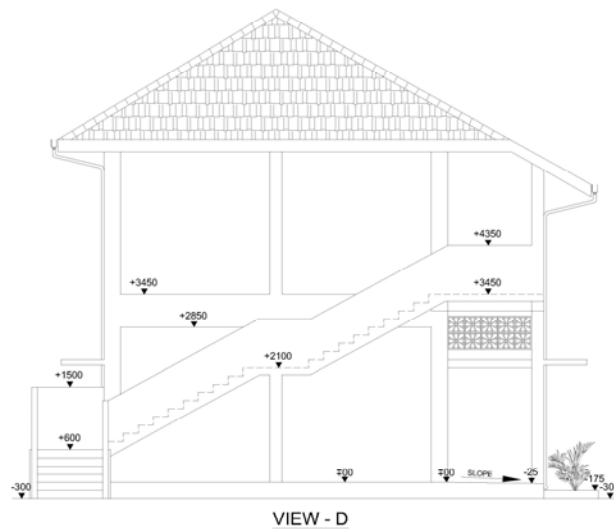
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MR	1:50	KEITHA	Eng. & Regulator	Leo Meier	29-10-2014
DRG NO	SCALE	DRAWN	DESIGNED BY	APPROVED BY	DATE



VIEW - D

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ELEVATION

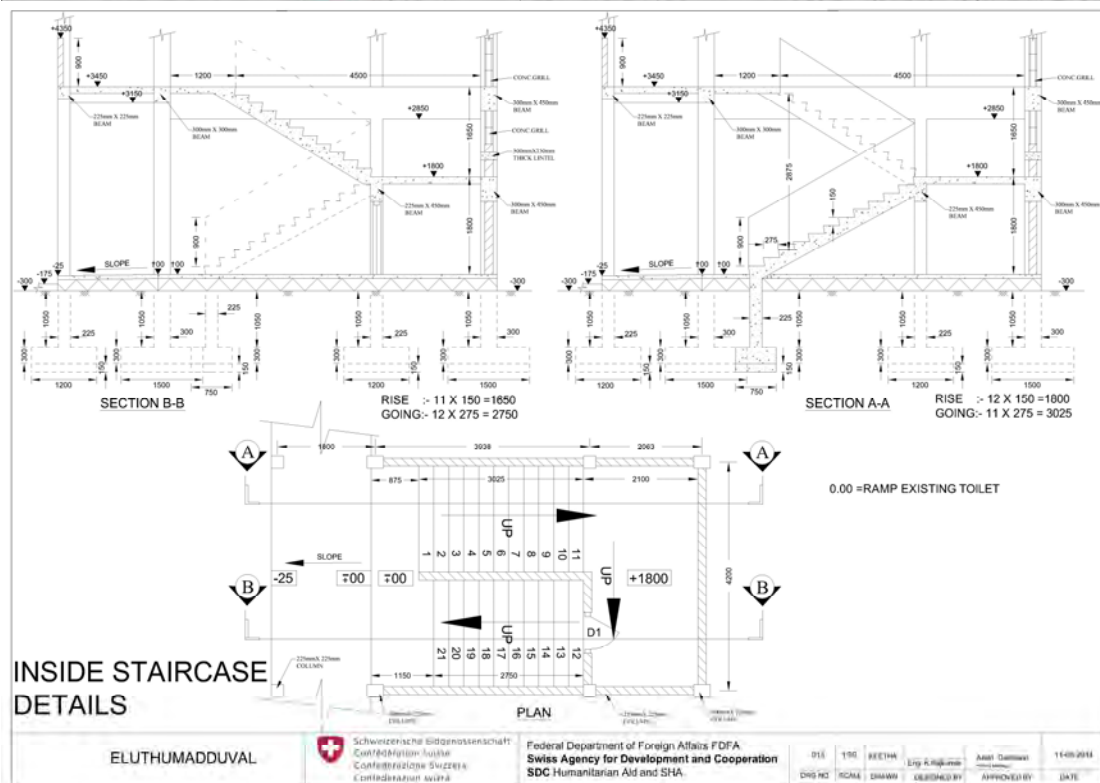
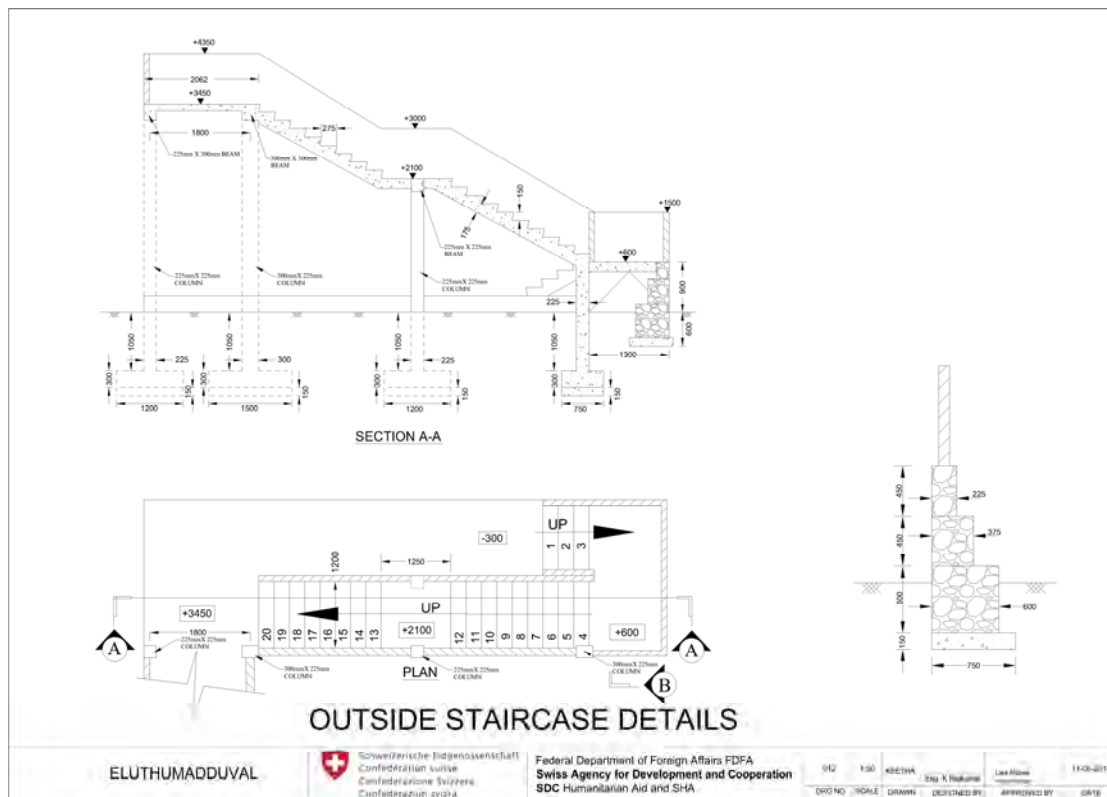
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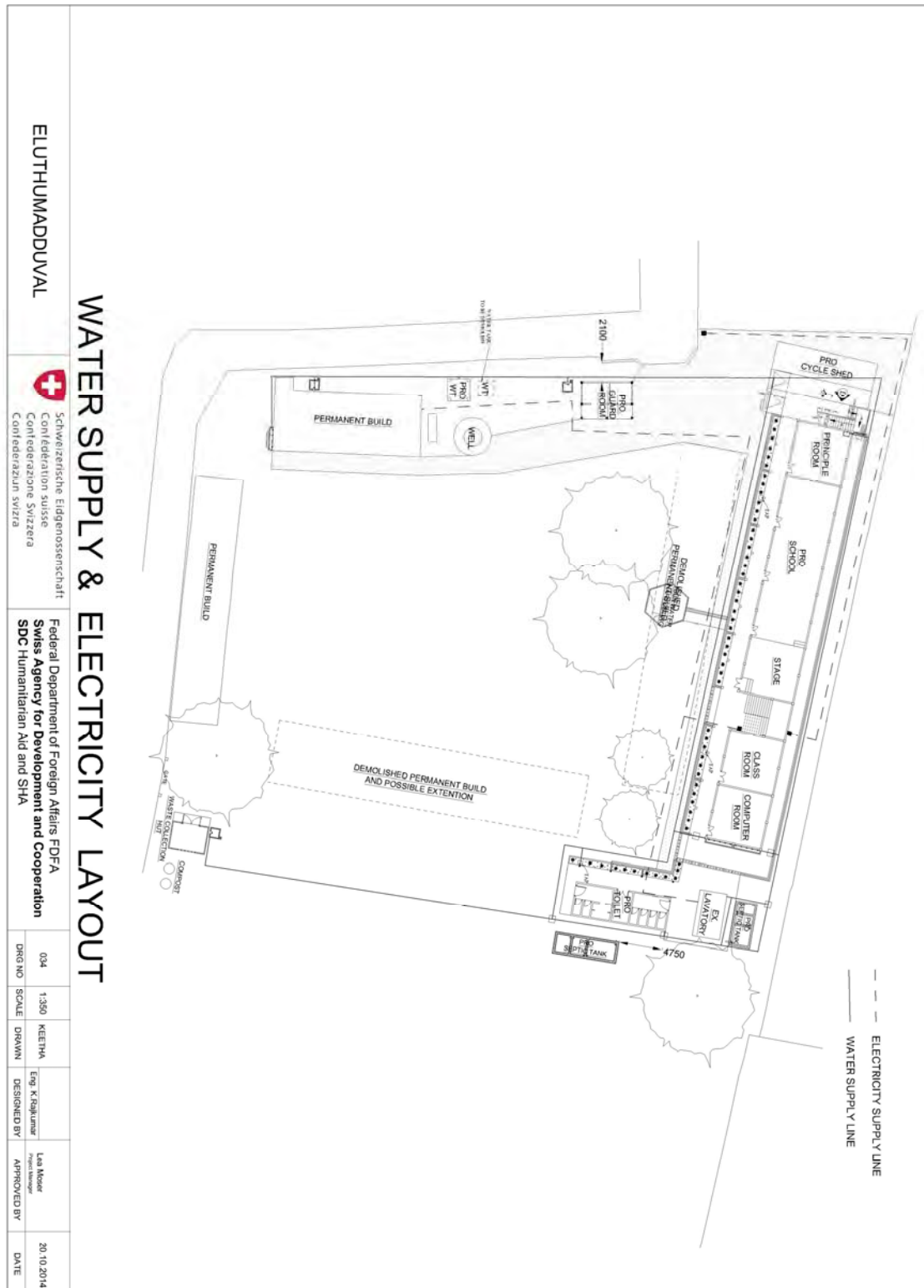


