# NGONG AFFORDABLE HOUSING PROJECT(NGONG PUBLIC WORKS HOUSING)

AFFORDABLE HOUSING PROGRAMME

# UNPRICED BILLS OF QUANTITIES

### **REPUBLIC OF KENYA**





### MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT

STATE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

### ADDENDUM BILL OF QUANTITIES

FOR:

PROPOSED CONSTRUCTION OF AFFORDABLE HOUSING UNITS AND ASSOCIATED SOCIAL INFRASTRUCTURE AT NGONG IN KAJIADO COUNTY

Ministry of Lands, Public Works, Housing and Urban Development

State Department for Housing and Urban Development,

P.O Box 30119-00100 Nairobi,

Kenya Tel: +254-020-2713833

### PROJECT DATA SHEET

### PROJECT : PROPOSED CONSTRUCTION OF AFFORDABLE HOUSING AND ASSOCIATED SOCIAL INFRASTRUCTURE AT NGONG, KAJIADO WEST CONSTITUENCY, KAJIADO COUNTY

Item	DETAILS OF SITE	PROJECT PARTICULARS			
1	Site location	Kajiado West Constituency, Kajiado	o County		
2	Land Size	Approximately 24.20 Acres			
3	Scope	2000No. of Units in 10No of blocks 10 No block Type B distributed as f			
		1 Room Social Housing :	100 Units		
		2 Room Social Housing :	200 Units		
		3 Room Social Housing :	100 Units		
		Studio Apt Affordable Housing :	300 Units		
		2Br Apt Affordable Housing :	600 Units		
		3Br Apt Affordable Housing :	200 Units		
		2Br Apt Market Housing :	200 Units		
		3Br Apt Market Housing :	300 Units		
4	Amenities	Club house, Commercial Centre, Mixec Garbage Receptacles	d use development, Kindergarten, school, Guard House,		
5	External works	Roads & Parking works, sewer & waste	e water treatment, Boundary wall, Landscaping,		
6	Built area	132,738.00sm			

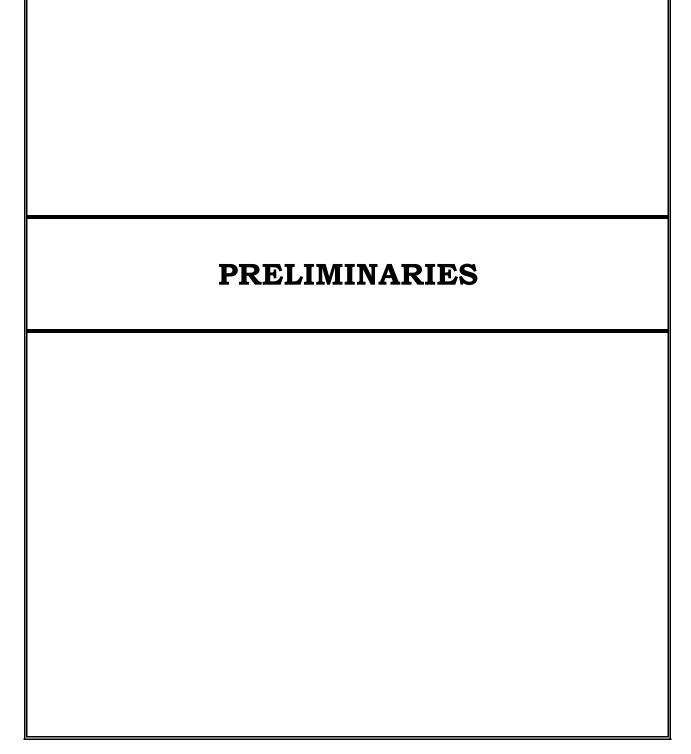
# **GENERAL SPECIFICATIONS**

## **SPECIFICATIONS**

Reference is made to the General Specifications for Building Works (1976) by the Ministry of Works, Housing and Physical Planning.

A copy is available for perusing at the request of the procuring entity.

Contractors are required to adhere to the latest industry standards as outlined in the most recent version of KS (Kenyan Standards). Failure to comply may result in project delays or financial penalties. It is the responsibility of the Contractor to stay informed about and apply the current industry standards throughtout the construction process. Any disputes arising from non-compliance with updated standards will be subject to resolution through dispute resolution mechanism outlined in the contract.



ITEM	DESCRIPTION	AMOUNT
	<u>BILL NO. 1</u>	
	PARTICULAR PRELIMINARIES	
A	PARTIES	
	The <b>Employer</b> is:	
	Principal Secretary, Ministry of Lands, Public works,Housing and Urban Development, State Department of Housing and Urban Development	
	P.O Box 30119 -00100 NAIROBI, KENYA	
	The <b>Engineer</b> is: The term "PM" wherever used in these Bills of Quantities shall be deemed to imply the Engineer as defined in Condition 1 of the Conditions of Contract or such person or	
	persons as may be duly authorised to represent him on behalf of the Government .	
	<b>The Architect is:</b> Ministry of Lands, Public works, Housing and Urban Development, State Department of	
	Housing and Urban Development P.O Box 30119 -00100	
	NAIROBI, KENYA	
	The Quantity Surveyors is:	
	Ministry of Lands, Public works,Housing and Urban Development, State Department of Housing and Urban Development	
	P.O Box 30119 -00100 NAIROBI, KENYA	
	The Structural/ Civil Engineers is:	
	Ministry of Lands, Public works, Housing and Urban Development, State Department of Housing and Urban Development	
	P.O Box 30119 -00100 NAIROBI, KENYA	
	<b>The Electrical / Mechanical Engineers is:</b> Ministry of Lands, Public works,Housing and Urban Development, State Department of Housing and Urban Development	
	P.O Box 30119 -00100 NAIROBI, KENYA	

ITEM	DESCRIPTION	AMOUNT
A	LOCATION OF SITE	
	The site of the proposed works is located Ngong Veterinary, Kajiado County	
	The Contractor shall be deemed to have visited the site and satisfied himself as to:-	
	<ul><li>a) The nature, position, topography and access of the site</li><li>b) The amount of the rubbish or debris to be cleared away before commencement.</li></ul>	
	c) The nature, current usage, proximity and size of adjoining property and buildings	
	<b>d)</b> The availability of land for the erection and positioning of all temporary structures, plant and materials necessary for the execution of the works.	
	The Contractor shall obtain approval from the relevant Local Authority in adherence to site access and erection of temporary structures and must ensure all matters relating to the requirements of these authorities.	
	No claim will be allowed for travelling or other expenses which may be incurred by the Contractor in visiting the site or preparing the tender for the works.	
в	EXISTING SITE CONDITIONS	
	The site for the proposed works is Ngong Veterinary, Kajiado County	
	The Contractor is advised to visit the site to familiarize with the nature and position of structures on site for demolition before pricing the item on demolitions No claims arising from the Contractor's failure to do so will be entertained.	
	All occupation health and safety requirements must be met as required by law.	
	This includes prevention and or minimizing noise, dust, fumes e.t.c.	
	Notices should be given prior to disruption of services	
С	SCOPE OF CONTRACT	
	The Works under this contract comprises of the following;	
	(a) 10 No Type A Hostel Block with a plinth area of 54,035 SM (b) 10 No Type B Hostel Block with a plinth area of 68,750SM (c) School Plinth area 6352 SM	
	(d) Kindergarten Plinth area 552 SM (e) Club House Plinth area 1044 SM	
	(f) Commercial Centre area 624 SM	
	(g) Mixed use development Plinth area 1000 SM (h) 3 No Waste receptacle Plinth area 336 SM	
	(i) 3 No. Guard House Plinth area 45 SM	
	(j) Basket Ball Pitch 574 Sm (k) Boundary wall - 3.3m high with a length of 800LM	
	(1) Road works - 1530 SM	
	(m) Associated electrical and Mechanical works (n) External and Civil works	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	DESCRIPTION OF THE WORKS	
	The construction comprises reinforced concrete foundations, masonry walling, reinforced concrete beams, column , staircases and suspended solid slabs, roof construction.	
	The exterior facade consists of steel casement windows, steel and timber doors , render and paint finish, clay and stone facing finish to walls	
	The interior works includes timber doors and finishes which are generally plaster and paint to walls, ceramic and non slip ceramic tiles to floors and walls.	
	External works generally comprise of foul water drainage, storm water drainage, pathway, dryline area, septic tank, underground water tank.	
	All mechanical / electrical services and other specialist works associated with the above works shall be executed by domestic/nominated sub contractors approved by the Engineer	
	CONTRACT PARTICULARS	
в	FORM OF CONTRACT	
	The Contractor will be required to enter into a contract with the Employer under the <b>Terms and Conditions of Contract as "Standard Tender</b> <b>Document for Procurement of Works (Building and Associated Civil Engineering</b> <b>Works) Issued by the Public Procument Regulatory Authority in February 2021</b> (updated 2022) and in association with the latest applicable version of the Public Procurement and Asset Disposal Act.	
	The Contractor's attention is called to the appendix of the conditions of Contract and additions and amendments thereto, which shall be read as incorporated herein and he shall allow any sums which he considers necessary for the observance of such conditions, together with sub clauses used in application.	
	The prioirity of such documents shall be as stated in the conditions of agreement.	
	Carried to collection	

	DESCRIPTION	AMOUN
A	LIABILITY AGAINST INJURY TO PERSONS AND PROPERTY	
	Insurance against injury to persons and property	
	NOTES	
	In addition to the conditions of the contract and the requirement contained herein the	
	contractor's all risk policy shall cover the full value of the following and allow for all	
	costs thereof:-	
	i) The works and temporary works erected in performance of this contract.	
	ii) The materials on site, plant and tools	
	iii) The cost and expense of removing debris of the property insured, destroyed or	
	damaged by any peril insured.	
	iv) Professional fees (to be allowed at 15% of the contract sum)	
	v) Employer's liability (workman's compensation)	
	ii) Third party (Public liability for an indemnity of not less than kshs <b>5,000,000</b> for any accident or series of accidents arising	
	from the same event (unlimited in aggregate)	
	nom me same event (animined in aggregate)	
	The contractor shall ensure that all sub-contractors effect and maintain such insurances as are necessary to cover their liabilities in respect of injury to persons and	
	property and workman,s compensation.	
	Obserted the constant of a local constant in some constant the set of the	
	Should the contractor already hold annual insurances covering the whole of his activities, and the indemnity required under the existing policy/ies then further	
	insurances shall be effected and maintained to cover such excess, the policies of	
	insurances being suitably endorsed to cover this project	
в	Insurance of the works (contractors liability)	
	The Contractor shall insure as required in the Conditions of Contract. No payment on account of the work executed will be made to the Contractor until he has satisfied the Engineer either by production of an Insurance Policy or and Insurance Certificate that the provision of the foregoing Insurance Clauses have been complied with in all respects.	
	Thereafter the Engineer shall from time to time ascertain that premiums are duly paid up by the Contractor who shall if called upon to do so, produce the receipted premium renewals for the Engineer's inspection.	
	Correct to collection	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	PERFORMANCE BOND	
A	Performance bond for the works	
	The Contractor shall find and submit on the Form of Tender an approved bank or approved (By PPRA) Insurance Company and who will be willing to be bound to the Employer in an amount equal to <b>ten percent (10%)</b> of the Contract amount for the due performances of the Contract up to the date of completion as certified by the Engineer and who will when and if called upon, sign a Bond to that effect on the relevant standard form as seen in the CONTRACT STANDARD FORMS (without the addition of any limitations)	
	And should the surety fail to be approved, the Contractor shall furnish within seven days another Surety to the approval of the Employer.	
	Note that no payments on account of works executed will be made to the Contractor until he has submitted the Performance bond, duly stamped signed and sealed by an approved bank or insurance company.	
в	POSSESSION AND COMMENCEMENT	
	The Contractor shall take possession of the site on the date indicated in the acceptance letter. The date of commencement of the works shall also be communicated to the Contractor and the contract period shall run from the commencement date.	
	The Contractor is expected to utilize the period between possession and commencement to mobilise his resources to ensure smooth running of the works from the commencement date.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	PROJECT SUPERVISION	
A	The said works shall be executed under the direction and to the entire satisfaction of the Engineer and Clerk of works who shall have the Engineer's specifically delegated authority and shall at all times have access to the works, to the yards and workshops of the contractor or other places where goods are being prepared for the building.	
	LABOUR CAMPS	
В	The contractor will generally not be permitted to house labour on site subject to approval by Architect.	
	DOWNTAKINGS	
С	All materials arising from demolitions and downtakings are deemed to be the property of the employer. No claim will be entertained on account of employer excising this right to retain the materials	
	All downtakings shall be carefully removed, taken down, dismantled and stored on site until instructed by the Engineer to remove from the site. Such materials shall only be incorporated in the new works if required by the Engineer in which case appropriate adjustments will be made in the final account for the cost of labour, screws etc for fixing such downtakings in the new works.	
	DAMAGES	
D	Damages for delay in completion shall be levied at the rate of Kshs	
	OTHER PRELIMINARIES	
Е	Allow for any other item necessary to execute the works and state them below;	
	Carried to collection	

DESCRIPTION	AMOUNT
<u>BILL NO. 1</u>	
PARTICULAR PRELIMINARIES	
COLLECTION	
Carried from page 1/1	
Carried from page 1/2	
Carried from page 1/3	
Carried from page 1/4	
Carried from page 1/5	
Carried from page 1/6	
Particular Preliminaries Carried to Grand Summary	

ITEM	DESCRIPTION	AMOUNT
	BILL NO. 2	
	GENERAL PRELIMINARIES	
	PRICING OF ITEMS OF PRELIMINARIES AND PREAMBLES	
Α	Whenever in the Contractor's priced Bills of Quantities no price appears against an item of Preliminaries or Preambles or work items , the value of such item shall be deemed to be included in his prices for other items in the Bills of Quantities.	
	SUFFICIENCY OF TENDER	
В	The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices stated in the priced Bills of Quantities. Rates and prices quoted shall cover all his obligations under the contract and all the matters and maintenance of the works	
	RECORDS	
с	The Contractor shall ensure proper records are kept and maintained for : Daily Reports on Personnel and Machinery; tracked programme; weather charts/reports; site instruction book and query book,a digital camera shall be provided for taking progress photos	
	The contractor shall be required to provide equipment for taking ground and aerial photos or videos in relation to the progress of works when called upon to do so.	
	DEFINITIONS AND ABBREVIATIONS	
D	Throughout these Bills, units of measurements and terms are abbreviated and shall be interpreted as follows:	
	mm shall mean millimeter	
	lm shall mean linear meter	
	sm shall mean square meter	
	m <sup>2</sup> shall mean square meter	
	cm shall mean cubic meter	
	kg shall mean kilogramme	
	N shall mean Newton	
	KN shall mean KiloNewton	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	in/" shall mean inches	
	L f shall mean linear foot	
	s f shall mean square foot	
	c f shall mean cubic foot	
	L b shall mean pound avoirdupois	
	No. shall mean number	
	B.S. shall mean the current British Standard Specification published by the British Standard Institution, 2 Park Street, LONDON W.I, England.	
	B.S.M shall mean both sides measured	
	K.S. shall mean current Kenya Standard specification published by the Kenya Bureau of Standard, P.O. Box 54974. NAIROBI, Kenya.	
	'As described' shall mean as described in these Bills of Quantities.	
	'As before described' shall mean the whole of the previous description except as qualified in the current one.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	<u>SITE LEVELS</u>	
A	Before commencing work the Contractor must arrange for and agree with the Architect, Engineer and Quantity Surveyor the existing site levels and similarly establish and agree on a bench mark.	
	The Contractor shall provide a surveyor to ensure all levels are achieved as per the drawings and Architects/Structural Engineer's instructions	
	<u>SETTING OUT</u>	
В	The contractor shall set out works in accordance with the dimensions and levels shown on the drawings and shall be responsible for the correctness of all dimensions and levels set out by him and he will be required to amend all errors arising from inaccurate setting out at his own cost and expenses. In the event of any error or discrepancy in the dimensions or levels marked on the drawings being discovered, such errors or discrepancies must be reported by the Contractor to the Engineer for his immediate attention.	
	No work shall be commenced by the Contractor until he has received written instructions from the Engineer to adjust such discrepancies which may be proved, upon receipt of such instructions and no claim for extra expenses or relief from the provisions of Clause 5 of the Conditions of the Contract , any discrepancy or error in the dimensions or levels shown on the drawings may be made thereafter.	
	The Contractor shall give the Engineer reasonable notice of the intention to set out or take levels for any part of the Works so that arrangements may be made for checking the work. The accuracy of setting out and leveling shall be within the tolerances specified in the Specifications or on the Drawings. The checking of setting out or leveling by the Engineer shall not relieve the Contractor of his duties or responsibilities under the Contract.	
	MEASUREMENTS	
с	Measurements are based on Standard Methods of Measurement of Building Works and Associated Civil Works For Eastern Africa (SMM) Second Edition 2008.	
	In the event of any discrepancies arising between the Bills of Quantities and the actual works, the site measurements shall generally take precedence.	
D	GENERAL SPECIFICATIONS	
	All works to be carried out in accordance with the Ministry of Roads, public Works and Housing <b>General Specifications for Building Works issued in 1976</b> or as qualified and amended.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	<b>SAMPLES</b> The contractor shall furnish at the earliest possible opportunity before work commences and at his own cost any samples of materials or workmanship that may be called for by the Engineer for his approval or rejection until such samples are approved to be the acceptable standard for the work to which they apply.	
	The samples shall be maintained and displayed on a designated section within the site for the duration of the project where practical and possible.	
:	PROTECTION OF EXISTING PROPERTY	
	The contractor shall take every precaution to avoid damage to all existing property including boundary wall, carpark, roads, cables, drains, staircases, lift etc including other services and he will be held responsible for all damages hereto arising from the execution of his contract and he shall make good all such damages when directed at his own expense.	
	Any damage or disturbances caused to any element shall be reported immediately to the Engineer and the relevant Authority and shall be made good to their satisfaction at the Contractor's expense.	
С	PROTECTION / RELOCATION OF EXISTING SERVICES	
•	Prior to commencement of any work the Contractor is to ascertain from the relevant Authorities the exact position, depth and level of all existing electric cables, water pipes and all other services in the area and he shall make whatever provisions may be required by the authorities concerned for the support and protection and/or relocation of such services as will be necessitated.	
	The contractor is also expected to generate a utility management plan to the approval of the Engineer .	
•	Any damage or disturbances caused to any service shall be reported immediately to the Engineer and the relevant Authority and shall be made good to their satisfaction at the Contractor's expense.	
	Carried to collection	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	MATERIALS, TOOLS, PLANT AND SCAFFOLDINGS	
	All materials and workmanship used in the execution of the works shall be of the best quality and description. Any materials for the works condemned by the Engineer shall immediately be removed from the site at the Contractor's expense.	
	The Contractor shall be responsible for the provision of all materials, scaffolding, tools, plant, transport and workmen required for the works except in so far as may be stated otherwise herein and he shall allow for the provision of the foregoing except for such items specifically and only required for the use of Nominated Sub-contractors as described herein.	
	No timber used for scaffolding, formwork or similar purpose shall be used afterwards in the permanent works.	
	All such plant, tools and scaffolding shall comply with all regulations whether general or local in force including Environmental,Social, Health and Safety (ESHS) policies throughout the period of the contract and shall be required as may be necessary to comply with any amendments in or additions to such regulations	
	The Contractor shall keep on the site and maintain in good condition one dumpy or quickset level, metric leveling staff and one 30 metre steel tape for the use of the Architect, Surveyor and Engineer.	
	The contractor may be required to provide an appropriate tower crane as required during the project life. Where a crane is provided, it should meet all regulatory and technical standards, all licences in connection with erection, usage shall be at the Contractors expense.	
	The contractor may be required to provide an appropriate tower crane as required during the project life. Where a crane is provided, it should meet all regulatory and technical standards, all licences in connection with erection, usage shall be at the contractors expense.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	<b>LOCAL REGULATIONS AND BY-LAWS</b> The contractor is to comply with all local regulations and by-laws of the Local Authority including serving notices and paying of fees where applicable. These include, but not limited to: National Environmental Management Authority (NEMA), National Contruction Authority (NCA), Water Resources Management Authority (WARMA)	
	The Contractor will be held responsible for serving on the Chief Inspector of Factories a written notice not later than seven days after the beginning of the building operations included in this contract stating the particulars required.	
	TRANSPORT TO AND FROM THE SITE	
В	The Contractor shall include in his prices for the transport of materials, workmen etc to and from the site of the proposed works at such hours and by such routes as are permitted by the Authorities.	
	All unit rates for local or imported goods are to include freight, insurance, handling and delivery costs to the project site together with import duties, sale tax, port charges etc and all other charges of whatever nature.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	FAIR WAGES	
	The Contractor shall pay rates of wages and observe hours and conditions of labour not less favourable than the minimum conditions of employment applicable in the area in which the work is carried out. The relevant notice must be posted up and kept posted upon the site where it can be conveniently read by the employees concerned in languages they can understand.	
	The Contractor is to comply with the regulations of Wages and Conditions of Employment Act, Building and Construction Industry Wages Council and is to be responsible for compliance of the sub-contractors employed in the execution of the contract. If required he is to notify the Engineer of the names and addresses of all such Sub-contractors. Any Contractor or Sub-contractors not complying will not be permitted to tender for other work for such a period as the Engineer may determine	
	Should a claim be made to the Engineer alleging the Contractor's default in payment of fair wages to any workman employed on the contract and if proof thereof satisfactory to the Engineer, may failing payment by the Contractor, pay the claim out of any monies due or which may become due to the contractor under this contract.	
	The Contractor is to furnish to the Engineer, if called upon to do so, such particulars of the rates of wages, hours and conditions of labour referred to above as the Engineer may direct	
В	SECURITY OF WORKS	
	The Contractor shall be entirely responsible and shall pay security of all works, stores, materials, plant, personnel etc both his own and sub-contractors and shall also provide all necessary watching, lighting, and other precautions as necessary to ensure the security, the safety and protection of the public. He is to ensure that there is no informal business settlement near the establishment.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	OCUPATIONAL HEALTH AND SAFETY MEASURES	
	The Engineer expects the Contractor to adhere to strict safety measures. In this regard the Contractor should ensure that all his workers, the Consultants and his sub- Contractors workmen are wearing Personal Protective Equipment (PPE) before commencement of any work where applicable including overalls with the company name clearly printed on the back each with clearly marked Identification Numbers stitched or imprinted on.	
	The Contractor shall allow for providing all watching, lighting, barriers, signs, covering open trenches and protection of the works, including Sub-Contract works, as may be necessary for the safety of the works and for the protection of the public and his own and Sub-Contractors' employees.	
	He shall also ensure provision of a certified and qualified safety, health and environmental officer, access to ambulance services at all worksites and arrangement to access a local hospital/dispensary with qualified medical staff.	
	The contractor shall take cognisance and shall fullay adhrere to the regulations of the <b>Occupational Safety and Health Act of 2007</b> including all the associated revisions	
	The Engineer shall expect full compliance to this regulation and no excuses will be entertained for non-compliance which may lead to suspension of works until the issue is addressed satisfactorily.	
В	PUBLIC, PRIVATE ROADS AND PAVEMENTS ETC	
	The contractor will be required to make good at his own expense any damages he may cause to the present approach and surrounding road surfaces during the period of the works	
С	POLICE REGULATIONS	
	The contractor is to allow for complying with all Government Acts, orders or regulations in connection with employment of labour and other matters related to the execution of the works.	
	The Contractor must acquit himself duly with current acts and regulations, including police regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport, etc	
	Particular attention is drawn to the rules published in Legal Notice 179 dated 2nd June 1978 (Building Operations and Work of Engineering Construction )	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	AREA TO BE OCCUPIED BY CONTRACTOR The area of the site which may be occupied by the Contractor for use as storage and	
в	for the purpose of erecting workshops etc shall be defined on the site by the Engineer <b>PROGRESS SCHEDULE</b>	
	Immediately after signing the contract the Contractor is to prepare a Time Progress Chart showing the time and order in which he proposes to carry out the works within the total construction time stated in the contract. The chart will show in detail the construction time and order in which each section of the work is to be carried out and be sub-divided into trades and tasks. If the contractor proposes sectional completion of the project he must plan this in detail including access roads, and services and this shall be reflected on the chart	
	Upon the letting of the Sub-Contractors work the Contractor is to incorporate times and details of each separate Sub-Contractor work which information is to be agreed by the Sub-Contractor and the chart will be so designed to accommodate this infantine.	
	At the end of each week the Contractor is to mark on the chart in a different colour the actual time taken to complete the respective stages and sections of the work. The contractor shall obtain the Engineer's approval on the chart and then shall supply copies to the Engineer and Quantity Surveyor	
	If at any time it should appear to the Engineer that the actual progress of the works does not conform to the approved programme progress schedule the Contractor shall produce at the request of the Engineer a revised programme showing the modifications and accelerations to the approved programme necessary to ensure completion of the works within the agreed contract period.	
	The submission of and approval by the Engineer of such revisions and accelerations shall not entitle the Contractor to any extra payment or extension of time and shall not relieve the Contractor of any duties or obligations or responsibilities under the contract	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	OVERTIME	
	The Contractor shall be responsible for any extra costs for overtime working he considers will be necessary in order to complete the works within the contract period or time for completion apart from overtime working which may be authorised by the Engineer	
	If overtime is worked out in accordance with a written instruction issued by the Engineer the contractor will be reimbursed in respect of such overtime to the unproductive time payable over and above the basic hourly rates as laid down by the Regulation of wages and Conditions of employment Act, Building and Construction Industry Wages Council and excluding any bonuses, profits and overheads.	
в	WATER	
	The contractor shall provide at his own risk and cost all water for use in connection with the works including the work of sub-contractors make arrangements with the local authority for the installation of a separate meter where applicable and possible for all water used by him throughout the contract and pay all costs and fees in connection therewith. He shall also provide temporary storage tanks and tubing etc as he may consider necessary and clear away at completion.	
	The contractor is to provide clean drinking water at the construction site for his workers at all times.	
	All water shall be fresh, clean and pure, free from earthly vegetable or organic matter, acid or alkaline substance in solution or suspension.	
с	TELEPHONE	
	The contractor shall provide in the office, from the commencement to the completion of the works, a wireless or mobile phone and shall pay all charges or airtime necessary for its use	
D	LIGHTING AND POWER	
	The contractor shall provide at his own risk and cost all temporary artificial lighting and power for use on the works including all sub-contractors and specialists requirements and including all temporary connections, wiring, fittings etc and clearing away on completion. The Contractor shall pay all fees and obtain all permits in connection therewith.	
	Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	TESTING	
	Allow for all expenses in connection with the testing of materials as specified hereunder including the supply and preparation of materials to be tested, the cost of materials and their packing and conveyance to the nearest approved Testing Laboratory, laboratory charges, etc. The following items of tests will be measured according to the number of tests actually called for by the Engineer but unsuccessful tests will not be included in the remeasurement.	
	Allow for executing the following tests as detailed in the Appendices to these Bills of Quantities (PROVISIONAL)) Water Test <b>10</b> (litres) Sand Test <b>0.1</b> (m3)	
	Aggregate Test <b>0.1.</b> (m3)	
	Reinforcement test (1m of mild steel rod or high tensile steel bar of various sizes) <b>2.</b>	
	Concrete Test (each test comprising <b>5 NO</b> cubes as described hereinafter)	
	Testing of concrete or stone blocks of various strengths in accordance with Kenya Standard Specification (one test comprising <b>5 NO</b> blocks)	
в	PRICING RATES	
	The tenderer shall include for all costs in executing the whole of the works, including transport, replacing damaged items, fixing, all to comply with the said Conditions of Contract.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	TEMPORARY STRUCTURES	
	a) The Contractor shall allow for providing and clearing away on completion of the works such temporary hoarding, rubbish chutes, gates, planked walkways, guard rails etc. as may be necessary for the protection of the workers, the general public, and for the proper execution of the works.	
	b) As such, temporary structures shall be constructed with the approval of the Engineer and to his full satisfaction and in such a manner as to cause minimum intrisiveness and disturbance to occupants of adjacent developments and users of the adjacent roads.	
	c) All such temporary structures shall comply in all aspects with the national laws, rules, and regulations currently in force and applicable to such structures.	
	d) All temporary structures shall be erected in a manner so that the unloading of materials causes minimum obstruction to the use of adjacent roads and other facilities	
	e) All temporary structures shall be kept properly lighted throughout the periods of darkness and any corners or projections shall be painted white.	
	g) Temporary structures shall not be used or permitted to be used for advertisement purposes except with the written consent of the Engineer	
	h) All temporary structures shall be maintained at all times in good order and good condition to the satisfaction of the Engineer.	
	i) All temporary structures shall be removed when so required by the Engineer or at the end of the period for which it is required.	
	j) The Contractor shall indemnify and shall keep the employer idemnified against any expenses, loss, claim or suits arising out of or in connection with the temporary structures.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	SITE OFFICE	
A	The contractor shall supply, maintain, service, clean and light a fully furnished, suitable office having an approximate floor area of not less thansqm The office shall have a sample room suitable dimensions with clean running water and electricity connected to the approval of the Engineer.	
	The Contractor shall provide offices, messrooms and all other buildings required by the Contractor for his own use and the use of by Clerk of Works and Nominated SubContractors as required by the items or attendance	
	The site office shall be equipped with a table and chairs of sufficient size and number for site meetings and plan chests for drawings shall also be provided by the contractor	
	The Contractor shall allow for the cost of providing light refreshment for the consultants at site meetings.	
	TEMPORARY DISPOSAL OF RAIN WATER	
В	The Contractor shall provide and maintain all necessary temporary gutters, downpipes, chutes, drains etc. for conveying rainwater from the buildings and storage tanks for rainwater harvesting.	
	The Contractor shall allow for temporary drainage plumbing and piping for keeping the premises and site free from accumulation of water. He shall also allow for construction and maintaining any necessary storm water drainage structures as directed.	
	CLEARING AWAY	
С	The Contractor shall remove all temporary works, rubbish, debris and surplus materials from the site as they accumulate, on intervals as intructed by the Engineer and upon completion of the works, remove and clear away all plant, equipment, rubbish, unused materials and stains and leave in a clean and tidy state to the reasonable satisfaction of the Engineer.	
	The whole of the works shall be delivered up clean, complete and in perfect condition in every respect to the satisfaction of the Engineer.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	SITE ACCOMODATION & STORAGE	
	The Contractor shall provide sheds for storage accommodation for all goods and materials liable to suffer damage from exposure to sunlight or inclement weather.	
	The Contractor shall provide offices, mess rooms and all the buildings required by the Contractor for his own use and the use of Nominated Sub-Contractors as required by the items of attendance only.	
	The Contractor shall provide at his own risk and cost where directed on the site weather proof lock-up sheds and make good damaged or disturbed surfaces upon completion to proof lock-up sheds and make good damaged or disturbed surfaces upon completion to the satisfaction of the Engineer	
	Upon completion all temporary buildings are to be removed and cleared away	
В	SANITATION OF THE WORKS	
	The sanitation of the works shall be provided, maintained and removed on completion by the Contractor to the satisfaction of the Engineers and local Authorities.	
	The sanitary facilities shall be of generally acceptable standard regardless of the material being used to ensure ease of cleaning and maintain general well being of the users. Their location shall be agreed with the Engineers and the works shall not be commenced before the sanitary accommodation has been approved by the above mentioned authorities.	
	The Contractor will be required to pay all conservancy charges and shall ensure clean daily maintenance and disinfecting of the sanitary facilities, and not less than once per week, the whole area shall be sprayed with disinfectant and insecticides and any temporary drains shall be removed and all works and surfaces disturbed made good and then the whole area disinfected and left clean and free from pollution to the satisfaction of the Engineer and local authorities.	
с	HOARDINGS	
	The Contractor shall provide, erect and maintain throughout the course of the Contract and thereafter clear away and make good disturbed areas, temporary hoarding; <b>approximate length of 1000 metres</b> : 2400mm high above ground consisting of: 100mm diameter timber poles at 1200mm centres firmly founded and secured, 75x50mm horizontal timber rails at 900mm centres, painted GCI sheets, proper timber gates with suitable locks to Engineers approval.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	DEMOLITIONS AND DOWNTAKINGS	
	The Contractor is to allow for all temporary protection required during the works including ordinary and special dust screens, hoardings, barriers, warning signs etc. as directed by the Engineer and as necessary for the adequate protection of adjacent property and finishes, workmen employed upon the site and the public. Any damage or loss incurred due to the insufficiency of such protection must be made good by the Contractor. All protective devices are to be removed on completion of the work and any necessary making good consequent upon this is to be executed to the satisfaction of the Engineer	
	All materials arising from demolitions and downtakings are deemed to be the property of the employer. No claim will be entertained on account of employer excising this right to retain the materials unless otherwise stated.	
	The Contractor shall allow in his rates the cost of handling and disposal of debris arising out of the demolition works	
	All downtakings shall be carefully removed, taken down, dismantled and stored on site until instructed by the Engineer to remove from the site. Such materials shall only be incorporated in the new works if required by the Engineer in which case appropriate adjustments will be made in the final account for the cost of labour, screws etc for fixing such downtakings in the new works.	
	The Contractor shall be entirely responsible for any breakage or damage which may occur to materials required for re-use, during their removal, unless it is certified by the Engineer that such damage or breakage was inevitable as a result of the condition of the item concerned.	
в	ACCESS TO SITE AND TEMPORARY ROADS	
	Means of access to the site shall be agreed with the Engineer prior to commencement of the works and the Contractor must allow for building and maintaining any temporary access roads for the transport of materials, plant and workmen as may be required for the complete execution of the works including the provision of temporary culverts, crossings, bridges or any other means of gaining access.	
	Upon the completion the works the Contractor shall remove such temporary roads, temporary culverts bridges etc and make good and reinstate all works and services disturbed to the satisfaction of the Engineer.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	<b>SIGN BOARD</b> The Contractor shall provide and erect where directed and maintain during the whole period of the building operation and remove at completion, one approved sign board of <b>approximately 3000x3000mm and approximately 5800mm overall height</b> to the Architect's later design giving a brief description of the works, a 3D perspective image of the project, and showing the names of the employer and the consultants, with sufficient space to append the names of the sub-contractors and suppliers when known. The lettering concerning the Architect, Quantity Surveyor and Engineer is not to be more than 50mm high.	
В	PRIME COST SUMS i) The words "Prime Cost" (or the initials "P.C") appearing in the contract documents shall mean net costs exclusive of any trade, cash or other discount whatsoever but	
	inclusive of the costs of the packing, carriage and delivery. Such costs shall be the same due to the sub-contract or supplier after adjustments where applicable in respect of measurements of rates.	
	ii) Any increase or decrease in the prime costs sums resulting from the adjustments and properly paid by the contractor shall be added or deducted from the contract sum in the final account. In substantiation the contractor will require to produce to the Quantity Surveyor all quotations, invoices and receipted accounts as shall be necessary to show the details of the sums actually paid.	
	iii) Any sum added by the contractor in these Bills of Quantities in respect of profits upon any prime costs will be deducted at the final settlement of accounts and the sum will be added to the amount of which will bear the same proportion to the sum added as the net amount properly expended to the original P.C sum. The profit is a management fee for arranging and taking responsibility of the sub-contract works or arranging for and checking the supply of materials and goods from nominated suppliers.	
	Carried to collection	

CM	DESCRIPTION	AMOUNT
	NOMINATED SUB-CONTRACTORS	
	The contractor shall accept responsibility for providing the following services for nominated sub-contractors.	
	i) GENERAL ATTENDANCE:	
	The following services are described as "allow for general attendance" . This shall mean:	
	a) Use for the purpose of the sub-contract works of any scaffolding belonging to or provided by the contractor while it remains so erected upon site, provided that no warranty or other liability on the part of the contractor or of his other sub-contractors shall be created or implied in regard to the fitness, condition or suitability of the said scaffolding	
	b) Provision of water, lighting, watching and attendance for the purpose of the sub- contract works.	
	c) Use of sanitary accommodation, mess rooms and welfare facilities.	
	d) Provision of space for erecting of offices or stores or space for storage of plant and materials.	
	ii) SPECIAL ATTENDANCE:	
	The following services are described as "allow for special attendance" . This shall mean:	
	a) Taking delivery and including the provision of unskilled labour necessary to attend upon the sub-contractors workmen for the purpose of unloading plants/equipment and materials of significant weight and/or size, when received upon the site and placing in position within the sub-contractor's storage space or store.	
	b) Special Scaffolding, scaffolding additional to the Contractors scaffolding or Reassembling of contractor's scaffolding.	
	c) Facilitating special power requirements during the course of the works.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	<b>CLAIMS</b> It shall be a condition of this contract that upon it becoming reasonably apparent to the Contractor that he has incurred losses and / or expenses due to any of the contract conditions, or by any other reason whatsoever, he shall present such a claim or intent to claim notice to the Engineer within the contract period. No claim shall be entertained upon the expiry of the said contract period.	
В	<b>PAYMENTS</b> The tenderer's attention is drawn to the fact that the payments shall be made in accordance with Clause 14 of the Conditions of Contract Agreement. In order to facilitate this, a list of the general component elements for the works is given at the summary page of these specifications and the tenderer is requested to break down his tender sum commensurate to the said elements.	
С	<b>PREVENTION OF ACCIDENT, DAMAGE OR LOSS</b> The Contractor is thus instructed to take reasonable care in the execution of the works as to prevent accidents, damage or loss and disruption of activities being carried out. The Contractor shall allow in his rates any expense he deemed necessary by taking such care within the site.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	<b>NOMINATED SUPPLIERS</b> The contractor shall take delivery all materials or goods supplied by the Nominated suppliers and shall sign a receipt as having received them in good order and condition. He shall offload, transport to site, unload, hoist, provide safe storage and thereafter be responsible for any loss or damage or replacement of any such lost or damaged articles at his own expense and shall return case if so required.	
	Provision is made herein following each appropriate P.C sums for the costs of the foregoing services against items reading "take delivery of and fix only"	
	<u>Fix Only:-</u>	
	"Fix Only" shall mean take delivery within a radius/ distance of 20 Km from the site (Unless otherwise stated), pay all demurrage charges, load and transport to site where necessary, unload, store, unpack, assemble as necessary, distribute to position, hoist and fix only.	
в	DIRECT CONTRACTS	
	Notwithstanding the foregoing conditions, the Government reserves the right to place a "Direct Contract" for any goods or services required in the works which are covered by a P.C. Sum in the Bills of Quantities and to pay for the same direct. In any such instances, profit relative to the P.C. Sum in the priced Bills of Quantities will be adjusted as described for P.C. Sums is allowed.	
с	PROTECTION OF THE WORK	
	The Contractor shall cover up and protect all finished work liable to damage including provision of temporary roof, gutters, drains etc until the completion of the works.	
	In the event of any damages occurring to the works, materials, sewers, drains, gullies, paths or other works on site in temporary possession of the contractor for the purpose of this contract either from weather, want of proper protection, defects, or insufficiency of the works or any other causes or whatsoever during the progress of the works, the contractor shall be responsible and without extra charge, make good all damage and pay all costs which may be levied.	
	BLASTING OPERATIONS	
D	Blasting will only be allowed with the express permission of the Engineer in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost in accordance with any Government regulations in force for the time being, and any special regulations laid down by the Engineer governing the use and storage of explosives.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	<b>PREVENTION OF NUISANCE</b> The works and such sections of the site necessary thereafter shall be under the entire care and control of the contractor during the whole period of the contract and shall take all possible precautions to prevent any nuisance, inconvenience or injury to the holder or occupiers of the existing or surrounding properties and to the public generally, and shall at all times keep all paths and roads affected by the works in a safe and clear state, and shall use proper precautions to ensure the safety of all wheeled traffic and pedestrians.	
	The contractor shall provide appropriate screens to seal off the working area. <b>REMOVAL OF PLANT AND RUBBISH ETC</b>	
В	The Contractor shall upon completion of the works remove and clear away all temporary buildings, plant, rubbish and unused materials, and shall leave the whole of the site of the works in a clean and tidy state to the satisfaction of the Engineer. He shall also remove all rubbish and dirt from the site at intervals or as directed by the Engineer.	
	Particular care shall be taken in leaving windows, floors and fittings clean and the removal of all paint and cement stains therefrom.	
	The contractor is expected to have established a well planned method of solid disposal of debris/garbage on and off the camp site	
	CONTRACTOR'S SUPERINTENDENCE/SITE AGENT	
С	The Contractor shall constantly keep on the works a literate English speaking Agent or Representative, competent and experienced in the kind of work involved who shall give his whole experience in the kind of work involved and shall give his whole time to the superintendence of the works.	
	Such Agent or Representative shall receive on behalf of the Contractor all directions and instructions from the Engineer and such directions shall be deemed to have been given to the Contractor in accordance with the Conditions of Contract.	
	Carried to collection	

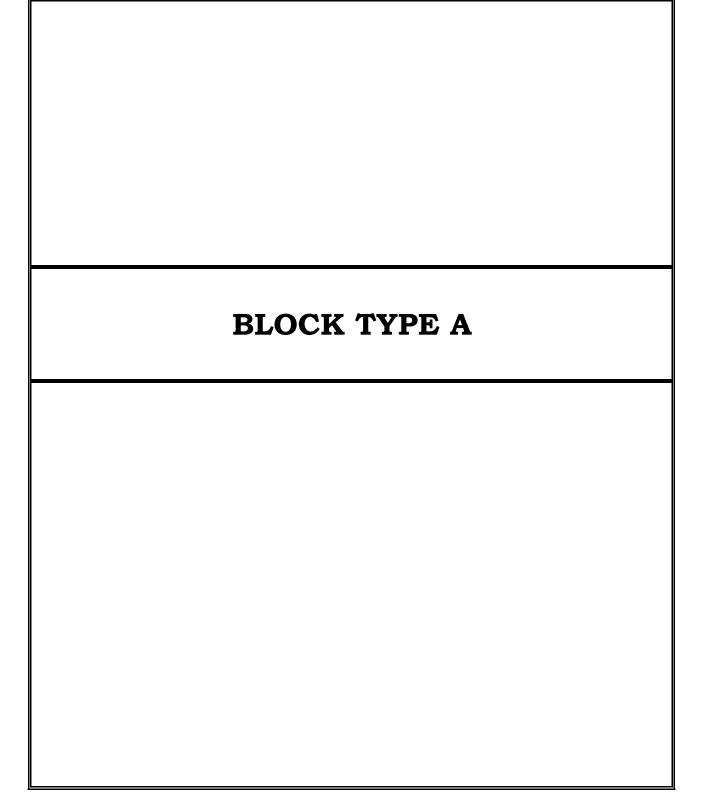
ITEM	DESCRIPTION	AMOUNT
A	<b>TRAINING LEVY</b> The Contractor's attention is drawn to legal notice No. 237 of 2007 which requires payment by the Contractor for a training levy and the contractor shall allow in the preliminaries of this contract (basic rates column) for all costs arising or resulting therefrom.	
	Proof of payment of this Levy should be provided at the request of the Engineer <b>STANDARDS LEVY</b>	
В	The Contractor is required to make payments to the Kenya Bureau of Standards as Standard Levy inline with the current current and prevailing regulations. The Contractor shall allow in the Preliminaries of this Contract for all costs arising or resulting therefrom.	
	VALUE ADDED TAX (V.A.T.)	
С	The Contractor's attention is drawn to V.A.T PUBLIC NOTICE NO. 6 of 5th August, 1993 regarding the Finance Bill 1993 which expanded the V.A.T base to cover construction services amongst other items. The Contractor's attention is also drawn to all other notices issued by the government in relation to taxation. The Contractor shall familiarise himself with the said notices and allow in all his Bills of Quantities rates (Excluding P.C and Provisional Sums) for the net tax. (i.e less input tax where applicable) as required by law.	
	Please note that allowing a lump sum tax either in preliminaries or in summary page shall not be acceptable.	
	Any additional information and assistance concerning the application of the said notice should be directed to the office of the Commissioner of Value Added Tax	
	Carried to collection	

EM DESCRIPTION	AMOUNT
BILL NO. 1	
GENERAL PRELIMINARIES	
COLLECTION	
Carried from page 1/1	
Carried from page 1/2	
Carried from page 1/3	
Carried from page 1/4	
Carried from page 1/5	
Carried from page 1/6	
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Carried from page 1/16	
Carried from page 1/17	
Carried from page 1/18	
Carried from page 1/19	
Carried from page 1/20	
Carried from page 1/21	
Total for General Preliminaries Carried to Grand Summary	

ITEM	DESCRIPTION	UNIT	AMOUNT
	<u>PROJECT EXPENSES</u> Disclaimer: The following items are provisional sums provided by the Engineer. They are to be expended at the written instruction of the Engineer. Note: Tenderers should not attach, revise or add any conditions or specifications to the project supervisor's expenses		
A	Provide and maintain equipment for the Engineer's site office for the duration of the project	Lump Sum	2,500,000.00
В	Provide for supervision as follows: 1 No. Clerks of works, (Building and services) for the duration of project and 1 no. Work Inspectors, and 1 No Surveyor to be engaged on need basis.	Lump Sum	2,700,000.00
С	Allow a provisional sum of Kshs. Eight Million (8,000,000) for Project Management Team and other stakeholders facilitation allowances during project implementation, as and whenever it is necessary.	Lump Sum	8,000,000.00
D	<ul> <li>Allow a P.C. Sum of KShs. 8,500,000 for supply of 1 Nr. (one)4WD station wagon SUV zero mileage vehicles of 2500 cc, or approved equivalent, including road licenses, number plates, insurances, etc. The vehicles to revert to Employer after completion of Contract. Minimum specifications include but not limited to the following:</li> <li>Engine - 2.5 litres Turbo Diesel</li> <li>Rear Differential Gear Lock</li> <li>Braking System to include ABS (Anti-Lock Brake System)</li> <li>Power Steering with adjustable Steering Column</li> <li>Electronic Fuel Injection System.</li> <li>5 Speed Semi-Auto Transmission</li> <li>Power Windows</li> <li>Immobilizer and Alarm System</li> <li>Fuel tank capacity between 80 litres and 100 litres</li> </ul>	Item	8,500,000.00
E	Allow for the Contractor's overheads and profits on items A,B, and C above.		
F	Provide for the driver, fuels, maintenance, lubricants and servicing of the vehicle for kilometrage over 1,500 km per vehicle month.		1,440,000.00
	Total carried forward		

ITEM	DESCRIPTION	UNIT	AMOUNT
A	<b>Total brought forward</b> Provide a Prime-cost sum of Kshs five Hundred Thousand, (500,000.00) only for carrying out environmental impact assessment before the commencemennt of works and and undertaking environmental mitigation measures as the work progresses.		500,000.00
в	Provide a Prime-cost sum of Kshs one million, (1000,000.00) only for carrying out Geotechnical survey before the commencemennt of works and preparation of the reports		1,000,000.00
С	Allow a provisional sum of Kshs. Two Hundred and Fifty Thousand (250,000.00) for stationery, documentation, model making, review and preparation of as built drawings Manager.		250,000.00
D	Allow a provisional sum of Kshs. Three Hundred and Fifty Thousand (350,000.00) for provision of Laptop Computer for the Engineer's Team.		350,000.00
	Contractor's profits and overheads		
E	Allow for the Contractor's overheads and profits on items F, G, H, J & K above.	%	
	Total for Project Expenses Carried to Grand Summary		





Item	Description	Unit	QTY	Rate	<sup>Bl</sup> Arnount <sup>9</sup>
	<u>PROPOSED_SOCIAL + AFFORDABLE UNITS BLOCK</u> <u>(TYPE A G+9)</u> BILL NO.4 -BLOCK A				
	ELEMENT NO 1 - SUBSTRUCTURES (ALL PROVISIONAL)				
	<u>Site Clearance</u>				
А	Clear site of all grass, hedges, shrubs, bushes grub up roots, load and remove from site and dispose at designated local authority areas.	SM	682		
В	Bulk excavation to reduce levels depth not exceeding 1.5m commencing from existing ground level	СМ	1,022		
С	Ditto but exceeding 1.5 metres but not 3 metres deep	СМ	682		
D	Extra over all type of excavation for excavating in soft rock	СМ	85		
Е	Ditto excavation in hard rock class I	СМ	85		
	Disposal of water				
F	Allow for keeping the whole of the excavation free from all spring and running water by pumping or any other such means as may be necessary	Item			
	Planking and strutting				
G	Allow for maintaining and upholding the sides of excavations and keeping excavations clear of all fallen materials, rubbish etc	Item			
	Carried to collection				

Item	Description	Unit	QTY	Rate	Black A G+9
	Disposal of excavated material				
A	Load,wheel and cart away surplus excavated material to a Local Authority designated dumping site or fill soil heaps as away from site instructed by the Project Engineer.	СМ	656		
В	Return, fill and ram selected excavated material around sides of foundations.	СМ	1049		
	Fillings				
С	Make up levels using approved imported materials: compacted in layers not exceeding 300mm thick with a roller: to the satisfaction of the Structural Engineer.	СМ	821		
D	300mm thick hardcore bed: hand packed : compacted in layers not exceeding 150mm thick: to the satisfaction of the Structural Engineer	SM	456		
Е	50 mm Stone dust/ Murrum blinding to surfaces of hardcore	SM	456		
F	<b>Anti - termite to treatment</b> Approved anti-termite treatment, with ten-year guarantee, sprayed to surfaces of hardcore strictly in accordance with manufacturer's instructions.	SM	532		
G	<b>Damp-proof membrane</b> 1000 gauge polythene or other equal and approved damp-proof membrane, laid over blinded hardcore (measured separately) with 300mm side and end laps (measured nett-allow for laps); 1 No. layer: bedded in and including cement and sand (1:3) mortar	SM	532		
	Concrete Blinding				
	Insitu concrete Class 15MPa: vibrated:				
Н	50 mm thick blinding under raft	SM	682		
Ι	50 mm thick blinding under ground beams	SM	76		
	In- situ vibrated reinforced concrete Class 25 MPa: in:				
J	Raft Foundation	СМ	511		
Κ	Ground Beams	СМ	15		
L	100mm thick surface bed	SM	532		
М	Steps	СМ	1		
	In- situ vibrated reinforced concrete Class 30 MPa: in:				
Ν	Columns	СМ	22		
0	200mm thick Lift pit shaft wall	SM	31		
	Carried to collection				

Item	Description	Unit	QTY	Rate	Black A G+9
	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional)				
А	Assorted reinforcement	KGS	24718		
	Mesh fabric reinforcement to K/EAS 412;2 (2019) BRC A142;200 x 200mm, weighing $2.22 \text{kg/m}^2$ (measured net - no allowance) for laps; in two layers - top & bottom; including bends, tying wire and spacer blocks)				
В	In ground floor slab	SM	532		
	Modular steel frame with steel plates covering formwork and/or marine board formwork: to:				
С	Sides of raft foundation	SM	106		
D	Sides of ground beams	SM	152		
E	Vertical sides to columns	SM	261		
F	Vertical sides to lift shaft walls	SM	61		
G	Edge of slab not exceeding 150mm girth	LM	142		
Н	Edges of risers 75 - 150mm high	LM	12		
	Foundation Walling				
	Natural quarry stone walling with a minimum of 7.0 N/mm2 bedded and jointed in cement and sand (1:4) mortar, reinforced with and including $25 \times 3$ mm thick hoop iron strips at every alternate course as described in;				
Ι	200mm thick walls in foundations	SM	724		
	Pavings				
J	Supply and lay 600 x 600 x 50mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.	SM	85		
	Plinth				
	<u>25mm Thick cement and sand (1:4) rendering on concrete or</u> masonry ; wood float finished; to				
К	Plinths externally	SM	64		
	<u>Two coats black bitumastic paint on:</u>				
L	Rendered surfaces	SM	64		
	<u>Cement/sand (1:3) screed with approved waterproofing</u> admixture, steel trowelled hard and smooth to receive waterproofing (m/s)				
М	20mm thick water proof cement/sand (1:4) screed to lift pit floor prepared to receive water proofing	SM	7		
Ν	12mm thick water proof cement/sand (1:4) render to wall prepared to receive water proofing	SM	32		
	Carried to collection				
	Carrieu to collection				

Item	Description	Unit	QTY	Rate	Black A G+9
	Waterproofing				
	CRYSTALLINE WATERPROOFING				
	All areas indicated shall be waterproofed by approved cementious				
	system , provide 10 year guarantee, all to manufacturer's specifications and instructions as described:				
	Two coat slurry application: waterproofing powder: 1kg per m2 per coat, minimum 2 coats to seal all expansion joints, holes, repaired areas and angle fillet or as per manufacturers instructions				
	Application of render coat: waterproofing powder: 1kg per m2 at 4.5mm thick on slabs. Rate shall allow for hacking and preparing all concrete surfaces or as per manufacturers instructions				
A	Horizontal surfaces of lift base	SM	7		
В	Vertical surfaces of Lift shaft walls	SM	32		
	Carried to collection				
	COLLECTION				
	Total brought forward from page no: 1				
	Total brought forward from page no: 2				
	Total brought forward from page no: 3				
	Total brought forward from above				
<u> </u>	ELEMENT NO. 1 Carried to				
	SUBSTRUCTURES Main summary				

Item	Description	Unit	QTY	Rate	Black A G+9
	<u>PROPOSED_SOCIAL + AFFORDABLE UNITS BLOCK</u> _(TYPE A G+9)				
	BILL NO.4 -BLOCK A				
	ELEMENT No 2 - R.C FRAME				
	Insitu concrete class 30MPa: vibrated: reinforced				
А	Columns	СМ	301		
В	200mm thick Lift shaft wall	SM	417		
	Insitu concrete class 25MPa: vibrated: reinforced				
С	Beams	СМ	279		
D	Upper Roof Beams	СМ	3		
Е	130mm thick suspended slabs	SM	4083		
F	150mm thick suspended slabs	SM	1237		
G	150mm thick Tank Slab over stairwell	SM	82		
Н	150 mm thick landing	SM	103		
Ι	Staircases	СМ	40		
J	100 mm thick reinforced concrete benches reinforced with BRC mesh A142 complete with formwork and all necessary plasterworks/screed work	SM	24		
	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional)				
K	Assorted reinforcement	Kg	151369		
	<u>Modular steel frame with steel plates covering formwork and/or marine</u> <u>board formwork: to</u>				
L	Sides of columns	SM	3597		
М	Sides and soffites of beams	SM	2695		
Ν	Soffits of suspended slabs	SM	5402		
0	Edges of slab over 75mm but not exceeding 150mm girth	LM	3138		
Р	To sloping soffites of staircases	SM	148		
Q	Soffits of landings	SM	103		
R	Riser of steps over 150 mm but not exceeding 225 mm girth	LM	480		
S	Staircase string 300mm extreme girth and cut to profile of steps	LM	247		
Т	Edges of landing over 150 but ot exceeding 225mm high	LM	80		
U	Sides of lift walls	SM	834		
V	Edges of lift shaft openings 150-225mm high	LM	114		
	ELEMENT NO. 2 Carried to				
	R.C FRAME Main summary				

PROPOSED SOCIAL + APPORDABLE UNITS BLOCK LIDEA 0.4 SHOCK A       Image: Constant of the state of the sta	Item	Description	Unit	QTY	Rate	<sup>Bl</sup> Ack A G t <sup>9</sup>
ELEMENT No 3-WALLING WALLING Harden of the sector and resulting with a minimum of 7.0 Nmm2 accretate commersaive strength, bedded and jointed in coment and sand (1-1) mortar, reinforced with and including 25 x 3 mm thick hoop iron. striss at every alternally with a minimum of 7.0 Nmm2 accretate commersaive strength. bedded and jointed in coment and sand (1-1) mortar, reinforced with and including 25 x 3 mm thick hoop iron. striss at every alternallySM2967A200mm thick walling Externally accretate commersaive strength. bedded and jointed in coment and sand (1-1) mortar, reinforced with and including 25 x 3 mm thick hoop iron. striss at every alternally accretate commersaive strength. bedded and jointed in coment and sond (1-4) mortar, reinforced with and including 25 x 3 mm thick hoop iron. striss at every alternally stress at every alternallySM2214C200mm thick walling InternallySM2214D150mm thick walling InternallySM238FApproved hessian based damp proof course to 200mm thick walling in cement/sand mortarLM266GApproved hessian based damp proof course to 150mm thick walling in cement/sand mortarLM233FApproved hessian based damp proof course to 150mm thick walling in cement/sand mortarSM233GFrecast Concrete Dreces Ventilation Elocks (200 x 350 wide x 100mm thick insitu reinforced concrete class 200 part sing 14 mortarSM233AFrecast Concrete Arrentate and jointing to columns with ement/sand mortarNO79JDito 300 x 100m minsitu concrete coping to walls twice weathered and throwated;LM257 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td></t<>						
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J       and throated;       LM       257         Lintols       200mm x 200mm Deep lintols in reinforced concrete class 20MPa       K       Second thread thre	Ι	20Mpa coping, throated and weathered and jointing to columns with	NO	79		
200mm x 200mm Deep lintols in reinforced concrete class 20MPa with and including 4No T10 and T8 stirups at 200mm centres;LM592KSomplete with formworkLM592	J	1 0	LM	257		
K       with and including 4No T10 and T8 stirups at 200mm centres;       LM       592         complete with formwork       Image: Strain St		Lintols				
ELEMENT NO. 3     Carried to	K	with and including 4No T10 and T8 stirups at 200mm centres;	LM	592		
		ELEMENT NO. 3 Carried to				
WALLING Main summary						

Item	Description	Unit	QTY	Rate	Black A G+9
	<u>PROPOSED_SOCIAL + AFFORDABLE UNITS BLOCK</u> <u>(TYPE A G+9)</u>				
	BILL NO.4 -BLOCK A				
	ELEMENT NO 4-WINDOWS				
	MILD STEEL WINDOWS				
	Supply, fabricate and fix the following purpose made small pane mild steel casement windows to be fabricated from approved mild steel sections (atleast 14g 2mm thick ) comprising of frame and casement incorporating permanent hooded high level ventilation panels infilled with mosquito gauze : window supplied complete with and including 12mm solid square burglar proofing bars fixed at 200mm centres both ways and metal fixing lugs including building into wall and making good, and all necessary iron mongery viz hinges, fasteners, and hasp including shop priming window with red oxide primer before delivery to site:-				
	A prime cost sum of Kshs 4,500 per Sqm has been allowed for fabrication of the above specified Steel casement Windows by AHP juakali artisans as approved by the Project Manager/Architect.				
	<u>The contractor's unit rate shall include the cost of transport,</u> storage, fixing and all associated accesories in addition to the PC Rate.				
А	Window, overall size 1200 X 1500mm high to Architects Details (Lounge)	NO	111		
В	Ditto Size 1200 x 1500mm high (bedroom)	NO	150		
С	Ditto Size 1200 x 1200mm high (Kitchen)	NO	80		
D	Ditto Size 600 x 900mm high (WC/SH)	NO	171		
	Glazing				
Е	4mm Thick clear sheet glass panes over 0.1 but not exceeding 0.5 square meters; fixing with premium putty	SM	601		
F	Ditto; obscure	SM	97		
	Painting and Decorations				
	On Metal work <u>Prepare and apply aerosol spray painting in two finishing coats of</u> <u>first grade paint as per the manufacturer's printed instructions</u> <u>to: -</u>				
G	General window and grille surfaces; over 300mm girth internal	SM	1397		
	Carried to Collection				
		1		L	

Item	Description	Unit	QTY	Rate	<sup>Bl</sup> Amount <sup>9</sup>
	Precast concrete window cill finishing fair on all exposed				
	surfaces and hoisting and placing in position, bedding, jointing				
	and pointing in pigmented cement and sand (1:3) mortar				
А	150 x 25mm thick Precast concrete window sill	LM	634		
	<u>Curtain rods;</u>				
В	1.5mm thick, 20mm thick diameter twin powdercoated mild steel rod complete accessories to approval	LM	525		
	Carried to collection				
	COLLECTION				
	Total brought forward from page no: 7				
	Total brought forward from above				
	ELEMENT NO. 4 Carried to the				
	WINDOWS Main summary				

Item	Description	Unit	QTY	Rate	Black A G+9
	PROPOSED SOCIAL + AFFORDABLE UNITS BLOCK (TYPE A G+9)				
	BILL NO.4 -BLOCK A				
	ELEMENT NO 5-DOORS				
	External Doors				
	Hardwood Panelled Doors				
	50mm thick approved hardwood PANEL doors with 12.5mm thick mahogany				
	hardwood lipping to Architect's details, specifications and approval				
	A prime cost sum at the rate indicated below has been allowed for fabrication of the above specified Hardwood panelled door leaves by AHP juakali artisans as approved by the Project Manager/Architect.				
	The contractor's unit rate shall include the cost of transport, storage, fixing and all associated accesories in addition to the PC Rate.				
A	Double leaf door size 1500 x 2400mm high ( PC Rate Kshs 41,000)	NO	3		
В	Single leaf Size 900 x 2400mm high (- PC Rate Kshs 25,000)	NO	111		
	Frames and frame finishes in mahogany timber:				
С	25 x 25mm quadrant beading (PC Rate Kshs 75)	LM	663		
D	25 x 50mm architrave with two labours, plugged (PC Rate Kshs 150)	LM	663		
Е	150mm x 50mm frame with three labours; chamfered edges; plugged (PC Rate Kshs 1400)	LM	663		
	Carried to collection				

Item	Description	Unit	QTY	Rate	Black Aug 19
	Internal Doors				
	<u>Flush timber doors</u>				
	50 mm thick Semi Solid cored flush doors with plywood facing to receive painting (m.s) all to Architects details, specifications and				
	approval				
	A prime cost sum at the rate indicated below for fabrication of the above specified Timber Flush door leaves by AHP juakali artisans as approved by the Project Manager/Architect.				
	<u>The contractor's unit rate shall include the cost of transport,</u> storage, fixing and all associated accesories in addition to the PC <u>Rate.</u>				
F	Door size 900mm x 2400mm High comprising of 1 No Opennable leaf size 800 x 2100mm high including fixed fanlight size 900 x 300mm high in 4mm clear glass ( measured separetely) (PC Rate Kshs 4,000)	NO	150		
G	Ditto 800 x 2100mm high comprising of 1No. Opennable leaf size 700 x 2100mm high (PC Rate Kshs 3,500)	NO	171		
	4mm Thick clear sheet glass fixing with matching timber glazing beads to timber frames				
Н	In panes exceeding 0.1 sqm but not exceeding 0.5 square metres.	SM	41		
	Frames and frame finishes in cypress Timber				
Ι	25 x 25mm quadrant (PC Rate Kshs 75)	LM	1710		
J	25 x 50mm architrave with two labours, plugged (PC Rate Kshs 150)	LM	1710		
К	150mm x 50mm transome with three labours; chamfered edges; plugged (PC Rate Kshs 800)	LM	135		
L	150mm x 50mm frame with three labours; chamfered edges; plugged (PC Rate Kshs 800)	LM	1710		
	Carried to collection				

Item	Description	Unit	QTY	Rate	Black A G+9
	Painting and decorating				
	Priming back of frame with an aluminium or equivalent and approved wood primer				
А	Surfaces not exceeding 100mm girth	LM	4745		
В	Surfaces over 100mm but not exceeding 200mm girth	LM	2373		
	<u>Prepare Knot, prime, stop and apply one undercoat and two finishing</u> <u>coats first grade timber quality paint to wood surfaces as per the</u>				
_	manufacturer's printed instructions				
С	General timber surfaces	SM	1750		
D	Surfaces over 200mm but not exceeding 300mm girth	LM	2373		
Е	Architraves: not exceeding 100 mm girth	LM	2373		
F	Quadrant beading : not exceeding 100 mm girth	LM	2373		
	Ironmongery				
	Supply and fix the following ironmongery to timber complete with matching screws and keys to the approval of the Architect				
G	100mm pressed steel Butt Hinges	PRS	657		
Н	Stainless steel 3 Lever Mortice Door Lock with handle furniture set;( keyhole escutcheons, cylinder and latch )	NO	114		
Ι	Ditto: but 2 Lever Door Lock with handle	NO	321		
J	Door fixing cramps	NO	435		
К	200 x 75 x 3mm perspex door signage with door numbers as per Architect detail	NO	0		
L	Block sign with block type, name and number lin exterior quality paint as per Architect detail	NO	0		
	Carried to Collection				
	COLLECTION				
	Total brought forward from page no: 10				
	Total brought forward from page no: 11				
	Total brought forward from above				
	ELEMENT NO. 5 Carried to				
	DOORS Main summary				

Item	Description	Unit	QTY	Rate	Black AG+9
	<u>PROPOSED_SOCIAL + AFFORDABLE UNITS BLOCK</u> (TYPE A G+9)				
	BILL NO.4 -BLOCK A				
	ELEMENT NO 6 - EXTERNAL FINISHES				
	EXTERNAL WALL FINISHES				
	External Render				
	<u>Cement and sand (1:3) render:wood floated: on concrete or blockwork:</u> <u>to</u>				
А	15mm thick to beams, Columns, Slab Moulds and walling externally	SM	5555		
В	Extra over horizontal and vertical pointing in 10mm thick rod in cement and sand mix (1:3) mortar including one coat Bituminous paint	SM	0		
	External Painting				
С	<u>Prepare and apply one coat Alkali Resistant primer followed by two</u> <u>coats of silicon exterior Emulsion paint in accordance with the</u> <u>manufacturers written instructions and to the satisfaction of the</u> architect to Concrete/masonry surfaces externally-Beam, Column and Slab Moulds	SM	5555		
	ROOF FINISHES Cement and sand (1:3) screeded beds: on concrete: complete with coloured pigmentation additives and hardener to:				
D	50mm average waterproofed lightweight screed laid to falls and crossfalls to roof slabs -upper roof including gutter bases	SM	648		
	Prepare and apply to vertical/horizontal surfaces 4mm thick APP/EPDM water proofing or other equal and approved membrane with surface finish weighing 4kg/sm; laid on primer with torch-on process ;by an approved specialist all in accordance with the manufacturers instructions including provision of a written ten (10) year anti leak guarantee.				
Е	4mm thick APP membrane applied to roof slabs	SM	648		
F	Ditto to skirting 200mm high	LM	358		
G	Dress membrane around 100mm rainwater outlet	No.	12		
	<u>The Following Flat roof concrete tiles fixed with</u> approved adhesive, laid and jointed with waterproofing bituminous compound				
Н	20mm thick interlocking Concrete tiles of size 225 x 225mm with and including cement sand (1:4) backing to falls	SM	614		
	ELEMENT NO. 6 Carried to				
	EXTERNAL FINISHES Main summary				

PROPOSED SOCIAL + AFFORDABLE UNITS BLOCK ITYPE A G+91       Image: Constraint of the intersection of masonry uniting and concrete beams as described to::         ELEMENT NO 7 - INTERNAL FINISHES       Internal Wall Finishes         Cement and sond (1:3) backings       Image: Constraint of the intersection of masonry uniting including and intersection of masonry uniting and concrete beams as described to::       SM         A       15mm thick to receive Ceramic Wall tiles       SM       2757         B       To receive porcelain wall tiles (m.s.) (Lift Lobby)       SM       172         Ceramic unit lifes_       Allow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessories       SM       2757         C       Supply and Fix ceramic wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary adhesive; including pre spacers and expansion joint as necessary all to Architect's approval Wall Surfaces       SM       2757         D       Disproprietary adhesive; jointed and pointed in matching coloured proprietary adhesive; jointed and pointed in matching coloured	Black A Gt	Rate	QTY	Unit	Description	Item
ELEMENT NO 7 - INTERNAL FINISHESIII <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td></th<>						
Internal Wall FinishesImage: Communication of the intersection of masonry utiling and concrete beams as described to::Image: Communication of the intersection of masonry utiling and concrete beams as described to::AInternal Wall FinishesSM2757BTo receive porcelain wall tiles (m.s.) (Lift Lobby)SM172Ceramic wall tilesSM172Ceramic wall tilesAllow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessoriesSM2757Ceramic wall tilesSupply and Fix ceramic wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary adhe					BILL NO.4 -BLOCK A	
Cement and sand [1:3] backingsSM2757A15mm thick to receive Ceramic Wall tilesSM2757BTo receive porcelain wall tiles (m.s.) (Lift Lobby)SM172Ceramic wall tilesSM172Ceramic wall tiles on prepared backings(m.s) with proprietary adhesive: jointed and pointed in matching coloured proprietary adhesive: jointed and pointed in matching coloured proprietary adhesives and accessoriesSM2757Cercelain wall tilesSM2757SM2757DSupply and Fix ceramic wall tiles on prepared backings(m.s) with 					ELEMENT NO 7 - INTERNAL FINISHES	
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B       To receive porcelain wall tiles (m.s.) (Lift Lobby)       SM       172         B       To receive porcelain wall tiles (m.s.) (Lift Lobby)       SM       172         Ceramic wall tiles       Allow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives ionted and pointed in matching coloured proprietary adhesive; jointed and pointed in matching coloured proprietary recessary adhesives and accessories       SM       2757         D       Supply and Fix porcelain wall tiles on prepared backings(m.s) with proprietary requires; including portional, storage, fixing including all necessary adhesive; jointed and pointed in matching coloured proprietary requires; including portial storage, fixing including all necessary adhesive; jointed and pointed in matching coloured proprietary requires; including portial storage and cocessories       SM       172         D       proprietary requires; including portial storage: and expansion joint as necessary; all to Architect's approval Wall Surfaces       SM       172         E       Concrete/masonry surfaces       SM       12110         E       Concrete/masonry surfaces       SM       12110					Cement and sand (1:3) backings	
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Allow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessoriesSM2757CSupply and Fix ceramic wall tiles on prepared backings(m.s) with proprietary grouting: including purchase, transport, offload, storage, fixing including all necessary: all to Architect's approval Wall SurfacesSM2757DSupply and Fix porcelain wall tiles on prepared backings(m.s) with proprietary adhesives and accessoriesSM172DSupply and Fix porcelain wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary adhesives and accessoriesSM172DSupply and Fix porcelain wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary orbitiety and provide and pointed in matching coloured proprietary adhesives and accessoriesSM172DSupply and Fix porcelain wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary routing: including purchase, transport. offload, storage, fixing including all necessary: all to Architect's approval Wall SurfacesSM172EConcrete/masonry surfacesSM12110EConcrete/masonry surfacesSM12110			172	SM	To receive porcelain wall tiles (m.s.) (Lift Lobby)	В
cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessoriesSupply and Fix ceramic wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall SurfacesSM2757DSupply and Fix porcelain wall tiles Allow a Prime Cost supply rate of Ksh. 1500 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesive; jointed and pointed in matching coloured proprietary adhesive; jointed and pointed in matching coloured proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall SurfacesSM172DSupply and Fix porcelain wall tiles on prepared backings(m.s) with proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall SurfacesSM172EConcrete beams as described to:-SM12110EConcrete/masonry surfacesSM12110					Ceramic wall tiles	
Cproprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall SurfacesSM2757Porcelain wall tiles Allow a Prime Cost supply rate of Ksh. 1500 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessoriesSM2757DSupply and Fix porcelain wall tiles on prepared backings(m.s) with proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall SurfacesSM172DSupply and Fix porcelain wall tiles on prepared backings(m.s) with proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall SurfacesSM172EConcrete beams as described to:- Painting and DecorationSM12110					cost of purchase, transport, offload, storage, fixing including all	
Allow a Prime Cost supply rate of Ksh. 1500 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessoriesDSupply and Fix porcelain wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall SurfacesSM172EConcrete /masonry surfacesSM12110Painting and DecorationSM12110			2757	SM	proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as	С
Dproprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall SurfacesSM17215mm (minimum) two coat cement, sand (1:3) plaster complete with wire gauze anti-crack mechanism at the intersection of masonry walling 					<u>Allow a Prime Cost supply rate of Ksh. 1500 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all</u>	
wire gauze anti-crack mechanism at the intersection of masonry walling       Image: concrete beams as described to:-         E       Concrete/masonry surfaces       SM       12110         Painting and Decoration       Image: concrete beams as described to:-       Image: concrete beams as described to:-			172	SM	proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as	D
Painting and Decoration					wire gauze anti-crack mechanism at the intersection of masonry walling	
			12110	SM	Concrete/masonry surfaces	Е
Prepare Skim and apply Emulsion or universal undercoat followed by 2					Painting and Decoration	
finishing coats of soft satin Emulsion paint in accordance with the manufacturers written instructions and to the satisfaction of the						
architect to						
F   Plastered concrete/masonry surfaces internally   SM   12110			12110	SM	Plastered concrete/masonry surfaces internally	F
Carried to Collection					Carried to Collection	

Item	Description	Unit	QTY	Rate	Black A G+9 Amount
	<u>Floor Finishes</u>				
	Cement and sand (1:3) screeds, backings, beds etc				
А	32mm bed finished to receive floor Tiles (m.s)	SM	3487		
11	32mm Thick coloured cement sand screed mix 1:3 finished with red	OM	5467		
В	oxide to approval	SM	1036		
	<u>Cement and sand (1:3) backings etc</u>				
С	32mm bed finished to receive ceramic tiles to surfaces of Landings (m.s)	SM	103		
D	25 x 300 mm wide treads to receive ceramic tiles (m.s)	LM	432		
Е	20 x 150mm risers to receive ceramic tiles (m.s)	LM	480		
	<u>Ceramic Floor tiles</u> <u>Allow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include</u> <u>cost of purchase, transport, offload, storage, fixing including all</u> <u>necessary adhesives and accessories</u>				
F	Supply and Fix Ceramic tiles; on prepared bed(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval.	SM	2365		
G	Ditto Non Slip Ceramic Tiles	SM	1122		
Н	Ditto 100mm wide Wall Skirtings	LM	3996		
Ι	Non Slip Ceramic Tiles to surfaces of Landings	SM	103		
J	Non Slip Ceramic Tiles to 300 mm wide treads	LM	432		
К	Non Slip Ceramic Tiles to 150mm risers	LM	480		
	<u>Wet areas waterproofing - Kitchens, Toilets etc.</u>				
L	Liquid membrane - High build bitumen/ rubber latex emulsion with excellent adhesion, liquid applied to form a seamless flexible water proof/ vapour proof membrane as <u>as per the manufacturer's</u> <u>printed instructions to</u> ; solid content =65%, Rubber Content=10% in dried film)				
М	To floors and walls	m²	1567		
	Staircase soffit finishes				
	15mm (minimum) two coat cement, sand (1:3) plaster complete with wire gauze anti-crack mechanism at the intersection of masonry walling and concrete beams as described to:-				
Ν	Soffits of staircase landing	SM	103		
0	Ditto to sloping soffites exceeding 15° from horizontal	SM	148		
Р	Staircase string 300mm extreme girth and cut to profile of steps	LM	247		
	Carried to Collection				

Item	Description	Unit	QTY	Rate	Black A G+9
	Paint works				
	<u>Prepare, skim and apply Emulsion or universal undercoat followed by 3</u> <u>coats of soft satin Emulsion paint in accordance with the manufacturers</u> <u>written instructions and to the satisfaction of the architect to</u>				
А	Soffits of staircase landing	SM	103		
В	Ditto to sloping soffites exceeding 15° from horizontal	SM	148		
С	Staircase string 300mm extreme girth and cut to profile of steps	LM	247		
	<u>Ceiling finishes</u>				
	15mm (minimum) two coat cement, sand (1:3) plaster complete with wire gauze anti-crack mechanism at the intersection of masonry walling and concrete beams as described to:-				
D	Soffits of Concrete surfaces	SM	5402		
	Painting and Decoration				
	Prepare, skim and apply Emulsion or universal undercoat followed by 3 coats of soft satin Emulsion paint in accordance with the manufacturers written instructions and to the satisfaction of the architect to				
Е	Plastered ceilings	SM	5402		
	Carried to Collection				

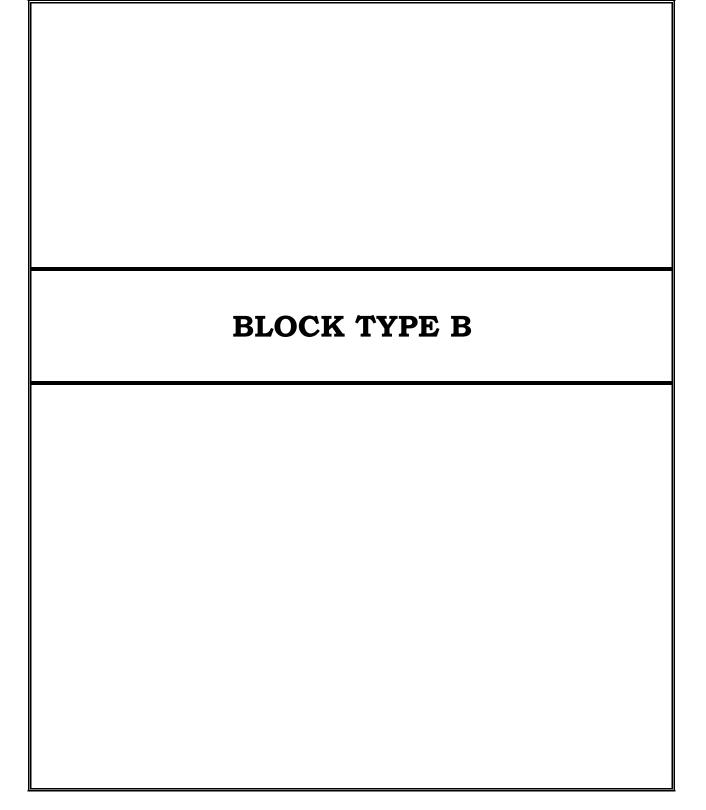
Item	Description	Unit	QTY	Rate	Black A G+9
	COLLECTION				
	Total brought forward from page no: 12				
	Total brought forward from page no: 13				
	Total brought forward from page no: 14				
	ELEMENT NO. 7 Carried to				
	INTERNAL FINISHES Main summary				

Item	Description	Unit	QTY	Rate	Black A G+9
	PROPOSED SOCIAL + AFFORDABLE UNITS BLOCK (TYPE A G+9)				
	BILL NO.4 -BLOCK A				
	ELEMENT NO 8- BALUSTRADING AND RAILING				
	Balustrades and staircase railings				
A	900mm high mild Steel balustrade; comprising 60 x 10mm mild Steel balusters at 900mm centres; bolted to base plate and tread (m.s), with 7No. 25mm diameter horinzontal bars, and 75x4mm diameter CHS mild Steel handrail part welded into 60x10mm balustrades; to Architects drawings	LM	159		
В	50mm diameter x 3mm CHS handrail supported by 50 x 50 x 3mm thick SHS balusters anchored to slab with and including w/steel bolts and plates at 1800mm centres smooth welded 100mm high (Staircase)	LM	90		
	<u>Prepare, prime and apply one undercoat and two finishing coats first</u> <u>quality_gloss oil paint on</u>				
С	General metal surfaces of balustrading (both sides measured overall)	SM	400		
	ELEMENT NO. 8 Carried to the				
	BALUSTRADE AND RAILING Main summary				

Item	Description	Unit	QTY	Rate	Black A G+
	PROPOSED SOCIAL + AFFORDABLE UNITS BLOCK				
	(TYPE A G+9) BILL NO.4 -BLOCK A				
	ELEMENT NO 9 - JOINERY FITTINGS				
	Allow for providing materials, labour and construct fixtures and fittings as per Architects drawings of the following JOINERY FITTINGS AND FIXTURES complete with associated iron mongery:				
	NOTE: All blockboard, MDF boards,etc in joinery works shall be lipped with hardwood lipping all round before fixing.				
	High level cupboards				
	400mm Wide high level kitchen cupboards in 18mm laminated mdf sides & shelves complete with doors, top, bottom & divisions with and				
	including all necessary ironmongery; to Architect's details				
А	High level storage cupboard units 600mm high x 400mm deep	LM	230.00		
	Low level kitchen cupboards				
	Low level kitchen worktops with 600x600x10mm porcelain tiles top on 100mm thick reinforced concrete slab with A142 BRC mesh, formwork to soffits and slab edges, plater to soffits of slab, screed to top slab, 100mm thick plastered steeper walls, including 300x300x6mm thick ceramic wall tiles on both sides of the wall: 100mm plastered mass concrete plinths in concrete class 15MPa: 18mm laminated mdf sides & shelves complete with doors, shelves, drawers, cutting tiles for kitchen sink (m.s) & all necessary ironmongery; to Architect's details and approval				
В	Low level kitchen cupboards 850mm high x 600mm deep	LM	230		
	Bedroom Wardrobes				
	600mm Wide x 2200mm high wardrobes in 18mm laminated mdf sides, divisions, drawers, shelves ; ; complete with sliding/ side hung doors, shelves, divisions, shoe racks, hanging rails, drawers, & all necessary ironmongery; 100mm plastered mass concrete plinths in concrete class 15MPa ; to Architect's details				
С	Bedroom wardrobes size 2200mm high x 600mm deep in bedrooms	LM	217		
	Duct doors 50mm thick laminated MDF duct doors; complete with frames, ironmongery and all necessary paintwork				
D	Duct doors size 300mm wide x 2100mm high	NO.	10		
Е	Duct doors size 350mm wide x 2100mm high	NO.	10		
F	Duct doors size 600mm wide x 2100mm high	NO.	50		
G	Duct doors size 500mm wide x 2100mm high	NO.	20		
Н	Duct doors size 700mm wide x 2100mm high	NO.	20		
Ι	Duct doors size 800mm wide x 2100mm high	NO.	20		
	ELEMENT NO. 9 Carried to the				
	JOINERY & FITTINGS Main summary				

Item	Description	Unit	QTY	Rate	Black Aug+9
	PROPOSED SOCIAL + AFFORDABLE UNITS BLOCK (TYPE A G+9)				
	ELEMENT NO 10 - BUILDERS WORKS IN CONNECTION WITH SERVICES (BWICWS)				
	<u>Plumbing, Drainage and Mechanical Installations</u>				
А	Inspect all drawings and Bills of Quantities for Plumbing, Drainage and Mechanical Installations and allow for all Builder's work associated with the installations; including cutting away and making good after installing a concealed drainage system; including cutting or leaving all holes notches, mortices, sinkings and chases in both the structure and its coverings; including but not limited to forming recess in masonry	Item			
	Electrical Services Installations				
В	Inspect all drawings and Bills of Quantities for Electrical Installations and allow for all Builder's work associated with the Electrical installations, including cutting away for and making good after Electrician installing a concealed conduit system including cutting or leaving all holes notches, mortices, sinkings and chases in both the structure and its coverings; including but not limited to forming recess in masonry	Item			
	ELEMENT NO. 10 Carried to the BUILDERS WORKS IN CONNECTION WITH SERVICES (BWICWS) Main summary				

Item	Description	Unit	QTY	Rate	Black A Gtg
	<u>PROPOSED_SOCIAL + AFFORDABLE UNITS BLOCK</u> <u>(TYPE A G+9)</u> BILL NO.4 -BLOCK A				
	MAIN SUMMARY		Page No.		Amount (Kshs.)
1	Substructures		A/4		
2	Reinforced Concrete Frame		A/5		
3	Walling		A/6		
4	Windows		A/8		
5	Doors		A/10		
6	External Finishes		A/11		
7	Internal Finishes		A/15		
8	Balustrade and Railing		A/16		
9	Joinery and Fittings		A/17		
10	Builders works in connection with services		A/18		
	TOTAL FOR 1NO. TYPE A (G+9) BLOCK				
	NO. OF BLOCKS				
	MULTIPLY BY <b>10.NO</b> OF BLOCKS	X 10			10
	TOTAL FOR TYPE A (G+9) BLOCK(S) CARRIED TO GRAND SUMMARY				



Item	Description	Unit	QTY	Rate	Amount
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM (TYPE <u>B G+9)</u>				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 1 - SUBSTRUCTURES (ALL PROVISIONAL)				
	<u>Site Clearance</u>				
А	Clear site of all grass, hedges, shrubs, bushes grub up roots, load and remove from site and dispose at designated local authority areas.	SM	938		
В	Bulk excavation to reduce levels depth not exceeding 1.5m commencing from existing ground level	Cm	1407		
С	Ditto but exceeding 1.5 metres but not 3 metres deep	Cm	938		
D	Extra over all type of excavation for excavating in soft rock	Cm	117		
Е	Ditto excavation in hard rock class I	Cm	117		
	Disposal of water				
F	Allow for keeping the whole of the excavation free from all spring and running water by pumping or any other such means as may be necessary	Item	1		
	Planking and strutting				
G	Allow for maintaining and upholding the sides of excavations and keeping excavations clear of all fallen materials, rubbish etc	Item	1		
	Carried to collection				

Item	Description	Unit	QTY	Rate	Amount
	Disposal of excavated material				
А	Load, wheel and cart away surplus excavated material to a Local Authority designated dumping site or fill soil heaps as away from site instructed by the Project Engineer.	СМ	1491		
в	Return, fill and ram selected excavated material around sides of foundations.	СМ	854		
	Fillings				
С	Make up levels using approved imported materials: compacted in layers not exceeding 300mm thick with a 10 tonne roller: to the satisfaction of the Structural Engineer.	СМ	1407		
D	300mm thick hardcore bed: hand packed : compacted in layers not exceeding 150mm thick: to the satisfaction of the Structural Engineer	SM	938		
Е	50 mm Stone dust/ Murrum blinding to surfaces of hardcore	SM	938		
	Anti - termite to treatment				
F	Approved anti-termite treatment, with ten-year guarantee, sprayed to surfaces of hardcore strictly in accordance with manufacturer's instructions.	SM	938		
G	<b>Damp-proof membrane</b> 1000 gauge polythene or other equal and approved damp-proof membrane, laid over blinded hardcore (measured separately) with 300mm side and end laps (measured nett-allow for laps); 1 No. layer: bedded in and including cement and sand (1:3) mortar	SM	938		
	Concrete Blinding				
	Insitu concrete Class 15MPa: vibrated:				
Н	50 mm thick blinding under raft	SM	938		
Н	50 mm thick blinding under column bases	SM	0		
Ι	Ditto; under ground beams	SM	94		
	In- situ vibrated reinforced concrete Class 25MPa: in:				
Ι	Column bases	СМ	0		
J	Ground Beams	СМ	19		
Ν	100mm thick surface bed	SM	680		
	In- situ vibrated reinforced concrete Class 30MPa: in:				
J	Raft	СМ	704		
К	Columns	СМ	18		
L	200mm thick Lift pit shaft wall	SM	24		
	Carried to collection				

Item	Description	Unit	QTY	Rate	Amount
	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional)				
А	Assorted reinforcement	KGS	31,160.00		
	Mesh fabric reinforcement to K/EAS 412;2 (2019) BRC A142;200 x 200mm, weighing $2.22$ kg/m <sup>2</sup> (measured net - no allowance) for laps; in two layers - top & bottom; including bends, tying wire and spacer blocks)				
В	In ground floor slab	SM	680		
	<u>Modular steel frame with steel plates covering formwork and/or marine board</u> <u>formwork: to:</u>				
С	Sides of the raft	SM	103		
D	Sides of ground beam	SM	188		
Е	Vertical sides to columns	SM	219		
F	Vertical sides to lift shaft walls	SM	48		
G	Edge of slab not exceeding 150mm girth	LM	162		
	Foundation Walling				
	Natural quarry stone walling with a minimum of 7.0 N/mm2 bedded and jointed in cement and sand (1:4) mortar, reinforced with and including $25 \times 3$ mm thick hoop iron strips at every alternate course as described in;				
Н	200mm thick walls in foundations	SM	266		
	Pavings				
Ι	Supply and lay 600 x 600 x 50mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.	SM	97		
	<u>Plinth</u>				
	<u>25mm Thick cement and sand (1:3) rendering on concrete or masonry ;</u> wood float finished; to				
J	Plinths externally	SM	49		
	Two coats black bitumastic paint on:				
Κ	Rendered surfaces	SM	49		
	Carried to collection				

Item	Description	Unit	QTY	Rate	Amount
	<u>Cement/sand (1:3) screed with approved waterproofing admixture, steel</u> trowelled hard and smooth to receive waterproofing (m/s)				
А	20mm thick water proof cement/sand (1:3) screed to lift pit floor prepared to receive masterseal water proofing	m²	9		
В	12mm thick water proof cement/sand (1:3) render to wall prepared to receive water proofing	m²	26		
	Waterproofing				
	CRYSTALLINE WATERPROOFING				
	<u>All areas indicated shall be waterproofed by approved cementious system , provide 10 year guarantee, all to manufacturer's specifications and instructions as described:</u>				
	Two coat slurry application: waterproofing powder: 1kg per m2 per coat, minimum 2 coats to seal all expansion joints, holes, repaired areas and angle fillet or as per manufacturers instructions				
	Application of render coat: waterproofing powder: 1kg per m2 at 4.5mm thick on slabs. Rate shall allow for hacking and preparing all concrete surfaces or as per manufacturers instructions				
С	Horizontal surfaces of lift base	m²	9		
D	Vertical surfaces of Lift shaft walls	m²	26		
	Carried to collection				
	COLLECTION				
	Total brought forward from page no:				
	Total brought forward from page no:				
	Total brought forward from page no:				
	Total brought forward from above				
	ELEMENT NO. 1 Carried to				
	SUBSTRUCTURES Main summary				

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM (TYPE B G+9)				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT No 2 - R.C FRAME				
	Insitu concrete class 30MPa: vibrated: reinforced				
А	Columns	СМ	273		
В	Lift shaft wall	SM	415		
	Insitu concrete class 25MPa: vibrated: reinforced				
С	Beams	СМ	312		
D	Upper Roof Beams	СМ	14		
Е	130mm thick suspended slabs	SM	4709		
F	Ditto but 150mm thick	SM	2093		
G	150mm thick Tank Slab over stairwell	SM	48		
Н	150 mm thick landing	SM	101		
Ι	Staircases	СМ	40		
	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional)				
J	Assorted reinforcement	Kg	166382		
	<u>Modular steel frame with steel plates covering formwork and/or marine board</u> formwork: to				
К	Sides of columns	Sm	3240		
L	Sides and soffites of beams	Sm	3086		
М	Soffits of suspended slabs	Sm	6858		
Ν	Edges of slab over 150mm but not exceeding 225mm girth	Lm	2236		
0	To sloping soffites of staircases	SM	154		
Р	Soffits of landings	SM	101		
Q	Riser of steps over 150 mm but not exceeding 225 mm girth	LM	480		
R	Staircase string 300mm extreme girth and cut to profile of steps	LM	268		
S	Edges of landing over 150 but ot exceeding 225mm high	Lm	96		
Т	Edges of lift shaft openings 150-225mm high	LM	114		
U	Sides of lift walls	SM	829		
	ELEMENT NO. 2 Carried to				
	R.C FRAME Main summary				

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM (TYPE <u>B G+9)</u>				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT No 3-WALLING				
	WALLING				
	External Walling				
	<u>Machine cut quarry stone walling with a minimum of 7.0 N/mm2 average</u> <u>compressive strength</u> ; <u>bedded and jointed in cement and sand (1:4) mortar</u> , <u>reinforced with and including 25 x 3 mm thick hoop iron strips at every alternate</u> course as described in;				
А	200mm thick walling Externally	Sm	3440		
В	200mm thick parapet walling	Sm	193		
	Internal Walling				
	<u>Machine cut quarry stone walling with a minimum of 7.0 N/mm2 average</u> <u>compressive strength ;bedded and jointed in cement and sand (1:4) mortar,</u> <u>reinforced with and including 25 x 3 mm thick hoop iron strips at every alternate</u> course as described in;				
С	200mm thick walling Internally	Sm	2377		
D	150mm thick walling Internally	Sm	2973		
Е	Approved hessian based damp proof course to 200mm thick walling in cement/sand mortar	Lm	282		
F	Approved hessian based damp proof course to 150mm thick walling in cement/sand mortar	Lm	179		
	Precast Concrete Breeze Ventilation Blocks				
G	150 x 150mm wide x 50mm thick Pre Cast Concrete flower 3D breeze ventilation blocks bedded and jointed in cement and sand (1:4) mortar	Sm	405		
	COPING				
	600 x 350 wide x 100mm thick insitu reinforced concrete class 20Mpa coping, throated and weathered and jointing to columns with cement sand 1:4 mortar	No	84		
Н	Ditto 300 x 100mm concrete coping to walls twice weathered and throated;	LM	209		
	Lintols				
Ι	200mm x 200mm Deep lintols in reinforced concrete class 20MPa with and including 4No T10 and T8 stirups at 200mm centres; complete with formwork	LM	798.00		
	ELEMENT NO. 3         Carried to           WALLING         Main summary				

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM (TYPE <u>B G+9)</u>				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 4-WINDOWS				
	MILD STEEL WINDOWS				
	Supply, fabricate and fix the following purpose made small pane mild steel casement windows to be fabricated from approved mild steel sections (atleast 14g 2mm thick ) comprising of frame and casement incorporating permanent hooded high level ventilation panels infilled with mosquito gauze : window supplied complete with and including 12mm solid square burglar proofing bars fixed at 200mm centres both ways and metal fixing lugs including building into wall and making good, and all necessary iron mongery viz hinges, fasteners, and hasp including shop priming window with red oxide primer before delivery to site:-				
	A prime cost sum of Kshs 4,500 per Sqm has been allowed for fabrication of the above specified Steel casement Windows by AHP juakali artisans as approved by the Project Manager/Architect.				
	The contractor's unit rate shall include the cost of transport, storage, fixing and all associated accesories in addition to the PC Rate.				
А	Window, overall size 1500 X 1200mm high to Architects Details (Lounge)	NO	80		
В	Ditto Size 1500 x 1200mm high (bedroom)	NO	200		
С	Ditto Size 1200 x 1200mm high (Kitchen)	NO	80		
D	Ditto Size 900 x 600mm high (WC/SH)	NO	200		
	Glazing				
Е	4mm Thick clear sheet glass panes over 0.1 but not exceeding 0.5 square meters; fixing with premium putty	SM	619		
	Ditto; obscure	SM	108		
	Painting and Decorations				
	<u>On Metal work</u>				
F	<u>Prepare and apply aerosol spray painting in two finishing coats of first</u> <u>grade paint as per the manufacturer's printed instructions to: -</u> General window and grille surfaces; over 300mm girth internal	SM	1454		
	Carried to Collection				

Item	Description	Unit	QTY	Rate	Amount
	Precast concrete window cill finishing fair on all exposed surfaces and hoisting and placing in position, bedding, jointing and pointing in pigmented cement and sand (1:3) mortar				
А	150 x 25mm thick Precast concrete window sill	LM	808		
	<u>Curtain rods;</u>				
В	1.5mm thick, 20mm thick diameter twin powdercoated mild steel rod complete accessories to approval	LM	624		
	Carried to collection				
	COLLECTION				
	Total brought forward from page no:				
	Total brought forward from page no:				
	ELEMENT NO. 4 Carried to the				
	WINDOWS Main summary				

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM (TYPE				
	<u>B G+9</u>				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 5-DOORS				
	External Doors				
	Hardwood Panelled Doors				
	50mm thick approved hardwood PANEL doors with 12.5mm thick Meru oak hardwood lipping to Architect's details, specifications and approval				
	A prime cost sum at the rate indicated below has been allowed for fabrication of the above specified Hardwood panelled door leaves by AHP juakali artisans as approved by the Project Manager/Architect.				
	The contractor's unit rate shall include the cost of transport, storage, fixing and all associated accesories in addition to the PC Rate.				
А	Double leaf door size 1500 x 2400mm high ( PC Rate Kshs 41,000)	NO	3		
в	Single leaf Size 900 x 2400mm high (- PC Rate Kshs 25,000)	NO	80		
	Frames and frame finishes in mahogany timber:				
С	25 x 25mm quadrant beading (PC Rate Kshs 75)	LM	483		
D	25 x 50mm architrave with two labours, plugged (PC Rate Kshs 150)	LM	483		
Е	150mm x 50mm frame with three labours; chamfered edges; plugged (PC Rate Kshs 1400)	LM	483		
	Internal Doors				
	Flush timber doors				
	50 mm thick Semi Solid cored flush doors with plywood facing to receive painting (m.s) all to Architects details, specifications and approval				
	A prime cost sum at the rate indicated below for fabrication of the above specified Timber Flush door leaves by AHP juakali artisans as approved by the Project Manager/Architect.				
	The contractor's unit rate shall include the cost of transport, storage, fixing and all associated accesories in addition to the PC Rate.				
F	Door size 900mm x 2400mm High comprising of 1 No Opennable leaf size 800 x 2100mm high including fixed fanlight size 900 x 300mm high in 4mm clear glass ( measured separetely) (PC Rate Kshs 4,000)	NO	260		
G	Ditto 800 x 2100mm high comprising of 1No. Opennable leaf size 700 x 2100mm high (PC Rate Kshs 3,500)	NO	200		
	4mm Thick clear sheet glass fixing with matching timber glazing beads to timber frames				
Н	In panes exceeding 0.1 sqm but not exceeding 0.5 square metres.	SM	70		
	Frames and frame finishes in cypress Timber				
Ι	25 x 25mm quadrant (PC Rate Kshs 75)	LM	2482		
J	25 x 50mm architrave with two labours, plugged (PC Rate Kshs 150)	LM	2482		
K	150mm x 50mm transome with three labours; chamfered edges; plugged (PC Rate Kshs 800)	LM	234		
L		LM	2482		

Item	Description	Unit	QTY	Rate	Amount
	Painting and decorating				
	Priming back of frame with an aluminium or equivalent and approved wood				
А	<u>primer</u> Surfaces not exceeding 100mm girth	LM	5930		
А	Surfaces not exceeding 100mm girth		5930		
В	Surfaces over 100mm but not exceeding 200mm girth	LM	3199		
	Prepare Knot, prime, stop and apply one undercoat and two finishing coats first grade timber quality paint to wood surfaces as per the manufacturer's printed instructions				
~		OM	10.5		
С	General timber surfaces	SM	1867		
D	Surfaces over 200mm but not exceeding 300mm girth	LM	3199		
Е	Architraves: not exceeding 100 mm girth	LM	2965		
F	Quadrant beading : not exceeding 100 mm girth	LM	2965		
	Ironmongery				
	Supply and fix the following ironmongery to timber complete with matching screws and keys to the approval of the Architect				
G	100mm pressed steel Butt Hinges	PRS	815		
Н	Stainless steel 3 Lever Mortice Door Lock with handle furniture set;( keyhole escutcheons, cylinder and latch )	NO	343		
Ι	Ditto: but 2 Lever Door Lock with handle	NO	200		
J	Door fixing cramps	NO	543		
К	200 x 75 x 3mm perspex door signage with door numbers as per Architect detail	NO	0		
L	Block sign with block type, name and number Iin exterior quality paint as per Architect detail	NO	0		
	Carried to Collection				
	COLLECTION				
	Total brought forward from page no:				
	Total brought forward from page no:				
	ELEMENT NO. 5         Carried to           DOORS         Main summary				

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM (TYPE <u>B G+9)</u>				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 6 - EXTERNAL FINISHES				
	EXTERNAL WALL FINISHES				
	External Render				
	Cement and sand (1:3) render:wood floated: on concrete or blockwork: to				
А	15mm thick to beams, Columns, Slab Moulds and walling externally	SM	5,332.00		
В	Extra over horizontal and vertical pointing in 10mm thick rod in cement and sand mix (1:3) mortar including one coat Bituminous paint	SM	0		
	External Painting				
	<u>Prepare and apply one coat Alkali Resistant primer followed by two finishing</u> <u>coats of silicon exterior Emulsion paint in accordance with the manufacturers</u> written instructions and to the satisfaction of the architect to				
С	Concrete/masonry surfaces externally-Beam, Column and Slab Moulds	SM	5332		
	ROOF FINISHES Cement and sand (1:3) screeded beds: on concrete: complete with coloured pigmentation additives and hardener to:				
D	50mm average waterproofed lightweight screed laid to falls and crossfalls to roof slabs -upper roof including gutter bases	SM	728		
	Prepare and apply to vertical/horizontal surfaces 4mm thick APP/EPDM water proofing or other equal and approved membrane with surface finish weighing 4kg/sm; laid on primer with torch-on process ;by an approved specialist all in accordance with the manufacturers instructions including provision of a written ten (10) year anti leak guarantee.				
Е	4mm thick APP membrane applied to roof slabs	SM	728		
F	Ditto to skirting 200mm high	LM	186		
G	Dress membrane around 100mm rainwater outlet	No.	12		
	<u>The Following Flat roof concrete tiles fixed with</u> approved adhesive, laid and jointed with waterproofing bituminous compound				
Н	20mm thick interlocking Concrete tiles of size 225 x 225mm with and including cement sand (1:4) backing to falls	SM	728		
	ELEMENT NO. 6 Carried to				
	EXTERNAL FINISHES Main summary				