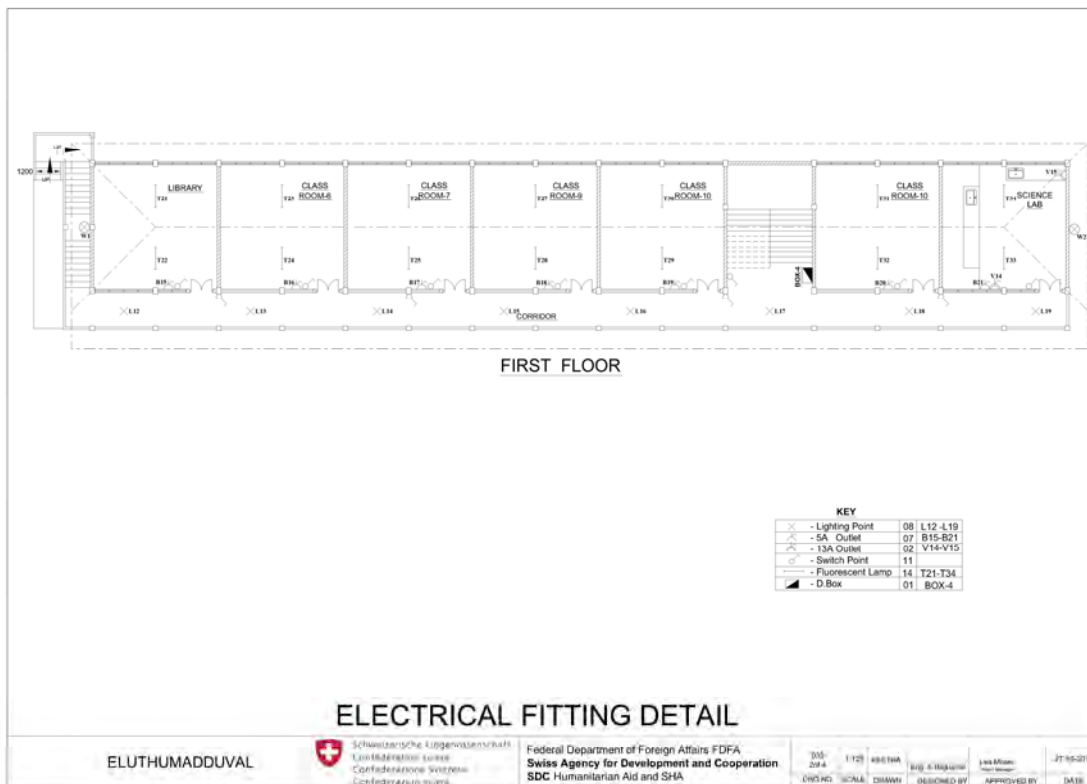
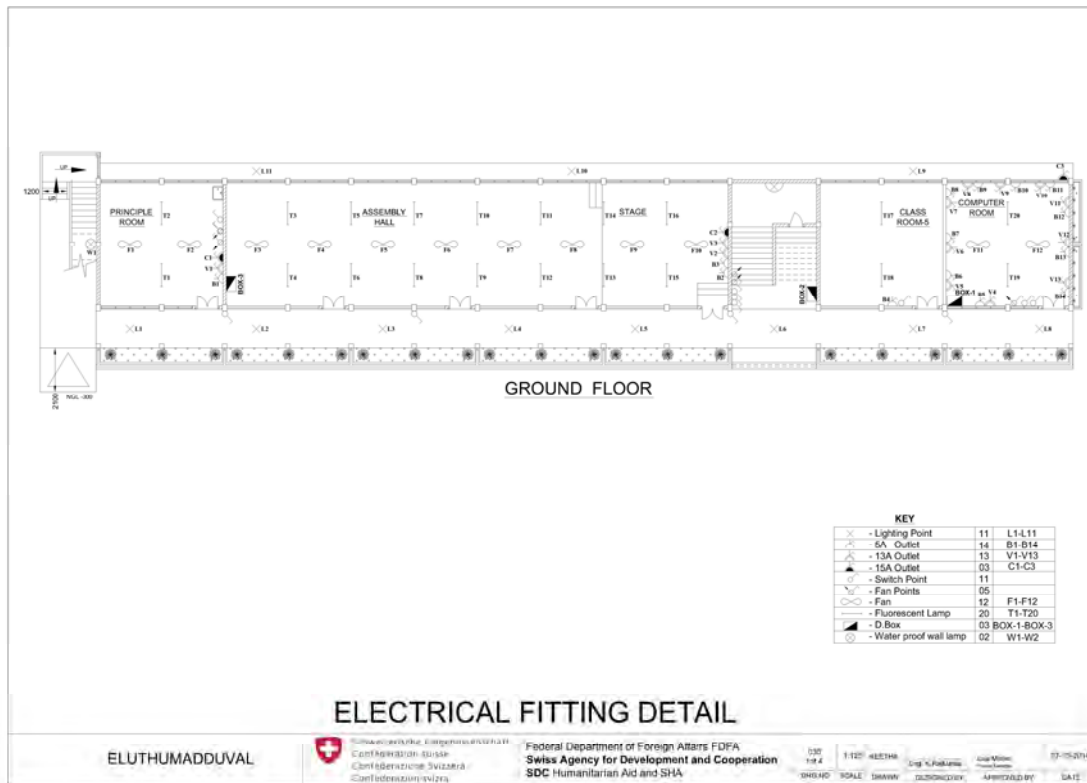
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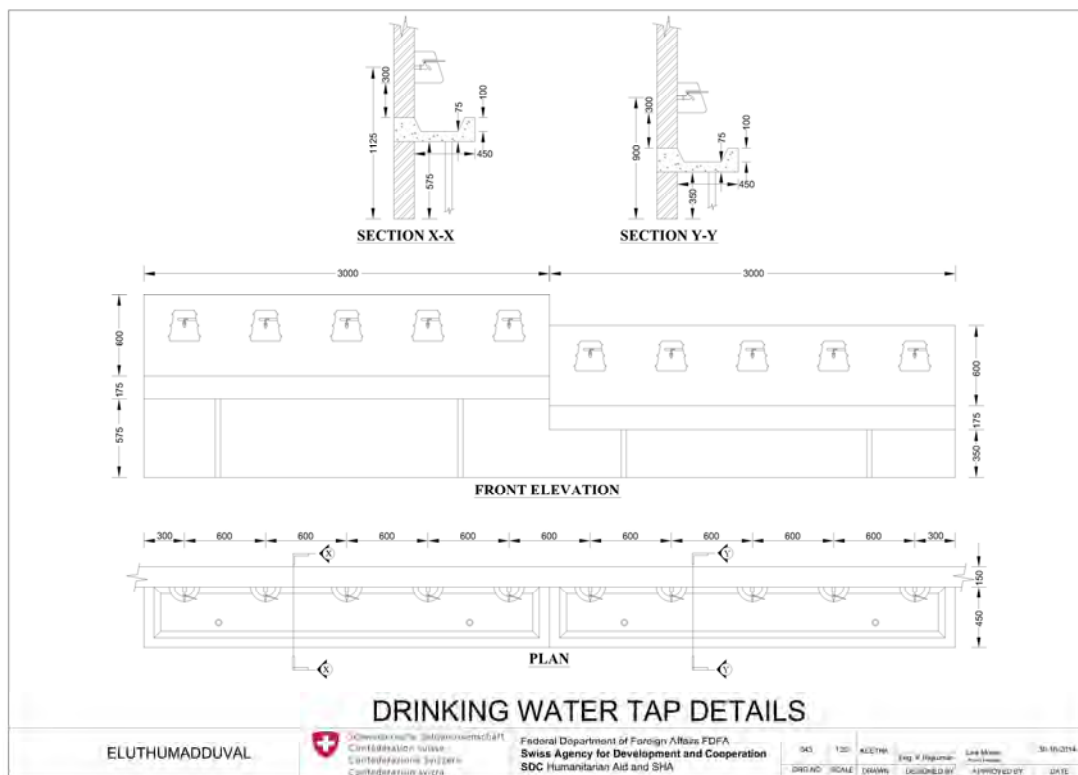
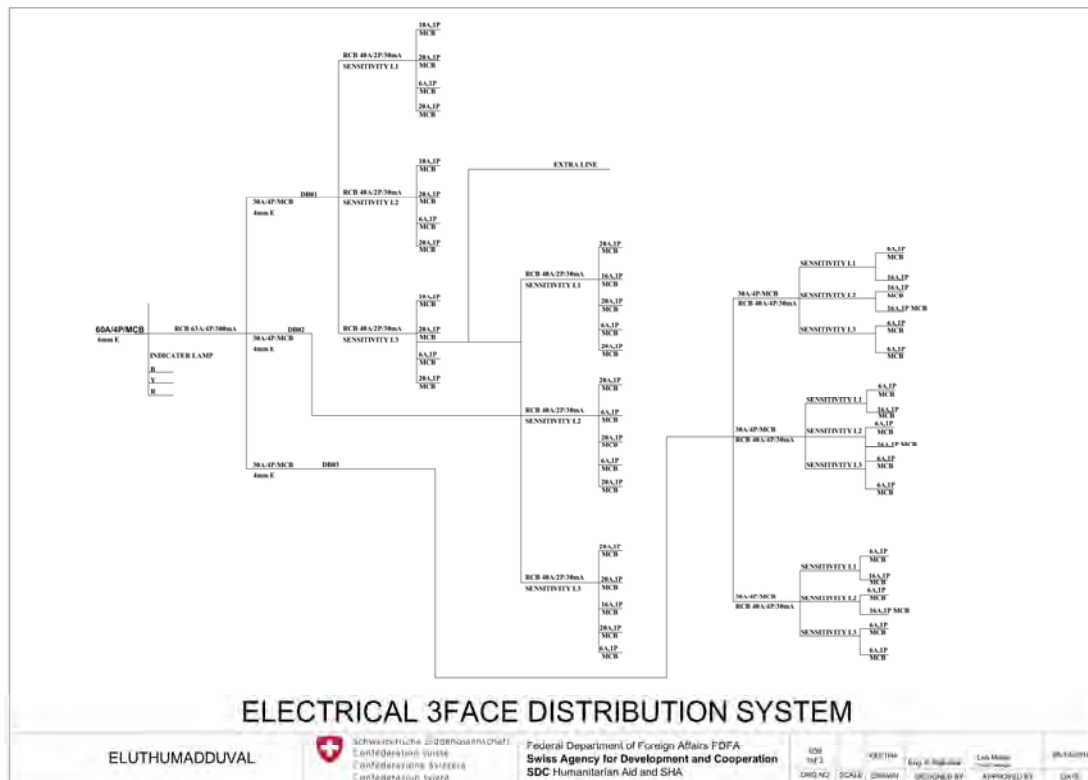