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM (TYPE <u>B G+9)</u>				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 7 - INTERNAL FINISHES				
	Internal Wall Finishes				
	<u>Cement and sand (1:3) backings</u>				
А	15mm thick to receive ceramic Wall tiles	SM	2,647.00		
В	To receive ceramic wall tiles (m.s.) (Lift Lobby)	SM	141.00		
	<u>Ceramic wall tiles</u>				
	<u>Allow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessories</u>				
С	Supply and Fix approved ceramic wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall Surfaces	SM	2647		
	<u>Porcelain wall tiles</u> <u>Allow a Prime Cost supply rate of Ksh. 1500 per SM (Rate to include cost of</u> <u>purchase, transport, offload, storage, fixing including all necessary adhesives</u> and accessories				
D	Supply and Fix porcelain wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall Surfaces	SM	141.00		
	<u>15mm (minimum) two coat cement, sand (1:3) plaster complete with wire gauze</u> anti-crack mechanism at the intersection of masonry walling and concrete beams as described to:-				
F	Concrete/masonry surfaces	SM	12882		
	Painting and Decoration				
	<u>Prepare, Skim and apply Emulsion or universal undercoat followed by two</u> <u>finishing coats of soft satin Emulsion paint in accordance with the manufacturers</u> <u>written instructions and to the satisfaction of the architect to</u>				
G	Plastered concrete/masonry surfaces internally	SM	12882		
	Carried to Collection				

Item	Description	Unit	QTY	Rate	Amount
	<u>Floor Finishes</u>				
	<u>Cement and sand (1:3) screeds, backings, beds etc</u>				
А	32mm bed finished to receive Floor Tiles (m.s)	SM	5074		
	Cement and sand (1:3) backings etc				
	32mm bed finished to receive ceramic tiles to surfaces of Landings (m.s)				
В	Service of antistica to receive certaine thes to surfaces of balanings (in.s)	SM	101		
С	25 x 300 mm wide treads to receive ceramic tiles (m.s)	LM	437		
D	20 x 150mm risers to receive ceramic tiles (m.s)	LM	460		
	Ceramic Floor tiles				
	<u>Allow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessories</u>				
Е	Supply and Fix Ceramic tiles, on prepared bed(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval.	SM	2689		
F	Ditto Non Slip Ceramic Tiles	SM	2385		
G	Ditto 100mm wide Wall Skirtings	LM	7535		
Н	Non Slip Ceramic Tiles to surfaces of Landings	SM	101		
J	Non Slip Ceramic Tiles to 300 mm wide treads	LM	437		
К	Non Slip Ceramic Tiles to 150mm risers	LM	460		
	Wet areas waterproofing - Kitchens, Toilets etc.				
	Liquid membrane - High build bitumen/ rubber latex emulsion with excellent adhesion, liquid applied to form a seamless flexible water proof/ vapour proof membrane as <u>as per the manufacturer's printed instructions to; solid</u> content =65%, Rubber Content=10% in dried film)				
L	To floors and walls	SM	2385		
	Staircase soffit finishes				
	15mm (minimum) two coat cement, sand (1:3) plaster complete with wire gauze anti-crack mechanism at the intersection of masonry walling and concrete beams				
	as described to:-				
М	Soffits of staircase landing	SM	101		
Ν	Ditto to sloping soffites exceeding 15° from horizontal	SM	154		
Р	Staircase string 300mm extreme girth and cut to profile of steps	LM	268		
	Paint works				
	<u>Prepare, skim and apply Emulsion or universal undercoat followed by two</u> finishing coats of soft satin Emulsion paint in accordance with the manufacturers written instructions and to the satisfaction of the architect to				
Q	Soffits of staircase landing	SM	101		
R	Ditto to sloping soffites exceeding 15° from horizontal	SM	154		
s	Staircase string 300mm extreme girth and cut to profile of steps	LM	268		
	Carried to Collection				
	Carried to Collection				<u> </u>

Item	Description	Unit	QTY	Rate	Amount
	Ceiling finishes				
	15mm (minimum) two coat cement, sand (1:3) plaster complete with wire gauze				
	anti-crack mechanism at the intersection of masonry walling and concrete beams as described to:-				
А	Soffits of Concrete surfaces	SM	6858		
	Painting and Decoration				
	Prepare, skim and apply Emulsion or universal undercoat followed by two				
	finishing coats of soft satin Emulsion paint in accordance with the manufacturers written instructions and to the satisfaction of the architect to				
В	Plastered ceilings	SM	6858		
	Carried to Collection				

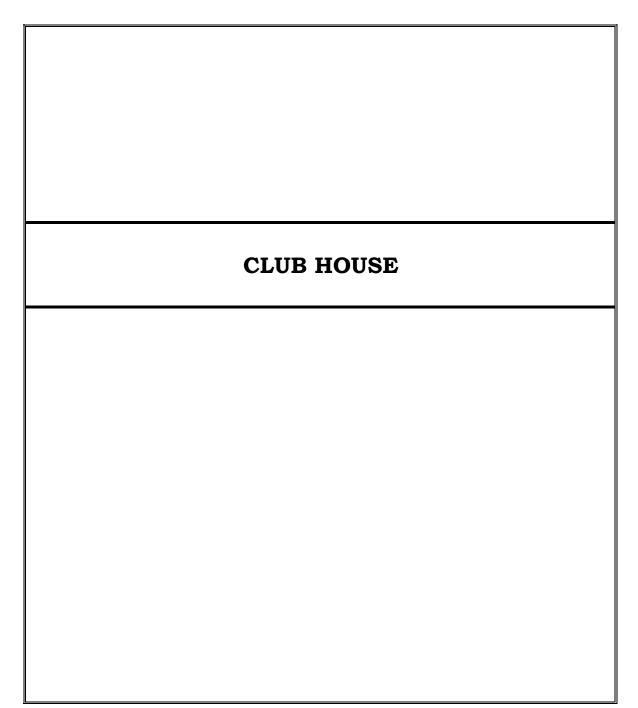
Item	Description	Unit	QTY	Rate	Amount
	COLLECTION				
	Total brought forward from page no:				
	Total brought forward from page no:				
	Total brought forward from page no:				
	ELEMENT NO. 7 Carried to				
	INTERNAL FINISHES				

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM (TYPE B G+9)				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 8- BALUSTRADING AND RAILING				
	Balustrades and staircase railings				
A	900mm high mild Steel balustrade; comprising 60 x 10mm mild Steel balusters at 900mm centres; bolted to base plate and tread (m.s), with 7No. 25mm diameter horinzontal bars, and 75x4mm diameter CHS mild Steel handrail part welded into 60x10mm balustrades; to Architects drawings	LM	82		
В	50mm diameter x 3mm CHS handrail supported by 50 x 50 x 3mm thick SHS balusters anchored to slab with and including w/steel bolts and plates at 1800mm centres smooth welded 100mm high (Staircase)	LM	92		
	Prepare, prime and apply one undercoat and two finishing coats first quality gloss oil paint on				
С	General metal surfaces of balustrading (both sides measured overall)	SM	117		
	ELEMENT NO. 8 Carried to the BALUSTRADE AND RAILING Main summary				

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM (TYPE B G+9)				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 9 - JOINERY FITTINGS				
	Allow for providing materials, labour and construct fixtures and fittings as per Architects drawings of the following JOINERY FITTINGS AND FIXTURES complete with associated iron mongery;				
	NOTE: All blockboard, MDF boards,etc in joinery works shall be lipped with hardwood lipping all round before fixing.				
	High level cupboards				
	400mm Wide high level kitchen cupboards in 18mm laminated mdf sides & shelves complete with doors, top, bottom & divisions with and including all necessary ironmongery; to Architect's details				
А	High level storage cupboard units 600mm high x 300mm deep	LM	140		
В	Ditto 600mm high x 300mm deep	LM	14		
	Low level kitchen cupboards				
	Low level kitchen worktops with 600x600x10mm porcelain tiles top on 100mm thick reinforced concrete slab with A142 BRC mesh, formwork to soffits and slab edges, plater to soffits of slab, screed to top slab, 100mm thick plastered steeper walls, including 300x300x6mm thick ceramic wall tiles on both sides of the wall: 100mm plastered mass concrete plinths in concrete class 15MPa: 18mm laminated mdf sides & shelves complete with doors, shelves, drawers, cutting tiles for kitchen sink (m.s) & all necessary ironmongery; to Architect's details and approval				
С	Low level kitchen cupboards below concrete worktop total girth grouped together 850mm high x 550mm deep	LM	168		
D	Ditto 1850mm long x 850mm high x 550mm deep	LM	19		
	Bedroom Wardrobes				
	600mm Wide x 2200mm high wardrobes in 18mm laminated mdf sides, divisions, drawers, shelves ; ; complete with sliding/ side hung doors, shelves, divisions, shoe racks, hanging rails, drawers, & all necessary ironmongery; 100mm plastered mass concrete plinths in concrete class 15MPa ; to Architect's details				
Е	Bedroom wardrobes size 2200mm high x 600mm deep in bedrooms	LM	135		
F	Ditto size 2200mm high x 600mm deep in bedrooms	LM	132		
	<b>Duct doors</b> 50mm thick laminated MDF duct doors; complete with frames, ironmongery and all necessary paintwork to:				
Н	Duct doors size 650mm wide x 2200mm high	NO.	44		
J	Duct doors size 400mm wide x 2200mm high	NO.	88		
	ELEMENT NO. 9 Carried to the				
	JOINERY & FITTINGS Main summary				

Item	Description	Unit	QTY	Rate	Amount
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 10 - BUILDERS WORKS IN CONNECTION WITH SERVICES				
	(BWICWS)				
	Plumbing, Drainage and Mechanical Installations				
	Inspect all drawings and Bills of Quantities for Plumbing, Drainage and				
	Mechanical Installations and allow for all Builder's work associated with the installations; including cutting away and making good after installing a				
A	concealed drainage system; including cutting or leaving all holes notches, mortices, sinkings and chases in both the structure and its coverings;	Item			
	including but not limited to forming recess in masonry				
	Electrical Services Installations				
	Inspect all drawings and Bills of Quantities for Electrical Installations and				
в	allow for all Builder's work associated with the Electrical installations, including cutting away for and making good after Electrician installing a	Item			
	concealed conduit system including cutting or leaving all holes notches, mortices, sinkings and chases in both the structure and its coverings;				
	including but not limited to forming recess in masonry				
		1			
		1			
		1			
		1			
		1			
	ELEMENT NO. 10 Carried to the BUILDERS WORKS IN CONNECTION WITH SERVICES (BWICWS)				
	Main summary		-		

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM (TYPE <u>B G+9)</u>				
	BILL NO.1-BUILDERS WORKS MAIN SUMMARY				
1	Substructures				
2	Reinforced Concrete Frame				
3	Walling				
4	Windows				
5	Doors				
6	External Finishes				
7	Internal Finishes				
8	Balustrade and Railing				
9	Joinery and Fittings				
10	Builders Works				
	TOTAL FOR 1NO. TYPE B (G+9) BLOCK				
	MULTIPLY BY <b>10.NO</b> OF BLOCKS	X 10			10.00
	TOTAL FOR TYPE B (G+9) BLOCK(S) CARRIED TO GRAND SUMMARY				



ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PROPOSED CLUB HOUSE				
	BILL NO.1 BUILDERS WORKS				
	ELEMENT NO 1 - SUBSTRUCTURES (ALL PROVISIONAL)				
	Excavations including trimming sides and bottoms of excavations; maintaining and supporting sides; and keeping free from water, mud and fallen material; with and including destruction of termites nests within site of works,take out and destroy queens, imp				
	<u>Site Clearance</u>				
А	Clear site of all grass, hedges, shrubs, bushes grub up roots, load and remove from site and dispose at designated local authority areas.	SM	418		
В	Bulk excavation to reduce levels depth not exceeding 1.5m commencing from existing ground level	СМ	627		
С	Excavate for Strip foundations depth not exceeding 1.50 metres starting from Stripped level	СМ	67		
D	Excavate for column bases depth not exceeding 1.5m starting from reduced Levels	СМ	41		
Е	Extra over all type of excavation for excavating in soft rock	СМ	5		
F	Ditto excavation in hard rock class I	СМ	5		
G	<b>Disposal of water</b> Allow for keeping the whole of the excavation free rom all spring and running water by pumping or any other such means as may be necessary	Item			
	Planking and strutting				
Н	Allow for maintaining and upholding the sides of excavations and keeping excavations clear of all fallen materials, rubbish etc	Item			
	Carried to collection				

	Disposal of excavated material				
A	Return, fill and ram selected excavated material around foundations.	СМ	589		
3	Load,wheel and cart away surplus excavated material away from site	СМ	147		
	Fillings				
C	Make up levels using approved imported materials: compacted in layers not exceeding 300mm thick with a 15ton roller: to the satisfaction of the Structural Engineer.	СМ	373		
)	300mm thick hardcore bed: hand packed : compacted in layers not exceeding 150mm thick: to the satisfaction of the Structural Engineer: including 50mm Thick murram or "equal and approved" blinding to surfaces of hardcore	SM	418		
2	50 mm Thick Murram Blinding to surfaces of hadcore <b>Anti - termite to treatment</b>	SM	418		
Ŧ	Approved anti-termite treatment, with ten-year guarantee, sprayed to surfaces of hardcore strictly in accordance with manufacturer's instructions.	SM	418		
	Damp-proof membrane				
3	1000 gauge polythene or other equal and approved damp-proof membrane, laid over blinded hardcore (measured separately) with 300mm side and end laps (measured nett-allow for laps); 1 No. layer: bedded in and including cement and sand (1:3) mortar	SM	418		
	Concrete Blinding				
	Insitu concrete Class 15MPa: vibrated:				
ł	50 mm Thick under column bases	SM	83		
[	Ditto strip foundation	SM	57		
	In- situ vibrated reinforced concrete Class 25MPa: in:				
J	Column bases	СМ	35		
K	Columns	СМ	5		
L	Strip foundation	СМ	11		
Л	100mm thick surface bed	SM	418		
1	Ground beams	СМ	7		
)	Concrete steps & Staircase footing	СМ	7		

In Surface floor bedSM418Modular steel frame with steel plates covering formwork and/or marine board formwork: to:SM82Sides of column basesSM38Ditto strip footingSM38Vertical sides of columnsSM136Edge of slab, over 150mm but not exceeding 225mm girthLM137Ditto; but to edges of risersLM98Vertical sides to ground beamsSM65Foundation WallingSM65Natural quarry stone walling with a minimum of 7.0 N/mm2 bedded and jointed in cement and sand (1:4) mortar, reinforced with and including 25 × 3 mm thick hoop iron strips at every atternate course as described in;SM296PavingsSM296Supply and lay 600 x 600 x 500mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.SM62PlinthZimm Thick cement and sand (1:3) rendering on concrete or masonry : wood float finished; toSM62PlinthSM6262PlantersSM62200mm thick masonry planter walls complete with foundationsLM44	A	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional) Assorted reinforcement Mesh fabric reinforcement to K/EAS 412;2 (2019) BRC A142;200 x 200mm, weighing 2.22kg/m <sup>2</sup> (measured net - no allowance) for laps; in two layers - top & bottom; including bends, tying wire and spacer blocks)	Kg	5540	
board formuork: to:SM82Sides of column basesSM82Ditto strip footingSM38Vertical sides of columnsSM136Edge of slab, over 150mm but not exceeding 225mm girthLM137Ditto; but to edges of risersLM98Vertical sides to ground beamsSM65Foundation WallingSM65Poundation WallingSM65Poundation Walling Sides around beamsSM296PavingsSM296PavingsSM296Supply and lay 600 x 600 x 50mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.SM82Plinth25mm Thick cement and sand (1:3) rendering on concrete or masonry ; wood float finished; toSM62Pinths externallySM62Fw coats black bitumastic paint on:62PlantersSM62Fw coats black bitumastic paint on:FM62	в	In Surface floor bed	SM	418	
Ditto strip footingSM33Vertical sides of columnsSM136Edge of slab, over 150mm but not exceeding 225mm girthLM137Ditto; but to edges of risersLM98Vertical sides to ground beamsSM65Foundation WallingSM65Foundation WallingSM296Natural quarry stone walling with a minimum of 7.0 N/mm2 bedded and jointed in cement and sand (1:4) mortar, reinforced with and including 25 x 3 mm thick hoop iron strips at every alternate course as described in;SM296200mm thick walls in foundationsSM2968PavingsSM8282Supply and lay 600 x 600 x 50mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.SM82Plinth 25mm Thick cement and sand (1:3) rendering on concrete or masonry : wood float finished; toSM62Plinths externallySM62PlintersSM62					
Vertical sides of columnsSM136Edge of slab, over 150mm but not exceeding 225mm girthLM137Ditto; but to edges of risersLM98Vertical sides to ground beamsSM65Foundation WallingSM65Natural quarry stone walling with a minimum of 7.0 N/mm2 bedded and jointed in cement and sand (1:4) mortar, reinforced with and including 25 x 3 mm thick hoop iron strips at every atternate course as described in;SM200mm thick walls in foundationsSM296PavingsSM296Supply and lay 600 x 600 x 500mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.SM82Piinth2SM6262PiinthSM6262Piinth sexternallySM62Pinths externallySM62PlantersSM62	С	Sides of column bases	SM	82	
Edge of slab, over 150mm but not exceeding 225mm girthLM137Ditto; but to edges of risersLM98Vertical sides to ground beamsSM65Foundation WallingSM65Foundation Walling with a minimum of 7.0 N/mm2 bedded and jointed in cement and sand (1:4) mortar, reinforced with and including 25 x 3 mm thick hoop iron strips at every alternate course as described in;SM200mm thick walls in foundationsSM296PavingsSSMSupply and lay 600 x 600 x 50mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.SM82Plinth25mm Thick cement and sand (1:3) rendering on concrete or masonry i vood float finished; toSM62Pinths externallySM62PlantersSM62	D	Ditto strip footing	SM	38	
Ditto; but to edges of risersLM98Vertical sides to ground beamsSM65Foundation WallingSM65Natural quarry stone walling with a minimum of 7.0 N/mm2 bedded and jointed in cement and sand (1:4) mortar, reinforced with and including 25 x 3 mm thick hoop iron strips at every alternate course as described in;SM200mm thick walls in foundationsSM296PavingsSM296Supply and lay 600 x 600 x 50mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.SM82PlinthZSM62Pinths externallySM62Two coats black bitumastic paint on: Rendered surfacesSM62PlantersSM62	Е	Vertical sides of columns	SM	136	
Vertical sides to ground beamsSM65Foundation WallingImage: Solution of the second	F	Edge of slab, over 150mm but not exceeding 225mm girth	LM	137	
Foundation WallingImage: Second S	3	Ditto; but to edges of risers	LM	98	
Natural quarry stone walling with a minimum of 7.0 N/mm2 bedded and jointed in cement and sand (1:4) mortar, reinforced with and including 25 x 3 mm thick hoop iron strips at every atternate course as described in;SM296200mm thick walls in foundationsSM296PavingsSM296Supply and lay 600 x 600 x 50mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.SM82Plinth 25mm Thick cement and sand (1:3) rendering on concrete or masonry ; wood float finished; toSM62Plinths externallySM62Rendered surfacesSM62PlantersSM62	ł	Vertical sides to ground beams	SM	65	
bedded and jointed in cement and sand (1:4) mortar, reinforced with and including 25 x 3 mm thick hoop iron strips at every alternate course as described in;SM296200mm thick walls in foundationsSM296PavingsSM296Supply and lay 600 x 600 x 50mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.SM82Plinth25mm Thick cement and sand (1:3) rendering on concrete or masonry : wood float finished; toSM62Plinths externallySM62PlentersSM62		Foundation Walling			
PavingsImage: supply and lay 600 x 600 x 50mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.SM82PlinthImage: supply and float finished; toImage: supply and float finished; toImage: supply and float finished; toImage: supply and float finished; toPlinths externallySM62Two coats black bitumastic paint on:SM62PlantersSM62		bedded and jointed in cement and sand (1:4) mortar, reinforced with and including $25 \times 3$ mm thick hoop iron strips at every			
Supply and lay 600 x 600 x 50mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.SM82Plinth25mm Thick cement and sand (1:3) rendering on concrete or masonry ; wood float finished; toSM62Plinths externallySM62Two coats black bitumastic paint on: Rendered surfacesSM62	I	200mm thick walls in foundations	SM	296	
slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.SM82Plinth25mm Thick cement and sand (1:3) rendering on concrete or masonry ; wood float finished; toSM62Plinths externallySM62Two coats black bitumastic paint on: Rendered surfacesSM62PlantersSM62		Pavings			
25mm Thick cement and sand (1:3) rendering on concrete or masonry ; wood float finished; toSM62Plinths externallySM62Two coats black bitumastic paint on: Rendered surfacesSM62PlantersSM62	J	slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm	SM	82	
masonry ; wood float finished; toSM62Plinths externallySM62Two coats black bitumastic paint on:SM62Rendered surfacesSM62PlantersSM62		<u>Plinth</u>			
Two coats black bitumastic paint on:SM62Rendered surfacesSM62PlantersSM62					
Rendered surfaces SM 62 Planters	C	Plinths externally	SM	62	
Planters		Two coats black bitumastic paint on:			
		Rendered surfaces	SM	62	
200mm thick masonry planter walls complete with foundations LM 44		Planters			
	1	200mm thick masonry planter walls complete with foundations	LM	44	
Carried to collection					

C	DLLECTION		
Total brought forward from pag	e no:1		
Total brought forward from pag	e no:2		
Total brought forward from pag	e no:3		
ELEMENT NO. 1	Carried to		

	PROPOSED CLUB HOUSE			
	BILL NO.1-BUILDERS WORKS			
	ELEMENT No 2 - R.C FRAME			
A	<u>Insitu concrete class 25MPa: vibrated: reinforced</u> Columns	СМ	20	
В	Ring beam	СМ	27	
С	150mm thick Ramp	SM	20	
D	150mm Thick suspended horizontal slab	SM	518	
Е	175mm Thick suspended horizontal slab	SM	108	
F	150 mm thick landing	SM	8	
G	Staircases	СМ	5	
Н	$200 \ge 200 \ge 225 \text{mm}$ decorative concrete/plaster moulds with approved reinforcement mesh/bars	LM	242	
	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional)			
Ι	Assorted reinforcement bars	Kg	15856	
	Modular steel frame with steel plates covering formwork and/or marine board formwork: to			
J	Sides and soffites of beams	Sm	270	
К	To vertical sides of columns	SM	294	
L	Edges of steps not exceeding 150mm girth	LM	1	
М	Soffits of suspended slabs	SM	627	
N	Edges of slab over 150mm but not exceeding 225mm girth	LM	242	
0	To sloping soffites of staircases	SM	19	
Р	Soffits of landings	SM	8	
Q	Riser of steps over 150 mm but not exceeding 225 mm girth	LM	64	
R	Staircase string 300mm extreme girth and cut to profile of steps	LM	28	
S	Edges of landing over 150 but ot exceeding 225mm high	LM	11	
	ELEMENT NO. 2         Carried to           R.C FRAME         Main summary			

	PROPOSED CLUB HOUSE			
	BILL NO.1-BUILDERS WORKS			
	ELEMENT No 3-WALLING			
	WALLING			
	External Walling			
	Machine cut quarry stone walling with a minimum of 7.0 N/mm2 average compressive strength; bedded and jointed in cement and sand (1:4) mortar, reinforced with and including 25 x 3 mm thick hoop iron strips at every alternate course as described in;			
1	200mm thick walling Externally	Sm	307	
	200mm thick parapet walling	Sm	104	
2	400mm thick walling Externally	Sm	344	
)	Leave 150 x 600mm high openings in parapet walls and make good edges and reveals to Architect's approval	No	100	
	200 x 200 x 225mm wide façade features / moulds to Architect's approval	No	100	
	Internal Walling			
	Machine cut_quarry stone walling with a minimum_of_7.0 N/mm2 average compressive strength; bedded and jointed in cement and sand (1:4) mortar, reinforced with and including 25 x 3 mm thick hoop iron			
F	<u>strips at every alternate course as described in:</u> 200mm thick walling	Sm	348	
	150mm thick walling	Sm	262	
	Approved hessian based damp proof course to 200mm thick walling in cement/sand mortar	Lm	28	
	Ditto to 400mm thick walling	Lm	81	
	Ditto to 150mm thick walling	Lm	47	
	Lintols			
	100mm x 200mm Deep lintols in reinforced concrete class 20MPa with and including 4No T10 and T8 stirups at 200mm centres; complete with formwork	Lm	105	
	Coping			
,	$300 \times 100$ mm insitu reinforced concrete class 20Mpa coping, throated and weathered and jointing to columns with cement sand 1:4 mortar	Lm	122	
	<u>Pergola</u>			
M	Supply and fix Pergolla in 150x50x4mm thick RHS members spaced at 200mm c/c complete with 100x100x5mm thick SHS posts bolted to concrete foundations to details; apply 3coats of paint to steel members	SM	22	
	ELEMENT NO. 3 Carried to			
	WALLING Main summary			

	PROPOSED CLUB HOUSE				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 4-WINDOWS				
	METAL WORK				
	PURPOSE - MADE UNITS				
	Supply, fabricate and fix the following purpose made small pane mild steel casement windows to be fabricated from approved mild steel sections (atleast 14g 2mm thick ) comprising of frame and casement incorporating permanent hooded high level ventilation panels infilled with mosquito gauze : window supplied complete with and including 12mm solid square burglar proofing bars fixed at 200mm centres both ways and metal fixing lugs including building into wall and making good, and all necessary iron mongery viz hinges, fasteners, and hasp including shop priming window with red oxide primer before delivery to site:-				
	A prime cost sum of Kshs 4,500 per Sqm has been allowed for fabrication of the above specified Steel casement Windows by AHP juakali artisans as approved by the Project Manager/Architect.				
	The contractor's unit rate shall include the cost of transport, storage, fixing and all associated accesories in addition to the PC Rate.				
А	Window, overall size 1800 X 2300mm high to Architects Details	NO	23		
В	Ditto Size 900 x 2300mm high	NO	4		
С	Ditto Size 800 x 2300mm high	NO	3		
	Glazing				
D	4mm Thick clear sheet glass panes over 0.1 but not exceeding 0.5 square meters; fixing with premium putty	SM	101		
Е	Ditto; obscure	SM	8		
	Painting and Decorations				
	<u>On Metal work</u>				
	Prepare and apply aerosol spray painting in two finishing coats of first grade paint as per the manufacturer's printed instructions to: -				
F	General window and grille surfaces	SM	218		
	Carried to Collection				

	Precast concrete window cill finishing fair on all exposed surfaces and hoisting and placing in position, bedding, jointing and			
	pointing in pigmented cement and sand (1:3) mortar			
A	150 x 25mm thick precast concrete window sill	LM	49	
	Window board			
В	150mm wide x 25mm thick window board in softwood timber plugged to the wall	LM	49	
	Prepare and apply one coat first quality aluminium wood primer before fixing: on wood: to			
С	Surfaces exceeding 100mm but not exceeding 200 mm girth	LM	49	
	Prepare and apply three coats of first quality polyurethane clear varnish: on wood: to			
D	Window board: surfaces exceeding 100mm but not exceeding 200 mm girth	LM	49	
	<u>Curtain rods;</u>			
В	1.5mm thick, 20mm thick diameter twin powdercoated mild steel rod complete accessories to approval	LM	80	
	Carried to collection			
	COLLECTION			
	Total brought forward from page no:			
	Total brought forward from page no:			
	ELEMENT NO. 4 Carried to the			

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	PROPOSED CLUB HOUSE				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 5-DOORS				
	External Doors Glazed mild steel casement sliding doors				
	Heavy gauge purpose made mild steel door comprising 40 x 25 x3mm stiles, top and bottom stiles, 4 No Intermediate rails, 1.5mm steel sheet both sides welded in place and 5mm thick clear glazing, all primed with red oxide and spray painted with 2 coats of first quality gloss oil paint; complete with hinges, stays, 5lever locks, sliding gear, fasteners and necessary seremetals assembled and fixed to opening including cutting and pinning lugs to concrete or block work surround and bedding frame in cement and sand mortar (1:3).				
	Double Sliding Door overall size 1800 x 2850mm high	NO	10		
6	Bifold door Size 3000 x 2850mm high	NO	1		
	Internal Doors				
	Flush timber doors				
	50 mm thick Solid cored flush doors with plywood facing to receive painting (m.s) all to Architects details, specifications and approval				
2	Door size 900mm x 2100mm high comprising of 1 No opennable leaf size 800 x 2100mm high	NO	13		
)	Ditto Size 800 x 2100mm high comprising of $1$ No open nable leaf size 700 x 2100mm high	NO	12		
	Ditto Size 1000 x 2100mm high comprising of 1 No opennable leaf size 900 x 2100mm high	NO	4		
	50mm thick approved hardwood PANEL doors with 12.5mm thick Mahogany hardwood lipping to Architect's details, specifications and approval A prime cost sum at the rate indicated below has been allowed for fabrication of the above specified Hardwood panelled door leaves by AHP juakali artisans as approved by the Project Manager/Architect.				
	The contractor's unit rate shall include the cost of transport, storage, fixing and all associated accessories in addition to the PC Rate. Door size 1800 x 2400mm high ( PC Rate Kshs 49,200)	NO	2		
	Frames and frame finishes in mahogany timber:				
	25 x 25mm quadrant beading (PC Rate Kshs 75)	LM	172		
	25 x 50mm architrave with two labours, plugged (PC Rate Kshs 150)	LM	172		
	150mm x 50mm frame with three labours; chamfered edges; plugged (PC Rate Kshs 1400)	LM	172		
		L		†	

	Painting and decorating			
	Prepare and apply one coat aluminium wood primer to:-			
А	Surfaces not exceeding 100mm girth	LM	343	
В	Surfaces over 100mm but not exceeding 200mm girth	LM	172	
	Prepare Knot, prime, stop and apply one undercoat and two finishing coats first grade timber quality paint to wood surfaces as per the manufacturer's printed instructions			
С	General timber surfaces	SM	124	
D	Surfaces not exceeding 100mm girth	LM	343	
Е	Surfaces over 100mm but not exceeding 200mm girth	LM	172	
	Prepare, prime and apply one undercoat and two finishing coats first quality_gloss oil paint on as per the manufacturer's printed instructions to:-			
F	General surfaces of metal doors	SM	120	
	Ironmongery			
	Supply and fix the following ironmongery to timber complete with matching screws and keys to the approval of the Architect			
G	100mm pressed heavy duty steel Butt Hinges	Pairs	50	
Н	3 Lever Door Lock with handles as per Union	NO	31	
Ι	Door fixing cramps	NO	198	
J	Approved male/female signage	NO	4	
	Carried to Collection			
	COLLECTION			
	Total brought forward from page no:			
	Total brought forward from page no:			
	ELEMENT NO. 5         Carried to           DOORS         Main summary			

C       Extra over vertical and horizonatal key pointing in10 mm rod in cement and sand mix (1:3) mortar including one coat of Bituminous paint       SM       50         External Painting       Prepare and apply one coat Alkali Resistant primer followed by two finishing coats of Silicon exterior Emulsion paint in accordance with the manufacturers written instructions and to the satisfaction of the architect to a       SM       50         D       Masonry surfaces externally-Beam, Column and Slab Moulds       SM       754         E       Ditto to surfaces of beams and columns       SM       256         FLAT ROOP FINISHES       Cement and sand (1:4) screeded beds: on concrete: complete with coloured pigmentation additives and hardener to:       SM       246         F       50mm average waterproofed lightweight screed laid to falls and crossfalls to roof slabs -upper roof including gutter bases       SM       246         Prepare and apply to vertical/ horizontal surfaces 4mm. thick APP/EPDM water proofing or other equal and approved membrane with surface instructions: including provision of a uriter ten (10) wear anti leak guarantee .       SM       246         G       4mm thick APP membrane applied to roof slabs       SM       246         II       Dress membrane around 100mm rainwater outlet       No.       18         J       20mm thick interlocking Concrete tiles of size 225 x 225mm       SM       275				1		
ELEMENT NO. 6 - EXTERNAL PINISHES     Image: Stress of the s		PROPOSED CLUB HOUSE				
EXTERNAL WALL FINISHES     External Render       External Render     Cement and sond (1:3) renderwood floated: on concrete or blockwork: to       A     15mm thick to parapet walling externally     SM       B     Ditto to surfaces of beams and columns     SM       C     Extra over vertical and horizonatal key pointing in10 mm rod in cement and sand mix (1:3) mortar including one coat of Bituminous paint     SM       C     Extra over vertical and horizonatal key pointing in10 mm rod in manufacturers untilten instructions and to the satisfaction of the architect la manufacturers untilten instructions and to the satisfaction of the architect la manufacturers instructions and to the satisfaction of the architect la to surfaces of beams and columns     SM       D     Masonry surfaces externally-Beam, Column and Slab Moulds     SM     754       E     Ditto to surfaces of beams and columns     SM     256       FLAT ROOF FINISHES     Cement and sand mix (1:4) screeded beds: on concrete: complete with coloured pigmentation additives and hardeer to:     SM     246       F     SOmm average waterproofed lightweight screed laid to faills and crossfalls to roof slabs -upper roof including gutter bases     SM     246       Prepare and apply to vertical/ horizontal surfaces fam. thick APP/EPDM user provide addit proves that morthen process that an approved specializati and narrow the lock guarantee.     SM     246       I     Ditto to skirting 200mm high     LM     166       I     Ditto to skirting 200mm		BILL NO.1-BUILDERS WORKS				
External Render     Image: Comment and sand II:3I render: useod floated: on concrete or blockwork: to     Image: Comment and sand sand sand sand sand sand sand		ELEMENT NO 6 - EXTERNAL FINISHES				
Cement and sand (1:3) render used floated: on concrete or blockwork: to         A       15mm thick to parapet walling externally       SM       754         B       Ditto to surfaces of beams and columns       SM       256         C       Extra over vertical and horizonatal key pointing in10 mm rod in correcte and asand mix (1:3) mortar including one coat of Bituminous paint       SM       50         C       External Painting       SM       50         Prepare and apply one coat Alkali Resistant primer followed by two finishing coats of silicon exterior Emulsion paint in accordance with the manufacturers written instructions and to the satisfaction of the architect to the and and (1:4) sereeded beds: on concrete: complete with coloured pigmentation additives and hardener to:       SM       256         F       50mm average waterproofed lightweight screed laid to falls and crossfalls to rof slabs -upper roof including gutter based surface. finish weighing days small and cordance with the manufacturers instructions including gutter based surface. finish weighting days small and approved membrane with surface. finish weighting of tay smill and on approved fuely beneficients in the contacters instructions including provision of a writen ten (10) wear ant liek quarantee       SM       246         F       50mm average specified all in coordance with the manufactures instructions including provision of a writen ten (10) wear anti liek quarantee       SM       246         H       Ditto to skirting 200mm high       LM       166       18		EXTERNAL WALL FINISHES				
A     15mm thick to parapet walling externally     SM     754       B     Ditto to surfaces of beams and columns     SM     256       C     Extra over vertical and horizonatal key pointing in 10 mm rod in cement and sand mix (1:3) mortar including one coat of Bituminous SM     50       C     External Painting     Prepare and applu one coat Alkali Resistant primer followed by two. finishing coats of silicon exterior Emulsion paint in accordance with the manufacturers written instructions and to the satisfaction of the architect be     SM       D     Masonry surfaces externally-Beam, Column and Slab Moulds     SM     754       E     Ditto to surfaces of beams and columns     SM     256       FLAT ROOF FINISHES     Coment and sand (1:4) screeded beds: on concrete: complete with coloured pigmentation additives and hardener to:     SM     246       F     Somm average waterproofed lightweight screed laid to falls and crossfalls to roof slabs -upper roof including gutter bases     SM     246       Prepare and applu to vertical/horizontal surfaces 4mm, thick APP/EPDM water proofing or other equal and approved membrane with surface including provision of a uriten ten 1101 year anti leak guarantee.     SM     246       G     4mm thick APP membrane applied to roof slabs     SM     246       H     Ditto to skirting 200mm high     IM     166       1     Dress membrane around 100mm rainwater outlet     No.     18 <i>The Following Flat roof concr</i>		External Render				
B       Ditto to surfaces of beams and columns       SM       256         B       Ditto to surfaces of beams and columns       SM       256         C       Extra over vertical and horizonatal key pointing in 10 mm rod in centent and sand mix (1:3) mortar including one coat of Bituminous paint       SM       50         External Painting       Prepare and apply one coat Alkali Resistant primer followed by two finishing coats of Silicon exterior Emuliation paint in accordance with the manufacturers written instructions and to the satisfaction of the architect ID       SM       754         D       Masonry surfaces externally-Beam, Column and Slab Moulds       SM       754         E       Ditto to surfaces of beams and columns       SM       256         FLAT ROOF FINISHES       Cement and sand (1:4) screeded beds: on concrete: complete with coloured pigmentation additives and hardener to:       SM       246         F       50mm average waterproofed lightweight screed laid to falls and crossfalls to roof slabs -upper roof including gutter bases       SM       246         Prepare and apply to vertical/horizontal surfaces 4mm. thick APP/EPDM water proofing or other equal and approved membrane with surface. Including provision of a written ten (10) year anti leak quarantee. Including provision of a written ten (10) year anti leak quarantee. Including provision of a written ten (10) year anti leak quarantee. Including provision of a unitten ten (10) year anti leak quarantee. Including provision of a unitten ten (10) year anti leak quarantee. Including provision of a unitten		Cement and sand (1:3) render:wood floated: on concrete or blockwork: to				
C       Extra over vertical and horizonatal key pointing in 10 mm rod in cement and sand mix (1:3) mortar including one coat of Bituminous paint       SM       50         External Painting       Prepare and apply one coat Atkali Resistant primer followed by two finishing coats of silicon exterior Emuliance material controls on galaxies and the satisfaction of the architect to manufacturers written instructions and to the satisfaction of the architect to the source acterior Emuliance material control of the architect to the source acterial control of the satisfaction of the architect to the source acterial control of the satisfaction of the architect to the source acterial control of the satisfaction of the architect to the source acterial control of the satisfaction of the architect to the source acterial control of the satisfaction of the architect to the source acterial control of the satisfaction of the architect to the source acterial control of the satisfaction of the architect to the source acterial control of the satisfaction of the architect to the source acterial control of the satisfaction of the architect to the source acterial control of the satisfaction of the architect to the source acterial control of the satisfaction of the architect to the source acterial control of the satisfaction of the architect to the source acterial control of the satisfaction of the architect to the source of the source and the source and the source and the source and the source acterial control of the source and the source acterial control of the source acteris instructions including provide actere acterial control of the so	A	15mm thick to parapet walling externally	SM	754		
C       cement and sand mix (1:3) mortar including one coat of Bituminous paint       SM       50         External Painting       External Painting       SM       50         Prepare and apply one coat Alkali Resistant primer followed by two finishina coats of silicon exterior Emulsion paint in accordance with the manufacturers untitten instructions and to the satisfaction of the architect la       N         D       Masonry surfaces externally-Beam, Column and Slab Moulds       SM       754         E       Ditto to surfaces of beams and columns       SM       256         FLAT ROOF FINISHES       Ccement and sand (1:4) screeded beds: on concrete:       SM       246         complex with coloured pigmentation additives and hardener to:       SM       246         F       Somm average waterproofed lightweight screed laid to falls and crossfalls to roof slabs -upper roof including gutter bases       SM       246         Prepare and apply to vertical/horizontal surfaces 4mm thick APP/EPDM under proofing or other equal and approved membrane with surface finish useifabing 4kg/sm; kid on primer with torch-on process thy an approved specialist in accordance with the munifacturers instructions including provision of a written ten (10) year anti leak guarantee.       SM       246         G       4mm thick APP membrane applied to roof slabs       SM       246         I       Dress membrane around 100mm rainwater outlet       No.       18       166	В	Ditto to surfaces of beams and columns	SM	256		
Prepare and apply one coat Alkali Resistant primer followed by two.       Imishing coats of silicon exterior Emulsion paint in accordance with the manufacturers written instructions and to the satisfaction of the architect to         D       Masonry surfaces externally-Beam, Column and Slab Moulds       SM       754         E       Ditto to surfaces of beams and columns       SM       256         FLAT ROOF FINISHES       Cement and sand (1:4) screeded beds: on concrete: complete with coloured pigmentation additives and hardener to:       SM       246         F       50mm average waterproofed lightweight screed laid to falls and crossfalls to roof slabs - upper roof including gutter bases       SM       246         G       4mm thick APP membrane approved membrane with surface finish weighing <i>atways including provide membrane with surface finish weight accordance with the manufacturers instructions including provides are collables</i> SM       246         G       4mm thick APP membrane applied to roof slabs       SM       246         H       Ditto to skirting 200mm high       LM       166         I       Dress membrane around 100mm rainwater outlet       No.       18         J       20mm thick interlocking Concrete tiles fixed with approved and beive, kidl and jointed with waterproofing bituminous. compound       SM       275	С	cement and sand mix (1:3) mortar including one coat of Bituminous	SM	50		
E       Ditto to surfaces of beams and columns       SM       256         FLAT ROOF FINISHES       Cement and sand (1:4) screeded beds: on concrete:       complete with coloured pigmentation additives and hardener to:       SM       246         F       50mm average waterproofed lightweight screed laid to falls and crossfalls to roof slabs -upper roof including gutter bases       SM       246         Prepare and apply to vertical/horizontal surfaces 4mm thick APP/EPDM water proofing or other equal and approved membrane with surface finish weighing 4kg/sm; laid on primer with torch-on process :bu an approved specialist all in accordance with the manufacturers instructions including provision of a written ten (10) year anti leak guarantee.       SM       246         G       4mm thick APP membrane applied to roof slabs       SM       246         I       Ditto to skirting 200mm high       LM       166         I       Dress membrane around 100mm rainwater outlet       No.       18         J       20mm thick interlocking Concrete tiles fixed with approved adhesive, laid and jointed with waterproofing bituminous compound       SM       275         ELEMENT NO. 6       Carried to       I       I       I       I		<u>Prepare and apply one coat Alkali Resistant primer followed by two</u> <u>finishing coats of silicon exterior Emulsion paint in accordance with the</u> <u>manufacturers written instructions and to the satisfaction of the architect</u> .				
FLAT ROOF FINISHES       Cement and sand (1:4) screeded beds: on concrete: complete with coloured pigmentation additives and hardener to:       SM       246         F       50mm average waterproofed lightweight screed laid to falls and crossfalls to roof slabs -upper roof including gutter bases       SM       246         Prepare and apply to vertical/horizontal surfaces 4mm. thick APP/EPDM water proofing or other equal and approved membrane with surface finish weighting 4kg/sm; laid on primer with torch-on process; iby an approved specialist all in accordance with the manufacturers instructions 	D	Masonry surfaces externally-Beam, Column and Slab Moulds	SM	754		
Cement and sand (1:4) screeded beds: on concrete: complete with coloured pigmentation additives and hardener to:Image: screed laid to falls and crossfalls to roof slabs -upper roof including gutter basesSM246F50mm average waterproofed lightweight screed laid to falls and crossfalls to roof slabs -upper roof including gutter basesSM246Prepare and apply to vertical/horizontal surfaces 4mm thick APP/EPDM water proofing or other equal and approved membrane with surface finish weighing 4Kg/sm: laid on primer with torch-on process :by an approved specialist all in accordance with the manufacturers instructions including provision of a written ten (10) year anti leak guarantee.SM246G4mm thick APP membrane applied to roof slabsSM246HDitto to skirting 200mm highLM166IDress membrane around 100mm rainwater outletNo.18JulThe Following Flat roof concrete tiles fixed with approved adhesive, laid and jointed with waterproofing bituminous. compound 20mm thick interlocking Concrete tiles of size 225 x 225mmSM275	Е	Ditto to surfaces of beams and columns	SM	256		
F       crossfalls to roof slabs -upper roof including gutter bases       SM       246         Prepare and apply to vertical/horizontal surfaces 4mm thick APP/EPDM water proofing or other equal and approved membrane with surface finish weighing 4kg/sm; laid on primer with torch-on process ; by an approved specialist all in accordance with the manufacturers instructions including provision of a written ten (10) year anti leak guarantee.       SM       246         G       4mm thick APP membrane applied to roof slabs       SM       246         H       Ditto to skirting 200mm high       LM       166         I       Dress membrane around 100mm rainwater outlet       No.       18         The Following Flat roof concrete tiles fixed with approved adhesive, laid and jointed with waterproofing bituminous compound       SM       275         J       20mm thick interlocking Concrete tiles of size 225 x 225mm       SM       275		Cement and sand (1:4) screeded beds: on concrete: complete with coloured pigmentation additives and hardener to:				
water proofing or other equal and approved membrane with surface finish weighing 4kg/sm; laid on primer with torch-on process ; by an approved specialist all in accordance with the manufacturers instructions including provision of a written ten (10) year anti leak guarantee.SM246G4mm thick APP membrane applied to roof slabsSM246HDitto to skirting 200mm highLM166IDress membrane around 100mm rainwater outletNo.18The Following Flat roof concrete tiles fixed with approved adhesive, laid and jointed with waterproofing bituminous compound 20mm thick interlocking Concrete tiles of size 225 x 225mmSM275	F	crossfalls to roof slabs -upper roof including gutter bases	SM	246		
H       Ditto to skirting 200mm high       LM       166         I       Dress membrane around 100mm rainwater outlet       No.       18 <i>The Following Flat roof concrete tiles fixed with approved adhesive, laid and jointed with waterproofing bituminous compound</i> SM       275         J       ELEMENT NO. 6       Carried to       Image: Concrete tiles of size 225 x 225 mm       SM       275		water proofing or other equal and approved membrane with surface finish weighing 4kg/sm; laid on primer with torch-on process ;by an approved specialist all in accordance with the manufacturers instructions				
I       Dress membrane around 100mm rainwater outlet       No.       18         The Following Flat roof concrete tiles fixed with approved adhesive, laid and jointed with waterproofing bituminous compound       No.       18         J       20mm thick interlocking Concrete tiles of size 225 x 225mm       SM       275         ELEMENT NO. 6       Carried to       Image: Concrete tile of the second	G	4mm thick APP membrane applied to roof slabs	SM	246		
The Following Flat roof concrete tiles fixed with approved adhesive, laid and jointed with waterproofing bituminous compound       SM       275         J       20mm thick interlocking Concrete tiles of size 225 x 225mm       SM       275         ELEMENT NO. 6       Carried to       Image: Concrete tile of the second	Н	Ditto to skirting 200mm high	LM	166		
approved adhesive, laid and jointed with waterproofing bituminous       approved adhesive, laid and jointed with waterproofing bituminous         J       20mm thick interlocking Concrete tiles of size 225 x 225mm       SM       275         ELEMENT NO. 6       Carried to       Carried to	Ι	Dress membrane around 100mm rainwater outlet	No.	18		
ELEMENT NO. 6 Carried to		approved adhesive, laid and jointed with waterproofing bituminous				
	J		SM	275		
		ELEMENT NO. 6         Carried to           EXTERNAL FINISHES         Main summary				

PROPOSED CLUB HOUSE BILL NO.1-BUILDERS WORKS ELEMENT NO 7 - INTERNAL FINISHES
ELEMENT NO 7 - INTERNAL FINISHES
Internal Wall Finishes
<u>15 mm thick Cement and sand (1:3) backings on blockwork to receive</u> <u>ceramic wall tiles:to:</u>
A Internal wall surfaces- Wet areas SM 28
Ceramic wall tiles
<u>Allow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessories</u>
Supply and Fix approved ceramic wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall Surfaces
<u>15mm (minimum) two coat cement, sand (1:3) plaster complete with wire</u> <u>gauze anti-crack mechanism at the intersection of masonry walling and</u> <u>concrete beams as described to:-</u>
C Concrete/masonry surfaces Internally SM 168
Ditto to window cills, door Jambs Externally and Surfaces not LM 14
Painting and Decoration
Prepare, Skim and apply Emulsion or universal undercoat followed by two finishing coats of soft satin Emulsion paint in accordance with the manufacturers written instructions and to the satisfaction of the architect to
D   Plastered concrete/masonry surface   SM   168
Ditto to window cills, door Jambs Externally and Surfaces not exceeding 200mm girth
Carried to Collection

	Floor Finishes			
	<u>32 mm thick Cement and sand (1:3) backing on concrete</u> surfaces,prepared to receive approved floor finish to:			
А	Receive ceramic floor tiles	SM	44	
В	Receive ceramic floor tiles	SM	574	
с	300 mm wide treads of steps	LM	97	
,	150mm high risers of steps	LM	98	
C	Receive rubber flooring	SM	86	
<u>-</u>	Receive timber flooring	SM	32	
	Ceramic Floor tiles			
	Allow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessories			
	Supply and Fix Ceramic tiles, on prepared bed(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval.			
3	Floor Surfaces	SM	44	
H	Ditto 100mm wide Wall Skirtings	LM	80	
	Porcelain Floor tiles_ Allow a Prime Cost supply rate of Ksh. 1500 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessories			
-	Supply and Fix porcelain wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall Surfaces			
	Floor Surfaces	SM	574	
	Ditto 100mm wide Wall Skirtings	LM	566	
	Timber Floor Finish			
	Supply and Fix approved mahogany timber flooring; with approved glue ; varnish to approval ; secret nailing : on backing screeds with timber strips (m.s.) :- all to Architect's approval:to:			
Σ.	Floor Surfaces	SM	32	
,	Ditto 100mm wide Wall Skirtings	LM	25	
	Carried to Collection			

	<u>matching coloured proprietary grout on prepared on prepared</u> <u>backings(m.s); : including pvc spacers and expansion joint as</u>			
	necessary: all to Architect's approval:to:			
A	Floor Surfaces	SM	86	
3	Ditto 100mm wide Wall Skirtings	LM	38	
	Staircase finishes			
	<u>32 mm thick Cement and sand (1:3) backing on concrete</u> surfaces,prepared to receive ceramic floor tiles to:			
C	300 mm wide treads of steps	LM	59	
D	150mm high risers of steps	LM	64	
£	Landing <u>Ceramic staircase tiles</u>	SM	8	
	Allow a Prime Cost supply rate of Ksh. 1500 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessories			
	Supply and Fix ceramic wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall Surfaces			
<u>.</u>	300 mm wide treads of steps	LM	59	
3	150mm high risers of steps	LM	64	
£	Landing	SM	8	
	15mm (minimum) two coat cement, sand (1:3) plaster complete with wire			
	gauze anti-crack mechanism at the intersection of masonry walling and concrete beams as described to:-			
ł	Soffits of staircase landing	SM	8	
I	Ditto to sloping soffites exceeding 15° from horizontal	SM	19	
J	Staircase string 300mm extreme girth and cut to profile of steps	LM	28	
	<u>Paint works</u> <u>Prepare, Skim and apply Emulsion or universal undercoat followed by</u> <u>two finishing coats of soft satin Emulsion paint in accordance with the</u> <u>manufacturers written instructions and to the satisfaction of the architect</u> <u>to</u>			
ζ	Soffits of staircase landing	SM	8	
L	Ditto to sloping soffites exceeding 15° from horizontal	SM	19	
Л	Staircase string 300mm extreme girth and cut to profile of steps	LM	28	

	Ceiling finishes				
А	<u>15mm (minimum) two coat cement, sand (1:3) plaster complete with wire</u> <u>gauze anti-crack mechanism at the intersection of masonry walling and</u> <u>concrete beams as described to:-</u> Soffits of Concrete surfaces <u>Painting and Decoration</u>	SM	627		
В	Prepare, Skim and apply Emulsion or universal undercoat followed by         two finishing coats of soft satin Emulsion paint in accordance with the         manufacturers written instructions and to the satisfaction of the architect         to         Plastered ceilings         Gypsum boards	SM	627		
С	12.5mm approved Moisture resistant Suspended gypsum plasterboard ceiling : on and including pressed 50 x 50mm aluminium suspended brandering system at 600mm centres both ways with brandering end trims as specified : allow for all necessary timber stiffener or bearers where directed: allow end trims as directed including all cutting and trimming to light fittings, or other equipments as required (all quantities measured flat overall over light fittings): allow for all vertical and horizontal trims: allow where necessary for welded mild steel supports complete with bolts and welded connections :fixing with self tapping screws; taped and filled joints : complete with Modified preformed polyurethane decorative mouldings and cornices : including 50 x 50mm shadow gap between wall and gypsum ceiling and; 15 x 15mm shadow gap between grid and gypsum ceiling; all to Architect's details and patterns	SM	350		
D	100 x 20mm gypsum cornice with two labours <u>Prepare, Skim and apply Emulsion or universal undercoat followed by</u> <u>two finishing coats of soft satin Emulsion paint in accordance with the</u> <u>manufacturers written instructions and to the satisfaction of the architect</u> <u>to</u>	LM	189		
E	Gypsum ceilings	SM	350		
F	Ditto cornice	LM	189		
	Carried to Collection				

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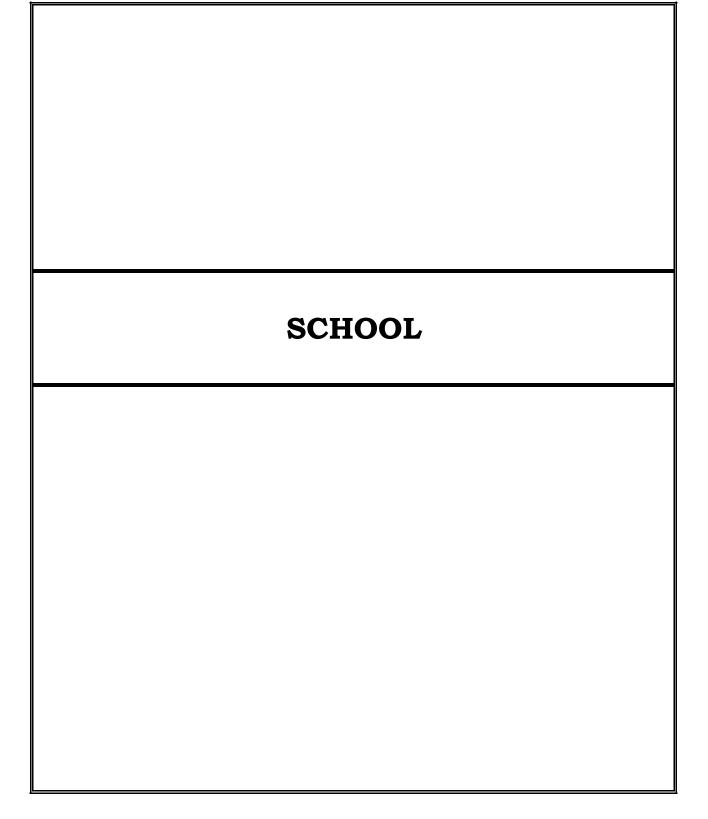
	PROPOSED CLUB HOUSE			
	BILL NO.1-BUILDERS WORKS			
	ELEMENT NO 8- BALUSTRADING AND RAILING			
	ELEMENT NO 8- BALUSTRADING AND RAILING			
	Balustrades and staircase railings			
A	900mm high mild Steel balustrade; comprising 60 x 10mm mild Steel balusters at 900mm centres; bolted to base plate and tread (m.s), with 7No. 25mm diameter horinzontal bars, and 75x4mm diameter CHS mild Steel handrail part welded into 60x10mm balustrades; to Architects drawings	LM	20	
	<u>Prepare, prime and apply one undercoat and two finishing coats first</u> <u>quality_gloss oil paint on</u>			
В	General metal surfaces of balustrading (both sides measured overall)	SM	49	
	ELEMENT NO. 8 BALUSTRADING AND RAILING Carried to the Mai	in sum	narv	
		suill		

PROPOSED CLUB HOUSE       Image: Club House         BILL NO.1-BUILDERS WORKS       Image: Club House         A       25 gauge ITS Roofing sheets; laid on timber structure and including cauters at 600mm centres(n/s)       SM       120         B       Cauge 28 galvanized 450 mm Ridge cap and hip cap to match roof centres(n/s)       Image: SM       10         C       Gauge 28 galvanized iron Ditto hip cap       Image: SM       10         C       Gauge 28 galvanized iron Ditto hip cap       Image: SM       10         C       Gauge 28 galvanized iron Ditto hip cap       Image: SM       10         D       FORUCTURAL STEEL CONSTRUCTION       Image: SM       Image: SM         1. Prices shall include for unloading, hoisting and fixing in position including regrunding for erection.       Image: SM       Image: SM         2. Allow for factory priming in lead oxide and touching up the priming on site later       Image: SM       Image: SM         D       50 x 50 x 3mm. Thick SHS purlins       Kg       463         E       50 x 50 x 3mm. Thick SHS external members       Kg       66         G       26-gauge prepainted G.I/Aluzine box roof gutters with 100mmx75mm       Image: SM       45         G       25 cauge prepainted fourth regres couts of gloss oil paint as Crown or:       Image: SM       45         G <td< th=""><th></th><th></th><th></th><th></th><th></th></td<>					
RELEMENT NO 9 - ROOPINGJ.J.A28 gauge IT5 Roofing sheets; laid on timber structure and including reintres(m/s)SM120BGauge 28 galvanized 450 mm Ridge cap and hip cap to match roof coveringLM100CGauge 28 galvanized 450 mm Ridge cap and hip cap to match roof gauge 28 galvanized iron Ditto hip capLM108STRUCTURAL STEEL CONSTRUCTIONLM1.883. Prices shall include for unloading, hoisting and fixing in position including requisite staging for erection.LM1.862. Allow for factory priming in lead oxide and touching up the priming on site laterLM1.463D50 x 50 x 3mm Thick SHS purlinsKg6.38F50 x 50 x 3mm. Thick SHS purlinsKg6.38F50 x 50 x 3mm. Thick SHS external membersKg6.38GC-gauge prepainted G.I/Aluzine box roof gutters with 100mmx75mmLM4.5NExtra over rainwater gutter for 100mn diameter downpipe outletno6PDitto bendno66PDitto bendno6PDitto bendno6PDitto bendno6PDitto bendno6PDitto bendno6PDitto grow and paint three coats of gloss oil paint as Crown or other equal and approved to:LM45HFascia or verge; girth 225mm - 300mmLM45		PROPOSED CLUB HOUSE			
A28 gauge ITS Roofing sheets; laid on timber structure and including fixing clips and brackets and fixing to timber rafters at 600mmSM120BGauge 28 galvanized 450 mm Ridge cap and hip cap to match roof coveringLM10CGauge 28 galvanized iron Ditto hip capLM18STRUCTURAL STEEL CONSTRUCTIONLM181. Prices shall include for unloading, hoisting and fixing in position including requisite staging for erection.LM142. Allow for factory priming in lead oxide and touching up the priming on site laterLM443. Prices should allow for fillet weld and welded connectionsLM463E50 x 50 x 3mm Thick SHS purlinsKg638F50 x 50 x 3mm. Thick RHS internal membersKg765G26-gauge prepainted G.1/Aluzine box roof gutters with 100mmx75mm cross-sectionLM45PDitto bendno6PDitto bendno6PPinting WoolLM45Pinting WoolLM45Pinting WoolLM45Pinter cuual and approved to:LM45 <td></td> <td>BILL NO.1-BUILDERS WORKS</td> <td></td> <td></td> <td></td>		BILL NO.1-BUILDERS WORKS			
A       fixing clips and brackets and fixing to timber rafters at 600mm       SM       120         B       Gauge 28 galvanized 450 mm Ridge cap and hip cap to match roof covering       LM       10         C       Gauge 28 galvanized iron Ditto hip cap       LM       18         STRUCTURAL STEEL CONSTRUCTION       LM       18         J. Prices shall include for unloading, hoisting and fixing in position including requisite staging for erection.       LM       18         Z. Allow for factory priming in lead oxide and touching up the priming on site later       J       J       J         3. Prices should allow for fillet weld and welded connections       Kg       463         E       50 x 50 x 3mm. Thick SHS purlins       Kg       638         F       50 x 50 x 3mm. Thick SHS purlins       Kg       765         G       26-gauge prepainted G.I/Aluzinc box roof gutters with 100mmx75mm cross-section       LM       45         N       Extra over rainwater gutter for 100mm diameter downpipe outlet       no       6         P       Ditto bend       no       6       45         P       Ditto stopped end       no       6       45         P       Ditto stopped face boards nailed to end of rafters       LM       45         P       Painting Wood       Knot, prime, s		ELEMENT NO 9 - ROOFING			
B       covering       LM       10         C       Gauge 28 galvanized iron Ditto hip cap       LM       18         STRUCTURAL STEEL CONSTRUCTION       1. Prices shall include for unloading, hoisting and fixing in position including requisite staging for erection.       2. Allow for factory priming in lead oxide and touching up the priming on site later         3. Prices should allow for fillet weld and welded connections       The following in Steel Trusses including hoisting and fixing in position 2.8m above ground floor         D       50 x 50 x 3mm Thick SHS purlins       Kg         F       50 x 25 x 3mm. Thick SHS external members       Kg         G       26-gauge prepainted G.I/Aluzine box roof gutters with 100mmx75mm cross-section       LM       45         N       Extra over rainwater gutter for 100mm diameter downpipe outlet       no       6         O       Ditto stopped end       no       6         P       Ditto bend       no       6         Q       250mm x 25mm Fascia / barge boards nailed to end of rafters       LM       45         Painting Wood       Knot, prime, stop and paint three coats of gloss oil paint as Crown or other equal and approved to:       LM       45         H       Fascia or verge; girth 225mm - 300mm       LM       45	А	fixing clips and brackets and fixing to timber rafters at 600mm	SM	120	
STRUCTURAL STEEL CONSTRUCTION       I. Prices shall include for unloading, hoisting and fixing in position including requisite staging for erection.       I. Prices shall include for unloading, hoisting and fixing in position including requisite staging for erection.         2. Allow for factory priming in lead oxide and touching up the priming on site later       Image: State of the priming on site later         3. Prices should allow for fillet weld and welded connections       Image: State of the priming on site later         3. Prices should allow for fillet weld and welded connections       Image: State of the priming on site later         0. 50 x 50 x 3mm Thick SHS purlins       Kg         E       50 x 50 x 3mm. Thick SHS external members       Kg         F       50 x 25 x 3mm. Thick RHS internal members       Kg         G       26-gauge prepainted G.1/Aluzine box roof gutters with 100mmx75mm cross-section       Image: Mathematical box roof gutters with 100mmx75mm cross-section         N       Extra over rainwater gutter for 100mm diameter downpipe outlet       no       6         O       Ditto stopped end       no       6         P       Ditto bend       no       6         Q       250mm x 25mm Fascia/ barge boards nailed to end of rafters       Image:	В		LM	10	
1. Prices shall include for unloading, hoisting and fixing in position including requisite staging for erection.I2. Allow for factory priming in lead oxide and touching up the priming on site laterI3. Prices should allow for fillet weld and welded connectionsIThe following in Steel Trusses including hoisting and fixing in position 2.8m above ground floorKgD50 x 50 x 3mm Thick SHS purlinsKgE50 x 50 x 3mm. Thick SHS external membersKgG26-gauge prepainted G.I/Aluzinc box roof gutters with 100mmx75mm cross-sectionLMNExtra over rainwater gutter for 100mm diameter downpipe outletnoODitto stopped endnoPDitto bendnoG250mm x 25mm Fascia/ barge boards nailed to end of raftersLMPainting WoodKnot, prime, stop and paint three coats of gloss oil paint as Crown or other equal and approved to:LMHFascia or verge; girth 225mm - 300mmLM45	С	Gauge 28 galvanized iron Ditto hip cap	LM	18	
position including requisite staging for erection.Image: Staging for erection.2. Allow for factory priming in lead oxide and touching up the priming on site laterImage: Staging for erection.3. Prices should allow for fillet weld and welded connectionsImage: Staging for erection.D50 x 50 x 3mm Thick SHS purlinsKgE50 x 50 x 3mm. Thick SHS purlinsKgG26-gauge prepainted G.I/Aluzinc box roof gutters with 100mmx75mmLMNExtra over rainwater gutter for 100mm diameter downpipe outletnoODitto stopped endnoPDitto bendnoG250mm x 25mm Fascia/ barge boards nailed to end of raftersLMPainting WoodKnot, prime, stop and paint three coats of gloss oil paint as Crown or other equal and approved to:LMHFascia or verge; girth 225mm - 300mmLM45		STRUCTURAL STEEL CONSTRUCTION			
priming on site laterI3. Prices should allow for fillet weld and welded connectionsIThe following in Steel Trusses including hoisting and fixing in position 2.8m above ground floorKgD50 x 50 x 3mm Thick SHS purlinsKgE50 x 50 x 3mm. Thick SHS external membersKgG26-gauge prepainted G.I/Aluzinc box roof gutters with 100mmx75mm cross-sectionLMNExtra over rainwater gutter for 100mm diameter downpipe outletnoODitto stopped endno6PDitto bendno6Q250mm x 25mm Fascia/ barge boards nailed to end of raftersLM45Painting WoodKnot, prime, stop and paint three coats of gloss oil paint as Crown or other equal and approved to:LM45HFascia or verge; girth 225mm - 300mmLMLM45					
The following in Steel Trusses including hoisting and fixing in position 2.8m above ground floorKg463D50 x 50 x 3mm Thick SHS purlinsKg638E50 x 50 x 3mm. Thick SHS external membersKg638F50 x 25 x 3mm. Thick RHS internal membersKg765G26-gauge prepainted G.I/Aluzinc box roof gutters with 100mmx75mm cross-sectionLM45NExtra over rainwater gutter for 100mm diameter downpipe outletno6ODitto stopped endno6PDitto bendno6Q250mm x 25mm Fascia/ barge boards nailed to end of raftersLM45Painting WoodKnot, prime, stop and paint three coats of gloss oil paint as Crown or other equal and approved to:LM45HFascia or verge; girth 225mm - 300mmLMLM45					
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F50 x 25 x 3mm. Thick RHS internal membersKg765G26-gauge prepainted G.I/Aluzinc box roof gutters with 100mmx75mm cross-sectionLM45NExtra over rainwater gutter for 100mm diameter downpipe outletno6ODitto stopped endno6PDitto bendno6Wrot softwood Fascia boardno6G250mm x 25mm Fascia/ barge boards nailed to end of raftersLM45Painting WoodKnot, prime, stop and paint three coats of gloss oil paint as Crown or other equal and approved to:LM45HFascia or verge; girth 225mm - 300mmLM4545	D	50 x 50 x 3mm Thick SHS purlins	Kg	463	
G26-gauge prepainted G.I/Aluzinc box roof gutters with 100mmx75mm cross-sectionLM45NExtra over rainwater gutter for 100mm diameter downpipe outletno6ODitto stopped endno6PDitto bendno6Wrot softwood Fascia boardno6G250mm x 25mm Fascia/ barge boards nailed to end of raftersLM45Painting WoodKnot, prime, stop and paint three coats of gloss oil paint as Crown or other equal and approved to:LM45HFascia or verge; girth 225mm - 300mmLM4545	Е	50 x 50 x 3mm. Thick SHS external members	Kg	638	
G       cross-section       LM       43         N       Extra over rainwater gutter for 100mm diameter downpipe outlet       no       6         O       Ditto stopped end       no       6         P       Ditto bend       no       6         Wrot softwood Fascia board       no       6         G       250mm x 25mm Fascia/ barge boards nailed to end of rafters       LM       45         Painting Wood       Knot, prime, stop and paint three coats of gloss oil paint as Crown or other equal and approved to:       LM       45         H       Fascia or verge; girth 225mm - 300mm       LM       45	F	50 x 25 x 3mm. Thick RHS internal members	Kg	765	
ODitto stopped endno6PDitto bendno6Wrot softwood Fascia boardno6G250mm x 25mm Fascia/ barge boards nailed to end of raftersLM45Painting Woodno4545Knot, prime, stop and paint three coats of gloss oil paint as Crown or other equal and approved to:LM45HFascia or verge; girth 225mm - 300mmLM45	G		LM	45	
P       Ditto bend       no       6         Wrot softwood Fascia board       45         G       250mm x 25mm Fascia/ barge boards nailed to end of rafters       LM       45         Painting Wood       45       45         H       Fascia or verge; girth 225mm - 300mm       LM       45	Ν	Extra over rainwater gutter for 100mm diameter downpipe outlet	no	6	
G       250mm x 25mm Fascia/ barge boards nailed to end of rafters       LM       45         Painting Wood       Knot, prime, stop and paint three coats of gloss oil paint as Crown or other equal and approved to:       LM       45         H       Fascia or verge; girth 225mm - 300mm       LM       45	0	Ditto stopped end	no	6	
G       250mm x 25mm Fascia/ barge boards nailed to end of rafters       LM       45         Painting Wood           Knot, prime, stop and paint three coats of gloss oil paint as Crown or other equal and approved to:       LM       45         H       Fascia or verge; girth 225mm - 300mm       LM       45	Р	Ditto bend	no	6	
Painting Wood       Knot, prime, stop and paint three coats of gloss oil paint as Crown or other equal and approved to:       LM       45         H       Fascia or verge; girth 225mm - 300mm       LM       45		Wrot softwood Fascia board			
Knot, prime, stop and paint three coats of gloss oil paint as Crown or other equal and approved to:       LM         H       Fascia or verge; girth 225mm - 300mm       LM	G	250mm x 25mm Fascia/ barge boards nailed to end of rafters	LM	45	
other equal and approved to:     LM     45       H     Fascia or verge; girth 225mm - 300mm     LM     45		Painting Wood			
	Н	Fascia or verge; girth 225mm - 300mm	LM	45	
Carried to Collection		Carried to Collection			

	1	I		1	I
	Rain water goods				
	Supply and fix the following in UPVC: to BS 4515 with fittings fixed to manufacturer's instruction and BS 5572: manufactured by "Doshi Kenya Ltd" or other equal and approved: tenderer must allow in the pipework for pipe fixing clips or holderbats, plugged and screwed				
А	110mm Diameter <b>down pipe:</b> Grey uPVC with and including swan neck offset and shoes: holder bats at 1500mm centres: including water-tight connections to mild steel gutters	LM	18		
В	Extra over ditto for swan neck	no	6		
С	Ditto horse shoe Carried to collection	no	6		
	COLLECTION				
	Total brought forward from page no:				
	Total brought forward from page no:				
	ELEMENT NO. 9 ROOFING Carried to the Main summary				

	PROPOSED CLUB HOUSE				
	ELEMENT NO 10 - JOINERY FITTINGS				
	Allow for providing materials, labour and construct fixtures and fittings as per Architects drawings of the following JOINERY FITTINGS AND FIXTURES complete with associated iron mongery;				
	NOTE: All blockboard, MDF boards,etc in joinery works shall be lipped with hardwood lipping all round before fixing.				
	High level cupboards				
	400mm Wide high level kitchen cupboards in 18mm laminated mdf sides & shelves complete with doors, top, bottom & divisions with and including all necessary ironmongery; to Architect's details				
	High level storage cupboard units 600mm high x 300mm deep	LM	8		
	Low level kitchen cupboards				
	Low level kitchen worktops with 600x600x8mm porcelain tiles top on 100mm thick reinforced concrete slab with A142 BRC mesh, formwork to soffits and slab edges, plater to soffits of slab, screed to top slab, 100mm thick plastered steeper walls, including 300x300x6mm thick ceramic wall tiles on both sides of the wall: 100mm plastered mass concrete plinths in concrete class 15MPa: 18mm laminated mdf sides & shelves complete with doors, shelves, drawers, cutting tiles for kitchen sink (m.s) & all necessary ironmongery; to Architect's details and approval				
5	Low level kitchen cupboards below concrete worktop total girth grouped together 850mm high x 550mm deep	LM	8		
	Vanity tops				
	600mm wide vanity tops with 600x600x8mm porcelain tiles top on 75mm thick reinforced concrete class 20MPa slab, 100mm plastered mass concrete plinths in concrete class 15MPa: cutting tiles for sink (m.s) ; to Architect's details				
	11000mm long	LM	8		
	Lockers				
	400mm wide shelves in 18mm thick laminated MDF boards sides & shelves complete with doors, shelves, divisions, drawers, frames, bearers, malpa hinges, aluminium D-handles & all necessary ironmongery; to Architect's details				
	12000mm long x 2100mm high-Lockers	LM	12		
	Reception desk				
	800mm wide reception desk tops with 20mm granite top on 20mm thick blockboard, 25x25x3mm thick mild steel framework & 18mm thick laminated MDF sides & shelves complete with doors, shelves, drawers & all necessary ironmongery; to Architect's details				
	3000mm long	LM	3		
	ELEMENT NO. 10 Carried to the				
	JOINERY & FITTINGS Main summary				

	PROPOSED CLUB HOUSE BILL NO.1-BUILDERS WORKS		
	MAIN SUMMARY		AMOUNT (KSHS)
1	Substructures		
2	Reinforced Concrete Frame		
3	Walling		
4	Windows		
5	Doors		
6	External Finishes		
7	Internal Finishes		
8	Balustrading and Railing		
9	Roofing		
10	Joinery fittings		
	TOTAL FOR CLUB HOUSE CARRIED TO GRAND SUMMARY	1	



Item	DESCRIPTION	Unit	QTY	Rate	Amount
	PROPOSED PRIMARY SCHOOL				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 1 - SUBSTRUCTURES (ALL PROVISIONAL)				
	Notes.				
	This element includes all structural works up to and including ground floor slab				
	Tenderer to allow for working space in his rates.				
	Excavations including trimming sides and bottoms of excavations; maintaining and supporting sides; and keeping free from water, mud and fallen material; with and including destruction of termites nests within site of works,take out and destroy queens, imp				
	<u>Site Clearance</u>				
А	Clear site of all grass, hedges, shrubs, bushes grub up roots, load and remove from site and dispose at designated local authority areas.	SM	1,598		
В	Excavate average 300mm deep to remove top vegetable soil, load, remove from site and dump in designated local authority dump site.	Cm	479		
D	Excavate for Strip foundations depth not exceeding 1.50 metres starting from Reduced ground levels.	Cm	307		
E	Excavate for column bases depth not exceeding 1.5m starting from reduced Levels	Cm	616		
F	Extra over excavation for excavating in all classes of rock	Cm	92		
G	Allow for keeping the whole of the excavation free from all spring and running water by pumping or any other such means as may be necessary	Item	1		
Н	Allow for maintaining and upholding the sides of excavations and keeping excavations clear of all fallen materials, rubbish etc	Item	1		
	Carried to collection				

Item	DESCRIPTION	Unit	QTY	Rate	Amount
	<u>Disposal</u>				
A	Return, fill and ram selected excavated material around foundations.	СМ	462		
В	Load,wheel and cart away surplus excavated material away from site	СМ	553		
	Backfill				
с	Make up levels using approved imported materials: compacted in layers not exceeding 300mm thick with a 15ton roller: to the satisfaction of the Structural Engineer.	СМ	1,119		
	Hardcore as described				
D	300mm thick hardcore bed: hand packed : compacted in layers not exceeding 150mm thick: to the satisfaction of the Structural Engineer: including 50mm Thick murram or "equal and approved" blinding to surfaces of hardcore				
		SM	1,598		
	Anti - termite to treatment				
E	Approved anti-termite treatment, with ten-year guarantee, sprayed to surfaces of hardcore strictly in accordance with manufacturer's instructions.	SM	1,598		
	Damp-proof membrane				
F	1000 gauge polythene or other equal and approved damp-proof membrane, laid over blinded hardcore (measured separately) with 300mm side and end laps (measured nett-allow for laps)				
		SM	1,598		
	Insitu concrete Class 15MPa: vibrated:				
G	Plain concrete class 15 in 50 mm Thick under column bases	SM	411		
Н	Plain concrete class 15 in 50 mm Thick under strip foundation				
	Commentation Menser Dividing to conference of the design	SM	205		
Ι	50 mm Thick Murram Blinding to surfaces of hadcore	SM	1,598		
	In- situ vibrated reinforced concrete Class 25MPa: in:				
J	Column bases	СМ	196		
К	Columns	СМ	14		
L	Strip foundation	СМ	82		
М	100mm thick surface bed	SM	1,598		
	Carried to collection				

Item	DESCRIPTION	Unit	QTY	Rate	Amount
	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional)				
А	Assorted reinforcement	Kg	6,577		
	Mesh fabric reinforcement to K/EAS 412;2 (2019) BRC A142;200 x 200mm, weighing 2.22kg/m <sup>2</sup> (measured net - no allowance) for laps; in two layers - top & bottom; including bends, tying wire and spacer blocks)				
В	Mesh reference A142 weighing 2.22 kilogrammes per square metre in floor beds.	SM	1,598		
	Modular steel frame with steel plates covering formwork and/or marine board formwork: to:				
С	Vertical sides to columns	SM	210		
D	Edge of slab, over 150mm but not exceeding 225mm girth	LM	330		
	SUBWALL				
	Natural quarry stone walling with a minimum of 7.0 N/mm2 bedded and jointed in cement and sand (1:4) mortar, reinforced with and including $25 \times 3$ mm thick hoop iron strips at every alternate course as described in;				
Е	200mm thick walls in foundations	SM	1,000		
	Pavings				
F	Supply and lay 600 x 600 x 50mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.	SM	198		
	<u>Plinth</u>				
G	1:4 cement/sand render to plinth	SM	198		
Н	Black bituminous paint to rendered plinth	SM	198		
	Carried to collection				

Item	DESCRIPTION	Unit	QTY	Rate	Amount
	COLLECTION				
	Total brought forward from page no:		SCH/1		
	Total brought forward from page no:		SCH/2		
	Total brought forward from page no:		SCH/3		
	ELEMENT NO. 1         Carried to           SUBSTRUCTURES         Main summary				

А С В F С F D S F 1 <b>Р</b>	PROPOSED PRIMARY SCHOOL BILL NO.1-BUILDERS WORKS ELEMENT No 2 - R.C FRAME In- situ vibrated reinforced concrete Class 25MPa: in: Columns Ring beam Ramp Stairs 150mm thick suspended slabs	CM CM SM CM	67 200 392	
А С В F С F D S F 1 <b>Р</b>	<b>ELEMENT No 2 - R.C FRAME</b> In- situ vibrated reinforced concrete Class 25MPa: in: Columns Ring beam Ramp Stairs	CM SM	200	
А С В F С F D S F 1 <b>Р</b>	In- situ vibrated reinforced concrete Class 25MPa: in: Columns Ring beam Ramp Stairs	CM SM	200	
A C B F C F D S F 1 F 1	Columns Ring beam Ramp Stairs	CM SM	200	
B F C F D S F 1 F	Ring beam Ramp Stairs	CM SM	200	
C F D S F 1 F	Ramp Stairs	SM		
D S F 1 F	Stairs		300	
F 1		СМ	394	
<b>F</b> 2	150mm thick suspended slabs		36	
2		SM	1,022	
r	Hollow Pot slab 230x380x300mm Thick hollow pot slabs including A142 BRC Mesh laid centrally and horizontally in 70mm thick concrete topping; 150mm thick reinforced concrete ribs at spacing of 380mm c/c all to Structural engineers details	SM	2 720	
G I	Ditto to Roof Slab	SM SM	3,732 1,578	
E A	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional) Assorted reinforcement to Structural Engineer's specifications Modular steel frame with steel plates covering formwork and/or marine board formwork: to:	Kg	63,450	
F S	Sides and soffites of beams	Sm	2,407	
G S	Sides of columns	Sm	1,008	
o s	Soffits of hollow pots / concrete blocks slabs	Sm	5,370	
o s	Soffits of insitu cast suspended slabs	Sm	1,022	
o s	Sloping Soffits of ramp	Sm	392	
Q T	To sloping soffites of staircases	SM	96	
RS	Soffits of landings	SM	40	
s F	Riser of steps over 150 mm but not exceeding 225 mm girth	LM	260	
T S	Staircase string 300mm extreme girth and cut to profile of steps	LM	120	
	Edges of landing over 150 but not exceeding 225mm high Edges of suspended slab over 150mm but not exceeding 225mm girth	Lm Lm	26 1,320	
	ELEMENT NO. 2 Carried to R.C FRAME Main summary			

Item	DESCRIPTION	Unit	QTY	Rate	Amount
	PROPOSED PRIMARY SCHOOL				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT No 3-WALLING				
	WALLING				
	<u>Machine cut guarry stone walling with a minimum of 7.0 N/mm2 bedded</u> and jointed in cement and sand (1:4) mortar, reinforced with and including 25 <u>x 3 mm thick hoop iron strips at every alternate course as described in;</u>				
А	200mm thick walling Externally	Sm	2,401		
В	200mm thick Gable walling	Sm	-		
С	200mm thick walling Internally	Sm	3,226		
D	100mm thick walling Internally	Sm	458		
Е	200mm Thick Parapet walling	Sm	330		
F	Approved hessian based damp proof course to 200mm thick walling in cement/sand mortar	Lm	547		
	ELEMENT NO. 3 Carried to				
	WALLING Main summary				

Item	DESCRIPTION	Unit	QTY	Rate	Amount
	PROPOSED PRIMARY SCHOOL				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 4-WINDOWS				
	METAL WORK				
	PURPOSE - MADE UNITS				
	Supply, assemble and fix the following purpose-made mild steel casement windows; standard metal section from approved manufacturer complete with frames, transomes, mullions and with and including permanent ventilators comprising "T" bar, gauze and 16 gauge sheet metal hood 50mm high x 50mm projection to full width of window, coupling mullions, approved ironmongery and one coat manufacturer's primer; all welding ground to smooth finish.				
	Steel; for glazing with putty, lugs to two jambs, cutting and pinning to concrete or blockwork, fixing to head and sill with screws; plugging				
	A prime cost sum of Kshs 4,500 per Sqm has been allowed for fabrication of the above specified Steel casement Windows by AHP juakali artisans as approved by the Project Manager/Architect.				
	The contractor's unit rate shall include the cost of transport, storage, fixing and all associated accesories in addition to the PC Rate.				
A	Window, overall size 2400 X 1500mm high to Architects Details	NO	117		
	Window, overall size 1500 X 1500mm high to Architects Details	NO	24		
В	Ditto Size 600 x 900mm high (WC/SH)	NO	100		
	Glazing				
С	4mm Thick clear sheet glass panes over 0.1 but not exceeding 0.5 square meters; fixing with putty	SM	475		
D	Ditto; obscure	SM	54		
	Painting and Decorations				
	<u>On Metal work</u>				
	Prepare and apply aerosol spray painting in two finishing coats of first grade paint as per the manufacturer's printed instructions to: -				
E	General window and grille surfaces; over 300mm girth internal	SM	529		
	Carried to Collection				

Item	DESCRIPTION	Unit	QTY	Rate	Amount
А	Precast concrete window cill finishing fair on all exposed surfaces and hoisting and placing in position, bedding, jointing and pointing in pigmented cement and sand (1:3) mortar 150 x 25mm thick Precast concrete window sill	LM	473		
	Carried to collection				
	COLLECTION				
	Total brought forward from page no:		SCH/7		
	Total brought forward from page no:		SCH/8		
	ELEMENT NO. 4     Carried to the       WINDOWS     Main summary				

Item	DESCRIPTION	Unit	QTY	Rate	Amount
	PROPOSED PRIMARY SCHOOL				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 5-DOORS				
	Steel Casement Doors				
А	Heavy gauge steel casement doors size 900 x 2400mm high comprising 40 x 25 x3mm stiles, top and bottom stiles, 4 No Intermediate rails, 1.5mm steel sheet both sideswelded in place and 5mm thick clear glazing, all primed with red oxide and spray painted 2 coats eggshell gloss paint; complete with hinges, stays, fasteners and necessary seremetals assembled and fixed to opening including cutting and pinning lugs to concrete or block work surround and bedding frame in cement and sand mortar (1:3). (D.01)				
		NO	3		
В	Ditto Size 1500 x 2400mm high Doubleleaf door	NO	2		
	Frames and frame finishes in cypress Timber				
С	25 x 25mm quadrant (PC Rate Kshs 75)	LM	165		
D	25 x 50mm architrave with two labours, plugged (PC Rate Kshs 150)	LM	165		
Е	150mm x 50mm frame with three labours; chamfered edges; plugged (PC Rate Kshs 800)	LM	165		
	Flush timber doors				
	A prime cost sum at the rate indicated below has been allowed for fabrication of the above specified Hardwood panelled door leaves by AHP juakali artisans as approved by the Project Manager/Architect. The contractor's unit rate shall include the cost of transport, storage, fixing and all associated accesories in addition to the PC Rate.				
F	Supply and fix 1500mm x 2060mm x 50mm thick semi solid cored flush double door Ply wood finished for painting (m/s) both sides; all to Architects Details, specifications and approval (D.03)	NO	30		
G	Ditto Size 800 x 2060mm high (PC Rate Kshs 3,500)	NO	85		
G	Ditto Size 900 x 2060mm high (PC Rate Kshs 4,000)	NO	39		
	Carried to collection				

Item	DESCRIPTION	Unit	QTY	Rate	Amount
	Painting and decorating				
	Prepare and apply one coat aluminium wood primer to:-				
А	Surfaces not exceeding 100mm girth	LM	165		
В	Surfaces over 100mm but not exceeding 200mm girth	LM	165		
	Prepare Knot, prime, stop and apply one undercoat and two finishing coats first grade timber quality paint to wood surfaces as per the manufacturer's printed instructions				
С	General timber surfaces	SM	475		
D	Surfaces not exceeding 200mm girth	LM	495		
	Ironmongery				
	Supply and fix the following ironmongery to timber complete with matching screws and keys to the approval of the Architect				
Е	100mm pressed steel Butt Hinges	Pairs	173		
F	2 Lever Door Lock with handles as per Union	NO	115		
G	Door fixing cramps	NO	690		
	Carried to Collection				
	COLLECTION				
	Total brought forward from page no:		SCH/9		
	Total brought forward from page no:		SCH/10		
	ELEMENT NO. 5 Carried to				
	DOORS Main summary				

Item	DESCRIPTION	Unit	QTY	Rate	Amount
	PROPOSED PRIMARY SCHOOL				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 6 - EXTERNAL FINISHES				
	EXTERNAL WALL FINISHES				
	External Finish <u>Cement and sand (1:4) backings etc</u>				
А	15mm thick to beams, Columns, Slab Moulds and walling externally	SM	144		
	Keying				
В	Extra over horizontal and vertical pointing in 10mm thick rod in cement and sand mix (1:3) mortar including one coat Bituminous paint	SM	2,587		
	External Painting				
	<u>Prepare and apply one coat Alkali Resistant primer followed by 3 coats of</u> <u>silicon exterior Emulsion paint in accordance with the manufacturers written</u> <u>instructions and to the satisfaction of the architect to</u>				
С	Columns surfaces externally	SM	144		
	ELEMENT NO. 6 Carried to				
	EXTERNAL FINISHES Main summary				

Item	DESCRIPTION	Unit	QTY	Rate	Amount
	PROPOSED PRIMARY SCHOOL				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 7 - INTERNAL FINISHES				
	Internal Wall Finishes				
	<u>Cement and sand (1:4) backings etc</u>				
А	15mm thick to receive Wall tiles tiles - Wet areas	SM	916		
	<u>15mm (minimum) two coat lime plaster complete with wire gauze anti-crack</u> <u>mechanism at the intersection of masonry walling and concrete beams as</u> <u>described to:-</u>				
в	Concrete/masonry surfaces <b>Internally</b>	SM	7,937		
С	Ditto to window cills, door Jambs Externally and Surfaces not exceeding 200mm girth	LM	1,357		
	<u>Ceramic wall tiles</u> <u>Allow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include cost of</u> <u>purchase, transport, offload, storage, fixing including all necessary adhesives</u> <u>and accessories</u>				
D	Supply and ceramic wall tiles or equal and approved; Bidder to include all materials needed for fixing to completion as selected by the Architect: on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall Surfaces	SM	916		
	Painting and Decoration				
	<u>Prepare and apply one coat Alkali Resistant primer followed by two finishing</u> <u>coats of silicon exterior Emulsion paint in accordance with the manufacturers</u> <u>written instructions and to the satisfaction of the architect to</u>				
Е	Plastered concrete/masonry surfaces internally	SM	7,937		
F	Ditto to window cills, door Jambs Externally and Surfaces not exceeding 200mm girth	LM	1,357		
	Carried to Collection				

	DESCRIPTION	Unit	QTY	Rate	Amount
	<u>Floor Finishes</u>				
	Cement and sand (1:3) screeds, backings, beds etc				
А	32mm bed finished to receive terazzo (m.s)	SM	5,810		
	Ditto for Ramp	SM	392		
В	Ditto to receive ceramic tiles finish	SM	542		
	Staircase finishes				
	<u>Cement and sand (1:4 ) backings etc</u>				
С	32mm bed finished to receive ceramic tiles to surfaces of Landings (m.s)	SM	40		
В	300 mm wide treads to receive ceramic tiles (m.s)	LM	260		
С	150mm risers to receive ceramic tiles (m.s)	LM	260		
	<u>Ceramic Floor tiles to Wet Areas</u> <u>Allow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessories</u>				
D	Supply and Fix Ceramic tiles or equal and approved; Bidder to include all materials needed for fixing to completion as selected by the Architect: on prepared bed(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Floor Surfaces	SM	542		
	<u>Terazzo Finishes</u>				
	Prepare 40mm thick terazzo floor finish including polishing	SM	5,810		
	Ditto for ramp	SM	392		
	Ditto 25mm thick terazzo skirting 100mm high	LM	2,076		
	Staircase finishes				
С	32mm bed finished to receive terazzo to surfaces of Landings (m.s)	SM	40		
Н	Terazzo to 300 mm wide treads	LM	260		
J	Terazzo to 150mm risers	LM	260		
	Carried to Collection				

Item	DESCRIPTION	Unit	QTY	Rate	Amount
	<u>Ceiling finishes</u>				
	<u>15mm (minimum) two coat lime plaster complete with wire gauze anti-crack</u> <u>mechanism at the intersection of masonry walling and concrete beams as</u> <u>described to:-</u>				
А	Soffites of Concrete surfaces	SM	6,784		
	Painting and Decoration				
	<u>Prepare, skim and apply Emulsion or universal undercoat followed by 3 coats</u> of soft satin Emulsion paint in accordance with the manufacturers written instructions and to the satisfaction of the architect to				
В	Plastered ceilings	SM	6,784		
	Staircase soffit finishes				
	<u>15mm (minimum) two coat lime plaster complete with wire gauze anti-crack</u> <u>mechanism at the intersection of masonry walling and concrete beams as</u> <u>described to:-</u>				
С	Soffits of staircase landing	SM	40		
D	Ditto to sloping soffites exceeding 15° from horizontal	SM	96		
	Ditto to ramp	SM	392		
E	Staircase string 300mm extreme girth and cut to profile of steps	LM	120		
	Ditto to ramp	LM	120		
	<u>Paint works</u> <u>Prepare, skim and apply Emulsion or universal undercoat followed by 3 coats</u> <u>of soft satin Emulsion paint in accordance with the manufacturers written</u> <u>instructions and to the satisfaction of the architect to</u>				
F	Soffits of staircase landing	SM	40		
G	Ditto to sloping soffites exceeding 15° from horizontal Ditto to ramp Staircase string 300mm extreme girth and cut to profile of steps	SM SM	96 392		
Н	Ditto to ramp	LM LM	120 120		
	Carried to Collection				

Item	DESCRIPTION	Unit	QTY	Rate	Amount
	Collection				
	Total brought forward from page no:		SCH/12		
	Total brought forward from page no:		SCH/13		
	Total brought forward from page no:		SCH/14		
	ELEMENT NO. 7 Carried to				
	INTERNAL FINISHES				

Item	DESCRIPTION	Unit	QTY	Rate	Amount
	PROPOSED PRIMARY SCHOOL BILL NO.1-BUILDERS WORKS				
	ROOF FLOOR FINISHES				
	Lightweight water proofed screeds				
D	50mm average waterproofed lightweight screed laid to falls and crossfalls to roof slabs -upper roof including gutter bases	SM	1,578		
	<u>Prepare and apply to vertical/horizontal surfaces 4mm thick APP/EPDM</u> <u>water proofing or other equal and approved membrane with surface finish</u> <u>weighing 4kg/sm; laid on primer with torch-on process ;by an approved</u> <u>specialist all in accordance with the manufacturers instructions including</u> <u>provision of a written ten (10) year anti leak guarantee.</u>				
Е	APP membrane applied to roof slabs - Roof Area	SM	1,578		
F	Ditto to skirting 200mm high	LM	330		
G	Dress membrane around 100mm rainwater outlet	No.	16		
	<u>The Following Flat roof concrete tiles fixed with</u> approved adhesive, laid and jointed with waterproofing bituminous compound				
Е	20mm thick interlocking Concrete tiles of size 225 x 225mm	SM	1,578		
	ELEMENT NO. 8 ROOF FINISHES Carried to the Main summary				

Item	DESCRIPTION	Unit	QTY	Rate	Amount
	PROPOSED PRIMARY SCHOOL				
	BILL NO.1-BUILDERS WORKS				
	MAIN SUMMARY		PAGE		
1	Substructures		SCH/4		
2	Reinforced Concrete Frame		SCH/5		
3	Walling		SCH/6		
4	Windows		SCH/8		
5	Doors		SCH/10		
6	External Finishes		SCH/11		
7	Internal Finishes		SCH/15		
8	Roofing Finishes		SCH/16		
	TOTAL FOR SCHOOL CARRIED TO GRAND SUMMARY				



Item	DESCRIPTION	Unit	QTY	Rate	Amount
	PROPOSED KINDERGARTEN				
	BILL NO.6-BUILDERS WORKS				
	ELEMENT NO 1 - SUBSTRUCTURES (ALL PROVISIONAL)				
	<u>Site Clearance</u>				
А	Clear site of all grass, hedges, shrubs, bushes grub up roots, load and remove from site and dispose at designated local authority areas.	SM	552		
В	Excavate average 200mm deep to remove top vegetable soil, load, remove from site and dump in designated local authority dump site.	SM	552		
С	Excavate to reduced levels in varying depths not exceeding 1.5m deep from existing ground levels.	Cm	828		
D	Ditto exceeding 1.5m deep but not exceeding 3.0m from existing reduced levels.	Cm	276		
Е	Excavate for column bases foundations depth starting from Reduced ground levels.	Cm	6		
F	Excavate for Strip foundations depth starting from Reduced ground levels.	Cm	56		
G	Extra over all type of excavation for excavating in soft rock	Cm	3		
Н	Ditto excavation in hard rock class I	Cm	3		
	Disposal of water				
I	Allow for keeping the whole of the excavation free from all spring and running water by pumping or any other such means as may be necessary	Item			
	Planking and strutting				
J	Allow for maintaining and upholding the sides of excavations and keeping excavations clear of all fallen materials, rubbish etc	Item			
	Carried to collection				

	<u>Disposal of excavated material</u>				
А	Return, fill and ram selected excavated material around foundations.	СМ	202		
В	Load,wheel and cart away surplus excavated material to a Local Authority designated dumping site or fill soil heaps as away from site instructed by the Project Engineer.	СМ	1,131		
	Fillings				
С	Make up levels using approved imported materials: compacted in layers not exceeding 300mm thick with a roller: to the satisfaction of the Structural Engineer.	СМ	789		
D	300mm thick hardcore bed: hand packed : compacted in layers not exceeding 150mm thick: to the satisfaction of the Structural Engineer	SM	526		
E	Labour to form sinking in hardcore; 350mm average x 200 mm deep	LM	9		
F	50 mm Thick Murram Blinding to surfaces of hadcore	SM	526		
	Anti - termite to treatment				
G	Approved anti-termite treatment, with ten-year guarantee, sprayed to surfaces of hardcore strictly in accordance with manufacturer's instructions.	SM	552		
	Damp-proof membrane				
Н	1000 gauge polythene or other equal and approved damp-proof membrane, laid over blinded hardcore (measured separately) with 300mm side and end laps (measured nett-allow for laps); 1 No. layer: bedded in and including cement and sand (1:3) mortar	SM	552		
	Concrete Blinding				
	Insitu concrete Class 15MPa: vibrated:				
Ι	50 mm Thick under strip foundation	SM	113		
J	50 mm Thick under column bases	SM	20		
	In- situ vibrated reinforced concrete Class 25MPa: in:				
Κ	Column bases	СМ	6		
L	Columns	СМ	2		
М	Ground beams	СМ	8		
Ν	Strip foundation	СМ	23		
0	Steps	СМ	2		
Р	100mm thick surface bed	SM	552		
Q	Slab thicknessing 200x300mm thick	LM	9		
	Carried to collection				
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	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional)			
А	Assorted reinforcement	KG	2,514	
	Mesh fabric reinforcement to K/EAS 412;2 (2019) BRC A142;200 x 200mm, weighing $2.22 \text{kg/m}^2$ (measured net - no allowance) for laps; in two layers - top & bottom; including bends, tying wire and spacer blocks)			
в	In floor beds	SM	552	
	Modular steel frame with steel plates covering formwork and/or marine board formwork: to:			
С	Vertical sides to columns	SM	40	
D	Vertical sides to column bases	SM	24	
Е	Vertical sides to strip footing	SM	75	
F	Vertical sides to ground beams	SM	75	
G	Edge of slab not exceeding 150mm girth	LM	80	
Н	Edge of risers not exceeding 150mm girth	LM	81	
	Foundation Walling			
	Natural quarry stone walling with a minimum of 7.0 N/mm2 bedded and jointed in cement and sand (1:4) mortar, reinforced with and including $25 \times 3$ mm thick hoop iron strips at every alternate course as described in;			
Ι	200mm thick walls in foundations	SM	332	
	Pavings			
J	Supply and lay 600 x 600 x 50mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.	SM	48	
	Plinth			
	25mm Thick cement and sand (1:3) rendering on concrete or masonry ; wood float finished; to			
K	Plinths externally	SM	36	
	Two coats black bitumastic paint on:			
L	Rendered surfaces	SM	36	
	Carried to collection			
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	PROPOSED KINDERGARTEN				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT No 2 - R.C FRAME				
	Insitu concrete class 25MPa: vibrated: reinforced				
А	Columns	СМ	2		
В	Ring beam	СМ	23		
С	Ramp	SM	5		
	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional)				
D	Assorted reinforcement <u>Modular steel frame with steel plates covering formwork and/or marine</u> <u>board formwork: to</u>	Kg	3,776		
E	Sides and soffites of beams	Sm	150		
F	Sides of columns	Sm	41		
	ELEMENT NO. 2 Carried to				
	R.C FRAME Main summary				

	PROPOSED KINDERGARTEN				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT No 3-WALLING				
	WALLING				
	External Walling				
	Machine cut quarry stone walling with a minimum of 7.0 N/mm2 bedded and jointed in cement and sand (1:4) mortar, reinforced with and including 25 x 3 mm thick hoop iron strips at every alternate course as described in:				
А	200mm thick walling Externally	Sm	210		
В	200mm thick Gable walling	Sm	74		
	Internal Walling				
	<u>Machine cut quarry stone walling with a minimum of 7.0 N/mm2</u> <u>bedded and jointed in cement and sand (1:4) mortar, reinforced with</u> <u>and including 25 x 3 mm thick hoop iron strips at every alternate course</u> <u>as described in:</u>				
С	200mm thick walling Internally	Sm	81		
D	150mm thick walling Internally	Sm	20		
Е	Approved hessian based damp proof course to 200mm thick walling in cement/sand mortar	Lm	187		
	ELEMENT NO. 3 Carried to				
	WALLING Main summary				

	PROPOSED KINDERGARTEN				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 4-WINDOWS				
	MILD STEEL WINDOWS Supply, fabricate and fix the following purpose made mild steel casement windows to be fabricated from approved mild steel sections (atleast 14g 2mm thick ) comprising of frame and casement incorporating permanent hooded high level ventilation panels infilled with mosquito gauze : window supplied complete with and including 12mm solid square burglar proofing bars fixed at 200mm centres both ways and metal fixing lugs including building into wall and making good, and all necessary iron mongery viz hinges, fasteners, and hasp including shop priming window with red oxide primer before delivery to site:- A prime cost sum of Kshs 4,500 per Sqm has been allowed for fabrication of the above specified Steel casement Windows by AHP juakali artisans as approved by the Project Manager/Architect.				
	The contractor's unit rate shall include the cost of transport, storage, fixing and all associated accesories in addition to the PC Rate.				
А	Window, overall size 2400 X 1500mm high to Architects Details	NO	11		
В	Ditto Size 600 x 900mm high (WC/SH)	NO	3		
С	Ditto size 525 X 1500mm high to Architects Details	NO	13		
	Glazing				
С	4mm Thick clear sheet glass panes over 0.1 but not exceeding 0.5 square meters; fixing with premium putty	SM	50		
D	Ditto; obscure	SM	2		
	Painting and Decorations				
	<u>On Metal work</u>				
E	<u>Prepare and apply aerosol spray painting in two finishing coats</u> of first grade paint as per the manufacturer's printed instructions to: - General window and grille surfaces; over 300mm girth internal	SM	102		
	Carried to Collection				

	Precast concrete window cill surfaces and hoisting and pla and pointing in pigmented ce	cing in position, bedding, jointing			
А	150 x 25mm thick precast conc	rete window sill	LM	37	
	Carried to collection				
	COLLECTION				
	Total brought forward from pag	e no: 7			
	Total brought forward from pag	e no: 8			
	<u>ELEMENT NO. 4</u> <u>WINDOWS</u>	Carried to the Main summary			

	PROPOSED KINDERGARTEN				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 5-DOORS				
	Steel Casement Doors				
	Supply, fabricate and fix the following purpose made mild steel casement door comprising 40 x 25 x3mm stiles, top and bottom stiles, 4 No Intermediate rails, 1.5mm steel sheet both sideswelded in place and 5mm thick clear glazing, all primed with red oxide and spray painted with two finishing coats of first grade quality gloss oil paint on ; complete with all necessary ironmongery fasteners and necessary seremetals assembled and fixed to opening including cutting and pinning lugs to concrete or block work sorroung and bedding frame in cement and sand mortar (1:3).				
A	Door size 900 x 2400mm high	NO	4		
В	Ditto Door size 1500 x 2400mm high	NO	1		
	Frames and frame finishes in cypress Timber				
С	25 x 25mm quadrant (PC Rate Kshs 75)	LM	38		
D	$25 \ge 50$ mm architrave with two labours, plugged (PC Rate Kshs 150)	LM	38		
E	150mm x 50mm frame with three labours; chamfered edges; plugged (PC Rate Kshs 800)	LM	38		
	Flush timber doors				
	50 mm thick Semi Solid cored flush doors with plywood facing to receive painting (m.s) all to Architects details, specifications and approval				
	A prime cost sum at the rate indicated below for fabrication of the above specified Timber Flush door leaves by AHP juakali artisans as approved by the Project Manager/Architect.				
	The contractor's unit rate shall include the cost of transport, storage, fixing and all associated accesories in addition to the PC Rate.				
F	Door size 900mm x 2060mm (PC Rate Kshs 4,000)	NO	4		
G	Ditto Size 800 x 2060mm high (PC Rate Kshs 3,500)	NO	4		
	Carried to collection				-

	Painting and decorating			
	Priming back of frame with an aluminium or equivalent and approved wood primer			
А	Surfaces not exceeding 100mm girth	LM	76	
В	Surfaces over 100mm but not exceeding 200mm girth	LM	38	
	Prepare Knot, prime, stop and apply one undercoat and two finishing coats first grade timber quality paint to wood surfaces as per the manufacturer's printed instructions			
С	General timber surfaces	SM	26	
D	Surfaces not exceeding 200mm girth	LM	38	
Е	Architraves: not exceeding 100 mm girth	LM	38	
F	Quadrant beading : not exceeding 100 mm girth	LM	38	
	Ironmongery			
	Supply and fix the following ironmongery to timber complete with matching screws and keys to the approval of the Architect			
	Supply and Fix the following ironmongery to the approval of the <u>Architect</u>			
G	100mm pressed steel Butt Hinges	Pairs	12	
Н	Stainless steel 2 Lever Door Lock with handles	NO	8	
Ι	Door fixing cramps	NO	8	
	Carried to Collection			
	COLLECTION			
	Total brought forward from page no: 9			
	Total brought forward from page no: 10			
	ELEMENT NO. 5 Carried to			
	DOORS Main summary			
	Main Summary			

O.1-BUILDERS WORKS CAT NO 6 - EXTERNAL FINISHES CAL WALL FINISHES CAL WALL FINISHES CAL WALL FINISHES CAL WALL FINISHES CAL SAND (1:3) render:wood floated: on concrete or blockwork: thick to columns/beams surfaces externally thick to columns/beams surfaces externally thick to columns/beams surfaces externally thick to columns/beams surfaces externally and sand mix (1:3) mortar including one coat Bituminous al Painting the and apply one coat Alkali Resistant primer followed by two g coats of silicon exterior Emulsion paint in accordance with the exturers written instructions and to the satisfaction of the cottors of the satisfaction of the	SM	191 284	
ENT NO 6 - EXTERNAL FINISHES ENAL WALL FINISHES al Finish and sand (1:3) render:wood floated: on concrete or blockwork: thick to columns/beams surfaces externally thick to columns/beams surfaces externally ver horizontal and vertical pointing in 10mm thick rod in and sand mix (1:3) mortar including one coat Bituminous al Painting e and apply one coat Alkali Resistant primer followed by two g coats of silicon exterior Emulsion paint in accordance with the extrueres written instructions and to the satisfaction of the	SM		
<b>EXAL WALL FINISHES al Finish al and sand</b> (1:3) render:wood floated: on concrete or blockwork: thick to columns/beams surfaces externally thick to columns/beams surfaces externally ver horizontal and vertical pointing in 10mm thick rod in and sand mix (1:3) mortar including one coat Bituminous <b>al Painting b c and apply one coat Alkali Resistant primer followed by two g coats of silicon exterior Emulsion paint in accordance with the instructions and to the satisfaction of the</b>	SM		
al Finish and sand (1:3) render:wood floated: on concrete or blockwork: thick to columns/beams surfaces externally ver horizontal and vertical pointing in 10mm thick rod in and sand mix (1:3) mortar including one coat Bituminous al Painting e and apply one coat Alkali Resistant primer followed by two g coats of silicon exterior Emulsion paint in accordance with the ucturers written instructions and to the satisfaction of the	SM		
and sand (1:3) render:wood floated: on concrete or blockwork: thick to columns/beams surfaces externally ver horizontal and vertical pointing in 10mm thick rod in and sand mix (1:3) mortar including one coat Bituminous <b>al Painting</b> <u>e and apply one coat Alkali Resistant primer followed by two</u> <u>g coats of silicon exterior Emulsion paint in accordance with the</u> <u>ucturers written instructions and to the satisfaction of the</u>	SM		
thick to columns/beams surfaces externally ver horizontal and vertical pointing in 10mm thick rod in and sand mix (1:3) mortar including one coat Bituminous <b>al Painting</b> <u>e and apply one coat Alkali Resistant primer followed by two</u> <u>g coats of silicon exterior Emulsion paint in accordance with the</u> <u>ucturers written instructions and to the satisfaction of the</u>	SM		
ver horizontal and vertical pointing in 10mm thick rod in and sand mix (1:3) mortar including one coat Bituminous <b>al Painting</b> <u>a and apply one coat Alkali Resistant primer followed by two</u> <u>g coats of silicon exterior Emulsion paint in accordance with the</u> <u>ucturers written instructions and to the satisfaction of the</u>	SM		
ver horizontal and vertical pointing in 10mm thick rod in and sand mix (1:3) mortar including one coat Bituminous al Painting e and apply one coat Alkali Resistant primer followed by two g coats of silicon exterior Emulsion paint in accordance with the acturers written instructions and to the satisfaction of the		284	
and sand mix (1:3) mortar including one coat Bituminous al Painting <u>e and apply one coat Alkali Resistant primer followed by two</u> <u>g coats of silicon exterior Emulsion paint in accordance with the</u> <u>incturers written instructions and to the satisfaction of the</u>		284	
e and apply one coat Alkali Resistant primer followed by two g coats of silicon exterior Emulsion paint in accordance with the acturers written instructions and to the satisfaction of the			
g coats of silicon exterior Emulsion paint in accordance with the acturers written instructions and to the satisfaction of the			
ns surfaces externally	SM	191	

	PROPOSED KINDERGARTEN			
	BILL NO.1-BUILDERS WORKS			
	ELEMENT NO 7 - INTERNAL FINISHES			
	Internal Wall Finishes			
	<u>Cement and sand (1:3) backings</u>			
А	15mm thick to receive ceramic Wall tiles	SM	54	
	Ceramic wall tiles			
	<u>Allow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessories</u>			
В	Supply and Fix approved ceramic wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall Surfaces	SM	54	
	<u>15mm (minimum) two coat cement, sand (1:3) plaster complete with</u> wire gauze anti-crack mechanism at the intersection of masonry walling and concrete beams as described to:-			
С	Concrete/masonry surfaces	SM	431	
D	Ditto to door Jambs Externally and Surfaces not exceeding 200mm girth	LM	206	
	Painting and Decoration			
	Prepare, Skim and apply Emulsion or universal undercoat followed by two finishing coats of soft satin Emulsion paint in accordance with the manufacturers written instructions and to the satisfaction of the architect to			
Е	Plastered concrete/masonry surfaces internally	SM	431	
F	Ditto to window cills, door Jambs Externally and Surfaces not exceeding 200mm girth	LM	206	
	Carried to Collection			

	<u>Floor Finishes</u>				
	<u>Cement and sand (1:3) screeds, backings, beds etc</u>				
А	32mm bed finished to receive Floor Tiles (m.s)	SM	487		
В	32mm Thick coloured cement sand screed mix 1:3 finished with red oxide to approval	SM	5		
	Steps finishes				
	<u>Cement and sand (1:4 ) backings etc</u>				
С	$25 \ge 300 \text{ mm}$ wide treads to receive ceramic tiles (m.s)	LM	80		
D	20 x 150mm risers to receive ceramic tiles (m.s)	LM	81		
Е	<u>Ceramic Floor tiles</u> <u>Allow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include</u> <u>cost of purchase, transport, offload, storage, fixing including all</u> <u>necessary adhesives and accessories</u> Supply and Fix Ceramic tiles, on prepared bed(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval.	SM	487		
F	Ditto Non Slip Ceramic Tiles	SM	0		
G	Ditto 100mm wide Wall Skirtings	LM	259		
	Steps finishes				
Н	Non Slip Ceramic Tiles to 300 mm wide treads	LM	80		
Ι	Non Slip Ceramic Tiles to 150mm risers	LM	81		
	Carried to Collection				

	<u>Ceiling finishes</u>				
	Chipboard ceiling				
А	Supply and fix 6mm thick chipboard ceiling on timber brandering (m.s)	SM	492		
	Painting and Decoration				
	Prepare, skim and apply Emulsion or universal undercoat followed by 3 coats of soft satin Emulsion paint in accordance with the manufacturers written instructions and to the satisfaction of the architect to				
В	Chipboard Ceiling	SM	492		
	Timber brandering				
	<u>Sawn cypress timber</u>				
С	50x50mm brandering at 600mm c/c	SM	492		
	Carried to Collection				

COLLECTION			
Total brought forward from page no: 12			
Total brought forward from page no: 13			
Total brought forward from page no: 14			
ELEMENT NO. 7 Carried to INTERNAL FINISHES			

	PROPOSED KINDERGARTEN				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 8 - ROOFING				
	ROOF STRUCTURE (GABLE ROOF)				
	Note: All structural timber to be celcured [factory impregnated]				
	<u>Note:All timber members are jointed using galvanised nails and timber plates.</u>				
	First grade sawn cypress: Approved structural grade: with and including all jointing and connections as necessary: in roof trusses				
	<u>(All timber work is provisional)</u>				
А	150 x 50 mm wall plate: fixed to masonry blocks: including hoop iron at 900mm centres	LM	104		
В	150 x 50 mm ridge board	LM	111		
С	100 x 50 rafters	LM	1,316		
D	100 x 50 mm Purlins	LM	592		
Е	200 x 25 mm Fascia and barge boards	LM	104		
	ROOF COVERING				
F	Gauge 30 prepainted Galvanised Corrugated Iron roofing sheets as MRM or other equal and approved:200mm head laps:2 corrugations side laps nailed to purlins with galvanised naills c/w matching rubber washers	SM	658		
G	Ditto: ridge caps : 200mm overlap	LM	56		
	RAIN WATER GOODS				
Н	PVC Gutters size 200mm dia fixed to fascia boards (m/s) with and including approved steel brackets at 1000mm centres	LM	104		
Ι	Ditto: 100mm diameter offset	NO	14		
J	Ditto: 100mm diameter downpipe fixed to the wall using brackets	NO	46		
K	Ditto: 100mm diameter shoe	NO	14		
	ELEMENT NO. 8 ROOFING Carried to the Main summary				

	PROPOSED KINDERGARTEN		
	BILL NO.1-BUILDERS WORKS		
	MAIN SUMMARY	PAGE	AMOUNT (KSHS)
1	Substructures	K/4	
2	Reinforced Concrete Frame	K/5	
3	Walling	K/6	
4	Windows	K/8	
5	Doors	K/10	
6	External Finishes	K/11	
7	Internal Finishes	K/15	
8	Roofing	K/16	
	TOTAL FOR KINDERGARTEN CARRIED TO GRAND SUMMARY		



ITEM	DESCRIPTION <u>PROPOSED APARTMENTS FOR AFFORDABLE HOUSING</u> <u>PROGRAM ( COMMERCIAL BLOCK - 32 Unit-SHOPS)</u> BILL NO.1-BUILDERS WORKS ELEMENT NO 1 - SUBSTRUCTURES (ALL PROVISIONAL)	UNIT	QТY	RATE	AMOUNT
	PROGRAM ( COMMERCIAL BLOCK - 32 Unit-SHOPS) BILL NO.1-BUILDERS WORKS				
	<u>Site Clearance</u>				
А	Clear site of all grass, hedges, shrubs, bushes grub up roots, load and remove from site and dispose at designated local authority areas.	SM	313		
В	Excavate average 200mm deep to remove top vegetable soil, load, remove from site and dump in designated local authority dump site.	SM	313		
-	Excavate to reduced levels in varying depths not exceeding 1.5m deep from existing ground levels.	Cm	140		
	Excavate for Strip foundations depth not exceeding 1.50 metres starting from Reduced ground levels.	Cm	246		
<b>P</b> .	Excavate for column bases depth not exceeding 1.5m starting from reduced Levels	Cm	20		
F	Extra over all type of excavation for excavating in soft rock	Cm	26		
G	<b>Disposal of water</b> Allow for keeping the whole of the excavation free from all spring and running water by pumping or any other such means as may be necessary	Item	1		
	<b>Planking and strutting</b> Allow for maintaining and upholding the sides of excavations	T			
	Allow for maintaining and upholding the sides of excavations and keeping excavations clear of all fallen materials, rubbish etc <b>Carried to collection</b>	Item	1		

ITEM	DESCRIPTION	UNIT	QTY	RATE	COMMERCIAL BLOC AMOUNT
	Disposal of excavated material				
А	Return, fill and ram selected excavated material around foundations.	СМ	227		
В	Load, wheel and cart away surplus excavated material to a Local Authority designated dumping site or fill soil heaps as away from site instructed by the Project Engineer. <b>Fillings</b>	СМ	37		
С	Make up levels using approved imported materials: compacted in layers not exceeding 300mm thick with a roller: to the satisfaction of the Structural Engineer.	СМ	151		
D	300mm thick hardcore bed: hand packed : compacted in layers not exceeding 150mm thick: to the satisfaction of the Structural Engineer				
	50 mm Thick Murram Blinding to surfaces of hadcore	SM	313		
E	Anti - termite to treatment	SM	313		
	Approved anti-termite treatment, with ten-year guarantee,				
F	sprayed to surfaces of hardcore strictly in accordance with manufacturer's instructions.	SM	313		
	Damp-proof membrane				
G	1000 gauge polythene or other equal and approved damp-proof membrane, laid over blinded hardcore (measured separately) with 300mm side and end laps (measured nett-allow for laps); 1 No. layer: bedded in and including cement and sand (1:3) mortar	SM	313		
	Concrete Blinding				
	Insitu concrete class 15/20 mm aggregates: vibrated:				
Η	50 mm Thick under column bases	SM	34		
Ŧ	50 mm Thick under strip foundation				
J		SM	164		
	In- situ vibrated reinforced concrete Class 25 (20mm aggregates): in:				
К	Column bases	СМ	14		
L	Columns	СМ	2		
М	Strip foundation	СМ	33		
Ν	100mm thick surface bed	SM	312		
	Carried to collection				

ITEM	DESCRIPTION	UNIT	QTY	RATE	COMMERCIAL BLOCK
	Ribbed reinforcement steel bars to BS4449: 2005: Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional)		<u></u>		
А	Assorted reinforcement	Kg	3,650		
	Mesh fabric reinforcement to BS 4483 BRC A142;200 x 200mm, weighing $2.22 \text{kg/m}^2$ (measured net - no allowance) for laps; in two layers - top & bottom; including bends, tying wire and spacer blocks)				
В	In floor beds.	SM	312		
	<u>Modular steel frame with 5mm thick steel plates covering formwork</u> <u>and/or marine board formwork: to:</u>				
С	Vertical sides of columns	SM	41		
D	Vertical sides of column bases	SM	54		
Е	Edge of slab not exceeding 150mm girth	LM	172		
	Foundation Walling				
	Natural quarry stones rough dressed; bedded in and including cement and sand (1:4) mortar; reinforced with and including 45mm wide hoop iron gauge in alternate courses: in:				
F	200mm thick walls in foundations	SM	356		
	<u>Pavings</u>				
G	Supply and lay 600 x 600mm medium duty paving blocks round the Building including laying, spreading and compacting 100mm thick approved sand bed blinding to approval.	SM	110		
	<u>Plinth</u>				
	25mm Thick cement and sand (1:4) rendering on concrete or masonry ; wood float finished; to				
Н	Plinths externally	SM	52		
	Two coats black bitumastic paint on:				
J	Rendered surfaces	SM	52		
	Carried to collection				

ITEM	DESCRIPTION	UNIT	QTY	RATE	COMMERCIAL BLOC AMOUNT
	COLLECTION				
	Total brought forward from page no:		CM/1		
	Total brought forward from page no:		CM/2		
	Total brought forward from page not		CM/2		
	Total brought forward from page no:		CM/3		
	ELEMENT NO. 1 Carried to				
	SUBSTRUCTURES Main summary				

COMMERCIAL BLOCK

ITEM	DESCRIPTION	UNIT	QTY	RATE	COMMERCIAL BLOG
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM ( COMMERCIAL BLOCK - 32 Unit-SHOPS)				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT No 2 - R.C FRAME				
	Insitu concrete class 25 (20 mm aggregate): vibrated: reinforced				
А	Columns	СМ	8		
В	Beams	СМ	16		
С	Upper Roof Beams	СМ	16		
D	150mm thick suspended slab	SM	312		
Е	150 mm thick landing	SM	14		
F	Staircases	СМ	6		
	Ribbed reinforcement steel bars to BS4449: 2005:Grade 500 high tensile strength including bends, hooks, tying wire and distance blocks to S.E's detail (All provisional)				
G	Assorted reinforcement	Kg	11,256		
	<u>Modular steel frame with 5mm thick steel plates covering formwork</u> and/or marine board formwork: to				
Н	Sides of columns	Sm	163		
J	Sides and soffites of beams	Sm	218		
Κ	Soffits of suspended solid slabs	Sm	312		
L	Edges of slab over 150mm but not exceeding 225mm girth				
		Lm	172		
Μ	Sloping soffites of staircases	SM	54		
Ν	Soffits of landings	SM	14		
Р	Riser of steps over 150 mm but not exceeding 225 mm girth	LM	90		
Q	Staircase string 300mm extreme girth and cut to profile of steps	LM	26		
	Edges of landing over 150 but not exceeding 225mm high	12141	20		
R		Lm	9		
	ELEMENT NO. 2 Carried to				
	R.C FRAME Main summary				

ITEM	DESCRIPTION		OTV	DATE	COMMERCIAL BLOC
		UNIT	QTY	RATE	AMOUNT
	DODOSED ADADTMENTS FOD AFFODDADI F HOUSING				
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM ( COMMERCIAL BLOCK - 32 Unit-SHOPS)				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT No 3-WALLING				
	WALLING				
	External Walling				
	Machine cut quarry stone walling with a minimum of 7.0 N/mm2				
	average compressive strength to B.S 5390; bedded and jointed in				
	<i>cement and sand (1:4) mortar, reinforced with and including 25 x 3 mm thick hoop iron strips at every alternate course as described in;</i>				
	min mick noop from strips at every allemate course as described in,				
A	200mm thick walling Externally	Sm	894		
	Internal Walling				
	Machine cut quarry stone walling with a minimum of 7.0 N/mm2				
	average compressive strength to B.S 5390; bedded and jointed in				
	cement and sand (1:4) mortar, reinforced with and including 25 x 3 mm thick hoop iron strips at every alternate course as described in:				
	man than hoop from on po at every allemate course as accorded in				
Б		0	604		
В	200mm thick walling Internally	Sm	604		
С	Approved hessian based damp proof course to 200mm thick	Lm	544		
	walling in cement/sand mortar	LIII	544		
	ELEMENT NO. 3 Carried to				
	WALLING Main summary				

ITEM	DESCRIPTION	UNIT	QTY	RATE	COMMERCIAL BLOCK AMOUNT
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM ( COMMERCIAL BLOCK - 32 Unit-SHOPS) BILL NO.1-BUILDERS WORKS ELEMENT NO 4-WINDOWS				
	MILD STEEL WINDOWS Supply, fabricate and fix the following purpose made mild steel casement windows to be fabricated from approved mild steel sections (atleast 14g 2mm thick ) comprising of frame and casement incorporating permanent hooded high level ventilation panels infilled with mosquito gauze : window supplied complete with and including 12mm solid square burglar proofing bars fixed at 200mm centres both ways and metal fixing lugs including building into wall and making good, and all necessary iron mongery viz hinges, fasteners, and hasp including shop priming window with red oxide primer before delivery to site:-				
A	Window, overall size 600 x 900mm high to Architects Details (WC/SH)	NO	16		
	Glazing				
В	4mm Thick obscure sheet glass panes over 0.1 but not exceeding 0.5 square meters; fixing with putty	SM	9		
	Painting and Decorations				
	<u>On Metal work</u>				
	Prepare and apply aerosol spray painting in two finishing coats of first grade approved paint as described in				
С	General window and grille surfaces; over 300mm girth internal	SM	18		
	Bull-nosed burnt clay, finishing fair on all exposed surfaces and hoisting and placing in position, bedding, jointing and pointing in pigmented cement and sand (1:3) mortar				
D	150 x 25mm thick clay window sill	LM	10		
	ELEMENT NO. 4 Carried to the				
	WINDOWS Main summary				

ITEM	DESCRIPTION	UNIT	QTY	RATE	COMMERCIAL BLOCI AMOUNT
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM ( COMMERCIAL BLOCK - 32 Unit-SHOPS) BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 5-DOORS				
	Roller shutter door				
А	Roller shutter door 1800 x 2400mm high ; comprising of 1800 x 2400 mm high roller shutter in 200mm wide gauge 18 mildsteel laths; galvanized iron pipe suspension system inclusive of vertical guide chanels, brackets and brackets in midsteel;2 no 650 x 2000 mm high fixed lights in 75 x 50 mm powder coated frames with all necessary iron mongery, painting all to architects details and approval.	No	32		
	Flush timber doors				
	50 mm thick Semi Solid cored flush doors with plywood facing to receive painting (m.s) all to Architects details, specifications and approval				
В	Door size 900mm x 2400mm including fixed fanlight size 900 x 300mm high in 4mm clear glass (m.s)	NO	28		
	4mm Thick clear sheet glass fixing with timber glazing beads to timber casements.				
С	In panes exceeding 0.1 sqm but not exceeding 0.5 square metres.	SM	8		
	Frames and frame finishes in soft wood Timber				
D	25 x 25mm quadrant	LM	160		
E	25 x 50mm architrave with two labours, plugged	LM	160		
F	150 x 50mm frame with three labours; chamfered edges; plugged	LM	160		
	Carried to collection				

Pathtling and decorating     Paining hack of frame with an aluminium or equivalent and auranued used integer     Image: Constraint of the second of t	ITEM	DESCRIPTION	UNIT	QTY	RATE	COMMERCIAL BLOC
Priming back of frame with an aluminium or equivalent and. approved wood primer       Image: Second Secon		Drinting and descripting				
approved used primer       IM       160         A       Surfaces not exceeding 100mm girth       IM       160         B       Surfaces over 100mm but not exceeding 200mm girth       IM       160         C       General timber surfaces       SM       106         D       Surfaces not exceeding 200mm girth       LM       320         E       Surfaces not exceeding 200mm girth       LM       320         E       Surfaces over 100mm but not exceeding 200mm girth       LM       160         D       Surfaces over 100mm but not exceeding 200mm girth       LM       160         E       Surfaces over 100mm but not exceeding 200mm girth       LM       160         F       100mm pressed steel Butt Hinges       Pairs       42         G       Stainless steel 2 Lever Door Lock with handle       NO       28         H       Door fixing cramps       NO       168		Panung and decording				
B       Surfaces over 100mm but not exceeding 200mm girth       LM       160         Prepare Knot, prime, stop and apply one undercoat and two coats. first grade quality gloss oil paint to ucood surfaces       SM       106         C       General timber surfaces       SM       106         D       Surfaces not exceeding 200mm girth       LM       320         E       Surfaces over 100mm but not exceeding 200mm girth       LM       320         E       Surfaces over 100mm but not exceeding 200mm girth       LM       160         F       Surfaces over 100mm but not exceeding 200mm girth       LM       160         F       Surfaces over 100mm but not exceeding 200mm girth       LM       160         F       100mm pressed steel Butt Hinges       Pairs       42         G       Stainless steel 2 Lever Door Lock with handle       NO       28         H       Door fixing cramps       NO       168         COLLECTION       CM/8       CM/8						
Interface on contract on one on application of the state of a point to used surfaces       Image: Contract of a point to used surfaces         C       General timber surfaces       SM       106         D       Surfaces not exceeding 200mm girth       LM       320         E       Surfaces over 100mm but not exceeding 200mm girth       LM       160         Ironmongery       Supply and fix the following ironmongery to timber complete with matching screws and keys to the approval of the Architect       NO       28         F       100mm pressed steel Butt Hinges       Pairs       42         G       Stainless steel 2 Lever Door Lock with handle       NO       28         H       Door fixing cramps       NO       168         COLLECTION       CM/8       CM/9	А	Surfaces not exceeding 100mm girth	LM	160		
Irist grade quality gloss oil paint to used surfaces       SM       Interpret in the second surface of th	В	Surfaces over 100mm but not exceeding 200mm girth	LM	160		
D       Surfaces not exceeding 200mm girth       LM       320         E       Surfaces over 100mm but not exceeding 200mm girth       LM       160         Ironmongery       Supply and fix the following ironmongery to timber complete with matching screws and keys to the approval of the Architect       No       42         F       100mm pressed steel Butt Hinges       Pairs       42         G       Stainless steel 2 Lever Door Lock with handle       NO       28         H       Door fixing cramps       NO       168         Collection       NO       28         Total brought forward from page no:       CM/8       CM/9         Total brought forward from page no:       CM/9       CM/9						
E       Surfaces over 100mm but not exceeding 200mm girth       LM       160         Ironmongery       Supply and fix the following ironmongery to timber complete with matching screws and keys to the approval of the Architect       V       42         F       100mm pressed steel Butt Hinges       Pairs       42         G       Stainless steel 2 Lever Door Lock with handle       NO       28         H       Door fixing cramps       NO       168         Collection       Carried to Collection       Image: Collection for the forward from page no:       CM/8         Total brought forward from page no:       CM/9       CM/9       Image: Collection form page no:	С	General timber surfaces	SM	106		
Ironmongery         Supply and fix the following ironmongery to timber complete with matching screws and keys to the approval of the Architect         F       100mm pressed steel Butt Hinges       Pairs       42         G       Stainless steel 2 Lever Door Lock with handle       NO       28         H       Door fixing cramps       NO       168         Carried to Collection       Image: Collection for the forward from page no:       Image: Collection forward from page no:         Total brought forward from page no:       CM/9       CM/9	D	Surfaces not exceeding 200mm girth	LM	320		
Supply and fix the following ironmongery to timber complete with matching screws and keys to the approval of the Architect       Image: Screws and keys to the approval of the Architect         F       100mm pressed steel Butt Hinges       Pairs       42         G       Stainless steel 2 Lever Door Lock with handle       NO       28         H       Door fixing cramps       NO       168         Collection       Image: Screws and keys to the approval of to a book the approval of to a brought forward from page no:       Image: Screws and keys to the approval of to a brought forward from page no:       Image: Screws and keys to the approval of to a brought forward from page no:         Image: Screws and keys to the approval of to a brought forward from page no:       Image: Screws and keys to the approval of to a brought forward from page no:       Image: Screws and keys to the approval of to a brought forward from page no:	E	Surfaces over 100mm but not exceeding 200mm girth	LM	160		
interact       Pairs       42         F       100mm pressed steel Butt Hinges       Pairs       42         G       Stainless steel 2 Lever Door Lock with handle       NO       28         H       Door fixing cramps       NO       168         Corried to Collection       Image: Collection for the page no:       Image: Collection for the page no:       Image: Collection for the page no:         Total brought forward from page no:       CM/9       CM/9       Image: Collection for the page no:		Ironmongery				
G       Stainless steel 2 Lever Door Lock with handle       NO       28         H       Door fixing cramps       NO       168         H       NO       168       Image: Carried to Collection         COLLECTION       Image: CM/8       Image: CM/9       Image: CM/9         Total brought forward from page no:       Image: CM/9       Image: CM/9       Image: CM/9						
H Door fixing cramps NO 168 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F	100mm pressed steel Butt Hinges	Pairs	42		
Carried to Collection	G	Stainless steel 2 Lever Door Lock with handle	NO	28		
COLLECTION       CM/8         Total brought forward from page no:       CM/8         Total brought forward from page no:       CM/9	Η	Door fixing cramps	NO	168		
COLLECTION       CM/8         Total brought forward from page no:       CM/8         Total brought forward from page no:       CM/9						
Total brought forward from page no:       CM/8         Total brought forward from page no:       CM/9		Carried to Collection				
Total brought forward from page no:       CM/8         Total brought forward from page no:       CM/9		COLLECTION				
Total brought forward from page no:						
		Total brought forward from page no:		CM/8		
		Total brought forward from page no:		СМ/9		
ELEMENT NO. 5     Carried to		rotal orought for ward from page fio.				
ELEMENT NO. 5     Carried to						
		ELEMENT NO. 5 Corried to				
DOORS Main summary						

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUN
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM ( COMMERCIAL BLOCK - 32 Unit-SHOPS)				
	ELEMENT NO. 7				
	<b>ROOF CONSTRUCTION AND FINISHES</b>				
	All members are first grade sawn celcured pressure impregnated cypress				
	The following trusses spanning at various lengths at $1200$ mm c/c and 6m from ground level.				
	(All timber work is provisional)				
	Truss T1				
А	150 x 50 truss rafters	LM	487		
В	150 x 50 mm King post	LM	130		
С	Ditto struts and ties	LM	556		
D	Ditto tie beam	LM	324		
E	$100 \ge 50$ wall plate.	LM	172		
F	Ditto purlins	LM	441		
	End of trusses				
	ROOF COVERING				
	Prepainted 26 Gauge box profile galvanised steel sheet shaped as				
	per architects approval or equally and approved				
G	Ridge	LM	74		
Н	Roof covering	SM	500		
	<u>In wrot cypress - prime grade</u>				
	250 x 25mm fascia board	LM	112		
J	100 x 20 mm T & G in eaves boarding on blandering	SM	50		
Κ	25 x 100 mm moulded cornice.	LM	169		
	Roof drainage				
	26 Gauge galvanised steel sheet shaped as per architects				
	approval or equally and approved				
т	150 x 150 mm GI rain water gutter fixed to fascia board with	тъл	75		
L	mild steel brackets at 1.50 m centres.	LM	15		
Μ	Extra over ditto for stopped ends	No	6		
Ν	Extra over for 100mm diameter outlet	No	6		
P	100mm diameter down pipe fixed to walls with mild steel		26		
Р	brackets at 1.50 m centres.	LM	36		
Q	Extra over ditto for swan neck offset.	No	6		
R	Ditto for splash shoe.	No	6		
	12 mm diameter x 150 mm holding down bolt with head, nut	-	_		
S	and washers.	No.	48		
	CARRIED FORWARD TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	COMMERCIAL BLOCI
	BROUGHT FORWARD FROM PREVIOUS PG		<u> </u>		
	Painting and decorating				
	Prepare and apply three coats of gloss paint to timber surfaces				
А	Wood surfaces 200 - 300mm girth	LM	112		
	Knot, prime, stop and apply one 3 coats of polyurethane varnish to:-				
В	Wood general surfaces externally.	SM	50		
С	Surfaces of timber cornices, 0-100mm girth.	LM	169		
D	<b><u>Ceiling finishes</u></b> Prepare and install 12mm thick Celotex ceiling or approved equivallent as per architects' details and approval.	SM	312		
E	<b>Brandering</b> 50 x 50 mm timber brandering spaced 600mm c/c as per architects details and approval	LM	588		
	ELEMENT NO. 6 Carried to				
	ROOF Main summary				

					COMMERCIAL BLOCH
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM ( COMMERCIAL BLOCK - 32 Unit-SHOPS)				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 7- EXTERNAL FINISHES				
	EXTERNAL WALL FINISHES				
	<u>Cement and sand (1:3) render:wood floated: on concrete or</u> <u>blockwork: to</u>				
А	15mm thick beam, columns, slab moulds and walling externally	SM	205		
В	Extra over horizontal and vertical pointing in 10mm thick rod in cement and sand mix (1:3) mortar including one coat Bituminous paint	SM	689		
	Painting				
	<u>Prepare and apply one coat undercoat and two finishing coats of</u> <u>long lasting exterior/ weatherguard paint or other equal and</u> <u>approved exterior quality paint to surfaces as described in:-</u>				
С	Concrete/masonry surfaces externally-Beam, Column and Slab Moulds	SM	205		
	ELEMENT NO. 7 Carried to				
	EXTERNAL FINISHES Main summary				

					COMMERCIAL BLOCK
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM ( COMMERCIAL BLOCK - 32 Unit-SHOPS) BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 8 - INTERNAL FINISHES				
	Internal Wall Finishes				
	<u>Cement and sand (1:4) backings</u>				
А	12mm thick to receive Wall tiles	SM	157		
	<u>Ceramic wall tiles</u>				
	<u>Allow a Prime Cost supply rate of Ksh. 1000 per SM</u>				
В	Supply and Fix 200x200x6mm thick ceramic wall tiles Saj Ceramics or equal and approved on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall Surfaces	SM	157		
	<u>12mm (minimum) two coat lime plaster complete with wire gauze</u> anti-crack mechanism at the intersection of masonry walling and concrete beams as described to:-				
С	Concrete/masonry surfaces Internally	SM	2,102		
D	<u>Prepare and apply one undercoat and one finishing coat first</u> <u>quality permaplast emulsion paint manufactured by Crown Solo</u> <u>Paints or equal and approved paint on:-</u> Plastered concrete/masonry surfaces internally	SM	2,102		
	Carried to Collection				

ITEM	DESCRIPTION	UNIT	QTY	RATE	COMMERCIAL BLOCI AMOUNT
	Floor Finishes				111100111
А	<u>Cement and sand (1:3) screeds, backings, beds etc</u> 32mm bed finished to receive Floor Tiles (m.s)	SM	550		
	<u>Ceramic Floor tiles</u> <u>Allow a Prime Cost supply rate of Ksh. 1000 per SM</u>				
С	Supply and Fix 300 x 300x 10mm thick Ceramic tiles, Saj Ceramics or equal and approved; on prepared bed(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval.	SM	550		
D	Ditto Non Slip Ceramic Tiles	SM	74		
Е	Ditto 100mm wide Wall Skirtings	LM	388		
F	<b>Staircase floor finishes</b> <u>Cement and sand (1:4) backings etc</u> 32mm bed finished to receive ceramic tiles to surfaces of Landings (m.s)	SM	14		
G	25 x 300 mm wide treads to receive ceramic tiles (m.s)	LM	171		
Н	20 x 150mm risers to receive ceramic tiles (m.s)	LM	171		
	Staircase floor finishes				
J	Non Slip Ceramic Tiles to surfaces of Landings)	SM	14		
K	Non Slip Ceramic Tiles to 300 mm wide treads	LM	171		
L	Non Slip Ceramic Tiles to 150mm risers	LM	171		
	Staircase soffit finishes <u>12mm (minimum) two coat lime plaster complete with wire gauze</u> <u>anti-crack mechanism at the intersection of masonry walling and</u> concrete beams as described to:-				
С	Soffits of staircase landing	SM	14		
D	Ditto to sloping soffites exceeding 15° from horizontal	SM	54		
Е	Staircase string 300mm extreme girth and cut to profile of steps	LM	26		
	<u>Paint works</u>				
F	Soffits of staircase landing	SM	14		
G	Ditto to sloping soffites exceeding 15° from horizontal	SM	54		
Н	Staircase string 300mm extreme girth and cut to profile of steps	LM	26		
	Carried to Collection	27111	20		

ITEM	DESCRIPTION	UNIT	QTY	RATE	COMMERCIAL BLOC AMOUNT
А	<u>Ceiling finishes</u> Prepare and install Celotex ceiling or approved equivallent as per architects' approval.	SM	312		
	<u>Ceiling finishes</u>				
	<u>12mm (minimum) two coat lime plaster complete with wire gauze</u> anti-crack mechanism at the intersection of masonry walling and concrete beams as described to:-				
A	Soffites of Concrete surfaces Externally <u>Painting and Decoration</u>	SM	312		
	<u>Prepare and apply one undercoat and one finishing coat first</u> <u>quality plastic emulsion paint on:-</u>				
В	Ceilings	SM	624		
	Carried to Collection				

ITEM	DESCRIPTION	UNIT	QTY	RATE	
				KAIL	AMOUNT
	COLLECTION				
	COLLECTION				
	Total brought forward from page no:		CM/14		
	Total brought forward from page no:		CM/15		
	Total brought forward from page no:		CM/16		
	ELEMENT NO. 8 Carried to				
	ELEMENT NO. 8 Carried to				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM ( COMMERCIAL BLOCK - 32 Unit-SHOPS)				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 9- BALUSTRADING AND RAILING				
	Balustrades and staircase railings				
А	1200mm high mild Steel balustrade; comprising 60 x 10mm mild Steel balusters at 900mm centres; bolted to base plate and tread (m.s)with 7No. 25mm diameter horinzontal bars, and 75x4mm diameter CHS mild Steel handrail part welded into 60x10mm balustrades; to Architects drawings				
		LM	109		
	<u>Prepare, prime and apply one undercoat and two finishing coats</u> first quality gloss oil paint on				
В	General metal surfaces of ballustrading (both sides measured overall)	SM	130		
	ELEMENT NO. 9       Carried to the         BALUSTRADE AND RAILING       Main summary				
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM ( COMMERCIAL BLOCK - 32 Unit-SHOPS)				

ITEM DESCRIPTION UNIT QTY RATE AMOUNT MAIN SUMMARY Substructures 1 2 **Reinforced Concrete Frame** 3 Walling Windows 4 5 Doors 6 **External Finishes** 7 Internal Finishes 8 Balustrade and Railing TOTAL FOR 1 NO. BLOCK MULTIPLY BY 1.NO OF BLOCK(S) 1 TOTAL FOR 1NO. BLOCK OF SHOPS CARRIED TO GRAND SUMMARY

## MIXED USE DEVELOPMENT

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PROPOSED MIXED USE DEVELOPMENT				
	BILL NO.1-BUILDERS WORKS				
Α	<b><u>MARKET</u></b> Allow a provisional sum of Kenya Shillings 28,000,000 for the construction of a Mixed use development on one	SUM	1		
	level; Approx Area 1000Sqm				
	TOTAL CARRIED TO GRAND SUMMARY				



ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PROPOSED APARTMENTS FOR AFFORDABLE HOUSING PROGRAM (BASKET BALL PITCH)				
	BILL NO.8 BUILDERS WORKS				
	Oversite Excavation				
А	Clear site of all grass, hedges, shrubs, bushes grub up roots, load and remove from site and dispose at designated local authority areas.	SM	925		
В	Excavate average 200mm deep to remove top vegetable soil, load, remove from site and dump in designated local authority dump site.	SM	925		
С	Excavate to reduced levels in varying depths not exceeding 1.5m deep from existing ground levels.	СМ	324		
D	Load and cart away excess excavated materials as directed on site.	СМ	324		
	TOTAL FOR EXCAVATIONS CARRIED TO SUMMARY				

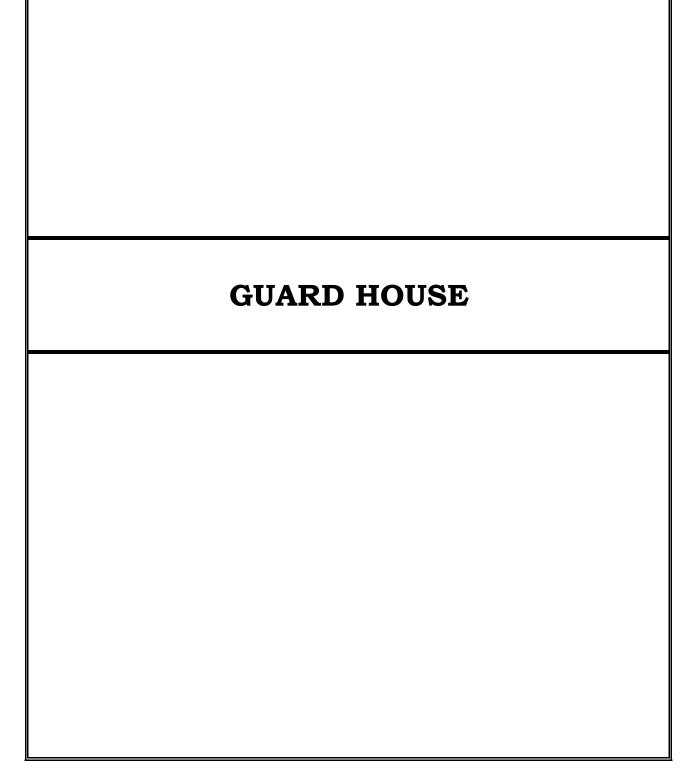
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 2 - BASKET BALL COURT				
	(All provisional)				
	Sub-Grade				
A	Roll and compact subgrade formation to achieve 98% modified proctors MDD including grading to falls and crossfalls	SM	574		
В	Imported and approved murram backfill materials to make up levels, well watered, rolled and compacted to 98% MDD at optimum moisture content in layers not exceeding 150mm Thick to Engineer's approval	СМ	201		
	Sub-Base				
С	150mm thick Compacted gravel 3.5mm in sub-base laid at a slope of 1%well watered and compacted to 98% MDD at optimum moisture content in layers each of 150mm Thick to Engineer's approval	SM	574		
	FINISHINGS				
D	ASPHALT FINISH				
	Prepare surface and spray MC-30 as a prime coat cutback bitumen at a rate of 0.8 -1.0 lt/m2 as prime coat.	SM	574		
Е	Prepare primed surfaces, provide and spray K1-60 bitumen emulsion as tack coat at a spray rate of 0.8 - 1.0 lt/m2 as directed by Engineer.	SM	574		
F	75mm thick Asphalt concrete for surfacing	SM	574		
	Channels				
G	Provide, lay and joint Channel, 125x150mm flush channel block, laid on and including 450x100mm concrete (1:3:6) bed and 100x200mm haunching behind ancluding any necessary formwork and disposal of surplus material as directed.	LM	69		
	TOTAL FOR BASKET BALL COURTS CARRIED TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO. 3 - WATER DRAINAGE AROUND THE PITCH				
	FRENCH DRAIN				
	Oversite Excavation (All excavations Measured Net)				
	Excavate for French Drain average depth not exceeding 1500mm Deep, uphold the sides of excavation, keep excavations free from water, trim and compact the bottom of excavation to level and cart away the resultant excavated materials as directed on site as described in:				
А	Main-drain	СМ	97		
В	Ditto to Sub-drain	СМ	5		
	Mass concrete ( class 15/20) in;				
	50mm Thick Class 15/20 mass concrete blinding to bottom of trenches to receive drain pipe as described in:				
С	Main-drain	SM	65		
	<u>Underground Drain Pipe.</u>				
D	Supply, lay including necessary jointing and connections approved HDPE Perforated Pipe all to approval as decribed in:				
Е	200mm Diameter main drain.	LM	108		
	<u>Hesian Filter Fabric</u>				
F	Supply and lay approved hesian Filter Fabric to french drains girth 600mm wide.	LM	108		
G	Ditto girth 300mm wide.	LM	34		
	Carried to collection				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Drain Fillings.				
А	Approved imported hardcore fillings over perforated underground pipe in main drain.	СМ	15		
в	Ditto above formation level on subdrains.	СМ	3		
С	Supply and place approved 200mm graded aggregates ballast fillings over perforated underground pipe in main drain.	СМ	26		
D	Ditto above formation level on subdrains.	СМ	2		
Е	Supply and place approved sand fillings over perforated underground pipe in main drain.	СМ	13		
F	Ditto above formation level on subdrains.	СМ	2		
	Inspection chambers				
G	Construct 600 wide x 600 mm long x 1500 mm deep (internal dimensions) storm water manhole, comprising 150 mm thick concrete class 20 bed, 200 mm thick natural stonewalling in cement and sand (1:3) mortar, 150 mm thick concrete class 20 cover slab with requisite reinforcement, 450x 600 mm heavy duty cast iron cover and frame bedded in cement and sand (1:3) mortar; internally plastered & screeded in 15 mm thick lime plaster; 100 mm thick concrete class 20 benching; complete with necessary excavation, formwork and2 No. connections to pipes not exceeding 200 mm diameter(pipe m/s)	NO.	7		
	Carried to Collection				
	<b>Collection:</b> Brought forward from page BP/3 Brought forward from page Above				
	TOTAL FOR WATER DRAINAGE AROUND THE PITCH CARRIED TO SUMMARY ELEMENT NO. 4 - BASKET BALL GOAL POSTS				
А	Excavation Excavation for Goal post sockets diameter 150mm wide average depth not exceeding 1500 mm from formed level. Disposal	СМ	2		

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
В	Load,wheel and cart away surplus excavated material to a Local Authority designated dumping site or fill soil heaps as away from site instructed by the Project Engineer.	СМ	2		
	In- situ vibrated reinforced concrete Class 25 (20mm aggregates): in:				
C	Socket - bases & stud columns	СМ	2		
	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional)				
D	Assorted reinforcement	KG	200		
	Formwork				
Е	Sawn formwork with one coat of an approved retarding agent to vertical sides of socket bases	SM	8		
F	<b>Mild steel work in:-</b> Achoring system anchoring in concrete including neoprene caps all as per manufacturer's instructions.	NO	4		
G	150mm Diamater x 4mm thick CHS sockets all removable.	LM	30		
	Prepare and apply aerosol spray painting in two finishing coats of first grade paint as per the manufacturer's printed instructions to: -				
Н	General metal surfaces	LM	60		
I	<b>Goal net and ring</b> Standard goal net and ring all to approval welded to steel post.	NO.	2		
J	25mm thick fibre glass block board all fixee to approval	SM	4		
К	Supply and fix 100mm thick polytheylene foam padding	SM	4		
L	Supply and fix 25mm thick rubber tubing all around 150mm diameter vertical posts	LM	6		
	TOTAL FOR GOAL POSTS CARRIED TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SUMMARY FOR BILL NO. 08 BASKET BALL PITCH				
	ELEMENT				
1	EXCAVATIONS		BP/1		
2	BASKET BALL COURT		BP/2		
3	WATER DRAINAGE AROUND PITCH		BP/4		
4	BASKET GOAL POSTS		BP/5		
	TOTAL FOR BASKET BALL PITCH CARRIED FORWARD TO GRAND SUMMARY				



Item	Description	Unit	QTY	Rate	Amount
	PROPOSED GUARD HOUSE				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 1 - SUBSTRUCTURES (ALL PROVISIONAL)				
	<u>Site Clearance</u>				
А	Clear site of all grass, hedges, shrubs, bushes grub up roots, load and remove from site and dispose at designated local authority areas.	SM	15		
В	Excavate average 300mm deep to remove top vegetable soil, load, remove from site and dump in designated local authority dump site.	SM	15		
С	Excavate for Strip foundations depth not exceeding 1.50 metres starting from Reduced ground levels.	СМ	10		
D	Ditto to column bases	СМ	2		
Е	Extra over all type of excavation for excavating in soft rock	СМ	1		
F	Ditto excavation in hard rock class I	СМ	1		
	Disposal of water				
G	Allow for keeping the whole of the excavation free from all spring and running water by pumping or any other such means as may be necessary	Item			
	Planking and strutting				
Н	Allow for maintaining and upholding the sides of excavations and keeping excavations clear of all fallen materials, rubbish etc	Item			
	Carried to collection				

Disposal of excavated materialImage: second sec	Item	Description	Unit	QTY	Rate	Amount
A       Authority designated dumping site or fill soil heaps as away from site       CM       1.00         B       Return, fill and ram selected excavated material around sides of       CM       12         B       Return, fill and ram selected excavated material around sides of       CM       12         C       Hilings       CM       0         C       Hake up levels using approved imported materials: compacted in layers not exceeding 300mm thick with a roller: to the satisfaction of the Structural Engineer.       SM       12         D       axceeding 150mm thick: to the satisfaction of the Structural Engineer.       SM       12         E       50 mm Stone dust/ Murrum blinding to surfaces of hardcore       SM       15         r       axti- termite to treatment.       SM       15         Approved anti-termite reatment, with ten-year guarantee, sprayed to suffer suffer and end taps (measured net suffer suffer suffer suffer so flared on the regulal and approved damp proof membrane.       SM       15         Damp-proof membrane.       SM       15       15         Batto torneice class 15/20 mm aggregates: vibrated:       SM       6       15         G       Concrete Blinding under strip foundations       SM       8       6         In- situ vibrated reinforced concrete Class 25 MPa: in:       CM       2       15		Disposal of excavated material				
B       foundations.       CM       12         FILLings       Image: Comparison of the Structural Engineer.       CM       0         C       Make up levels using approved imported materials: compacted in layers not exceeding 300mm thick with a roller: to the satisfaction of the Structural Engineer.       CM       0         D       exceeding 150mm thick: to the satisfaction of the Structural Engineer.       SM       12         E       50 mm Stone dust/ Murrum blinding to surfaces of hardcore       SM       15         F       surfaces of hardcore strictly in accordance with manufacturer's instructions.       SM       15         P       surfaces of hardcore (measured separately) with 300mm side and end laps (measured net-allow for laps); 1 No. layer: badded in and including cement and sand (1:3) mortar       SM       15         II       S0 mm thick blinding under column bases       SM       6         II       S0 mm thick blinding under strip foundations       SM       8         II       S0 mm thick blinding under strip foundations       SM       6         II       S0 mm thick blinding under strip foundations       SM       2         II       Cohurn bases       CM       2       2         II       Strip foundations       SM       15       3         III       Strip foundations	A	Authority designated dumping site or fill soil heaps as away from site	СМ	1.00		
Name Instructional CName Instructional ResponseName ResponseName Instructional ResponseName ResponseName Instructional ResponseName Respon	В		СМ	12		
clayers not exceeding 300mm thick with a roller: to the satisfaction of the Structural Engineer.CM0D300mm thick hardcore bed; hand packed : compacted in layers not exceeding 150mm thick: to the satisfaction of the Structural EngineerSM12E50 mm Stone dust/ Murrum blinding to surfaces of hardcoreSM15Anti - termite to treatment Approved anti-termite treatment, with ten-year guarantee, sprayed to surfaces of hardcore strictly in accordance with manufacturer's instructions.SM15Bamp-proof membrane 100 gauge polythene or other equal and approved damp-proof membrane, laid over blinded hardcore (measured separately) with 300 mm side and end laps (measured net-tallow for laps): 1 No. layer: bedded in and including cement and sand (1:3) mortarSM15H50 mm thick blinding under column basesSM6I50 mm thick blinding under column basesSM8In- situ vibrated reinforced concrete Class 25 MPa: in:CM2JColumn basesCM2KStrip foundationsSM15MSteps In- situ vibrated reinforced concrete Class 25 MPa: in:CM0		Fillings				
Dexceeding 150mm thick: to the satisfaction of the Structural EngineerSM12E50 mm Stone dust/ Murrum blinding to surfaces of hardcoreSM15Anti - termite to treatment surfaces of hardcore strictly in accordance with manufacturer's instructions.SM15Fanti-termite treatment, with ten-year guarantee, sprayed to surfaces of hardcore strictly in accordance with manufacturer's instructions.SM15Damp-proof membrane 1000 gauge polythene or other equal and approved damp-proof membrane, laid over blinded hardcore (measured separately) with bedded in and including cement and sand (1:3) mortarSM15GConcrete Blinding Insitu concrete class 15/20 mm aggregates: vibrated: HSM6I50 mm thick blinding under strip foundations In- situ vibrated reinforced concrete Class 25 MPa: in:SM6JColumn basesCM2KStrip foundationsSM15MSteps In- situ vibrated reinforced concrete Class 25 MPa: in:CM0	С	layers not exceeding 300mm thick with a roller: to the satisfaction of	СМ	0		
Anti - termite to treatment Approved anti-termite treatment, with ten-year guarantee, sprayed to surfaces of hardcore strictly in accordance with manufacturer's instructions.SM15Damp-proof membrane 1000 gauge polythene or other equal and approved damp-proof membrane, laid over blinded hardcore (measured separately) with 300mm side and end laps (measured net-allow for laps); 1 No. layer: bedded in and including cement and sand (1:3) mortarSM15GConcrete Blinding Insitu concrete class 15/20 mm aggregates: vibrated: In 50 mm thick blinding under column basesSM6I50 mm thick blinding under column basesSM6JColumn basesCM2JColumn basesCM2JColumn basesCM2L100mm thick surface bedSM15MSteps In- situ vibrated reinforced concrete Class 25 MPa: in:CM0	D		SM	12		
Approved anti-termite treatment, with ten-year guarantee, sprayed to surfaces of hardcore strictly in accordance with manufacturer's instructions.SM15Damp-proof membrane 1000 gauge polythene or other equal and approved damp-proof membrane, laid over blinded hardcore (measured separately) with 300mm side and end laps (measured nett-allow for laps); 1 No. layer: bedded in and including cement and sand (1:3) mortarSM15GConcrete Blinding Insitu concrete class 15/20 mm aggregates: vibrated: ISM6II50 mm thick blinding under column basesSM6II50 mm thick blinding under strip foundationsSM8In- situ vibrated reinforced concrete Class 25 MPa: in:CM2JColumn basesCM2L100mm thick surface bedSM15	Е	50 mm Stone dust/ Murrum blinding to surfaces of hardcore	SM	15		
G1000 gauge polythene or other equal and approved damp-proof membrane, laid over blinded hardcore (measured separately) with 3000mm side and end laps (measured nett-allow for laps); 1 No. layer: bedded in and including cement and sand (1:3) mortarSM15GConcrete Blinding Insitu concrete class 15/20 mm aggregates: vibrated: Image side and the blinding under column basesSM6H50 mm thick blinding under column basesSM6J50 mm thick blinding under strip foundationsSM8In- situ vibrated reinforced concrete Class 25 MPa: in:CM2L100mm thick surface bedSM15MSteps In- situ vibrated reinforced concrete Class 25 MPa: in:CM0	F	Approved anti-termite treatment, with ten-year guarantee, sprayed to surfaces of hardcore strictly in accordance with manufacturer's	SM	15		
Insitu concrete class 15/20 mm aggregates: vibrated:SM6H50 mm thick blinding under column basesSM6I50 mm thick blinding under strip foundationsSM8In- situ vibrated reinforced concrete Class 25 MPa: in:CM2JColumn basesCM2KStrip foundationsSM15MSteps In- situ vibrated reinforced concrete Class 25 MPa: in:CM0	G	1000 gauge polythene or other equal and approved damp-proof membrane, laid over blinded hardcore (measured separately) with 300mm side and end laps (measured nett-allow for laps); 1 No. layer:	SM	15		
H50 mm thick blinding under column basesSM6I50 mm thick blinding under strip foundationsSM8In- situ vibrated reinforced concrete Class 25 MPa: in:SM2JColumn basesCM2KStrip foundationsCM2L100mm thick surface bedSM15MSteps In- situ vibrated reinforced concrete Class 25 MPa: in:CM0		Concrete Blinding				
I50 mm thick blinding under strip foundationsSM8In- situ vibrated reinforced concrete Class 25 MPa: in:SM8JColumn basesCM2KStrip foundationsCM2L100mm thick surface bedSM15MSteps In- situ vibrated reinforced concrete Class 25 MPa: in:CM0		Insitu concrete class 15/20 mm aggregates: vibrated:				
In- situ vibrated reinforced concrete Class 25 MPa: in:CM2JColumn basesCM2KStrip foundationsCM2L100mm thick surface bedSM15MSteps In- situ vibrated reinforced concrete Class 25 MPa: in:CM0	Н	50 mm thick blinding under column bases	SM	6		
JColumn basesCM2KStrip foundationsCM2L100mm thick surface bedSM15MSteps In- situ vibrated reinforced concrete Class 25 MPa: in:CM0	I	50 mm thick blinding under strip foundations	SM	8		
KStrip foundationsCM2L100mm thick surface bedSM15MSteps In- situ vibrated reinforced concrete Class 25 MPa: in:CM0		In- situ vibrated reinforced concrete Class 25 MPa: in:				
L100mm thick surface bedSM15MSteps In- situ vibrated reinforced concrete Class 25 MPa: in:CM0	J	Column bases	СМ	2		
M Steps In- situ vibrated reinforced concrete Class 25 MPa: in:	К	Strip foundations	СМ	2		
In- situ vibrated reinforced concrete Class 25 MPa: in:	L	100mm thick surface bed	SM	15		
N Columns CM 1	М		СМ	0		
	Ν	Columns	СМ	1		
Carried to collection		Carried to collection				

Ribbed reinforcement steel bars to KB 573:2014 : Grade 500 high its itsuile attengt including bends, books, tying wire and distance books its to SB at deal 1 (Forwissional)       K05       204         A       Assorted reinforcement       K05       204         B       In ground floor alab       SM       15         Inspire in two layers - top & bottom; including bends, tying wire and distance independence in the second provide of the including bends, tying wire and distance independence in the second provide of the including bends, tying wire and distance independence in the second formwork.         C       Sides of column bases       SM       7         D       Vertical sides to columns       SM       8         R       Edge of risers 75 - 150mm high       IM       14         P       Edge of risers 75 - 150mm high       IM       14         P       Edge of risers 75 - 150mm high       IM       14         P       Edge of risers 75 - 150mm high       IM       14         P       Edge of risers 75 - 150mm high       IM       14         P       Edge of risers 75 - 150mm high       IM       14         P       Poundations       SM       18         P       Edge of risers 75 - 150mm high       SM       18         P       Poundation foundations       SM       18 <th>Item</th> <th>Description</th> <th>Unit</th> <th>QTY</th> <th>Rate</th> <th>Amount</th>	Item	Description	Unit	QTY	Rate	Amount
Mesh fabric reinforcement to K/EAS 412:2 (2019) BEC A142:200     International state in two layers - top & bottom; including bends, tying wire and spacer blocks)     International state in two layers - top & bottom; including bends, tying wire and spacer blocks)       B     In ground floor slab     SM     15       C     Sides of column bases     SM     7       D     Vertical sides to columns     SM     88       E     Edges of slab not exceeding 150mm girth     LM     14       F     Edges of riscrs 75 - 150mm high     LM     14       Foundation Walling     SM     18       G     200mm thick walls in foundations     SM     18       Peringe     200mm thick space for comparents formut the approvel sand (1-4) mortary reinforced with and including to enspect the dop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate courses: in: mu wide hoop into gauge in alternate co		tensile strengthincluding bends, hooks, tying wire and distance				
x 200mm, weighing 2.22kg/m² (measured net - no allowance) for laps; in two layers - top & bottom; including beads, tying wire and spacer blocks)       15         B       In ground floor slab       SM       15         B       In ground floor slab       SM       7         C       Sides of column bases       SM       7         D       Vertical sides to columns       SM       8         E       Edge of slab not exceeding 150mm girth       LM       15         F       Edges of rises 75 - 150mm high       LM       14         Foundation Walling       mw uide hoog from gauge in alternate courses: in:       nm uide hoog from gauge in alternate courses: in:         G       200mm thick walls in foundations       SM       18         H       building including laying, spreading and compacting 100mm thick approved sand bed blinding, with and including exavation, 150mm thick expressed some and 50mm thick quarry dust blinding to approval.       SM       7         J       Pinth       Z       SM       5          J       Pinth       SM       5           K       Rendered aurfaces       SM       5          J       Pinth       SM       5           J       Pinth externally       SM	А	Assorted reinforcement	KGS	264		
Madular steel frame uith 5mm thick steel plates covering formwork and/or marine beard formwork: to:Sime beard formwork: to:CSides of column basesSM7DVertical sides to columnsSM8EEdge of slab not exceeding 150mm girthLM15FEdges of risers 75 - 150mm highLM14Foundation WallingImm Viele hoop iron gauge in alternate courses: in: m wide hoop iron gauge in alternate courses: in: m wide hoop iron gauge in alternate courses: in: seme stand (1:4) mortar; reinforced with and including 45 m mide hoop iron gauge in alternate courses: in: seme stand 1:4) mortar; previnfore duith and including 45 m wide hoop iron gauge in alternate courses: in: seme stand 1:4) mortar; previnforced with and including 45 m wide hoop iron gauge in alternate courses: in: a proved stand bed binding, with and including 100mm thick approved stand bed binding, with and including 100mm thick approved stand bed binding, with and including round the building including laying, spreading and compacting 100mm thick approved stand bed binding, with and including to approximation is the compacted bardcore and 50mm thick quarry dust blinding to approved.SM7JPinthe researcy i wood float finished: to masonry i wood float finished: to<		x 200mm, weighing $2.22 \text{kg/m}^2$ (measured net - no allowance) for laps; in two layers - top & bottom; including bends, tying wire				
and/or marine board formuork: to:       Image: State of the state of	В	In ground floor slab	SM	15		
D       Vertical sides to columns       SM       8         D       Edge of slab not exceeding 150mm girth       LM       15         F       Edges of risers 75 - 150mm high       LM       14         F       Edges of risers 75 - 150mm high       LM       14         F       Edges of risers 75 - 150mm high       LM       14         F       Edges of risers 75 - 150mm high       LM       14         F       Oundation Walling       LM       14         F       Oundation Walling       LM       14         F       200mm thick walls in foundations       SM       18         F       Excines       SM       18         Supply and lay 600 x 600mm medium duty paving blocks round the building including sproval sand bed binding, with and including excavation, 150mm high approval.       SM       7         H       Supply and lay 600 x 600mm medium duty paving blocks round the building including sproval.       SM       7         J       Plinth       Z       SM       7       5         J       Plinth       SM       5       5       5         K       Rendered surfaces       SM       5       5       5         K       Rendered surfaces       SM       5						
E       Edge of slab not exceeding 150mm girth       LM       1.5         F       Edges of risers 75 - 150mm high       LM       14         Foundation Walling       LM       14         Returnal quarry stones rough dressed; bedded in and including 45       LM       14         Returnal quarry stones rough dressed; bedded in and including 45       LM       14         Returnal quarry stones rough dressed; bedded in and including 45       LM       14         Q       200mm thick walls in foundations       SM       18         H       Pavings       SM       18         Supply and lay 600 x 600mm medium duty paving blocks round the building including javing, spreading and compacting 100mm thick approval sand bed binding, with and including to approval sand bed binding, with and including to approval sand bed binding, with and including to approval.       SM       7         J       Plinth       Z5mm Thick cement and sand (1:4) rendering on concrete or massenty i wood float finished; to       SM       5         J       Plinths externally       SM       5       SM       5         K       Rendered surfaces       SM       5       SM       5	С	Sides of column bases	SM	7		
F       Edges of risers 75 - 150mm high       LM       14         Foundation Walling       Natural quarry stones rough dressed; bedded in and including dreament and sand (1:4) mortar; reinforced with and including 45 mm wide hoop iron gauge in alternate courses: in:       SM       18         G       200mm thick walls in foundations       SM       18         Pavings       SM       18         June       Supply and lay 600 x 600mm medium duty paving blocks round the approved sand bed blinding, with and including excavation, 150mm thick approved sand bed blinding, with and including excavation, 150mm thick compacted hardcore and 50mm thick quarry dust blinding to approval.       SM       7         J       Plinth       Z5mm Thick cement and sand (1:4) rendering on concrete or mapproval.       SM       5         K       Rendered surfaces       SM       5       5	D	Vertical sides to columns	SM	8		
Foundation WallingImage: Second distance of the second distance of	Е	Edge of slab not exceeding 150mm girth	LM	15		
Natural quarry stones rough dressed; bedded in and including 45 mm wide hoop iron gauge in alternate courses: in:       Image: Comparis the store of the store o	F	Edges of risers 75 - 150mm high	LM	14		
cement and sand (1:4) mortar; reinforced with and including 45       Image: Image		Foundation Walling				
G       IN		cement and sand (1:4) mortar; reinforced with and including 45				
HSupply and lay 600 x 600mm medium duty paving blocks round the approved sand bed blinding, with and including excavation, 150mm thick compacted hardcore and 50mm thick quarry dust blinding to approval.SM7Plinth25mm Thick cement and sand (1:4) rendering on concrete or masonry : wood float finished; toSM5JPlinths externallySM5KRendered surfacesSM5	G	200mm thick walls in foundations	SM	18		
H       building including laying, spreading and compacting 100mm thick approved sand bed blinding, with and including excavation, 150mm thick compacted hardcore and 50mm thick quarry dust blinding to approval.       SM       7         Plinth       25mm Thick cement and sand (1:4) rendering on concrete or masonry : wood float finished: to       SM       5         J       Plinths externally       SM       5         Two coats black bitumastic paint on:       SM       5         K       Rendered surfaces       SM       5		Pavings				
25mm Thick cement and sand (1:4) rendering on concrete or masonry ; wood float finished; toSMSJPinths externallySM5Two coats black bitumastic paint on:SM5KRendered surfacesSM5	Н	building including laying, spreading and compacting 100mm thick approved sand bed blinding, with and including excavation, 150mm thick compacted hardcore and 50mm thick quarry dust blinding to	SM	7		
masonry ; wood float finished; toImage: SMSMSMSMJPlinths externallySMSMSMSMKwo coats black bitumastic paint on:SMSMSMSMKRendered surfacesSMSMSMSM		<u>Plinth</u>				
K     Rendered surfaces       K     SM						
K       Rendered surfaces       SM       5       Image: SM       5         Image: SM       Image: SM       1mage: SM       1mage: SM       1mage: SM       1mage: SM         Image: SM       Image: SM       1mage: SM	J	Plinths externally	SM	5		
		Two coats black bitumastic paint on:				
Carried to collection	K	Rendered surfaces	SM	5		
Carried to collection						
Carried to collection						
Carried to collection						
		Carried to collection				

Item	Description	Unit	QTY	Rate	Amount
	COLLECTION				
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	ELEMENT NO. 1 Carried to				
	SUBSTRUCTURES Main summary				

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED GUARD HOUSE				
	BILL NO.1-BUILDERS WORKS ELEMENT No 2 - R.C FRAME				
	In- situ vibrated reinforced concrete Class 25 MPa: in:				
А	Columns	СМ	2		
В	Beams	СМ	2		
С	150mm thick Roof Slab	SM	15		
	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional)				
D	Assorted reinforcement	Kg	759		
	<u>Modular steel frame with 5mm thick steel plates covering formwork</u> <u>and/or marine board formwork: to</u>				
Е	Sides of columns	SM	27		
F	Sides and soffites of beams	SM	16		
G	Soffits of suspended slabs	SM	15		
Н	Edges of slab over 150mm but not exceeding 225mm girth	LM	15		
	ELEMENT NO. 2 Carried to				
	R.C FRAME Main summary				

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED GUARD HOUSE				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT No 3-WALLING				
	WALLING				
	External Walling				
	<u>Machine cut quarry stone walling with a minimum of 7.0 N/mm2</u> <u>average compressive strength ;bedded and jointed in cement and sand</u> (1:4) mortar, reinforced with and including $25 \times 3$ mm thick hoop iron				
А	strips at every alternate course as described in; 200mm thick walling Externally	SM	24		
В	150mm thick parapet walling	SM	6		
	Internal Walling				
	<u>Machine cut quarry stone walling with a minimum of 7.0 N/mm2</u> <u>average compressive strength</u> ; bedded and jointed in cement and sand (1:4) mortar, reinforced with and including $25 \times 3$ mm thick hoop iron				
С	strips at every alternate course as described in; 200mm thick walling Internally	SM	5		
D	150mm thick walling Internally	SM	0		
E	Approved hessian based damp proof course to 200mm thick walling in cement/sand mortar	LM	11		
F	Approved hessian based damp proof course to 150mm thick walling in cement/sand mortar	LM	0		
	Precast Concrete Breeze Ventilation Blocks				
G	150 x 150mm wide x 50mm thick Pre Cast Concrete flower 3D breeze ventilation blocks bedded and jointed in cement and sand (1:4) mortar	SM	0		
	COPING				
Н	300 x 100mm insitu reinforced concrete class 20Mpa coping, throated and weathered and jointing to columns with cement sand 1:4 mortar	LM	11		
	Lintols				
I	200mm x 200mm Deep lintols in reinforced concrete class 20MPa with and including 4No T10 and T8 stirups at 200mm centres; complete with formwork	LM	2		
	ELEMENT NO. 3 Carried to				
	ELEMENT NO. 3         Carried to           WALLING         Main summary				

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED GUARD HOUSE				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 4-WINDOWS				
	MILD STEEL WINDOWS				
	Supply, fabricate and fix the following purpose made small				
	pane mild steel casement windows to be fabricated from				
	approved mild steel sections (atleast 14g 2mm thick )				
	comprising of frame and casement incorporating				
	permanent hooded high level ventilation panels infilled				
	with mosquito gauze : window supplied complete with and				
	including 12mm solid square burglar proofing bars fixed				
	at 200mm centres both ways and metal fixing lugs				
	including building into wall and making good, and all				
	necessary iron mongery viz hinges, fasteners, and hasp				
	including shop priming window with red oxide primer before delivery to site:-				
	before derivery to site				
	A prime cost sum of Kshs 4,500 per Sqm has been allowed for				
	fabrication of the above specified Steel casement Windows by				
	AHP juakali artisans as approved by the Project				
	Manager/Architect.				
	The contractor's unit rate shall include the cost of transport,				
	storage, fixing and all associated accesories in addition to the PC				
	Rate.				
	Window awardling 1000 V 1500mm bigh to Anabita to Dataila	NO			
A	Window, overall size 1900 X 1500mm high to Architects Details	NO	1		
В	Ditto Size 650 x 1500mm high (bedroom)	NO	1		
Б	3 (min )	NO	1		
С	Ditto Size 1000 x 1350mm high (Kitchen)	NO	0		
D	Ditto Size 600 x 900mm high (WC/SH)	NO	1		
	Glazing				
	Amm Thigh along about along any array of 1 hast and a more than 0.5				
Е	4mm Thick clear sheet glass panes over 0.1 but not exceeding 0.5 square meters; fixing with premium putty	SM	4		
	square motors, ming with premium party				
F	Ditto; obscure	SM	1		
	Pointing and Departing				
	Painting and Decorations				
	<u>On Metal work</u>				
	Prepare and apply aerosol spray painting in two finishing coats of				
	first grade paint as per the manufacturer's printed instructions	1			
	<u>to: -</u>				
G	General window and grille surfaces; over 300mm girth internal	SM	4		
	Carried to Collection				
l		1	1	1	

Item	Description	Unit	QTY	Rate	Amount
А	Bull-nosed burnt clay, finishing fair on all exposed surfaces and hoisting and placing in position, bedding, jointing and pointing in pigmented cement and sand (1:3) mortar 150 x 25mm thick clay window sill	LM	3		
11		12101	5		
	<u>Curtain rods;</u>				
	Carried to collection				
	COLLECTION				
	Total brought forward from page no:				
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	ELEMENT NO. 4 Carried to the				
	WINDOWS Main summary				

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED GUARD HOUSE				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 5-DOORS				
	<u>External Doors</u>				
	<u>Flush timber doors</u>				
	50 mm thick Semi Solid cored flush doors with plywood facing to receive painting (m.s) all to Architects details, specifications and approval				
	A prime cost sum at the rate indicated below for fabrication of the above specified Timber Flush door leaves by AHP juakali artisans as approved by the Project Manager/Architect.				
	The contractor's unit rate shall include the cost of transport, storage, fixing and all associated accesories in addition to the PC Rate.				
A	Door size 900mm x 2400mm High comprising of 1 No Opennable leaf size 800 x 2100mm high including fixed fanlight size 900 x 300mm high in 4mm clear glass ( measured separetely) (PC Rate Kshs 4,000)	NO	2		
В	Ditto 800 x 2100mm high comprising of 1No. Opennable leaf size 700 x 2100mm high (PC Rate Kshs 3,500)	NO	0		
	4mm Thick clear sheet glass fixing with timber glazing beads to timber casements.				
С	In panes exceeding 0.1 sqm but not exceeding 0.5 square metres.	SM	1		
	Frames and frame finishes in soft wood Timber				
D	25 x 25mm quadrant (PC Rate Kshs 75)	LM	5		
E	25 x 50mm architrave with two labours, plugged (PC Rate Kshs 150)	LM	8		
F	150mm x 50mm transome with three labours; chamfered edges; plugged (PC Rate Kshs 800)	LM	8		
G	150mm x 50mm frame with three labours; chamfered edges; plugged (PC Rate Kshs 800)	LM	8		
	Carried to collection				

Item	Description	Unit	QTY	Rate	Amount
	Painting and decorating				
	<u>Priming back of frame with an aluminium or equivalent and approved</u> <u>wood primer</u>				
		LM	12		
A	Surfaces not exceeding 100mm girth	LM	13		
В	Surfaces over 100mm but not exceeding 200mm girth	LM	15		
	<u>Prepare Knot, prime, stop and apply one undercoat and two finishing</u> coats first grade timber quality paint to wood surfaces as per the				
С	<u>manufacturer's printed instructions</u> General timber surfaces	SM	9		
D	Surfaces over 200mm but not exceeding 300mm girth	LM	15		
E	Architraves: not exceeding 100 mm girth	LM	8		
F	Quadrant beading : not exceeding 100 mm girth	LM	5		
	Ironmongery				
	Supply and fix the following ironmongery to timber complete with matching screws and keys to the approval of the Architect				
G	100mm pressed steel Butt Hinges	PRS	3		
Н	Stainless steel 3 Lever Mortice Door Lock with handle furniture set;( keyhole escutcheons, cylinder and latch )	NO	0		
Ι	Ditto: but 2 Lever Door Lock with handle	NO	2		
J	Door fixing cramps	NO	0		
К	Bronze door sign with door numbers as per Architect detail	NO	2		
L	Block sign with block type, name and number lin exterior quality paint as per Architect detail	NO	0		
	Carried to Collection				
	COLLECTION				
	Total brought forward from page no:				
	Total brought forward from page no:				
	ELEMENT NO. 5Carried toDOORSMain summary				

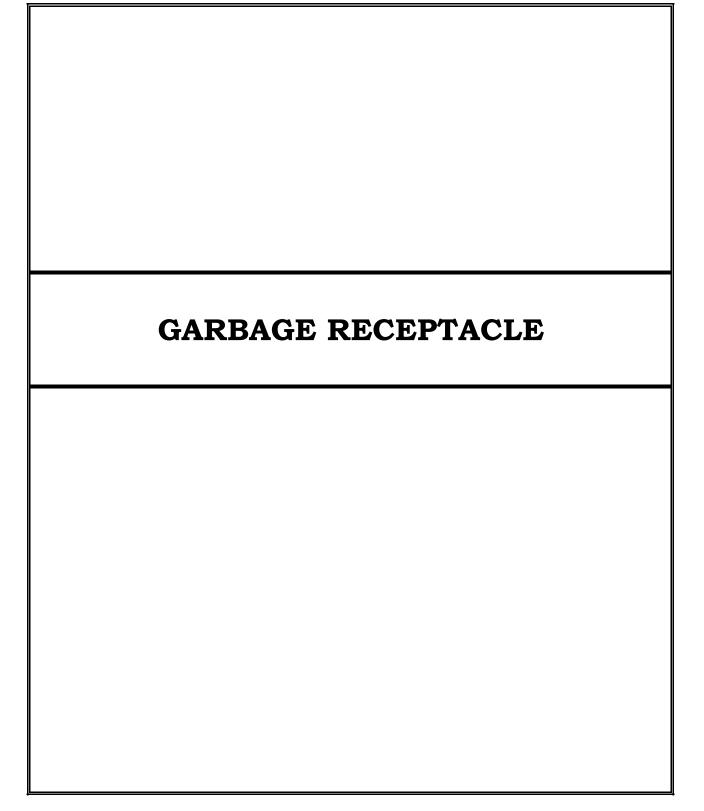
Item	Description	Unit	QTY	Rate	Amount
	PROPOSED GUARD HOUSE				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 6 - EXTERNAL FINISHES				
	EXTERNAL WALL FINISHES				
	External Render				
	Cement and sand (1:3) render:wood floated: on concrete or blockwork: <u>to</u>				
А	15mm thick to beams, Columns, Slab Moulds and walling externally	SM	7		
В	Extra over horizontal and vertical pointing in 10mm thick rod in cement and sand mix (1:3) mortar including one coat Bituminous paint	LM	29		
	External Painting				
	<u>Prepare and apply one coat Alkali Resistant primer followed by two</u> <u>finishing coats of silicon exterior Emulsion paint in accordance with the</u> <u>manufacturers written instructions and to the satisfaction of the</u> architect to				
С	Concrete/masonry surfaces externally-Beam, Column and Slab Moulds	SM	7		
	ROOF FINISHES				
	Cement and sand (1:4) screeded beds: on concrete:				
	complete with coloured pigmentation additives and hardener to:				
D	50mm average waterproofed lightweight screed laid to falls and crossfalls to roof slabs -upper roof including gutter bases	SM	12		
	Prepare and apply to vertical/horizontal surfaces 4mm thick <u>APP/EPDM water proofing or other equal and approved membrane with</u> <u>surface finish weighing 4kg/sm; laid on primer with torch-on process</u> <u>;by an approved specialist all in accordance with the manufacturers</u> <u>instructions including provision of a written ten (10) year anti leak</u> <u>guarantee.</u>				
E	4mm thick APP membrane applied to roof slabs	SM	12		
F	Ditto to skirting 200mm high	LM	11		
G	Dress membrane around 100mm rainwater outlet	No.	2		
	<u>The Following Flat roof concrete tiles fixed with</u> <u>approved adhesive, laid and jointed with waterproofing bituminous</u> <u>compound</u>				
Н	20mm thick interlocking Concrete tiles of size 225 x 225mm	SM	12		
	ELEMENT NO. 6 Carried to				
	EXTERNAL FINISHES Main summary				

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED GUARD HOUSE				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 7 - INTERNAL FINISHES				
	Internal Wall Finishes				
	Cement and sand (1:4) backings				
А	12mm thick to receive Ceramic Wall tiles	SM	0		
В	To receive ceramic wall tiles (m.s.)	SM	24		
	<u>Ceramic wall tiles</u>				
	Allow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include				
	<u>cost of purchase, transport, offload, storage, fixing including all</u> <u>necessary adhesives and accessories</u>				
С	Supply and Fix approved ceramic wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall Surfaces	SM	0		
	<u>Ceramic wall tiles</u>				
	<u>Allow a Prime Cost supply rate of Ksh. 1000 per SM (Rate to include cost of purchase, transport, offload, storage, fixing including all necessary adhesives and accessories</u>				
D	Supply and Fix approved ceramic wall tiles on prepared backings(m.s) with proprietary adhesive; jointed and pointed in matching coloured proprietary grouting: including pvc spacers and expansion joint as necessary: all to Architect's approval Wall Surfaces	SM	24		
	<u>15mm (minimum) two coat cement, sand (1:3) plaster complete with</u> wire gauze anti-crack mechanism at the intersection of masonry walling and concrete beams as described to:-				
Е	Concrete/masonry surfaces	SM	8		
	Painting and Decoration				
	<u>Prepare, Skim and apply Emulsion or universal undercoat followed by</u> <u>two finishing coats of soft satin Emulsion paint in accordance with the</u> <u>manufacturers written instructions and to the satisfaction of the</u> <u>architect to</u>				
F	Plastered concrete/masonry surfaces internally	SM	8		
	Carried to Collection				
	Ceiling finishes				
	<u>15mm (minimum) two coat cement, sand (1:3) plaster complete with</u>				
	wire gauze anti-crack mechanism at the intersection of masonry walling and concrete beams as described to:-				
•			•	•	GH143

Item	Description	Unit	QTY	Rate	Amount
А	Soffits of Concrete surfaces	SM	12		
	Painting and Decoration				
	Prepare, skim and apply Emulsion or universal undercoat followed by two finishing coats of soft satin Emulsion paint in accordance with the manufacturers written instructions and to the satisfaction of the				
	architect to				
В	Plastered ceilings	SM	12		
	Carried to Collection				

Item	Description	Unit	QTY	Rate	Amount
	COLLECTION				
	Total brought forward from page no:				
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	Total brought forward from page no:				
	Total brought forward from page no:				
	ELEMENT NO. 7 Carried to				
	INTERNAL FINISHES Main summary				

Item	Description	Unit	QTY	Rate	Amount
	PROPOSED GUARD HOUSE				
	BILL NO.1-BUILDERS WORKS				
	MAIN SUMMARY				
1	Substructures				
-					
	Reinforced Concrete Frame				
2	Reinforced Concrete Frame				
3	Walling				
4	Windows				
5	Doors				
6	External Finishes				
0					
7	Internal Finishes				
	TOTAL FOR 1NO. GUARD HOUSE				
	NO. OF BLOCKS				
	MULTIPLY BY <b>3.NO</b> OF GUARD HOUSE	V O			
	MODILLE DI S.NO OF GOARD HOUSE	Х З			3
	TOTAL FOR 1NO. GUARD HOUSE CARRIED TO GRAND SUMMARY				
			I		



Item	Description	Unit	QTY	Rate	Garbage Racentacies
	PROPOSED GARBAGE RECEPTACLE				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 1 - SUBSTRUCTURES (ALL PROVISIONAL)				
	<u>Site Clearance</u>				
А	Clear site of all grass, hedges, shrubs, bushes grub up roots, load and remove from site and dispose at designated local authority areas.	SM	112		
В	Excavate average 300mm deep to remove top vegetable soil, load, remove from site and dump in designated local authority dump site.	SM	112		
С	Excavate for Strip foundations depth not exceeding 1.50 metres starting from Reduced ground levels.	СМ	68		
D	Ditto to column bases	СМ	4		
D	Extra over all type of excavation for excavating in soft rock	СМ	7		
Е	Ditto excavation in hard rock class I	СМ	0		
	Disposal of water				
F	Allow for keeping the whole of the excavation free from all spring and running water by pumping or any other such means as may be necessary	Item			
	Planking and strutting				
G	Allow for maintaining and upholding the sides of excavations and keeping excavations clear of all fallen materials, rubbish etc	Item			
	Carried to collection				

Item	Description	Unit	QTY	Rate	Garbage Receptacies
	Disposal of excavated material				
А	Load, wheel and cart away surplus excavated material to a Local Authority designated dumping site or fill soil heaps as away from site instructed by the Project Engineer.	СМ	2		
В	Return, fill and ram selected excavated material around sides of foundations.	СМ	70		
	Fillings				
С	Make up levels using approved imported materials: compacted in layers not exceeding 300mm thick with a roller: to the satisfaction of the Structural Engineer.	СМ	0		
D	300mm thick hardcore bed: hand packed : compacted in layers not exceeding 150mm thick: to the satisfaction of the Structural Engineer	SM	112		
Е	50 mm Stone dust/ Murrum blinding to surfaces of hardcore	SM	112		
F	<b>Anti - termite to treatment</b> Approved anti-termite treatment, with ten-year guarantee, sprayed to surfaces of hardcore strictly in accordance with manufacturer's instructions.	SM	112		
G	<b>Damp-proof membrane</b> 1000 gauge polythene or other equal and approved damp-proof membrane, laid over blinded hardcore (measured separately) with 300mm side and end laps (measured nett-allow for laps); 1 No. layer: bedded in and including cement and sand (1:3) mortar	SM	112		
	Concrete Blinding				
	Insitu concrete class 15/20 mm aggregates: vibrated:				
Н	50 mm thick blinding under column bases	SM	14		
Ι	50 mm thick blinding under strip foundations	SM	45		
	In- situ vibrated reinforced concrete Class 25 MPa: in:				
J	Column bases	СМ	4		
К	Strip foundations	СМ	9		
L	100mm thick surface bed	SM	112		
М	Columns	СМ	1		
	Carried to collection				

Item	Description	Unit	QTY	Rate	Garbage Racentacies
	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional)				
А	Assorted reinforcement	KGS	812		
	Mesh fabric reinforcement to K/EAS 412;2 (2019) BRC A142;200 x 200mm, weighing $2.22 \text{kg/m}^2$ (measured net - no allowance) for laps; in two layers - top & bottom; including bends, tying wire and spacer blocks)				
В	In ground floor slab	SM	112		
	<u>Modular steel frame with 5mm thick steel plates covering formwork</u> and/or marine board formwork: to:				
С	Sides of column bases	SM	17		
D	Sides of Strip foundations	SM	30		
Е	Vertical sides to columns	SM	17		
F	Edge of slab not exceeding 150mm girth	LM	43		
	Foundation Walling				
	Natural quarry stone walling with a minimum of 7.0 N/mm2 bedded and jointed in cement and sand (1:4) mortar, reinforced with and including $25 \times 3$ mm thick hoop iron strips at every alternate course as described in;				
G	200mm thick walls in foundations	SM	98		
	Pavings				
Н	Supply and lay 600 x 600 x 50mm reinforced concrete precast paving slabs around the building including laying, spreading and compacting 100mm thick approved sand bed blinding, on and including 150mm thick compacted hardcore to Engineer's approval.	SM	45		
	<u>Plinth</u>				
	<u>25mm Thick cement and sand (1:4) rendering on concrete or</u> masonry ; wood float finished; to				
J	Plinths externally	SM	30		
	Two coats black bitumastic paint on:				
K	Rendered surfaces Carried to collection	SM	30		
	COLLECTION				
	Total brought forward from page no:				
	Total brought forward from page no:				
	Total brought forward from page no:				
	ELEMENT NO. 1 Carried to				
	SUBSTRUCTURES Main summary				

Item	Description	Unit	QTY	Rate	Garbage Racentacies
	PROPOSED GARBAGE RECEPTACLE				
	BILL NO.1-BUILDERS WORKS ELEMENT No 2 - R.C FRAME				
	In- situ vibrated reinforced concrete Class 25 MPa: in:				
А	Columns	СМ	1		
В	Beams	СМ	5		
	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional)				
С	Assorted reinforcement	Kg	783		
	<u>Modular steel frame with 5mm thick steel plates covering formwork</u> <u>and/or marine board formwork: to</u>				
D	Sides of columns	SM	27		
Е	Sides and soffites of beams	SM	45		
	ELEMENT NO. 2 Carried to				
	R.C FRAME Main summary				

Item	Description	Unit	QTY	Rate	Garbage Raceptacies
	PROPOSED GARBAGE RECEPTACLE BILL NO.1-BUILDERS WORKS				
	ELEMENT No 3-WALLING				
	WALLING				
	External Walling				
А	Machine cut quarry stone walling with a minimum of 7.0 N/mm2 average compressive strength ;bedded and jointed in cement and sand (1:4) mortar, reinforced with and including 25 x 3 mm thick hoop iron strips at every alternate course as described in; 200mm thick walling Externally Internal Walling	SM	97		
	<u>Machine cut quarry stone walling with a minimum of 7.0 N/mm2</u> <u>average compressive strength ;bedded and jointed in cement and sand</u> (1:4) mortar, reinforced with and including 25 x 3 mm thick hoop iron strips at every alternate course as described in;				
В	200mm thick walling Internally	SM	70		
С	Approved hessian based damp proof course to 200mm thick walling in cement/sand mortar	LM	75		
	ELEMENT NO. 3 Carried to				
	WALLING Main summary				

Item	Description	Unit	QTY	Rate	Garbage Receptacies
A	PROPOSED GARBAGE RECEPTACLE         BILL NO.1-BUILDERS WORKS         ELEMENT NO 4-ROOF         IT5 roofing sheets on steel trusses (m/s) with approved galvanised         hook bolts, nuts and washers including side and end laps fixed to         and including 100x50x4mm rafters spaced at 900mm c/c with         50x50x3mm SHS purlins at 600x600mm c/c with and including all         welded and bolted connections : delivery to site and erection with and         including one shop coat red oxide, zinc chromate or similar approved         primer: complete to manufacturer's specifications	SM	101	Kate	
	ELEMENT NO. 4 Carried to the ROOF Main summary				

	PROPOSED GARBAGE RECEPTACLE			
	BILL NO.1-BUILDERS WORKS			
1	ELEMENT NO 5-DOORS			
1	External Doors			
<u> </u>	Steel Casement Door			
	Heavy gauge double steel louvered door, all primed with red oxide and spray painted 2 coats eggshell gloss paint; complete with hinges, stays, fasteners and necessary seremetals assembled and fixed to opening including cutting and pinning lugs to concrete or block work sorroung and bedding frame in cement and sand mortar (1:3).			
A I	Double leaf door size 1600 x 2100mm high ( PC Rate Kshs 31,920)	NO	2	
в	Ditto overall Size 1200 x 2400mm high ( PC Rate Kshs 27,360)	NO	4	
	ELEMENT NO. 5     Carried to       DOORS     Main summary			

EXT Extended A 15m B Extra pain Extended	PROPOSED GARBAGE RECEPTACLE BILL NO.1-BUILDERS WORKS EMENT NO 6 - EXTERNAL FINISHES FERNAL WALL FINISHES Exernal Render			
EXT Extended A 15m B Extra pain Extended	EMENT NO 6 - EXTERNAL FINISHES FERNAL WALL FINISHES Fernal Render			
EXT Extended A 15m B Extra pain Extended	TERNAL WALL FINISHES ernal Render			
Exte <u>Cem</u> <u>to</u> A 15m B Extr ceme pain Exte	ernal Render			
Exte <u>Cem</u> <u>to</u> A 15m B Extr ceme pain Exte	ernal Render			
A 15m B Extra Extra				
B cema pain				
B ceme pain <b>Exte</b>	nm thick to beams, Columns, Slab Moulds and walling externally	SM	23	
	ra over horizontal and vertical pointing in 10mm thick rod in nent and sand mix (1:3) mortar including one coat Bituminous nt	LM	97	
Dream	ernal Painting			
<u>coats</u> man	pare and apply one coat Alkali Resistant primer followed by two ts of silicon exterior Emulsion paint in accordance with the nufacturers written instructions and to the satisfaction of the hitect to			
C Cono Mou	ncrete/masonry surfaces externally-Beam, Column and Slab ulds	SM	23	
ELE. EXT	EMENT NO. 6 Carried to	•		

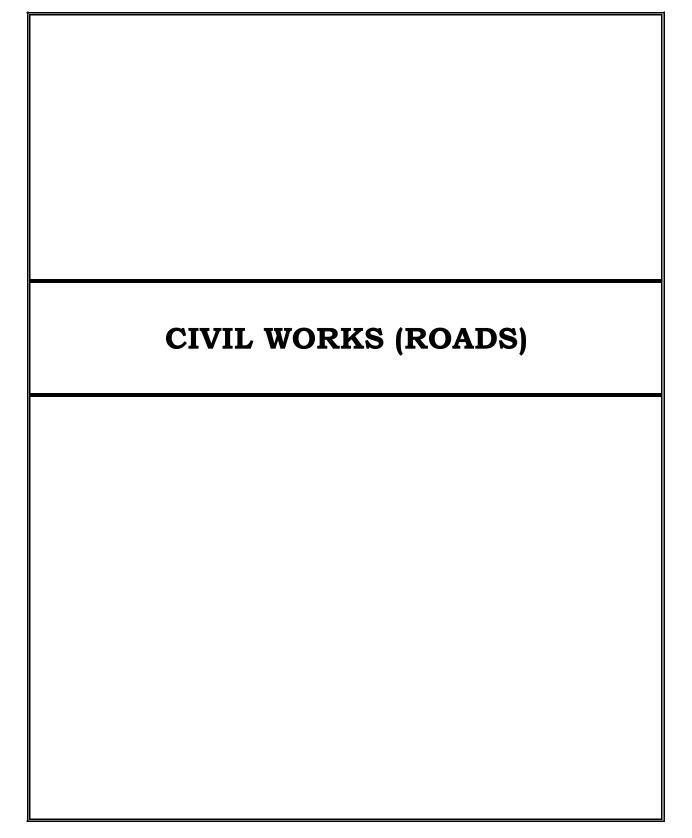
Item	Description	Unit	QTY	Rate	Garbage Raffordaties
	PROPOSED GARBAGE RECEPTACLE				
	BILL NO.1-BUILDERS WORKS				
	ELEMENT NO 7 - INTERNAL FINISHES				
	<u>Internal Wall Finishes</u>				
	<u>Cement and sand (1:4) backings</u>				
А	32mm Thick coloured cement sand screed mix 1:3 finished to approval	SM	98		
	15mm (minimum) two coat cement, sand (1:3) plaster complete with wire gauze anti-crack mechanism at the intersection of masonry walling and concrete beams as described to:-				
В	Concrete/masonry surfaces	SM	237		
	<u>Floor Finishes</u>				
	Cement and sand (1:3) screeds, backings, beds etc				
С	32mm Thick coloured cement sand screed mix 1:3 finished with red oxide to approval	SM	98		
	ELEMENT NO. 7 Carried to				
	INTERNAL FINISHES Main summary				

Item	Description	Unit	QTY	Rate	Garbage Racentacies
	BILL NO.1-BUILDERS WORKS MAIN SUMMARY				
	MAIN SOMMARI				
1	Substructures				
2	Reinforced Concrete Frame				
3	Walling				
·					
4	Roof				
4	K001				
5	Doors				
6	External Finishes				
7	Internal Finishes				
	TOTAL FOR 1NO. GARBAGE RECEPTACLE				
	NO. OF BLOCKS				
	MULTIPLY BY <b>3.NO</b> OF RECEPTACLES	X 3			3
		ЛЈ			3
	TOTAL FOR 1NO. GARBAGE RECEPTACLE CARRIED TO GRAND				
	SUMMARY				

## **BOUNDARY WALL**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PROPOSED HOUSING UNITS FOR AFFORDABLE HOUSING PROGRAMME BILL NO.11-BUILDERS WORKS BOUNDARY WALL				
	Excavation and Earthworks (All provisional)				
A	Clear site of all grass, hedges, shrubs, bushes including grubbing up of roots, cart away arising debris and burn them.	SM	800		
в	Excavate oversite to remove black cotton soil, average depth 900mm and cart away arising debris	SM	800		
С	Excavate for strip footing not exceeding 1.5m from stripped level	СМ	288		
D	Excavate for column pits not exceeding 1.5m from stripped level	СМ	268		
	Return fill and ram best of the excavated material	СМ	112		
E	Back fill with imported approved material	СМ	640		
F	Load,wheel and cart away surplus excavated material away from site	СМ	444		
	<b>Disposal of water</b> Allow for keeping all excavations free from water Planking and strutting	ITEM			
Н	Allow for Planking and strutting to uphold sides of excavations	ITEM			
J	<b>Insitu class 15 / 20 mm aggregates as described in:</b> 50mm thick blinding under foundations and column bases	SM	748		
К	Insitu concrete class 20 (20mm maximum aggregate size):vibrated and reinforced: Foundations in trenches and column bases	СМ	176		
L	Stub columns and columns	СМ	64		
М	Ditto beams	СМ	96		
Ν	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional) Assorted sizes	KG	20160		
	Total carried to collection				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PROPOSED HOUSING UNITS FOR AFFORDABLE HOUSING PROGRAMME				
	Modular steel frame with 5mm thick steel plates covering formwork and/or marine board formwork: to:				
А	Vertical sides of foundations	SM	320		
В	Ditto ; column bases	SM	386		
С	Ditto columns	SM	925		
D	Ditto beams	SM	960		
	WALLING				
E	Natural quarry stone walling with a minimum of 7.0 N/mm2 bedded and jointed in cement and sand (1:4) mortar, reinforced with and including $25 \times 3$ mm thick hoop iron strips at every alternate course as described in;	SM	1320		
F	200mm thick Smooth chisel dressed natural stone walling in cement and sand (1:4) mortar reinforced with and including 25 x 3mm thick hoop iron in every alternate course	SM	1760		
G	<b>Concrete work sundries</b> 225 mm wide damp proof course bedded and jointed in cement sand (1:3) mortar	LM	800		
Н	500 x 500 wide x 50mm thick concrete, coping, throated and weathered, bedding and jointing to colums with cement sand 1:4 mortar	NO	268		
J	Dittto 300 x 50mm concrete coping to walls	LM	800		
K	<b>Finishes as described: -</b> 12mm thick cement sand render (1:3) to the surfaces of the walling and columns internally and externally.	SM	3520		
L	GATES Mild steel sections as described 3000mm wide x 1800mm high double gate comprising of 50x50x3mm RHS framing and middle rail 50x25x3mm RHS Vertical infill members at 225mm centres;priming with red oxide primer; purpose made ironmongery; all necessary lugs and grouting as per details (all with roller at the ground)	No	1		
М	Ditto pedestrian gate size 900x1800 ditto	No	1		
N	Prepare and apply aerosol spray painting in two finishing coats of first grade paint as per the manufacturer's printed instructions to: - General surfaces of metal Total carried to collection	SM	14	-	
	COLLECTION			-	
	<b>BOUNDARY WALL AND GATES</b> Total brought forward from page BW/1				
	Total brought forward from page BW/2				
	TOTAL FOR BOUNDARY WALL CARRIED GRAND SUMMARY			Т	



ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Preliminary and General Items				
А	Allow Provisional sum of Kenya shillings (KSh 200,000/=) for materials testing as instructed by the Engineer.	Prov. Sum	1		
В	Extra Over on Item 1.01 for Contractors overheads and profits	0/0	10%		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Site Clearance and Topsoil Stripping				
	bite ofcarance and ropson beripping				
А	Clear site including removal of trees (girth less than 300 mm), hedges, bushes	m2	1530.00		
	and other vegetation and other deleterious materials, grub up roots and backfilling of holes left by removal of stumps and roots in accordance with				
	the Specifications, as shown on the drawings and as instructed by Engineer.				
В	Removal of top soil to a maximum depth of 200 mm including excavation,	m3	1834.00		
	loading and disposal				
С	Cutting of trees of all girth above 300 mm including cutting of trunks,				
	branches, uprooting and removal of all materials and stacking within the				
	Right of Way and complete with filling of depressions/pits by earth including liaison with concerned authorities for obtaining permissions.				
			<b>F</b> 00		
	<ul><li>(i) Girth from 300 mm to 600 mm</li><li>(ii) Girth above 600 mm but up to 900 mm</li></ul>	Nº Nº	5.00 5.00		
	(ii) Girth above 900 mm but up to 1800 mm	Nº	5.00		
D	Transpotation of the existing trees of girth above 600 mm girth as instructed	Nº	15.00		
	by Engineer, including shifting of the tree and storing at locations as instructed by the Engineer.				
	instructed by the Engineer.				
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Earthworks</u>				
	No separate payments shall be made for the overhaul of the material and the cost of such haulage shall be included in the rates and or prices.				
А	Cut to spoil in soft material	m3	7416.00		
В	As Item 5.01 but in hard material	m3	2225.00		
С	Provide, Spread and compact rockfill in swampy areas	m3	7416.00		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Culvert and Drainage Works				
	No separate payment shall be made for the haulage of surplus or unsuitable excavated material and the cost of such haulage shall be included in the rates and/or prices				
А	Excavate in soft material for pipe culverts, subsoil drains, headwalls, wing walls, aprons, toe walls, drop inlets, mitre drains, catch water drains and median drains including support of trench sides, backfilling and compacting as specified or as instructed by the Engineer.	m3	752.00		
В	As Item 8.01 but in hard material (any method)	m3	376.00		
С	Allow for hacking in existing concrete drain for junction connections	m3	226.00		
D	Allow for perforation and connecting to the existing drain including stoppage of inflowing water (hole approximately 600 widex800 high x 250 thick)	no.	10.00		
Е	Provide, lay and joint 450 mm Internal Diameter (I. D.) Reinforced Cement Concrete pipes. The rate to include excavation, backfilling and compaction to drain formation level	m	10.00		
F	Ditto item 8.06 above but 600mm I.D. Reinforced Cement Concrete pipes	m	895.00		
G	Ditto item 8.06 above but 900mm I.D. Reinforced Cement Concrete pipes	m	10.00		
Н	Provide place and compact class 25/20 concrete to headwalls, wingwalls, aprons and toe walls to pipe culverts.	m3	100.00		
J	Provide place and compact 150mm class 15/20 concrete to beds and surround to 450mm diameter pipes	m3	50.00		
К	Ditto item 8.11 above but 600mm I.D. Reinforced Cement Concrete pipes	m3	471.00		
L	Ditto item 8.11 above but 900mm I.D. Reinforced Cement Concrete pipes	m3	8.00		
М	Provide and joint 450mm diameter precast concrete invert block drain (IBD) channels with two double side precast side slabs of 600x225x75mm as lining for side drain including bedding and backfilling with selected material as directed by the Engineer.	m	150.00		
Ν	Provide and lay 450 Dia service ducts of length 10 m each as per the drawings and as instructed by the Engineer; Rate to include excavation, disposal of excavated material and concrete suurround	No.	15.00		
	Carried to Collection				

Measure specific material or pricesAProvide, (AASHT 100mm a not more EngineerBPrepare s quarry ch	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A Provide, (AASHT 100mm a not more B Prepare s quarry ch	tural Material for Sub-base and Base				
(AASHT 100mm a not more Engineer B Prepare s quarry ch	asurements and payment by method 'A' as defined in the standard cifications. No separate payments shall be made for the overhaul of erial and the cost of such haulage shall be included in the rates and rices				
quarry ch	vide, place, water and compact Natural Gravel Material to 95% MDD SHTO T180) of sub base quality for base for the walkways of thickness nm and on the carriageway and parking to a consolidated thickness of more than 300mm as shown in the drawings and as instructed by the ineer	m3	1854.00		
	pare surface provide, place, handpack (200mm in one layer)and compact ry chips (natural blue stone) to refusal densities on the carriageway and ing as directed by the Engineer.	m3	1236.00		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Concrete Works</u>				
А	Provide and fix on the carriageway and parking interlocking concrete paved unishaped blocks (monolithic single layer precast concrete blocks) of any	m2	6180.00		
В	Extra over item 17.01 for laying blocks at speed bumps	m2	0.00		
С	Ditto item 17.01 above but for 60mm heavy duty blocks at the walkway	m2	50.00		
D	Provide, lay in place and joint 600x600x50mm well cured paving slabs on 50mm well compacted sand/quarry dust bed to footpaths/islands, Cloth drying areas and around the blocks as stipulated in the special Specifications.	m2	360.00		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Road Furniture				
	Road Marking and Road Signs				
А	Road Marking Provide and lay hot applied thermoplastic road marking compound in approved colour and shade (ASTM 9) for road marking on bituminous surface on centerline, 100 mm, edge line 150 mm wide 3.0 mm thick, using fully automatic extrusion machine and using pre-melter for melting thermoplastic material including cleaning the surface of all dirt, dust, and other foreign matter, complete with demarcation at site/pre-marking, finishing and managing the traffic movements. Marking to be done as per the specifications, detailed drawings and as instructed by the Engineer.				
	(i) For lane marking (broken lines) with white paint, 100 mm wide	m2	179.00		
	(ii) For lane marking with yellow paint, 100mm wide	m2	1236.00		
	(iii) For raised kerb lines with black paint, 150 mm wide	m2	895.00		
	Other Road Furniture				
В	Provide, lay and Joint complete with hauncing as shown on the drawings and as instructed by the Engineer				
	(i) Raised Kerbs	m	1790.00		
	(ii) Flush Kerbs	m	20.00		
С	Provide, lay and Joint complete with hauncing as shown on the drawings and as instructed by the Engineer 100 x 125 mm channels for the walkways and shallow drains	m	1854.00		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	Preliminary and General Items				
2	Site Clearance and Topsoil Stripping				
3	Earthworks				
4	Culverts and Drainage Works				
5	Natural Material for Sub-base and Base				
6	Concrete Works				
7	Road Furniture				
	TOTAL ROADWORKS CARRIED TO GRAND SUMMARY				

## SEWER RETICULATION WORKS

ltem	Description	Unit	Quantity	Rate	Amount
No	CLASS A - GENERAL ITEMS			(KSh.)	(KSh.)
	Contractual Requirements				
	Provide for preparation and submission to the employer				
	1No set of virograph and 2No sets of blue print copies				
A140.2	(A1 SIZE) of as built drawings for all the sewer pipelines in the contract. Note that manhole positions in the	sum	1		
	layout should be actual ( geo-referenced to the national grid).				
	Brid).				
	Specified Requirements				
	Testing of Materials and Works				
	Provide for concrete strength test. Rate to include for				
A250	casting of the necessary number of cubes, curing,transport from site to testing institution and fees	nr	30		
	payable for the service.				
	Provide for testing of the sewer pipes.Rate to include for				
A250.1	transportation to the testing institutions and fees payable for this service.	nr	15		
	Temporary Works				
A272	Traffic regulation (including signages,warning tapes and	Item	Sum		
R212	warning signs); establishment, operation and removal.	item	Sum		
	Bill No. 1.1- PAGE 1 TOTAL CARRIED TO C	RAND SU	MMARRY		

ITEM No.	DESCRIPTION	Unit	Qty	Rate	Amount (Kshs.)
	The rates quoted by the Contractor shall be deemed to include provision by the Contractor to provide temporary vehicular access to all construction sites including negotiating with private land owners and paying the necessary charges as required.				
	CLASS A - GENERAL ITEMS				
	GENERAL CLEARANCE				
140.3	Allow for setting out of the works	m	910.00		
	Testing of the works				
4260	Carrying out test on sewer, a pipeline as specified or directed by the engineer, include provision of all equipment and materials	m	910.00		
277	Allow for keeping trenches and other excavation free of water which may have entered through ground seepage, rain or by other means as directed by the Engineer	sum	1.00		
	CLASS B - SITE INVESTIGATION				
3111	Trial holes where ordered to prove location , construction size etc., of pipelines, services or existing structures, max depth n.e 1m (provisional)	nr	3.00		
8112	Trial holes where ordered to prove location , construction size etc., of pipelines, services or existing structures, max depth 1- 2m ( provisional)	nr	3.00		
3113	Trial holes where ordered to prove location , construction size etc., of pipelines, services or existing structures, max depth 2-3m ( provisional)	nr	3.00		
	CLASS D - DEMOLITION AND SITE CLEARANCE				
	The rate quoted is for site clearance and demolition along construction wayleave shall be deemed to include removal of the material and carting away to tips, identified by the Contractor in liaison with the Local Authority.				
0100	General site clearance through undeveloped land over the wayleave, include for additional clearance required	ha	0.27		
0210	Removal of trees girth 0.5- 1m ( Provisional)	nr	3.00		
0220	Removal of trees girth 1-2m (Provisional)	nr	3.00		

ITEM No.	DESCRIPTION	Unit	Qty	Rate	Amount (Kshs.)			
	CLASS I - PIPEWORK - PIPES Provide materials, lay, joint and test approved pipes and fittings. Rates to include for handling, laying, all jointing materials and fixing as directed by the engineer. Supply of pipes							
I230.1	Nomial bore 150mm uPVC Class 34 Pipeline	m	750.00					
I230.2	Nomial bore 225mm uPVC Class 34 Pipeline	m	10.00					
1230.3	Nomial bore 300 mm DWC HDPE SN8 Pipe	m	150.00					
	uPVC & DWC HDPE SN8 PIPES WITH SPIGOT AND SOCKET							
	The rates entered against the items in this section shall include for stripping top soil, laying aside and subsequently replacing over refilled trench, excavation in trench in material other than rock, shuttering where necessary, refilling and compacting spreading surplus soil evenly over and alongside pipe trench, compacting, lay and joint pipes to correct line and level. Depths are stated from ground level to invert level.							
	Nominal bore 150 mm in trenches							
I233.1	depth not exceeding 1.5 m.	m	750.00					
	Nominal bore 225 mm in trenches							
I232.1	depth not exceeding 1.5 m.	m	10.00					
	Nominal bore 300 mm in trenches							
I232.1	depth not exceeding 1.5 m.	m	30.00					
I233.1	ditto but depth; 1.5 - 2.0 m.	m	75.00					
I234.1	ditto but depth; 2.0 - 2.5 m.	m	30.00					
I235.1	ditto but depth; 2.5 - 3.0 m.	m	15.00					
			FOTION SUPPT					
	Bill No. 1.2- PAGE 2 TOTAL CARRIED FORWARD TO COLLECTION SHEET							

ITEM No.	DESCRIPTION	Unit	Qty	Rate	Amount (Kshs.)
	CLASS K - PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				
	Excavation quantities are given net. The rate entered are to include for manhole concrete slabs and covers, step irons or ladder, excavation, shuttering where necessary, refilling and compacting around the finished manholes, and disposing of surplus spoil is to be evenly spread. Excavation in any material other than rock				
	Masonary manhole 1050 mm , reinforced concrete manhole slab and cover.				
K151.1	depth not exceeding 0.6 m.	nr	74.00		
K151.2	depth not exceeding 0.9 m.	nr	32.00		
	MANHOLES Manhole size 1050 mm , reinforced concrete manhole slab and cover.				
K151.1	depth not exceeding 1.5 m.	nr	5.00		
K152.1	ditto but depth; 1.5 - 2.0 m.	nr	2.00		
K153.1	ditto but depth; 2.0 - 2.5 m.	nr	2.00		
	MANHOLES				
	Manhole size 1200 mm , reinforced concrete manhole slab and cover.				
K153.1	ditto but depth; 2.0 - 2.5 m.	nr	1.00		
K154.1	ditto but depth; 2.5 - 3.0 m.	nr	1.00		
	Bill No. 1.2- PAGE 3 TOTAL CARRIED FORWAR	D TO COLL	ECTION SHEET		

ITEM No.	DESCRIPTION	Unit	Qty	Rate	Amount (Kshs.)
2*	CLASS L; SUPPORTS AND PROTECTION ANCILLIARIES TO LAYING AND EXCAVATION				
	Extras to Excavation and backfilling Trenches. ( Note : blasting not allowed for any rock excavation)				
	In pipe trenches 225mm bore				
L111	Excavation of rock	m3	2.50		
L118	Allow for excavation of soft material below final surface of pipe trench and back fill with approved hardcore, well compacted in ,layers of 200mm thickness , depth not exceeding 1.0m	m3	1.00		
	In pipe trenches 300mm bore				
L111	Excavation of rock	m3	75.00		
L118	Allow for excavation of soft material below final surface of pipe trench and back fill with approved hardcore, well compacted in ,layers of 200mm thickness , depth not exceeding 1.0m	m3	45.00		
	In Manholes and other chambers				
L 121	( Note: Blasting not allowed for any rock excavation ) Excavation of rock	m3	7		
L 128	Allow for excavation of soft material below final surface of manhole and back fill with approved hardcore, well compacted in ,layers of 200mm thickness , depth not exceeding 1.0m	m3	83		
	Reinstatement				
k732	Microtunneling across 24m length road using DN 450 externally Epoxy coated and internally cement lined socket and spigot steel pipes. proads pipe nominal bore 375 mm. Rate to include application and acquiston of road cutting permits from road authorities.Rate to include application and acquiston of road cutting permits from road authorities. (Provisional sum)	sum	1.00		
	Bill No. 1.2- PAGE 4 TOTAL CARRIED FORWARD	TO COLL	ECTION SHEET		

ITEM No.	DESCRIPTION	Unit	Qty	Rate	Amount (Kshs.)
	Bed, Haunches and Surrounds				
	Mass concrete grade 15/20 in 150mm Thick Beds, Haunches and surrounds				
L 444.1	225 mm nominal bore pipeline Bed haunch and surround type D (0.2821 m³)	m	10.00		
L 444.2	300 mm nominal bore pipeline Bed haunch and surround type A (0.1471 m³)	m	150.00		
L 444.3	300 mm nominal bore pipeline Bed haunch and surround type D (0.3702 m³)	m	10.00		
	Bill No. 1.2- PAGE 5 TOTAL CARRIED FORWARI	TO COLL	ECTION SHEET		

	COLLECTION PAGE						
ITEM No.	DESCRIPTION	Unit	Qty		Amount (Kshs.)		
	COLLECTION PAGE						
1	From Page 2						
2	From Page 3						
3	From Page 4						
3	From Page 5						
4							
4	From Page 6						
	Sub-Total (i)						
	Bill No. 1.2-TOTAL CARRIED FORWARD TO	O GRAND S	SUMMARY				
	BIII NO. 1.2-IUIAL CARRIED FORWARD IU GRAND SUMMARI						

ITEM No.	DESCRIPTION	Unit	Qty	Rate	Amount (Kshs.)
110.	BILL No. 1.3. WASTE WATER				
	TREATMENT/WASTE WATER DISPOSAL				
А	Provide a provisional sum for civil works associated with waste water treatment plant/waste water disposal to be executed as authorized by the Engineer and to be measured and valued by the Quantity Surveyor in accordance with the Contract	sum	1.00		
	Bill No. 1.3- PAGE 3 TOTAL CARRIED FORWARD	O TO GRAI	ND SUMMARRY		

ITEM No.	DESCRIPTION	Unit	Qty	Rate	Amount (Kshs.)
NU.	GRAND SUMMARY				
Bill	Description				Amount
No.					
11 No.					
L 190.	Preliminaries and General Items				
11 No.					
2	Measured Works				
ll No.					
3	Biodigester				

## UNDERGROUND WATER TANK

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	EXTERNAL WORKS				
	BILL NO. 7				
	UNDERGROUND WATER TANK				
	SUBSTRUCTURE (ALL PROVISIONAL)				
	Excavations				
А	Excavate over site to remove top soil average 200mm deep and cart away.	m²	608		
В	Excavate for pits commencing at reduced excavation level and not exceeding 1.50m deep.	m³	912		
С	Excavate for pits commencing at reduced excavation level and not exceeding 1.50-3m deep	m³	912		
D	Excavate for pits commencing at reduced excavation level and not exceeding 3-4.5m deep	m³	699		
Е	Extra excavation for excavating in all types of rock and cart away.	m³	757		
F	Remove surplus excavated material from site.	m³	2,523		
	Disposal				
G	Allow for keeping the whole of the excavation free from all spring and running water by pumping or any other such means as may be necessary	Item	1		
Н	Allow for planking and strutting to sides of already excavated surfaces and new excavated surfaces to keep excavations free from all fallen materials.	Item	1		
	Fillings				
J	Approved 300mm wide granular filling layers not exceeding 150mm thick	m²	608		
	Insitu concrete Class 15MPa: vibrated:				
К	Floor slab	m²	608		
	Carried to Collection				

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	REINFORCED CONCRETE FRAME				
	Insitu concrete class 30MPa: vibrated: reinforced				
А	Beams	m²	15		
В	250mm RC wall	m²	48		
С	300mm RC wall	m²	331		
D	300mm bottom slab	m²	608		
Е	200mm top slab	m²	608		
F	Extra over for boxing to form opening size 600 x 450mm through 200mm thick reinforced concrete slab; rebated edges	No	4		
G	Sump	No	4		
	Ribbed reinforcement steel bars to KS 573:2014 : Grade 500 high tensile strengthincluding bends, hooks, tying wire and distance blocks; to S.E's detail ( Provisional)				
Н	Assorted reinforcement	kg	56,800		
	Modular steel frame with steel plates covering formwork and/or marine board formwork: to				
J	Sides of beams	m²	98		
К	RC wall	m²	758		
L	Soffits of suspended slab	m²	608		
М	Edge of floor slab 150 - 225mm high.	m	108		
Ν	Edge of floor slab 225 - 300mm high.	m	108		
	Water Bar				
Ρ	250mm wide PVC water bar	m	123		
	Carried to Collection				
	Underground Water Tank				

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	FINISHES				
	WALL FINISHES				
	<u>15mm cement and sand rendering on concrete surfaces finished with a wood float</u> to:-				
А	12mm Two coat external lime plaster on walls finished smooth with a steel trowel	m²	758		
	Waterproofing				
	25mm thick 2 coats lime waterproofed plaster in "penetron Plus" as described;				
В	300mm thick floor slab	m²	608		
С	Ditto to walls	m²	758		
	Plastic manhole				
Е	Heavy duty plastic manhole cover and frame size 600x450mm wide with cover set in frame with grease	No	4		
F	Supply and fix approved 450mm, 10mm dia solid rungs wide stainless steel step ladder at 300mm centres fixed with SS bolts and nuts to structural details	No	4		
	Carried to Collection				
	UNDERGROUND WATER TANK				
	COLLECTION				
	Total brought forward from Page No. 1				
	Total brought forward from Page No. 2				
	Total brought forward from above				
	Carried Forward to Summary				



ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	<u>BILL NO. 2</u>				
	PROPOSED TYPICAL SOCIAL & AFFORDABI	LE UNI	TS BLO	CK TYPE A	
(i)	GROUND FLOOR				
А.	2 BEDROOM AHP UNITS				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
1.01	<b>LIGHTING POINTS</b> Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	6		
	ii) Ditto as in item No. 1.01 but for two way switching	No.	4		
1.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	3		
	ii) 10A one gang two way switch iii) 10A two gang two way switch	No. No.	5 2		
1.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	6		
	b) Spherical screwneck luminaire with opal glass and 16W compact fluorescent lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF</b> "	No.	2		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg. POWER AND SOCKET OUTLET POINTS				
1.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	7		
1.05	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or approved equivalent.	No.	7		
1.06	Instant shower water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories,but excluding the 40A DP connection unit	No.	1		
1.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	1		
1.08	Cooker outlet power points completely wired in 3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories, but excluding the 45A Cooker connection unit	No.	1		
1.09	45A Moulded plate Cooker Control Unit complete with 13A fused Socket outlet as MK/Crabtree or approved equivalent.	No.	1		
1.10	45A moulded plate cooker connection unit as MK/Crabtree or approved equivalent:	No.	1		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.	No.	1		
1.12	240V/12V Ding dong domestic door bell	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
1.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the Data socket outlet.		1		
1.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the DTV socket outlet.		1		
1.15	300x 300x 100mm deep 16G galvanized adaptable	No.	2		
1.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	LM	45		
	Total Carried Forward to the Next Pg.				

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ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTIO	N BOA	RDS		
1.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator, but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
1.18	MCBs for item above as Schneider Electric Acti 9				
	i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	2		
	iii) 45 A SP MCB	No.	1		
	iv) Blanking plates	No.	2		
1.19	Sub-mains circuits for CU 'A ' above comprising of 3 x $10$ mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the LV switchboard below the staircase.	LM	45		
	Total Carried Forward to Ground Floor Collectic	n Po			

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
B.	3 BEDROOM AHP UNIT				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
	LIGHTING POINTS				
1.01	Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	4		
	ii) Ditto as in item No. 1.01 but for two way switching	No.	6		
1.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	4		
	ii) 10A one gang two way switch	No.	8		
	iii) 10A two gang two way switch	No.	1		
1.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	7		
	b) Spherical screwneck luminaire with opal glass and 16W compact fluorescent lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF</b> "	No.	3		
					ļ
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER AND SOCKET OUTLET POINTS				
1.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	8		
1.05	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	8		
1.06	Instant shower water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection unit	No.	2		
1.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	2		
1.08	Cooker outlet power points completely wired in 3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories, but excluding the 45A DP connection unit	Νī	1		
1.09	45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.		1		
1.10	45A Moulded plate Cooker Control Unit complete with 13A fused Socket outlet as MK/Crabtree or approved equivalent.		1		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.		1		
1.12	240V/12V Ding dong domestic door bell	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
1.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the telephone socket outlet.		1		
1.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the DTV socket outlet.		1		
1.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
1.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	LM	45		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTIO	N BOA	RDS		
1.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator ,but excluding the MCBs, and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
1.18	MCBs for item above as Schneider Electric Acti 9				
	i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	3		
	iii) 45 A SP MCB	No.	1		
	iv) Blanking plates	No.	1		
1.19	Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.	LM	45		
	Total Carried Forward to the Ground Floor Colle	ection	Pg.		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
C.	STUDIO SOCIAL UNITS				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
	LIGHTING POINTS				
1.01	Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.		1		
	ii) Ditto as in item No. 1.01 but for two way switching	No.	2		
1.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	1		
	ii) 10A one gang two way switch	No.	2		
	iii) 10A two gang two way switch	No.	1		
1.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	2		
	b) Spherical screwneck luminaire with opal glass and 16W compact fluorescent lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF</b> "	NT.	1		
	Total Carried Forward to the Next Pg.				

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ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER AND SOCKET OUTLET POINTS				
1.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.		4		
1.05	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	4		
1.06	Instant shower water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 40A DP connection unit	ŊŢ	1		
1.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	1		
1.08	Cooker outlet power points completely wired in $3 \times 6.0$ mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 45A DP connection unit	NT	1		
1.09	45A Moulded plate Cooker Control Unit complete with 13A fused Socket outlet as MK/Crabtree or approved equivalent.		1		
1.10	45A moulded plate cooker connection unit as MK/Crabtree or approved equivalent:	No.	1		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.	No.	1		
1.12	240V/12V Ding dong domestic door bell	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
1.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking plate but excluding the telephone socket outlet.		1		
1.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories but excluding the DTV socket outlet.		1		
1.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
1.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	LM	30		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTIO	N BOA	RDS		
1.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator ,but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
1.18	MCBs for item above as Schneider Electric Acti 9 or approved equivalent				
	i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	3		
	iii) 45 A SP MCB	No.	1		
	iv) Blanking plates	No.	1		
	iv) blanking plates	INO.	1		
1.19	Sub-mains circuits for CU 'A ' above comprising of 3 x $10$ mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the LV switchboard below the staircase.		30		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
D.	2 ROOM/1 ROOM UNITS				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
	LIGHTING POINTS				
1.01	Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	2		
	ii) Ditto as in item No. 1.01 but for two way switching	No.	3		
1.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A two gang one way switch	No.	1		
	ii) 10A one gang two way switch	No.	3		
	iii) 10A two gang two way switch	No.	1		
1.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	4		
	b) Spherical screwneck luminaire with opal glass and 16W compact fluorescent lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF"</b>	No.	1		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER AND SOCKET OUTLET POINTS				
1.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.		6		
1.05	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	6		
1.06	Instant shower water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection unit	NT	1		
1.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	1		
1.08	Cooker outlet power points completely wired in 3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 45A DP connection unit	Νī	1		
1.09	45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.		1		
1.10	45A moulded plate cooker connection unit as MK/Crabtree or approved equivalent:	No.	1		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.	No.	1		
1.12	240V/12V Ding dong domestic door bell	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
1.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking plate but excluding the data socket outlet.		1		
1.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories but excluding the DTV socket outlet.		1		
1.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
1.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	LM	20		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTIO	N BOA	RDS		
1.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator, but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
1.18	MCBs for item above as Schneider Electric Acti 9 or approved equivalent				
	i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	3		
	iii) 45 A SP MCB	No.	1		
	iv) Blanking plates	No.	1		
	iv) blanking plates	INO.	1		
1.19	Sub-mains circuits for CU 'A ' above comprising of 3 $\times$ 10mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the LVswitchboard below the staircase.	LM	20		
	Total Carried Forward to Ground Floor Collectic				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
E.	<u>3 ROOM SOCIAL UNIT</u>				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
	LIGHTING POINTS				
1.01	Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	2		
	ii) Ditto as in item No. 1.01 but for two way switching	No.	5		
1.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	1		
	ii) 10A one gang two way switch	No.	4		
	iii) 10A two gang two way switch	No.	3		
1.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	6		
	b) Spherical screwneck luminaire with opal glass	No.	1		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER AND SOCKET OUTLET POINTS				
1.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.		7		
1.05	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	7		
1.06	Instant shower water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection unit	<b>N</b> .	1		
1.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	1		
1.08	Cooker outlet power points completely wired in 3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories, but excluding the 45A DP connection unit	NT	1		
1.09	45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.		1		
1.10	45A Moulded plate Cooker Control Unit complete with 13A fused Socket outlet as MK/Crabtree or approved equivalent.		1		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.	No.	1		
1.12	240V/12V Ding dong domestic door bell	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
1.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the telephone socket outlet.		1		
1.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the DTV socket outlet.		1		
1.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
1.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	Lm.	20		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTIO	N BOA	RDS		
1.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator ,but excluding the MCBs, and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
1.18	MCBs for item above as Schneider Electric Acti 9				
	i)10 A SP MCB ii)32 A SP MCB	No. No.	1 3		
	iii) 45 A SP MCB iv) Blanking plates	No. No.	1 1		
1.19	Sub-mains circuits for CU 'A ' above comprising of 3 x $10$ mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.		20		
	Total Carried Forward to Ground Floor Collectic	n Pag	2		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
F.	CORRIDOR/ LIFTS LOBBY AREA				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
1.01	<b>LIGHTING POINTS</b> Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for two way switching, but excluding the switch and luminaire.	No.	31		
1.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang two way switch	No.	4		
	ii) 10A two gang two way switch	No.	4		
1.03	LIGHTING FITTINGS				
	a) Circular shaped surface mounted led luminaire	No.	12		
	b) Emergency Maintained Circular shaped surfac	No.	3		
	c) 8W bulkbead luminaire ,polycarbonate base, and clear diffuser and installed inside the lift shaft As Thorn EWB/ETB bulkhead. " <b>Type G</b> "	No.	2		
	d) Bulkhead fitting with moulded glass diffuser a	No.	14		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.04	CCTV points in designtaed locations for survailance, comprising of 25mm diameter HG PVC conduits complete with draw wire and the blanking plate. Allow for draw boxes where all the conduits from each security point converge.		6		
1.05	300x 300x 100mm deep 16 G galvanized adaptable box.	No.	2		
	LIGHTING CONTROL				
1.06	Presence sensor complete with assocaited wiring (light and motion sensor) as Osram Duo with the following characteristics:		3		
	Operation voltage 220 - 240V 50Hz, detection area-12m dia minimum, settable light value, switch-off delay (if no motion detected), installation height - 5m minimum				
1.07	24A, 240V, 2P DB/CU mounted silent operation contactor for Switching External lights complete with all accessories and as CRABTREE CIK24 or an approved equivalent	No.	2		
1.08	Photocell control unit and wired to energize the contactors complete with a D.P override switch as THORN QPK or approved equivalent	No.	2		
1.09	Water booster power points completely wired in 5 x 6mm <sup>2</sup> single core PVC insulated copper cables drawn in 38mm diameter heavy gauge PVC conduits including all accessories ,but excluding the the 40A TPN isolator	No.	1		
1.10	40A TPN isolator as MK or approved equivalent	No.	1		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.11	Lifts isolators power points completely wired in 5 x 6mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the the 63A TPN isolator	No.	2		
1.12	63A TPN isolator as MK or approved equivalent	No.	2		
1.13	8 ways 100A TPN distribution boards 'T' complete with 100A TPN integral isolator ,but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.		1		
1.14	4 ways 100A SPN Consumer Unit `C' complete with 100A SPN integral isolator ,but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent for common services.	No.	5		
1.15	MCBs for item above as Schneider Electric Acti				
	9 i)10 A SP MCB ii) 32 A SP MCB iii) 40 A SP MCB iv) 32 A TP MCB v) Blanking plates	No. No. No. No. No.	6 4 5 3 8		
1.16	Sub-mains circuits for DB 'T' above comprising of 4 core 25mm <sup>2</sup> PVC/SWA/PVC cable drawn in cable tray/ 50mm diameter heavy gauge conduits and running from the Lv switchboard		10		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.17	Sub-mains circuits for CU 'C ' above comprising of 3 x 10mm2 single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from common distribution board.		30		
1.18	200mm x 50mm galvanised metallic cable tray (Telecom, DTV, Internet Cables) gauge 14 (riser duct) c/w all mounting accessories bends, rawl bolts, threaded bolts, brackets,		60		
1.19	200mm x 50mm galvanised metallic cable tray (Power Cables) gauge 14 (riser duct) c/w all mounting accessories bends, rawl bolts, threaded bolts, brackets,		40		
	Total Carried Forward to Ground Floor Collection	on Pg.			

ITEM	DESCRIPTION	QTY	RATE (KSH)	AMOUNT (KSH)
	GROUND FLOOR SUMMARY PAGE			
1	Total Amount for 2 Bedroom AHP Unit	4		
2	Total Amount for 3 Bedroom AHP Unit	1		
3	Total Amount for Studio/1 Room AHP Unit	4		
4	Total Amount for 2 Room Social Unit	2		
5	Total Amount for 3 Room Social Unit	1		
6	Total Amount for Common Area	1		
	Total Carried Forward to Ground Floor Collection Pg.			

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
(ii)	<u>TYPICAL 1ST - 9TH FLOOR</u>				
А.	2 BEDROOM AHP UNITS				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
	LIGHTING POINTS				
1.01	Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	6		
	ii) Ditto as in item No. 1.01 but for two way switching	No.	4		
1.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	3		
	ii) 10A one gang two way switch	No.	5		
	iii) 10A two gang two way switch	No.	2		
1.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	6		
	b) Spherical screwneck luminaire with opal glass and 16W compact fluorescent lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF</b> "	No.	2		
	Total Carried Forward to the Next Pg.				

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ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER AND SOCKET OUTLET POINTS				
1.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	7		
1.05	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or approved equivalent.	No.	7		
1.06	Instant shower water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories,but excluding the 40A DP connection unit	No.	1		
1.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	1		
1.08	Cooker outlet power points completely wired in $3 \times 6.0$ mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories, but excluding the 45A Cooker connection unit	Νī	1		
1.09	45A Moulded plate Cooker Control Unit complete with 13A fused Socket outlet as MK/Crabtree or approved equivalent.		1		
1.10	45A moulded plate cooker connection unit as MK/Crabtree or approved equivalent:	No.	1		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.	No.	1		
1.12	240V/12V Ding dong domestic door bell	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
1.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the Data socket outlet.		1		
1.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the DTV socket outlet.		1		
1.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
1.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	LM	45		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTIO	N BOA	RDS		
1.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator, but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
1.18	MCBs for item above as Schneider Electric Acti 9				
	i)10 A SP MCB ii)32 A SP MCB	No. No.	1 2		
	iii) 45 A SP MCB iv) Blanking plates	No. No.	1 2		
1.19	Sub-mains circuits for CU 'A ' above comprising of 3 x $10$ mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the LV switchboard below the staircase.		65		
	Total Carried Forward to Typical Floor Collectio	n Pg.			

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
B.	<u>3 BEDROOM AHP UNIT</u>				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
	LIGHTING POINTS				
1.01	Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	4		
	ii) Ditto as in item No. 1.01 but for two way switching	No.	6		
1.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	4		
	ii) 10A one gang two way switch	No.	8		
	iii) 10A two gang two way switch	No.	1		
1.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	7		
	b) Spherical screwneck luminaire with opal glass and 16W compact fluorescent lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF</b> "	No.	3		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER AND SOCKET OUTLET POINTS				
1.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.		8		
1.05	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	8		
1.06	Instant shower water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection unit	NT	2		
1.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	2		
1.08	Cooker outlet power points completely wired in 3 x $6.0$ mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories, but excluding the 45A DP connection unit	Νī	1		
1.09	45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.		1		
1.10	45A Moulded plate Cooker Control Unit complete with 13A fused Socket outlet as MK/Crabtree or approved equivalent.		1		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.	No.	1		
1.12	240V/12V Ding dong domestic door bell	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
1.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the telephone socket outlet.		1		
1.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the DTV socket outlet.		1		
1.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
1.16	25 mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	LM	45		
	Total Carried Forward to the Next Pg.				

Total B/F from Previous Pg.       POWER RETICULATION AND DISTRIBUTION BOARDS         1.17       6 ways 100A SPN Consumer Unit 'A' complete with 100A SPN integral isolator ,but excluding the MCBs, and as Schneider Electric Acti 9 or approved equivalent.       No.       1         1.18       MCBs for item above as Schneider Electric Acti 9 or in approved equivalent.       No.       1         1.18       MCBs for item above as Schneider Electric Acti 9 or in approved equivalent.       No.       1         1.19       Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lx switchboard below the staircase.       LM       65         1.19       Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lx switchboard below the staircase.       65         1.19       Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lx switchboard below the staircase.       65         1.10       Sub-maine complexity       IA       IA         1.11       Sub-maine complexity       <	ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
1.176 ways 100A SPN Consumer Unit 'A' complete with 100A SPN integral isolator ,but excluding the MCBs, and as Schneider Electric Acti 9 or approved equivalent.No.11.18MCBs for item above as Schneider Electric Acti 9 i)10 A SP MCBNo.11.18MCBs for item above as Schneider Electric Acti 9 		Total B/F from Previous Pg.				
with 100A SPN integral isolator ,but excluding approved equivalent.       No.       1         1.18       MCBs for item above as Schneider Electric Acti 9 or approved equivalent.       No.       1         1.18       MCBs for item above as Schneider Electric Acti 9 or approved equivalent.       No.       1         1.18       MCBs for item above as Schneider Electric Acti 9 or approved equivalent.       No.       1         1.18       MCBs for item above as Schneider Electric Acti 9 or approved equivalent.       No.       1         1.19       Sub-mains circuits for CU 'A 'above comprising of 3 x 10mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.       ELM       65         1.19       Sub-mains circuits for CU 'A 'above comprising of 3 x 10mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.       65		POWER RETICULATION AND DISTRIBUTIO	N BOA	RDS		
9       No.       1         i)10 A SP MCB       No.       1         ii)32 A SP MCB       No.       1         ii) 45 A SP MCB       No.       1         iv) Blanking plates       No.       1         1.19       Sub-mains circuits for CU 'A 'above comprising of 3 x 10mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.       LM       65         IIII A SP MCB       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	1.17	with 100A SPN integral isolator ,but excluding the MCBs, and as Schneider Electric Acti 9 or	No.	1		
i)10 A SP MCBNo.1ii)32 A SP MCBNo.3iii) 45 A SP MCBNo.1iv) Blanking platesNo.11.19Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm² single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.65LM65	1.18					
ii)32 A SP MCB ii) 45 A SP MCB iv) Blanking plates 1.19 Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase. 65		-	No.	1		
iii) 45 A SP MCB       No.       1         iv) Blanking plates       No.       1         1.19       Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.       LM       65         Image: A sector of the staircase.       Image: A sector of the staircase.       Image: A sector of the sect						
1.19       Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.       LM       65         Image: Comparison of the Lv switchboard below the staircase.       LM       65		iii) 45 A SP MCB	No.	1		
of 3 x 10mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.		iv) Blanking plates	No.	1		
	1.19	of 3 x $10$ mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the		65		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
C.	STUDIO/ 1 ROOM UNITS				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
	LIGHTING POINTS				
1.01	Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	1		
	ii) Ditto as in item No. 1.01 but for two way switching	No.	2		
1.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	1		
	ii) 10A one gang two way switch	No.	2		
	iii) 10A two gang two way switch	No.	1		
1.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	2		
	b) Spherical screwneck luminaire with opal glass and 16W compact fluorescent lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF</b> "	No.	1		
	Total Carried Forward to the Next Pg.				

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ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER AND SOCKET OUTLET POINTS				
1.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	ŊŢ	4		
1.05	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	4		
1.06	Instant shower water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 40A DP connection unit	ŊŢ	1		
1.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	1		
1.08	Cooker outlet power points completely wired in 3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 45A DP connection unit	NT	1		
1.09	45A Moulded plate Cooker Control Unit complete with 13A fused Socket outlet as MK/Crabtree or approved equivalent.		1		
1.10	45A moulded plate cooker connection unit as MK/Crabtree or approved equivalent:	No.	1		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.		1		
1.12	240V/12V Ding dong domestic door bell	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
1.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking plate but excluding the telephone socket outlet.	No.	1		
1.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories but excluding the DTV socket outlet.	No.	1		
1.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
1.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	LM	30		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTIO	N BOA	RDS		
1.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator ,but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
1.18	MCBs for item above as Schneider Electric Acti 9				
	i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	3		
	iii) 45 A SP MCB	No.	1		
	iv) Blanking plates	No.	1		
1.19	Sub-mains circuits for CU 'A ' above comprising of 3 x $10mm^2$ single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the LV switchboard below the staircase.		50		
	Total Carried Forward to Typical Floor Collectio	n Pg.			

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
D.	2 ROOM SOCIAL UNITS				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
	LIGHTING POINTS				
1.01	Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	2		
	ii) Ditto as in item No. 1.01 but for two way switching	No.	3		
1.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A two gang one way switch	No.	1		
	ii) 10A one gang two way switch	No.	3		
	iii) 10A two gang two way switch	No.	1		
1.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	4		
	b) Spherical screwneck luminaire with opal glass and 16W compact fluorescent lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF</b> "	NT.	1		
	Total Causiad Farming to the Next De-				
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER AND SOCKET OUTLET POINTS				
1.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	6		
1.05	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	6		
1.06	Instant shower water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection unit	N.T.	1		
1.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	1		
1.08	Cooker outlet power points completely wired in $3 \times 6.0$ mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 45A DP connection unit	ΝT	1		
1.09	45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.	No.	1		
1.10	45A moulded plate cooker connection unit as MK/Crabtree or approved equivalent:	No.	1		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.		1		
1.12	240V/12V Ding dong domestic door bell	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
1.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking plate but excluding the data socket outlet.		1		
1.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories but excluding the DTV socket outlet.	No.	1		
1.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
1.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	LM	20		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTIO	N BOA	RDS		
1.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator, but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
1.18	MCBs for item above as Schneider Electric Acti 9				
	i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	3		
	iii) 45 A SP MCB	No.	1		
	iv) Blanking plates	No.	1		
1.19	Sub-mains circuits for CU 'A ' above comprising of 3 x $10$ mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the LVswitchboard below the staircase.		30		
	Total Carried Forward to Typical Floor Collectio	n Pg.			

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
E.	<u>3 ROOM SOCIAL UNIT</u>				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
1.01	<b>LIGHTING POINTS</b> Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits	No.	2		
101	including all accessories for one way switching, but excluding the switch and luminaire.		-		
	ii) Ditto as in item No. 1.01 but for two way switching	No.	5		
1.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	1		
	ii) 10A one gang two way switch	No.	4		
	iii) 10A two gang two way switch	No.	3		
1.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	6		
	b) Spherical screwneck luminaire with opal glass and 16W compact fluorescent lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF</b> "	No.	1		
	Total Carried Forward to the Next Pg.				

Total B/F from Previous Pg.Image: Construct and the previous Pg.Image: Construct and the previous Py	ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
1.04I3A SP socket point completely wired in 3 x 2.5mm² single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.No.71.05Socket Outlet plates proved equivalent.No.71.06Socket Outlet plates insulated copper cables drawn in 25mm 		Total B/F from Previous Pg.				
2.5mm² single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet as MK 2536 or equal & approved equivalent.No.71.05Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.No.71.06Instant shower water heater power points completely wired in 3 x 4mm² single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including al accessories, but excluding the 40A DP connection unitNo.11.0740A DP switched connection unit with neon indicator as MK or approved equivalentNo.11.08Cooker outlet power points completely wired in 3 x 6.0mm² single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories, but excluding the 45A DP connection unitNo.11.0945A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.No.11.1045A Moulded plate Cooker Control Unit complete with 13A fused Socket outlet as NK.No.1		POWER AND SOCKET OUTLET POINTS				
<ul> <li>i) 13A SP twin switched socket outlet as MK 2536 or equal &amp; approved equivalent.</li> <li>Instant shower water heater power points completely wired in 3 x 4mm<sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection unit</li> <li>40A DP switched connection unit with neon indicator as MK or approved equivalent</li> <li>No. 1</li> <li>Cooker outlet power points completely wired in 3 x 6.0mm<sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories, but excluding all accessories, but excluding the 45A DP connection unit</li> <li>No. 1</li> <li>1.08 Cooker outlet power points completely wired in 3 x 6.0mm<sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories, but excluding the 45A DP connection unit</li> <li>No. 1</li> <li>1.09 45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.</li> <li>1.10 45A Moulded plate Cooker Control Unit complete with 13A fused Socket outlet as No. 1</li> </ul>	1.04	2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding	ŊŢ	7		
completely wired in 3 x 4mm² single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection unitNo.11.0740A DP switched connection unit with neon indicator as MK or approved equivalentNo.11.08Cooker outlet power points completely wired in 3 x 6.0mm² single core PVC insulated copper 	1.05	i) 13A SP twin switched socket outlet as MK	No.	7		
1.07indicator as MK or approved equivalentNo.11.08Cooker outlet power points completely wired in 3 x 6.0mm² single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories, but excluding the 45A DP connection unitNo.11.0945AMoulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.No.11.1045AMoulded plate Cooker Control Unit complete with 13A fused Socket outlet as MK/Crabtree or approved equivalent.No.1	1.06	completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP	N	1		
3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories, but excluding the 45A DP connection unit       No.       1         1.09       45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.       No.       1         1.10       45A Moulded plate Cooker Control Unit complete with 13A fused Socket outlet as MK/Crabtree or approved equivalent.       No.       1	1.07			1		
complete with 13A fused socket outlet as Mo.       1         MK/Crabtree or approved equivalent.       1         1.10       45A Moulded plate Cooker Control Unit complete with 13A fused Socket outlet as No.       1	1.08	3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories, but	λī	1		
complete with 13A fused Socket outlet as No. 1	1.09	complete with 13A fused socket outlet as		1		
	1.10	complete with 13A fused Socket outlet as		1		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.		1		
1.12	240V/12V Ding dong domestic door bell	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
1.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the telephone socket outlet.		1		
1.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the DTV socket outlet.		1		
1.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
1.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	Lm.	20		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTIO	N BOA	RDS		
1.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator ,but excluding the MCBs, and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
1.18	MCBs for item above as Schneider Electric Acti 9				
	i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	3		
	iii) 45 A SP MCB	No.	1		
	iv) Blanking plates	No.	1		
1.19	Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.		45		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
F.	CORRIDOR/ LIFTS LOBBY AREA				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
1.01	<b>LIGHTING POINTS</b> Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for two way switching, but excluding the switch and luminaire.	No.	20		
1.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang two way switch	No.	5		
	ii) 10A two gang two way switch	No.	5		
1.03	LIGHTING FITTINGS				
	a) Circular shaped surface mounted led luminaire	No.	12		
	b) Emergency Maintained Circular shaped surfac	No.	3		
	c) 8W bulkbead luminaire ,polycarbonate base, and clear diffuser and installed inside the lift shaft As Thorn EWB/ETB bulkhead. " <b>Type G</b> "	No.	2		
L	Total Carried Forward to Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.04	CCTV points in designtaed locations for survailance, comprising of 25mm diameter HG PVC conduits complete with draw wire and the blanking plate. Allow for draw boxes where all the conduits from each security point converge.		6		
1.05	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
	LIGHTING CONTROL				
1.06	Presence sensor complete with assocaited wiring (light and motion sensor) as Osram Duo with the following characteristics:		3		
	Operation voltage 220 - 240V 50Hz, detection area-12m dia minimum, settable light value, switch-off delay (if no motion detected), installation height - 5m minimum				
	Total Carried Forward to Next Pg.				

ITEM	DESCRIPTION	QTY	RATE (KSH)	AMOUNT (KSH)
	TYPICAL FLOOR SUMMARY			
1	Total Amount for 2 Bedroom AHP Unit	36		
2	Total Amount for 3 Bedroom AHP Unit	9		
3	Total Amount for Studio AHP Unit	18		
4	Total Amount for 1 Room Social Unit	9		
5	Total Amount for 2 Room Social Unit	9		
6	Total Amount for 3 Room Social Unit	9		
7	Total Amount for Common Area	9		
	Total for 9No.Typical Floor Carried Forward to Main S			

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
(iii)	EARTHING AND LIGHTNING PROTECTION	<u>I</u>			
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
1.01	<b>Air Termination</b> 2000mm x15mmØ multiple point pure copper AirRods/ Termination with spikes as Furse Part No. RA240 or approved equivalent	No.	3		
1.02	Copper Air Rod Base as Furse Part No. SD105-H or approved equivalent	No.	3		
1.03	Copper Junction Clamps for copper tape as Furse Part No. CN105-H or approved equivalent	No.	3		
1.04	25mm x 3mm Tinned Copper Tape as Furse TC230 or approved equivalent	Lm.	130		
1.05	<b>Down Conductor</b> 25mm x 3mm Tinned Copper Tape as Furse TC230 or approved equivalent	Lm.	200		
1.06	Screwdown copper test clamp as Furse CT305 or approved equivalent	No.	3		
1.07	38mm Ø HG PVC conduits for drawing the down conductor above.	Lm.	10		
	Total Carried Forward to Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.08	<b>Earth Termination</b> 15mm Ø, 1500mm long solid copper earth rod c/w driving stud, coupling, and spike as Furse RC011 or approved equivalent		3		
1.09	Earth rod to tape clamp type A as Furse CR108 or approved equivalent	No.	3		
1.10	Concrete inspection earth pit Cat. No. PT 005 with 5 hole earth bar as Furse Cat. No. PT 006.	No.	2		
1.11	600mm x 600mm copper earth mat made from 25mm x 3mm copper tape at 300mm spacing, buried to permanent moisture level and complete with all clamps and 6m long 25mm x 3mm copper tape clamped to the down conductor, soil conditioning agents (marconite or bentonite) as necessary to achieve earthing resistance value below 10-Ohms		1		
1.12	Allow for earthing tests for the above and submission of the report to the engineer to BS7671 & BS62305 standards		1		
1.13	<b>Bonding</b> Bonding and clamping to all metal work including water pipes, gas pipes, hand-rails, smatv system, window frames, cladding, metal roof etc. and the main earth for the building.		1		
	Total Carried Forward to Main Summary Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
(iv)	LV SWITCHBOARD				
	TAKE DELIVERY, STORE, INSTALL AND COMMISSION THE FOLLOWING:-				
1.01	Install purpose made Free-standing, fully wired front access metal clad main switchboard cubicle suitable for floor / wall mounting and manufactured in 14SWG galvanised mild steel sheet, to be finished in cream (or appropriate colour) powder coating. Wiring as shown on the schematic (the other details as per Particular Specification), complete with the following:-	No.	1		
(i)	630Amps TP/N copper busbars - KPLC supply (Sealable)				
(ii)	630Amps MCCB as mains incomer adjustable				
(iii)	Space for 1No. 3-phase KPLC Common Services meter (kW, kWH, kVA, V, I etc), 63A TP MCB				
(iv)	180 No. 63A DP MCBs for the sub-main cables				
(v)	1No. 100A DP MCBs for the sub-main cables				
(vi)	Space for KPLC cut-outs including studs for mounting KPLC seals				
(vii)	Sealable studs for all cover plate screws and all necessary accessories				
(viii)	6mm perspex viewing window for each section				
(ix)	Heavy duty rubber lining for all the perspex viewing windows				
(x)	4 No. Spare ways				
	Total Carried Forward to Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
1.02	<b>Total B/F from Previous Pg.</b> Earthing for the switch-board under this section comprising 25x3mm copper tape lead, 1800mm long x 15mm diameter copper earth electrode as Furse or approved equivalent complete with driving stud and tape to rod clamp, 300mm x 300mm x 300mm deep concrete inspection earth pit with removable waterproof cover, 600mm x 600mm copper earth mat, soil conditioning agents (marconite and bentonite etc) necessary to achieve earthing value below 5-Ohms and all other necessary accessories	No.	1		
	Total Carried Forward to Main Summary Pg.				

ITEM	DESCRIPTION	
1	<b>BLOCK TYPE A SUMMARY PAGE</b> Total Amount for Ground Floor B/F Page D-25	
2	Total Amount for Typical 1st - 9th Floor B/F Page D-48	
3	Total Amount for Lightning Protection B/F Page D-50	
4	Total Amount for LV Switchboard Installation and Earthing B/F Page D-53	
TOT	AL AMOUNT FOR BILL No. 1: TYPICAL 1NO. BLOCK TYPE A CARRIED	
	FORWARD TO PRICE COLLECTION PAGE	

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	BILL NO. 3				
	PROPOSED TYPICAL AFFORDABLE & MARKET UNITS BLOCK TYPE B				
(i)	<u>GROUND FLOOR</u>				
А.	<u>2 BEDROOM AHP UNITS</u>				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
2.01	<b>LIGHTING POINTS</b> i) Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	3		
	ii) Ditto as in item No. 2.01 but for two way switching	No.	6		
2.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	3		
	ii) 10A one gang two way switch	No.	6		
	iii) 10A two gang two way switch	No.	2		
2.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	6		
	b) Spherical screwneck luminaire with opal glass and 16W compact lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF</b> "	No.	2		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg. POWER AND SOCKET OUTLET POINTS				
2.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	8		
2.05	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or approved equivalent.	No.	8		
2.06	Instant shower water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories,but excluding the 40A DP connection unit	No.	1		
2.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	1		
2.08	Cooker outlet power points completely wired in 3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories, but excluding the 45A Cooker connection unit	No.	1		
2.09	45A Moulded plate Cooker Control Unit complete with 13A fused Socket outlet as MK/Crabtree or approved equivalent.	No.	1		
2.10	45A moulded plate cooker connection unit as MK/Crabtree or approved equivalent:	No.	1		
	Total Carried Forward to the Next Pg.				

DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
Total B/F from Previous Pg.				
Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.	No.	1		
240V/12V Ding dong domestic door bell as Oxford or approved equivalent	No.	1		
TELEPHONE, DATA AND TV POINTS POINTS				
Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the Data socket outlet.	No.	1		
DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the DTV socket outlet.	No.	1		
300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	Lm.	20		
	<ul> <li>Total B/F from Previous Pg.</li> <li>Domestic door bell point completely wired in 3 x 1.5mm<sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.</li> <li>240V/12V Ding dong domestic door bell as Oxford or approved equivalent</li> <li>TELEPHONE, DATA AND TV POINTS POINTS</li> <li>Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the Data socket outlet.</li> <li>DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the Data socket outlet.</li> <li>300x 300x 100mm deep 16G galvanized adaptable box.</li> <li>25mm diameter PVC HG conduit for ICT services</li> </ul>	Total B/F from Previous Pg.         Domestic door bell point completely wired in 3 x         1.5mm <sup>2</sup> single core PVC insulated copper cables         drawn in 20mm diameter heavy gauge PVC         conduits including all accessories but excluding         the bell.         240V/12V Ding dong domestic door bell as         Oxford or approved equivalent         TELEPHONE, DATA AND TV POINTS         POINTS         Data point comprising of draw wire in 25mm         diameter Heavy Gauge PVC conduits including         all accessories and blanking cover but excluding         the Data socket outlet.         DTV Socket point comprising of draw wire in         25mm diameter Heavy Gauge PVC conduits         including all accessories and blanking cover but         800x 300x 100mm deep 16G galvanized adaptable         box.         25mm diameter PVC HG conduit for ICT services	Total B/F from Previous Pg.Domestic door bell point completely wired in 3 x 1.5mm² single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.No.1240V/12V Ding dong domestic door bell as Oxford or approved equivalentNo.1TELEPHONE, DATA AND TV POINTS POINTSNo.1Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the Data socket outlet.No.1DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the DTV socket outlet.No.1300x 300x 100mm deep 16G galvanized adaptable box.No.2	DiscriptionUNITQTV(KSH)Total B/F from Previous Pg.Domestic door bell point completely wired in 3 x 1.5mm² single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.No.1240V/12V Ding dong domestic door bell as Oxford or approved equivalentNo.1TELEPHONE, DATA AND TV POINTS POINTSNo.1Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the Data socket outlet.No.1DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the DTV socket outlet.No.1300x 300x 100mm deep 16G galvanized adaptable box.No.2

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTION	BOARD	S		
2.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator, but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
2.18	MCBs for item above as Schneider Electric Acti 9				
	i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	2		
	iii) 45 A SP MCB	No.	1		
	iv) Blanking plates	No.	2		
	Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm2 single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the LV switchboard below the staircase.	LM	20		
	Total Carried Forward to Ground Floor Collectior				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
B.	3 BEDROOM AHP UNITS				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
	<b>LIGHTING POINTS</b> i) Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in				
2.01	20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	4		
	ii) Ditto as in item No. 2.01 but for two way switching	No.	8		
2.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	5		
	ii) 10A one gang two way switch	No.	8		
	iii) 10A two gang two way switch	No.	2		
2.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	9		
	b) Spherical screwneck luminaire with opal glass and 16W compact lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF"</b>	No.	2		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg. POWER AND SOCKET OUTLET POINTS				
2.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	11		
	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	11		
2.06	Instant shower water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection unit	No.	2		
2.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	2		
2.08	Cooker outlet power points completely wired in 3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories, but excluding the 45A DP connection unit	No.	1		
2.09	45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.	No.	1		
2.10	45A Moulded plate Cooker Control Unit complete with 13A fused Socket outlet as MK/Crabtree or approved equivalent.	No.	1		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
2.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.	No.	1		
2.12	240V/12V Ding dong domestic door bell as Oxfrod or approved equivalent	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
2.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the telephone socket outlet.	No.	1		
2.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the DTV socket outlet.	No.	1		
2.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
2.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	Lm.	20		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTION BOARDS				
2.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator ,but excluding the MCBs, and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
2.18	MCBs for item above as Schneider Electric Acti 9				
	i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	3		
	iii) 45 A SP MCB	No.	3 1		
	iv) Blanking plates	No.	1		
	iv) blanking plates	INO.	1		
2.19	Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm2 single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.	LM	45		
	Total Carried Forward to Ground Floor Collectior	Dage			<u> </u>

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
C.	2 BEDROOM MARKET UNITS				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK				
	AND COMMISSION THE FOLLOWING:-				
	LIGHTING POINTS				
0.01	i) Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits	N	-		
2.01	including all accessories for one way switching, but excluding the switch and luminaire.	No.	5		
	ii) Ditto as in item No. 2.01 but for two way switching	No.	5		
2.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	4		
	ii) 10A two gang one way switch	No.	1		
	iii) 10A one gang two way switch	No.	6		
	iv) 10A two gang two way switch	No.	2		
2.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	7		
	b) Spherical screwneck luminaire with opal glass and 16W compact lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF"</b>	No.	2		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg. POWER AND SOCKET OUTLET POINTS				
2.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	9		
2.05	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	9		
2.06	Instant shower water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 40A DP connection unit	No.	2		
2.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	2		
2.08	Cooker outlet power points completely wired in 3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 45A DP connection unit	No.	1		
2.09	45A Moulded plate Cooker Control Unit complete with 13A fused Socket outlet as MK/Crabtree or approved equivalent.	No.	1		
2.10	45A moulded plate cooker connection unit as MK/Crabtree or approved equivalent:	No.	1		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
2.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.	No.	1		
2.12	240V/12V Ding dong domestic door bell	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
2.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking plate but excluding the telephone socket outlet.	No.	1		
2.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories but excluding the DTV socket outlet.	No.	1		
2.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
2.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	Lm.	40		
	Total Carried Forward to the Next Pg.	L			

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTION BOARDS				
2.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator ,but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
2.18	MCBs for item above as Schneider Electric Acti 9				
	i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	3		
	iii) 45 A SP MCB	No.	1		
	iv) Blanking plates	No.	1		
		110.	1		
	Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm2 single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the LV switchboard below the staircase.	LM	40		
	Total Carried Forward to Ground Floor Collection	n Page			

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
D.	3 BEDROOM MARKET UNITS				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
2.01	<b>LIGHTING POINTS</b> Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	5		
	ii) Ditto as in item No. 2.01 but for two way switching	No.	7		
2.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	5		
	ii) 10A one gang two way switch	No.	6		
	iii) 10A two gang two way switch	No.	4		
2.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	8		
	b) Spherical screwneck luminaire with opal glass and 16W compact fluorescent lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type</b> <b>BF</b> "	No.	3		
	Total Carried Forward to the Next Pg.				

Total B/F from Previous Pg.Image: Constant of the second seco	ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.       No.       12         2.05       Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.       No.       12         2.06       Instant shower water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection unit       No.       2         2.07       40A DP switched connection unit with neon indicator as MK or approved equivalent       No.       2         2.08       Cooker outlet power points completely wired in 3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection unit       No.       2         2.08       Cooker outlet power points completely wired in 3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories, but excluding the 45A DP connection unit       No.       1         2.09       45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.       No.       1         2.10       45A moulded plate cooker connection unit as No.       1						
i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.No.121Instant shower water heater power points completely wired in 3 x 4mm² single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection unitNo.22.0640A DP switched connection unit with neon 	2.04	2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding	No.	12		
2.06completely wired in 3 x 4mm² single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection unitNo.240A DP switched connection unit with neon indicator as MK or approved equivalentNo.22.08Cooker outlet power points completely wired in 3 x 6.0mm² single core PVC insulated copper cables 	2.05	i) 13A SP twin switched socket outlet as MK 2536	No.	12		
2.07indicator as MK or approved equivalentNo.22.08Cooker outlet power points completely wired in 3 x 6.0mm² single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 45A DP connection unitNo.12.0945A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.No.12.1045A moulded plate cooker connection unit as No.No.1	2.06	completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection	No.	2		
<ul> <li>x 6.0mm<sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 45A DP connection unit</li> <li>2.09 45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.</li> <li>2.10 45A moulded plate cooker connection unit as No. 1</li> </ul>	2.07		No.	2		
with 13A fused socket outlet as MK/Crabtree or approved equivalent.     No.     1       2.10     45A moulded plate cooker connection unit as     No.     1	2.08	x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding	No.	1		
	2.09	with 13A fused socket outlet as MK/Crabtree or	No.	1		
	2.10	1	No.	1		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
2.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.	No.	1		
2.12	240V/12V Ding dong domestic door bell as Oxford or approved equivalent	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
2.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking plate but excluding the data socket outlet.	No.	1		
2.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories but excluding the DTV socket outlet.	No.	1		
2.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
2.16	32mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	Lm.	40		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTION BOARDS				
2.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator, but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
2.18	MCBs for item above as Schneider Electric Acti 9				
	i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	3		
	iii) 45 A SP MCB	No.	1		
	iv) Blanking plates	No.	1		
2.19	Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm2 single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the LVswitchboard below the staircase.	LM	40		
	Total Carried Forward to Ground Floor Collection	1 Page			

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
E.	CORRIDOR/ LIFTS LOBBY AREA				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
2.01	<b>LIGHTING POINTS</b> Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for two way switching, but excluding the switch and luminaire.	No.	32		
2.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang two way switch ii) 10A two gang two way switch	No. No.	4 4		
2.03	LIGHTING FITTINGS				
	a) Circular shaped surface mounted led luminaire as Phillips Coreline Cat No. WL131V LED12S/840 PSED EL3 WH <b>"Type N"</b>	No.	15		
	b) Emergency Maintained Circular shaped surface mounted led luminaire as Phillips Coreline Cat No. WL131V LED12S/840 PSED EL3 WH <b>"Type Ne"</b>	No.	3		
	c) 8W bulkbead luminaire ,polycarbonate base, and clear diffuser and installed inside the lift shaft As Thorn EWB/ETB bulkhead. " <b>Type G</b> "	No.	2		
	d) Bulkhead fitting with moulded glass diffuser & Die Cast Aluminium base c/w 16W PL Lamp as Massive Sunderland Cat. No. 71410/01/31 for security lights. <b>"Type B"</b>	No.	14		
	Total Carried Forward to Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
2.04	CCTV points in designtaed locations for survailance, comprising of 25mm diameter HG PVC conduits complete with draw wire and the blanking plate. Allow for draw boxes where all the conduits from each security point converge.	No.	6		
2.05	300x 300x 100mm deep 16 G galvanized adaptable box.	No.	2		
	LIGHTING CONTROL				
2.06	Presence sensor complete with assocaited wiring (light and motion sensor) as Osram Duo with the following characteristics:	No.	3		
	Operation voltage 220 - 240V 50Hz, detection area- 12m dia minimum, settable light value, switch-off delay (if no motion detected), installation height - 5m minimum				
2.07	24A, 240V, 2P DB/CU mounted silent operation contactor for Switching External lights complete with all accessories and as CRABTREE CIK24 or an approved equivalent	No.	2		
2.08	Photocell control unit and wired to energize the contactors complete with a D.P override switch as THORN QPK or approved equivalent	No.	2		
2.09	Water booster power points completely wired in 5 x 6mm <sup>2</sup> single core PVC insulated copper cables drawn in 38mm diameter heavy gauge PVC conduits including all accessories ,but excluding the the 40A TPN isolator	No.	1		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
2.10	40A TPN isolator as MK or approved equivalent	No.	1		
2.11	Lifts isolators power points completely wired in 5 x 6mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the the 63A TPN isolator	No.	2		
2.12	63A TPN isolator as MK or approved equivalent	No.	2		
	8 ways 100A TPN distribution boards 'T' complete with 100A TPN integral isolator ,but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
	4 ways 100A SPN Consumer Unit `C' complete with 100A SPN integral isolator ,but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent for common services.	No.	5		
2.15	MCBs for item above as Schneider Electric Acti				
	9				
	i)10 A SP MCB ii) 32 A SP MCB	No.	6		
	iii) 40 A SP MCB	No. No.	4 5		
	iv) 32 A TP MCB	No.	3		
	v) Blanking plates	No.	8		
	Sub-mains circuits for DB 'T' above comprising of 4 core 25mm <sup>2</sup> PVC/SWA/PVC cable drawn in cable tray/ 50mm diameter heavy gauge conduits and running from the Lv switchboard	LM	30		
	Total Carried Forward to Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
2.17	Total B/F from Previous Pg. Sub-mains circuits for CU 'C ' above comprising of 3 x 10mm2 single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from common distribution board.	LM	60		
2.18	200mm x 50mm galvanised metallic cable tray (Telecom, DTV, Internet Cables) gauge 14 (riser duct) c/w all mounting accessories bends, rawl bolts, threaded bolts, brackets,	LM.	40		
2.19	300mm x 50mm galvanised metallic cable tray (Power Cables) gauge 14 (riser duct) c/w all mounting accessories bends, rawl bolts, threaded bolts, brackets,	LM.	40		
	Total Carried Forward to Ground Floor Collection	n Page			

ITEM	DESCRIPTION	QTY	RATE (KSH)	AMOUNT (KSH)
	GROUND FLOOR SUMMARY			
1	Total Amount for 2 Bedroom AHP Unit	1		
2	Total Amount for 3 Bedroom AHP Unit	1		
3	Total Amount for 2 Bedroom Market Unit	3		
4	Total Amount for 3 Bedroom Market Unit	3		
5	Total Amount for Ground Floor Lobby	1		
	Total Carried Forwad to Main Summary Page			

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
NO.					
	BILL NO. 2				
(ii)	TYPICAL 1ST - 9TH FLOOR				
A.	<u>2 BEDROOM AHP UNITS</u>				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
	LIGHTING POINTS				
2.01	i) Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	3		
	ii) Ditto as in item No. 2.01 but for two way switching	No.	6		
2.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	3		
	ii) 10A one gang two way switch	No.	6		
	iii) 10A two gang two way switch	No.	2		
2.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	6		
	b) Spherical screwneck luminaire with opal glass and 16W compact lamp as Astra, Micromark, Thornor equal & approved equivalent. "Type BF"	No.	2		
	Total Carried Forward to Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg. POWER AND SOCKET OUTLET POINTS				
2.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	8		
2.05	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	8		
2.06	Instant shower water heater power points completely wired in 3 x 4mm2 single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 40A DP connection unit	No.	1		
2.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	1		
2.08	Cooker outlet power points completely wired in 3 x 6.0mm2 single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 45A DP connection unit	No.	1		
2.09	45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.	No.	1		
2.10	45A moulded plate cooker connection unit as MK/Crabtree or approved equivalent:	No.	1		
	Total Carried Forward to Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
2.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.	No.	1		
2.12	240V/12V Ding dong domestic door bell	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
2.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking plate but excluding the data socket outlet.	No.	1		
2.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories but excluding the DTV socket outlet.	No.	1		
2.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
2.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	Lm.	20		
	Total Carried Forward to Next Pg.		L		

TEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTION BOARDS				
2.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator ,but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
2.18	MCBs for item above as Schneider Electric Acti				
	9 i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	2		
	iii) 45 A SP MCB	No. No.	2 1		
	iv) Blanking plates	No. No.	2		
	iv) Dialikilig plates	1NO.	2		
2.19	Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm2 single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.	LM	40		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
B.	<u>3 BEDROOM AHP UNITS</u>				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
2.01	<b>LIGHTING POINTS</b> Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	4		
	ii) Ditto as in item No. 2.01 but for two way switching	No.	8		
2.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	5		
	ii) 10A one gang two way switch	No.	8		
	iii) 10A two gang two way switch	No.	2		
2.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	9		
	b) Spherical screwneck luminaire with opal glass and 16W compact fluorescent lamp as Astra, Micromark, Thornor equal & approved equivalent. "Type BF"	No.	2		
<u> </u>	Total Carried Forward to Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg. POWER AND SOCKET OUTLET POINTS				
2.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	11		
2.05	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	11		
2.06	Instant shower water heater power points completely wired in 3 x 4mm2 single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 40A DP connection unit	No.	2		
2.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	2		
2.08	Cooker outlet power points completely wired in 3 x 6.0mm2 single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 45A DP connection unit	No.	1		
2.09	45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.	No.	1		
2.10	45A moulded plate cooker connection unit as MK/Crabtree or approved equivalent:	No.	1		
	Total Carried Forward to Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
2.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.	No.	1		
2.12	240V/12V Ding dong domestic door bell as Oxford or approved equivalent	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
2.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking plate but excluding the data socket outlet.	No.	1		
2.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories but excluding the DTV socket outlet.	No.	1		
2.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
2.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	Lm.	20		
	Total Carried Forward to Next Pg.		I I		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTION BOARDS				
2.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator ,but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
2.18	MCBs for item above as Schneider Electric Acti 9				
	i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	3		
	iii) 45 A SP MCB	No.	1		
	iv) Blanking plates	No.	1		
	iv) blanking plates	INO.	1		
2.19	Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm2 single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.	LM	65		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
C.	2 BEDROOM MARKET UNITS				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
	LIGHTING POINTS				
2.01	Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching,	No.	5		
	but excluding the switch and luminaire.				
	ii) Ditto as in item No. 2.01 but for two way switching	No.	5		
2.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	4		
	ii) 10A two gang one way switch	No.	1		
	iii) 10A one gang two way switch	No.	6		
	iv) 10A two gang two way switch	No.	2		
2.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	7		
	b) Spherical screwneck luminaire with opal glass and 16W compact lamp as Astra, Micromark, Thornor equal & approved equivalent. "Type BF"	No.	2		
	Total Carried Forward to Next Page				

otal B/F from Previous Pg. OWER AND SOCKET OUTLET POINTS BA SP socket point completely wired in 3 x 5mm <sup>2</sup> single core PVC insulated copper cables rawn in 25mm diameter heavy gauge PVC onduits including all accessories but excluding the 13A SP switched socket outlet.	No. No.	9		
3A SP socket point completely wired in 3 x 5mm <sup>2</sup> single core PVC insulated copper cables rawn in 25mm diameter heavy gauge PVC onduits including all accessories but excluding the 13A SP switched socket outlet. Docket Outlet plates 13A SP twin switched socket outlet as MK 2536 requal & approved equivalent.		9		
5mm <sup>2</sup> single core PVC insulated copper cables rawn in 25mm diameter heavy gauge PVC onduits including all accessories but excluding the 13A SP switched socket outlet. tocket Outlet plates 13A SP twin switched socket outlet as MK 2536 requal & approved equivalent.		9		
13A SP twin switched socket outlet as MK 2536 e equal & approved equivalent.	No			
	110.	9		
Instant shower water heater power points completely wired in 3 x 4mm2 single core PVC isulated copper cables drawn in 25mm diameter eavy gauge PVC conduits including all coessories ,but excluding the 40A DP connection nit	No.	2		
DA DP switched connection unit with neon dicator as MK or approved equivalent	No.	2		
ooker outlet power points completely wired in 3 6.0mm2 single core PVC insulated copper cables rawn in 32mm diameter heavy gauge PVC onduits including all accessories ,but excluding a 45A DP connection unit	No.	1		
5A Moulded plate Cooker Control Unit complete ith 13A fused socket outlet as MK/Crabtree or oproved equivalent.	No.	1		
5A moulded plate cooker connection unit as IK/Crabtree or approved equivalent:	No.	1		
	avy gauge PVC conduits including all cessories ,but excluding the 40A DP connection it A DP switched connection unit with neon dicator as MK or approved equivalent ooker outlet power points completely wired in 3 5.0mm2 single core PVC insulated copper cables awn in 32mm diameter heavy gauge PVC nduits including all accessories ,but excluding e 45A DP connection unit A Moulded plate Cooker Control Unit complete th 13A fused socket outlet as MK/Crabtree or proved equivalent. A moulded plate cooker connection unit as	avygaugePVCconduitsincluding all no.No.cessories , but excluding the 40A DP connection attNoNo.A DP switched connection unit with neon dicator as MK or approved equivalentNo.coker outlet power points completely wired in 3 5.0mm2 single core PVC insulated copper cables awn in 32mm diameter heavy gauge PVC nduits including all accessories , but excluding e 45A DP connection unitNo.A Moulded plate Cooker Control Unit complete th 13A fused socket outlet as MK/Crabtree or proved equivalent.No.A moulded plate cooker connection unit as K/Crabtree or approved equivalent:No.	avy gauge PVC conduits including all cessories ,but excluding the 40A DP connection itNo.2A DP switched connection unit with neon dicator as MK or approved equivalentNo.2woker outlet power points completely wired in 3 5.0mm2 single core PVC insulated copper cables awn in 32mm diameter heavy gauge PVC nduits including all accessories ,but excluding e 45A DP connection unitNo.1A Moulded plate Cooker Control Unit complete th 13A fused socket outlet as MK/Crabtree or proved equivalent.No.1A moulded plate cooker connection unit as K/Crabtree or approved equivalent:No.1	avy gauge       PVC conduits including all including the 40A DP connection atter as MK or approved equivalent       No.       2         A DP switched connection unit with neon dicator as MK or approved equivalent       No.       2         poker outlet power points completely wired in 3 500mm2 single core PVC insulated copper cables awn in 32mm diameter heavy gauge PVC nduits including all accessories ,but excluding e 45A DP connection unit       No.       1         A Moulded plate Cooker Control Unit complete th 13A fused socket outlet as MK/Crabtree or proved equivalent.       No.       1         A moulded plate cooker connection unit as K/Crabtree or approved equivalent:       No.       1

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
2.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.	No.	1		
2.12	240V/12V Ding dong domestic door bell as Oxford or approved equivalent	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
2.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking plate but excluding the data socket outlet.	No.	1		
2.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories but excluding the DTV socket outlet.	No.	1		
2.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
2.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	Lm.	40		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTION BOARDS				
	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator ,but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
	MCBs for item above as Schneider Electric Acti 9 or approved equivalent				
	i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	3		
	iii) 45 A SP MCB	No.	1		
	iv) Blanking plates	No.	1		
	Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm2 single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.	LM	60		
	Total Carried Forward to First Floor Collection Pa				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
D.	<u>3 BEDROOM MARKET UNITS</u>				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK				
	AND COMMISSION THE FOLLOWING:-				
	LIGHTING POINTS				
2.01	Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits	No.	5		
	including all accessories for one way switching, but excluding the switch and luminaire.		-		
	ii) Ditto as in item No. 2.01 but for two way switching	No.	7		
2.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	5		
	ii) 10A one gang two way switch	No.	6		
	iii) 10A two gang two way switch	No.	4		
2.03	LIGHTING FITTINGS				
	a) Ceiling rose complete with 3 core flex cable, lamp holder and 11W led lamp as crabtree or approved equivalent <b>Type 'CR'</b>	No.	8		
	b) Spherical screwneck luminaire with opal glass and 16W compact fluorescent lamp as Astra, Micromark, Thornor equal & approved equivalent. "Type BF"	No.	3		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg. POWER AND SOCKET OUTLET POINTS				
2.04	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	12		
2.05	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	12		
2.06	Instant shower water heater power points completely wired in 3 x 4mm2 single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 40A DP connection unit	No.	2		
2.07	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	2		
2.08	Cooker outlet power points completely wired in 3 x 6.0mm2 single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 45A DP connection unit	No.	1		
2.09	45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.	No.	1		
2.10	45A moulded plate cooker connection unit as MK/Crabtree or approved equivalent:	No.	1		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
2.11	Domestic door bell point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories but excluding the bell.	No.	1		
2.12	240V/12V Ding dong domestic door bell as Oxford or approved equivalent	No.	1		
	TELEPHONE, DATA AND TV POINTS POINTS				
2.13	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking plate but excluding the data socket outlet.	No.	1		
2.14	DTV Socket point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories but excluding the DTV socket outlet.	No.	1		
2.15	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
2.16	25mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	Lm.	40		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER RETICULATION AND DISTRIBUTION BOARDS				
2.17	6 ways 100A SPN Consumer Unit `A' complete with 100A SPN integral isolator ,but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
	MCBs for item above as Schneider Electric Acti 9 or approved equivalent				
	i)10 A SP MCB	No.	1		
	ii)32 A SP MCB	No.	3		
	iii) 45 A SP MCB	No.	1		
	iv) Blanking plates	No.	1		
2.19	Sub-mains circuits for CU 'A ' above comprising of 3 x 10mm2 single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the Lv switchboard below the staircase.	LM	60		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
E.	CORRIDOR/ LIFTS LOBBY AREA				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
2.01	<b>LIGHTING POINTS</b> Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for two way switching, but excluding the switch and luminaire.	No.	20		
2.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang two way switch ii) 10A two gang two way switch	No. No.	5 5		
2.03	LIGHTING FITTINGS				
	a) Circular shaped surface mounted led luminaire as Phillips Coreline Cat No. WL131V LED12S/840 PSED EL3 WH <b>"Type N"</b>	No.	18		
	b) Emergency Maintained Circular shaped surface mounted led luminaire as Phillips Coreline Cat No. WL131V LED12S/840 PSED EL3 WH <b>"Type Ne"</b>	No.	3		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
2.04	CCTV points in designtaed locations for survailance, comprising of 25mm diameter HG PVC conduits complete with draw wire and the blanking plate. Allow for draw boxes where all the conduits from each security point converge.	No.	6		
2.05	300x 300x 100mm deep 16G galvanized adaptable box.	No.	2		
	LIGHTING CONTROL				
2.06	Presence sensor complete with assocaited wiring (light and motion sensor) as Osram Duo with the following characteristics:	No.	3		
	Operation voltage 220 - 240V 50Hz, detection area- 12m dia minimum, settable light value, switch-off delay (if no motion detected), installation height - 5m minimum				
	Total Carried Forward to First Floor Collection Pa	ıge			

ITEM	DESCRIPTION	QTY	RATE (KSH)	AMOUNT (KSH)
	TYPICAL FLOOR SUMMARY			
1	Total Amount for 2 Bedroom AHP Unit	9		
2	Total Amount for 3 Bedroom AHP Unit	9		
3	Total Amount for 2 Bedroom Market Unit	27		
4	Total Amount for 3 Bedroom Market Unit	27		
5	Total Amount for Lift Lobby Summary	9		
	Total for 9No. Typical Floors Carried Forward to Mai	n Summa	ry Page	

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
(iii)	EARTHING AND LIGHTNING PROTECTION				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
	Air Termination				
2.01	2000mm x15mmØ multiple point pure copper AirRods/ Termination with spikes as Furse Part No. RA240 or approved equivalent	No.	3		
2.02	Copper Air Rod Base as Furse Part No. SD105-H or approved equivalent	No.	3		
2.03	Copper Junction Clamps for copper tape as Furse Part No. CN105-H or approved equivalent	No.	3		
2.04	25mm x 3mm Tinned Copper Tape as Furse TC230 or approved equivalent	Lm.	130		
2.05	<b>Down Conductor</b> 25mm x 3mm Tinned Copper Tape as Furse TC230 or approved equivalent	Lm.	200		
2.06	Screwdown copper test clamp as Furse CT305 or approved equivalent	No.	3		
2.07	38mm Ø HG PVC conduits for drawing the down conductor above.	Lm.	10		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
2.08	<b>Earth Termination</b> 15mm Ø, 1500mm long solid copper earth rod c/w driving stud, coupling, and spike as Furse RC011 or approved equivalent	No	3		
2.09	Earth rod to tape clamp type A as Furse CR108 or approved equivalent	No.	3		
2.10	Concrete inspection earth pit Cat. No. PT 005 with 5 hole earth bar as Furse Cat. No. PT 006.	No.	2		
2.11	600mm x 600mm copper earth mat made from 25mm x 3mm copper tape at 300mm spacing, buried to permanent moisture level and complete with all clamps and 6m long 25mm x 3mm copper tape clamped to the down conductor, soil conditioning agents (marconite or bentonite) as necessary to achieve earthing resistance value below 10-Ohms	Lot	1		
2.12	Allow for earthing tests for the above and submission of the report to the engineer to BS7671 & BS62305 standards	No.	1		
2.13	<b>Bonding</b> Bonding and clamping to all metal work including water pipes, gas pipes, hand-rails, smatv system, window frames, cladding, metal roof etc. and the main earth for the building.	Item	1		
	Total Carried Forward to Main Summary Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
(iv)	LV SWITCHBOARD				
	TAKE DELIVERY, STORE, INSTALL AND COMMISSION THE FOLLOWING:-				
1.01	Install purpose made Free-standing, fully wired front access metal clad main switchboard cubicle suitable for floor / wall mounting and manufactured in 14SWG galvanised mild steel sheet, to be finished in cream (or appropriate colour) powder coating. Wiring as shown on the schematic (the other details as per Particular Specification), complete with the following:-	No.	1		
(i)	630Amps TP/N copper busbars - KPLC supply (Sealable)				
(ii)	630Amps MCCB as mains incomer adjustable				
(iii)	Space for 1No. 3-phase KPLC Common Services meter (kW, kWH, kVA, V, I etc), 63A TP MCB				
(iv)	180 No. 63A DP MCBs for the sub-main cables				
(v)	1No. 100A DP MCBs for the sub-main cables				
(vi)	Space for KPLC cut-outs including studs for mounting KPLC seals				
(vii)	Sealable studs for all cover plate screws and all necessary accessories				
(viii)	6mm perspex viewing window for each section				
(ix)	Heavy duty rubber lining for all the perspex viewing windows				
(x)	4 No. Spare ways				
	Total Carried Forward to Next Pg.				

		QTY	(KSH)	(KSH)
<b>Total B/F from Previous Pg.</b> Earthing for the switch-board under this section comprising 25x3mm copper tape lead, 1800mm long x 15mm diameter copper earth electrode as Furse or approved equivalent complete with driving stud and tape to rod clamp, 300mm x 300mm x 300mm deep concrete inspection earth pit with removable waterproof cover, 600mm x 600mm copper earth mat, soil conditioning agents (marconite and bentonite etc) necessary to achieve earthing value below 5-Ohms and all other necessary accessories	No.	1		
	comprising 25x3mm copper tape lead, 1800mm long x 15mm diameter copper earth electrode as Furse or approved equivalent complete with driving stud and tape to rod clamp, 300mm x 300mm x 300mm deep concrete inspection earth pit with removable waterproof cover, 600mm x 600mm copper earth mat, soil conditioning agents (marconite and bentonite etc) necessary to achieve earthing value below 5-Ohms and all other	comprising 25x3mm copper tape lead, 1800mm long x 15mm diameter copper earth electrode as Furse or approved equivalent complete with driving stud and tape to rod clamp, 300mm x 300mm x 300mm deep concrete inspection earth pit with removable waterproof cover, 600mm x 600mm copper earth mat, soil conditioning agents (marconite and bentonite etc) necessary to achieve earthing value below 5-Ohms and all other	comprising 25x3mm copper tape lead, 1800mmlong x 15mm diameter copper earth electrode asFurse or approved equivalent complete withdriving stud and tape to rod clamp, 300mm x300mm x 300mm deep concrete inspection earthpit with removable waterproof cover, 600mm x600mm copper earth mat, soil conditioning agents(marconite and bentonite etc) necessary to achieveearthing value below 5-Ohms and all other	comprising 25x3mm copper tape lead, 1800mmlong x 15mm diameter copper earth electrode asFurse or approved equivalent complete withdriving stud and tape to rod clamp, 300mm x300mm x 300mm deep concrete inspection earthpit with removable waterproof cover, 600mm x600mm copper earth mat, soil conditioning agents(marconite and bentonite etc) necessary to achieveearthing value below 5-Ohms and all other

ITEM	DESCRIPTION	AMOUNT
	BLOCK TYPE B SUMMARY PAGE	
1	Total Amount for Ground Floor B/F Page D-21	
2	Total Amount for Typical 1st - 9th Floor B/F Page D-40	
3	Total Amount for Lightning Protection B/F Page D-42	
4	Total Amount for LV Switchboard Installation and Earthing B/F Page D-45	
тс	TAL AMOUNT FOR BILL No. 2: TYPICAL 1NO. BLOCK TYPE B CARRIED	
	FORWARD TO PRICE COLLECTION PAGE	

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	BILL NO. 3				
i)	EXTENAL SERVICES				
	Supply, Install, test and Commission the following;				
	STREET LIGHTING				
A	Cylindrical-conical pole 8 meters with single arm and tube, in hot-dipped galvanized steel painted with anchor bolts complete with photovoltaic solar panel minimum 305Wp LED light 1x2B - 80W nominal - 24V - 4000K - >190lm/W NiMH battery 24V 4P, on top of pole,	No	96		
В	Type ML- 20m Highmast c/w 200 W flood light complete with with inbuilt charge controller ,automatic light sensor and a solar panel complete with all necessary wiring,fixing bracket and all other neccesary accessories	No.	12		
С	Type WL- IP65 External bulkhead fitting	No.	200		
ii)	POWER HOUSE ELECTRICS				
D	All lighting points wired in 1.5mm <sup>2</sup> PVC cu cables in 20mm diameterHG PVC conduit embedded in wall fabrics, roof structure and floor slabs complete with switches as shown on the contract drawings	No	20		
	POWER				
Ε	4way 63A SPN CU as SCHNEIDER or Equivalent and Approved complete with MCBs or equal and approved.	No	1		
F	All socket outlet points wired in 2.5mm <sup>2</sup> PVC cable in conduit embedded in floor slabs and in metal trunking complete with 13A twin socket outlet as shown on the drawing	No	4		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
А	Provisions for points including laying of conduits and provision of outlet boxes for the following:				
	i) Surveillance Cameras	No	80		
	DATA				
В	600 x 600 x 600 concrete manhole complete with Manhole covers.	No	30		
С	100mm diameter HG PVC ducts for Data, laid at a depth of 600mm.	Lm.	600		
D	Trenching to a depth of 700mm, and backfilling after laying of ducts itemised above.	Lm.	600		
iii)	PUMP ROOM ELECTRICS				
E	All lighting points wired in 1.5mm <sup>2</sup> PVC cu cables in 20mm diameterHG PVC conduit embedded in wall fabrics, roof structure and floor slabs complete with switches as shown on the contract drawings	No	6		
	POWER				
F	Supply, install and connect 6 way TP/N distribution board for power supply in riser duct complete with 250 Amp integral isolator and MCBs as specified.		1		
G	All socket outlet points wired in 2.5mm <sup>2</sup> PVC cable in conduit embedded in floor slabs and in metal trunking complete with 13A twin socket outlet as shown on the drawing	No	4		
Н	400A TPN isolator as KATCO or approved equivalent	No	10		
Ι	Submains circuit from the External Common Loads LV Board to Pump Room DB in electrical ducts comprising of 95mm2 XLPE/PVC/SWA 4c + 35mm2 sc ECC Copper cables laid in PVC Duct and Trays	Lm.	50		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	EXTERNAL LOADS SWITCHBOARD				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
N	Supply and install purpose made Free-standing, fully wired front access metal clad main switchboard cubicle suitable for floor / wall mounting and manufactured in 14SWG galvanised mild steel sheet, to be finished in cream (or appropriate colour) powder coating. Wiring as shown on the schematic (the other details as per Particular Specification), complete with the following:-	No.	1		
(i)	320Amps TP/N copper busbars - KPLC supply (Sealable)				
(ii)	320Amps MCCB as mains incomer adjustable				
(iii)	Space for 1No. 3-phase KPLC Common Services meter (kW, kWH, kVA, V, I etc),				
(iv) (v)	<b>Outgoers:</b> 1No. 250A TP MCCBs for the Pump Room DB 5No. 63A TP MCCBs for the External Loads Feeder Pillars				
(vi)	Sealable studs for all cover plate screws and all necessary accessories				
(vii)	6mm perspex viewing window for each section				
(viii)	Heavy duty rubber lining for all the perspex viewing windows				
(ix)	4 No. Spare ways				
0	Feeder Pillars, 125A 6-WAY TPN Feeder Pillar with 125A TPN incomer and 10x20A SP MCBs outgoers and 3No. spareways for External power distribution to to Engineer's approval	No.	5		
Р	Submains circuit from the External Common Loads LV Board to Feeder Pillars in electrical ducts comprising of 16mm2 XLPE/PVC/SWA 4c + 6mm2 sc ECC Copper cables laid in PVC Duct and Trays	Lm.	200		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	BILL NO. 4				
i)	INCOMING POWER				
	KPLC RELATED WORKS				
А	150mm diameter Heavy gauge duct for incoming underground H.V. cables with 1:3:6 concrete surround	М	950		
В	900 x 900 x 900 concrete manhole complete with Manhole covers and Hatari( Danger) Sign indelibly engraved at the top	No	50		
С	Hatari( Danger) sign concerete slabs	No	50		
D	Attendance on Kenya Power and Lighting Co. Ltd.	Sum	1		
Е	Complete Earthing system to KPLC requirements	Sum	1		
F	Any other item to complete the installation in this section.	Sum	1		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	BILL NO. 7				
	<u>CLUB HOUSE</u>				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
	LIGHTING POINTS				
4.01	Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	34		
	ii) Ditto as in item No. 4.01 but for two way switching	No.	24		
4.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	14		
	ii) 10A one gang two way switch	No.	4		
	iii) 10A two gang two way switch	No.	4		
4.03	LIGHTING FITTINGS				
	a) Circular shaped surface mounted led luminaire as Phillips Coreline Cat No. WL131V LED12S/840 PSED EL3 WH <b>"Type N"</b>	No.	24		
	b) Bulkhead fitting with moulded glass diffuser & Die Cast Aluminium base c/w 16W PL Lamp as Massive Sunderland Cat. No. 71410/01/31 for security lights. <b>"Type B</b> "	No.	10		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	c) 600mm x 600mm, 33 watts LED panel light fitting as Phillips CoreLine Cat. No. RC132V LED36S/840 PSU W 60L60 OC complete with Phillips LED internal driver	No.	3		
	d) 1 x 36W, 1200mm Surface mounted mirror strip HPF water proof 1P65 fluorescent fitting with diffuser as Thorn or equal and approved equivalent <b>type "4M</b> "	No.	4		
	e) Large decorative highbay pendant with metal die cast aluminium housing on single steel wire suspension for 70w lamps complete with prismatic polycarbonate, lamps & aluminium reflector as Thorn Glacier II or equal and approved equivalent type "B".	No.	12		
	f) 36W Suspended/Wall mounted LED linear luminaire complete with LEDs mounted on steel plate, base made of plastic polycarbonate, Diffuser "Type 4C"	No.	3		
4.04	CCTV points in designtaed locations for survailance, comprising of 25mm diameter HG PVC conduits complete with draw wire and the blanking plate. Allow for draw boxes where all the conduits from each security point converge.		4		
4.05	300x 300x 100mm deep 16 G galvanized adaptable box.	No.	2		
4.06	24A, 240V, 2P DB/CU mounted silent operation contactor for Switching External lights complete with all accessories and as CRABTREE CIK24 or an approved equivalent	Na	1		
4.07	Photocell control unit and wired to energize the contactors complete with a D.P override switch as THORN QPK or approved equivalent		1		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER AND SOCKET OUTLET POINTS				
4.08	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	8		
4.09	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	8		
4.10	Instant shower water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection unit	ΝT	2		
4.11	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	2		
4.12	Under sink water heater power points completely wired in 3 x 4mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 40A DP connection unit		1		
4.13	40A DP switched connection unit with neon indicator as MK or approved equivalent	No.	1		
	Total Carried Forward to the Next Pg.				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
4.14	Hand drier power points completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 20A DP connection unit	No.	2		
4.15	20A DP switched connection unit with neon indicator as MK or approved equivalent	No.	2		
4.16	Kitchen hood power points completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories, but excluding the 20A DP connection unit	No.	1		
4.17	20A DP switched connection unit with neon indicator as MK or approved equivalent	No.	1		
4.18	Deep fat fryer power points completely wired in 5 x 6mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the the 63A TPN isolator	No.	2		
4.19	Electric 4 burner power points completely wired in 5 x 6mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the the 63A TPN isolator	No.	2		
4.20	63A TPN isolator as MK or approved equivalent	No.	4		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	TELEPHONE, DATA AND TV POINTS POINTS				
4.21	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking plate but excluding the data socket outlet.	No.	2		
4.22	6 ways 100A TPN distribution boards 'T' complete with 100A TPN integral isolator ,but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1		
4.23	MCBs for item above as Schneider Electric Acti 9				
	i)10 A SP MCB	No.	3		
	ii)32 A SP MCB	No.	2		
	iii)32 A TP MCB	No.	4		
	iv) Blanking plates	No.	4		
4.24	Sub-mains circuits for DB 'T' above comprising of 4 core 16mm2 PVC/SWA/PVC cable drawn in 32mm diameter heavy gauge conduits for club house	LM	90		
TOTAL	AMOUNT FOR BILL No. 7: CLUB HOUSE CARRIE SUMMARY PAGE	ED FOR	WARD T	O GRAND	
	JUNIMARTIAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	BILL NO. 8				
	GATE HOUSE & GARBAGE RECEPTACLE				
A.	GUARD HOUSE				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
	LIGHTING POINTS				
7.01	Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	8.00		
	ii) Ditto as in item No. 5.01 but for two way switching	No.	8.00		
	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch ii) 10A one gang two way switch	No. No.	6.00 4.00		
7.03	LIGHTING FITTINGS				
	a) Circular shaped surface mounted led luminaire as Phillips Coreline Cat No. WL131V LED12S/840 PSED EL3 WH <b>"Type N"</b>	No.	12.00		
	b) Bulkhead fitting with moulded glass diffuser & Die Cast Aluminium base c/w 16W PL Lamp as Massive Sunderland Cat. No. 71410/01/31 for security lights. <b>"Type B"</b>	No.	4.00		
7.04	CCTV points in designtaed locations for survailance, comprising of 25mm diameter HG PVC conduits complete with draw wire and the blanking plate. Allow for draw boxes where all the conduits from each security point converge.	No.	6.00		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
7.05	300x 300x 100mm deep 16 G galvanized adaptable box.	No.	1.00		
7.06	24A, 240V, 2P DB/CU mounted silent operation contactor for Switching External lights complete with all accessories and as CRABTREE CIK24 or an approved equivalent		1.00		
7.07	Photocell control unit and wired to energize the contactors complete with a D.P override switch as THORN QPK or approved equivalent		1.00		
	POWER AND SOCKET OUTLET POINTS				
7.08	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	1.00		
7.09	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	1.00		
	TELEPHONE, DATA AND TV POINTS POINTS				
7.10	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking plate but excluding the data socket outlet.	No	1.00		
7.11	6 ways 100A SPN Consumer Unit `G' complete with 100A SPN integral isolator, but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No	1.00		
	Total Carried Forward to Next Page				

7.12	Total B/F from Previous Pg. MCBs for item above as Schneider Electric Acti 9 or approved equivalent i)10 A SP MCB								
7.12	9 or approved equivalent								
-	i)10 A SP MCB								
		No.	1.00						
	ii)32 A SP MCB	No.	1.00						
	iii) Blanking plates	No.	4.00						
7.13	Sub-mains circuits for CU 'G' above comprising of 2 core 6mm2 PVC/SWA/PVC cable drawn in 32mm diameter heavy gauge conduits for gate house	тм	35.00						
	OTAL AMOUNT FOR BILL No. 7 GATE HOUSE & GARBAGE RECEPTACLE								

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	BILL NO. 9 : SHOPS				
(i)	GROUND FLOOR				
A.	<u>TYPICAL SHOPS (32 No.)</u>				
	SUPPLY, DELIVER , INSTALL ,SET TO WORK AND COMMISSION THE FOLLOWING:-				
8.01	<b>LIGHTING POINTS</b> Lighting point completely wired in 3 x 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm diameter heavy gauge PVC conduits including all accessories for one way switching, but excluding the switch and luminaire.	No.	1		
8.02	10A white moulded switch plate as Crabtree, MK Logic, Clipsal E- Series or approved equivalent as follows:-				
	i) 10A one gang one way switch	No.	1		
8.03	<b>LIGHTING FITTINGS</b> a) 1 x 36W, LED Batten, 4ft, 3200lms, 23.5W, 4000K as Thorn Poppack or approved equivalent <b>Type '4C</b> '	No.	1		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)				
	Total B/F from Previous Pg.								
8.08	<b>POWER AND SOCKET OUTLET POINTS</b> 13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	2						
	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	0						
	TELEPHONE, DATA AND TV POINTS POINTS								
8.10	Data point comprising of draw wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking plate but excluding the data socket outlet.	No.	1						
8.11	4 ways 100A SPN Consumer Unit `S' complete with 100A SPN integral isolator, but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	1						
8.12	MCBs for item above as Schneider Electric Acti 9 or approved equivalent i)10 A SP MCB ii)32 A SP MCB iii) Blanking plates Sub-mains circuits for CU 'A ' above comprising of 3 x 6mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm heavy gauge conduits and running from the LV switchboard below the staircase.	No. No. LM	1 1 2 40						
	TOTAL AMOUNT FOR BILL No. 8 SHOPS CARRIED FORWARD TO GRAND SUMMARY PAGE								

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	BILL NO. 10				
1.00	ECD				
	LIGHTING POINTS, FITTINGS & ACCESSORIES				
	Supply, Install, Connect, Test and Set to work the following:-				
1.01	Lighting points wired in 3x1.5mm2 PVC insulated single core (SC) copper cables drawn in 20mm diameter HG PVC conduit concealed in walls and or floor slabs with all accessories but excluding switch and fitting for one way switching.	No.	112		
1.02	Ditto but for two way switching.	No.	8		
1.03	Ditto but for Emergency Switching.	No.	12		
	Supply, Install, Connect, Test and Set to work the following as marked on drawings and described in the schedule of Fittings:- 10A white moulded wide rocker switch plates:-				
1.04	10A 1 gang 1 way switch	No.	12		
1.05	10A 2 gang 2 way switch	No.	4		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	Light fittings, complete with lamps of specified wattage and appropriate colour rendering:-				
1.06	Type P 1200 X 300MM 220/240V x 30 watt Warm White, 6500K Ceiling Mount. (Two LED Tubes)	No.	36		
1.07	Type D - Round Light with LED lamp	No.	50		
1.08	Spherical screwneck luminaire with opal glass and 16W compact lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF</b> "	No.	20		
1.09	Type Exit	No.	6		
1.10	d) Bulkhead fitting with moulded glass diffuser & Die Cast Aluminium base c/w 16W PL Lamp as Massive Sunderland Cat. No. 71410/01/31 for security lights. <b>"Type S"</b>	No.	20		
1.11	Presence sensor complete with assocaited wiring (light and motion sensor) as Osram Duo with the following characteristics:		4		
	Operation voltage 220 - 240V 50Hz, detection area- 12m dia minimum, settable light value, switch-off delay (if no motion detected), installation height - 5m minimum				
1.12	24A, 240V, 2P DB/CU mounted silent operation contactor for Switching External lights complete with all accessories and as CRABTREE CIK24 or an approved equivalent		2		
1.13	Photocell control unit and wired to energize the contactors complete with a D.P override switch as THORN QPK or approved equivalent		2		
	Total Carried Forward to Next Page	1		•	

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg. <u>POWER POINTS &amp; ACCESSORIES</u> Supply, Install, connect and set to work the following:-				
1.14	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	40		
	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	40		
1.15	Cooker outlet power points completely wired in 3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 45A DP connection unit		1		
1.16	45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.		1		
1.17	45A moulded plate cooker connection unit as MK/Crabtree or approved equivalent:	No.	1		
1.18	300x 300x 100mm deep 16 G galvanized adaptable box.	No.	4		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.19	Water booster power points completely wired in 5 x 6mm <sup>2</sup> single core PVC insulated copper cables drawn in 38mm diameter heavy gauge PVC conduits including all accessories ,but excluding the the 40A TPN isolator	No.	1		
1.20	40A TPN isolator as MK or approved equivalent	No.	1		
	ELV CABLE WAYS				
1.21	ICT Points Supply, install and connect data outlet point consisting of average 20 meters of 25 mm diameter concealed heavy gauge PVC conduit inclusive of conduit, couplers, draw boxes, switch boxes, draw wire and other necessary accessories but excluding face plates.	No.	20		
	CCTV Points				
1.22	Supply, install and connect CCTV outlet point consisting of average 20 meters of 25 mm diameter concealed heavy gauge PVC conduit inclusive of conduit, couplers, draw boxes, switch boxes, draw wire and other necessary accessories.	No.	12		
1.23	Fire Alarm Points Outlets for fire Alarm points drawn in 25mm diameter heavy gauge PVC conduits concealed in wall and floor slabs including all conduit accessories and draw wire but excluding cabling and detectors	No.	16		
	Total Carried Forward to Next Page	1 1		l	