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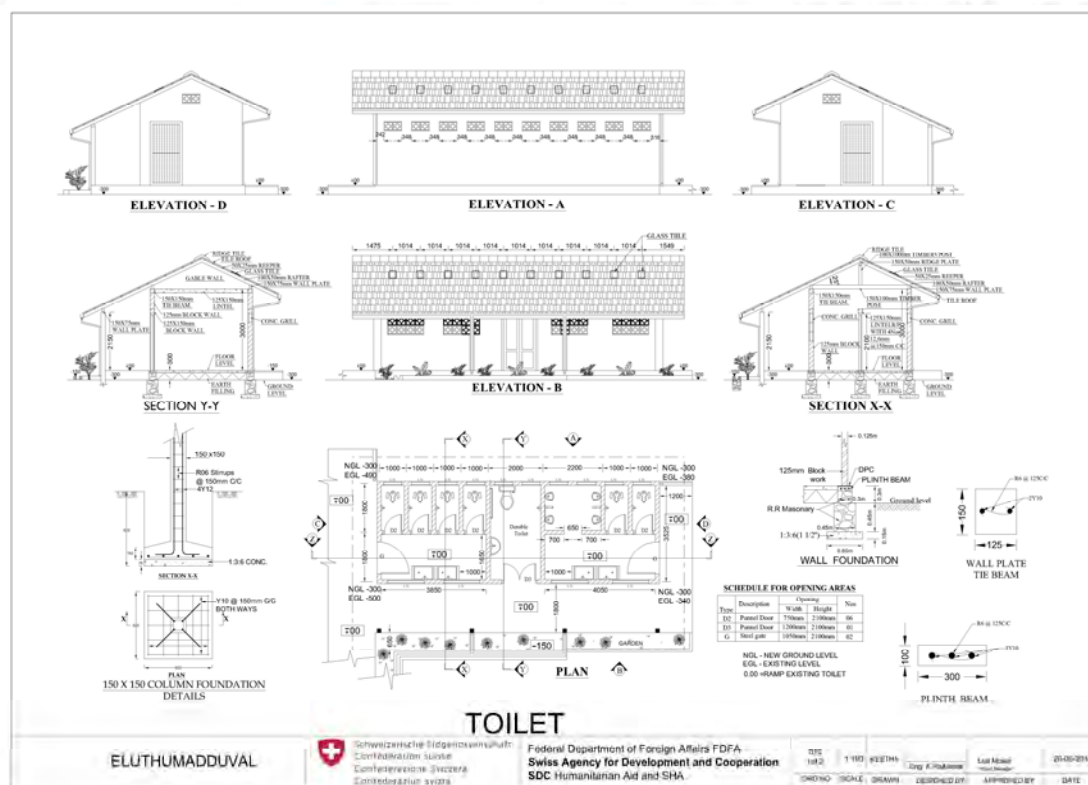
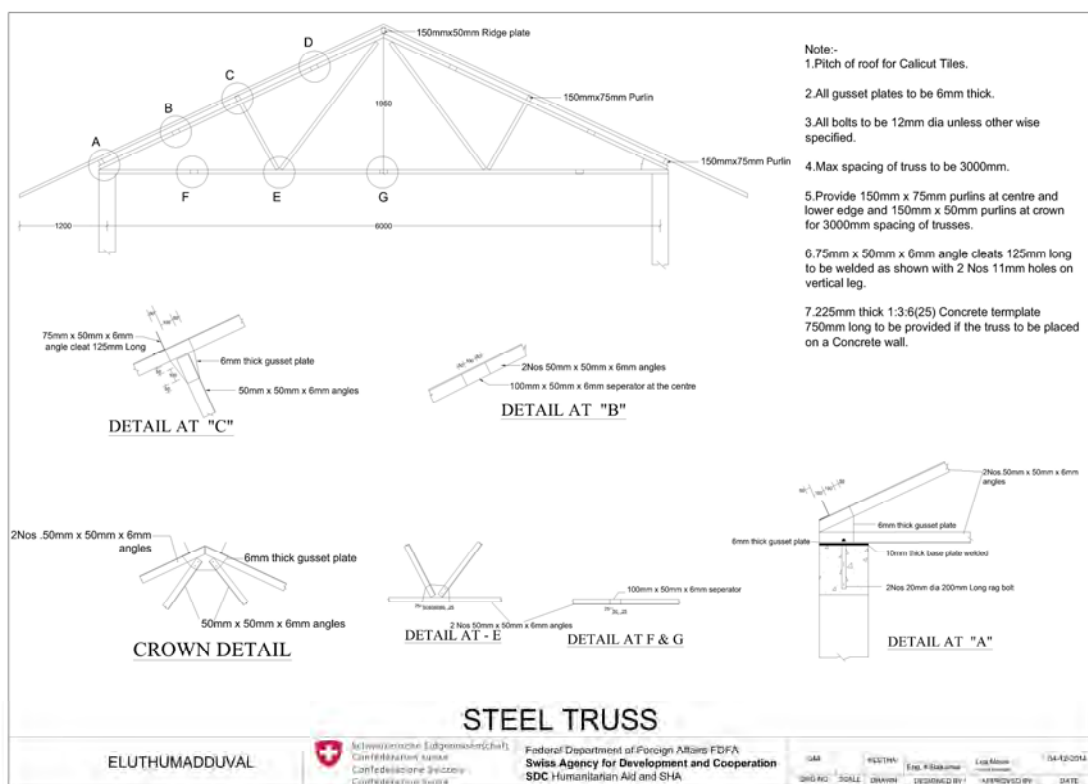
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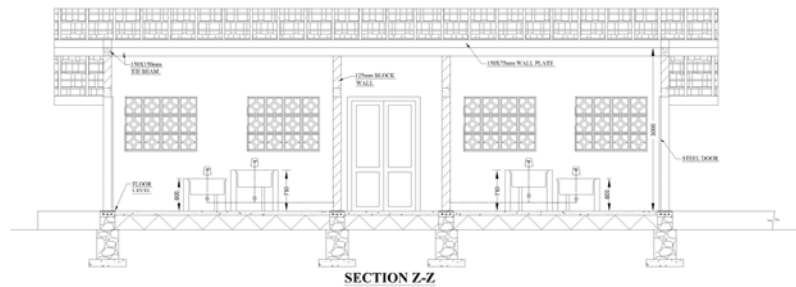