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	POWER DISTRIBUTION				
	Supply, Install, connect and set to work the following:-				
1.24	8 ways 100A TPN distribution boards 'T' complete with 100A TPN integral isolator ,but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	2		
	i)10 A SP MCB	No.	8		
	ii) 32 A SP MCB	No.	8		
	iii) 40 A SP MCB	No.	1		
	iv) 32 A TP MCB	No.	2		
	v) Blanking plates	No.	8		
	vi)Earthing of the Distribution Board above	Item.	2		
1.25	Sub-mains circuits for DB 'T' above comprising of 4 core 25mm <sup>2</sup> PVC/SWA/PVC cable drawn in cable tray/ 50mm diameter heavy gauge conduits and running from the Lv switchboard		100		
	L AMOUNT FOR BILL No. 10 ECD CARRIED FOR 1ARY PAGE	WARD	TO GRAN	JD	

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	BILL NO. 11				
1.00	COMMUNITY CENTRE				
	LIGHTING POINTS, FITTINGS & ACCESSORIES				
	Supply, Install, Connect, Test and Set to work the following:-				
1.01	Lighting points wired in 3x1.5mm2 PVC insulated single core (SC) copper cables drawn in 20mm diameter HG PVC conduit concealed in walls and or floor slabs with all accessories but excluding switch and fitting for one way switching.	No.	124		
1.02	Ditto but for two way switching.	No.	8		
1.03	Ditto but for Emergency Switching.	No.	12		
	Supply, Install, Connect, Test and Set to work the following as marked on drawings and described in the schedule of Fittings:- 10A white moulded wide rocker switch plates:-				
1.04	10A 1 gang 1 way switch	No.	12		
1.05	10A 2 gang 2 way switch	No.	4		
	Light fittings, complete with lamps of specified wattage and appropriate colour rendering:-				
1.06	Type P 1200 X 300MM 220/240V x 30 watt Warm White, 6500K Ceiling Mount. (Two LED Tubes)	No.	64		
1.07	Type D - Round Light with LED lamp	No.	60		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.08	Spherical screwneck luminaire with opal glass and 16W compact lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF</b> "	No.	20		
1.09	Type Exit	No.	20		
1.10	d) Bulkhead fitting with moulded glass diffuser & Die Cast Aluminium base c/w 16W PL Lamp as Massive Sunderland Cat. No. 71410/01/31 for security lights. <b>"Type S"</b>	No.	20		
1.11	Presence sensor complete with assocaited wiring (light and motion sensor) as Osram Duo with the following characteristics: Operation voltage 220 - 240V 50Hz, detection area-	No.	6		
	12m dia minimum, settable light value, switch-off delay (if no motion detected), installation height - 5m minimum				
1.12	24A, 240V, 2P DB/CU mounted silent operation contactor for Switching External lights complete with all accessories and as CRABTREE CIK24 or an approved equivalent	No.	2		
1.13	Photocell control unit and wired to energize the contactors complete with a D.P override switch as THORN QPK or approved equivalent	No.	2		
	<u>POWER POINTS &amp; ACCESSORIES</u> Supply, Install, connect and set to work the following:-				
1.14	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	60		
	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	60		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.15	Cooker outlet power points completely wired in 3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 45A DP connection unit	No.	1		
1.16	45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.	No.	1		
1.17	45A moulded plate cooker connection unit as MK/Crabtree or approved equivalent:	No.	1		
1.18	300x 300x 100mm deep 16 G galvanized adaptable box.	No.	4		
1.19	Water booster power points completely wired in 5 x 6mm <sup>2</sup> single core PVC insulated copper cables drawn in 38mm diameter heavy gauge PVC conduits including all accessories ,but excluding the the 40A TPN isolator	No.	1		
1.20	40A TPN isolator as MK or approved equivalent	No.	1		
	ELV CABLE WAYS				
1.21	ICT Points Supply, install and connect data outlet point consisting of average 20 meters of 25 mm diameter concealed heavy gauge PVC conduit inclusive of conduit, couplers, draw boxes, switch boxes, draw wire and other necessary accessories but excluding face plates.	No.	20		
1.22	CCTV Points Supply, install and connect CCTV outlet point consisting of average 20 meters of 25 mm diameter concealed heavy gauge PVC conduit inclusive of conduit, couplers, draw boxes, switch boxes, draw wire and other necessary accessories.	No.	10		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	Eine Alenne Deinte				
	Fire Alarm Points				
	Outlets for fire Alarm points drawn in 25mm				
1.23	diameter heavy gauge PVC conduits concealed in	No.	10		
	wall and floor slabs including all conduit accessories				
	and draw wire but excluding cabling and detectors				
	POWER DISTRIBUTION				
	<u>POWER DISTRIBUTION</u> Supply, Install, connect and set to work the				
	following:-				
	8 ways 100A TPN distribution boards 'T' complete				
1.04	with 100A TPN integral isolator ,but excluding the	No	1		
1.24	MCBs ,and as Schneider Electric Acti 9 or approved	No.	1		
	equivalent.				
	i)10 A SP MCB	No.	10		
	ii) 32 A SP MCB	No.	10		
	iii) 40 A SP MCB	No.	1		
	iv) 32 A TP MCB	No.	1		
	v) Blanking plates	No.	4		
	vi)Earthing of the Distribution Board above	Item.	4		
	Sub-mains circuits for DB 'T' above comprising of 4				
1.05	core 25mm <sup>2</sup> PVC/SWA/PVC cable drawn in cable		150		
1.25	tray/ 50mm diameter heavy gauge conduits and running from the Lv switchboard	LM	150		
	200mm x 50mm galvanised metallic cable tray				
	(Telecom, DTV, Internet Cables) gauge 14 c/w all				
	mounting accessories bends, rawl bolts, threaded	LM.	200		
	bolts, brackets,				
	200mm v E0mm calvanicad matallic calls trav (Davor				
	200mm x 50mm galvanised metallic cable tray (Power Cables) gauge 14 c/w all mounting accessories bends,				
	rawl bolts, threaded bolts, brackets,	LM.	200		
	L AMOUNT FOR BILL No. 11 COMMUNITY CENTR	FCARRIE	D FORM		

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	BILL NO. 12				
1.00	<u>SCHOOL</u>				
	LIGHTING POINTS, FITTINGS & ACCESSORIES				
	<u>Supply, Install, Connect, Test and Set to work the</u> <u>following:-</u>				
1.01	Lighting points wired in 3x1.5mm2 PVC insulated single core (SC) copper cables drawn in 20mm diameter HG PVC conduit concealed in walls and or floor slabs with all accessories but excluding switch and fitting for one way switching.	No.	220		
1.02	Ditto but for two way switching.	No.	8		
1.03	Ditto but for Emergency Switching.	No.	12		
	Supply, Install, Connect, Test and Set to work the following as marked on drawings and described in the schedule of Fittings:-				
	10A white moulded wide rocker switch plates:-				
1.04	10A 1 gang 1 way switch	No.	12		
1.05	10A 2 gang 2 way switch	No.	4		
	Light fittings, complete with lamps of specified wattage and appropriate colour rendering:-				
1.06	Type P 1200 X 300MM 220/240V x 30 watt Warm White, 6500K Ceiling Mount. (Two LED Tubes)	No.	120		
L	Total Carried Forward to Next Page	I			

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.07	Type D - Round Light with LED lamp	No.	100		
1.08	Spherical screwneck luminaire with opal glass and 16W compact lamp as Astra, Micromark, Thorn or approved equivalent. " <b>Type BF</b> "	No.	40		
1.07	Type Exit	No.	30		
1.09	d) Bulkhead fitting with moulded glass diffuser & Die Cast Aluminium base c/w 16W PL Lamp as Massive Sunderland Cat. No. 71410/01/31 for security lights. <b>"Type S</b> "	No.	30		
1.10	Presence sensor complete with assocaited wiring (light and motion sensor) as Osram Duo with the following characteristics:	No.	8		
	Operation voltage 220 - 240V 50Hz, detection area- 12m dia minimum, settable light value, switch-off delay (if no motion detected), installation height - 5m minimum				
1.11	24A, 240V, 2P DB/CU mounted silent operation contactor for Switching External lights complete with all accessories and as CRABTREE CIK24 or an approved equivalent	No.	2		
1.12	Photocell control unit and wired to energize the contactors complete with a D.P override switch as THORN QPK or approved equivalent	No.	2		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg. <u>POWER POINTS &amp; ACCESSORIES</u> Supply, Install, connect and set to work the following:-				
1.13	13A SP socket point completely wired in 3 x 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm diameter heavy gauge PVC conduits including all accessories but excluding the 13A SP switched socket outlet.	No.	100		
	Socket Outlet plates i) 13A SP twin switched socket outlet as MK 2536 or equal & approved equivalent.	No.	100		
1.14	Cooker outlet power points completely wired in 3 x 6.0mm <sup>2</sup> single core PVC insulated copper cables drawn in 32mm diameter heavy gauge PVC conduits including all accessories ,but excluding the 45A DP connection unit	No.	4		
1.15	45A Moulded plate Cooker Control Unit complete with 13A fused socket outlet as MK/Crabtree or approved equivalent.	No.	4		
116	45A moulded plate cooker connection unit as MK/Crabtree or approved equivalent:	No.	4		
1.17	300x 300x 100mm deep 16 G galvanized adaptable box.	No.	8		
1.18	Water booster power points completely wired in 5 x 6mm <sup>2</sup> single core PVC insulated copper cables drawn in 38mm diameter heavy gauge PVC conduits including all accessories ,but excluding the the 40A TPN isolator	No.	2		
1.19	40A TPN isolator as MK or approved equivalent	No.	2		
L	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
	ELV CABLE WAYS				
	ICT Points				
1.20	Supply, install and connect data outlet point consisting of average 20 meters of 25 mm diameter concealed heavy gauge PVC conduit inclusive of conduit, couplers, draw boxes, switch boxes, draw wire and other necessary accessories but excluding face plates.	No.	60		
	CCTV Points				
1.21	Supply, install and connect CCTV outlet point consisting of average 20 meters of 25 mm diameter concealed heavy gauge PVC conduit inclusive of conduit, couplers, draw boxes, switch boxes, draw wire and other necessary accessories.	No.	20		
	Fire Alarm Points				
1.22	Outlets for fire Alarm points drawn in 25mm diameter heavy gauge PVC conduits concealed in wall and floor slabs including all conduit accessories and draw wire but excluding cabling and detectors	No.	50		
	POWER DISTRIBUTION				
1.23	Supply, Install, connect and set to work the following:- 8 ways 100A TPN distribution boards 'T' complete with 100A TPN integral isolator ,but excluding the MCBs ,and as Schneider Electric Acti 9 or approved equivalent.	No.	4		
	i)10 A SP MCB	No.	16		
	ii) 32 A SP MCB	No.	16		
	iii) 40 A SP MCB	No.	4		
	iv) 32 A TP MCB	No.	4		
	v) Blanking plates vi)Earthing of the Distribution Board above	No. Item.	8 4		
	Total Carried Forward to Next Page				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSH)	AMOUNT (KSH)
	Total B/F from Previous Pg.				
1.24	Sub-mains circuits for DB 'T' above comprising of 4 core 25mm <sup>2</sup> PVC/SWA/PVC cable drawn in cable tray/ 50mm diameter heavy gauge conduits and running from the Lv switchboard	LM	200		
	200mm x 50mm galvanised metallic cable tray (Telecom, DTV, Internet Cables) gauge 14 c/w all mounting accessories bends, rawl bolts, threaded bolts, brackets,		400		
	200mm x 50mm galvanised metallic cable tray (Power Cables) gauge 14 c/w all mounting accessories bends, rawl bolts, threaded bolts, brackets,	LM.	400		
	L AMOUNT FOR BILL No. 12 COMMUNITY CENTF D SUMMARY PAGE	RE CAR	RIED F	ORWARD TO	

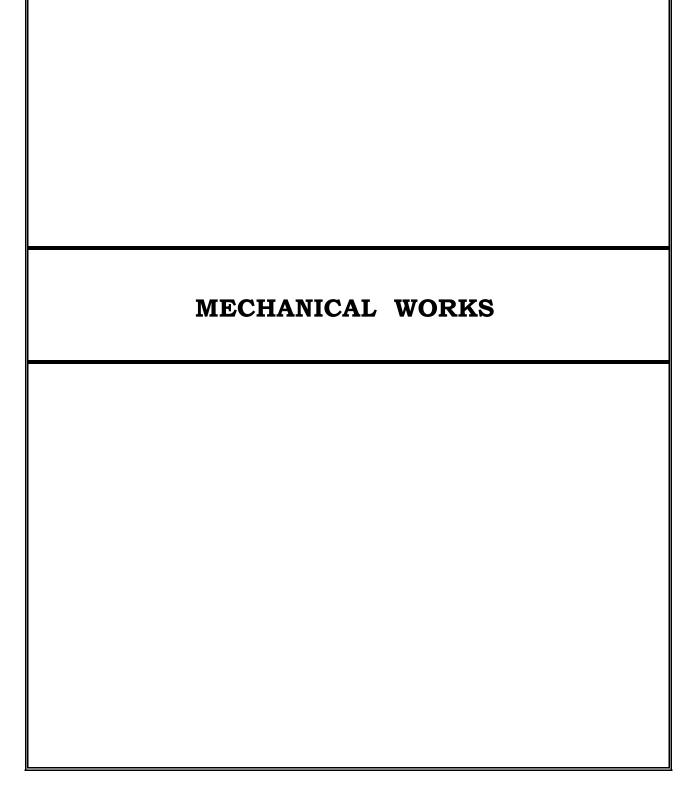
## PROPOSED NGONG AFFORDABLE HOUSING PROJECT

## ELECTRICAL INSTALLATIONS BILL OF QUANTITIES

## GRAND SUMMARY PAGE

ITEM	DESCRIPTION	Unit	Qty	RATE (KSHS)	AMOUNT (KSHS)
1	SUMMARY FOR INCOMING POWER & KPLC RELATED COSTS	Lot	1		
2	SUMMARY FOR ELECTRICAL SERVICES FOR AFFORDABLE HOUSING BLOCK TYPE A	No	10		
3	SUMMARY FOR ELECTRICAL SERVICES FOR AFFORDABLE HOUSING BLOCK TYPE B	No	10		
4	SUMMARY FOR EXTERNAL ELECTRICS	No	1		
5	SUMMARY FOR ELECTRICAL SERVICES FOR CLUB HOUSE	Lot	1		
6	SUMMARY FOR ELECTRICAL SERVICES FOR GATE HOUSE	Lot	3		
7	SUMMARY FOR ELECTRICAL SERVICES FOR SHOPS	Lot	32		
8	SUMMARY FOR ELECTRICAL SERVICES FOR ECD	Lot	1		
9	SUMMARY FOR ELECTRICAL SERVICES FOR COMMUNITY CENTRE	Lot	1		
10	SUMMARY FOR ELECTRICAL SERVICES FOR SCHOOL	Lot	1		
	TOTALS FOR ELECTRICAL INSTALLATION SERVICES FOR PROPOSED NGONG AFFORDABLE HOUSING PROJECT				

Amount in Words: Kenya Shillings
Official Stamp & Address:
Tenderer's Signature:Date:Date:
Witness' Name:Witness' Signature:
Address:
Date:



ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
1.0	Internal Plumbing Installations				
	Supply, deliver install, Test and Commission:				
	PP-R (Polypropylene Random Co-polymer)				
	pipes PN 20 and fittings and fusion joints to (KS ISO 15874 Part 1, 2, 3 & 5) of approved				
	manufacturer. Rates must allow for all				
	Metal/plastic threaded adaptors where				
	required for the connection of sanitary fixtures,				
	valves, sockets, sliding and fixed joints etc. as				
	required in the running lengths of pipework.				
	The pipes shall run in floors and wall chase. The pipes will be pressure tested before the				
	plastering of wall commences and as per the				
(i)	<u>3 BR AHP</u>				
	Pipe Works				
А	32mm Ø PPR Pipe	2	LM		
В	Ditto 25mm Ø	20	LM		
	Extra Over Pipe Work				
	Elbows/ Bends				
С	32mm Ø Elbows/ Bends	2	No.		
D	Ditto 25mm Ø	14	No.		
-	Equal/Unequal Tees	_			
E F	32 x 32 x 32mm	1 7	No. No.		
Г	25 x 25 x 25mm	/	INO.		
	Reducers				
G	32 x 25mm reducer	1	No.		
	Male/Female brass threaded adaptor				
J	25 x 20mm male/female threaded adaptor	2	No.		
Κ	25 x 15mm ditto	4	LM		
L	25 x 15mm male threaded bend	14	LM		
	Total Carried to Next Page		1		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
М	<b>Isolating valves</b> 25mm Ø Gate Valve as "Pegler" or Equivalent	1	No.		
N	<b>Shut off Angle Valve</b> Brass plated 1/2" angle valve	7	No.		
0	Check Meter 25mm diameter water check meter	1	No.		
Р	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	Sub Total for 1 Units				
	TOTAL FOR 1 No. 3BR AHP (Per Floor)	1		x 1	
	Total Cost of Plumbing Installation for 3BR	AHP p	er Floor		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)			
(ii)	<u>3 Room Social</u>				· · · /			
	Pipe Works	~	114					
A	32mm Ø PPR Pipe	2	LM					
В	Ditto 25mm Ø	15	LM					
	Extra Over Pipe Work							
	Elbows/ Bends							
С	32mm Ø Elbows/ Bends	2	No.					
D	Ditto 25mm Ø	8	No.					
	Equal/Unequal Tees							
Е	32 x 32 x 32mm	1	No.					
F	25 x 25 x 25mm	4	No.					
	Reducers							
G	32 x 25mm reducer	1	No.					
	Male/Female brass threaded adaptor							
J	25 x 20mm male/female threaded adaptor	2	No.					
Κ	25 x 15mm ditto	4	LM					
L	25 x 15mm male threaded bend	8	LM					
	Isolating valves							
М	25mm Ø Gate Valve as "Pegler" or Equivalent	1	No.					
171	Zomme Gute Valve as Tegler of Equivalent	1	100.					
	Shut off Angle Valve							
Ν	Brass plated 1/2" angle valve	4	No.					
0	Check Meter	1	NT					
0	25mm diameter water check meter	1	No.					
	Testing and Commissioning							
	Allow for pressure testing of the Plumbing							
Р	installation to the satisfaction of the Engineer		Item					
-	including provision of necessary pipe plugs.	-						
	Sub Total for 1 Units							
	TOTAL FOR 1 No. 3Room Social (Per Floor)	1		x 1				
	Total Cost of Plumbing Installation for 3Room	1 Social	per Flo	or				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)			
(iii)	<u>2 BR AHP</u>				Y			
	D. 147 1							
А	Pipe Works	2	LM					
A B	32mm Ø PPR Pipe Ditto 25mm Ø	2 15	LM					
D		15	LIVI					
	Extra Over Pipe Work							
	Elbows/ Bends							
С	32mm Ø Elbows/ Bends	2	No.					
D	Ditto 25mm Ø	8	No.					
	Equal/Unequal Tees							
Е	32 x 32 x 32mm	1	No.					
F	25 x 25 x 25mm	4	No.					
	Doducerro							
G	<b>Reducers</b> 32 x 25mm reducer	1	No.					
9		1	100.					
	Male/Female brass threaded adaptor							
J	$25 \times 20$ mm male/female threaded adaptor	2	No.					
K	25 x 15mm ditto	4	LM					
L	25 x 15mm male threaded bend	8	LM					
м	Isolating valves	1	Na					
М	25mm Ø Gate Valve as "Pegler" or Equivalent	1	No.					
	Shut off Angle Valve							
Ν	Brass plated 1/2" angle valve	4	No.					
	1 , 0							
	Check Meter							
0	25mm diameter water check meter	1	No.					
	Testing and Commissioning							
_	Allow for pressure testing of the Plumbing							
Р	installation to the satisfaction of the Engineer	1	Item					
	including provision of necessary pipe plugs.							
	Cal Tabal Gard Haile							
	Sub Total for 1 Units			ŀ				
	TOTAL FOR 4 No. 2BR AHP (Per Floor)	4		x 4				
		T		τī				
	Total Cost of Plumbing Installation for 2BP AUP nor Floor							
	Total Cost of Plumbing Installation for 2BR AHP per Floor							

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
(iv)	2 Room Social				
A B	<b>Pipe Works</b> 32mm Ø PPR Pipe Ditto 25mm Ø	2 15	LM LM		
C D	Extra Over Pipe Work Elbows/ Bends 32mm Ø Elbows/ Bends Ditto 25mm Ø	2 8	No. No.		
E F	<b>Equal/Unequal Tees</b> 32 x 32 x 32mm 25 x 25 x 25mm	1 4	No. No.		
G	<b>Reducers</b> 32 x 25mm reducer	1	No.		
J K L	Male/Female brass threaded adaptor 25 x 20mm male/female threaded adaptor 25 x 15mm ditto 25 x 15mm male threaded bend	2 4 8	No. LM LM		
М	<b>Isolating valves</b> 25mm Ø Gate Valve as "Pegler" or Equivalent	1	No.		
Ν	<b>Shut off Angle Valve</b> Brass plated 1/2" angle valve	4	No.		
0	<b>Check Meter</b> 25mm diameter water check meter	1	No.		
Р	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.	1	Item		
	Sub Total for 1 Units				
	TOTAL FOR 2 No. 2 Room Social (Per Floor)	2		x 2	
	Total Cost of Plumbing Installation for 2Room	n Social	per Flo	or	

(v)       I Room Social         Pipe Works       2         B       Ditto 25mm Ø         Extra Over Pipe Work       15         Elbows/ Bends       2         D       Ditto 25mm Ø         Extra Over Pipe Work       8         Elbows/ Bends       2         D       Ditto 25mm Ø         B       Ditto 25mm Ø         E       32 x 32 x 32mm         F       25 x 25 x 25mm         G       32 x 25mm reducer         G       32 x 25mm reducer         J       25 x 20mm male/female threaded adaptor         J       25 x 20mm male/female threaded adaptor         J       25 x 15mm ditto         L       25 x 15mm male threaded bend         K       25 x 15mm male threaded bend         L       25 x 15mm male threaded bend         K       25mm Ø Gate Valve as "Pegler" or Equivalent         No.       Shut off Angle Valve         N       Brass plated 1/2" angle valve         Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.         Sub Total for 1 Units       Item         TOTAL FOR 1 No. 1Room Social (Per Floor)       1	ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)				
A       32mm Ø PPR Pipe       2       LM         B       Ditto 25mm Ø       15       LM         Extra Over Pipe Work       15       LM         Elbows/ Bends       2       No.         D       Ditto 25mm Ø       8       No.         Equal/Unequal Tees       8       No.         Equal/Unequal Tees       1       No.         F       25 x 25 x 32mm       1       No.         F       25 x 25 x 25mm       4       No.         Male/Female brass threaded adaptor       2       No.         J       25 x 20mm male/female threaded adaptor       2       No.         K       25 x 15mm ditto       4       LM         L       25 x 15mm ditto       4       LM         L       25 x 15mm male threaded bend       8       LM         M       Isolating valves       8       LM         M       Isolating valves       4       No.         M       Shut off Angle Valve       4       No.         N       Brass plated 1/2" angle valve       4       No.         Check Meter       25mm diameter water check meter       1       No.         Zisting and Commissioning       1 <td>(v)</td> <td>1 Room Social</td> <td></td> <td></td> <td></td> <td></td>	(v)	1 Room Social								
A       32mm Ø PPR Pipe       2       LM         B       Ditto 25mm Ø       15       LM         Extra Over Pipe Work       15       LM         Elbows/ Bends       2       No.         D       Ditto 25mm Ø       8       No.         Equal/Unequal Tees       8       No.         Equal/Unequal Tees       1       No.         F       25 x 25 x 32mm       1       No.         F       25 x 25 x 25mm       4       No.         Male/Female brass threaded adaptor       2       No.         J       25 x 20mm male/female threaded adaptor       2       No.         K       25 x 15mm ditto       4       LM         L       25 x 15mm ditto       4       LM         L       25 x 15mm male threaded bend       8       LM         M       Isolating valves       8       LM         M       Isolating valves       4       No.         M       Shut off Angle Valve       4       No.         N       Brass plated 1/2" angle valve       4       No.         Check Meter       25mm diameter water check meter       1       No.         Zisting and Commissioning       1 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>										
B       Ditto 25mm Ø       15       LM         Extra Over Pipe Work       Image: Comparison of the point of the set size of the set set set of the set set set of the set set set		-	•	114						
Extra Over Pipe Work Elbows/ Bends2No.D32mm Ø Elbows/ Bends2No.DDitto 25mm Ø8No.E32 x 32 x 32mm1No.F25 x 25 x 25mm4No.G32 x 25mm reducer1No.Male/Female brass threaded adaptor 25 x 25mm male/female threaded adaptor2No.J25 x 20mm male/female threaded adaptor 42No.K25 x 15mm ditto4LML25 x 15mm ditto4LML25 x 15mm ditto4LML25 x 15mm ditto4No.MIsolating valves 25mm Ø Gate Valve as "Pegler" or Equivalent1No.MShut off Angle Valve 25mm diameter water check meter1No.O25mm diameter water check meter1No.M25mm diameter water check meter1No.MShut off or pressure testing of the Plumbing installation to the satisfaction of the Engineer 										
Elbows/ Bends2No.DDitto 25mm Ø8No.Equal/Unequal Tees8No.E32 x 32 x 32mm1No.F25 x 25 x 25mm4No.G32 x 25mm reducer1No.Male/Female brass threaded adaptor2No.J25 x 20mm male/female threaded adaptor2No.K25 x 15mm ditto4LML25 x 15mm male threaded bend8LMIShut off Angle Valve s8LMMShut off Angle Valve as "Pegler" or Equivalent1No.MShut off Angle Valve as "Pegler" or Equivalent1No.MShut off Angle Valve4No.MBrass plated 1/2" angle valve4No.O25mm diameter water check meter1No.PAllow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.1Sub Total for 1 UnitsSub Total for 1 UnitsItem	В	Ditto 25mm Ø	15	LM						
Elbows/ Bends2No.DDitto 25mm Ø8No.Equal/Unequal Tees8No.E32 x 32 x 32mm1No.F25 x 25 x 25mm4No.G32 x 25mm reducer1No.Male/Female brass threaded adaptor2No.J25 x 20mm male/female threaded adaptor2No.K25 x 15mm ditto4LML25 x 15mm male threaded bend8LMMIsolating valves8LMMShut off Angle Valve as "Pegler" or Equivalent1No.NShut off Angle Valve4No.O25mm diameter water check meter1No.PAllow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.1ItemSub Total for 1 Units1		Extra Over Pipe Work								
C       32mm Ø Elbows/ Bends       2       No.         D       Ditto 25mm Ø       8       No.         E       32 x 32 x 32mm       1       No.         F       25 x 25 x 25mm       4       No.         G       32 x 25mm reducer       1       No.         J       25 x 25mm       4       No.         Male/Female brass threaded adaptor       2       No.         J       25 x 20mm male/female threaded adaptor       2       No.         K       25 x 15mm ditto       4       LM         L       25 x 15mm male threaded bend       8       LM         M       Isolating valves       8       LM         M       25mm Ø Gate Valve as "Pegler" or Equivalent       1       No.         Shut off Angle Valve       4       No.         M       Brass plated 1/2" angle valve       4       No.         O       25mm diameter water check meter       1       No.         Testing and Commissioning       1       Item including provision of necessary pipe plugs.       1         P       Sub Total for 1 Units       1       Item including provision of necessary pipe plugs.       1										
DDitto 25mm Ø8No.Equal/Unequal Tees1No.F32 x 32 x 32mm1No.F25 x 25 x 25mm4No.GReducers1No.G32 x 25mm reducer1No.J25 x 20mm male/female threaded adaptor2No.K25 x 15mm ditto2No.L25 x 15mm ditto4LML25 x 15mm ditto8LMMIsolating valves8LMShut off Angle Valve as "Pegler" or Equivalent1No.NShut off Angle Valve4No.O25mm diameter water check meter1No.PAllow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.1ItemPSub Total for 1 Units	С	-	2	No.						
E       32 x 32 x 32mm       1       No.         F       25 x 25 x 25mm       4       No.         G       32 x 25mm reducer       1       No.         Male/Female brass threaded adaptor       1       No.         J       25 x 20mm male/female threaded adaptor       2       No.         K       25 x 20mm male/female threaded adaptor       2       No.         K       25 x 15mm ditto       4       LM         L       25 x 15mm male threaded bend       8       LM         M       Isolating valves       8       LM         M       25mm Ø Gate Valve as "Pegler" or Equivalent       1       No.         Shut off Angle Valve       4       No.         O       25mm diameter water check meter       1       No.         Check Meter       25mm diameter water check meter       1       No.         P       Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.       1       Item         Sub Total for 1 Units				No.						
E       32 x 32 x 32mm       1       No.         F       25 x 25 x 25 mm       4       No.         G       32 x 25mm reducer       1       No.         Male/Female brass threaded adaptor       1       No.         J       25 x 20mm male/female threaded adaptor       2       No.         K       25 x 20mm male/female threaded adaptor       2       No.         K       25 x 15mm ditto       4       LM         L       25 x 15mm male threaded bend       8       LM         M       Isolating valves       8       LM         M       25mm Ø Gate Valve as "Pegler" or Equivalent       1       No.         Shut off Angle Valve       4       No.         O       25mm diameter water check meter       1       No.         Check Meter       25mm diameter water check meter       1       No.         P       Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.       1       Item         Sub Total for 1 Units										
F25 x 25 x 25mm4No.GReducers 32 x 25mm reducer1No.J25 x 25mm reducer1No.J25 x 20mm male/female threaded adaptor 25 x 15mm ditto2No.L25 x 15mm ditto4LML25 x 15mm male threaded bend8LMMIsolating valves 25mm Ø Gate Valve as "Pegler" or Equivalent1No.MShut off Angle Valve Brass plated 1/2" angle valve4No.OCheck Meter 25mm diameter water check meter1No.PAllow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.1ItemImage: PSub Total for 1 UnitsImage: Plus Plus Plus Plus Plus Plus Plus Plus										
G       32 x 25mm reducer       1       No.         Male/Female brass threaded adaptor       1       No.         J       25 x 20mm male/female threaded adaptor       2       No.         K       25 x 15mm ditto       4       LM         L       25 x 15mm male threaded bend       8       LM         M       Isolating valves       8       LM         M       Isolating valves       1       No.         M       Shut off Angle Valve as "Pegler" or Equivalent       1       No.         N       Brass plated 1/2" angle valve       4       No.         O       Check Meter       1       No.         P       Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.       1       Item         Sub Total for 1 Units										
G32 x 25mm reducer1No.Male/Female brass threaded adaptor2No.J25 x 20mm male/female threaded adaptor2No.K25 x 15mm ditto4LML25 x 15mm male threaded bend8LMMIsolating valves 25mm Ø Gate Valve as "Pegler" or Equivalent1No.NShut off Angle Valve Brass plated 1/2" angle valve4No.OCheck Meter 25mm diameter water check meter1No.PAllow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.1ItemBub Total for 1 UnitsItemItemItem	F	25 x 25 x 25mm	4	No.						
G32 x 25mm reducer1No.Male/Female brass threaded adaptor2No.J25 x 20mm male/female threaded adaptor2No.K25 x 15mm ditto4LML25 x 15mm male threaded bend8LMMIsolating valves 25mm Ø Gate Valve as "Pegler" or Equivalent1No.NShut off Angle Valve Brass plated 1/2" angle valve4No.OCheck Meter 25mm diameter water check meter1No.PAllow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.1ItemBub Total for 1 UnitsItemItemItem		Reducers								
JMale/Female brass threaded adaptor 25 x 20mm male/female threaded adaptor 25 x 15mm ditto 25 x 15mm male threaded bend2No.K25 x 15mm male threaded bend4LM 8MIsolating valves 25mm Ø Gate Valve as "Pegler" or Equivalent1No.NShut off Angle Valve Brass plated 1/2" angle valve4No.OCheck Meter 25mm diameter water check meter1No.PTesting and Commissioning Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.1ItemImage: Sub Total for 1 UnitsImage: Sub Total for 1 Units	G		1	No.						
J       25 x 20mm male/female threaded adaptor       2       No.         K       25 x 15mm ditto       4       LM         L       25 x 15mm male threaded bend       8       LM         M       Isolating valves       8       LM         M       25mm Ø Gate Valve as "Pegler" or Equivalent       1       No.         Shut off Angle Valve       4       No.         N       Brass plated 1/2" angle valve       4       No.         O       Check Meter       1       No.         Quarter of the plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.       1       Item         Sub Total for 1 Units	-		_							
K       25 x 15mm ditto       4       LM         L       25 x 15mm male threaded bend       8       LM         M       Isolating valves       1       No.         M       25mm Ø Gate Valve as "Pegler" or Equivalent       1       No.         N       Shut off Angle Valve       4       No.         N       Brass plated 1/2" angle valve       4       No.         O       Check Meter       1       No.         Z5mm diameter water check meter       1       No.         Testing and Commissioning       1       No.         Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.       1       Item         Sub Total for 1 Units		Male/Female brass threaded adaptor								
L25 x 15mm male threaded bend8LMMIsolating valves 25mm Ø Gate Valve as "Pegler" or Equivalent1No.NShut off Angle Valve Brass plated 1/2" angle valve4No.OCheck Meter 25mm diameter water check meter1No.PIsolating and Commissioning installation to the satisfaction of the Engineer including provision of necessary pipe plugs.1ItemUSub Total for 1 Units	J	25 x 20mm male/female threaded adaptor	2	No.						
MIsolating valves 25mm Ø Gate Valve as "Pegler" or Equivalent1No.NShut off Angle Valve Brass plated 1/2" angle valve4No.OCheck Meter 25mm diameter water check meter1No.PAllow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.1Item	Κ	25 x 15mm ditto	4	LM						
M       25mm Ø Gate Valve as "Pegler" or Equivalent       1       No.         Shut off Angle Valve       4       No.         N       Brass plated 1/2" angle valve       4       No.         O       Check Meter       1       No.         O       Z5mm diameter water check meter       1       No.         Festing and Commissioning       1       No.         Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.       1       Item         Sub Total for 1 Units	L	25 x 15mm male threaded bend	8	LM						
M       25mm Ø Gate Valve as "Pegler" or Equivalent       1       No.         Shut off Angle Valve       4       No.         N       Brass plated 1/2" angle valve       4       No.         O       Check Meter       1       No.         O       Z5mm diameter water check meter       1       No.         P       Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.       1       Item         Sub Total for 1 Units		Icolating valves								
N       Shut off Angle Valve Brass plated 1/2" angle valve       4       No.         O       Check Meter 25mm diameter water check meter       1       No.         P       Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.       1       Item         Sub Total for 1 Units	м		1	No						
N       Brass plated 1/2" angle valve       4       No.         Check Meter       25mm diameter water check meter       1       No.         O       25mm diameter water check meter       1       No.         Testing and Commissioning       Allow for pressure testing of the Plumbing       1       Item         P       installation to the satisfaction of the Engineer including provision of necessary pipe plugs.       1       Item         Sub Total for 1 Units	101	Zomme Gute Valve as Tegler of Equivalent	1	100.						
O       Check Meter         O       25mm diameter water check meter         1       No.         Testing and Commissioning         Allow for pressure testing of the Plumbing         P       installation to the satisfaction of the Engineer         including provision of necessary pipe plugs.         Sub Total for 1 Units		Shut off Angle Valve								
O       25mm diameter water check meter       1       No.         Testing and Commissioning       Allow for pressure testing of the Plumbing       1       Item         P       Allow for pressure testing of the Engineer including provision of necessary pipe plugs.       1       Item         Sub Total for 1 Units	Ν	Brass plated 1/2" angle valve	4	No.						
O       25mm diameter water check meter       1       No.         Testing and Commissioning       Allow for pressure testing of the Plumbing       1       Item         P       Allow for pressure testing of the Engineer including provision of necessary pipe plugs.       1       Item         Sub Total for 1 Units										
<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing         installation to the satisfaction of the Engineer         including provision of necessary pipe plugs.         Sub Total for 1 Units	-									
Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.       1       Item         Sub Total for 1 Units	0	25mm diameter water check meter	1	No.						
Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.       1       Item         Sub Total for 1 Units		Testing and Commissioning								
P       installation to the satisfaction of the Engineer 1       Item including provision of necessary pipe plugs.         Sub Total for 1 Units		-								
including provision of necessary pipe plugs. Sub Total for 1 Units	P	1 0 0		Itom						
Sub Total for 1 Units	1	5	1	nem						
		including provision of necessary pipe plugs.								
		Sub Total for 1 Units								
TOTAL FOR 1 No. 1Room Social (Per Floor)     1     x 1										
		TOTAL FOR 1 No. 1Room Social (Per Floor)	1		x 1					
Total Cost of Plumbing Installation for 1Room Social per Floor		Total Cost of Plumbing Installation for 1Room	1 Social	per Flo	or					

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
(vi)	Studio Apartment				· · · · ·
	Pipe Works				
А	32mm Ø PPR Pipe	2	LM		
В	Ditto 25mm Ø	15	LM		
D		15	LIVI		
	Extra Over Pipe Work				
	Elbows/ Bends				
С	32mm Ø Elbows/ Bends	2	No.		
D	Ditto 25mm Ø	8	No.		
	Faual/Unagual Taga				
Е	<b>Equal/Unequal Tees</b> 32 x 32 x 32mm	1	No.		
F	25 x 25 x 25mm	4	No.		
1		+	110.		
	Reducers				
G	32 x 25mm reducer	1	No.		
	Male/Female brass threaded adaptor				
J	25 x 20mm male/female threaded adaptor	2	No.		
у К	25 x 15mm ditto	4	LM		
L	25 x 15mm male threaded bend	8	LM		
Ľ		0	2111		
	Isolating valves				
М	25mm Ø Gate Valve as "Pegler" or Equivalent	1	No.		
	Shut off Angle Valve				
Ν	Brass plated 1/2" angle valve	4	No.		
1	blass plated 1/2 angle valve	т	100.		
	Check Meter				
0	25mm diameter water check meter	1	No.		
	Testing and Commissioning				
	Testing and Commissioning				
р	Allow for pressure testing of the Plumbing		т.		
Р	installation to the satisfaction of the Engineer	1	Item		
	including provision of necessary pipe plugs.				
	Sub Total for 1 Units				
		_			
	TOTAL FOR 2 No. Sudios (Per Floor)	2		x 2	
	Total Cost of Plumbing Installation for 2Room	Social	nor Flo	or	
	i otal Cost of Fluidoning Installation for 2K00ff	i Social	per rio	01	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)		
(vii)	1 No. Extra Apartment on Ground Floor				( - )		
A B	<b>Pipe Works</b> 32mm Ø PPR Pipe Ditto 25mm Ø	2 15	LM LM				
С	<b>Extra Over Pipe Work</b> <b>Elbows/ Bends</b> 32mm Ø Elbows/ Bends	2	No.				
D	Ditto 25mm Ø	8	No.				
E F	<b>Equal/Unequal Tees</b> 32 x 32 x 32mm 25 x 25 x 25mm	1 4	No. No.				
Г	25 x 25 x 25mm	4	INO.				
G	<b>Reducers</b> 32 x 25mm reducer	1	No.				
J	Male/Female brass threaded adaptor 25 x 20mm male/female threaded adaptor	2	No.				
K	25 x 15mm ditto	4	LM				
L	25 x 15mm male threaded bend	8	LM				
М	<b>Isolating valves</b> 25mm Ø Gate Valve as "Pegler" or Equivalent	1	No.				
N	<b>Shut off Angle Valve</b> Brass plated 1/2" angle valve	4	No.				
0	<b>Check Meter</b> 25mm diameter water check meter	1	No.				
Р	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item				
	Sub Total for 1 Units						
	TOTAL FOR 1 No. Sudio (Extra)	1		x1			
	Total Cost of Plumbing Installation for the	e Extra S	Studio				
	I otal Cost of Flumbing Installation for the Extra Studio						

ITEM	DESCRIPTION	AMOUNT (KES)
	Typical Floor Collection Page	
1	Total Cost For Plumbing Installation for 3BR AHP	
2	Total Cost For Plumbing Installation for 3Room Social	
3	Total Cost For Plumbing Installation for 2BR AHP	
4	Total Cost For Plumbing Installation for 2Room Social	
5	Total Cost For Plumbing Installation for 1Room Social	
6	Total Cost For Plumbing Installation for Studio Apartment	
7	Total Plumbing Cost Per Floor	
8	Total Plumbing Cost for G + 9 Levels ( Item 7 x 10 Floors)	
9	Add Total Cost of Extra Studio Apartment on Ground Gloor	
	Total Cost (Item 8 +7) of Plumbing Carried to Summary Page	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
2	Risers and Roof Levels			(RES)	(RES)
	Pipe Works				
А		50	LM		
B	75mm Ø PPR pipe Ditto 63mm Ø				
		50 50	LM		
B C	Ditto 50mm Ø Ditto 40mm Ø	50 40	LM LM		
	Faiture Orvert Bire e Morale				
	Extra Over Pipe Work				
D	Elbows/ Bends	10	NT		
D	75mm Ø Elbows/ Bends	12	No.		
Е	Ditto 63mm Ø	25	No.		
F	Ditto 50mm Ø	8	No.		
G	Ditto 40mm Ø	16	No.		
Η	Ditto 32mm Ø	16	No.		
Ι	Ditto 25mm Ø	8	No.		
	Equal/Unequal Tees				
J	63 x 63 x 63mm	10	No.		
Κ	40 x 40 x 40mm	8	No.		
L	40 x 40 x 32mm	16	No.		
Μ	32 x 32 x 32mm	4	No.		
Ν	32 x 32 x 25mm	4	No.		
0	25 x 25 x 25mm	12	No.		
	Reducers				
Р	63 x 50mm reducer	6	No.		
Q	50 x 40mm reducer	6	No.		
R	40 x 32mm reducer	6	No.		
S	40 x 32mm reducer	6	No.		
Т	32 x 25mm reducer	8	No.		
	Male/Female brass threaded adaptor				
U	40 x 32mm male/female threaded adaptor	5	No.		
V	32 x 25mm male/female threaded adaptor	7	No.		
	Total Carried to the Next Pa	ige			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
W X	<b>Isolating valves</b> 65mm Ø Gate Valve as "Pegler" or Equivalent 40mm Ø Ditto	1 1	No. No.		
Y	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	Sub Total for 1 Riser				
	TOTAL FOR 4 No. Risers	4		x 4	
	Total Cost of Riser & Roof Level Plu	ımbing			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
3	SANITARY FITTINGS AND ACCESSORIES INSTALL ONLY				
А	Water Closet (WC) Pan Close Coupled dual flush Floor Standing Close Coupled WC Bowl complete with seat cover and cistern, WC connector relevant fittings & accessories	121	No.		
В	Wash Basin WHB basin Full pedestal Wash Basin 450x485x230m White Complte with bottle traps, flexible connection hoses and other accessories with cws only tap	121	No.		
С	<b>Shower Fittings</b> Shower fitting c/w 15mm diameter chrome plated stop cork, Instant shower fitting and 1/2" Cobra 211- 15 Star Pillar tap as Pegler or equal and equivalent	121	No.		
D	<b>Bathroom Accessories</b> Medium Washroom bathroom set Consisitng of Toilet roll holder, soap dish holder, brush holder and Coat Hooke	121	Set		
Е	<b>kitchen sink</b> Stainless steel kitchen sink single drain, single bowl complete overflow and 40mm diameter plastic tubular p-trap PVC Bottle Trap and waste 1.5in x 40, Long Neck Wall type Bib Tap	111	No.		
	Total Cost of Sanitary Fittings & Acc	essories	6		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	FIRE PROTECTION				
А	Hose Reel and Associated Pipework Supply and Install automatic 30 meters long, 25mm diameter hosereel and nozzle installed to KS 2003:2006	5	No.		
	Associated Pipework GI Class 'B' tubing to KS06-259 with screwed and socketed joints to KS ISO 7-1:1994 including all range piping, fittings, hanagers, supports, brackets, and supports				
В	50mm diameter	65	LM		
С	25mm ditto	13	LM		
	Extra Over Piping For Fittings:- Elbows/Various Bends				
D	50mm bend/elbow	7	No.		
Е	25mm ditto	20	No.		
г	Equal/Unequal tees	10	NT		
F	$50 \times 50 \times 50$ mm tee	10	No.		
G	50 x 50 x 25mm ditto	19	No.		
	Reducers				
Η	50 x 25mm reducer	10	No.		
	Unions				
Ι	50mm diameter union	2	No.		
J	25mm ditto	20	No.		
K	<b>Valves</b> 25mm diameter quarter Turn hose reel isolation valve to be as PEGLER or approved equivalent.	20	No.		
L	<b>Painting</b> Allow for Wire brushing , cleaning and painting of the complete fire fighting pipework installation with one coat of red oxide primer, undercoat, and gloss coat to specifications	1	Item		
т	l otal Cost Carried For hose reel and associated pi	pework	Install	ations	

	Portable Fire Protection Equipment + Hose			L
	<b>Reel Pump</b> <b>Supply, deliver, install, test and commission</b> portable fire protection equipment with initial fill complete with all the necessary mounting accessories.			
Α	9 litres, carbon dioxide gas extinguisher	10	No.	
В	4.5kg ABC dry powder extinguisher	10	No.	
	Supply and fix signs indicating the words "FIRE POINT" in 80mm high letters	10	No.	
D	<b>Testing and Commissioning</b> Allow for testing and commissioning of the fire pump installation to the satisfaction of the Engineer.		Item	
	al Cost For Portable fire Extinguishers + Hose R			

e ( i i e E I	DRY RISER Supply , deliver and install Galvernised Iron (GI) Pipe KS 06-259 Class B, Groove fittings including fixing and jointing. Tenderers must			
( i z I I	(GI) Pipe KS 06-259 Class B, Groove fittings			
i a S I				
a S I	including fixing and jointing. Tondorors must			1
S	including fixing and jointing. Tenderers must			1
I	allow in their pipework prices for Galvanised			1
	Support Brackets, Clamping screw, Threaded			1
	Rod, Bolts & all the couplings, connectors,			1
11	joints etc. required in the running length of			1
	pipework and also where necessary, for pipe			1
~	fixing clips, holderbats plugged and screwed,			1
	brackets and pipe sleeves through structural			1
	100mm diameter Black Pipe	LM	48	1
		LIVI	10	1
1	Extra over Black Pipe tubing for the following:			1
1	Bends			1
2 1	100mm diameter bend	No.	8	l
				1
	Tees			l
3 1	100mm ditto	No.	10	1
l I	Reducing Bushes			l .
	100x65mm Black Pipe reducing bush	No.	11	1
				1
-	Couplers	<b>N</b> .T	0	1
5 1	100mm diameter Black Pipe union	No.	9	l
1	Flanges			1
_	65mm dia Black Pipe flanges(pair, including bolt	No.	11	1
0 (	bonnin dia black i ipe nanges(pair, including bon	INO.	11	1
,	Landing Valve			1
	65mm diameter landing valve as Merry -			1
T	Weather "Equery" constant pressure outlet with			1
	flanged inlet and 1No. 65mm dia female	No.	11	1
				1
1	instantaneous outlet with blank cap and chain.			1
J	Fire Hose			1
8 6	65mmdia x30m long canvas hose as specified	No.	1	1
	Hose cradle for above canvas hose	No.	1	1
10 6	65mm dia branch pipe complete with nozzle/spr	No.	1	1
				1
<u>c</u>	Gate Valves			1
1	100mm dia approved high pressure screw-			1
c	down full way non-rising stem solid wedge disc			1
11 g	gate valve to BS 5154 PN 16 for Series B Rating	No.	1	1
Ţ	with wheel head and joints to steel tubing. As			1
	"Crane Model 156 " or equal and approved			1
-	100mm 2 way harizantal mountail			l .
	100mm 2-way horizontal mounted pumping in breeching inlet to BS 5041 Part 3 and horizontal			l
	0			l l
	inlet box with door fitted with Georgian wired	Item	1	l .
-	glass panel to BS5041 Part 5. Inclussive of			l .
	Breeching inlet cabinet as specified complete			l
<sup>v</sup>	with access break glass and painted			l l
-	TOTAL TO NEXT PAGE			

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Deleuse huevelt formend				
	Balance brought forward				
14	25mm dia Air Relief Valve as specified	No.	1		
	- 1,17,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,				
	Wire brush , clean, and paint complete installation with one coat of red oxide primer,				
15	undercoat, and gloss coat to Architects colour	Sum	1		
	including banding and colour coding to British Standards				
	Pressure testing and Painting				
	Allow for pressure testing of the entire Dry riser				
16	installation and obtain relevant test certificates endorsed by the Engineer or his representative.	Sum	1		
	endorsed by the Englicer of his representative.				
	Sub Total For 1No. Block				
	TOTAL COST FOR DRY RISER TO MAIN SU	MMAR	Y PAG	E	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Foul Drainage (Ground Floor)				
	Supply, deliver and install the following uPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) Heavy gauge soil and waste system. Allow for all the various sizes of adaptor, connectors, sockets, holderbats, clips etc not measured but required for the satisfactory functioning of the system.				
	Piping				
A	32mm diameter heavy duty grey uPVC pipe	60	LM		
B	40mm ditto	60	LM		
C D	50mm ditto 75mm ditto	120 80	LM LM		
E	100mm ditto	80 80	LM		
F	100mm diameter heavy duty golden brown pipe	155	LM		
G	150mm diameter heavy duty golden brown pipe		LM		
	Extra over uPVC Pipeworks				
Η	32mm sweep bend	15	No.		
Ι	40mm sweep bend	60	No.		
J	50mm sweep bend	15	No.		
Κ	75mm sweep bend	8	No.		
L	100mm sweep bend	22	No.		
M	150mm sweep bend	16	No.		
N	40mm 450 bend	22	No.		
0	50mm 450 bend	15	No.		
P	40mm sweep tee 40 x 32mm reducer	25 15	No. No.		
Q R	75 x 40mm ditto	15 15	No.		
S	$150 \times 40$ mm ditto	8	No.		
T	40mm access plug	22	No.		
U	150MM vent cowl	15	No.		
 I	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
V	<b>Total From Previous Page</b> 100 x 50mm floor trap set complete with plastic grating	17	No.		
AA	<b>Gulley Trap</b> Gully trap comprising of 100mm diameter golden brown uPVC gully piece, 100mm diameter uPVC trap spigot outlet with screws and washers, and 300 x 300mm masonry gully trap chamber with mild steel plate and a heavy duty iron cover.	25	No.		
BB	Manholes Construct manhole/ inspection chamber size 450 x 600 x 750mm deep internally in 200mm stone walls, 150mm concrete bed, water proof plaster, forming drain channels, medium duty cover frame in cast iron with recessed cover with concrete infill and all necessary formwork, excavation and soil disposal.	32	No.		
CC	<b>Excavations</b> Excavate trench for pipe not exceeding 100mm diameter and not exceeding 1.5m deep (average 600mm deep) and make good as before.	120	LM		
DD	Allow for hydrostatic pressure testing of drainage installation including provision of pipe plugs and other required fittings.	1	Item		
	Total Cost For Ground Floor Foul Drainage Inst	tallation	1		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Foul Drainage (1St Floor to 10th Floor)			(1120)	(1123)
	• · · · ·				
	Supply, deliver and install the following uPVC				
	(Unplasticized Polyvinyl chloride) to				
	(KS ISO 1452 Part 1, 2, 3, 4 & 5) Heavy gauge				
	soil and waste system. Allow for all the various				
	sizes of adaptor, connectors, sockets, holderbats,				
	clips etc not measured but required for the				
	satisfactory functioning of the system.				
	Piping				
Α	32mm diameter heavy duty grey uPVC pipe	20	LM		
В	40mm ditto	70	LM		
С	50mm ditto	40	LM		
D	100mm ditto	40	LM		
Ε	150mm ditto	120	LM		
	Extra over uPVC Pipings				
F	32mm sweep bend	15	No.		
G	40mm sweep bend	82	No.		
н	50mm sweep bend	15	No.		
Ι	40mm 450sweep bend	25	No.		
J	50mm 450sweep bend	15	No.		
К	50mm y-connector	8	No.		
L	50mm sweep tee	4	No.		
Μ	40mm sweep tee	32	No.		
Ν	40 x 32mm reducer	14	No.		
0	150 x 40mm reducer	8	No.		
P	150 x 50mm reducer	8	No.		
Q R	150 x 100mm reducer	22 25	No. No.		
к S	40mm access plug		No. No.		
5 Т	100mm access plug	15 2	No. No.		
I U	100mm single branch 150mm single branch	2 17	No. No.		
U		17	INO.		
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total From Previous Page				
х	100 x 50mm floor trap set complete with polycarbonate flush grating	17	No.		
Y	Allow for hydrostatic pressure testing of drainage installation including provision of pipe plugs and other required fittings.	1	Item		
	Sub Total for 1 Floor				
	TOTAL FOR 9 Floors	9		x 9	
	Total Cost For 1st to 10th floor Foul Drainage In	nstallati	on		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Rain Water Drainage				
	Supply, deliver and install UPVC				
	(Unplasticized Polyvinyl chloride) to				
	(KS ISO 1452 Part 1, 2, 3, 4 & 5) rainwater				
	pipework. Allow for all flanges, couplings,				
	nipples, connector joints, fixing clips holder bats				
	etc as required in running length of pipework but not measured.				
	Piping				
Α	100mm ditto	400	LM		
р	Extra over piping for fittings:-	16	N		
B C	100mm ditto	16 2	No. No.		
D	100mm sweep bend 100mm single branch	13	No. No.		
E	100mm double branch	7	No.		
F	100mm flat roof rain water outlets	10	No.		
	Testing and Commissioning				
6	Allow for testing and commissioning of the rain	1	T.		
G	water drainage installation to the satisfaction of the engineer.	1	Item		
	un engineer.				
	Total Cost For Rain Water Drainage Installation				

ITEM	DESCRIPTION	AMOUNT (KES)
	SUMMARY PAGE	
1.0	Total Cost for Internal Plumbing	
2.0	Total Cost for Roof + Riser	
3.0	Total Cost for Sanitary Fittings Install Only	
4.0	Total Cost Carried For hose reel and associated pipework Installations	
5.0	Total Cost For Portable fire Extinguishers + Hose Reel Pump Installation	
6.0	Total Cost For Dry Riser Installation	
7.0	Total Cost For Ground Floor Foul Drainage Installation	
8.0	Total Cost For 1st to 10th floor Foul Drainage Installation	
9.0	Total Cost For Rain Water Drainage Installation	
	Total carried to Mechanical Works Main Summary Page	
	i otar carried to meenanicar works manifouniniary rage	

1.0		QTY.	UNIT	(KES)	AMOUNT (KES)
	Internal Plumbing Installations				
	Supply, deliver install, Test and Commission:				
	<b>PP-R (Polypropylene Random Co-polymer)</b> pipes <b>PN 20</b> and fittings and fusion joints to <b>(KS ISO 15874 Part 1, 2, 3 &amp; 5)</b> of approved manufacturer. Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints etc. as required in the running lengths of pipework. The pipes shall run in floors and wall chase. The pipes will be pressure tested before the plastering of wall commences and as per the				
(i)	<u>3 BR AHP</u>				
	Pipe Works				
А	32mm Ø PPR Pipe	2	LM		
В	Ditto 25mm Ø	20	LM		
	Extra Over Pipe Work				
	Elbows/ Bends				
С	32mm Ø Elbows/ Bends	2	No.		
D	Ditto 25mm Ø	14	No.		
	Equal/Unequal Tees				
Е	32 x 32 x 32mm	1	No.		
F	25 x 25 x 25mm	7	No.		
	Reducers				
G	32 x 25mm reducer	1	No.		
-					
	Male/Female brass threaded adaptor				
J	25 x 20mm male/female threaded adaptor	2	No.		
Κ	25 x 15mm ditto	4	LM		
L	25 x 15mm male threaded bend	14	LM		
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
М	<b>Isolating valves</b> 25mm Ø Gate Valve as "Pegler" or Equivalent	1	No.		
N	<b>Shut off Angle Valve</b> Brass plated 1/2" angle valve	7	No.		
0	<b>Check Meter</b> 25mm diameter water check meter	1	No.		
Р	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	Sub Total for 1 Units				
	TOTAL FOR 1 No. 3BR AHP (Per Floor)	1		x 1	
	Total Cost of Plumbing Installation for 3BR	AHP pe	er Floor		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
(ii)	<u>3 BR Market</u>				
	Pipe Works				
А	32mm Ø PPR Pipe	2	LM		
В	Ditto 25mm Ø	20	LM		
		-			
	Extra Over Pipe Work				
	Elbows/ Bends				
С	32mm Ø Elbows/ Bends	2	No.		
D	Ditto 25mm Ø	14	No.		
	Equal/Unequal Tees				
Е	$32 \times 32 \times 32$ mm	1	No.		
F	25 x 25 x 25mm	7	No.		
		-			
	Reducers				
G	32 x 25mm reducer	1	No.		
	Male/Female brass threaded adaptor				
J	$25 \times 20$ mm male/female threaded adaptor	2	No.		
K	$25 \times 15$ mm ditto	4	LM		
L	25 x 15mm male threaded bend	14	LM		
	Isolating valves				
М	25mm Ø Gate Valve as "Pegler" or Equivalent	1	No.		
	Shut off Angle Valve				
Ν	Brass plated 1/2" angle valve	7	No.		
	Check Meter				
0	25mm diameter water check meter	1	No.		
	Testing and Commissioning				
	Allow for pressure testing of the Plumbing				
Р	installation to the satisfaction of the Engineer	1	Item		
	including provision of necessary pipe plugs.				
	Sub Total for 1 Units				
	TOTAL FOR 3 No. 3BR Market (Per Floor)	3		x 3	
	101AL FOR 5 NO. 5DR WIAIKEL (FEI FIOOF)	5		x 3	
	Total Cost of Plumbing Installation for 3BR N	l Iarket r	er Floo	r	
	Town Cost of Francoing Instantation for SDK W	miner h		•	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
(iii)	<u>2 BR AHP</u>				
	D:				
А	<b>Pipe Works</b> 32mm Ø PPR Pipe	2	LM		
B	Ditto 25mm Ø	15	LM		
D		15	LIVI		
	Extra Over Pipe Work				
	Elbows/ Bends				
С	32mm Ø Elbows/ Bends	2	No.		
D	Ditto 25mm Ø	8	No.		
	Equal/Unequal Tees				
E	32 x 32 x 32mm	1	No.		
F	25 x 25 x 25mm	4	No.		
	Reducers				
G	32 x 25mm reducer	1	No.		
U		1	100.		
	Male/Female brass threaded adaptor				
J	25 x 20mm male/female threaded adaptor	2	No.		
K	25 x 15mm ditto	4	LM		
L	25 x 15mm male threaded bend	8	LM		
	Inditing values				
М	<b>Isolating valves</b> 25mm Ø Gate Valve as "Pegler" or Equivalent	1	No.		
IVI	25min & Gate Valve as Tegler of Equivalent	1	100.		
	Shut off Angle Valve				
Ν	Brass plated 1/2" angle valve	4	No.		
	Check Meter				
0	25mm diameter water check meter	1	No.		
	Testing and Commissioning				
	0				
Р	Allow for pressure testing of the Plumbing	1	Item		
Г	installation to the satisfaction of the Engineer including provision of necessary pipe plugs.	1	nem		
	including provision of necessary pipe plugs.				
	Sub Total for 1 Units				
	TOTAL FOR 1 No. 2BR AHP (Per Floor)	1		x 1	
	```'				
	Total Cost of Plumbing Installation for 2BR	AHP pe	r Floor		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
(iv)	2 BR Market				· · · · · · · · · · · · · · · · · · ·
	Pipe Works				
A	32mm Ø PPR Pipe	2	LM		
В	Ditto 25mm Ø	20	LM		
	Extra Over Pipe Work				
	Elbows/ Bends				
С	32mm Ø Elbows/ Bends	2	No.		
D	Ditto 25mm Ø	14	No.		
	Equal/Unequal Tees				
Е	$32 \times 32 \times 32$ mm	1	No.		
F	25 x 25 x 25mm	7	No.		
1			110.		
	Reducers				
G	32 x 25mm reducer	1	No.		
	Male/Female brass threaded adaptor				
J	25 x 20mm male/female threaded adaptor	2	No.		
K	25 x 15mm ditto	4	LM		
L	25 x 15mm male threaded bend	14	LM		
	Isolating valves				
М	25mm Ø Gate Valve as "Pegler" or Equivalent	1	No.		
111	25 min & Gute Valve as Tegler of Equivalent	1	100.		
	Shut off Angle Valve				
Ν	Brass plated 1/2" angle valve	7	No.		
	Check Meter				
0	25mm diameter water check meter	1	No.		
C		-	1101		
	Testing and Commissioning				
	Allow for pressure testing of the Plumbing				
Р	installation to the satisfaction of the Engineer	1	Item		
	including provision of necessary pipe plugs.				
	Sub Total for 1 Units				
	TOTAL FOR 3 No. 3BR Market (Per Floor)	3		x 3	
	Total Cost of Plumbing Installation for 3BR N	larket r	er Floo	r	
	0	r L			

ITEM	DESCRIPTION	AMOUNT (KES)
	Typical Floor Collection Page	
1	Total Cost For Plumbing Installation for 3BR AHP	
2	Total Cost For Plumbing Installation for 3Room Social	
3	Total Cost For Plumbing Installation for 2BR AHP	
4	Total Cost For Plumbing Installation for 2Room Social	
	Total Plumbing Cost Per Floor	
	Total Plumbing Cost for G + 9 Levels (x 10 Floors)	
	Total for All Floor Carried forward to Plumbing Collection Page	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
2	Risers and Roof Levels				
	Pipe Works				
А	75mm Ø PPR pipe	50	LM		
В	Ditto 63mm Ø	50	LM		
В	Ditto 50mm Ø	50	LM		
С	Ditto 40mm Ø	40	LM		
	Extra Over Pipe Work				
	Elbows/ Bends				
D	75mm Ø Elbows/ Bends	12	No.		
Е	Ditto 63mm Ø	25	No.		
F	Ditto 50mm Ø	8	No.		
G	Ditto 40mm Ø	16	No.		
Н	Ditto 32mm Ø	16	No.		
Ι	Ditto 25mm Ø	8	No.		
	Equal/Unequal Tees				
J	63 x 63 x 63mm	10	No.		
ĸ	40 x 40 x 40mm	8	No.		
L	40 x 40 x 32mm	16	No.		
М	32 x 32 x 32mm	4	No.		
N	32 x 32 x 25mm	4	No.		
0	25 x 25 x 25mm	12	No.		
	Reducers				
Р	63 x 50mm reducer	6	No.		
Q	50 x 40mm reducer	6	No.		
Ñ	40 x 32mm reducer	6	No.		
S	40 x 32mm reducer	6	No.		
Т	32 x 25mm reducer	8	No.		
	Male/Female brass threaded adaptor				
U	40 x 32mm male/female threaded adaptor	5	No.		
V	32 x 25mm male/female threaded adaptor	7	No.		
	Total Carried to the Next Pag	ge			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
W X	<b>Isolating valves</b> 65mm Ø Gate Valve as "Pegler" or Equivalent 40mm Ø Ditto	1 1	No. No.		
Ŷ	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	Sub Total for 1 Riser				
	TOTAL FOR 4 No. Risers	4		x 4	
	Total Cost of Riser & Roof Level Plu	mbing			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
3	SANITARY FITTINGS AND ACCESSORIES INSTALL ONLY				
А	Water Closet (WC) Pan Close Coupled dual flush Floor Standing Close Coupled WC Bowl complete with seat cover and cistern, WC connector relevant fittings & accessories	15	No.		
В	Wash Basin WHB basin Full pedestal Wash Basin 450x485x230m White Complte with bottle traps, flexible connection hoses and other accessories with cws only tap	15	No.		
С	<b>Shower Fittings</b> Shower fitting c/w 15mm diameter chrome plated stop cork, Instant shower fitting and 1/2" Cobra 211- 15 Star Pillar tap as Pegler or equal and equivalent	15	No.		
Е	<b>Bathroom Accessories</b> Medium Washroom bathroom set Consisitng of Toilet roll holder, soap dish holder, brush holder and Coat Hooke	15	Set		
F	<b>kitchen sink</b> Stainless steel kitchen sink single drain, single bowl complete overflow and 40mm diameter plastic tubular p-trap PVC Bottle Trap and waste 1.5in x 40, Long Neck Wall type Bib Tap	8	No.		
	Sub Total for 1 Floor				
	TOTAL FOR 10 Floors	10		x 10	
	Total Cost of Sanitary Fittings & Acce	essories			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	FIRE PROTECTION				, <i>, ,</i> ,
А	Hose Reel and Associated Pipework Supply and Install automatic 30 meters long, 25mm diameter hosereel and nozzle installed to KS 2003:2006	5	No.		
В	Associated Pipework GI Class 'B' tubing to KS06-259 with screwed and socketed joints to KS ISO 7-1:1994 including all range piping, fittings, hanagers, supports, brackets, and supports 50mm diameter	65	LM		
С	25mm ditto	13	LM		
D	Extra Over Piping For Fittings:- Elbows/Various Bends 50mm bend/elbow	7	No.		
Е	25mm ditto	20	No.		
F G	Equal/Unequal tees 50 x 50 x 50mm tee 50 x 50 x 25mm ditto	10 19	No. No.		
Н	<b>Reducers</b> 50 x 25mm reducer	10	No.		
I J	<b>Unions</b> 50mm diameter union 25mm ditto	2 20	No. No.		
K	<b>Valves</b> 25mm diameter quarter Turn hose reel isolation valve to be as PEGLER or approved equivalent.	20	No.		
L	<b>Painting</b> Allow for Wire brushing , cleaning and painting of the complete fire fighting pipework installation with one coat of red oxide primer, undercoat, and gloss coat to specifications	1	Item		
То	l stal Cost Carried For hose reel and associated pip	nework	Installa	tions	
10	otal Cost Carried For nose reel and associated pip	bework	Installa	tions	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
A B C D	DESCRIPTION Portable Fire Protection Equipment + Hose Reel Pump Supply, deliver, install, test and commission portable fire protection equipment with initial fill complete with all the necessary mounting accessories. 9 litres, carbon dioxide gas extinguisher 4.5kg ABC dry powder extinguisher Supply and fix signs indicating the words "FIRE POINT" in 80mm high letters Testing and Commissioning Allow for testing and commissioning of the fire pump installation to the satisfaction of the Engineer.	10 10 10	No. No. No. Item		
Tot	al Cost For Portable fire Extinguishers + Hose R	eel Purr	np Insta	llation	

ITEM		UNIT	QTY	RATE	AMOUNT
	DRY RISER Supply , deliver and install Galvernised Iron (GI) Pipe KS 06-259 Class B, Groove fittings including fixing and jointing. Tenderers must allow in their pipework prices for Galvanised				
	Support Brackets, Clamping screw, Threaded Rod, Bolts & all the couplings, connectors, joints etc. required in the running length of				
1	pipework and also where necessary, for pipe fixing clips, holderbats plugged and screwed, brackets and pipe sleeves through structural 100mm diameter Black Pipe	LM	48		
2	Extra over Black Pipe tubing for the following: Bends 100mm diameter bend	No.	8		
	Tees				
3	100mm ditto	No.	10		
4	<u>Reducing Bushes</u> 100x65mm Black Pipe reducing bush	No.	11		
5	<u>Couplers</u> 100mm diameter Black Pipe union	No.	9		
6	<u>Flanges</u> 65mm dia Black Pipe flanges(pair, including bolt	No.	11		
7	Landing Valve 65mm diameter landing valve as Merry - Weather "Equery" constant pressure outlet with flanged inlet and 1No. 65mm dia female instantaneous outlet with blank cap and chain.	No.	11		
8	<u>Fire Hose</u> 65mmdia x30m long canvas hose as specified	No.	1		
9 10	Hose cradle for above canvas hose 65mm dia branch pipe complete with nozzle/spr	No. No.	1 1		
11	<u>Gate Valves</u> 100mm dia approved high pressure screw- down full way non-rising stem solid wedge disc gate valve to BS 5154 PN 16 for Series B Rating with wheel head and joints to steel tubing. As "Crane Model 156 " or equal and approved	No.	1		
12	100mm 2-way horizontal mounted pumping in breeching inlet to BS 5041 Part 3 and horizontal inlet box with door fitted with Georgian wired glass panel to BS5041 Part 5. Inclussive of Breeching inlet cabinet as specified complete with access break glass and painted	Item	1		
	TOTAL TO NEXT PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Balance brought forward				
14	25mm dia Air Relief Valve as specified	No.	1		
15	Wire brush , clean, and paint complete installation with one coat of red oxide primer, undercoat, and gloss coat to Architects colour including banding and colour coding to British Standards	Sum	1		
16	<b>Pressure testing and Painting</b> Allow for pressure testing of the entire Dry riser installation and obtain relevant test certificates endorsed by the Engineer or his representative.	Sum	1		
	Sub Total For 1No. Block				
	TOTAL COST FOR DRY RISER TO MAIN SU	MMAR	Y PAGI	E	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Foul Drainage (Ground Floor)				
	Supply, deliver and install the following uPVC				
	(Unplasticized Polyvinyl chloride) to				
	(KS ISO 1452 Part 1, 2, 3, 4 & 5) Heavy gauge				
	soil and waste system. Allow for all the various				
	sizes of adaptor, connectors, sockets, holderbats, clips etc not measured but required for the				
	satisfactory functioning of the system.				
	, , ,				
А	<b>Piping</b> 32mm diameter heavy duty grey uPVC pipe	24	LM		
В	40mm ditto	36	LM		
C	50mm ditto	72	LM		
	75mm ditto	90	LM		
E	100mm ditto	90	LM		
F	100mm diameter heavy duty pipe	120	LM		
G	150mm diameter heavy duty pipe	300	LM		
	Extra over uPVC Pipeworks				
Н	32mm sweep bend	13	No.		
Ι	40mm sweep bend	60	No.		
J	50mm sweep bend	13	No.		
Κ	75mm sweep bend	6	No.		
L	100mm sweep bend	15	No.		
Μ	150mm sweep bend	6	No.		
Ν	40mm 45° bend	20	No.		
0	50mm Ditto	15	No.		
Р	75mm Ditto	65	No.		
Q	150mm Ditto	60	No.		
R	40mm sweep tee	20	No.		
S	50mm sweep tee	18	No.		
Т	75mm ditto	15	No.		
U	40 x 32mm reducer	60	No.		
V	75 x 40mm ditto	20	No.		
W	150 x 40mm reducer	6	No.		
Х	40mm access plug	20	No.		
Y	50mm access plug	13	No.		
Z	75mm access plug	13	No.		
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total From Previous Page				
AA	100 x 50mm floor trap set complete with polycarbonate flush grating	25	No.		
BB	150MM vent cowl	15	No.		
CC	<b>Gulley Trap</b> Gully trap comprising of 100mm diameter golden brown uPVC gully piece, 100mm diameter uPVC trap spigot outlet with screws and washers, and 300 x 300mm masonry gully trap chamber with mild steel plate and a heavy duty iron cover.	25	No.		
DD	Manholes Construct manhole/ inspection chamber size 450 x 600 x 750mm deep internally in 200mm stone walls, 150mm concrete bed, water proof plaster, forming drain channels, medium duty cover frame in cast iron with recessed cover with concrete infill and all necessary formwork, excavation and soil disposal.	32	No.		
EE	<b>Excavations</b> Excavate trench for pipe not exceeding 100mm diameter and not exceeding 1.5m deep (average 600mm deep) and make good as before.	120	LM		
II	Allow for hydrostatic pressure testing of drainage installation including provision of pipe plugs and other required fittings.	1	Item		
	Total Cost For Ground Floor Foul Drainage Inst	tallatior	1		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Foul Drainage (1St Floor to 10th Floor)			` <i>`</i>	
	Supply, deliver and install the following uPVC				
	(Unplasticized Polyvinyl chloride) to				
	(KS ISO 1452 Part 1, 2, 3, 4 & 5) Heavy gauge				
	soil and waste system. Allow for all the various				
	sizes of adaptor, connectors, sockets, holderbats,				
	clips etc not measured but required for the				
	satisfactory functioning of the system.				
	Piping				
Α	32mm diameter heavy duty grey uPVC pipe	18	LM		
В	40mm ditto	60	LM		
С	50mm ditto	36	LM		
D	100mm ditto	30	LM		
Ε	150mm ditto	120	LM		
	Extra over uPVC Pipings				
F	32mm sweep bend	13	No.		
G	40mm sweep bend	80	No.		
н	50mm sweep bend	13	No.		
Ι	40mm 450sweep bend	24	No.		
J	50mm 450sweep bend	13	No.		
Ŕ	50mm y-connector	6	No.		
L	50mm sweep tee	2	No.		
Μ	40mm sweep tee	30	No.		
Ν	40 x 32mm reducer	13	No.		
Ο	150 x 40mm reducer	6	No.		
Р	150 x 50mm reducer	6	No.		
Q	150 x 100mm reducer	20	No.		
R	40mm access plug	23	No.		
S	100mm access plug	13	No.		
Т	100mm single branch	1	No.		
U	150mm single branch	15	No.		
	Total Carried to Next Page	<u> </u>			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total From Previous Page				
V	100 x 50mm floor trap set complete with plastic grating	15	No.		
W	Allow for hydrostatic pressure testing of drainage installation including provision of pipe plugs and other required fittings.	1	Item		
	Sub Total for 1 Floor				
	TOTAL FOR 9 Floors	9		x 9	
	Total Cost For 1st to 10th floor Foul Drainage In	nstallati	on		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
A B C D E	Besckip from         Rain Water Drainage         Supply, deliver and install UPVC         (Unplasticized Polyvinyl chloride) to         (KS ISO 1452 Part 1, 2, 3, 4 & 5) rainwater         pipework. Allow for all flanges, couplings,         nipples, connector joints, fixing clips holder bats         etc as required in running length of pipework         but not measured.         Piping         100mm ditto         100mm sweep bend         100mm double branch         100mm flat roof rain water outlets	400 16 2 13 7 10	LM No. No. No. No. No.	(KES)	(KES)
G	<b>Testing and Commissioning</b> Allow for testing and commissioning of the rain water drainage installation to the satisfaction of the engineer.	1	Item		

ITEM	DESCRIPTION	AMOUNT (KES)
	SUMMARY PAGE	
1.0	Total Cost for Internal Plumbing	
2.0	Total Cost for Roof + Riser	
3.0	Total Cost for Sanitary Fittings Install Only	
4.0	Total Cost Carried For hose reel and associated pipework Installations	
5.0	Total Cost For Portable fire Extinguishers + Hose Reel Pump	
6.0	Total Cost For Dry Riser Installation	
7.0	Total Cost For Ground Floor Foul Drainage Installation	
8.0	Total Cost For 1st to 10th floor Foul Drainage Installation	
9.0	Total Cost For Rain Water Drainage Installation	
	Total carried to Mechanical Works Main Summary Page	
	Total callieu to Micchallical WOIKS Mail Sullillary Lage	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	EXTERNAL WATER RETICULATION				
	Supply, install below HDPE PN 16 to (KS ISO 4427 Part 1, 2, 3 & 5) ground pipe providing, fixing, jointing, testing in position & commisioning, including excavation & backfilling				
	Note				
	Pipe connection, tees must be electrofusion/butt fussion fittings and be included in the pipe lengths rate. he pipes will be pressure tested before the plastering of wall commences and as per the manufacturers recommended testing pressures.				
	Underground Piping complete with Electro- fusion joining of the pipes works				
Α	100Ø HDPE	1500	m		
В	Ditto 63Ø	100	m		
С	Ditto 50Ø	200	m		
	Isolation Valves & Valve Chamber				
	Suppy and Install Isolation valves to (KS ISO 4427 Part 1, 2, 3 & 5) Standards. Standard precast concrete valve chamber made of concrete (1:3:6) base, including formwork, excavations backfilling and disposal.				
D	Ditto 100Ø	20	No.		
Ε	Ditto 75Ø		No.		
F	Ditto 63Ø		No.		
G	Ditto 50Ø	28	No.		
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	From previous page Check/ Non- return Valve Valve Chamber & Valve Chamber				
	Suppy and Install brass check valves to (KS ISO 4427 Part 1, 2, 3 & 5) Standards. Standard precast concrete valve chamber made of concrete (1:3:6) base, including formwork, excavations backfilling and disposal.				
Н	Ditto 100Ø	20	No.		
Ι	Ditto 75Ø		No.		
J	Ditto 50Ø	28	No.		
	Water Meter				
	Supply and Install brass Water Meter to the engineer's approval as kent or equal and approved. Meters to include meter chambers in the rates				
К	Water meter 100Ø	1	No.		
L	Water meter 75Ø		No.		
Μ	Water meter 63Ø		No.		
Ν	Water meter 50Ø	5	No.		
	Garden Stand Pipe				
	Stand pipe 15mm 2Metres long GMS stand pipe each complete witlh 15mm lockabler bib tap	20	No.		
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	From previous page Supply, deliver install, Test and Commission: <b>PP-R (Polypropylene Random Co-polymer)</b> pipes <b>PN 20</b> and fittings and fusion joints to <b>(KS ISO 15874 Part 1, 2, 3 &amp; 5)</b> of approved manufacturer. Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints etc. as required in the running lengths of pipework. The pipes shall run in floors and wall chase. The pipes will be pressure tested before the plastering of wall commences and as per the manufacturers				
	Underground PPR Piping	<b>0-</b> 0			
1	PPR 25Ø	250	m		
Q	Ditto 32Ø	250	m		
R	Water Connection Making necessary connection from the Local municpal line ( water supply ) which is available near the project site, the scope of work include cutting the corporation road and making the same after connection. The contractor responsibility shall include submitting the	1	Lot		
S	Pipe Sleeves 100mm diameter heavy duty PVC Class 41 pipe sleeves for crossing over pathways and driveways. The sleeves will be encased in 150mm concrete sorround.	60	m		
	Total Carried to Next Page				

	From previous page				
	Accessories for RC Tanks				
A	Accessories for <b>1800m3 Reinforced Concrete</b> <b>Underground water Tank</b> and which are to be in paddle flanges: 2 No. 100mm diameter outlet pipe for domestic booster pumpset, 2 No. 100mm diameter for vent/overflow pipe, 2 No. 20mm diameter for level indicator on the side of the tank with well calibrated scale, air release and drain valve complete with connection adaptors and flanges. and 2 No. 100mm diameter high pressure calming inlet for fitting for the	2	Item		
	<u>Sterilization</u>				
С	Allow for flushing out and sterilizing the whole system with chlorine to the satisfaction of the Project Engineer.	1	Sum		
	Testing and commissioning				
D	Allow for sterilization of the cold water system, pressure testing and commissioning of the Plumbing installation.	1	Sum		
	Total carried to Mechanical Works Ma	in Sumr	nary Pag	ge	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
1.0	Internal Plumbing Installations				
	Supply, deliver install, Test and Commission:				
	PP-R (Polypropylene Random Co-polymer) pipes PN 20 and fittings and fusion joints to (KS ISO 15874 Part 1, 2, 3 & 5) of approved manufacturer. Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints etc. as required in the running lengths of pipework. The pipes shall run in floors and wall chase. The pipes will be pressure tested before the plastering of wall commences and as per the manufacturers				
(i)	<u>Club House</u>				
A B	<b>Pipe Works</b> 32mm Ø PPR Pipe Ditto 25mm Ø	2 20	LM LM		
	Extra Over Pipe Work				
C D	<b>Elbows/ Bends</b> 32mm Ø Elbows/ Bends Ditto 25mm Ø	2 14	No. No.		
E F	<b>Equal/Unequal Tees</b> 32 x 32 x 32mm 25 x 25 x 25mm	1 7	No. No.		
G	<b>Reducers</b> 32 x 25mm reducer	1	No.		
J K L	Male/Female brass threaded adaptor 25 x 20mm male/female threaded adaptor 25 x 15mm ditto 25 x 15mm male threaded bend	2 4 14	No. LM LM		
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
М	<b>Isolating valves</b> 25mm Ø Gate Valve as "Pegler" or Equivalent	1	No.		
Ν	<b>Shut off Angle Valve</b> Brass plated 1/2" angle valve	13	No.		
0	<b>Check Meter</b> 50 mm diameter water check meter	1	No.		
Р	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	Total Cost of Plumbing Installat	ion			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
2	Risers and Roof Levels				
	Pipe Works				
А	50 mm Ø PPR pipe	10	LM		
В	Ditto 40mm Ø	12	LM		
С	Ditto 32mm Ø	13	LM		
D	Ditto 25mm Ø	6	LM		
	Extra Over Pipe Work				
	Elbows/ Bends				
Е	50mm Ø Elbows/ Bends	4	No.		
F	Ditto 40mm Ø	3	No.		
G	Ditto 32mm Ø	3	No.		
Н	Ditto 25mm Ø	2	No.		
	Equal/Unequal Tees				
Ι	$50 \times 40 \times 50$ mm	4	No.		
J	40 x 40 x 32mm	3	No.		
K	$32 \times 32 \times 32$ mm	4	No.		
L	$32 \times 32 \times 25$ mm	4	No.		
M	25 x 25 x 25mm	2	No.		
	Reducers				
0	50 x 40mm reducer	2	No.		
P	40 x 32mm reducer	2	No.		
Q	40 x 32mm reducer	2	No.		
R	32 x 25mm reducer	1	No.		
	Male/Demale buses three ded a demter				
S	Male/Female brass threaded adaptor	2	No		
	$40 \times 32$ mm male/female threaded adaptor	2	No.		
Т	32 x 25mm male/female threaded adaptor	2	No.		
	Total Carried to the Next Pag	ge			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
U	<b>Isolating valves</b> 50 mm Ø Gate Valve as "Pegler" or Equivalent	1	No.		
V	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	Total Cost of Riser & Roof Level Plu	mbing			

<sup>3</sup> I V A C V V V	SANITARY FITTINGS AND ACCESSORIES INSTALL ONLY Water Closet (WC) Pan Close Coupled dual flush Floor Standing Close Coupled WC Bowl complete with seat cover,Wc Connector and cistern or approved equivalent Wash Basin WHB basin Full pedestal Wash Basin 450x485x230m White Complte with bottle traps, flexible connection hoses and other accessories	4	No.	(KES)	(KES)
A C C V V	Close Coupled dual flush Floor Standing Close Coupled WC Bowl complete with seat cover,Wc Connector and cistern or approved equivalent <b>Wash Basin</b> WHB basin Full pedestal Wash Basin 450x485x230m White Complte with bottle traps,	4	No.		
V 4	WHB basin Full pedestal Wash Basin 450x485x230m White Complte with bottle traps,				
В fl	with cws only tap	12	No.		
F C d h n	<b>Disabled Water Closet (WC) Pan</b> Physically challenges set as Armitage Shanks Doc M Contour 21+ close coupled right hand corner pack, WC pan, Wash basin, water saving delay fill cistern with spatula lever, grab rails, hinged support rail with toilet roll holder, seat no cover with retaining buffers, copper tails on TMV3 mixer tap or equal & approved	1	No.		
L v c	<b>Urinal</b> Urinal bowl in white colour of size 450 x 685mm with built in spreader and concealed waste trap complete with stainless steel fixing bolts and caps. Complete with exposed Flash Valve	4	No.		
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
Н	<b>Flushing and Sterilization</b> Allow for flushing and sterilization of the entire system to the satisfaction of the Engineer.	1	Item		
к	<b>Shower</b> Shower fitting c/w 15mm diameter chrome plated stop cork, Instant shower fitting and 1/2" Cobra 211- 15 Star Pillar tap as Pegler or equal and equivalent	4	No.		
	Total Cost of Sanitary Fittings & Acc	essories	6		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	FIRE PROTECTION				
	Hose Reel and Associated Pipework				
А	Supply and Install automatic 30 meters long, 25mm diameter hosereel and nozzle installed to	3	No.		
A	KS 2003:2006	5	INO.		
	Associated Pipework				
	GI Class 'B' tubing to KS06-259 with screwed				
	and socketed joints to KS ISO 7-1:1994 including				
	all range piping, fittings, hanagers, supports,				
	brackets, and supports				
В	50mm diameter	34	LM		
С	25mm ditto	12	LM		
	Extra Over Piping For Fittings:-				
	Elbows/Various Bends				
D	50mm bend/elbow	7	No.		
Е	25mm ditto	20	No.		
	Equal/Unequal tees				
F	50 x 50 x 50mm tee	10	No.		
G	50 x 50 x 25mm ditto	19	No.		
	Reducers				
Η	50 x 25mm reducer	10	No.		
	Unions				
Ι	50mm diameter union	2	No.		
J	25mm ditto	20	No.		
	Valves				
К	25mm diameter quarter Turn hose reel isolation valve to be as PEGLER or approved equivalent.	3	No.		
Т	otal Cost Carried For hose reel and associated pi	pework	Installa	ations	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
A	<b>Portable Fire Protection Equipment + Hose</b> <b>Reel Pump</b> <b>Supply, deliver, install, test and commission</b> portable fire protection equipment with initial fill complete with all the necessary mounting accessories. 9 litres, water/carbon dioxide gas extinguisher	4	No.		
B C	4.5kg carbon dioxide gas extinguisher 4.5 kg dry powder extinguisher	4 4	No. No.		
D	<b>Testing and Commissioning</b> Allow for testing and commissioning of the fire pump installation to the satisfaction of the Engineer.		Item		
Ta	tal Cost For Portable fire Extinguishers + Hose R	001 D	nn Insta	1124107	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
Z	<b>Total From Previous Page</b> 100 x 50mm floor trap set complete with polycarbonate flush grating	17	No.		
AA	<b>Gulley Trap</b> Gully trap comprising of 100mm diameter golden brown uPVC gully piece, 100mm diameter uPVC trap spigot outlet with screws and washers, and 300 x 300mm masonry gully trap chamber with mild steel plate and a heavy	3	No.		
BB	Manholes Construct manhole/ inspection chamber size 450 x 600 x 750mm deep internally in 200mm stone walls, 150mm concrete bed, water proof plaster, forming drain channels, medium duty cover frame in cast iron with recessed cover with concrete infill and all necessary formwork, excavation and soil disposal.	4	No.		
СС	<b>Excavations</b> Excavate trench for pipe not exceeding 100mm diameter and not exceeding 1.5m deep (average 600mm deep) and make good as before.	30	LM		
DD	Allow for hydrostatic pressure testing of drainage installation including provision of pipe plugs and other required fittings.	1	Item		
	Total Cost For Ground Floor Foul Drainage Inst	allation			
L	rotar Cost for Ground Floor Four Drainage Inst	allatiol	L		L

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Rain Water Drainage				
	Supply, deliver and install UPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) rainwater pipework. Allow for all flanges, couplings, nipples, connector joints, fixing clips holder bats etc as required in running length of pipework but not measured.				
Α	<b>Piping</b> 100mm ditto	70	LM		
B C D F	Extra over piping for fittings:- 100mm ditto 100mm sweep bend 100mm single branch 100mm double branch 100mm flat roof rain water outlets	6 2 4 3 6	No. No. No. No. No.		
G	<b>Testing and Commissioning</b> Allow for testing and commissioning of the rain water drainage installation to the satisfaction of the engineer.	1	Item		
	Total Cost For Rain Water Drainage Installation	n			

ITEM	DESCRIPTION	AMOUNT (KES)
	SUMMARY PAGE	
1.0	Total Cost for Internal Plumbing	
2.0	Total Cost for Roof + Riser	
3.0	Total Cost for Sanitary Fittings Install Only	
4.0	Total Cost Carried For hose reel and associated pipework Installations	
6.0	Total Cost For Portable fire Extinguishers + Hose Reel Pump Installation	
7.0	Total Cost For Ground Floor Foul Drainage Installation	
9.0	Total Cost For Rain Water Drainage Installation	
	Total carried to Mechanical Works Main Summary Page	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
1.0	Internal Plumbing Installations				
	Supply, deliver install, Test and Commission:				
	<b>PP-R (Polypropylene Random Co-polymer)</b> pipes <b>PN 20</b> and fittings and fusion joints to <b>(KS ISO 15874 Part 1, 2, 3 &amp; 5)</b> of approved manufacturer. Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints etc. as required in the running lengths of pipework. The pipes shall run in floors and wall chase. The pipes will be pressure tested before the plastering of wall commences and as per the manufacturers				
A B	<b>Pipe Works</b> 32mm Ø PPR Pipe Ditto 25mm Ø	40 33	LM LM		
	Extra Over Pipe Work				
	Elhows/Pondo				
С	Elbows/ Bends 32mm Ø Elbows/ Bends	20	No.		
D	Ditto 25mm Ø	20 18	No.		
	Equal/Unequal Tees				
Е	32 x 32 x 32mm	21	No.		
F	25 x 25 x 25mm	14	No.		
	Deducers				
G	<b>Reducers</b> 32 x 25mm reducer	1	No.		
U		Т	110.		
	Male/Female brass threaded adaptor				
J	25 x 20mm male/female threaded adaptor	12	No.		
Κ	25 x 15mm ditto	10	LM		
L	25 x 15mm male threaded bend	13	LM		
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
М	<b>Isolating valves</b> 32mm Ø Gate Valve as "Pegler" or Equivalent	2	No.		
Ν	<b>Shut off Angle Valve</b> Brass plated 1/2" angle valve	16	No.		
0	<b>Check Meter</b> 50 mm diameter water check meter	1	No.		
Р	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	TOTAL Internal Plumbing				
	Total Cost of Plumbing Installat	ion			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
2	Risers and Roof Levels				
	Pipe Works				
А	50 mm Ø PPR pipe	28	LM		
В	Ditto 40mm Ø	12	LM		
С	Ditto 32mm Ø	13	LM		
D	Ditto 25mm Ø	6	LM		
	Extra Over Pipe Work				
	Elbows/ Bends				
Ε	50mm Ø Elbows/ Bends	4	No.		
F	Ditto 40mm Ø	3	No.		
G	Ditto 32mm Ø	3	No.		
Η	Ditto 25mm Ø	2	No.		
	Equal/Unequal Tees				
Ι	50 x 40 x 50mm	4	No.		
J	40 x 40 x 32mm	3	No.		
K	32 x 32 x 32mm	4	No.		
L	32 x 32 x 25mm	4	No.		
М	25 x 25 x 25mm	2	No.		
	Reducers				
Ο	50 x 40mm reducer	2	No.		
Р	40 x 32mm reducer	2	No.		
Q	40 x 32mm reducer	2	No.		
R	32 x 25mm reducer	1	No.		
	Male/Female brass threaded adaptor				
S	40 x 32mm male/female threaded adaptor	2	No.		
Т	32 x 25mm male/female threaded adaptor	2	No.		
	Total Carried to the Next Pa	ge			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
U	<b>Isolating valves</b> 50 mm Ø Gate Valve as "Pegler" or Equivalent	2	No.		
V	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	Total Cost of Riser & Roof Level Plu	ımbing			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
3	SANITARY FITTINGS AND ACCESSORIES INSTALL ONLY				
А	Water Closet (WC) Pan Close Coupled dual flush Floor Standing Close Coupled WC Bowl complete with seat cover,Wc Connector and cistern or approved equivalent		No.		
В	<b>Wash Basin</b> WHB basin Full pedestal Wash Basin 450x485x230m White Complete with bottle traps, flexible connection hoses and other accessories with cws only tap	8	No.		
С	<b>Disabled Water Closet (WC) Pan</b> Physically challenges set as Armitage Shanks Doc M Contour 21+ close coupled right hand corner pack, WC pan, Wash basin, water saving delay fill cistern with spatula lever, grab rails, hinged support rail with toilet roll holder, seat no cover with retaining buffers, copper tails on TMV3 mixer tap or equal & approved	1	No.		
D	<b>Urinal</b> Urinal bowl in white colour of size 450 x 685mm with built in spreader and concealed waste trap complete with stainless steel fixing bolts and caps. Complete with exposed Flash Valve	4	No.		
Е	<b>Flushing and Sterilization</b> Allow for flushing and sterilization of the entire system to the satisfaction of the Engineer.	1	Item		
	Total Cost of Sanitary Fittings & Acc	essories	6		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	FIRE PROTECTION				
	Hose Peel and Associated Pinework				
	Hose Reel and Associated Pipework Supply and Install automatic 30 meters long,				
А	25mm diameter hosereel and nozzle installed to	2	No.		
11	KS 2003:2006	2	110.		
	Associated Pipework				
	GI Class 'B' tubing to KS06-259 with screwed				
	and socketed joints to KS ISO 7-1:1994 including				
	all range piping, fittings, hanagers, supports,				
	brackets, and supports				
В	50mm diameter	25	LM		
С	25mm ditto	4	LM		
	Extra Over Piping For Fittings:-				
	Elbows/Various Bends				
D	50mm bend/elbow	6	No.		
Ε	25mm ditto	5	No.		
	Equal/Unequal tees				
F	50 x 50 x 50mm tee	3	No.		
G	50 x 50 x 25mm ditto	3	No.		
	Reducers				
Η	50 x 25mm reducer	3	No.		
	Unions				
Ι	50mm diameter union	2	No.		
J	25mm ditto	8	No.		
	Valves				
К	25mm diameter quarter Turn hose reel isolation	2	No.		
К	valve to be as PEGLER or approved equivalent.	2	10.		
T	otal Cost Carried For hose reel and associated pi	pework	Installa	ations	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Portable Fire Protection Equipment + Hose				
	Reel Pump				
	Supply, deliver, install, test and commission				
	portable fire protection equipment with initial				
	fill complete with all the necessary mounting				
	accessories.				
Α	9 litres, water/carbon dioxide gas extinguisher	4	No.		
В	4.5kg carbon dioxide gas extinguisher	4	No.		
С	4.5 kg dry powder extinguisher	4	No.		
	Testing and Commissioning				
	Allow for testing and commissioning of the fire				
D	pump installation to the satisfaction of the		Item		
	Engineer.				
	0				
To	al Cost For Portable fire Extinguishers + Hose R	eel Pur	np Insta	llation	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Foul Drainage				
	Supply, deliver and install the following uPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) Heavy gauge soil and waste system. Allow for all the various sizes of adaptor, connectors, sockets, holderbats, clips etc not measured but required for the satisfactory functioning of the system.				
	Piping				
А	32mm diameter heavy duty grey uPVC pipe	32	LM		
В	40mm ditto	50	LM		
С	50mm ditto	56	LM		
D	75mm ditto	12	LM		
Е	100mm ditto	32	LM		
F G	100mm diameter heavy duty golden brown pipe	80 44	LM LM		
G	150mm diameter heavy duty golden brown pipe	44	LM		
	Extra over uPVC Pipeworks				
Н	32mm sweep bend	15	No.		
Ι	40mm sweep bend	60	No.		
J	50mm sweep bend	15	No.		
Κ	75mm sweep bend	8	No.		
L	100mm sweep bend	22	No.		
М	150mm sweep bend	16	No.		
Ν	40mm 450 bend	22	No.		
0	50mm 450 bend	15	No.		
Р	40mm sweep tee	25	No.		
Q	40 x 32mm reducer	15	No.		
R	75 x 40mm ditto	15	No.		
S	150 x 40mm ditto	8	No.		
Т	40mm access plug	22	No.		
U	100mm bend WC connector	13	No.		
V	40mm bottle 'p' trap	15	No.		
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total From Previous Page				
Z	100 x 50mm floor trap set complete with polycarbonate flush grating	17	No.		
AA	<b>Gulley Trap</b> Gully trap comprising of 100mm diameter golden brown uPVC gully piece, 100mm diameter uPVC trap spigot outlet with screws and washers, and 300 x 300mm masonry gully trap chamber with mild steel plate and a heavy	4	No.		
BB	Manholes Construct manhole/ inspection chamber size 450 x 600 x 750mm deep internally in 200mm stone walls, 150mm concrete bed, water proof plaster, forming drain channels, medium duty cover frame in cast iron with recessed cover with concrete infill and all necessary formwork, excavation and soil disposal.	10	No.		
CC	<b>Excavations</b> Excavate trench for pipe not exceeding 100mm diameter and not exceeding 1.5m deep (average 600mm deep) and make good as before.	120	LM		
DD	Allow for hydrostatic pressure testing of drainage installation including provision of pipe plugs and other required fittings.	1	Item		
	Total Cost For Ground Floor Foul Drainage Inst	allatior	1		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Rain Water Drainage				
	Supply, deliver and install UPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) rainwater pipework. Allow for all flanges, couplings, nipples, connector joints, fixing clips holder bats etc as required in running length of pipework but not measured.				
A	<b>Piping</b> 100mm ditto	100	LM		
B C D F	Extra over piping for fittings:- 100mm ditto 100mm sweep bend 100mm single branch 100mm double branch 100mm flat roof rain water outlets	16 2 13 7 10	No. No. No. No.		
G	<b>Testing and Commissioning</b> Allow for testing and commissioning of the rain water drainage installation to the satisfaction of the engineer.	1	Item		
	Total Cost For Rain Water Drainage Installation	n			

ITEM	DESCRIPTION	AMOUNT (KES)
	SUMMARY PAGE	
1.0	Total Cost for Internal Plumbing	
2.0	Total Cost for Roof + Riser	
3.0	Total Cost for Sanitary Fittings Install Only	
4.0	Total Cost Carried For hose reel and associated pipework Installations	
5.0	Total Cost For Portable fire Extinguishers + Hose Reel Pump Installation	
6.0	Total Cost For Ground Floor Foul Drainage Installation	
7.0	Total Cost For Rain Water Drainage Installation	
	Total carried to Mechanical Works Main Summary Page	

	Internal Plumbing Installations			(KES)	(KES)
S					
	Supply, deliver install, Test and Commission:				
[ [ [ ] ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	<b>PP-R (Polypropylene Random Co-polymer)</b> pipes <b>PN 20</b> and fittings and fusion joints to <b>(KS ISO 15874 Part 1, 2, 3 &amp; 5)</b> of approved manufacturer. Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints etc. as required in the running lengths of pipework. The pipes shall run in floors and wall chase. The pipes will be pressure tested before the plastering of wall commences and as per the manufacturers				
A 3	<b>Pipe Works</b> 32mm Ø PPR Pipe Ditto 25mm Ø	60 50	LM LM		
1	Extra Over Pipe Work				
	Elbows/ Bends				
	32mm Ø Elbows/ Bends	20	No.		
	Ditto 25mm Ø	20 18	No.		
]	Equal/Unequal Tees				
E 3	32 x 32 x 32mm	21	No.		
F 2	25 x 25 x 25mm	14	No.		
	Paducara				
	<b>Reducers</b> 32 x 25mm reducer	1	No.		
		Ŧ	110.		
]	Male/Female brass threaded adaptor				
J	25 x 20mm male/female threaded adaptor	12	No.		
	25 x 15mm ditto	10	LM		
L	25 x 15mm male threaded bend	13	LM		
	Total Carried to Next Page				

Isolating valves 32mm Ø Gate Valve as "Pegler" or Equivalent2No.NShut off Angle Valve Brass plated 1/2" angle valve16No.OCheck Meter 50 mm diameter water check meter1No.PIesting and Commissioning Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.1Item	NT )
M32mm Ø Gate Valve as "Pegler" or Equivalent2No.NShut off Angle Valve Brass plated 1/2" angle valve16No.OCheck Meter 50 mm diameter water check meter1No.PTesting and Commissioning Allow for pressure testing of the Plumbing 	
NBrass plated 1/2" angle valve16No.OCheck Meter 50 mm diameter water check meter1No.Testing and Commissioning Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.1Item	
O50 mm diameter water check meter1No.Testing and Commissioning Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.1Item	
Allow for pressure testing of the Plumbing P installation to the satisfaction of the Engineer 1 Item including provision of necessary pipe plugs.	
TOTAL Internal Plumbing	
Total Cost of Plumbing Installation	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
2	Risers and Roof Levels			· ·	
	Pipe Works				
А	50 mm Ø PPR pipe	28	LM		
В	Ditto 40mm Ø	12	LM		
С	Ditto 32mm Ø	13	LM		
D	Ditto 25mm Ø	6	LM		
	Extra Over Pipe Work				
	Elbows/ Bends				
Е	50mm Ø Elbows/ Bends	4	No.		
F	Ditto 40mm Ø	3	No.		
G	Ditto 32mm Ø	3	No.		
Η	Ditto 25mm Ø	2	No.		
	Equal/Unequal Tees				
Ι	$50 \times 40 \times 50$ mm	4	No.		
J	40 x 40 x 32mm	3	No.		
K	32 x 32 x 32mm	4	No.		
L	32 x 32 x 25mm	4	No.		
M	25 x 25 x 25mm	2	No.		
	Reducers				
0	50 x 40mm reducer	2	No.		
P	40 x 32mm reducer	2	No.		
Q	40 x 32mm reducer	2	No.		
R	32 x 25mm reducer	1	No.		
	Male/Female brass threaded adaptor				
S	40 x 32mm male/female threaded adaptor	2	No.		
T	$32 \times 25$ mm male/female threaded adaptor	2	No.		
1	52 x 251111 male, female included delaptor		110.		
	Total Countral to the New De-				
	Total Carried to the Next Pag	e			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
U	<b>Isolating valves</b> 50 mm Ø Gate Valve as "Pegler" or Equivalent	2	No.		
V	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	Total Cost of Riser & Roof Level Plu	mhing			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
3	SANITARY FITTINGS AND ACCESSORIES INSTALL ONLY				
А	Water Closet (WC) Pan Close Coupled dual flush Floor Standing Close Coupled WC Bowl complete with seat cover,Wc Connector and cistern or approved equivalent		No.		
В	<b>Wash Basin</b> WHB basin Full pedestal Wash Basin 450x485x230m White Complete with bottle traps, flexible connection hoses and other accessories with cws only tap	10	No.		
С	<b>Disabled Water Closet (WC) Pan</b> Physically challenges set as Armitage Shanks Doc M Contour 21+ close coupled right hand corner pack, WC pan, Wash basin, water saving delay fill cistern with spatula lever, grab rails, hinged support rail with toilet roll holder, seat no cover with retaining buffers, copper tails on TMV3 mixer tap or equal & approved	1	No.		
D	<b>Urinal</b> Urinal bowl in white colour of size 450 x 685mm with built in spreader and concealed waste trap complete with stainless steel fixing bolts and caps. Complete with exposed Flash Valve	4	No.		
Е	<b>Flushing and Sterilization</b> Allow for flushing and sterilization of the entire system to the satisfaction of the Engineer.	1	Item		
F	<b>kitchen sink</b> Stainless steel kitchen sink single drain, single bowl complete overflow and 40mm diameter plastic tubular p-trap PVC Bottle Trap and waste 1.5in x 40, Long Neck Wall type Bib Tap	3	No.		
	Total Cost of Sanitary Fittings & Acc	essories	6		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	FIRE PROTECTION				
А	<b>Hose Reel and Associated Pipework</b> Supply and Install automatic 30 meters long, 25mm diameter hosereel and nozzle installed to	2	No.		
71	KS 2003:2006	2	110.		
	Associated Pipework GI Class 'B' tubing to KS06-259 with screwed and socketed joints to KS ISO 7-1:1994 including all range piping, fittings, hanagers, supports, brackets, and supports				
В	50mm diameter	25	LM		
C	25mm ditto	4	LM		
D E	Extra Over Piping For Fittings:- Elbows/Various Bends 50mm bend/elbow 25mm ditto	6 5	No. No.		
	Equal/Unequal tees				
F	$50 \times 50 \times 50$ mm tee	3	No.		
G	50 x 50 x 25mm ditto	3	No.		
	Reducers				
Η	50 x 25mm reducer	3	No.		
	Unions				
Ι	50mm diameter union	2	No.		
J	25mm ditto	8	No.		
	<b>Valves</b> 25mm diameter quarter Turn hose reel isolation				
К	valve to be as PEGLER or approved equivalent.	2	No.		
T	otal Cost Carried For hose reel and associated pi	pework	Installa	ations	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Portable Fire Protection Equipment + Hose				
	Reel Pump				
	Supply, deliver, install, test and commission				
	portable fire protection equipment with initial				
	fill complete with all the necessary mounting				
	accessories.				
Α	9 litres, water/carbon dioxide gas extinguisher	4	No.		
B	4.5kg carbon dioxide gas extinguisher	4	No.		
C	4.5 kg dry powder extinguisher	4	No.		
C	and kg ury powder extinguisher	т	140.		
	Testing and Commissioning				
	Allow for testing and commissioning of the fire				
D	pump installation to the satisfaction of the	1	Item		
D	Engineer.	-	nem		
To	al Cost For Portable fire Extinguishers + Hose R	eel Pur	np Insta	llation	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Foul Drainage				
	Supply, deliver and install the following uPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) Heavy gauge soil and waste system. Allow for all the various sizes of adaptor, connectors, sockets, holderbats, clips etc not measured but required for the satisfactory functioning of the system.				
	Piping				
А	32mm diameter heavy duty grey uPVC pipe	32	LM		
В	40mm ditto	100	LM		
С	50mm ditto	120	LM		
D	75mm ditto	12	LM		
E	100mm ditto	32	LM		
F G	100mm diameter heavy duty golden brown pipe 150mm diameter heavy duty golden brown pipe	$\begin{array}{c} 150\\ 44 \end{array}$	LM LM		
	, , , , , , , , , , , , , , , , , , , ,				
	Extra over uPVC Pipeworks				
Η	32mm sweep bend	15	No.		
Ι	40mm sweep bend	60	No.		
J	50mm sweep bend	15	No.		
Κ	75mm sweep bend	8	No.		
L	100mm sweep bend	22	No.		
Μ	150mm sweep bend	16	No.		
N	40mm 450 bend	22	No.		
0	50mm 450 bend	15	No.		
Р	40mm sweep tee	25	No.		
Q	40 x 32mm reducer	15	No.		
R	75 x 40mm ditto	15	No.		
S	150 x 40mm ditto	8	No.		
Т	40mm access plug	22	No.		
U	100mm bend WC connector	13	No.		
V	40mm bottle 'p' trap	15	No.		
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total From Previous Page				
Z	100 x 50mm floor trap set complete with polycarbonate flush grating	17	No.		
AA	<b>Gulley Trap</b> Gully trap comprising of 100mm diameter golden brown uPVC gully piece, 100mm diameter uPVC trap spigot outlet with screws and washers, and 300 x 300mm masonry gully trap chamber with mild steel plate and a heavy	4	No.		
BB	Manholes Construct manhole/ inspection chamber size 450 x 600 x 750mm deep internally in 200mm stone walls, 150mm concrete bed, water proof plaster, forming drain channels, medium duty cover frame in cast iron with recessed cover with concrete infill and all necessary formwork, excavation and soil disposal.	14	No.		
CC	<b>Excavations</b> Excavate trench for pipe not exceeding 100mm diameter and not exceeding 1.5m deep (average 600mm deep) and make good as before.	120	LM		
DD	Allow for hydrostatic pressure testing of drainage installation including provision of pipe plugs and other required fittings.	1	Item		
	Total Cost For Ground Floor Foul Drainage Inst	allatior	ı		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Rain Water Drainage				
	Supply, deliver and install UPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) rainwater pipework. Allow for all flanges, couplings, nipples, connector joints, fixing clips holder bats etc as required in running length of pipework but not measured.				
Α	<b>Piping</b> 100mm ditto	150	LM		
B C D F	Extra over piping for fittings:- 100mm ditto 100mm sweep bend 100mm single branch 100mm double branch 100mm flat roof rain water outlets	20 20 18 12 10	No. No. No. No. No.		
G	<b>Testing and Commissioning</b> Allow for testing and commissioning of the rain water drainage installation to the satisfaction of the engineer.	1	Item		
	Total Cost For Rain Water Drainage Installation	n			

ITEM	DESCRIPTION	AMOUNT (KES)
	SUMMARY PAGE	
1.0	Total Cost for Internal Plumbing	
2.0	Total Cost for Roof + Riser	
3.0	Total Cost for Sanitary Fittings Install Only	
4.0	Total Cost Carried For hose reel and associated pipework Installations	
5.0	Total Cost For Portable fire Extinguishers + Hose Reel Pump Installation	
6.0	Total Cost For Ground Floor Foul Drainage Installation	
7.0	Total Cost For Rain Water Drainage Installation	
	Total carried to Mechanical Works Main Summary Page	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)			
1.0	Internal Plumbing Installations							
	Supply, deliver install, Test and Commission:							
	<b>PP-R (Polypropylene Random Co-polymer)</b> pipes <b>PN 20</b> and fittings and fusion joints to <b>(KS ISO 15874 Part 1, 2, 3 &amp; 5)</b> of approved manufacturer. Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints etc. as required in the running lengths of pipework. The pipes shall run in floors and wall chase. The pipes will be pressure tested before the plastering of wall commences and as per the manufacturers							
	Pipe Works							
А	32mm Ø PPR Pipe	40	LM					
В	Ditto 25mm Ø	33	LM					
	Extra Over Pipe Work							
	Elbows/ Bends							
С	32mm Ø Elbows/ Bends	20	No.					
D	Ditto 25mm Ø	18	No.					
	Equal/Unequal Tees							
Е	32 x 32 x 32mm	21	No.					
F	25 x 25 x 25mm	14	No.					
	Daducare							
G	<b>Reducers</b> 32 x 25mm reducer	1	No.					
		1	110.					
	Male/Female brass threaded adaptor							
J	25 x 20mm male/female threaded adaptor	12	No.					
K	25 x 15mm ditto	10	LM					
L	25 x 15mm male threaded bend	13	LM					
	Total Carried to Novt Page							
	Total Carried to Next Page							

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
М	<b>Isolating valves</b> 32mm Ø Gate Valve as "Pegler" or Equivalent	2	No.		
N	<b>Shut off Angle Valve</b> Brass plated 1/2" angle valve	16	No.		
0	<b>Check Meter</b> 50 mm diameter water check meter	1	No.		
Р	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	TOTAL Internal Plumbing				
	Total Cost of Plumbing Installat	ion			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