TOILET

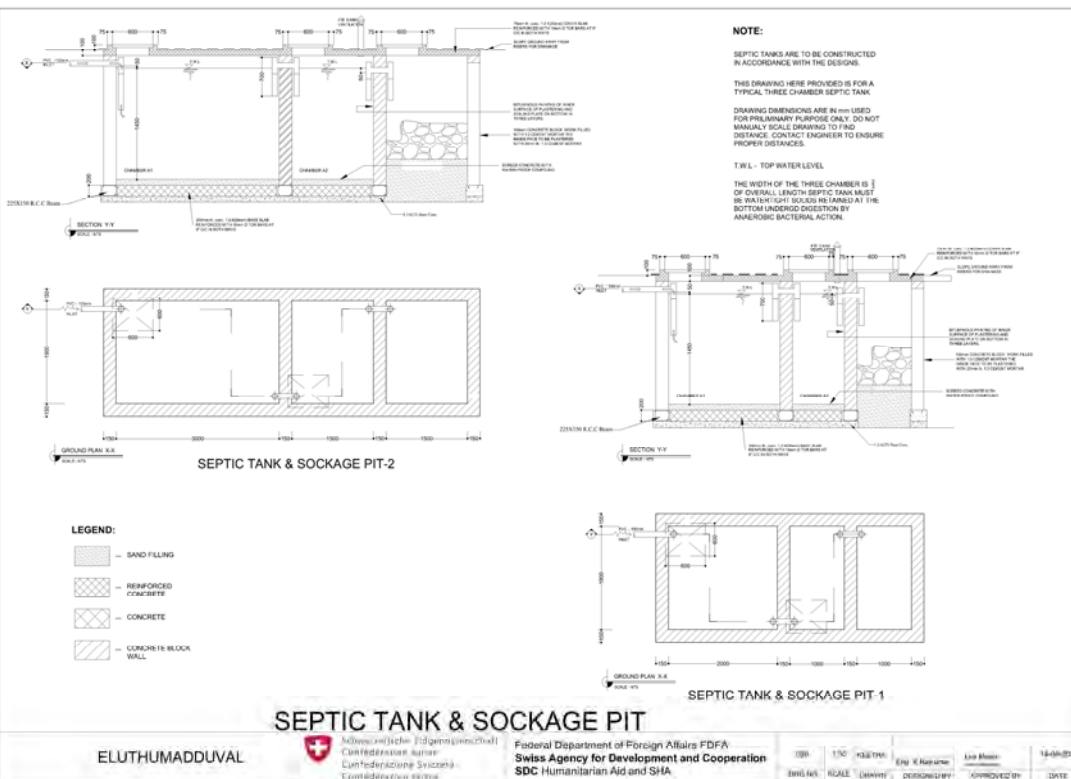
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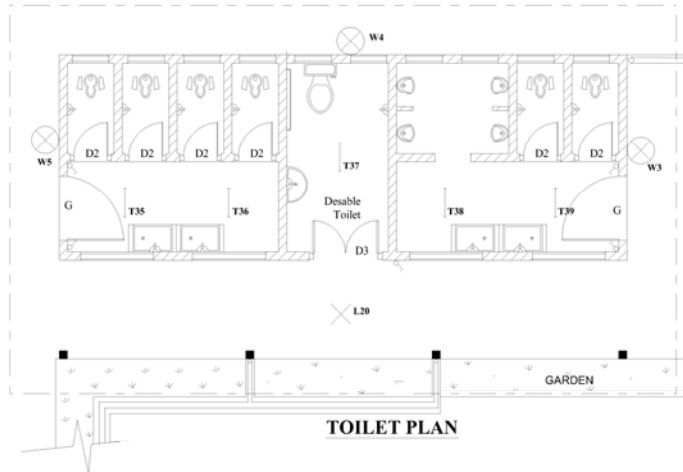
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KEY	
○	Switch Point 05
○	Fluorescent Lamp 05 T35-T39
○	Water proof wall lamp 03 W3-W5
×	Lighting Point 01 L20