2	Risers and Roof Levels				
	Pipe Works				
Α	50 mm Ø PPR pipe	28	LM		
В	Ditto 40mm Ø	12	LM		
С	Ditto 32mm Ø	13	LM		
D	Ditto 25mm Ø	6	LM		
	Extra Over Pipe Work				
	Elbows/ Bends				
Е	50mm Ø Elbows/ Bends	4	No.		
F	Ditto 40mm Ø	3	No.		
G	Ditto 32mm Ø	3	No.		
Н	Ditto 25mm Ø	2	No.		
	Equal/Unequal Tees				
Ι	$50 \times 40 \times 50 \text{mm}$	4	No.		
	40 x 40 x 32mm	4 3	No.		
J K		3 4			
	32 x 32 x 32mm		No.		
L	32 x 32 x 25mm	4 2	No.		
М	25 x 25 x 25mm	2	No.		
	Reducers				
0	50 x 40mm reducer	2	No.		
Р	40 x 32mm reducer	2	No.		
Q	40 x 32mm reducer	2	No.		
R	32 x 25mm reducer	1	No.		
	Male/Female brass threaded adaptor				
S	$40 \times 32$ mm male/female threaded adaptor	2	No.		
Т	$32 \times 25$ mm male/female threaded adaptor	2	No.		
	Total Carried to the Next Pag	je			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
U	<b>Isolating valves</b> 50 mm Ø Gate Valve as "Pegler" or Equivalent	2	No.		
V	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	Total Cost of Riser & Roof Level Plu	mbing			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
3	SANITARY FITTINGS AND ACCESSORIES INSTALL ONLY				
A	Water Closet (WC) Pan Close Coupled dual flush Floor Standing Close Coupled WC Bowl complete with seat cover,Wc Connector and cistern or approved equivalent		No.		
В	Wash Basin WHB basin Full pedestal Wash Basin 450x485x230m White Complete with bottle traps, flexible connection hoses and other accessories with cws only tap	6	No.		
С	<b>Disabled Water Closet (WC) Pan</b> Physically challenges set as Armitage Shanks Doc M Contour 21+ close coupled right hand corner pack, WC pan, Wash basin, water saving delay fill cistern with spatula lever, grab rails, hinged support rail with toilet roll holder, seat no cover with retaining buffers, copper tails on TMV3 mixer tap or equal & approved	2	No.		
D	<b>Urinal</b> Urinal bowl in white colour of size 450 x 685mm with built in spreader and concealed waste trap complete with stainless steel fixing bolts and caps. Complete with exposed Flash Valve	3	No.		
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
Е	<b>Total from Previous Page</b> <b>Flushing and Sterilization</b> Allow for flushing and sterilization of the entire system to the satisfaction of the Engineer.	1	Item		
	Total Cost of Sanitary Fittings & Acc	essories	6		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	FIRE PROTECTION				
	Hose Reel and Associated Pipework Supply and Install automatic 30 meters long, 25mm diameter hosereel and nozzle installed to KS 2003:2006		No.		
В	Associated Pipework GI Class 'B' tubing to KS06-259 with screwed and socketed joints to KS ISO 7-1:1994 including all range piping, fittings, hanagers, supports, brackets, and supports 50mm diameter		LM		
С	25mm ditto	4	LM		
	Extra Over Piping For Fittings:- Elbows/Various Bends 50mm bend/elbow 25mm ditto	6 5	No. No.		
F	<b>Equal/Unequal tees</b> 50 x 50 x 50mm tee 50 x 50 x 25mm ditto	3 3	No. No.		
	<b>Reducers</b> 50 x 25mm reducer	3	No.		
I J	<b>Unions</b> 50mm diameter union 25mm ditto	2 8	No. No.		
K	<b>Valves</b> 25mm diameter quarter Turn hose reel isolation valve to be as PEGLER or approved equivalent.	2	No.		
Т	otal Cost Carried For hose reel and associated pi	pework	Install	ations	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Portable Fire Protection Equipment + Hose				
	Reel Pump				
	Supply, deliver, install, test and commission				
	portable fire protection equipment with initial fill complete with all the necessary mounting				
	accessories.				
Α	9 litres, water/carbon dioxide gas extinguisher	4	No.		
	4.5kg carbon dioxide gas extinguisher	4	No.		
	4.5 kg dry powder extinguisher	4	No.		
_	of the second				
	Hose Reel Pump				
	Supply, Install hose reel water supply boosting				
	set. Flow 8 m <sup>3</sup> /h at a head of 20 m , Duty +	1	Set		
	Standby				
	Testing and Commissioning				
	Allow for testing and commissioning of the fire				
Ε	pump installation to the satisfaction of the		Item		
	Engineer.				
To	tal Cost For Portable fire Extinguishers + Hose R	leel Pur	np Insta	Illation	

Foul DrainageImage: Supply, deliver and install the following uPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) Heavy gauge soil and waste system. Allow for all the various sizes of adaptor, connectors, sockets, holderbats, clips etc not measured but required for the satisfactory functioning of the system.Piping32LMA32mm diameter heavy duty grey uPVC pipe32LMB40mm ditto50LMC50mm ditto12LME100mm ditto56LMD75mm ditto12LME100mm ditto32LMF100mm ditto14LME100mm diameter heavy duty golden brown pipe80LMG150mm diameter heavy duty golden brown pipe44LMExtra over uPVC Pipeworks15No.H32mm sweep bend15No.I40mm sweep bend15No.L100mm sweep bend22No.M150mm sweep bend22No.M150mm sweep bend15No.K75mm sweep bend15No.M150mm ditto15No. </th <th>ITEM</th> <th>DESCRIPTION</th> <th>QTY.</th> <th>UNIT</th> <th>RATE (KES)</th> <th>AMOUNT (KES)</th>	ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
(Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) Heavy gauge soil and waste system. Allow for all the various sizes of adaptor, connectors, sockets, holderbats, clips etc not measured but required for the satisfactory functioning of the system.Piping32LMA32mm diameter heavy duty grey uPVC pipe 3232LMB40mm ditto50LMC50mm ditto12LMD75mm ditto12LME100mm ditto32LMF100mm ditto32LMG150mm diameter heavy duty golden brown pipe 		Foul Drainage				
A $32mm$ diameter heavy duty grey uPVC pipe $32$ LMB $40mm$ ditto $50$ LMC $50mm$ ditto $56$ LMD $75mm$ ditto $12$ LME $100mm$ diameter heavy duty golden brown pipe $80$ LMG $150mm$ diameter heavy duty golden brown pipe $44$ LMF $100mm$ diameter heavy duty golden brown pipe $44$ LMG $150mm$ diameter heavy duty golden brown pipe $44$ LMH $32mm$ sweep bend $15$ No.I $40mm$ sweep bend $60$ No.J $50mm$ sweep bend $15$ No.K $75mm$ sweep bend $8$ No.L $100mm$ sweep bend $22$ No.M $150mm$ sweep bend $16$ No.N $40mm$ 450 bend $22$ No.O $50mm$ 450 bend $15$ No.P $40mm$ sweep tee $25$ No.Q $40 \times 32mm$ reducer $15$ No.R $75 \times 40mm$ ditto $8$ No.S $150 \times 40mm$ ditto $8$ No.T $40mm$ access plug $22$ No.U $100mm$ bend WC connector $13$ No.		(Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) Heavy gauge soil and waste system. Allow for all the various sizes of adaptor, connectors, sockets, holderbats, clips etc not measured but required for the				
B40mm ditto50LMC50mm ditto56LMD75mm ditto12LME100mm diameter heavy duty golden brown pipe80LMG150mm diameter heavy duty golden brown pipe44LMExtra over uPVC Pipeworks		Piping				
C50mm ditto56LMD75mm ditto12LME100mm ditto32LMF100mm diameter heavy duty golden brown pipe80LMG150mm diameter heavy duty golden brown pipe44LMExtra over uPVC PipeworksH32mm sweep bend15No.I40mm sweep bend60No.J50mm sweep bend15No.K75mm sweep bend8No.L100mm sweep bend22No.M150mm sweep bend16No.K75mm sweep bend15No.K75mm sweep bend15No.M150mm sweep bend15No.M150mm sweep bend15No.N40mm 450 bend22No.O50mm 450 bend15No.P40mm sweep tee25No.Q40 x 32mm reducer15No.R75 x 40mm ditto8No.T40mm access plug22No.U100mm bend WC connector13No.		32mm diameter heavy duty grey uPVC pipe	32	LM		
D75mm ditto12LME100mm ditto32LMF100mm diameter heavy duty golden brown pipe80LMG150mm diameter heavy duty golden brown pipe44LMF150mm diameter heavy duty golden brown pipe44LMF32mm sweep bend15No.I40mm sweep bend15No.J50mm sweep bend15No.K75mm sweep bend8No.L100mm sweep bend16No.M150mm sweep bend16No.N40mm 450 bend22No.O50mm 450 bend15No.P40mm sweep tee25No.Q40 x 32mm reducer15No.R75 x 40mm ditto8No.T40mm access plug22No.U100mm bend WC connector13No.						
E100mm ditto32LMF100mm diameter heavy duty golden brown pipe80LMG150mm diameter heavy duty golden brown pipe44LMExtra over uPVC Pipeworks						
F100mm diameter heavy duty golden brown pipe80LMG150mm diameter heavy duty golden brown pipe44LMExtra over uPVC PipeworksH32mm sweep bend15No.I40mm sweep bend60No.J50mm sweep bend15No.K75mm sweep bend8No.L100mm sweep bend22No.M150mm sweep bend16No.N40mm 450 bend22No.O50mm 450 bend15No.P40mm sweep tee25No.Q40 x 32mm reducer15No.R75 x 40mm ditto15No.S150 x 40mm ditto8No.T40mm access plug22No.U100mm bend WC connector13No.						
G150mm diameter heavy duty golden brown pipe44LMExtra over uPVC Pipeworks						
Extra over uPVC Pipeworks       11         H       32mm sweep bend       15         I       40mm sweep bend       60         J       50mm sweep bend       15         K       75mm sweep bend       8         L       100mm sweep bend       22         M       150mm sweep bend       16         N       40mm 450 bend       22         N       40mm 450 bend       22         O       50mm sweep tee       25         Q       40 x 32mm reducer       15         R       75 x 40mm ditto       15         S       150 x 40mm ditto       8         M       100mm bend WC connector       13		, , , , , , , , , , , , , , , , , , , ,				
H       32mm sweep bend       15       No.         I       40mm sweep bend       60       No.         J       50mm sweep bend       15       No.         K       75mm sweep bend       8       No.         L       100mm sweep bend       22       No.         M       150mm sweep bend       16       No.         N       40mm sweep bend       16       No.         N       40mm sweep bend       15       No.         N       40mm sweep bend       16       No.         N       40mm sweep bend       15       No.         Q       50mm 450 bend       22       No.         Q       40 x 32mm reducer       15       No.         R       75 x 40mm ditto       15       No.         S       150 x 40mm ditto       8       No.         T       40mm access plug       22       No.         U       100mm bend WC connector       13       No.	G	150mm diameter heavy duty golden brown pipe	44	LM		
H       32mm sweep bend       15       No.         I       40mm sweep bend       60       No.         J       50mm sweep bend       15       No.         K       75mm sweep bend       8       No.         L       100mm sweep bend       22       No.         M       150mm sweep bend       16       No.         N       40mm sweep bend       16       No.         N       40mm sweep bend       15       No.         N       40mm sweep bend       16       No.         N       40mm sweep bend       15       No.         Q       50mm 450 bend       22       No.         Q       40 x 32mm reducer       15       No.         R       75 x 40mm ditto       15       No.         S       150 x 40mm ditto       8       No.         T       40mm access plug       22       No.         U       100mm bend WC connector       13       No.		Extra over uPVC Pipeworks				
I       40mm sweep bend       60       No.         J       50mm sweep bend       15       No.         K       75mm sweep bend       8       No.         L       100mm sweep bend       22       No.         M       150mm sweep bend       16       No.         N       40mm sweep bend       16       No.         N       40mm sweep bend       15       No.         O       50mm sweep bend       15       No.         P       40mm sweep tee       25       No.         Q       40 x 32mm reducer       15       No.         R       75 x 40mm ditto       15       No.         S       150 x 40mm ditto       8       No.         T       40mm access plug       22       No.         U       100mm bend WC connector       13       No.	Н	-	15	No.		
J       50mm sweep bend       15       No.         K       75mm sweep bend       8       No.         L       100mm sweep bend       22       No.         M       150mm sweep bend       16       No.         M       150mm sweep bend       16       No.         N       40mm 450 bend       22       No.         O       50mm 450 bend       22       No.         P       40mm sweep tee       25       No.         Q       40 x 32mm reducer       15       No.         R       75 x 40mm ditto       15       No.         S       150 x 40mm ditto       8       No.         T       40mm access plug       22       No.         U       100mm bend WC connector       13       No.	Ι	-	60	No.		
K       75mm sweep bend       8       No.         L       100mm sweep bend       22       No.         M       150mm sweep bend       16       No.         N       40mm 450 bend       22       No.         O       50mm 450 bend       15       No.         P       40mm sweep tee       25       No.         Q       40 x 32mm reducer       15       No.         R       75 x 40mm ditto       15       No.         S       150 x 40mm ditto       8       No.         T       40mm access plug       22       No.         U       100mm bend WC connector       13       No.	J	-	15	No.		
M       150mm sweep bend       16       No.         N       40mm 450 bend       22       No.         O       50mm 450 bend       15       No.         P       40mm sweep tee       25       No.         Q       40 x 32mm reducer       15       No.         R       75 x 40mm ditto       15       No.         S       150 x 40mm ditto       8       No.         T       40mm access plug       22       No.         U       100mm bend WC connector       13       No.	-	-	8	No.		
N       40mm 450 bend       22       No.         O       50mm 450 bend       15       No.         P       40mm sweep tee       25       No.         Q       40 x 32mm reducer       15       No.         R       75 x 40mm ditto       15       No.         S       150 x 40mm ditto       8       No.         T       40mm access plug       22       No.         U       100mm bend WC connector       13       No.	L	100mm sweep bend	22	No.		
O       50mm 450 bend       15       No.         P       40mm sweep tee       25       No.         Q       40 x 32mm reducer       15       No.         R       75 x 40mm ditto       15       No.         S       150 x 40mm ditto       8       No.         T       40mm access plug       22       No.         U       100mm bend WC connector       13       No.	М	-	16	No.		
P       40mm sweep tee       25       No.         Q       40 x 32mm reducer       15       No.         R       75 x 40mm ditto       15       No.         S       150 x 40mm ditto       8       No.         T       40mm access plug       22       No.         U       100mm bend WC connector       13       No.	Ν	40mm 450 bend	22	No.		
Q       40 x 32mm reducer       15       No.         R       75 x 40mm ditto       15       No.         S       150 x 40mm ditto       8       No.         T       40mm access plug       22       No.         U       100mm bend WC connector       13       No.	0	50mm 450 bend	15	No.		
R75 x 40mm ditto15No.S150 x 40mm ditto8No.T40mm access plug22No.U100mm bend WC connector13No.	Р	40mm sweep tee	25	No.		
S150 x 40mm ditto8No.T40mm access plug22No.U100mm bend WC connector13No.	Q	40 x 32mm reducer	15	No.		
T40mm access plug22No.U100mm bend WC connector13No.		75 x 40mm ditto	15	No.		
U 100mm bend WC connector 13 No.	S	150 x 40mm ditto	8	No.		
	Т	1 0	22	No.		
V40mm bottle 'p' trap15No.	U	100mm bend WC connector	13	No.		
	V	40mm bottle 'p' trap	15	No.		
Total Carried to Next Page		Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
Z	<b>Total From Previous Page</b> 100 x 50mm floor trap set complete with polycarbonate flush grating	17	No.		
АА	<b>Gulley Trap</b> Gully trap comprising of 100mm diameter golden brown uPVC gully piece, 100mm diameter uPVC trap spigot outlet with screws and washers, and 300 x 300mm masonry gully trap chamber with mild steel plate and a heavy	4	No.		
BB	Manholes Construct manhole/ inspection chamber size 450 x 600 x 750mm deep internally in 200mm stone walls, 150mm concrete bed, water proof plaster, forming drain channels, medium duty cover frame in cast iron with recessed cover with concrete infill and all necessary formwork, excavation and soil disposal.	10	No.		
СС	<b>Excavations</b> Excavate trench for pipe not exceeding 100mm diameter and not exceeding 1.5m deep (average 600mm deep) and make good as before.	120	LM		
DD	Allow for hydrostatic pressure testing of drainage installation including provision of pipe plugs and other required fittings.	1	Item		
	Total Cost For Ground Floor Foul Drainage Inst	allatior	1		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
ITEM A B C	DESCRIPTION Rain Water Drainage Supply, deliver and install UPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) rainwater pipework. Allow for all flanges, couplings, nipples, connector joints, fixing clips holder bats etc as required in running length of pipework but not measured. <b>Piping</b> 100mm ditto Extra over piping for fittings:- 100mm ditto 100mm sweep bend	QTY. 200 16 2	UNIT LM No. No.		
D E F	100mm single branch 100mm double branch 100mm flat roof rain water outlets	13 7 10	No. No. No.		
F G	100mm flat roof rain water outlets <b>Testing and Commissioning</b> Allow for testing and commissioning of the rain water drainage installation to the satisfaction of the engineer. <b>Total Cost For Rain Water Drainage Installation</b>	1	No. Item		

ITEM	DESCRIPTION	AMOUNT (KES)
	SUMMARY PAGE	
1.0	Total Cost for Internal Plumbing	
2.0	Total Cost for Roof + Riser	
3.0	Total Cost for Sanitary Fittings Install Only	
4.0	Total Cost Carried For hose reel and associated pipework Installations	
5.0	Total Cost For Portable fire Extinguishers + Hose Reel Pump Installation	
6.0	Total Cost For Ground Floor Foul Drainage Installation	
7.0	Total Cost For Rain Water Drainage Installation	
	Total carried to Mechanical Works Main Summary Page	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
1.0	Internal Plumbing Installations				
	Supply, deliver install, Test and Commission:				
	<b>PP-R (Polypropylene Random Co-polymer)</b> pipes <b>PN 20</b> and fittings and fusion joints to <b>(KS ISO 15874 Part 1, 2, 3 &amp; 5)</b> of approved manufacturer. Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints etc. as required in the running lengths of pipework. The pipes shall run in floors and wall chase. The pipes will be pressure tested before the plastering of wall commences and as per the manufacturers				
	Pipe Works				
А	32mm Ø PPR Pipe	40	LM		
В	Ditto 25mm Ø	33	LM		
	Extra Over Pipe Work				
	Elbows/ Bends				
С	32mm Ø Elbows/ Bends	20	No.		
D	Ditto 25mm Ø	18	No.		
	Equal/Unequal Tees				
Е	32 x 32 x 32mm	21	No.		
F	25 x 25 x 25mm	14	No.		
	Reducers				
G	32 x 25mm reducer	1	No.		
	Male/Female brass threaded adaptor				
J	$25 \times 20$ mm male/female threaded adaptor	12	No.		
K	$25 \times 15$ mm ditto	10	LM		
L	25 x 15mm male threaded bend	13	LM		
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
М	<b>Isolating valves</b> 32mm Ø Gate Valve as "Pegler" or Equivalent	2	No.		
N	<b>Shut off Angle Valve</b> Brass plated 1/2" angle valve	16	No.		
0	<b>Check Meter</b> 50 mm diameter water check meter	1	No.		
Р	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	TOTAL Internal Plumbing				
	Total Cost of Plumbing Installat	ion			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
2	Risers and Roof Levels				
	Pipe Works				
А	50 mm Ø PPR pipe	28	LM		
В	Ditto 40mm Ø	12	LM		
С	Ditto 32mm Ø	13	LM		
D	Ditto 25mm Ø	6	LM		
	Extra Over Pipe Work				
	Elbows/ Bends				
Е	50mm Ø Elbows/ Bends	4	No.		
F	Ditto 40mm Ø	3	No.		
G	Ditto 32mm Ø	3	No.		
Η	Ditto 25mm Ø	2	No.		
	Equal/Unequal Tees				
Ι	$50 \times 40 \times 50$ mm	4	No.		
J	40 x 40 x 32mm	3	No.		
-	32 x 32 x 32mm	4	No.		
L	32 x 32 x 25mm	4	No.		
М	25 x 25 x 25mm	2	No.		
	Reducers				
Ο	50 x 40mm reducer	2	No.		
Р	40 x 32mm reducer	2	No.		
Q	40 x 32mm reducer	2	No.		
Ŕ	32 x 25mm reducer	1	No.		
	Male/Female brass threaded adaptor				
S	$40 \times 32$ mm male/female threaded adaptor	2	No.		
T	$32 \times 25$ mm male/female threaded adaptor	2	No.		
	Total Carried to the Next Pag				
	i otal Carrieu to the Next Pag	C			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
U	<b>Isolating valves</b> 50 mm Ø Gate Valve as "Pegler" or Equivalent	2	No.		
V	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	Total Cost of Riser & Roof Level Plu	ımbing			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
3	SANITARY FITTINGS AND ACCESSORIES INSTALL ONLY				
А	Water Closet (WC) Pan Close Coupled dual flush Floor Standing Close Coupled WC Bowl complete with seat cover,Wc Connector and cistern or approved equivalent		No.		
В	Wash Basin WHB basin Full pedestal Wash Basin 450x485x230m White Complete with bottle traps, flexible connection hoses and other accessories with cws only tap	13	No.		
С	<b>Disabled Water Closet (WC) Pan</b> Physically challenges set as Armitage Shanks Doc M Contour 21+ close coupled right hand corner pack, WC pan, Wash basin, water saving delay fill cistern with spatula lever, grab rails, hinged support rail with toilet roll holder, seat no cover with retaining buffers, copper tails on TMV3 mixer tap or equal & approved	2	No.		
D	<b>Urinal</b> Urinal bowl in white colour of size 450 x 685mm with built in spreader and concealed waste trap complete with stainless steel fixing bolts and caps. Complete with exposed Flash Valve	6	No.		
	Total Carried to Next Page	<u> </u>			

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
Е	<b>Total from Previous Page</b> <b>Flushing and Sterilization</b> Allow for flushing and sterilization of the entire system to the satisfaction of the Engineer.	1	Item		
	Total Cost of Sanitary Fittings & Acc	essories	6		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	FIRE PROTECTION				
А	Hose Reel and Associated Pipework Supply and Install automatic 30 meters long, 25mm diameter hosereel and nozzle installed to KS 2003:2006	2	No.		
В	Associated Pipework GI Class 'B' tubing to KS06-259 with screwed and socketed joints to KS ISO 7-1:1994 including all range piping, fittings, hanagers, supports, brackets, and supports 50mm diameter		LM		
	25mm ditto	4	LM		
C		4	LIVI		
D E	Extra Over Piping For Fittings:- Elbows/Various Bends 50mm bend/elbow 25mm ditto	6 5	No. No.		
F	<b>Equal/Unequal tees</b> 50 x 50 x 50mm tee 50 x 50 x 25mm ditto	3 3	No. No.		
	Deliver				
	<b>Reducers</b> 50 x 25mm reducer	3	No.		
	Unions				
Ι	50mm diameter union	2	No.		
J	25mm ditto	8	No.		
к	<b>Valves</b> 25mm diameter quarter Turn hose reel isolation valve to be as PEGLER or approved equivalent.	2	No.		
Т	otal Cost Carried For hose reel and associated pi	pework	Installa	ations	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Portable Fire Protection Equipment + Hose				
	Reel Pump				
	Supply, deliver, install, test and commission				
	portable fire protection equipment with initial				
	fill complete with all the necessary mounting accessories.				
	9 litres, water/carbon dioxide gas extinguisher	4	No.		
	4.5kg carbon dioxide gas extinguisher	4	No.		
C	4.5 kg dry powder extinguisher	4	No.		
	Hose Reel Pump				
	Supply, Install hose reel water supply boosting				
D	set. Flow 8 m³/h at a head of 20 m , Duty + Standby	1	Set		
	Testing and Commissioning				
Е	Allow for testing and commissioning of the fire pump installation to the satisfaction of the		Item		
	Engineer.				
Tot	al Cost For Portable fire Extinguishers + Hose R	leel Pur	np Insta	llation	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Foul Drainage				
	Supply, deliver and install the following uPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) Heavy gauge soil and waste system. Allow for all the various sizes of adaptor, connectors, sockets, holderbats, clips etc not measured but required for the satisfactory functioning of the system.				
	Piping				
А	32mm diameter heavy duty grey uPVC pipe	32	LM		
В	40mm ditto	50	LM		
С	50mm ditto	56	LM		
D	75mm ditto	12	LM		
E	100mm ditto	32	LM		
F	100mm diameter heavy duty golden brown pipe	80	LM		
G	150mm diameter heavy duty golden brown pipe	44	LM		
	Extra over uPVC Pipeworks				
Н	32mm sweep bend	15	No.		
Ι	40mm sweep bend	60	No.		
J	50mm sweep bend	15	No.		
Κ	75mm sweep bend	8	No.		
L	100mm sweep bend	22	No.		
Μ	150mm sweep bend	16	No.		
Ν	40mm 450 bend	22	No.		
Ο	50mm 450 bend	15	No.		
Р	40mm sweep tee	25	No.		
Q	40 x 32mm reducer	15	No.		
R	75 x 40mm ditto	15	No.		
S	150 x 40mm ditto	8	No.		
Т	40mm access plug	22	No.		
U	100mm bend WC connector	13	No.		
V	40mm bottle 'p' trap	15	No.		
	Total Coursiand to Marth Dama				
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total From Previous Page				
Z	100 x 50mm floor trap set complete with polycarbonate flush grating	17	No.		
AA	<b>Gulley Trap</b> Gully trap comprising of 100mm diameter golden brown uPVC gully piece, 100mm diameter uPVC trap spigot outlet with screws and washers, and 300 x 300mm masonry gully trap chamber with mild steel plate and a heavy	4	No.		
BB	Manholes Construct manhole/ inspection chamber size 450 x 600 x 750mm deep internally in 200mm stone walls, 150mm concrete bed, water proof plaster, forming drain channels, medium duty cover frame in cast iron with recessed cover with concrete infill and all necessary formwork, excavation and soil disposal.	10	No.		
СС	<b>Excavations</b> Excavate trench for pipe not exceeding 100mm diameter and not exceeding 1.5m deep (average 600mm deep) and make good as before.	120	LM		
DD	Allow for hydrostatic pressure testing of drainage installation including provision of pipe plugs and other required fittings.	1	Item		
	Total Cost For Ground Floor Foul Drainage Inst	allatior	1		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
ITEM A B C D E F G	DESCRIPTION Rain Water Drainage Supply, deliver and install UPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) rainwater pipework. Allow for all flanges, couplings, nipples, connector joints, fixing clips holder bats etc as required in running length of pipework but not measured. <b>Piping</b> 100mm ditto Extra over piping for fittings:- 100mm ditto 100mm single branch 100mm single branch 100mm flat roof rain water outlets <b>Testing and Commissioning</b> Allow for testing and commissioning of the rain water drainage installation to the satisfaction of the engineer.		UNIT LM No. No. No. No. No. Item		
	Total Cost For Rain Water Drainage Installation	n			

ITEM	DESCRIPTION	AMOUNT (KES)
	SUMMARY PAGE	
1.0	Total Cost for Internal Plumbing	
2.0	Total Cost for Roof + Riser	
3.0	Total Cost for Sanitary Fittings Install Only	
4.0	Total Cost Carried For hose reel and associated pipework Installations	
5.0	Total Cost For Portable fire Extinguishers + Hose Reel Pump Installation	
6.0	Total Cost For Ground Floor Foul Drainage Installation	
7.0	Total Cost For Rain Water Drainage Installation	
	Total carried to Mechanical Works Main Summary Page	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
1.0	Internal Plumbing Installations				
	Supply, deliver install, Test and Commission:				
	<b>PP-R (Polypropylene Random Co-polymer)</b> pipes <b>PN 20</b> and fittings and fusion joints to <b>(KS ISO 15874 Part 1, 2, 3 &amp; 5)</b> of approved manufacturer. Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints etc. as required in the running lengths of pipework. The pipes shall run in floors and wall chase. The pipes will be pressure tested before the plastering of wall				
(;)	commences and as per the manufacturers				
(i)	<u>3 BR AHP</u>				
	Pipe Works				
А	25mm Ø PPR Pipe	6	LM		
В	Ditto 20mm Ø	4	LM		
	Extra Over Pipe Work				
	Elbows/ Bends				
С	25mm Ø Elbows/ Bends	3	No.		
D	Ditto 20mm Ø	2	No.		
	Equal/Unequal Tees				
Е	25 x 20 x 25mm	1	No.		
	Reducers				
F	25 x 20mm reducer	2	No.		
	Male/Female brass threaded adaptor				
G	25 x 20mm male/female threaded adaptor	2	No.		
H	25 x 15mm ditto	2 1	LM		
I	25 x 15mm male threaded bend	1	LM		
		Ŧ			
	Total Carried to Next Page				
	Total Cultica to Heat I age				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
J	<b>Isolating valves</b> 25mm Ø Gate Valve as "Pegler" or Equivalent	1	No.		
К	<b>Shut off Angle Valve</b> Brass plated 1/2" angle valve	3	No.		
L	<b>Check Meter</b> 25mm diameter water check meter	1	No.		
М	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	Sub Total for 1				
	TOTAL	1		x 1	
	Total Cost of Plumbing Installation Gu	ard Ho	use		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)			
2.0	SANITARY FITTINGS AND ACCESSORIES							
А	Water Closet (WC) Pan Close Coupled dual flush Floor Standing Close Coupled WC Bowl complete with seat cover and cistern, WC connector relevant fittings & accessories	1	No.					
В	<b>Wash Basin</b> WHB basin Full pedestal Wash Basin 450x485x230m White Complte with bottle traps, flexible connection hoses and other accessories with cws only tap	1	No.					
С	<b>Shower Fittings</b> Shower fitting c/w 15mm diameter chrome plated stop cork, Instant shower fitting and 1/2" Cobra 211- 15 Star Pillar tap as Pegler or equal and equivalent	1	No.					
	Sub Total for 1							
		1		1				
	TOTAL	1		x 1				
	Total Cost of Sanitary Fittings & Acc	essorie	s					
	Total Cost of Sanitary Fittings & Accessories							

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Foul Drainage				
	Supply, deliver and install the following uPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) Heavy gauge soil and waste system. Allow for all the various sizes of adaptor, connectors, sockets, holderbats, clips etc not measured but required for the				
	satisfactory functioning of the system.				
	Piping				
A	32mm diameter heavy duty grey uPVC pipe	2	LM		
B C	40mm ditto 50mm ditto	3 6	LM LM		
	100mm ditto	4	LM		
Е	100mm diameter heavy duty pipe	8	LM		
	Extra over uPVC Pipeworks				
F	32mm sweep bend	1	No.		
G	40mm sweep bend	1	No.		
Н	50mm sweep bend	2	No.		
I	100mm sweep bend 40mm 45° bend	1 1	No. No.		
J K	50mm Ditto	1	No.		
к L	50mm sweep tee	2	No.		
M	40 x 32mm reducer	1	No.		
N	40mm access plug	1	No.		
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
AA	<b>Total From Previous Page</b> 100 x 50mm floor trap set complete with plastic flush grating	2	No.		
BB	<b>Gulley Trap</b> Gully trap comprising of 100mm diameter golden brown uPVC gully piece, 100mm diameter uPVC trap spigot outlet with screws and washers, and 300 x 300mm masonry gully trap chamber with mild steel plate and a heavy duty iron cover.	1	No.		
СС	Manholes Construct manhole/ inspection chamber size 450 x 600 x 750mm deep internally in 200mm stone walls, 150mm concrete bed, water proof plaster, forming drain channels, medium duty cover frame in cast iron with recessed cover with concrete infill and all necessary formwork, excavation and soil disposal.	1	No.		
DD	<b>Excavations</b> Excavate trench for pipe not exceeding 100mm diameter and not exceeding 1.5m deep (average 600mm deep) and make good as before.	8	LM		
EE	Allow for hydrostatic pressure testing of drainage installation including provision of pipe plugs and other required fittings.	1	Item		
	Total Cost For Ground Floor Foul Drainage Inst	allation			
	1 Star Cost For Ground Floor Four Drainage mot	ailutiUl	•		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Rain Water Drainage				
	Supply, deliver and install UPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) rainwater pipework. Allow for all flanges, couplings, nipples, connector joints, fixing clips holder bats etc as required in running length of pipework but not measured.				
Α	<b>Piping</b> 100mm ditto	6	LM		
B C D E F	Extra over piping for fittings:- 100mm ditto 100mm sweep bend 100mm double branch 100mm flat roof rain water outlets	2 2 2 1	No. No. No.		
	Total Cost For Rain Water Drainage Installation	n			

ROOF WATER STORAGE TANKImage: Constraint of the series of the	ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
A Tank Capacity : 1000 litres 1 No		Top Tank Deluxe heavy duty rotationally moulded polyethylene cylindrical vertical close end tank of nominal capacity of 1000 Litres and complete with lid and ball valve, float switch. Tanks to be complete with inlet, outlet and overflow connections and tank connectors for the same as described below: - - 1 No. 32mm diameter inlet pipe connection - 1 No. 50mm diameter outlet pipe connection - 1 No. 40 mm diameter overflow pipe				
Total Cost For Roof Tanks	A		1	No		

ITEM	DESCRIPTION	AMOUNT (KES)
	SUMMARY PAGE	
1.0	Total Cost for Internal Plumbing	
3.0	Total Cost for Sanitary Fittings	
6.0	Total Cost For Ground Floor Foul Drainage Installation	
8.0	Total Cost For Rain Water Drainage Installation	
9.0	Total Cost For Roof Tanks	
	Total carried to Mechanical Works Main Summary Page	

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)			
1.0	Internal Plumbing Installations			(RES)	(RE3)			
1.0								
	Supply, deliver install, Test and Commission:							
	PP-R (Polypropylene Random Co-polymer)							
	pipes PN 20 and fittings and fusion joints to (KS							
	ISO 15874 Part 1, 2, 3 & 5) of approved							
	manufacturer. Rates must allow for all							
	Metal/plastic threaded adaptors where required							
	for the connection of sanitary fixtures, valves,							
	sockets, sliding and fixed joints etc. as required							
	in the running lengths of pipework. The pipes							
	shall run in floors and wall chase. The pipes will							
	be pressure tested before the plastering of wall							
	commences and as per the manufacturers recommended testing pressures.							
	recommended testing pressures.							
	Pipe Works							
А	25mm Ø PPR Pipe	2	LM					
В	Ditto 20mm Ø	2	LM					
	Extra Over Pipe Work							
	Elbows/ Bends							
С	25mm Ø Elbows/ Bends	3	No.					
D	Ditto 20mm Ø	2	No.					
	Equal/Unequal Tees							
Ε	25 x 20 x 25mm	1	No.					
	Reducers							
F	25 x 20mm reducer	2	No.					
	Male/Female brass threaded adaptor							
G	25 x 20mm male/female threaded adaptor	2	No.					
Н	25 x 15mm ditto	1	LM					
Ι	25 x 15mm male threaded bend	1	LM					
	Total Carried to Next Page							

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
	Total from Previous Page				
J	<b>Isolating valves</b> 25mm Ø Gate Valve as "Pegler" or Equivalent	1	No.		
L	<b>Testing and Commissioning</b> Allow for pressure testing of the Plumbing installation to the satisfaction of the Engineer including provision of necessary pipe plugs.		Item		
	Sub Total				
	TOTAL	1		x 1	
	Total Cost of Plumbing Installation Gua	rd Hou	se		

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
A B C D E	Foul Drainage Supply, deliver and install the following uPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) Heavy gauge soil and waste system. Allow for all the various sizes of adaptor, connectors, sockets, holderbats, clips etc not measured but required for the satisfactory functioning of the system. Piping 50mm ditto 100mm diameter heavy duty pipe Extra over uPVC Pipeworks 50mm sweep bend 100mm sweep bend	6 4 4 2 1	LM LM LM No. No.	(KES)	(KES)
	Total Carried to Next Page				

ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
EE	<b>Total From Previous Page</b> <b>Gulley Trap</b> Gully trap comprising of 100mm diameter golden brown uPVC gully piece, 100mm diameter uPVC trap spigot outlet with screws and washers, and 300 x 300mm masonry gully trap chamber with mild steel plate and a heavy	1	No.		
GG	Manholes Construct manhole/ inspection chamber size 450 x 600 x 750mm deep internally in 200mm stone walls, 150mm concrete bed, water proof plaster, forming drain channels, medium duty cover frame in cast iron with recessed cover with concrete infill and all necessary formwork, excavation and soil disposal.	1	No.		
HH	<b>Excavations</b> Excavate trench for pipe not exceeding 100mm diameter and not exceeding 1.5m deep (average 600mm deep) and make good as before.	4	LM		
	Total Cost For Ground Floor Foul Drainage Inst	allatior	1		

Rain Water DrainageISupply, deliver and install UPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) rainwater pipework. Allow for all flanges, couplings, nipples, connector joints, fixing clips holder bats etc as required in running length of pipework but not measured.APiping 100mm ditto6Extra over piping for fittings:- 100mm single branch7B100mm ditto2C100mm ditto2D100mm single branch2F100mm flat roof rain water outlets1No.1	ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
A100mm ditto6LMExtra over piping for fittings:B100mm ditto2No.C100mm sweep bend2No.D100mm single branch2No.E100mm double branch2No.		Supply, deliver and install UPVC (Unplasticized Polyvinyl chloride) to (KS ISO 1452 Part 1, 2, 3, 4 & 5) rainwater pipework. Allow for all flanges, couplings, nipples, connector joints, fixing clips holder bats etc as required in running length of pipework				
B100mm ditto2No.C100mm sweep bend2No.D100mm single branch2No.E100mm double branch2No.	Α		6	LM		
Total Cost For Rain Water Drainage Installation	C D E	100mm ditto 100mm sweep bend 100mm single branch 100mm double branch 100mm flat roof rain water outlets	2 2 1	No. No. No.		

ROOF WATER STORAGE TANK         Top Tank Deluxe heavy duty rotationally moulded polyethylene cylindrical vertical close end tank of nominal capacity of 1000 Litres and complete with lid and ball valve, float switch. Tanks to be complete with inlet, outlet and overflow connections and tank connectors for the same as described below: - <ul> <li>1 No. 32mm diameter outlet pipe connection</li> <li>1 No. 50mm diameter outlet pipe connection</li> <li>1 No. 40 mm diameter outlet pipe connection</li> <li>1 No. 40 mm diameter outlet pipe connection</li> </ul> <li>A Tank Capacity : 500 litres</li> <li>1 No</li>	ITEM	DESCRIPTION	QTY.	UNIT	RATE (KES)	AMOUNT (KES)
		ROOF WATER STORAGE TANK Top Tank Deluxe heavy duty rotationally moulded polyethylene cylindrical vertical close end tank of nominal capacity of 1000 Litres and complete with lid and ball valve, float switch. Tanks to be complete with inlet, outlet and overflow connections and tank connectors for the same as described below: - - 1 No. 32mm diameter inlet pipe connection - 1 No. 50mm diameter overflow pipe connection			(KES)	(KES)
Total Cost For Roof Tanks						

ITEM	DESCRIPTION	AMOUNT (KES)
	SUMMARY PAGE	
1.0	Total Cost for Internal Plumbing	
2.0	Total Cost For Ground Floor Foul Drainage Installation	
3.0	Total Cost For Rain Water Drainage Installation	
4.0	Total Cost For Roof Tanks	
	Total carried to Mechanical Works Main Summary Page	

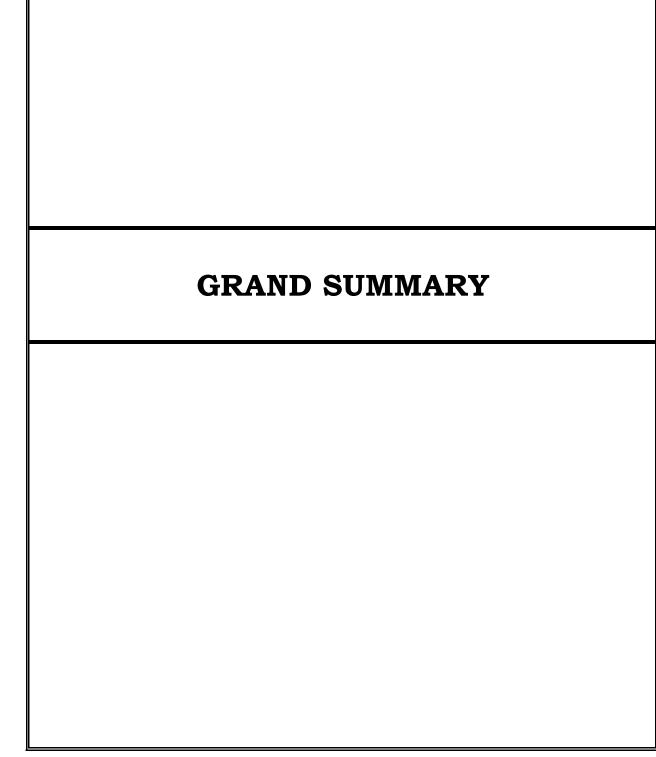
## NGONG GRAND SUMMARY PAGE

ITEM	DESCRIPTION	Unit	Qty	RATE (KSHS)	AMOUNT (KSHS)				
1	SUMMARY FOR MECHANICAL SERVICES FOR AFFORDABLE HOUSING BLOCK TYPE A	No	10						
2	SUMMARY FOR MECHANICAL SERVICES FOR AFFORDABLE HOUSING BLOCK TYPE B	No	10						
3	SUMMARY FOR EXTERNAL RETICULATION	No	1						
4	SUMMARY FOR MECHANICAL SERVICES FOR CLUB HOUSE	No	1						
5	SUMMARY FOR MECHANICAL INSTALLATION ECD	No	1						
6	SUMMARY FOR MECHANICAL INSTALLATION SCHOOL	No	1						
7	SUMMARY FOR MECHANICAL SERVICES FOR COMMERCIAL CENTRE	No	1						
8	SUMMARY FOR MECHANICAL SERVICES FOR MIXED USED BUILDING	No	1						
9	SUMMARY FOR MECHANICAL SERVICES FOR GUARD HOUSE	No	1						
10	SUMMARY FOR MECHANICAL SERVICES FOR GARBAGE RECPTACLE	No	1						
	TOTALS FOR WECHANICAL INSTALLATION								
	SERVICES FOR PROPOSED NGONG AFFORDABLE HOUSING PROJECT								
	Amount in Words: Kenya Shillings								
	Official Stamp & Address:								
	Tenderer's Signature:Date:Date:								
	Witness' Name:Witness' Signature:								
	Address:								
	Date:								

## **PROVISIONAL SUMS & PRIME COST** SUMS

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PRIME COST SUMS				
А	<b>Ground Breaking &amp; Project Launch</b> Allow a prime cost of Five Hundred Thousand Only (KSHs. 500,000) for ground breaking, project launch, commissioning and project handover	SUM	1	500,000	500,000
B C	Allow for profits and overheads Allow for attendance	% Sum			
D	<u>Marketing and sales support</u> Allow a prime cost of One Million (KSHs. 1,000,000) for Marketing and sales support to Boma Yangu	SUM	1	1,000,000	1,000,000
E F	Allow for profits and overheads Allow for attendance	% Sum			
G	<b><u>Renders and Printing</u></b> Allow a prime cost of Five Hundred Thousand (KSHs. 500,000) for preparation of renders and printing	SUM	1	500,000	500,000
H I	Allow for profits and overheads Allow for attendance	% Sum			
	Signage				
J	Allow a provisional sum of Ksh. Five hundred thousand (Ksh. 500,000) for signage.	SUM	1	500,000	500,000
	PROVISIONAL SUMS				
К	Clothes Drying Areas	Item		900,000	900,000
L	Landscaping	Item		5,400,000	5,400,000
М	Retaining Walls and Existing Ground Improvements	Item		18,000,000	18,000,000
	TOTAL CARRIED FORWARD			Kshs	

	TOTAL BROUGHT FORWARD				
	ELECTRICAL INSTALLATIONS PROVISIONAL SUMS				
А	Supply, Installation and Commisioning of lifts to Apartment Blocks	SUM	1	220,000,000	220,000,000
В	Supply, Installation and Commisioning of Backup Generators	SUM	1	40,000,000	40,000,000
С	Supply, Installation and Commisioning of CCTV Installations	SUM	1	3,900,000	3,900,000
D	Fabrication, Supply and commisioning of LV Switchboards Distribution Boards	SUM	1	70,000,000	70,000,000
Е	Capital Contribution to KPLC For Power Connection	SUM	1	24,000,000	24,000,000
С	Supply, Installation and Commisioning of MATV Installations	SUM	1	20,000,000	20,000,000
	MECHANICAL INSTALLATIONS PROVISIONAL SUMS				
F	Supply only of Sanitary Fittings	SUM	1	43,000,000	43,000,000
G	Supply & Installations of Water Booster Pumps	SUM	1	12,000,000	12,000,000
Н	Supply of GRP Roof Level Water Tanks	SUM	1	46,000,000	46,000,000
Ι	Hose Reel Pumps	SUM	1	5,000,000	5,000,000
J	Borehole Drillling & Equiping	SUM	1	45,000,000	45,000,000
	7000 P.E Waste Water Treatment Plant (Equiping Cost Only)	SUM	1	60,000,000	60,000,000
Κ	External Reticulation Borehole Water	SUM	1	101,800	101,800.00
L	External Reticulation Council Water	SUM	1	131,800	131,800
М	LPG External Reticulation Provision	SUM	1	1,700,000	1,700,000
	TOTAL FOR SERVICES INSTALLATIONS PROVISIONAL SUM CARRIED TO GRAND SUMMARY				



### AFFORDABLE HOUSING PROGRAMME PROPOSED CONSTRUCTION OF AFFORDABLE HOUSING UNITS AND ASSOCIATED SOCIAL INFRASTRUCTURE AT NGONG IN KAJIADO COUNTY

ITEM	DESCRIPTION	GRAND SUMMARY PAGE	FOR TENDERER USE ONLY	FOR OFFICIAL USE
1.00	PARTICULAR PRELIMINARIES	PP/7		
2.00	GENERAL PRELIMINARIES	GP/22		
3.00	PROJECT PROVISIONS	PR/2		
4.00	BUILDERS WORK BLOCK TYPE A	A/20		
5.00	BUILDERS WORK BLOCK TYPE B	B/20		
6.00	CLUB HOUSE	CH/21		
7.00	SCHOOL	LPS/17		
8.00	KINDERGARTEN	K/17		
9.00	COMMERCIAL CENTRE	CC/21		
10.00	MIXED USE DEVELOPMENT	MUD/S		
11.00	BASKET BALL PITCH	BP/7		
12.00	GUARD HOUSE	GH/19		
13.00	GARBAGE RECEPTACLE	GR/12		
14.00	BOUNDARY WALLING	BW/2		
15.00	CIVIL WORKS - ROADS	RW/S		
16.00	CIVIL WORKS - SEWER	SW/9		
17.00	UNDERGROUND WATER TANK	UG/3		
18.00	ELECTRICAL WORKS	EW/S		
19.00	MECHANICAL WORKS	MW/S		
20.00	PROVISIONAL SUMS & P C SUMS	PS/2		
	SUB-TOTAL			
	ADD CONTINGENCY (2%)			
	GRAND TOTAL CARRIED TO FORM OF 1 (VAT INCLUSIVE)	ENDER		
	AMOUNT IN WORDS : KENYA SHILLINGS			
	TENDERER'S NAME			
	ADDRESS			
	DATE			
	TENDERER'S SIGNATURE			
	WITNESS'S NAME			
	ADDRESS			
	ADDRESS			

## **ARCHITECTURAL DRAWINGS**

## AFFORDABLE HOUSING PROGRAMME



## NGONG AHP

376.875

BLOCH A

03

BLOCK A

04

NDARY WALL

ARAY

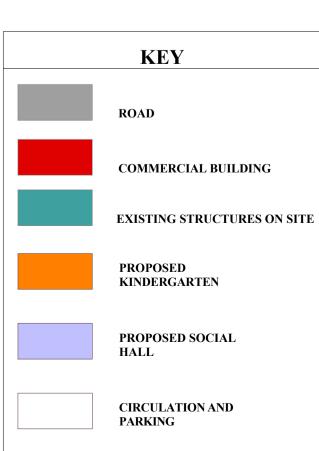
J.J.

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1000 COL

## LAND SIZE= 24.20 ACRES

KEY					
SOCIAL UNITS		19	9%		
1 ROOM UNIT 2 ROOM UNITS 3 ROOM UNITS	1 2 1	100 200 100	400		
AHP		55	5%		
STUDIO UNITS	3	300			
2BEDROOM UNITS	6	600	1200		
3BEDROOM UNITS	3	300			
MARKET		20	5%		
2BEDROOM UNITS	2	200	40.0		
3BEDROOM UNITS	2	200	400		
TOTAL =2000					



a) 10 No Type A Hostel Block with a plinth area of 48,470 SM
(b) 10 No Type B Hostel Block with a plinth area of 58,250 SM
(c) 2 No Blocks Commercial center Plinth area 860 SM
(d) Kindergarten Plinth area 452 SM
(e) Social Hall Plinth area 328 SM
(f) 3 No Waste receptacle Plinth area 42 SM
(g) Guard House Plinth area 10 SM
(h) Basket Ball Pitch 574 Sm
(i) Boundary wall - 3.3m high with a length of 933LM
(j) Road works -6180 SM

## **GENERAL NOTES**

1. This drawing to be read in conjunction with Engineers' drawings.

2. All dimensions are in mm unless otherwise specified.

3. Drawings are not to be scaled. Only figured dimensions should be used.

4. The contractor must check and verify all dimensions before commencement of work and if necessary confirm with the architect.

## CONSTRUCTION

Approved anti-termite treatment & 1000 gauge polythene sheeting cover to be provided under all ground floor concrete slab on compacted hardcore to approval.

DPC to be 3ply bituminous felt to be provided under all walls.

## STRUCTURAL

 All Black cotton soil to be removed from below all building and paved surfaces
 All reinforced concrete work will be in accordance with structural drawings.

3. Foundation depths to be determined on site to S.E approval

4. All walls less than 200mm thick to be reinforced with hoop iron at every alternate course.

5. All adjacent R.C work and masonry walls to be tied with strap irons at every course

## MECHANICAL

1. All Plumbing and Drainage Work to comply with specifications

2. S.V.P denotes soil vent pipe and to be provided at the head of the drainage3. Where drainage is shown under driveways and slabs, to be encased in 150mm thick concrete surround.

4. All underground foul and waste drain pipes shall be of PVC to comply with B\$5255
5. All ICs within building area, driveway and parking to have heavy duty double-seal airtight

parking to have heavy duty,double-seal airtight covers and walls to be 200mm. 6. Minimum slope in the drain pipes to be 1%

7. No chases for pipes will be allowed in the slabs

8. Sleeves will be allowed with written approval from S.E.

9. No cutting of concrete without express approval of the Architect or S.E

10. All testing of pipes must be coordinated with electrical and any conflicts must be resolved before works begin

11. Permanent vents denoted as P.V to be provided as shown on plan.

## ELECTRICAL

All conduits must be laid before plastering

## **PROJECT**:

PROPOSED AFFORDABLE HOUSING DEVELOPMENT IN NGONG

## CLIENT:

Name: STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT

Date:

Signature:\_\_\_\_\_

**DRAWING TITLE:** 

WORKING DRAWINGS

SCALE:

DRAWN BY: ARCH JMO

CHECKED BY:

Name:

Signature:

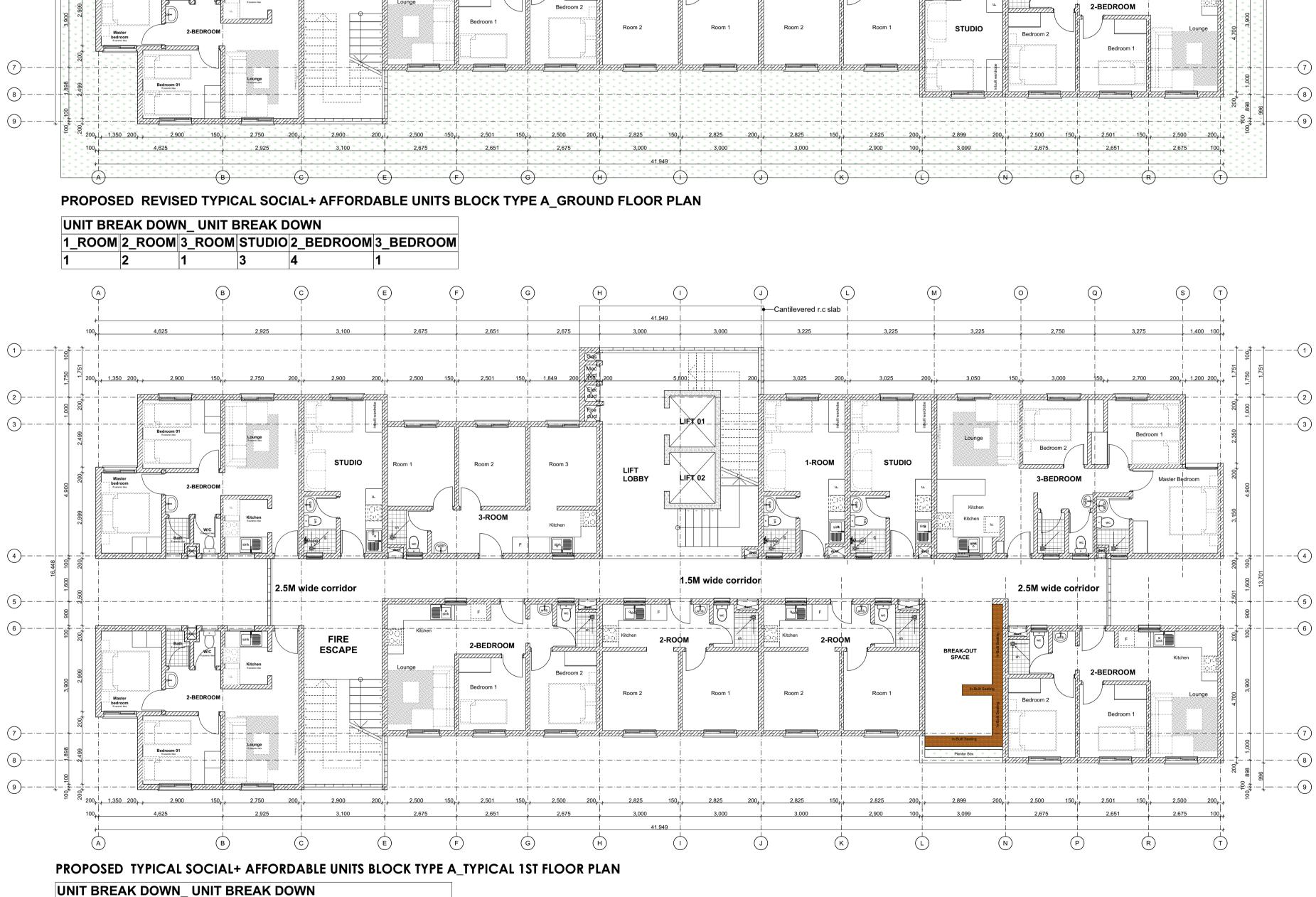
Date:

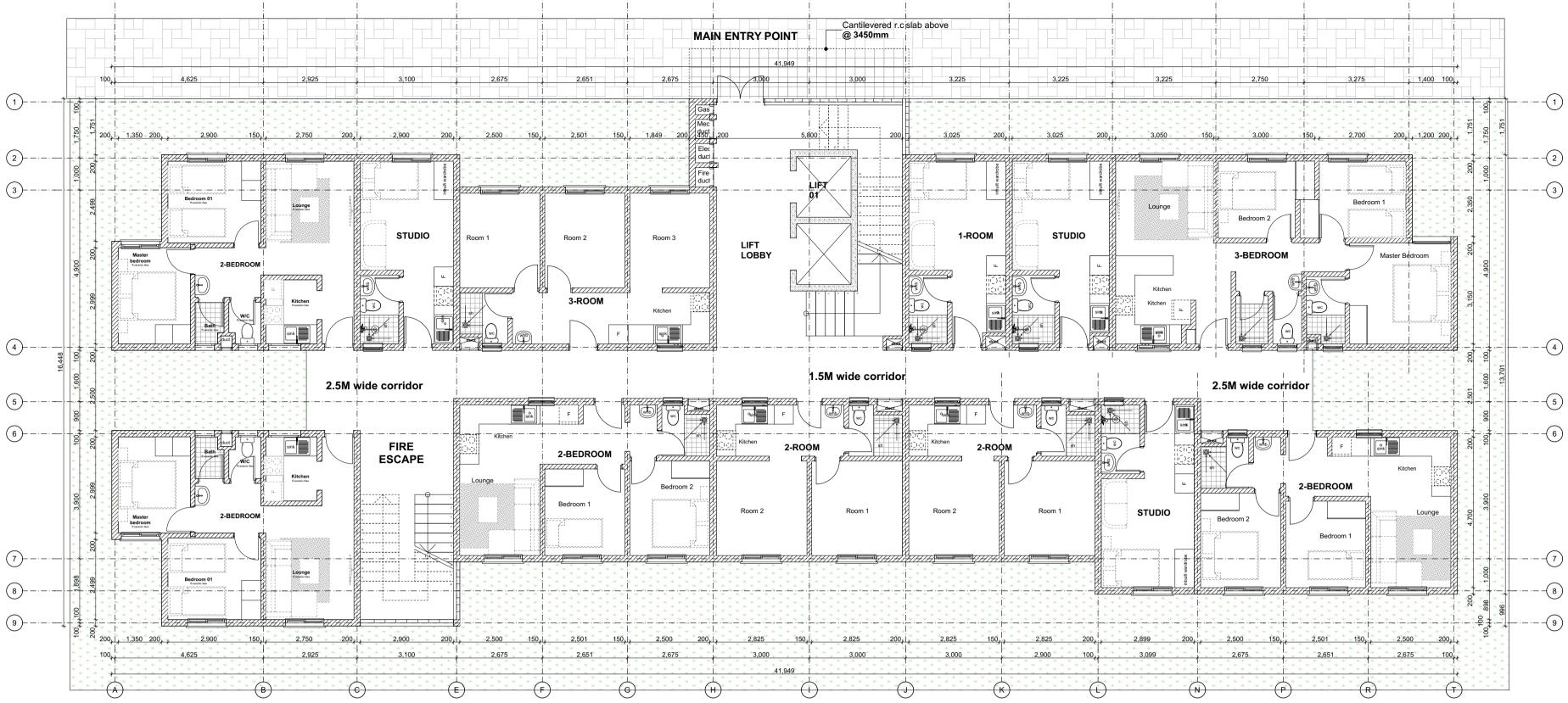
DATE:

MINISTRYOF LANDS, PUBLIC WORKS, HOUSINGAND URBAN DEVELOPMENT

STATE DEPARTMENTFOR HOUSING & URBAN DEVELOPMENT







(A)

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1\_ROOM 2\_ROOM 3\_ROOM STUDIO 2\_BEDROOM 3\_BEDROOM

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## **GENERAL NOTES**

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2. All dimensions are in mm unless otherwise specified.

3. Drawings are not to be scaled. Only figured dimensions should be used.

4. The contractor must check and verify all dimensions before commencement of work and if necessary confirm with the architect.

## CONSTRUCTION

Approved anti-termite treatment & 1000 gauge polythene sheeting cover to be provided under all ground floor concrete slab on compacted hardcore to approval.

DPC to be 3ply bituminous felt to be provided under all walls.

## STRUCTURAL

1. All Black cotton soil to be removed from below all building and paved surfaces 2. All reinforced concrete work will be in

accordance with structural drawings. 3. Foundation depths to be determined on site to S.E approval

4. All walls less than 200mm thick to be reinforced with hoop iron at every alternate

course. 5. All adjacent R.C work and masonry walls to be tied with strap irons at every course

## MECHANICAL

1. All Plumbing and Drainage Work to comply with specifications

2. S.V.P denotes soil vent pipe and to be provided at the head of the drainage 3. Where drainage is shown under driveways and slabs, to be encased in 150mm thick

concrete surround. 4. All underground foul and waste drain pipes shall be of PVC to comply with BS5255 5. All ICs within building area, driveway and

parking to have heavy duty, double-seal airtight covers and walls to be 200mm. 6. Minimum slope in the drain pipes to be 1%

7. No chases for pipes will be allowed in the slabs

8. Sleeves will be allowed with written approval from S.E.

9. No cutting of concrete without express approval of the Architect or S.E

10. All testing of pipes must be coordinated with electrical and any conflicts must be resolved before works begin

11. Permanent vents denoted as P.V to be provided as shown on plan.

## ELECTRICAL

All conduits must be laid before plastering

## **PROJECT:**

PROPOSED AFFORDABLE HOUSING DEVELOPMENT IN NGONG

CLIENTATE DEPARTMENT FOR HOUSING AND Name: URBAN DEVELOPMENT

Date:

Date:

Signature:

**DRAWING TITLE:** 

**BLOCK A \_FLOOR PLANS SCALE:** 1:100

## **DRAWN BY:**

ML

CHECKED BY:

Name:

Signature

DATE:

MINISTRY OF LANDS, PUBLIC WORKS HOUSINGANDURBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING & URBAN

DEVELOPMENT





## **GENERAL NOTES**

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 All dimensions are in mm unless otherwise specified.
 Drawings are not to be sealed. Only figure

3. Drawings are not to be scaled. Only figured dimensions should be used.

4. The contractor must check and verify all dimensions before commencement of work and if necessary confirm with the architect.

## CONSTRUCTION

Approved anti-termite treatment & 1000 gauge polythene sheeting cover to be provided under all ground floor concrete slab on compacted hardcore to approval.

DPC to be 3ply bituminous felt to be provided under all walls.

## STRUCTURAL

 All Black cotton soil to be removed from below all building and paved surfaces
 All reinforced concrete work will be in

accordance with structural drawings.3. Foundation depths to be determined on site to S.E approval

4. All walls less than 200mm thick to be reinforced with hoop iron at every alternate

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### MECHANICAL

1. All Plumbing and Drainage Work to comply with specifications