ELECTRICAL FITTING DETAIL

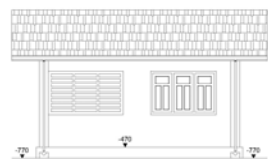
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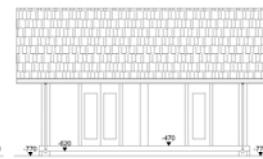
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DRG NO.	SCALE	DESIGN	DESIGNED BY	APPROVED BY	DATE



ELEVATION - A

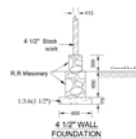


ELEVATION - C

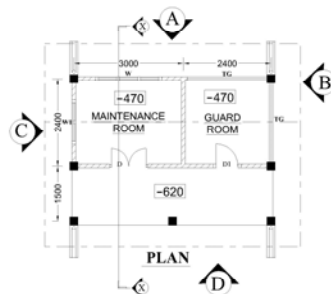


ELEVATION - D

SCHEDULE FOR OPENING AREAS			
Type	Description	Opening Size (mm)	Fixed Size (mm)
D	Panel Door	1000mm x 2100mm	00mm
T	Panel Door	1000mm x 2100mm	00mm
W	Panel Window	1000mm x 1200mm	00mm
W	Panel Window	1000mm x 1200mm	00mm
T.O.	Yielder Gate	1000mm x 1200mm	00mm



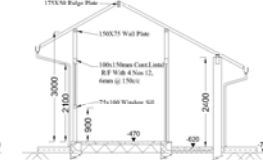
SECTION X-X



PLAN



ELEVATION - B



SECTION X-X

0.00 = RAMP EXISTING TOILET

GUARD ROOM

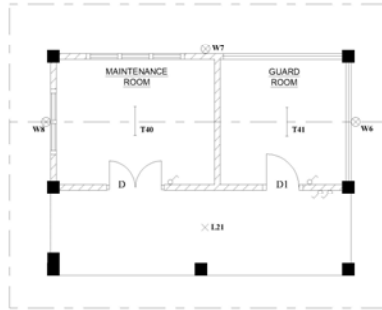
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DRG NO.	SCALE	DESIGN	DESIGNED BY	APPROVED BY	DATE



WATER HUT PLAN

KEY	
○	Switch Point 04
—	Fluorescent Lamp 02 T40-T41
○	Water proof wall lamp 03 W6-W7
×	Lighting Point 01 L21

ELECTRICAL FITTING DETAIL

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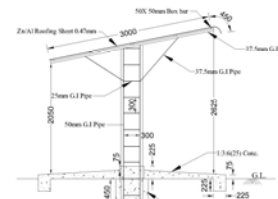
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025	1/50	000000	Eng. S. H. H. H. H.	Last Mission	23-10-2014
025	1/50	000000	Eng. S. H. H. H. H.	APPREVED BY	DATE



ELEVATION



SECTION X-X



PLAN



DETAIL - A

CYCLE SHED

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