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parking to have heavy duty,double-seal airtight covers and walls to be 200mm. 6. Minimum slope in the drain pipes to be 1%

7. No chases for pipes will be allowed in the slabs

8. Sleeves will be allowed with written approval from S.E.

9. No cutting of concrete without express approval of the Architect or S.E

10. All testing of pipes must be coordinated with electrical and any conflicts must be resolved before works begin

11. Permanent vents denoted as P.V to be provided as shown on plan.

## ELECTRICAL

All conduits must be laid before plastering

## **PROJECT**:

PROPOSED AFFORDABLE HOUSING DEVELOPMENT IN NGONG

## **CLIENT:**

Name: STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT

Signature: \_ \_ \_ \_ Date: \_

## DRAWING TITLE:

BLOCK A \_FLOOR PLANS

## **DRAWN BY:**

ML

CHECKED BY:

Name:\_\_\_\_

Signature:\_\_\_\_\_

## DATE:

MINISTRY OF LANDS, PUBLIC WORKS, HOUSINGANDURBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING & URBAN

DEVELOPMENT

Date:





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(T)

UNIT BREAK DOWN1\_ROOM2\_ROOM3\_ROOMSTUDIO2\_BEDROOM3\_BEDROOM121241

(A)

В

(c)

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## **GENERAL NOTES**

1. This drawing to be read in conjunction with Engineers' drawings.

 All dimensions are in mm unless otherwise specified.
 Drawings are not to be sealed. Only figure

3. Drawings are not to be scaled. Only figured dimensions should be used.

4. The contractor must check and verify all dimensions before commencement of work and if necessary confirm with the architect.

## CONSTRUCTION

Approved anti-termite treatment & 1000 gauge polythene sheeting cover to be provided under all ground floor concrete slab on compacted hardcore to approval.

DPC to be 3ply bituminous felt to be provided under all walls.

## STRUCTURAL

 All Black cotton soil to be removed from below all building and paved surfaces
 All reinforced concrete work will be in

accordance with structural drawings.3. Foundation depths to be determined on site to S.E approval

4. All walls less than 200mm thick to be reinforced with hoop iron at every alternate

course.5. All adjacent R.C work and masonry walls to be tied with strap irons at every course

### MECHANICAL

1. All Plumbing and Drainage Work to comply with specifications

2. S.V.P denotes soil vent pipe and to be provided at the head of the drainage3. Where drainage is shown under driveways and slabs, to be encased in 150mm thick

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7. No chases for pipes will be allowed in the slabs

8. Sleeves will be allowed with written approval from S.E.

9. No cutting of concrete without express approval of the Architect or S.E

10. All testing of pipes must be coordinated with electrical and any conflicts must be resolved before works begin

11. Permanent vents denoted as P.V to be provided as shown on plan.

## ELECTRICAL

All conduits must be laid before plastering

## **PROJECT**:

PROPOSED AFFORDABLE HOUSING DEVELOPMENT IN NGONG

## **CLIENT:**

Name: STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT

Signature: \_ \_ \_ \_ Date:

## DRAWING TITLE:

BLOCK A \_FLOOR PLANS

## **DRAWN BY:**

ML

CHECKED BY:

Name:\_\_\_\_

Signature:\_\_\_\_\_

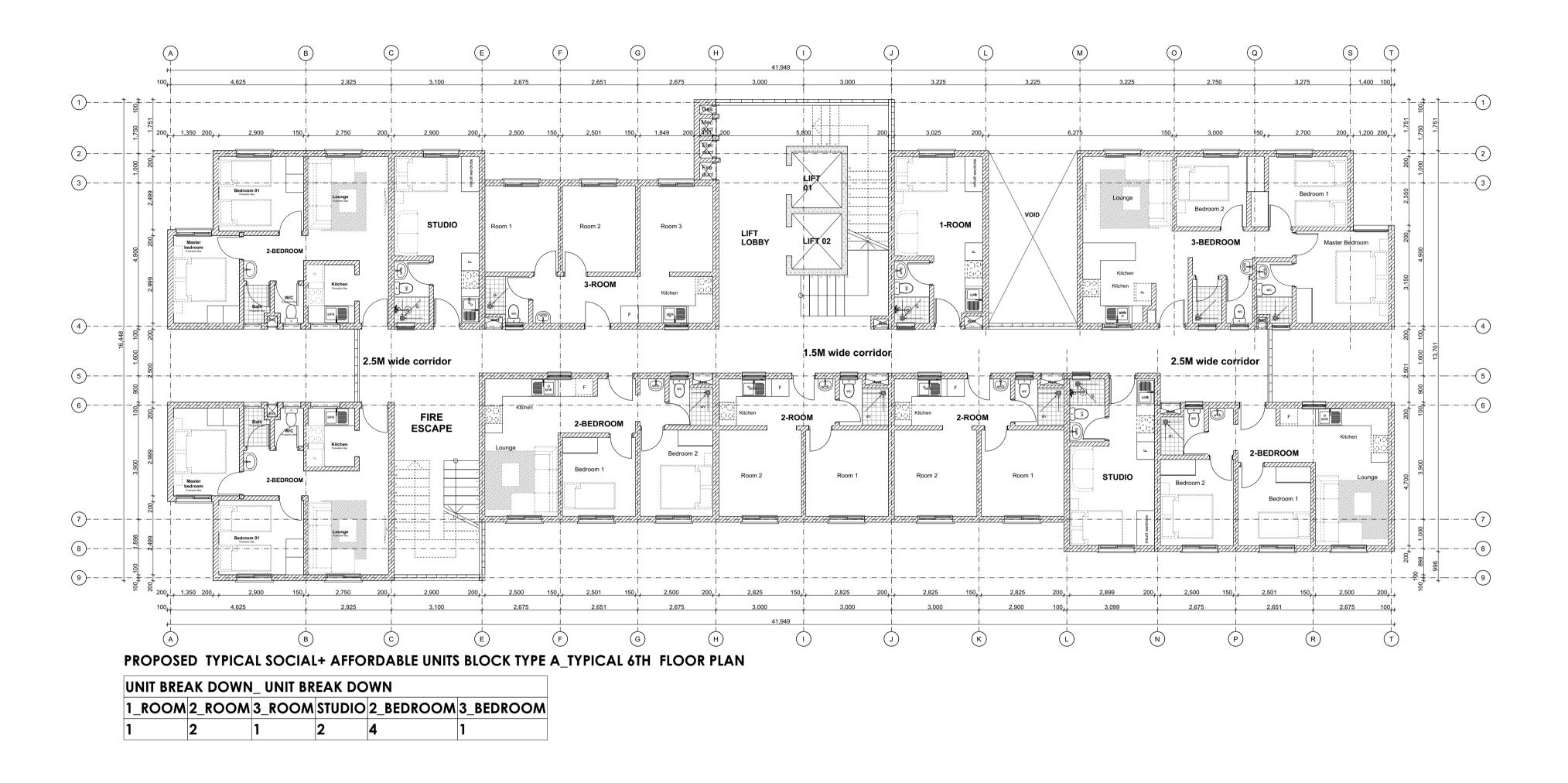
## DATE:

MINISTRY OF LANDS, PUBLIC WORKS, HOUSINGANDURBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING & URBAN

DEVELOPMENT

Date:





## **GENERAL NOTES**

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## ELECTRICAL

All conduits must be laid before plastering

## **PROJECT**:

PROPOSED AFFORDABLE HOUSING DEVELOPMENT IN NGONG

CLIENT TE DEPARTMENT FOR HOUSING AND Name: URBAN DEVELOPMENT

Date:

Date:

Signature:\_\_\_\_

## **DRAWING TITLE:**

BLOCK A \_FLOOR PLANS

## DRAWN BY:

ML

CHECKED BY:

Name:

Signature:\_\_\_\_

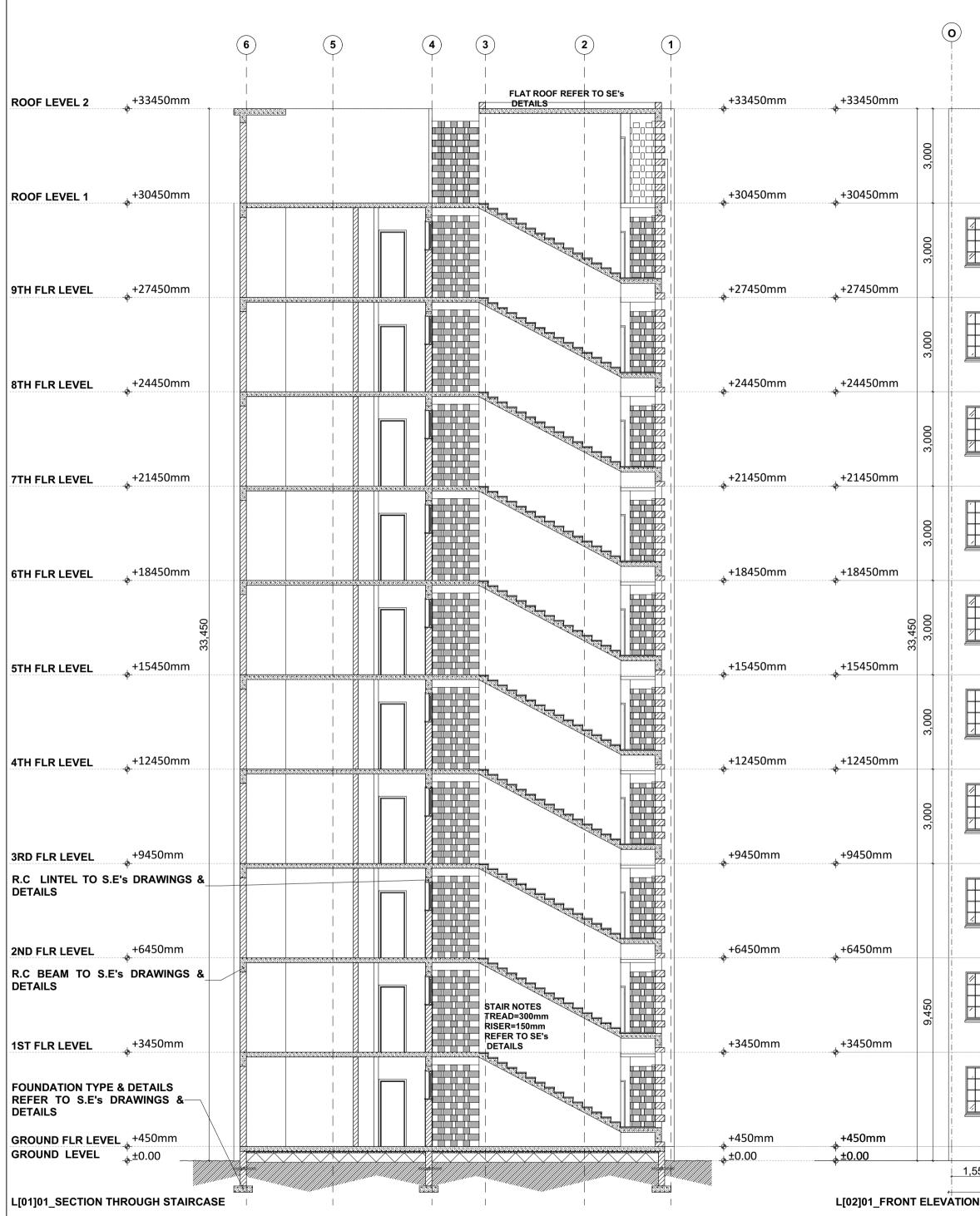
DATE:

MINISTRY OF LANDS, PUBLIC WORKS, HOUSINGANDURBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING & URBAN

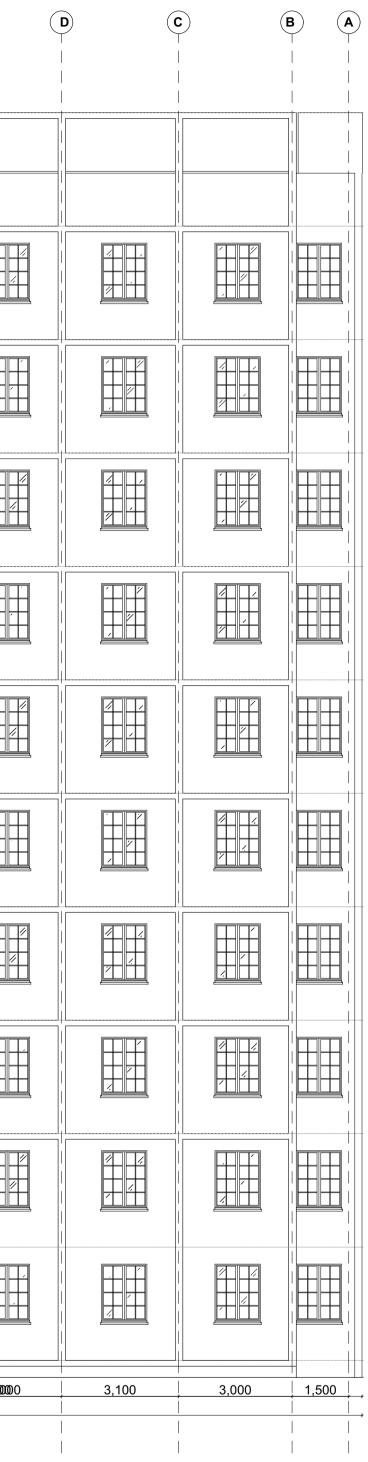
DEVELOPMENT



## **REVISION 01**



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## **GENERAL NOTES**

1. This drawing to be read in conjunction with Engineers' drawings.

2. All dimensions are in mm unless otherwise specified.

3. Drawings are not to be scaled. Only figured dimensions should be used.

4. The contractor must check and verify all dimensions before commencement of work and if necessary confirm with the architect.

## CONSTRUCTION

Approved anti-termite treatment & 1000 gauge polythene sheeting cover to be provided under (A) | all ground floor concrete slab on compacted hardcore to approval.

DPC to be 3ply bituminous felt to be provided under all walls.

## STRUCTURAL

1. All Black cotton soil to be removed from below all building and paved surfaces 2. All reinforced concrete work will be in

accordance with structural drawings. 3. Foundation depths to be determined on site to S.E approval

4. All walls less than 200mm thick to be reinforced with hoop iron at every alternate course.

5. All adjacent R.C work and masonry walls to be tied with strap irons at every course

## MECHANICAL

1. All Plumbing and Drainage Work to comply with specifications

2. S.V.P denotes soil vent pipe and to be provided at the head of the drainage 3. Where drainage is shown under driveways and slabs, to be encased in 150mm thick concrete surround.

4. All underground foul and waste drain pipes shall be of PVC to comply with BS5255 5. All ICs within building area, driveway and parking to have heavy duty, double-seal airtight

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11. Permanent vents denoted as P.V to be provided as shown on plan.

## ELECTRICAL

All conduits must be laid before plastering

## **PROJECT:**

PROPOSED AFFORDABLE HOUSING DEVELOPMENT IN NGONG

## CLIENT:

STATE DEPARTMENT FOR HOUSING AND Name: URBAN DEVELOPMENT

Signature: Date:

## **DRAWING TITLE:**

**BLOCK A \_SECTION & ELEVATION SCALE:** 1:100

## DRAWN BY:

ML

CHECKED BY:

Name:

Signature:

## DATE:

MINISTRY OF LANDS, PUBLIC WORKS HOUSINGANDURBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING & URBAN

DEVELOPMENT

Date:

## **REVISION 01**

		A B			D) (E	)
ROOF LEVEL 2	••			     		
ROOF LEVEL 1 +30450mm	3,000					
<b>9TH FLR LEVEL</b> +27450mm	3,000					
<b>8TH FLR LEVEL</b> +24450mm	3,000					
<b>7TH FLR LEVEL</b> +21450mm	3,000					
۰ 6TH FLR LEVEL +18450mm	3,000					
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## ELECTRICAL

All conduits must be laid before plastering

## **PROJECT**:

PROPOSED AFFORDABLE HOUSING DEVELOPMENT IN NGONG

## CLIENT:

STATE DEPARTMENT FOR HOUSING AND Name: URBAN DEVELOPMENT

Signature: Date:

## **DRAWING TITLE:**

**BLOCK A \_SECTION & ELEVATION SCALE:** 1:100

## **DRAWN BY:**

ML

CHECKED BY:

Name:

Signature:

## DATE:

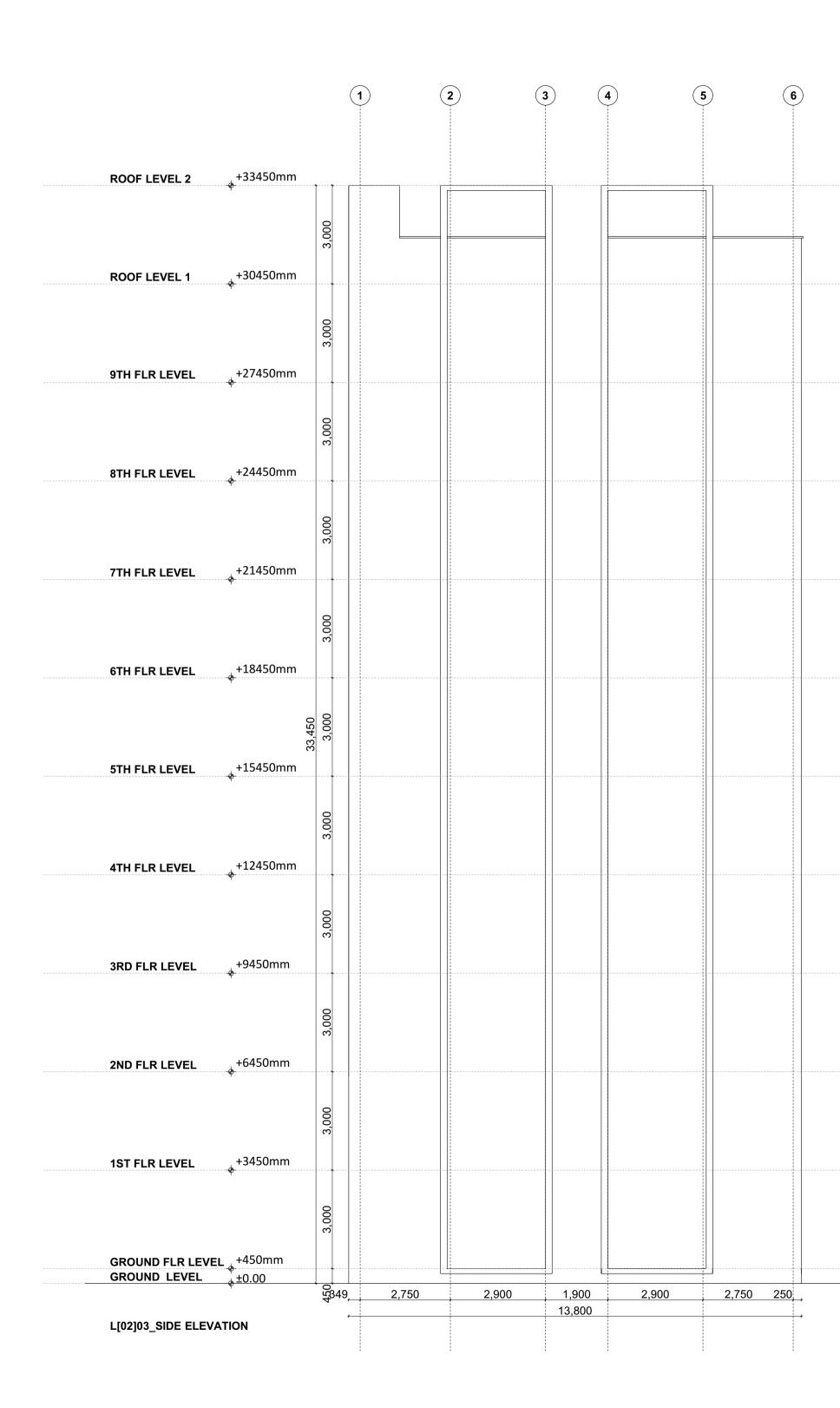
MINISTRY OF LANDS, PUBLIC WORKS, HOUSINGANDURBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING & URBAN

DEVELOPMENT

Date:



## **REVISION 01**



		6	)	5	4	3	2	) (
	+33/150mm							
ROOF LEVEL 2	+33450mm							]]
		3,000						
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ROOF LEVEL 1	+30450mm							
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9TH FLR LEVEL	+27450mm							
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## **GENERAL NOTES**

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## ELECTRICAL

All conduits must be laid before plastering

## **PROJECT**:

PROPOSED AFFORDABLE HOUSING DEVELOPMENT IN NGONG

## **CLIENT:**

Name: STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT

Signature: \_ \_ \_ \_ Date: \_

## DRAWING TITLE:

BLOCK A \_SECTION & ELEVATION **SCALE:** 1:100

### **DRAWN BY:**

ML

CHECKED BY:

Name:

Signature:\_\_\_\_\_

MINISTRY OF LANDS, PUBLIC WORKS, HOUSINGANDURBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING & URBAN

DEVELOPMENT

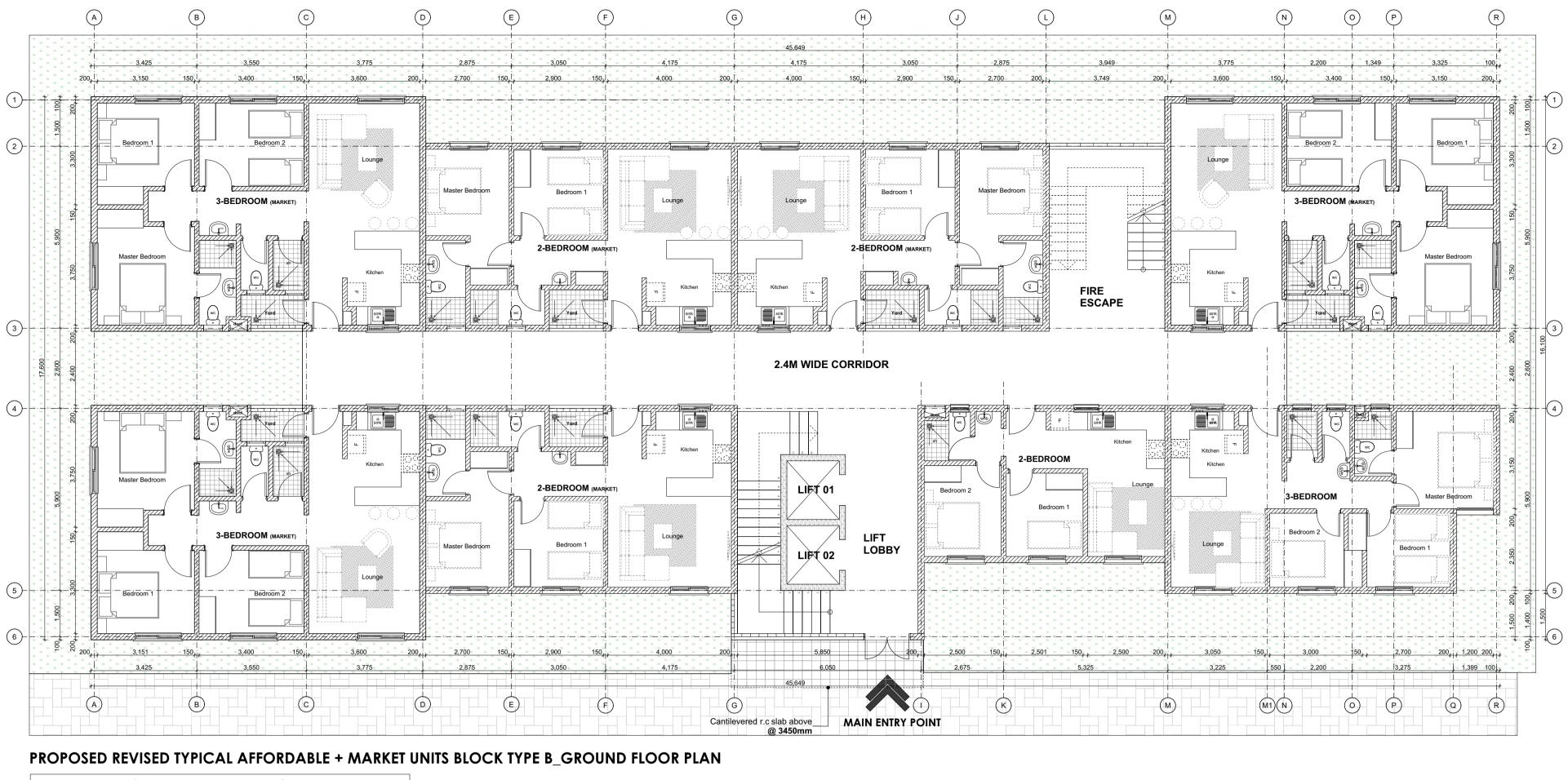
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## **REVISION 01**

FOR THE GOVERNMENT OF THE REPUBLIC OF KENYA

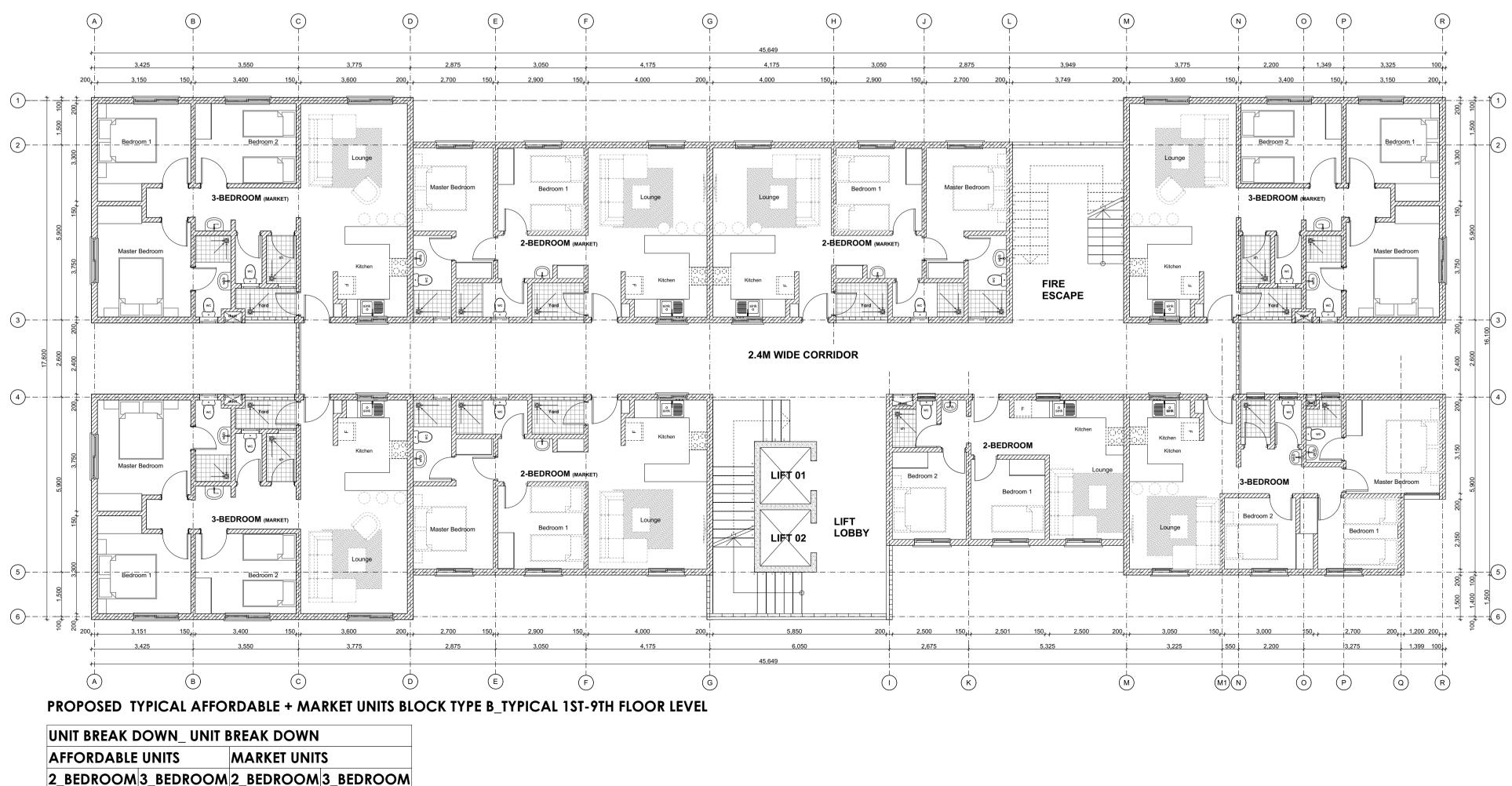
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AFFORDABLE	UNITS	MARKET UNITS				
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3



## GENERAL NOTES

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## CONSTRUCTION

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## ELECTRICAL

All conduits must be laid before plastering

## **PROJECT**:

PROPOSED AFFORDABLE HOUSING DEVELOPMENT IN NGONG

CLIENT: Name: URBAN DEVELOPMENT

Date:

Date:

Signature:

## **DRAWING TITLE:**

BLOCK B \_FLOOR PLANS **SCALE:** 1:100

## **DRAWN BY:**

ML

CHECKED BY:

Name:

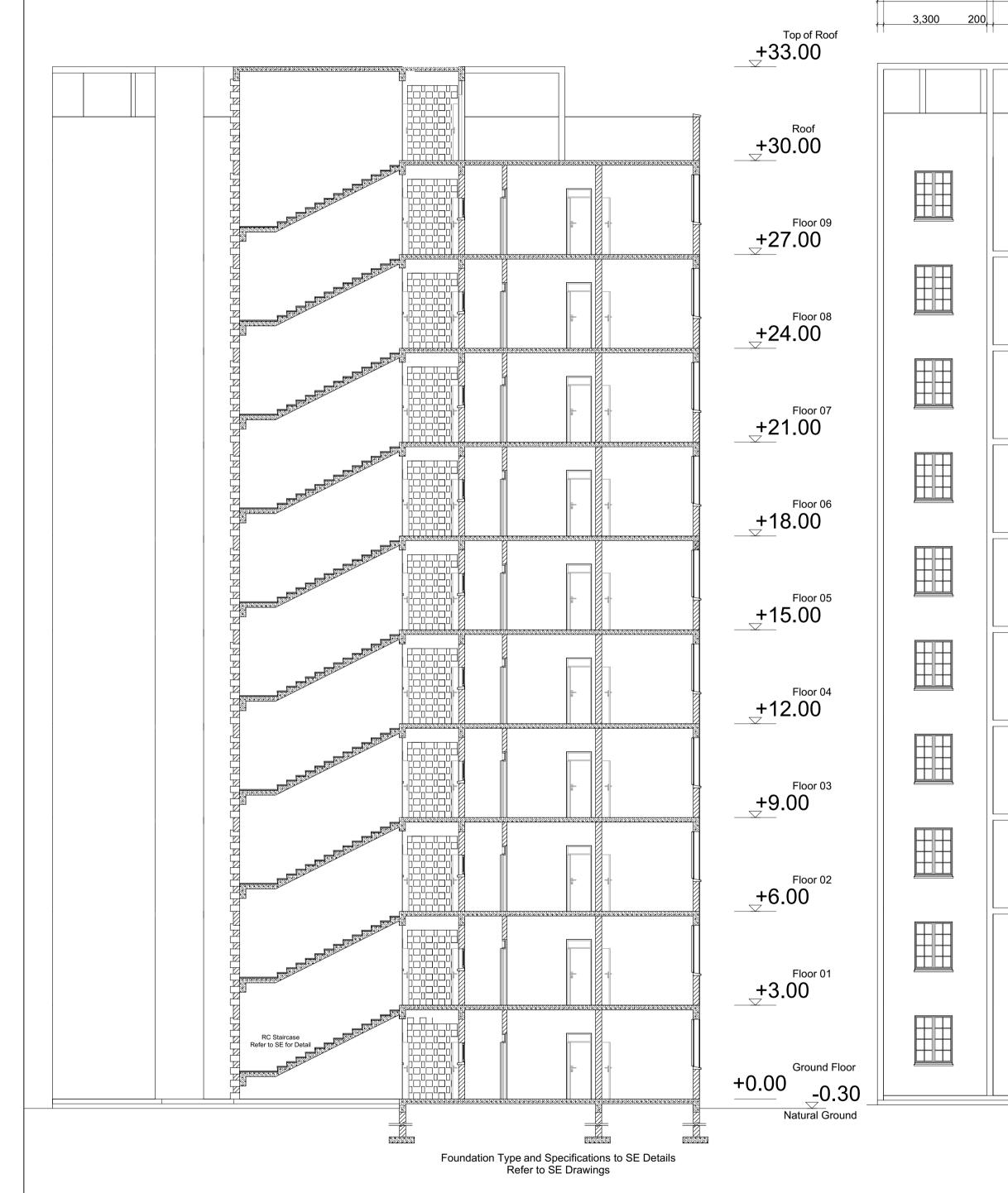
Signature:

DATE:

MINISTRY OF LANDS, PUBLIC WORKS, HOUSINGANDURBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING & URBAN DEVELOPMENT



## **REVISION 01**



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**GENERAL NOTES** 

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10. All testing of pipes must be coordinated with electrical and any conflicts must be resolved before works begin

11. Permanent vents denoted as P.V to be provided as shown on plan.

## ELECTRICAL

All conduits must be laid before plastering

## **PROJECT**:

PROPOSED AFFORDABLE HOUSING DEVELOPMENT IN NGONG

## CLIENT:

STATE DEPARTMENT FOR HOUSING AND Name: URBAN DEVELOPMENT

Signature: Date:

## **DRAWING TITLE:**

**BLOCK B \_SECTION & ELEVATION SCALE:** 1:100

## **DRAWN BY:**

ML

CHECKED BY:

Name:

Signature:

## DATE:

MINISTRY OF LANDS, PUBLIC WORKS, HOUSINGANDURBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING & URBAN

DEVELOPMENT

Date:



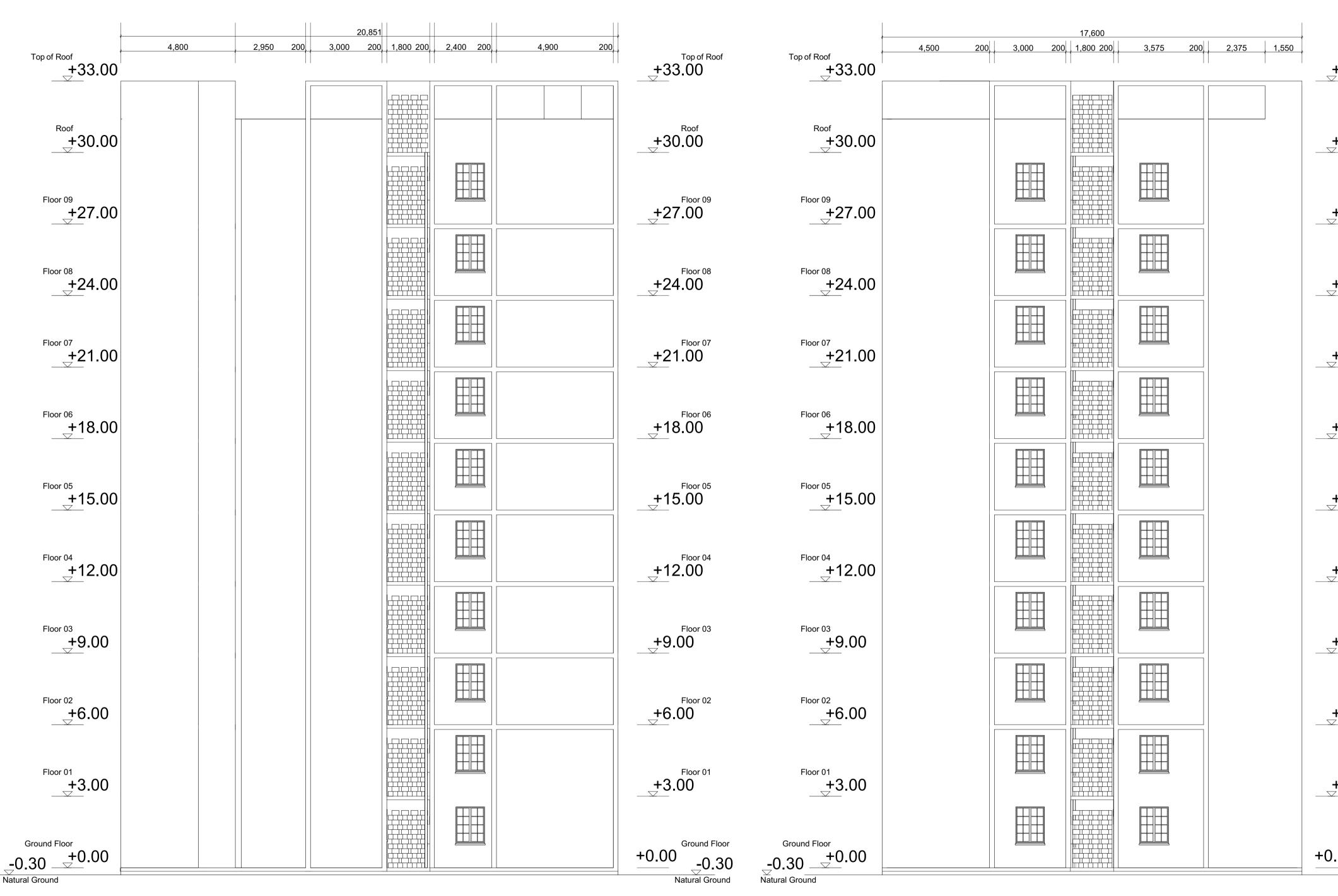
FOR THE GOVERNMENT OF THE **REPUBLIC OF KENYA** 

200 3,000 200 1,650 1,850

*							43,500	)						
Top of Roof $+33.00$	3,300 200,	, 3,000 200, , ,	3,500 200	0,, 2,300 200,,	6,500	20	0, ,		9,500	20	0 <sub>+ +</sub> 3,400 20	00 <sub>+ +</sub> 3,400 2	00 <sub>**</sub> 2,000 , 1,5	50 <sub>1</sub> 1,750 <sub>1</sub>
Roof +30.00														
Floor 09 +27.00														
Floor 08 +24.00														
Floor 07 +21.00														
Floor 06 +18.00														
Floor 05 +15.00														
Floor 04 +12.00														
Floor 03 +9.00														
Floor 02 +6.00														
Floor 01														
+3.00														

Top of Roof

	GENERAL NOTES
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	3. Drawings are not to be scaled. Only figured dimensions should be used.
	4. The contractor must check and verify all dimensions before commencement of work
	and if necessary confirm with the architect.
	<b>CONSTRUCTION</b> Approved anti-termite treatment & 1000 gauge
	polythene sheeting cover to be provided under all ground floor concrete slab on compacted
	hardcore to approval. DPC to be 3ply bituminous felt to be provided
p of Roof +33.00	under all walls. STRUCTURAL
$\overline{\nabla}$	1. All Black cotton soil to be removed from below all building and paved surfaces
	2. All reinforced concrete work will be in accordance with structural drawings.
_+30.00	3. Foundation depths to be determined on site to S.E approval
	4. All walls less than 200mm thick to be reinforced with hoop iron at every alternate
	course. 5. All adjacent R.C work and masonry walls to
Floor 09 +27.00	be tied with strap irons at every course
	1. All Plumbing and Drainage Work to comply
Floor 08	with specifications 2. S.V.P denotes soil vent pipe and to be
+24.00	provided at the head of the drainage 3. Where drainage is shown under driveways
	and slabs, to be encased in 150mm thick concrete surround.
Floor 07	4. All underground foul and waste drain pipes shall be of PVC to comply with B\$5255
+21.00	5. All ICs within building area, driveway and parking to have heavy duty,double-seal airtight
	<ul><li>covers and walls to be 200mm.</li><li>6. Minimum slope in the drain pipes to be 1%</li></ul>
Floor 06	7. No chases for pipes will be allowed in the slabs
<b>+18.00</b>	8. Sleeves will be allowed with written approval from S.E.
	9. No cutting of concrete without express approval of the Architect or S.E
	10. All testing of pipes must be coordinated with electrical and any conflicts must be
<u>+1</u> 5.00	resolved before works begin 11. Permanent vents denoted as P.V to be
	provided as shown on plan. ELECTRICAL
Floor 04	All conduits must be laid before plastering
	PROJECT:
	PROPOSED AFFORDABLE HOUSING DEVELOPMENT IN NGONG
Floor 03 +9.00	CLIENT:
	Name: STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT
Floor 02	Signature: Date:
+6.00	DRAWING TITLE:
	BLOCK B _SECTION & ELEVATION
Floor 01	SCALE: 1:100
+3.00	
	DRAWN BY:
	CHECKED BY:
+0.00 	Name:
	Signature:Date:
	DATE:
	MINISTRY OF LANDS, PUBLIC WORKS,
	HOUSINGANDURBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING & URBAN
	DEVELOPMENT
	HARAM BES
<b>REVISION 01</b>	FOR THE GOVERNMENT OF THE REPUBLIC OF KENYA



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		CONSTRUCTION
		Approved anti-termite treatment & 1000 gauge
		polythene sheeting cover to be provided under all ground floor concrete slab on compacted
		hardcore to approval.
T (D (		DPC to be 3ply bituminous felt to be provided under all walls.
Top of Roof +33.00		STRUCTURAL
$\overline{}$		1. All Black cotton soil to be removed from
		below all building and paved surfaces 2. All reinforced concrete work will be in
Roof		accordance with structural drawings.
+30.00		3. Foundation depths to be determined on site to S.E approval
<u>×</u>		4. All walls less than 200mm thick to be
		reinforced with hoop iron at every alternate course.
Floor 09		5. All adjacent R.C work and masonry walls to
+27.00		be tied with strap irons at every course <b>MECHANICAL</b>
		1. All Plumbing and Drainage Work to comply
		with specifications
		2. S.V.P denotes soil vent pipe and to be provided at the head of the drainage
+24.00		3. Where drainage is shown under driveways
		and slabs, to be encased in 150mm thick concrete surround.
		4. All underground foul and waste drain pipes
+21.00		shall be of PVC to comply with BS5255 5. All ICs within building area, driveway and
		parking to have heavy duty,double-seal airtight covers and walls to be 200mm.
		6. Minimum slope in the drain pipes to be 1%
Floor 06		7. No chases for pipes will be allowed in the slabs
+18.00		8. Sleeves will be allowed with written approval
		from S.E. 9. No cutting of concrete without express
		approval of the Architect or S.E
Floor 05		10. All testing of pipes must be coordinated with electrical and any conflicts must be
+15.00		resolved before works begin
<u></u>		11. Permanent vents denoted as P.V to be provided as shown on plan.
		ELECTRICAL
Floor 04		All conduits must be laid before plastering
+12.00		
		PROPOSED AFFORDABLE HOUSING DEVELOPMENT IN NGONG
+9.00		
		Name: STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT
<b>F</b> I 00		Signature: Date:
Floor 02 +6.00		DRAWING TITLE:
		BLOCK B _SECTION & ELEVATION
Floor 01		SCALE: 1:100
+3.00		
×		DRAWN BY:
		ML
Ground Floor		
0.000.30		CHECKED BY:
Natural Ground		Name:
		Signature:Date:
		DATE:
		MINISTRY OF LANDS, PUBLIC WORKS,
		HOUSINGANDURBAN DEVELOPMENT
		STATE DEPARTMENT FOR HOUSING & URBAN
		DEVELOPMENT
	REVISION 01	

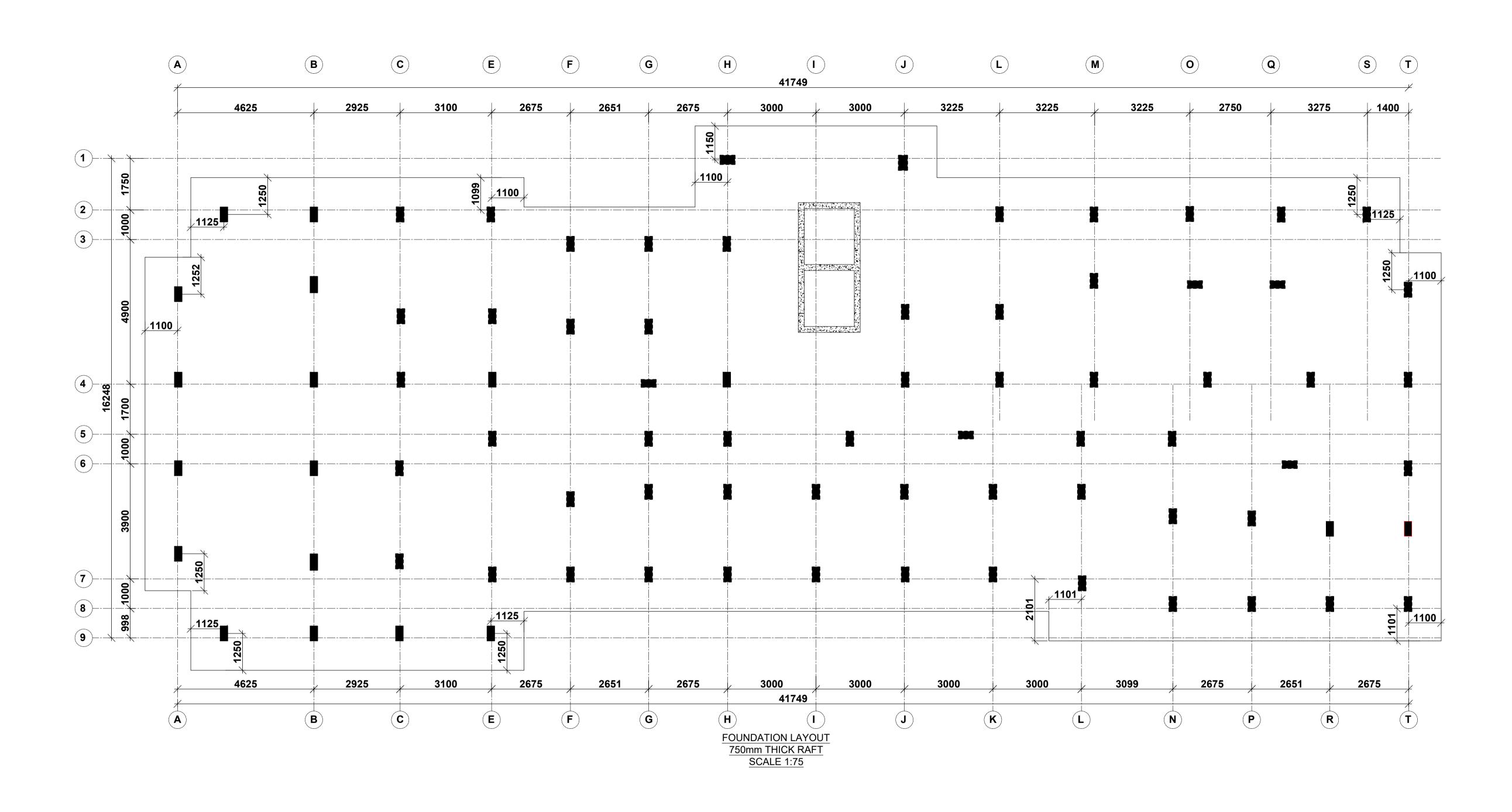
## STRUCTURAL DRAWINGS AFFORDABLEHOUSING PROGRAMME





## BLOCK A AFFORDABLEHOUSING PROGRAMME



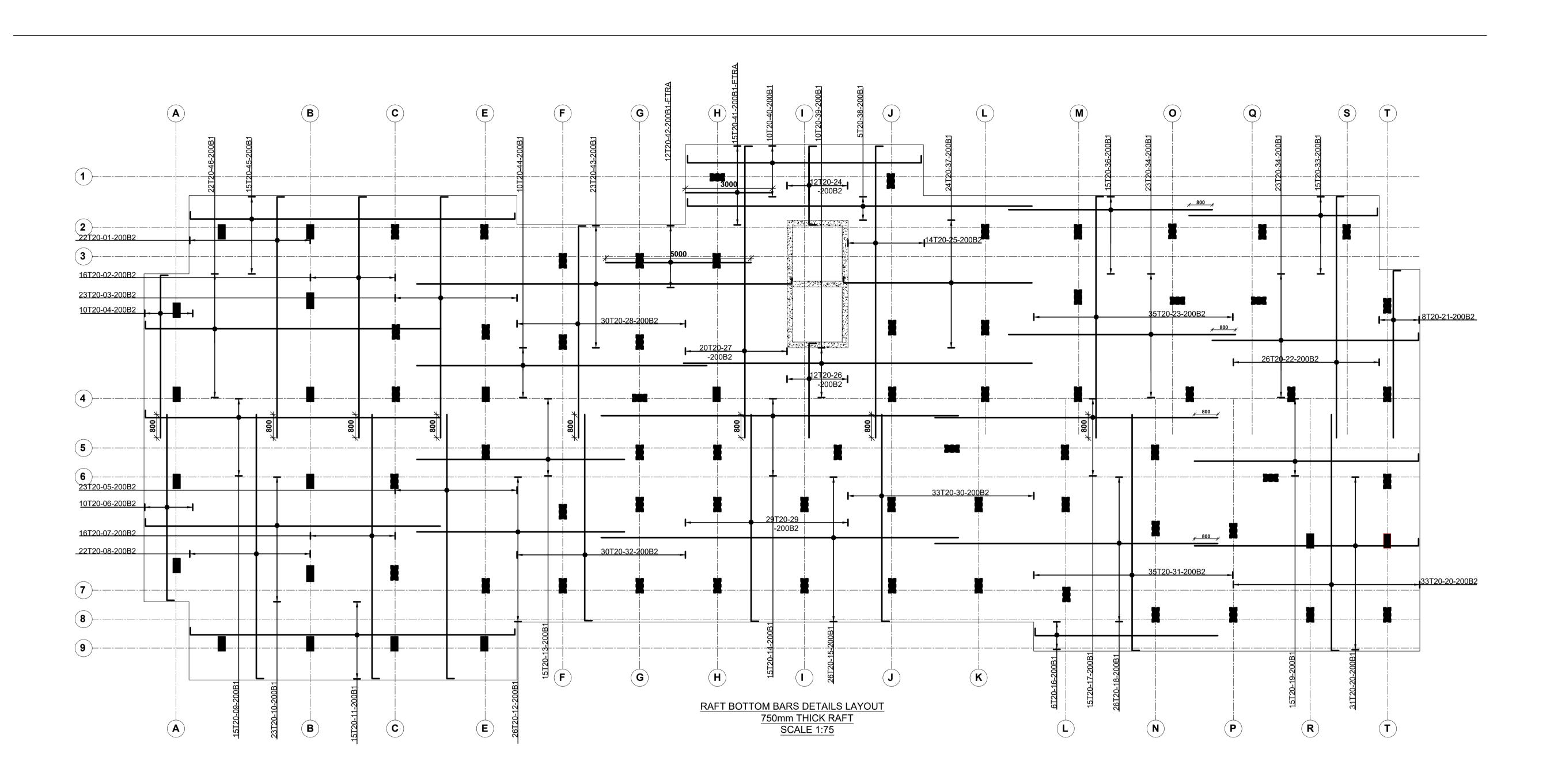


NOTES	6. Symbols; T-TMT Rebars to BS 4461: T - Top face	Client	STRUCTURAL ENGINEER:	Designed by: H.I.H	Checked by: R.M.O
<ol> <li>All dimensions are in millimetres unless otherwise stated.</li> <li>All reinforcements must be checked and approved by project structural engineer prior to concreting.</li> </ol>	B - Bottom face 7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm	MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT		Approved by: SECRETAR	Y, HOUSING DEPARTMENT
<ul> <li>3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix.</li> <li>4. Only figured dimensions to be taken from this drawing.</li> <li>5. Any descripancy indimensions to be reported to the project consultants i.e</li> </ul>	9. All welds are 6mm thick.	STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT		Date: 17TH APRIL 2024	Scale: As shown
architect or engineer.	10. All structural steel to be painted with anti-rust primmer paint.			Drawing Number: AHP-G+9	9-BLKA 01

## NOTE:

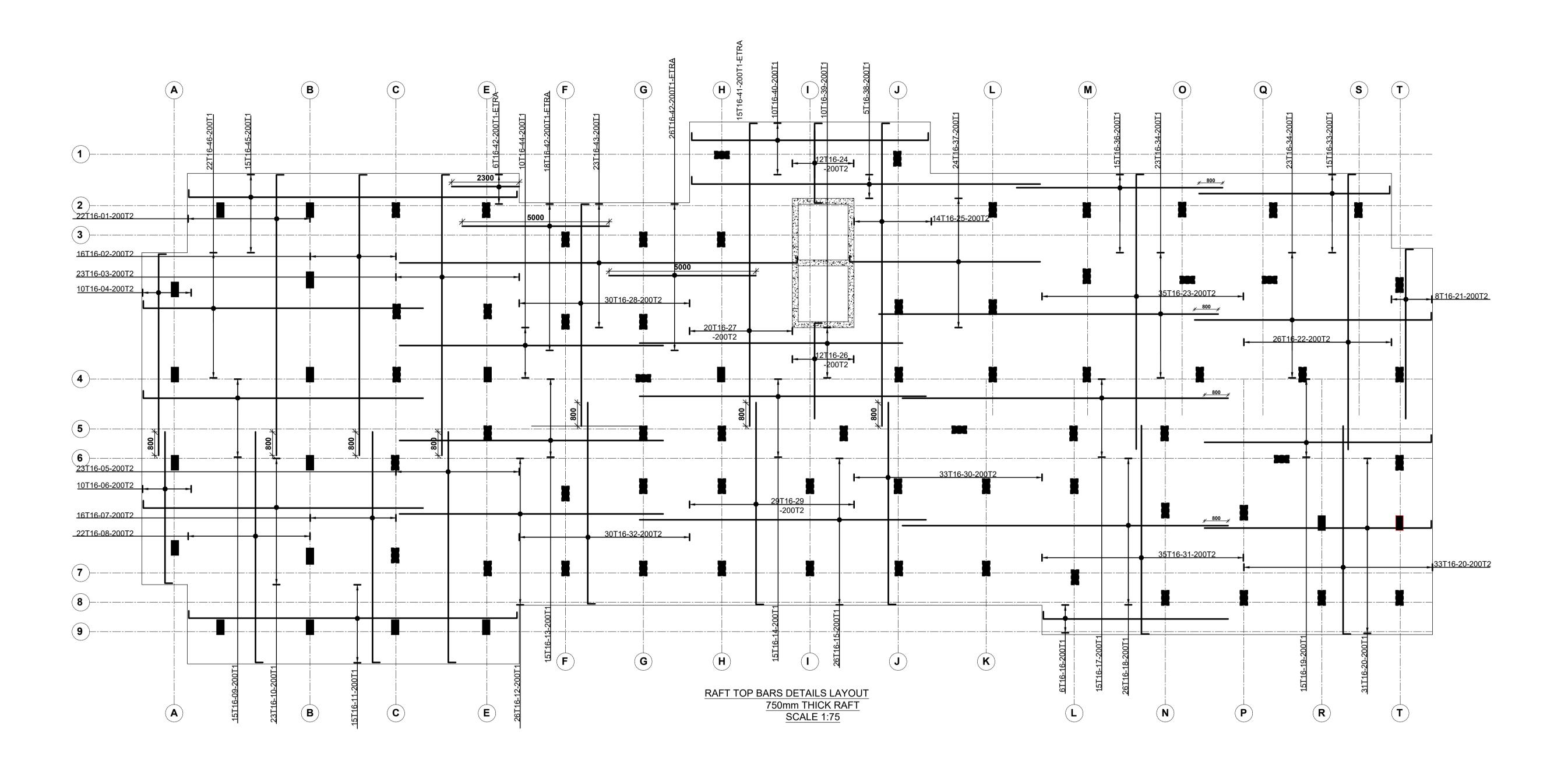
1. Foundations to be excavated to a minimum depth of 3.5m 2. Introduce a 300x200 ground beam over all the foundation wallings 3. All masonry units to be machine cut blocks

Project		Revisions		
PROPOSED AFFORDABLE HOUSING PROGRAM-G+9 GENERIC BLOCK A.		Description	Date	
Title FOUNDATION LAYOUT				



6. Symbols; T-TMT Rebars to BS 4461: T - Top face B - Bottom face		STRUCTURAL ENGINEER:			Project		Revisions	
7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm	MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT		Approved by: SECRETARY	, HOUSING DEPARTMENT	PROPOSED AFFORDABLE HOUSING PROGRAM-G+9 GENERIC BLOCK A.	No.	Description	Date
9. All welds are 6mm thick.	STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT		Date: 18TH APRIL 2024	Scale: As shown				
	B - Bottom face 7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm 8. All structural steel be grade 43A.	B - Bottom face 7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm 8. All structural steel be grade 43A. 9. All welds are 6mm thick. B - Bottom face MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING AND URBAN	B - Bottom face 7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm 8. All structural steel be grade 43A. 9. All welds are 6mm thick. B - Bottom face MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING AND URBAN	B - Bottom face 7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm 8. All structural steel be grade 43A. 9. All welds are 6mm thick. 10. All structural steel to be proved by: SECRETARY Date: 18TH APRIL 2024 DEVELOPMENT	B - Bottom face 7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm 8. All structural steel be grade 43A. 9. All welds are 6mm thick. 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimper point 10. All structural steel to be assisted with entire ret asimple as as a shown 10. All structural steel to be assisted with entire ret as a shown 10. All structural steel to be assisted with entire ret as a shown 10. All structural steel be assisted with entire ret as a shown 10. All structural steel be assisted with entire ret as a shown 10. All structural steel be assisted with entire ret as a shown 10. All structural steel be assisted with entire ret as a shown 10. All structural steel be assisted with entire ret as a shown 10. All structural steel be assisted with entire ret as a shown 10. All structural steel be assisted with entire ret as a shown 10. All structural steel be as a shown 10. All structural steel	B - Bottom face 7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm 8. All structural steel be grade 43A. 9. All welds are 6mm thick. B - Bottom face MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING AND URBAN Date: 18TH APRIL 2024 Scale: As shown Title	B - Bottom face 7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm 8. All structural steel be grade 43A. 9. All welds are 6mm thick. 10. MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT Date: 18TH APRIL 2024 Scale: As shown Date: 18TH APRIL 2024 Scale: As shown	B - Bottom face 7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm 8. All structural steel be grade 43A. 9. All welds are 6mm thick. 10. Description 11. Date: 18TH APRIL 2024 Scale: As shown

1. Foundations to be excavated to a minimum depth of 3.5m         2. Introduce a 300x200 ground beam over all the foundation wallings         3. All masonry units to be machine cut blocks         Revisions	NOTE:		
	<ul> <li>1. Foundations to be excavated to a minimum depth of 3.5m</li> <li>2. Introduce a 300x200 ground beam over all the foundation wallings</li> </ul>		
		Revisions	



<ul> <li>NOTES</li> <li>1. All dimensions are in millimetres unless otherwise stated.</li> <li>2. All reinforcements must be checked and approved by project structural engineer prior to concreting.</li> <li>3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix.</li> <li>4. Only figured dimensions to be taken from this drawing.</li> <li>5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.</li> </ul>	<ul> <li>6. Symbols; T-TMT Rebars to BS 4461: T - Top face B - Bottom face</li> <li>7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm</li> <li>8. All structural steel be grade 43A.</li> <li>9. All welds are 6mm thick.</li> <li>10. All structural steel to be painted with anti-rust primmer paint.</li> </ul>	Client MINISTRY HOUSING STATE DEPA DEVELOPME
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STRY OF LANDS, PUBLIC WORKS,
SING AND URBAN DEVELOPMENT

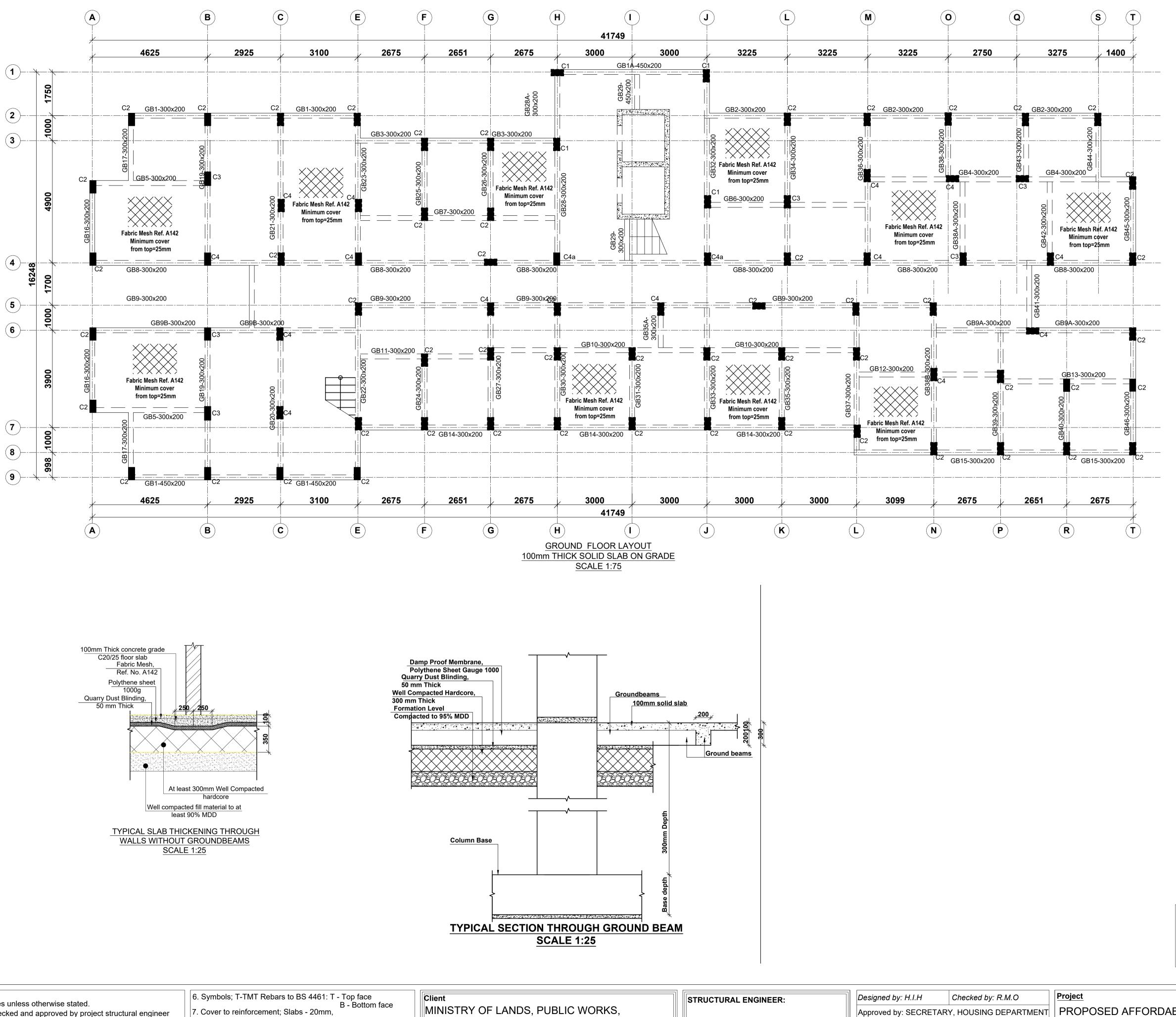
E DEPARTMENT FOR HOUSING AND URBAN LOPMENT STRUCTURAL ENGINEER:

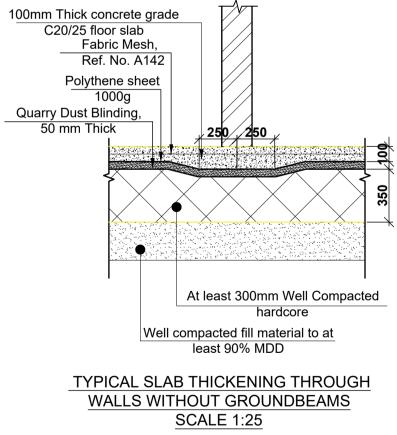
Designed by: H.I.HChecked by: R.M.OApproved by: SECRETARY, HOUSING DEPARTMENT

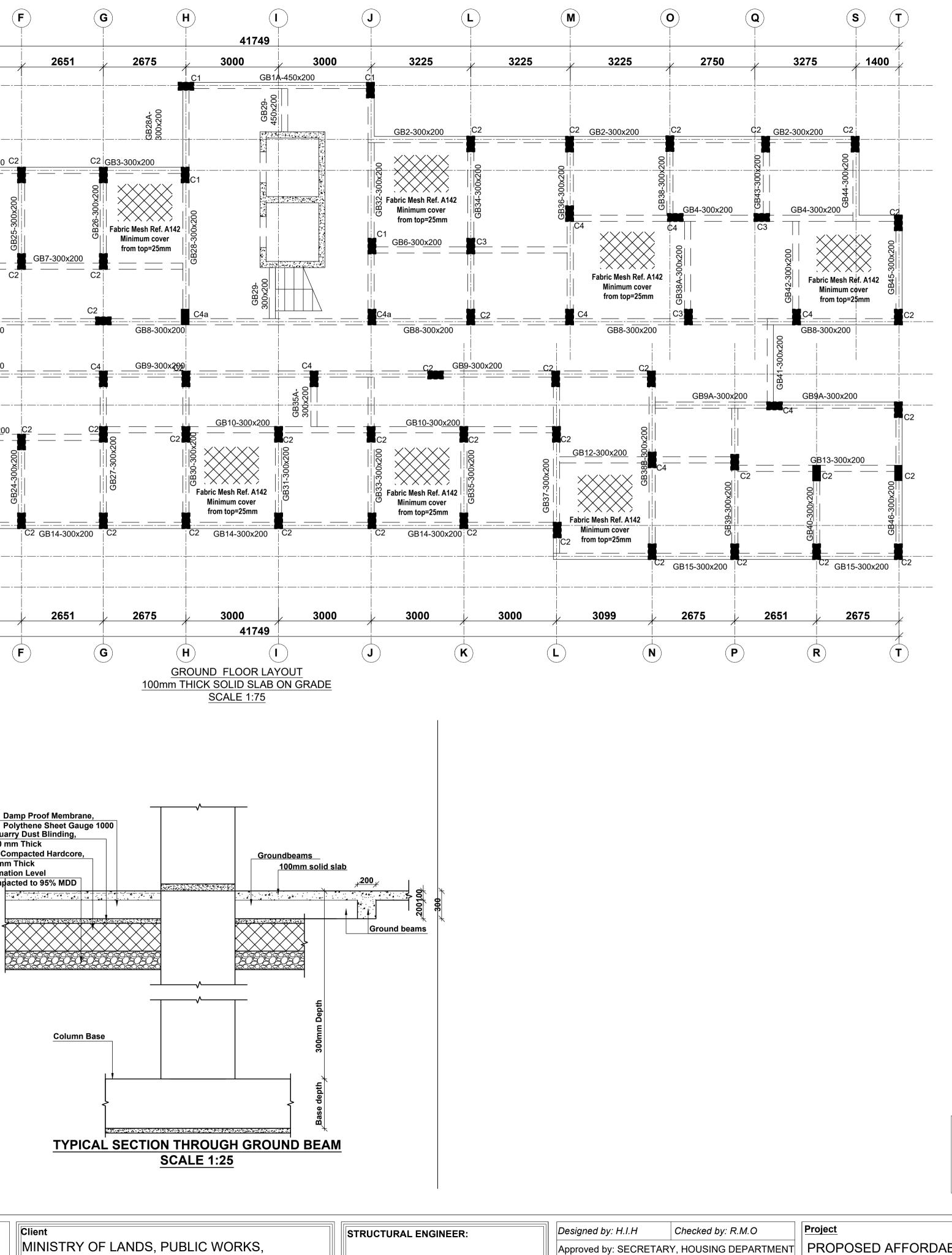
Date: 18TH APRIL 2024Scale: As shownDrawing Number: AHP-G+9-BLKA 03

## **NOTE:** 1. Foundations to be excavated to a minimum depth of 3.5m 2. Introduce a 300x200 ground beam over all the foundation wallings 3. All masonry units to be machine cut blocks

Project		Revisions			
PROPOSED AFFORDABLE HOUSING PROGRAM-G+9 GENERIC BLOCK A.		Description	Date		
Title					
RAFT TOP BAR DETAILS.					



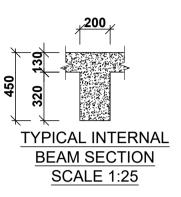


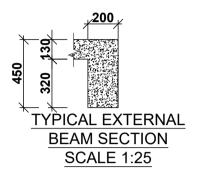


<ul> <li>NOTES</li> <li>1. All dimensions are in millimetres unless otherwise stated.</li> <li>2. All reinforcements must be checked and approved by project structural engineer prior to concreting.</li> <li>3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix.</li> <li>4. Only figured dimensions to be taken from this drawing.</li> <li>5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.</li> </ul>	<ul> <li>6. Symbols; T-TMT Rebars to BS 4461: T - Top face B - Bottom face</li> <li>7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm</li> <li>8. All structural steel be grade 43A.</li> <li>9. All welds are 6mm thick.</li> <li>10. All structural steel to be painted with anti-rust primmer paint.</li> </ul>	Client MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT

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PMENT	

Date: 17TH APRIL 2024 Scale: As shown Drawing Number: AHP-G+9-BLKA 04

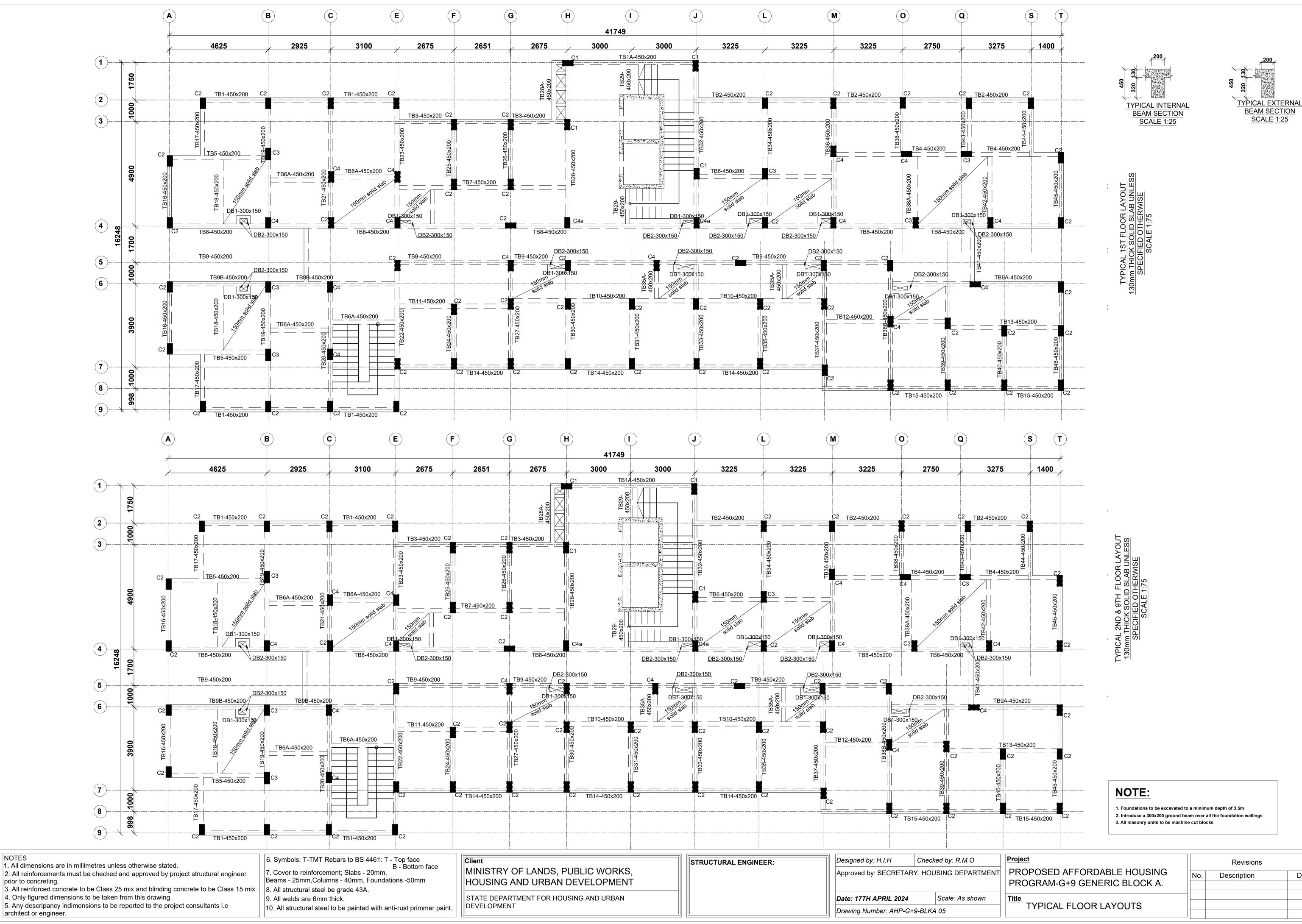




## NOTE:

1. Foundations to be excavated to a minimum depth of 3.5m 2. Introduce a 300x200 ground beam over all the foundation wallings 3. All masonry units to be machine cut blocks

Project		Revisions			
PROPOSED AFFORDABLE HOUSING PROGRAM-G+9 GENERIC BLOCK A.	No. Description		Date		
Title GROUND FLOOR LAYOUT					



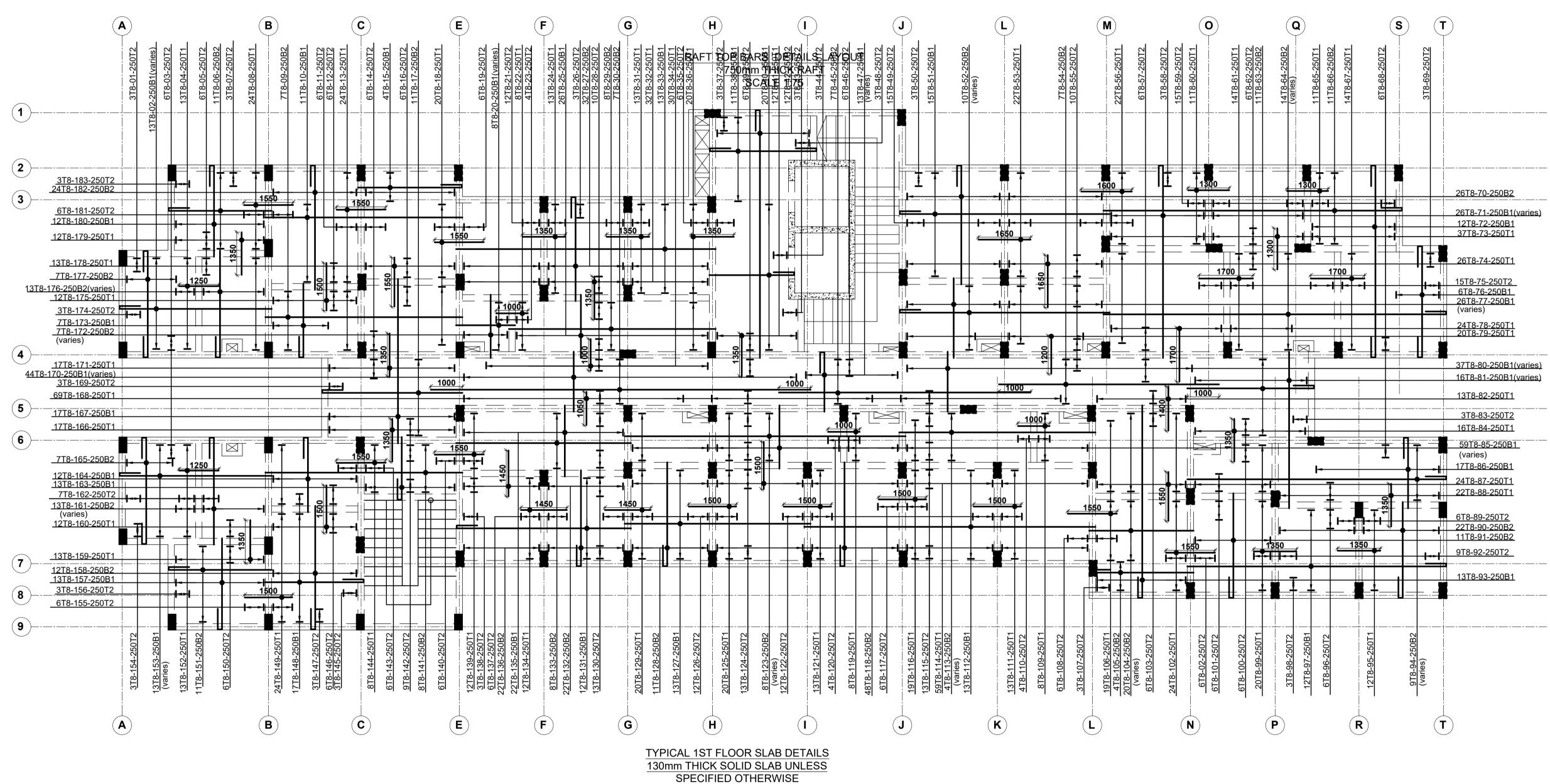
5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.

NOTES

prior to concreting.

,			
-	<b>TYPICAL</b>	FLOOR	LAYOUTS

э.	Description	Date



<ul> <li>NOTES</li> <li>1. All dimensions are in millimetres unless otherwise stated.</li> <li>2. All reinforcements must be checked and approved by project structural engineer prior to concreting.</li> <li>3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix.</li> <li>4. Only figured dimensions to be taken from this drawing.</li> <li>5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.</li> </ul>	<ul> <li>6. Symbols; T-TMT Rebars to BS 4461: T - Top face B - Bottom face</li> <li>7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm</li> <li>8. All structural steel be grade 43A.</li> <li>9. All welds are 6mm thick.</li> <li>10. All structural steel to be painted with anti-rust primmer paint.</li> </ul>	Client MINISTE HOUSIN STATE DE DEVELOPI
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SCALE 1:75

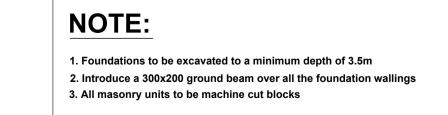
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EPARTMENT FOR HOUSING AND URBAN MENT

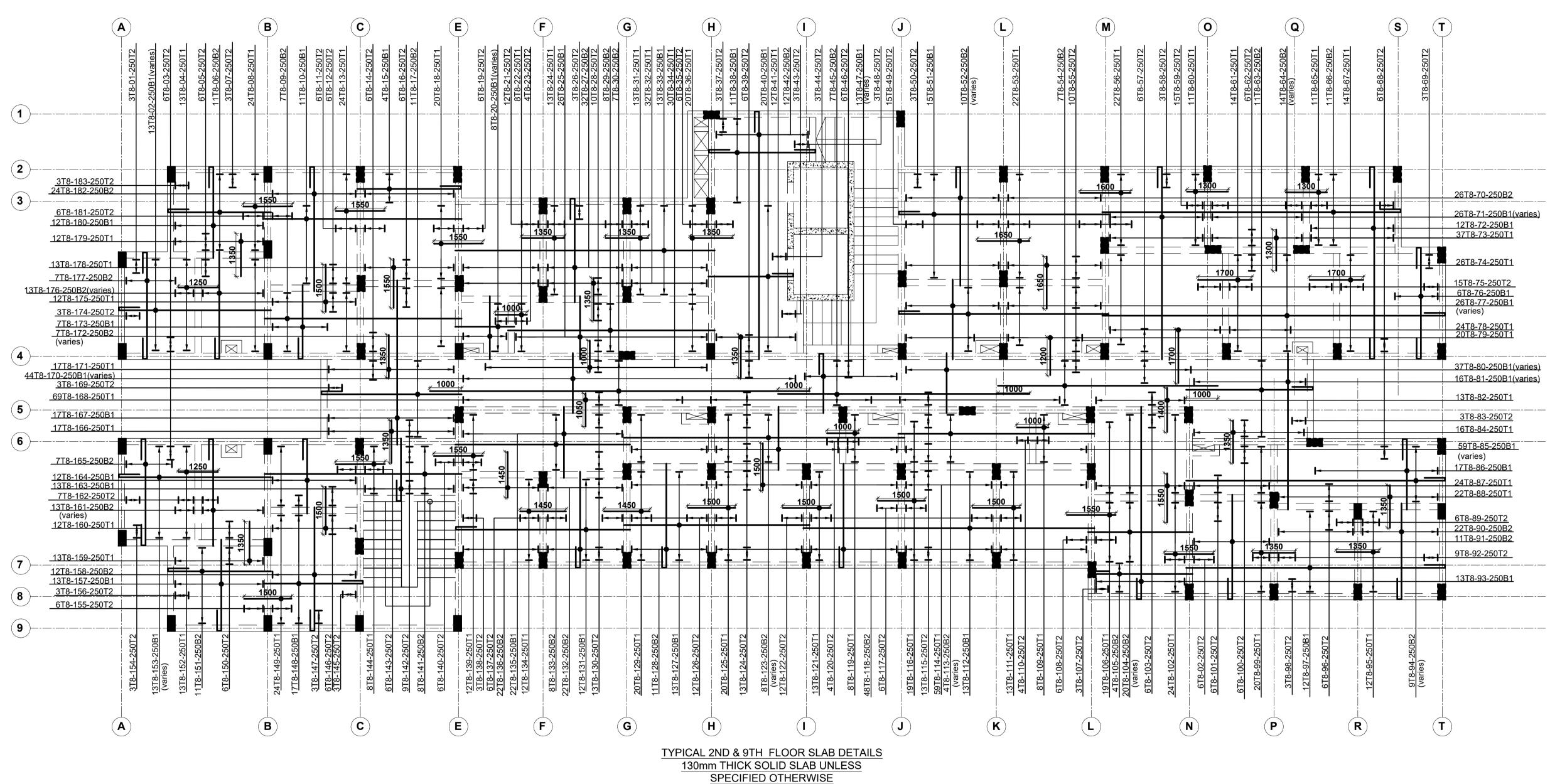
STRUCTURAL ENGINEER:

Checked by: R.M.O Designed by: H.I.H Approved by: SECRETARY, HOUSING DEPARTMENT

Date: 17TH APRIL 2024 Scale: As shown Drawing Number: AHP-G+9-BLKA 06



Project		Revisions	
PROPOSED AFFORDABLE HOUSING PROGRAM-G+9 GENERIC BLOCK A.	No.	Description	Date
TYPICAL1ST FLOOR SLAB DETAILS			



<ul> <li>NOTES</li> <li>1. All dimensions are in millimetres unless otherwise stated.</li> <li>2. All reinforcements must be checked and approved by project structural engineer prior to concreting.</li> <li>3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix.</li> <li>4. Only figured dimensions to be taken from this drawing.</li> <li>5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.</li> </ul>	<ul> <li>6. Symbols; T-TMT Rebars to BS 4461: T - Top face B - Bottom face</li> <li>7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm</li> <li>8. All structural steel be grade 43A.</li> <li>9. All welds are 6mm thick.</li> <li>10. All structural steel to be painted with anti-rust primmer paint.</li> </ul>	Client MINIST HOUSI STATE DI DEVELOF
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<u>SCALE 1:75</u>

TRY OF LANDS, PUBLIC WORKS, SING AND URBAN DEVELOPMENT STRUCTURAL ENGINEER:

Designed by: H.I.HChecked by: R.M.OApproved by: SECRETARY, HOUSING DEPARTMENT

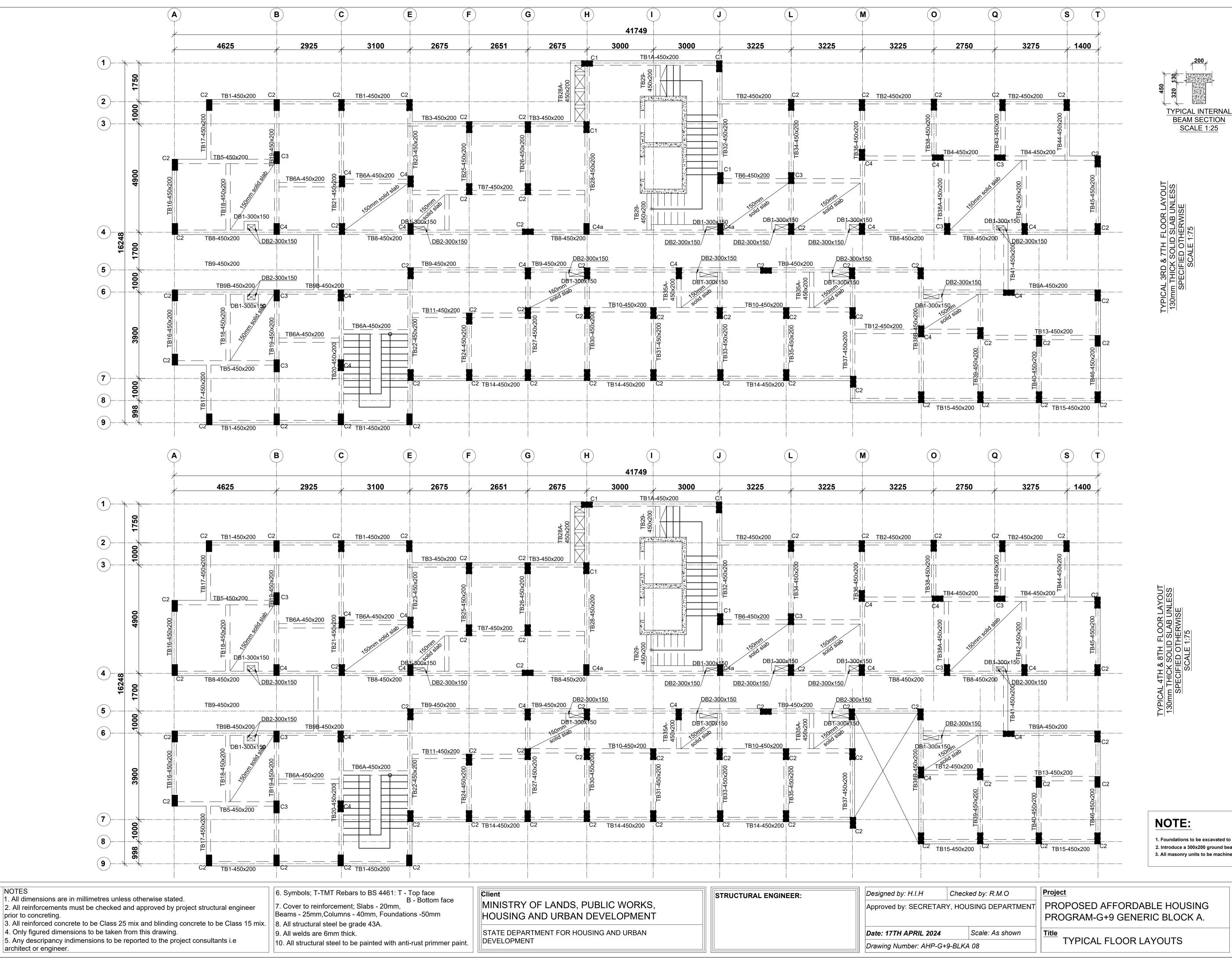
Date: 17TH APRIL 2024Scale: As shownDrawing Number: AHP-G+9-BLKA 07

DEPARTMENT FOR HOUSING AND URBAN

## NOTE:

Foundations to be excavated to a minimum depth of 3.5m
 Introduce a 300x200 ground beam over all the foundation wallings
 All masonry units to be machine cut blocks

Project		Revisions	
PROPOSED AFFORDABLE HOUSING PROGRAM-G+9 GENERIC BLOCK A.	No.	Description	Date
Title TYPICAL 2ND & 9TH FLOOR SLAB DETAILS			



5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.

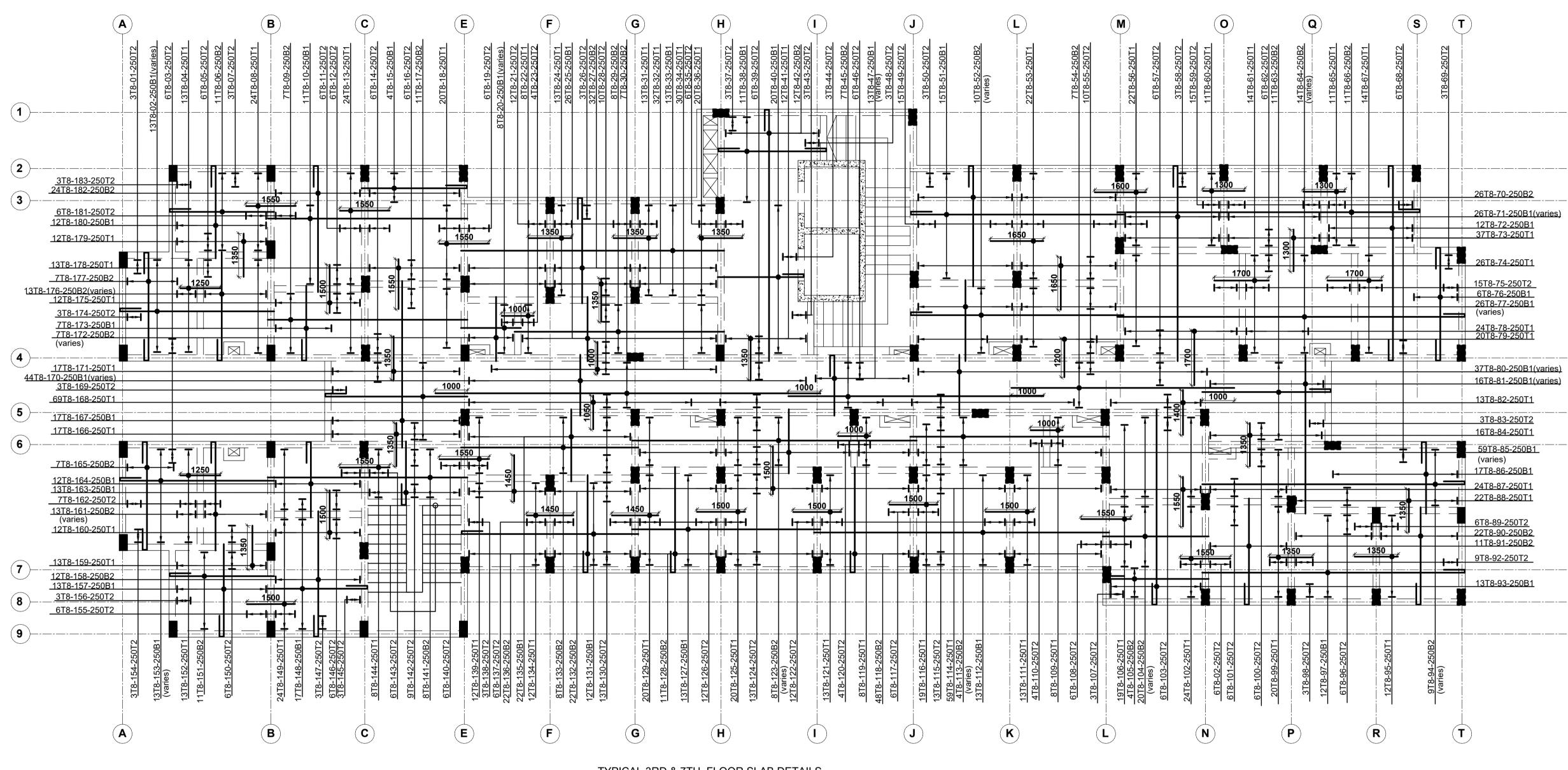
NOTES

prior to concreting.

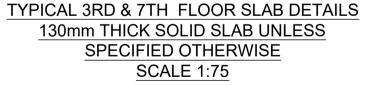
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1. Foundations to be excavated to a minimum depth of 3.5m 2. Introduce a 300x200 ground beam over all the foundation wallings 3. All masonry units to be machine cut blocks

	Revisions	
lo.	Description	Date



<ul> <li>NOTES</li> <li>1. All dimensions are in millimetres unless otherwise stated.</li> <li>2. All reinforcements must be checked and approved by project structural engineer prior to concreting.</li> <li>3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix.</li> <li>4. Only figured dimensions to be taken from this drawing.</li> <li>5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.</li> </ul>	<ul> <li>6. Symbols; T-TMT Rebars to BS 4461: T - Top face B - Bottom face</li> <li>7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm</li> <li>8. All structural steel be grade 43A.</li> <li>9. All welds are 6mm thick.</li> <li>10. All structural steel to be painted with anti-rust primmer paint.</li> </ul>	Client MINIS HOUS STATE DEVEL
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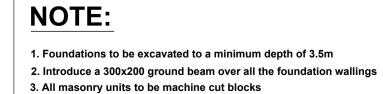


TRY OF LANDS, PUBLIC WORKS, ING AND URBAN DEVELOPMENT STRUCTURAL ENGINEER:

Designed by: H.I.HChecked by: R.M.OApproved by: SECRETARY, HOUSING DEPARTMENT

Date: 17TH APRIL 2024Scale: As shownDrawing Number: AHP-G+9-BLKA 09

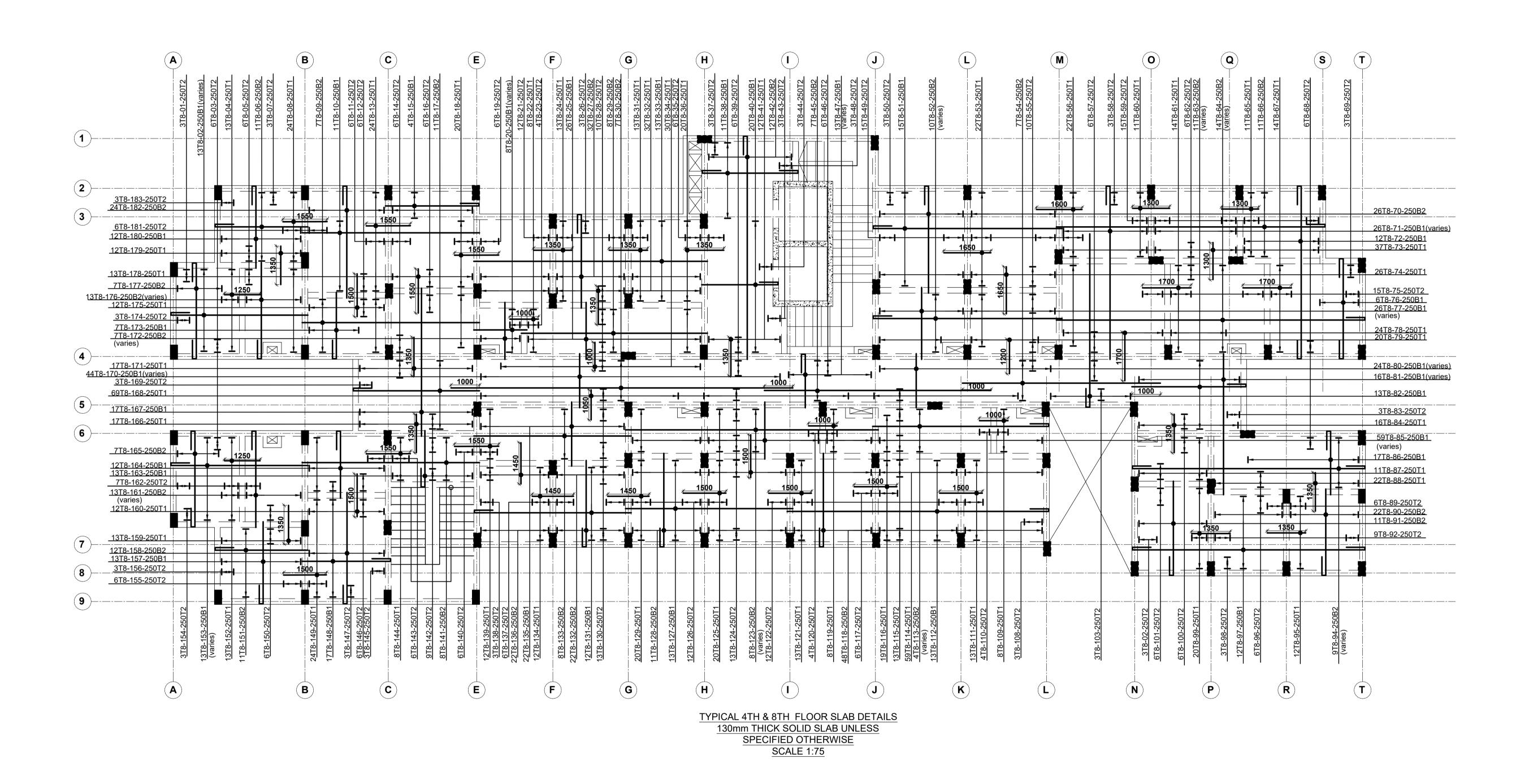
DEPARTMENT FOR HOUSING AND URBAN



 Project
 Revisions

 PROPOSED AFFORDABLE HOUSING
 No.
 Description
 Date

 PROGRAM-G+9 GENERIC BLOCK A.
 Image: Construction of the second second



<ul> <li>NOTES</li> <li>1. All dimensions are in millimetres unless otherwise stated.</li> <li>2. All reinforcements must be checked and approved by project structural engineer prior to concreting.</li> <li>3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix.</li> <li>4. Only figured dimensions to be taken from this drawing.</li> <li>5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.</li> </ul>	<ul> <li>6. Symbols; T-TMT Rebars to BS 4461: T - Top face B - Bottom face</li> <li>7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm</li> <li>8. All structural steel be grade 43A.</li> <li>9. All welds are 6mm thick.</li> <li>10. All structural steel to be painted with anti-rust primmer paint.</li> </ul>	Client MINIS HOUS STATE I DEVELC
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TRY OF LANDS, PUBLIC WORKS, ING AND URBAN DEVELOPMENT

EPARTMENT FOR HOUSING AND URBAN PMENT STRUCTURAL ENGINEER:

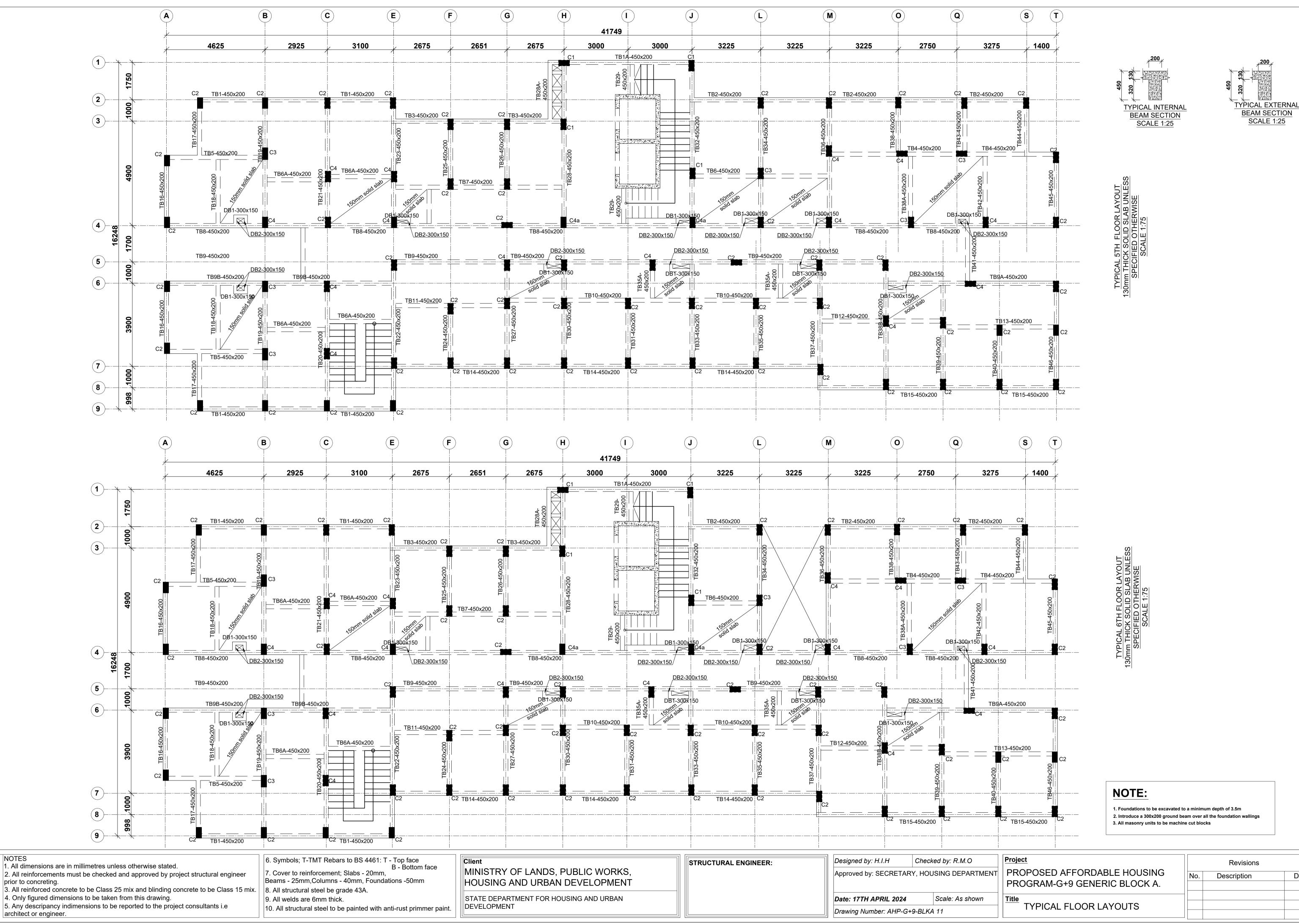
Designed by: H.I.HChecked by: R.M.OApproved by: SECRETARY, HOUSING DEPARTMENT

Date: 17TH APRIL 2024Scale: As shownDrawing Number: AHP-G+9-BLKA 10

## NOTE:

Foundations to be excavated to a minimum depth of 3.5m
 Introduce a 300x200 ground beam over all the foundation wallings
 All masonry units to be machine cut blocks

Project		Revisions	
PROPOSED AFFORDABLE HOUSING PROGRAM-G+9 GENERIC BLOCK A.	No.	Description	Date
Title TYPICAL 4TH & 8TH FLOOR SLAB DETAILS			



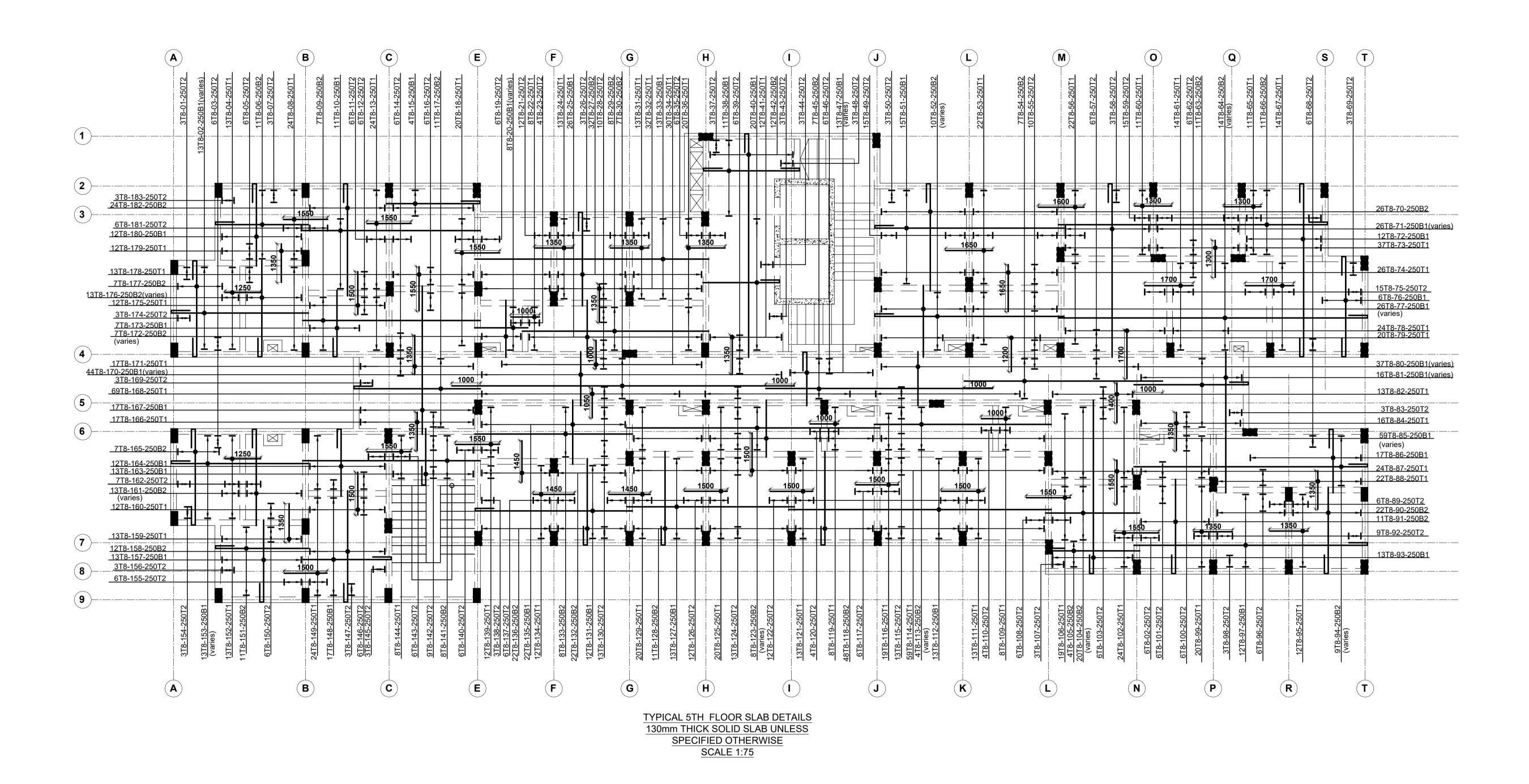
5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.

NOTES

prior to concreting.

TYPICAL	FLOOR	LAYOUTS

	Revisions	
lo.	Description	Date



<ul> <li>NOTES</li> <li>1. All dimensions are in millimetres unless otherwise stated.</li> <li>2. All reinforcements must be checked and approved by project structural engineer prior to concreting.</li> <li>3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix.</li> <li>4. Only figured dimensions to be taken from this drawing.</li> <li>5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.</li> </ul>	<ul> <li>6. Symbols; T-TMT Rebars to BS 4461: T - Top face B - Bottom face</li> <li>7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm</li> <li>8. All structural steel be grade 43A.</li> <li>9. All welds are 6mm thick.</li> <li>10. All structural steel to be painted with anti-rust primmer paint.</li> </ul>	Client MINIST HOUSII STATE DI DEVELOF
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TRY OF LANDS, PUBLIC WORKS, ING AND URBAN DEVELOPMENT

DEPARTMENT FOR HOUSING AND URBAN PMENT

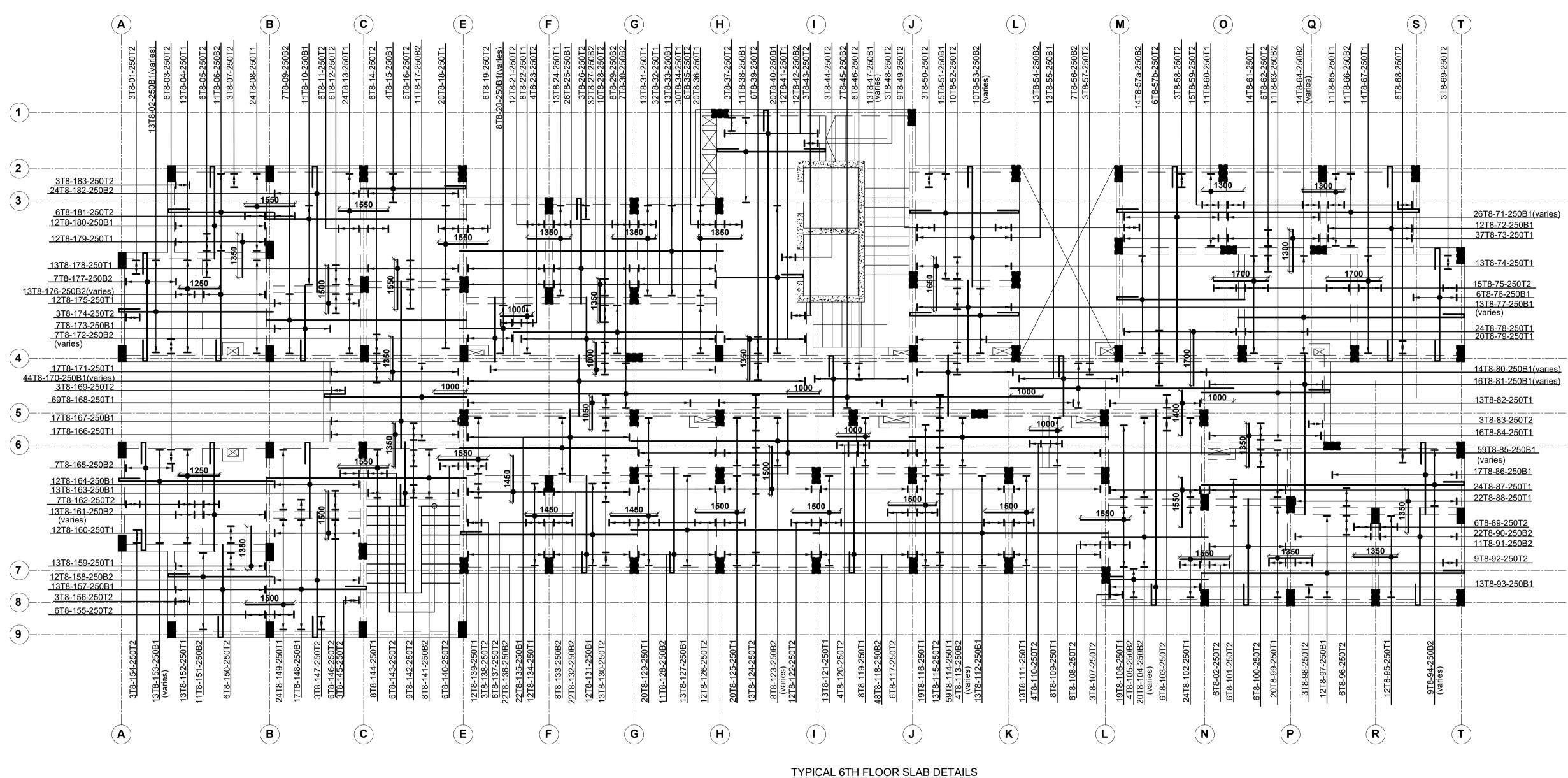
STRUCTURAL ENGINEER:

Checked by: R.M.O Designed by: H.I.H Approved by: SECRETARY, HOUSING DEPARTMENT

Date: 17TH APRIL 2024 Scale: As shown Drawing Number: AHP-G+9-BLKA 12

NOTE:	
1. Foundations to be excavated to a minimum depth of 3.5m	
2. Introduce a 300x200 ground beam over all the foundation wallings	
3. All masonry units to be machine cut blocks	

Project	Revisions	
PROPOSED AFFORDABLE HOUSING PROGRAM-G+9 GENERIC BLOCK A.	No. Description Date	_
TYPICAL 5TH FLOOR SLAB DETAILS	S	_



<ul> <li>NOTES</li> <li>1. All dimensions are in millimetres unless otherwise stated.</li> <li>2. All reinforcements must be checked and approved by project structural engineer prior to concreting.</li> <li>3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix.</li> <li>4. Only figured dimensions to be taken from this drawing.</li> <li>5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.</li> </ul>	<ul> <li>6. Symbols; T-TMT Rebars to BS 4461: T - Top face B - Bottom face</li> <li>7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm</li> <li>8. All structural steel be grade 43A.</li> <li>9. All welds are 6mm thick.</li> <li>10. All structural steel to be painted with anti-rust primmer paint.</li> </ul>	Client MINIST HOUSI STATE D DEVELOI
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<u>TYPICAL 6TH FLOOR SLAB DETAILS</u> <u>130mm THICK SOLID SLAB UNLESS</u> <u>SPECIFIED OTHERWISE</u> <u>SCALE 1:75</u>

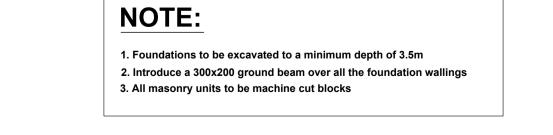
STRY OF LANDS, PUBLIC WORKS, SING AND URBAN DEVELOPMENT

DEPARTMENT FOR HOUSING AND URBAN

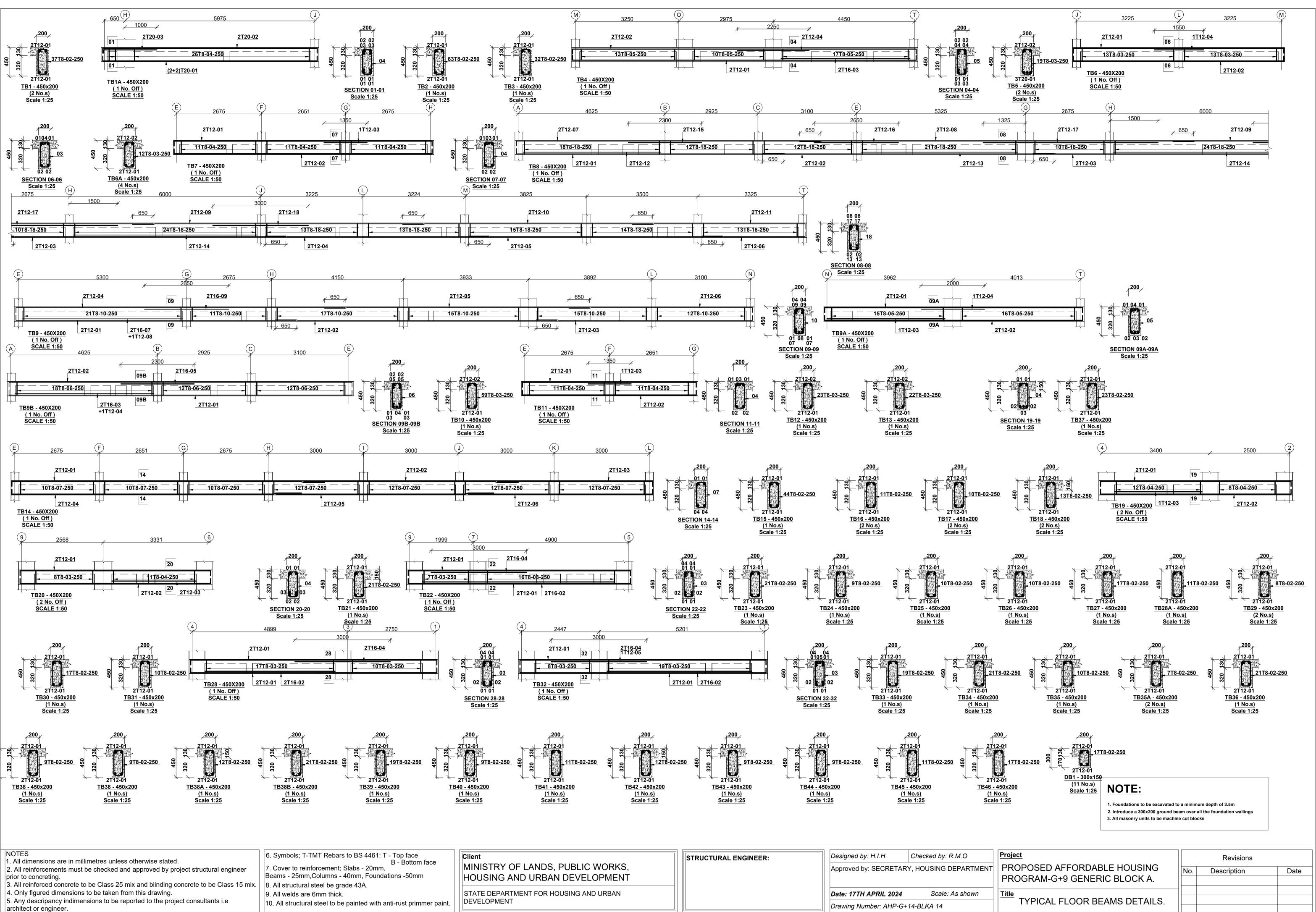
STRUCTURAL ENGINEER:

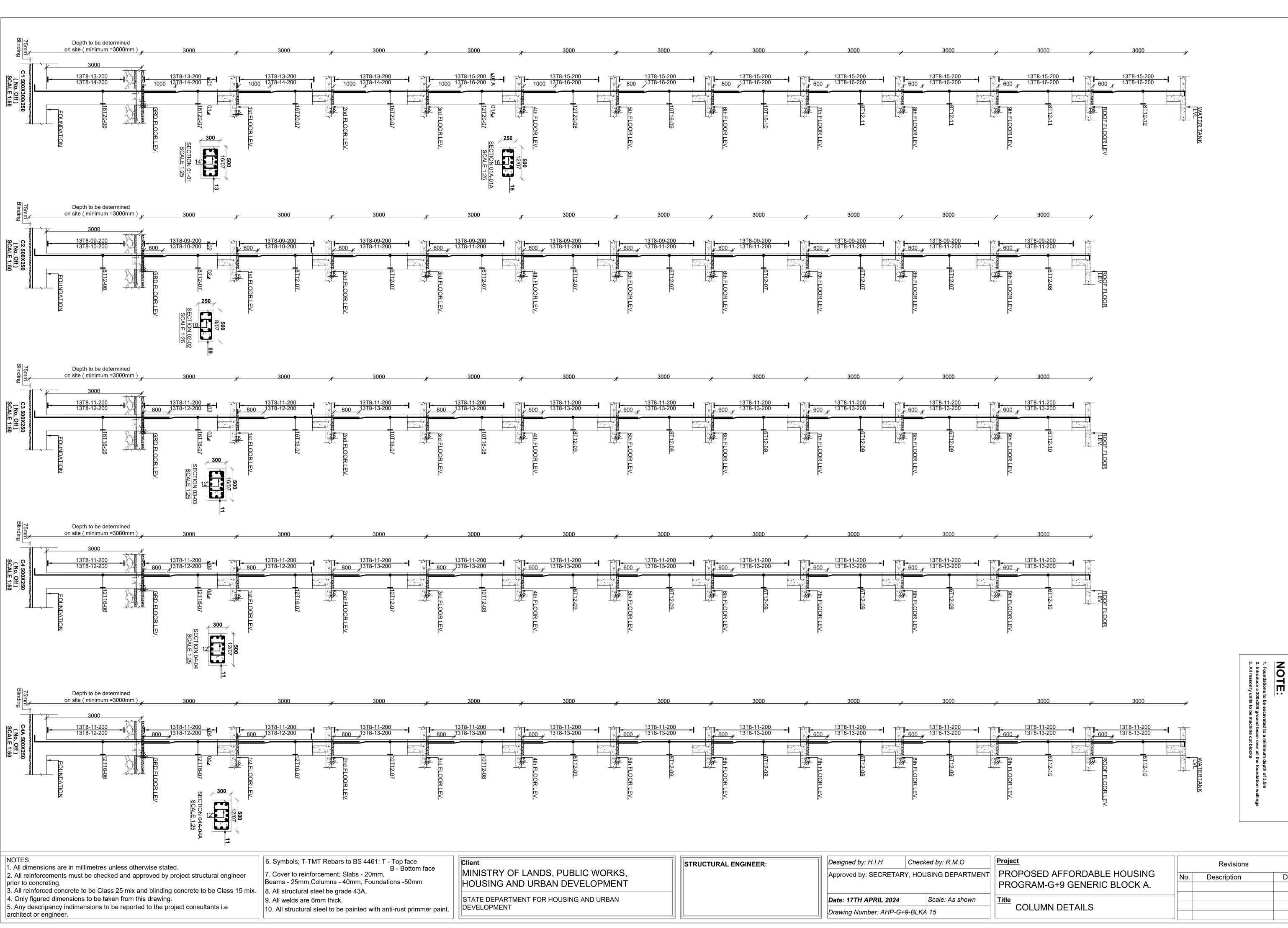
Designed by: H.I.HChecked by: R.M.OApproved by: SECRETARY, HOUSING DEPARTMENT

Date: 17TH APRIL 2024Scale: As shownDrawing Number: AHP-G+9-BLKA 13

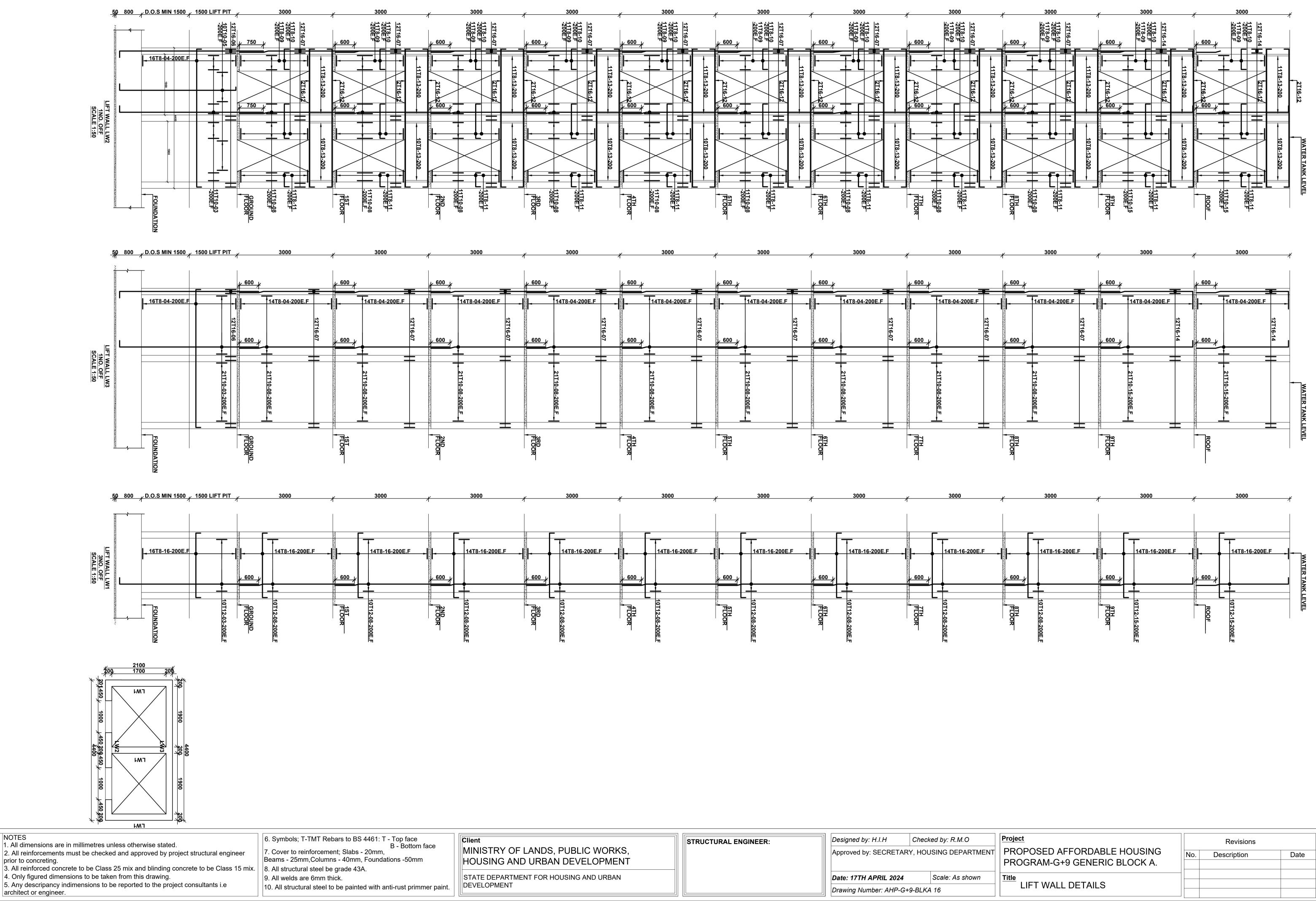


<u>Project</u>	Revisions		
PROPOSED AFFORDABLE HOUSING PROGRAM-G+9 GENERIC BLOCK A.	No.	Description	Date
TYPICAL 6TH FLOOR SLAB DETAILS			



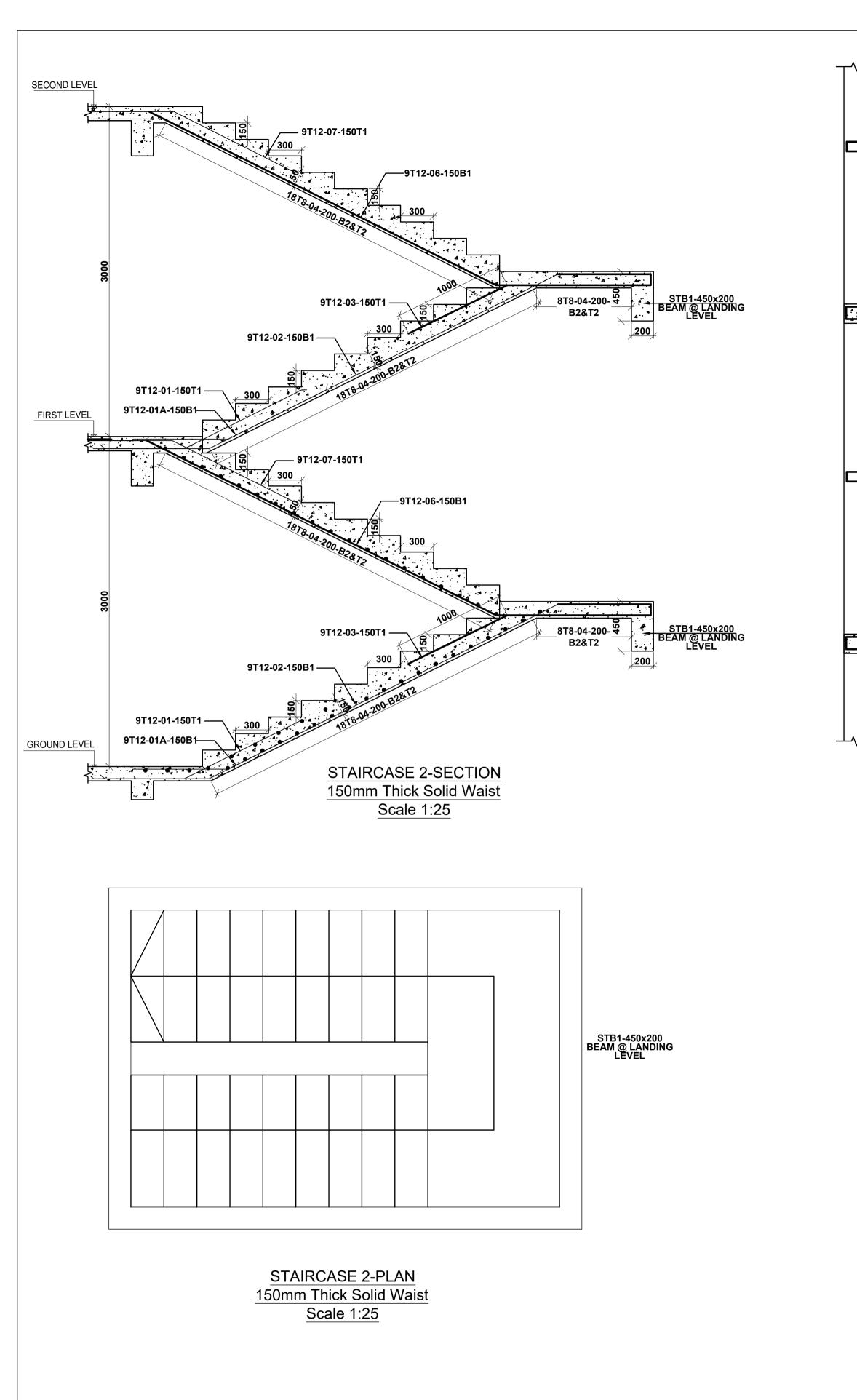


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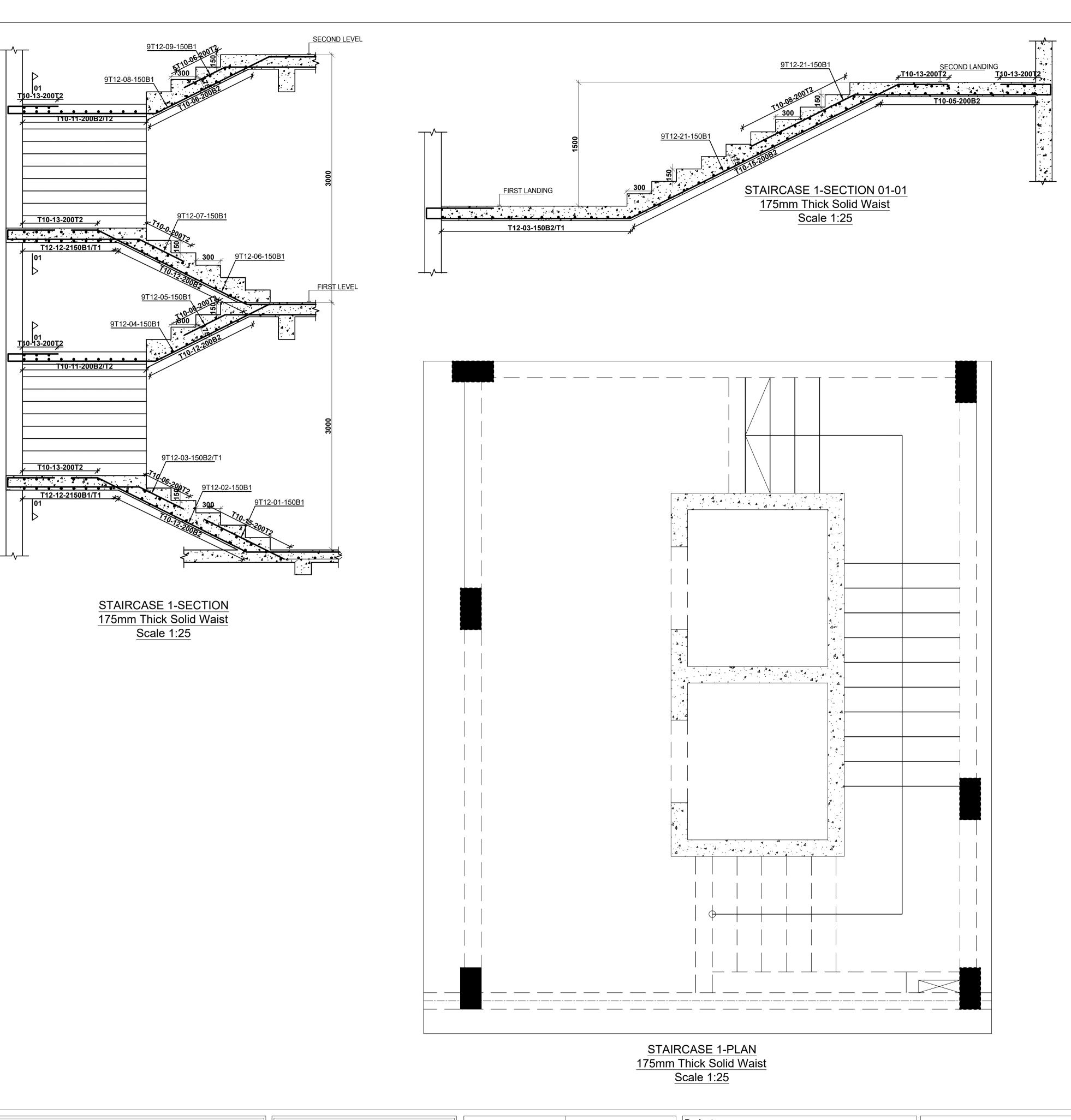


2. All reinforcements must be checked and approved by project structural engineer prior to concreting. 3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix. 4. Only figured dimensions to be taken from this drawing.

architect or engineer.



<ul> <li>4. Only figured dimensions to be taken from this drawing.</li> <li>5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.</li> <li>9. All welds are 6mm thick.</li> <li>10. All structural steel to be painted with anti-rust primmer paint.</li> </ul>
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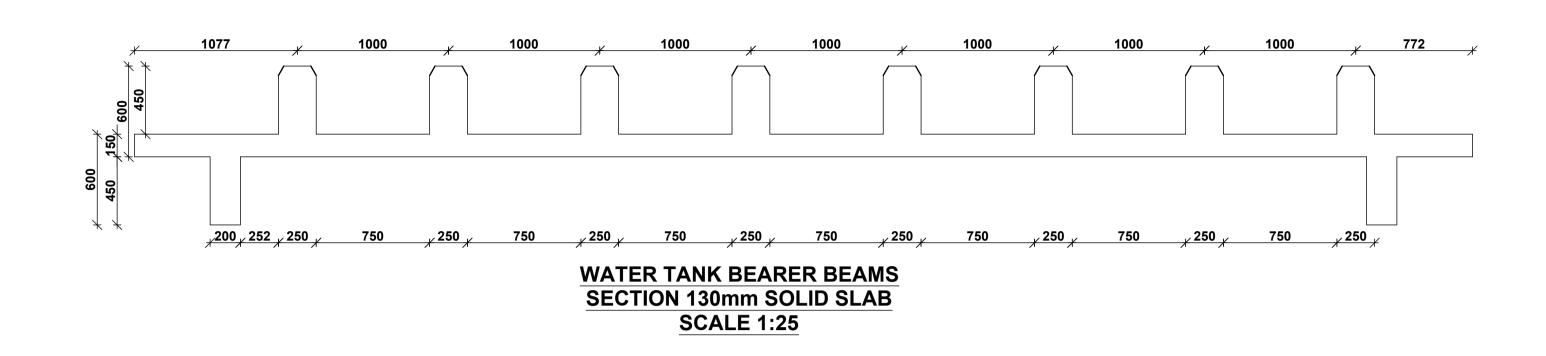


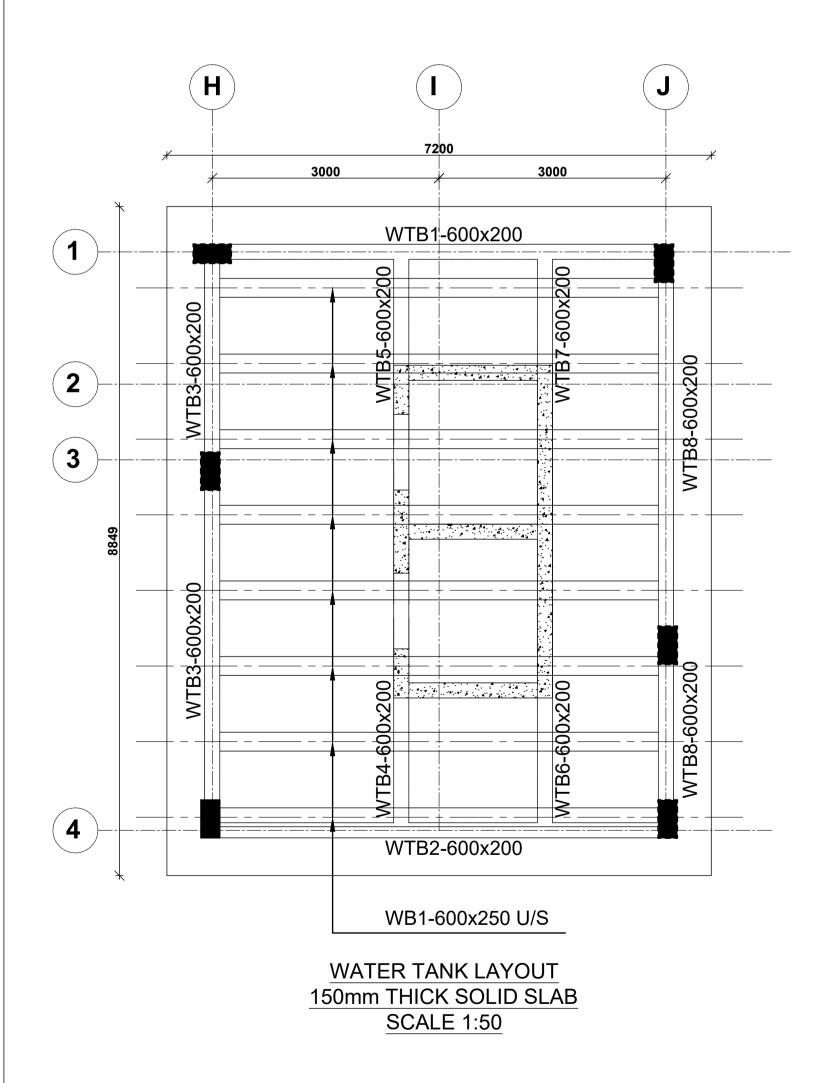
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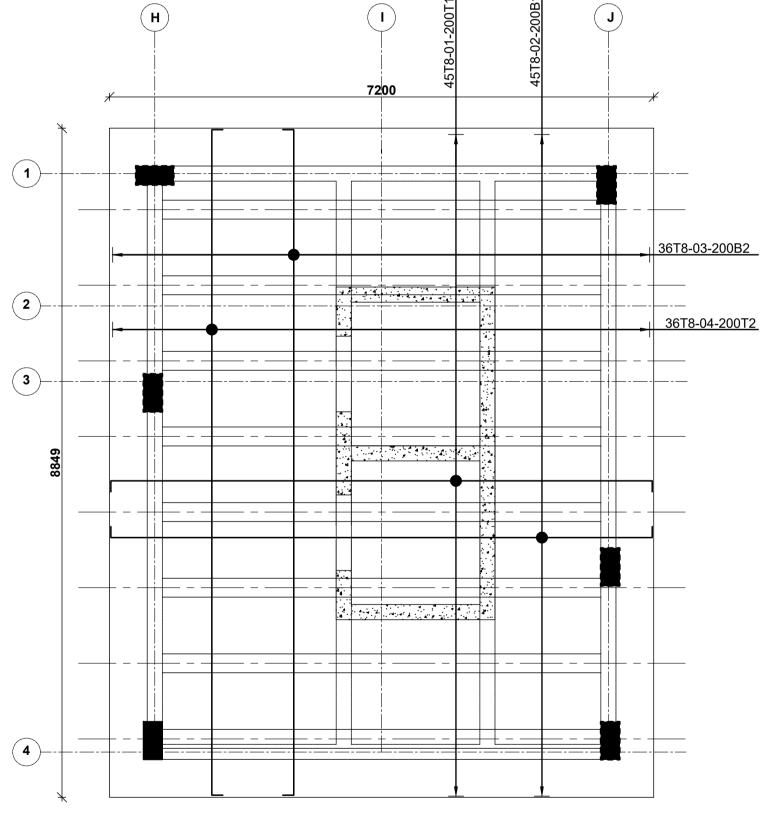
Designed by: H.I.H Checked by: R.M.O Approved by: SECRETARY, HOUSING DEPARTMENT Scale: As shown Date: 17TH APRIL 2024 Drawing Number: AHP-G+9-BLKA 17

Project		
PROPOSED AFFORDABLE HOUSING	No.	
PROGRAM-G+9 GENERIC BLOCK A.		
Title		
TYPICAL FLOOR LAYOUTS		L

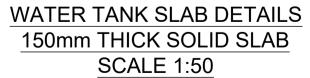
Revisions	
Description	Date

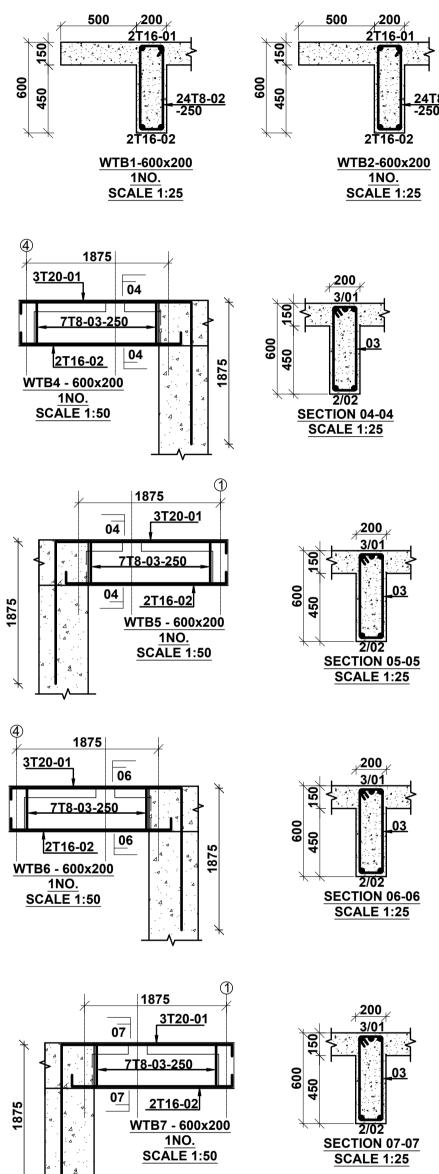


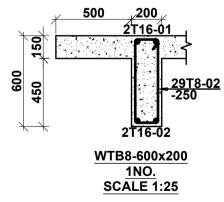


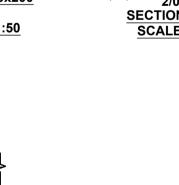


<ul> <li>NOTES</li> <li>1. All dimensions are in millimetres unless otherwise stated.</li> <li>2. All reinforcements must be checked and approved by project structural engineer prior to concreting.</li> <li>3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix.</li> <li>4. Only figured dimensions to be taken from this drawing.</li> <li>5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.</li> </ul>	<ul> <li>6. Symbols; T-TMT Rebars to BS 4461: T - Top face B - Bottom face</li> <li>7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm</li> <li>8. All structural steel be grade 43A.</li> <li>9. All welds are 6mm thick.</li> <li>10. All structural steel to be painted with anti-rust primmer paint.</li> </ul>	Client MINISTRY ( HOUSING A STATE DEPAR DEVELOPMEN
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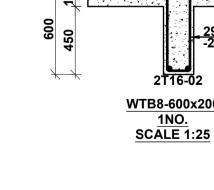






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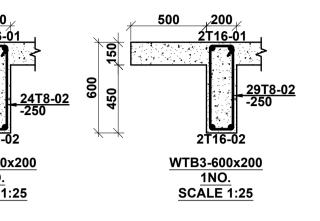
STRY OF LANDS, PUBLIC WORKS, SING AND URBAN DEVELOPMENT

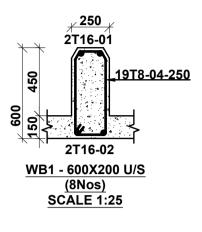
DEPARTMENT FOR HOUSING AND URBAN OPMENT

STRUCTURAL ENGINEER:

Designed by: H.I.H Checked by: R.M.O Approved by: SECRETARY, HOUSING DEPARTMENT

Scale: As shown Date: 18TH APRIL 2024 Drawing Number: AHP-G+9-BLKA 18





# NOTE:

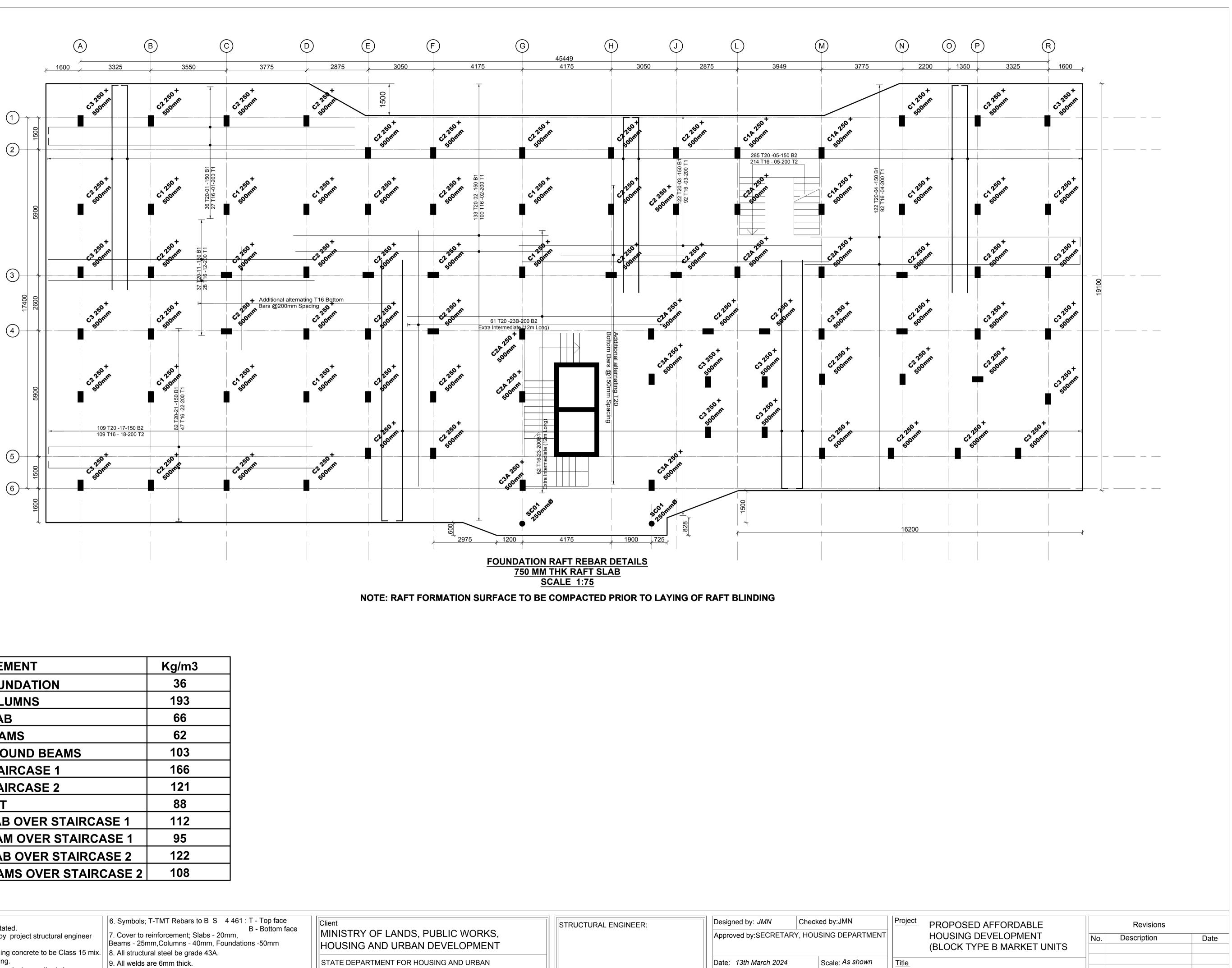
1. Foundations to be excavated to a minimum depth of 3.5m 2. Introduce a 300x200 ground beam over all the foundation wallings 3. All masonry units to be machine cut blocks

Project		Revisions	
PROPOSED AFFORDABLE HOUSING PROGRAM-G+9 GENERIC BLOCK A.	No.	Description	Date
Title WATER TANK DETAILS.			



# BLOCK B AFFORDABLEHOUSING PROGRAMME





ELEMENT	Kg/m3
FOUNDATION	36
COLUMNS	193
SLAB	66
BEAMS	62
GROUND BEAMS	103
STAIRCASE 1	166
STAIRCASE 2	121
LIFT	88
SLAB OVER STAIRCASE 1	112
BEAM OVER STAIRCASE 1	95
SLAB OVER STAIRCASE 2	122
BEAMS OVER STAIRCASE 2	108

## NOTES

1. All dimensions are in millimetres unless otherwise stated.

2. All reinforcements must be checked and approved by project structural engineer prior to concreting.

3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix. 8. All structural steel be grade 43A. 4. Only figured dimensions to be taken from this drawing.

5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.

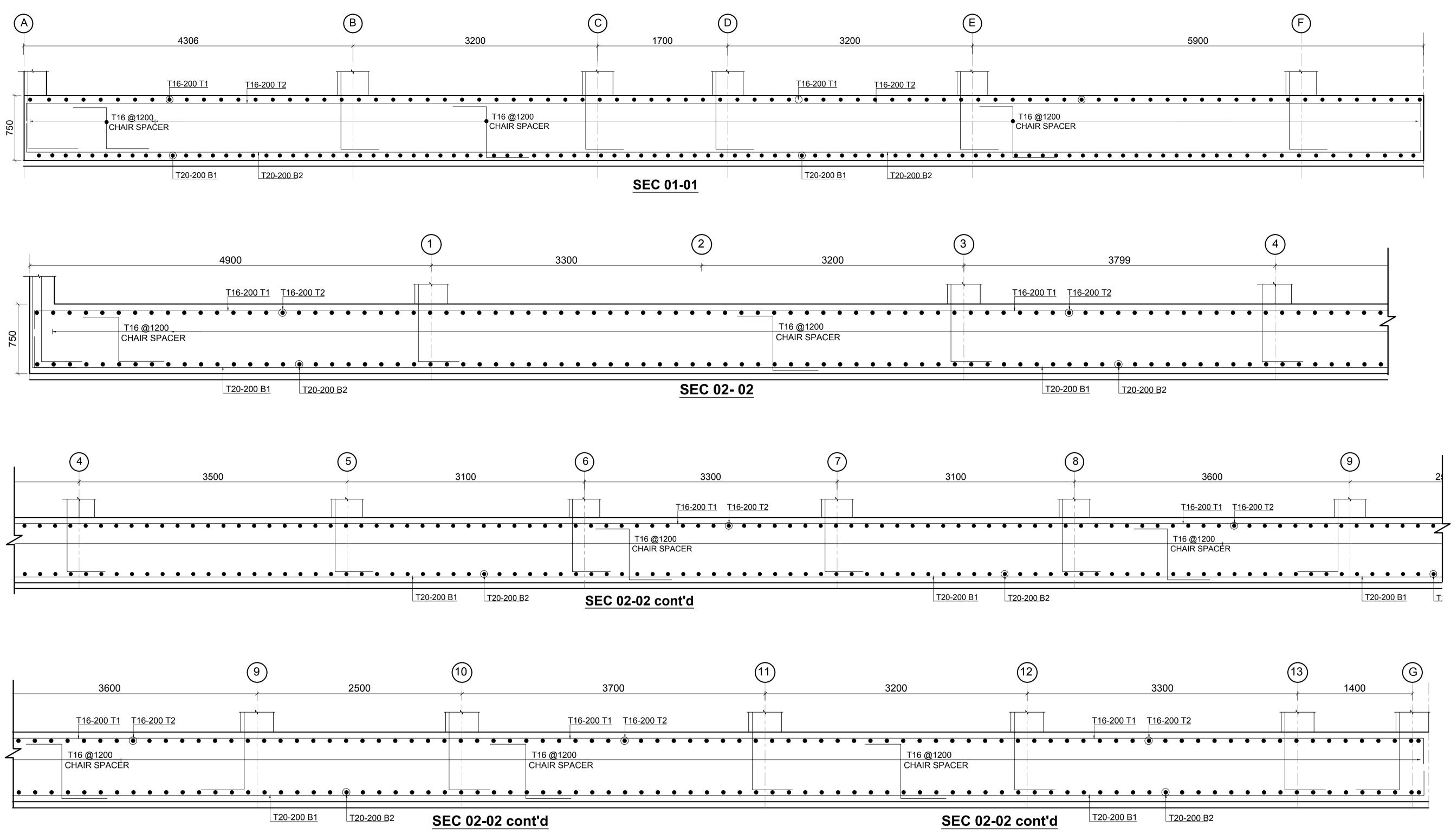
10. All structural steel to be painted with anti-rust primmer paint.

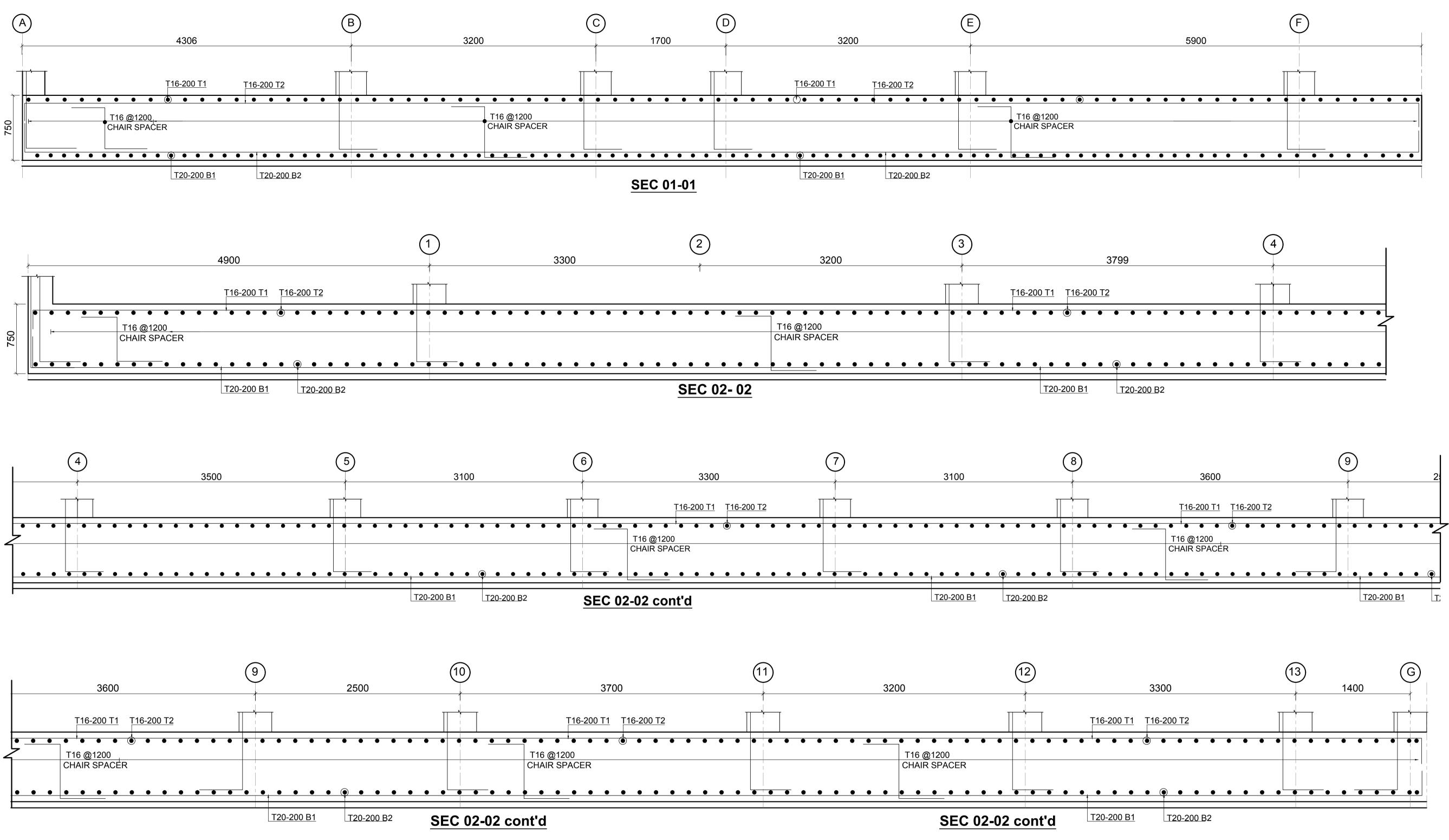
RY OF LANDS, PUBLIC WO	DRKS,
NG AND URBAN DEVELOP	MENT

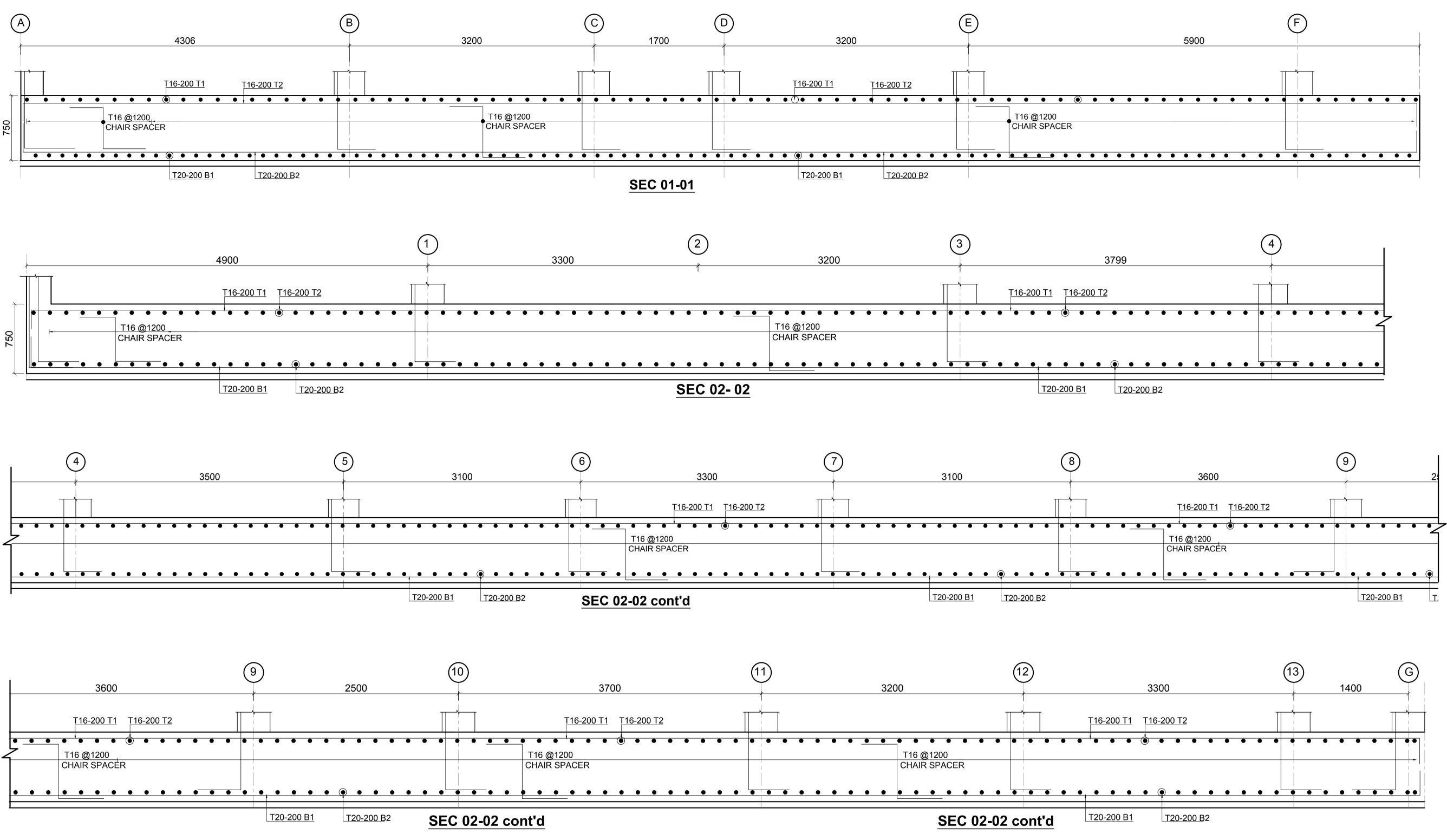
DEVELOPMENT

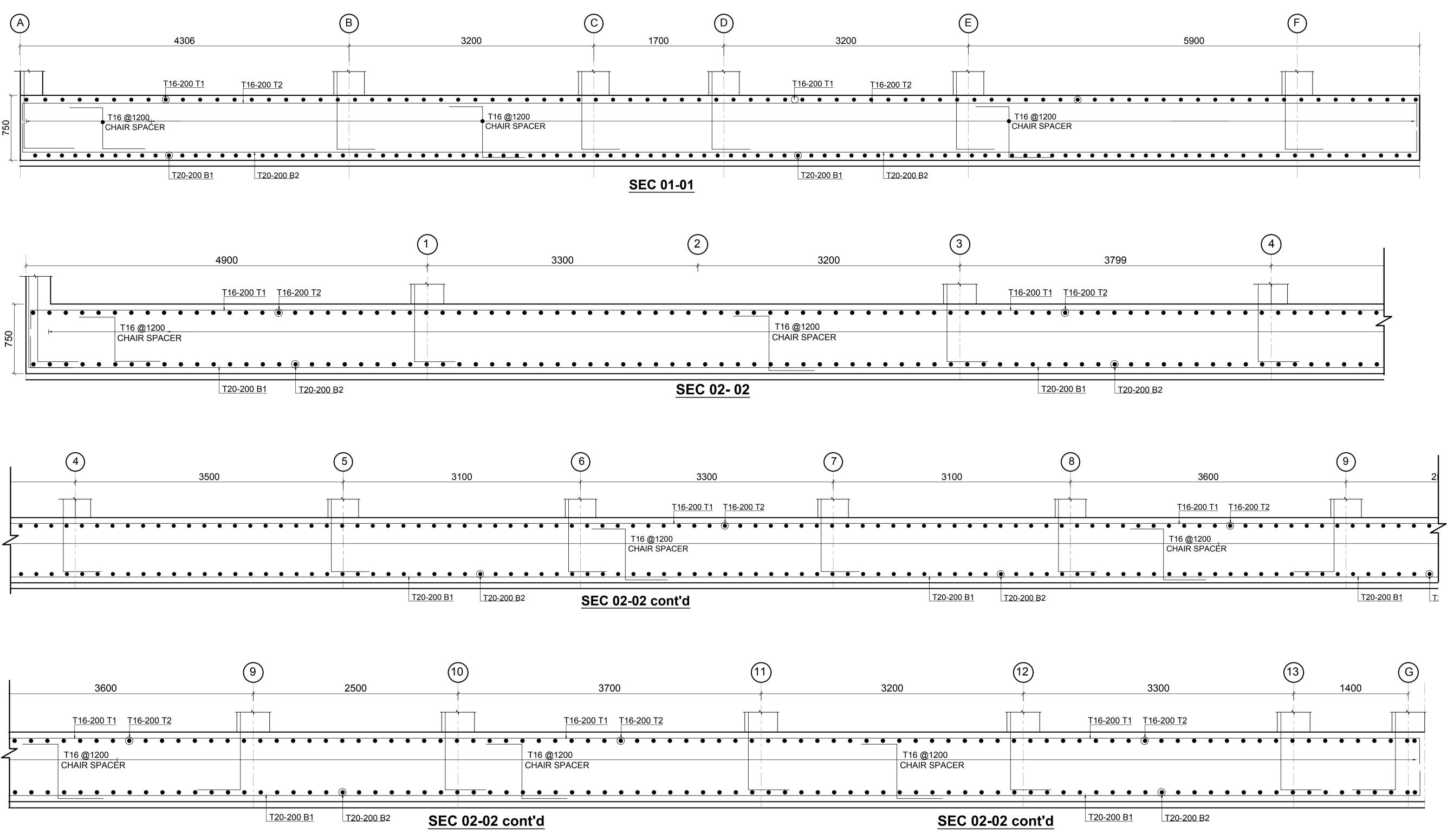
Drawing Number: AHP-G+9-BLKB 1.0B

FOUNDATION	RAFT RO	C DETAILS



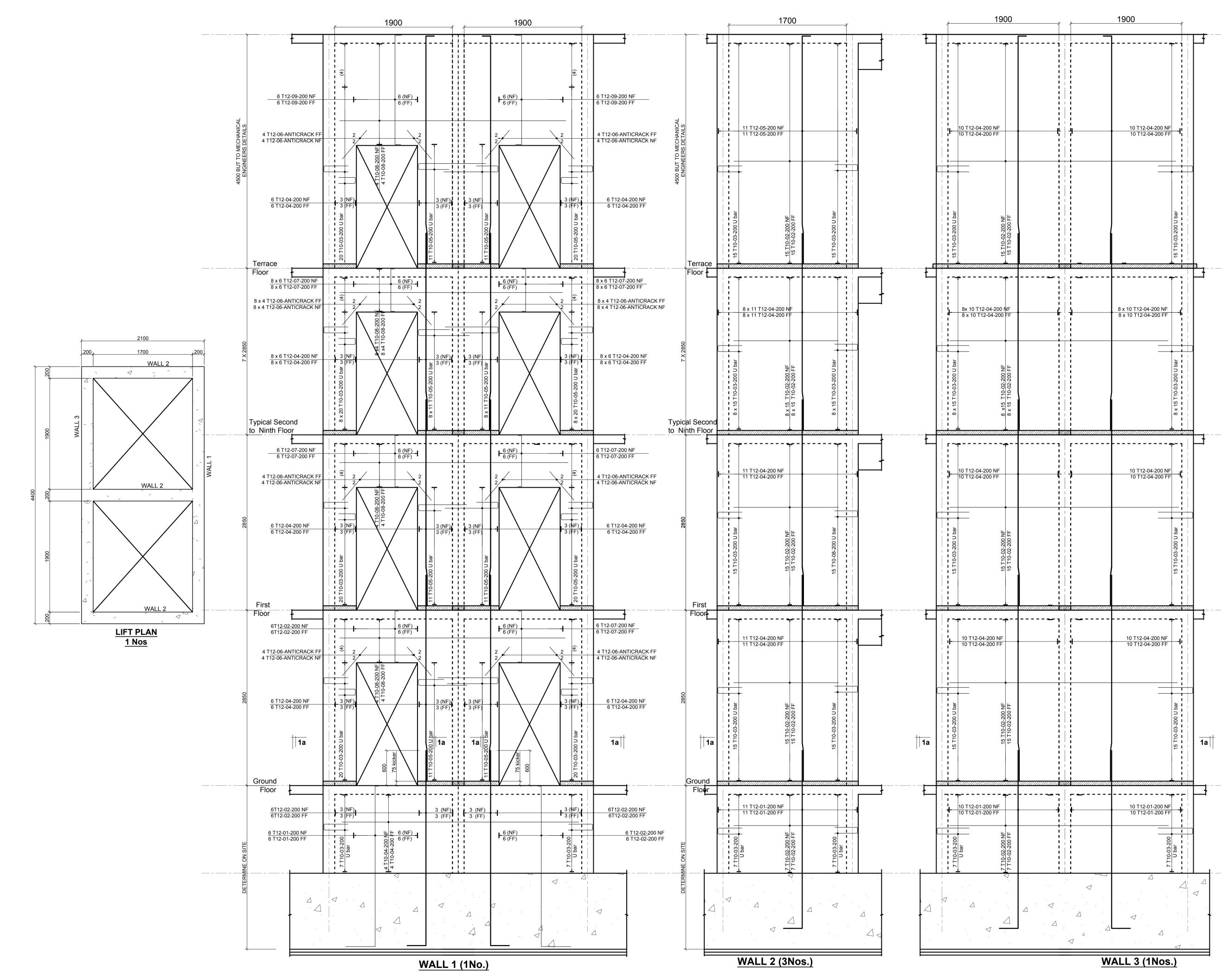




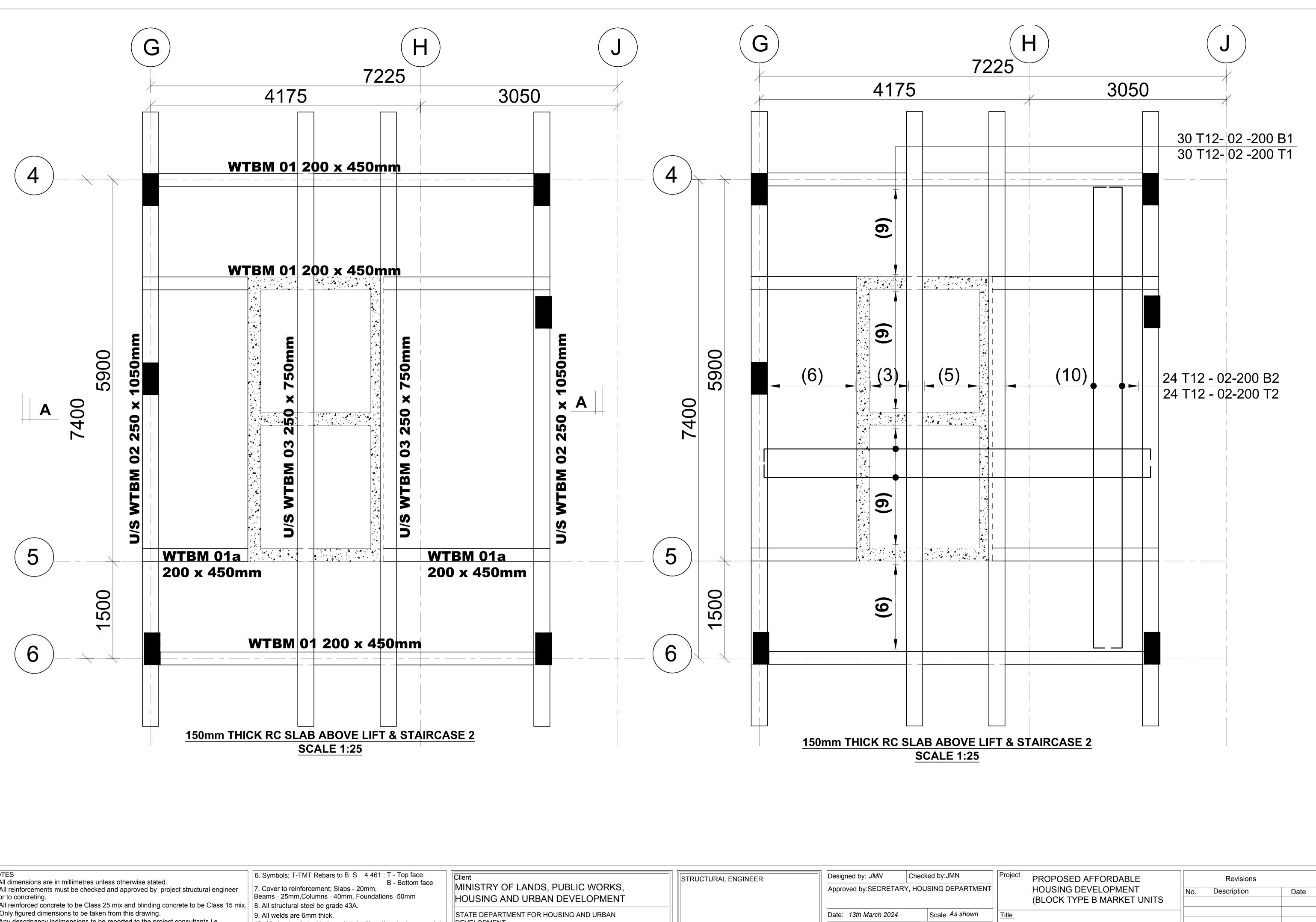


<ol> <li>All dimensions are in millimetres unless otherwise stated.</li> <li>All reinforcements must be checked and approved by project structural engineer prior to concreting.</li> <li>All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix.</li> <li>Only figured dimensions to be taken from this drawing.</li> </ol>	Beams - 25mm, Columns - 40mm, Foundations -50mm	Client MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING AND URBAN	STRUCTURAL ENGINEER:	Designed by: JMN       Checked by: JMN         Approved by:SECRETARY, HOUSING DEPARTMENT         Date:       13th March 2024         Scale:       As shown	Project PROPOSED AFFORDABLE HOUSING DEVELOPMENT (BLOCK TYPE B MARKET UNITS Title	Revisions No. Description	Date
5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.	DEVELOPMENT		Drawing Number: AHP-G+9-BLKB 1.1B	RAFT SECTION RC DETAILS			

20-	200	<u>B</u> 2



Project     Designed by: JMN     Checked by:JMN     Project     PROPOSED AFFORDABLE     Revisions       , PUBLIC WORKS,     NUCTURAL ENGINEER:     Designed by: SECRETARY, HOUSING DEPARTMENT     Project     PROPOSED AFFORDABLE     No.     Description       N DEVELOPMENT     N DEVELOPMENT     Dete: 13th March 2024     Scale: As shown     ITHE     No.     Description       IOUSING AND URBAN     Date: 13th March 2024     Scale: As shown     ITHE     ITHE     ITHE	Designed by: JMN     Checked by:JMN     Project     Project     ROPOSED AFFORDABLE       Approved by:SECRETARY, HOUSING DEPARTMENT     HOUSING DEVELOPMENT     No.     Des       Date:     13th March 2024     Scale: As shown     Title       Date:     13th March 2024     Scale: As shown     LIFT SHAFT RC DETAILS	Image: Indext End Structural EngineEr:       Designed by: JMN       Project       Project       PropOSED AFFORDABLE       No.       Designed         Indext End Structural EngineEr:       Paproved by:SECRETARY, HOUSING DEPARTMENT       Project       PROPOSED AFFORDABLE       No.       Designed         Indext End Structural EngineEr:       Approved by:SECRETARY, HOUSING DEPARTMENT       Project       PROPOSED AFFORDABLE       No.       Designed         Indext End Structural EngineEr:       Indext EngineEr:       Indext EngineEr:       Indext EngineEr:       No.       DesigneEr:       Indext EngineEr:       No.       DesigneEr:       Indext EngineEr:       No.       DesigneEr:       Indext EngineEr:       Indext EngineE:       IndextEngineEr:       Indext
.     Designed by: JMN     Project       .     .     Approved by:SECRETARY, HOUSING DEPARTMENT       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .       .     .	IF LANDS, PUBLIC WORKS,     Designed by: JMV     Checked by:JMN       IF LANDS, PUBLIC WORKS,     Project       ND URBAN DEVELOPMENT     Approved by:SECRETARY, HOUSING DEPARTMENT       MENT FOR HOUSING AND URBAN     Date: 13th March 2024       Scale: As shown     Title       Drawing Number: AHP-G+9-BLKB 2.0B     LIFT \$	4 461 : T - Top face       Element       Designed by: JMN       Checked by:JMN       Project         0 mm,       B - Bottom face       MINISTRY OF LANDS, PUBLIC WORKS,       Designed by: JMN       Checked by:JMN       Project         0 mm,       B - Bottom face       MINISTRY OF LANDS, PUBLIC WORKS,       Designed by: JMN       Checked by:JMN       Project         0 mm,       B - Bottom face       MINISTRY OF LANDS, PUBLIC WORKS,       Designed by: SECRETARY, HOUSING DEPARTMENT       Project         0 mm,       B - Bottom face       MINISTRY OF LANDS, PUBLIC WORKS,       Designed by: SECRETARY, HOUSING DEPARTMENT       Project         0 mm,       B - Bottom face       MINISTRY OF LANDS, PUBLIC WORKS,       Designed by: SECRETARY, HOUSING DEPARTMENT       Project         0 mm,       B - Bottom face       Designed by: SECRETARY, HOUSING DEPARTMENT       Designed by: SECRETARY, HOUSING DEPARTMENT       Project         0 mudations -50mm       Date: 13th March 2024       Scale: As shown       Title         with anti-rust primmer paint.       DEVELOPMENT       Derived by: SECRETARY, HOUSING AND URBAN       Lift
.     Designed by: JMN     Checked by:JMN       .     Approved by:SECRETARY, HOUSING DEPART       .     Date: 13th March 2024     Scale: As shown       Drawing Number:     AHP-G+9-BLKB     20B	IF LANDS, PUBLIC WORKS,       Designed by: JMN       Checked by:JMN         IF LANDS, PUBLIC WORKS,       Approved by:SECRETARY, HOUSING DEPART         ND URBAN DEVELOPMENT       Approved by:SECRETARY, HOUSING DEPART         MENT FOR HOUSING AND URBAN       Date: 13th March 2024       Scale: As show         MENT FOR HOUSING AND URBAN       Drawing Number: AHP-G+9-BLKB 2.0B       Drawing Number: AHP-G+9-BLKB 2.0B	4 461 : T - Top face       Element       Element       Designed by: JMN       Checked by:JMN         0mm,       B - Bottom face       MINISTRY OF LANDS, PUBLIC WORKS,       Designed by: JMN       Checked by:JMN         0mm,       B - Bottom face       MINISTRY OF LANDS, PUBLIC WORKS,       Designed by: JMN       Checked by:JMN         0mm,       B - Bottom face       MINISTRY OF LANDS, PUBLIC WORKS,       Designed by: JMN       Designed by: JMN         0mm,       B - Bottom face       MINISTRY OF LANDS, PUBLIC WORKS,       Designed by: JMN       Designed by: JMN         0mm,       B - Bottom face       MINISTRY OF LANDS, PUBLIC WORKS,       Designed by: JMN       Designed by: JMN         0mm,       Brance some       MINISTRY OF LOPMENT       Designed by: JMN       Designed by: JMN         0mm,       BEVELOPMENT       Designed by: March 2024       Scale: As showed by: Sc
.     Designed by: JMN     Checl       .     .     Approved by:SECRETARY, HOL       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       .     .     .       . <th>IF LANDS, PUBLIC WORKS,     Designed by: JMN     Checl       IF LANDS, PUBLIC WORKS,     Approved by:SECRETARY, HOL       ND URBAN DEVELOPMENT     Date: 13th March 2024       MENT FOR HOUSING AND URBAN     Date: 13th March 2024</th> <td>4 461 : T - Top face       End       Designed by: JMN       Check         8 - Bottom face       B - Bottom face       Designed by: JMN       Check         10mm,       B - Bottom face       Designed by: JMN       Check         10mm,       B - Bottom face       Designed by: JMN       Check         10mm,       B - Bottom face       Designed by: JMN       Check         10mm,       Development       Development       Development         10mm,       Development       Development       Development         10mm,       Development       Development       Development         10mm,       Development       Development       Development         10mm,       Development       Development       Development</td>	IF LANDS, PUBLIC WORKS,     Designed by: JMN     Checl       IF LANDS, PUBLIC WORKS,     Approved by:SECRETARY, HOL       ND URBAN DEVELOPMENT     Date: 13th March 2024       MENT FOR HOUSING AND URBAN     Date: 13th March 2024	4 461 : T - Top face       End       Designed by: JMN       Check         8 - Bottom face       B - Bottom face       Designed by: JMN       Check         10mm,       B - Bottom face       Designed by: JMN       Check         10mm,       B - Bottom face       Designed by: JMN       Check         10mm,       B - Bottom face       Designed by: JMN       Check         10mm,       Development       Development       Development
STRUCTURAL ENGINEER:	DF LANDS, PUBLIC WORKS, ND URBAN DEVELOPMENT MENT FOR HOUSING AND URBAN	4 461 : T - Top face       Client         0mm,       B - Bottom face         0mm,       MINISTRY OF LANDS, PUBLIC WORKS,         0mm indations -50mm       MINISTRY OF LANDS, PUBLIC WORKS,         oundations -50mm       HOUSING AND URBAN DEVELOPMENT         state DePARTMENT FOR HOUSING AND URBAN         with anti-rust primmer paint.
	DF LANDS, PUBLIC WORKS, ND URBAN DEVELOPMENT MENT FOR HOUSING AND URBAN	4 461 : T - Top face       Client         0mm,       B - Bottom face         0mm,       B - Bottom face         0mm,       MINISTRY OF LANDS, PUBLIC WORKS,         0mdations -50mm       HOUSING AND URBAN DEVELOPMENT         oundations -50mm       STATE DEPARTMENT FOR HOUSING AND URBAN         with anti-rust primmer paint.       DEVELOPMENT
, PUBLIC WORKS, N DEVELOPMENT IOUSING AND URBAN	Client MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT	4 461 : T - Top face 0mm, B - Bottom face oundations -50mm with anti-rust primmer paint.
	Client MINISTRY OF LANDS HOUSING AND URBA STATE DEPARTMENT FOR H DEVELOPMENT	4 461 : T - Top face 0mm, B - Bottom face oundations -50mm with anti-rust primmer paint.

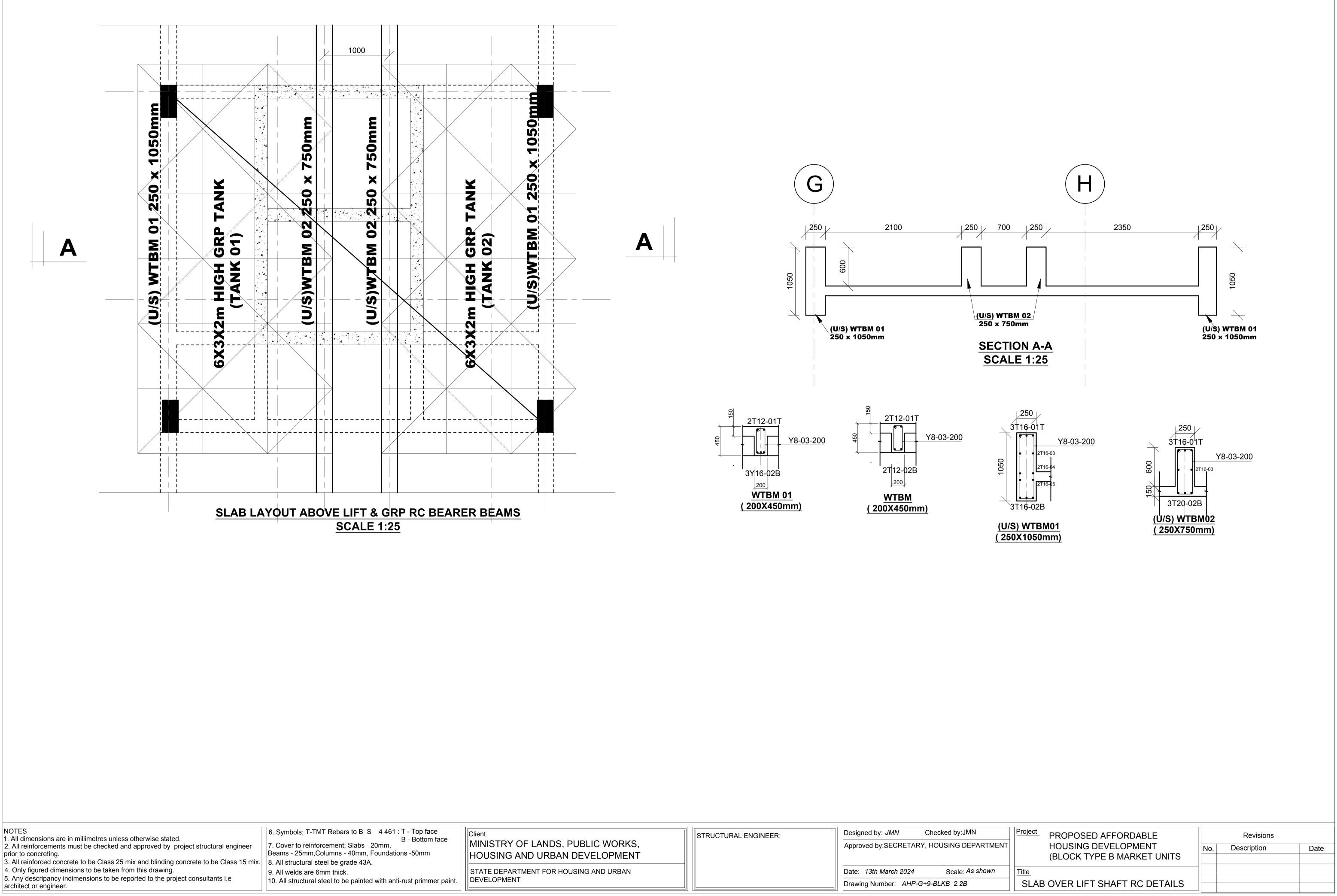


<ul> <li>NOTES</li> <li>1. All dimensions are in millimetres unless otherwise stated.</li> <li>2. All reinforcements must be checked and approved by project structural engineer prior to concreting.</li> <li>3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix</li> <li>4. Only figured dimensions to be taken from this drawing.</li> <li>5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.</li> </ul>	<ul> <li>6. Symbols; T-TMT Rebars to B S 4 461 : T - Top face B - Bottom face</li> <li>7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm</li> <li>8. All structural steel be grade 43A.</li> <li>9. All welds are 6mm thick.</li> <li>10. All structural steel to be painted with anti-rust primmer paint.</li> </ul>	Client MINIST HOUSII STATE DE DEVELOP
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SCALE	1:25

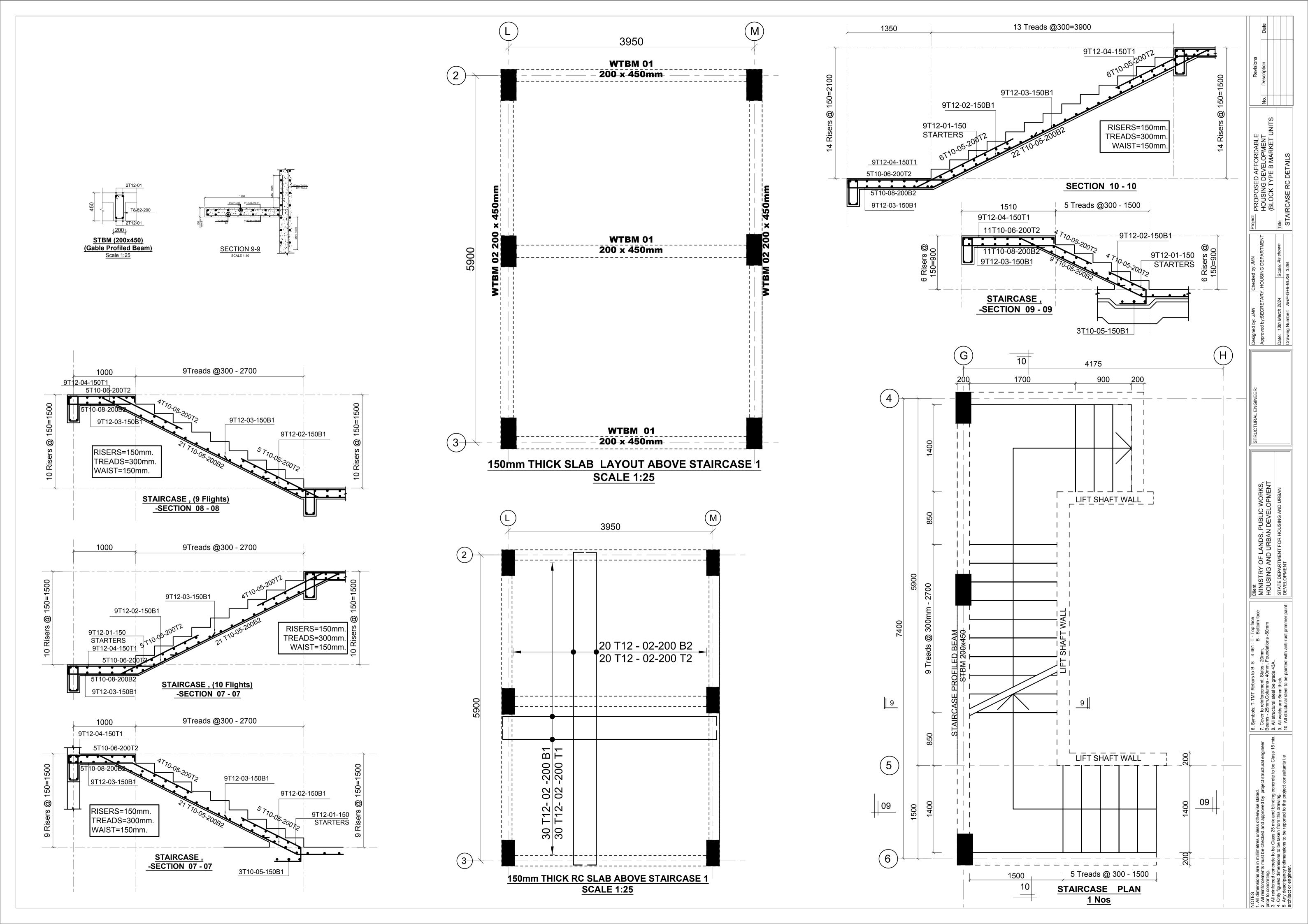
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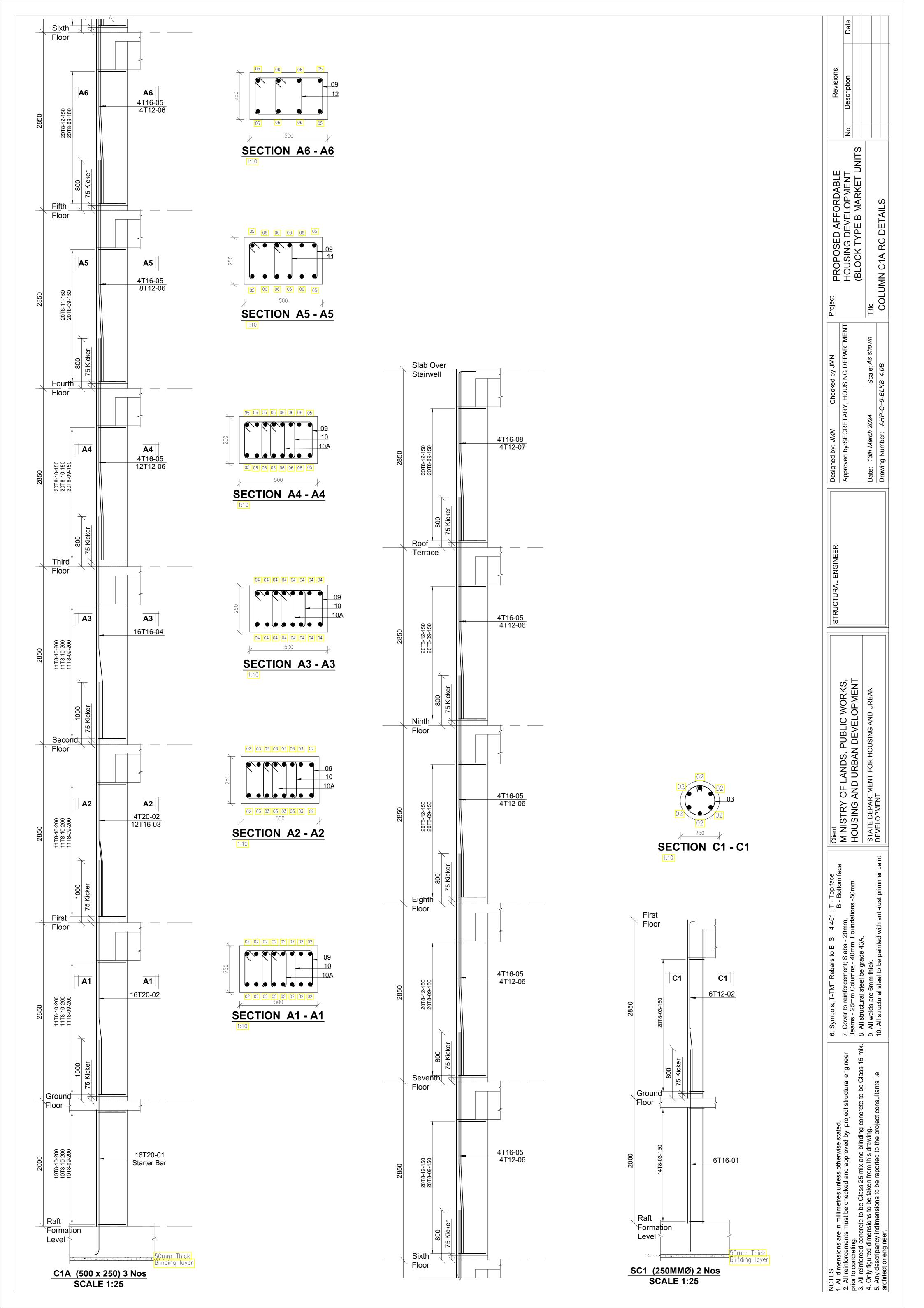
Drawing Number: AHP-G+9-BLKB 2.1B

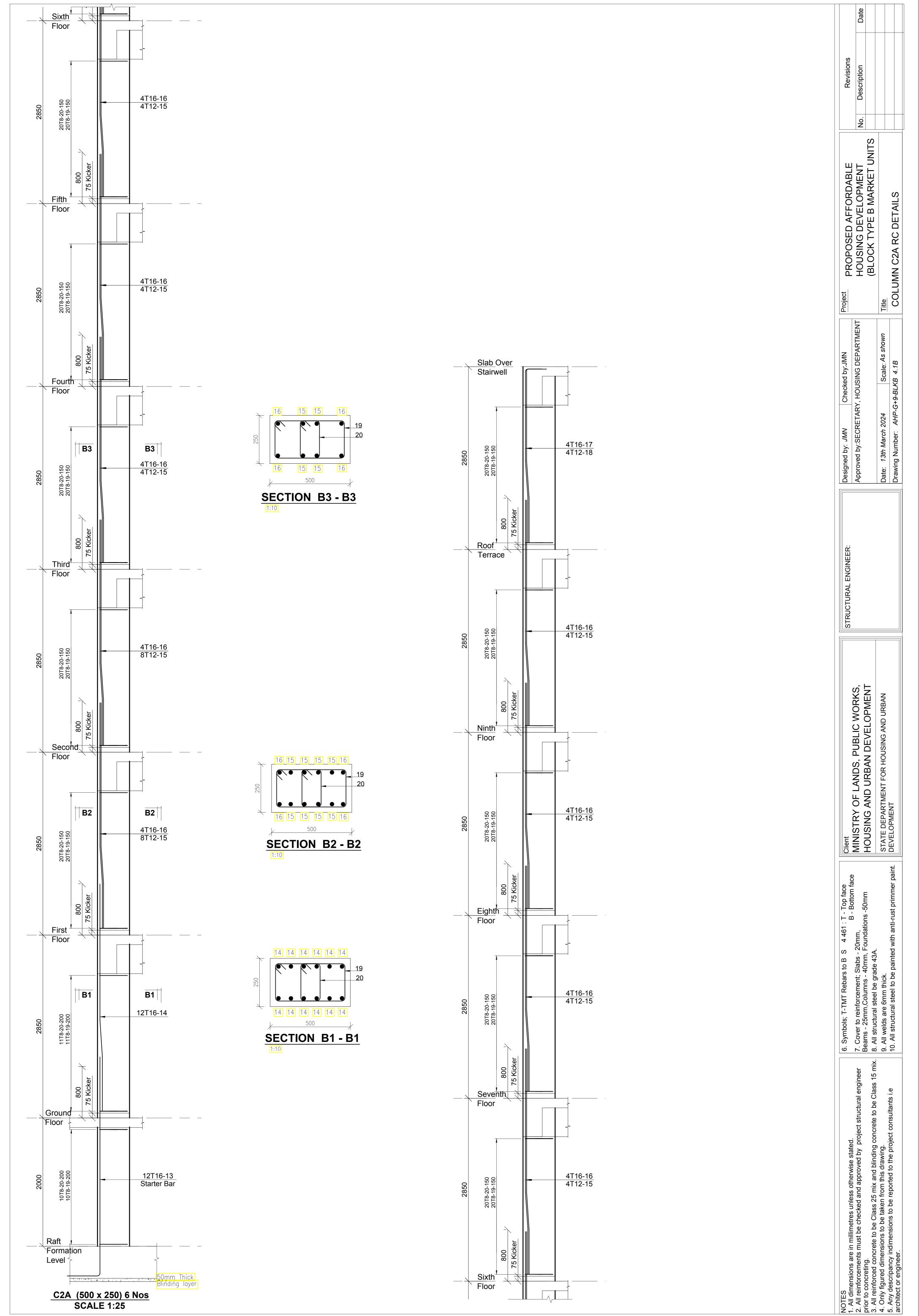


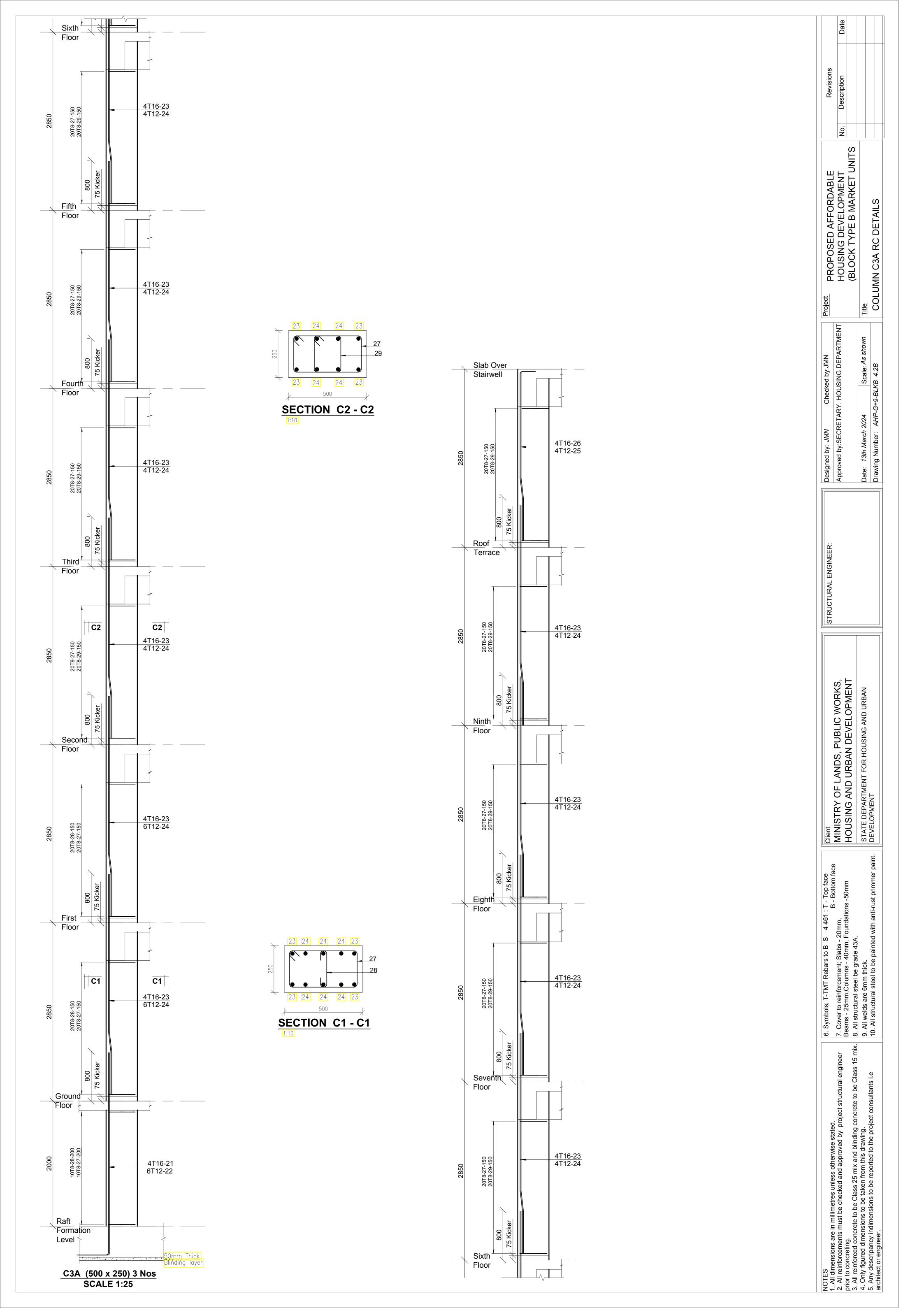
NOTES	6. Symbols; T-TMT Rebars to B S 4 461 : T - Top face	
1. All dimensions are in millimetres unless otherwise stated.	B - Bottom face	CI N
2. All reinforcements must be checked and approved by project structural	engineer 7. Cover to reinforcement; Slabs - 20mm,	įΝ
prior to concreting.	Beams - 25mm,Columns - 40mm, Foundations -50mm	-   s
3. All reinforced concrete to be Class 25 mix and blinding concrete to be C	lass 15 mix. 8. All structural steel be grade 43A.	Ľ
4. Only figured dimensions to be taken from this drawing.	9 All welds are 6mm thick	lls

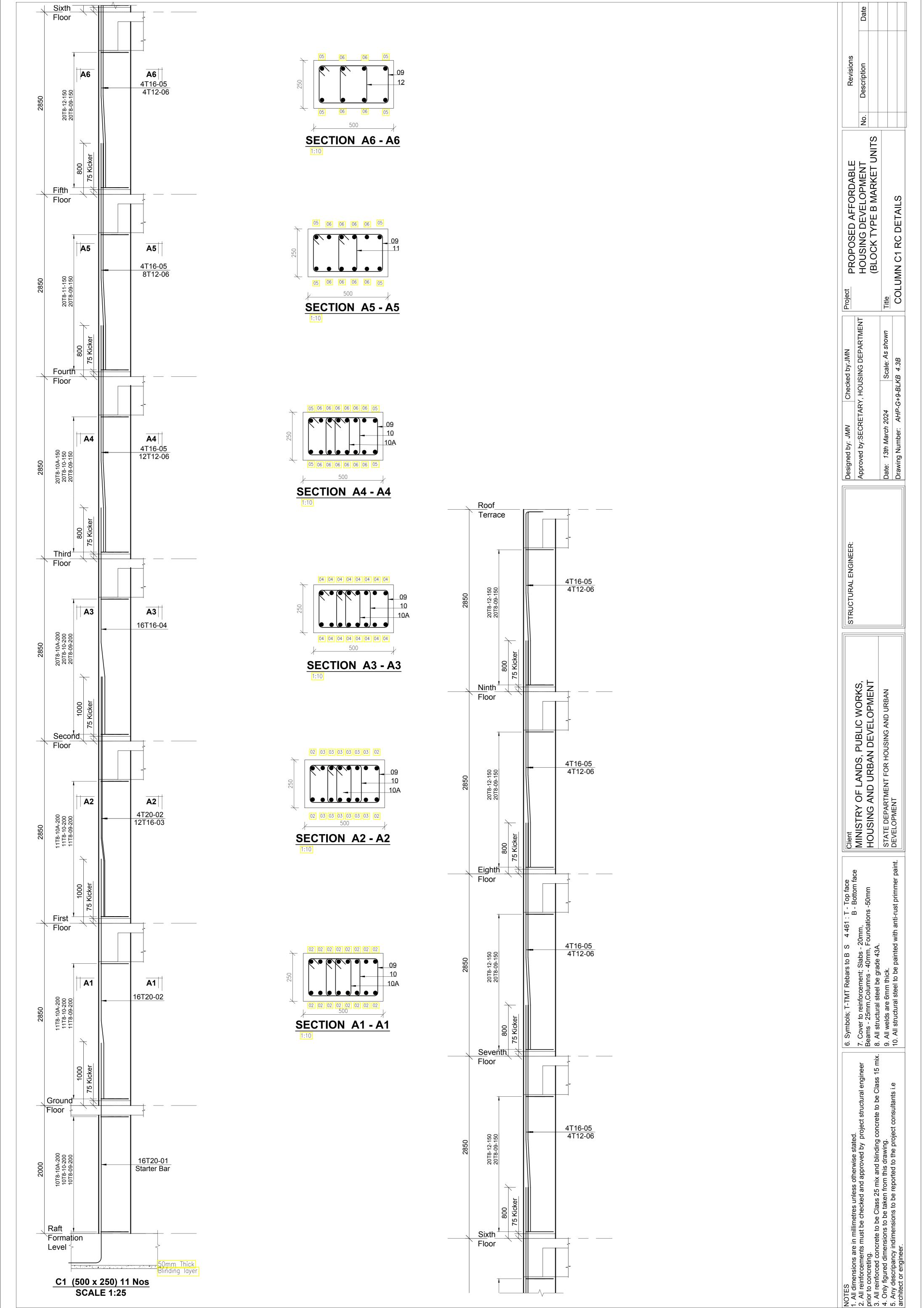
	STRUCTURAL ENGINEER:	Designed by: JMN	Check	ed by:JMN
RY OF LANDS, PUBLIC WORKS,		Approved by:SECRETAR	Y, HOU	SING DEPARTMEN
NG AND URBAN DEVELOPMENT				
EPARTMENT FOR HOUSING AND URBAN		Date: 13th March 2024		Scale: As shown
PMENT				

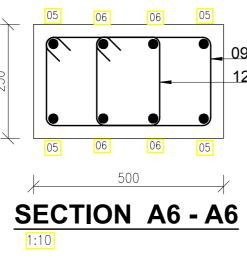


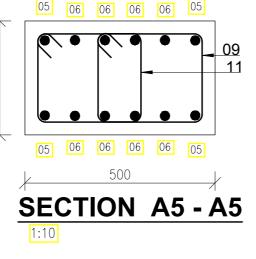


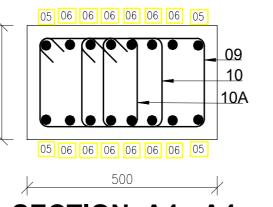


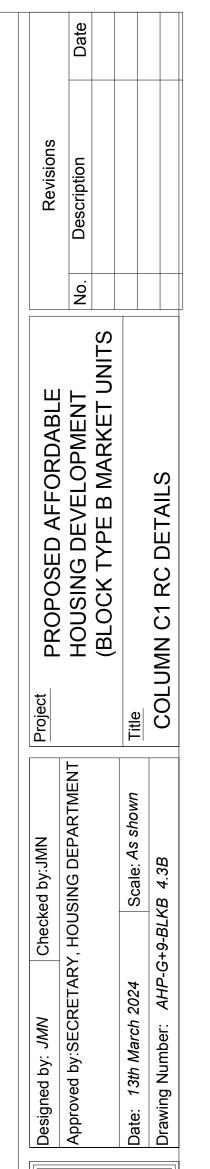


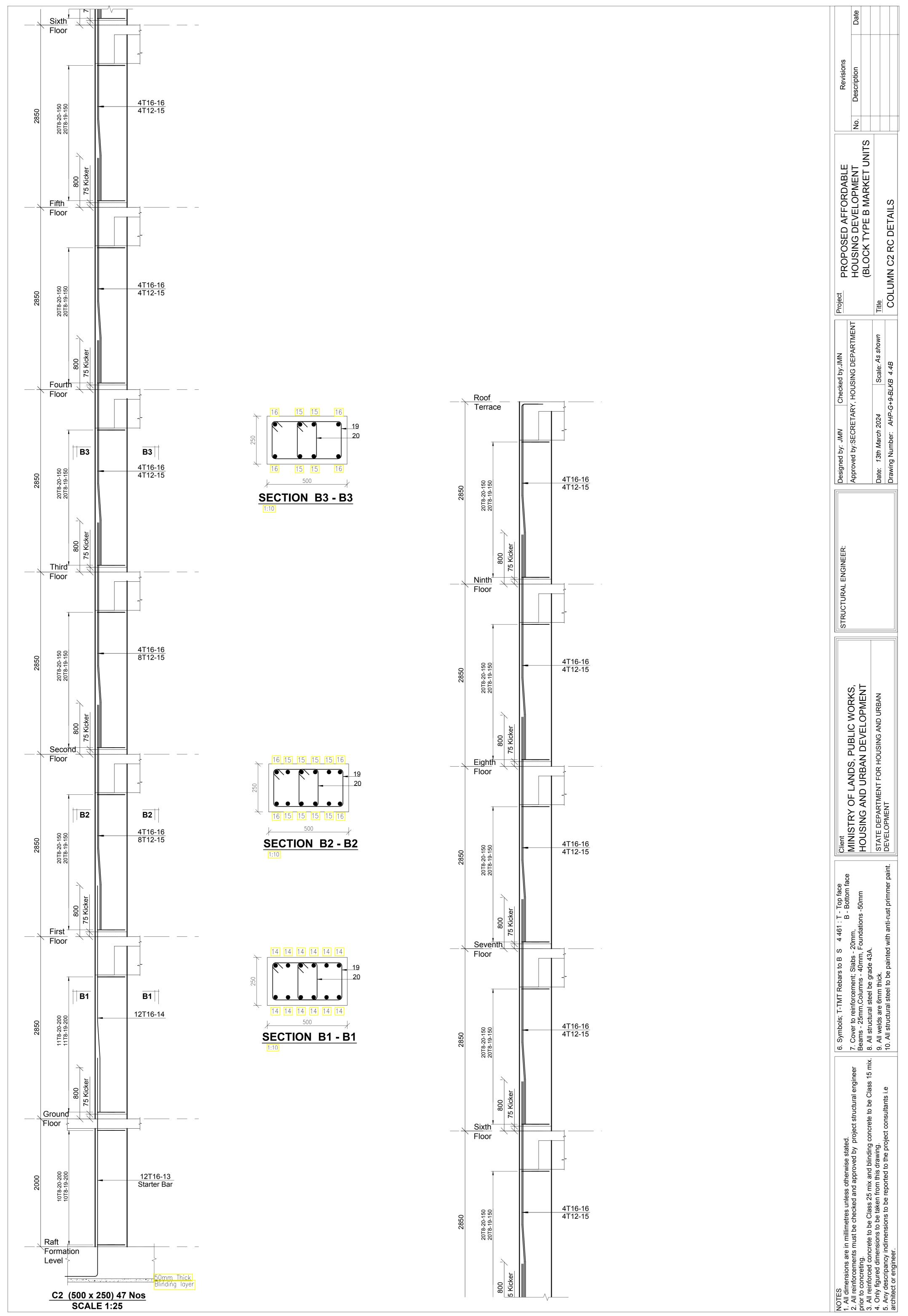


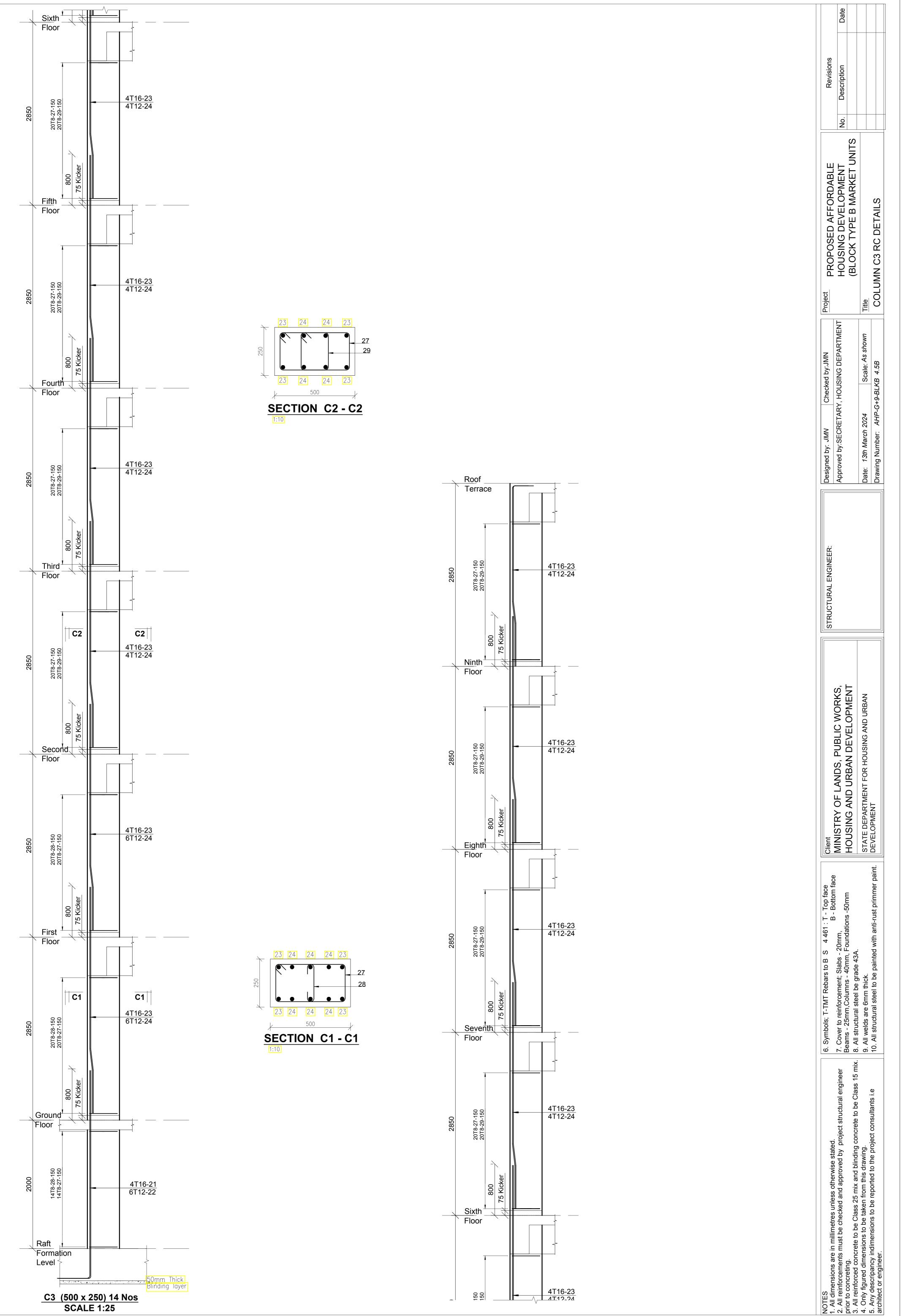


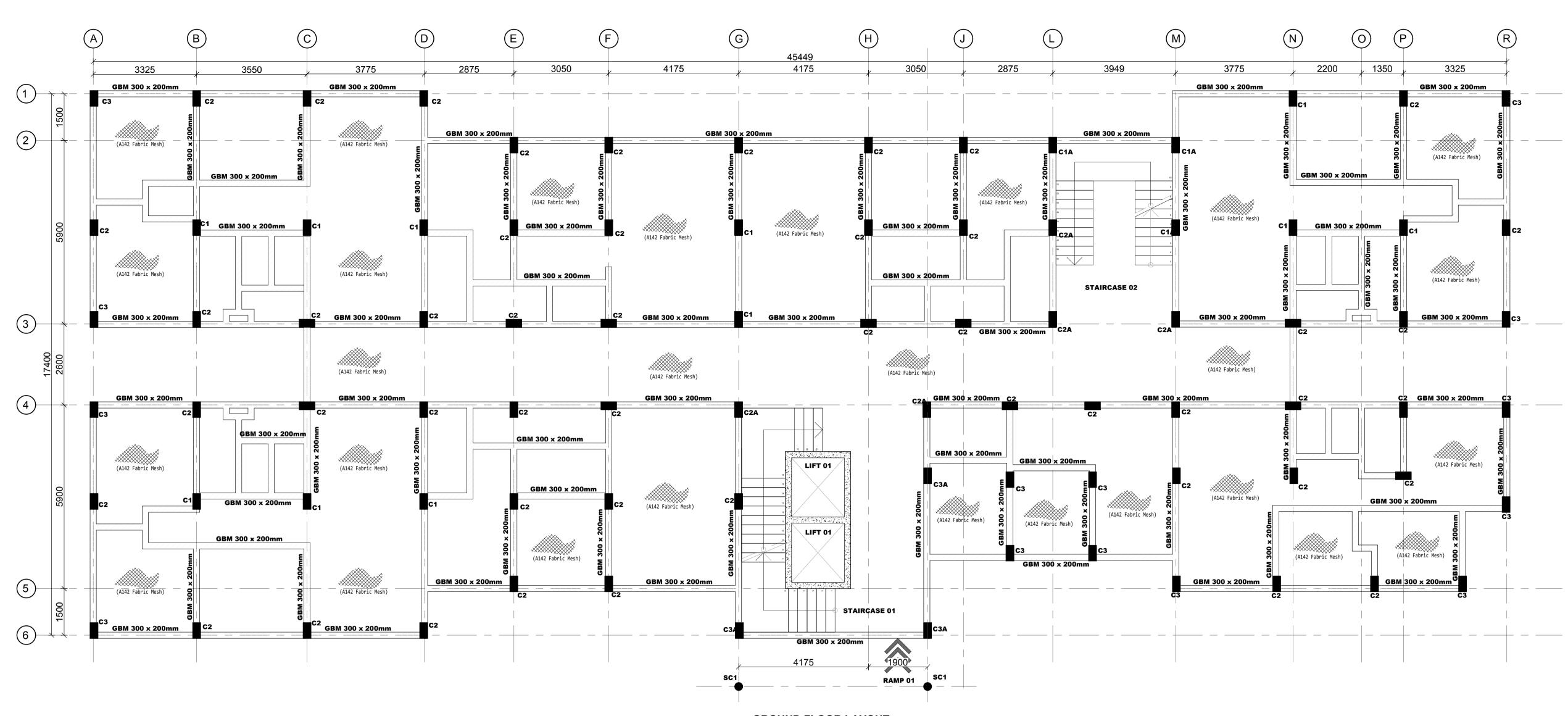


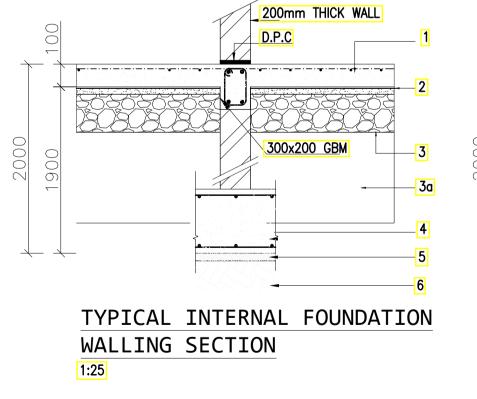


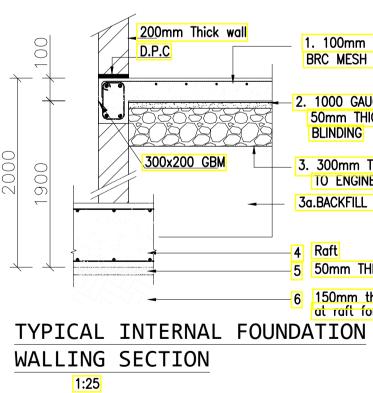












<ul> <li>NOTES</li> <li>1. All dimensions are in millimetres unless otherwise stated.</li> <li>2. All reinforcements must be checked and approved by project structural engineer prior to concreting.</li> <li>3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix.</li> <li>4. Only figured dimensions to be taken from this drawing.</li> <li>5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.</li> </ul>	<ul> <li>6. Symbols; T-TMT Rebars to B S 4 461 : T - Top face B - Bottom face</li> <li>7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm</li> <li>8. All structural steel be grade 43A.</li> <li>9. All welds are 6mm thick.</li> <li>10. All structural steel to be painted with anti-rust primmer paint.</li> </ul>	Client MINISTR HOUSIN STATE DEP DEVELOPM
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1. 100mm THICK CONCRETE SLAB WITH BRC MESH No. 142

2. 1000 GAUGE POLYTHENE SHEETING ON 50mm THICK MURRAM OR QUARRY CHIPS BLINDING

- 3. 300mm THK. WELL COMPACTED HARDCORE, TO ENGINEERS APPROVAL. 3a.BACKFILL MATERIAL COMPACTED IN 150mm LAYERS
- 5 50mm THICK BLINDING LAYER
- 6 150mm thick well compacted material at raft formation level



Designed by: JMN Checked by:JMN Approved by:SECRETARY, HOUSING DEPARTMENT Scale: As shown Date: 13th March 2024 Drawing Number: AHP-G+9-BLKB 5.0B

2T12-01

2T12-01

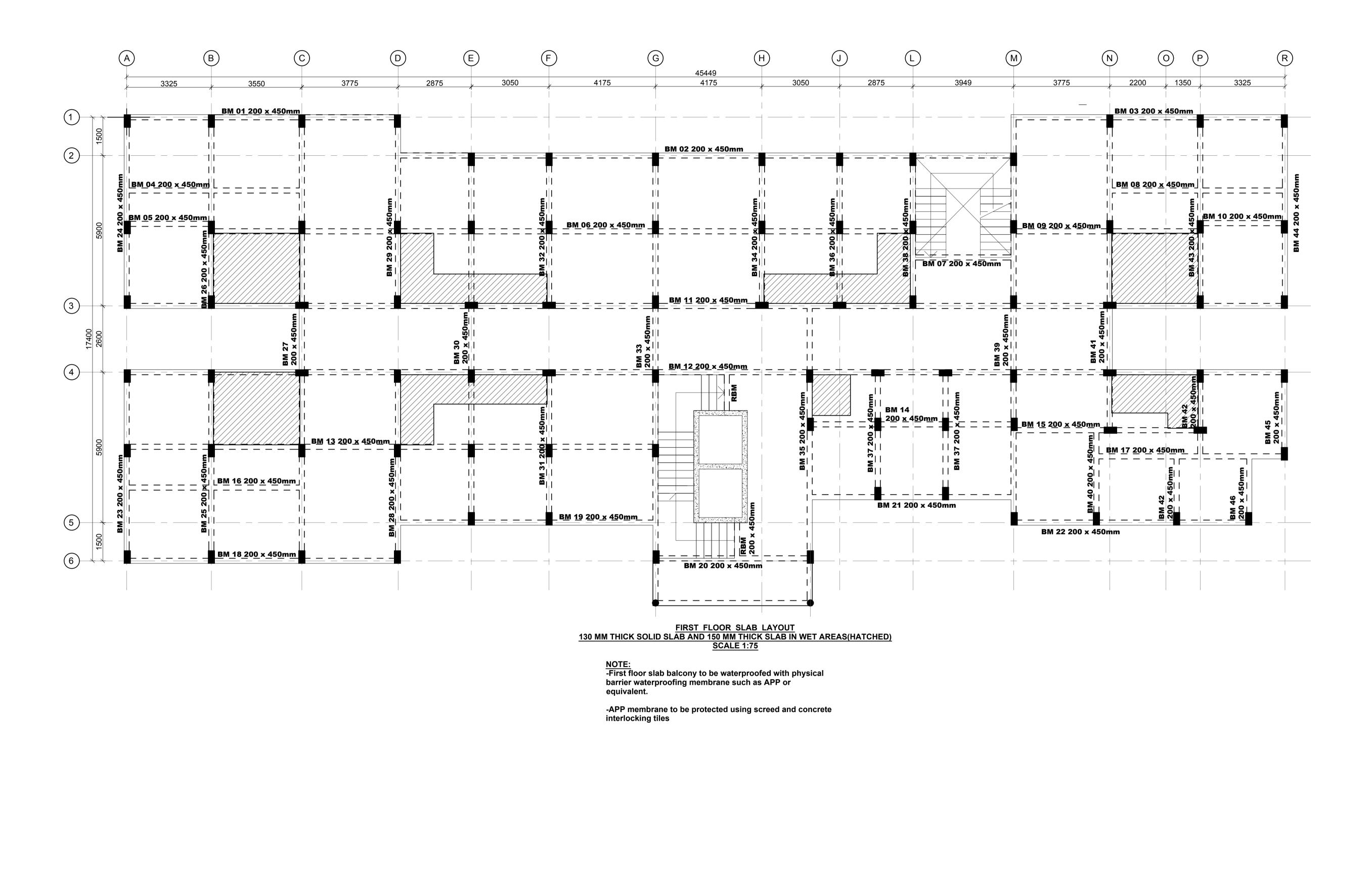
200

**GBM (300 X 200mm )** 

Scale 1:10

MENT

Project	PROPOSED AFFORDABLE		Revisions	
	HOUSING DEVELOPMENT	No.	Description	Date
	(BLOCK TYPE B MARKET UNITS			
Title				
GRO	UND FLOOR LAYOUT DETAILS			



 All dimensions are in millimetres unless otherwise stated.
 All reinforcements must be checked and approved by project structural engineer prior to concreting. 3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix. 8. All structural steel be grade 43A.

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NOTES

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architect or engineer.

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7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm

9. All welds are 6mm thick.

10. All structural steel to be painted with anti-rust primmer paint.

Client

# MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT

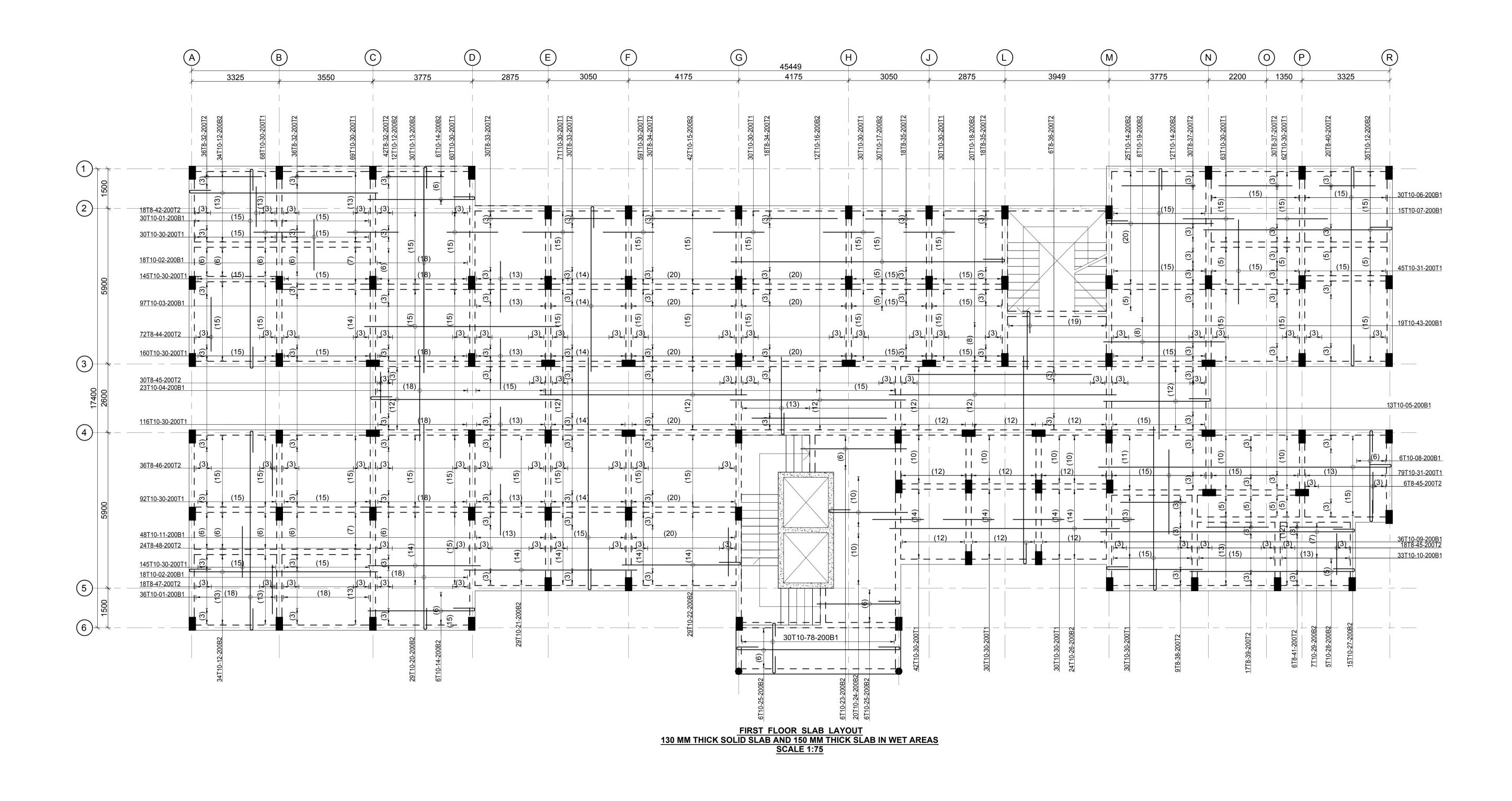
STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT

STRUCTURAL ENGINEER:

Designed by: JMN Checked by:JMN Approved by:SECRETARY, HOUSING DEPARTMENT Scale: As shown Date: 13th March 2024

Drawing Number: AHP-G+9-BLKB 5.1B

Project PROPOSED AFFORDABLE			Revisions	
	HOUSING DEVELOPMENT (BLOCK TYPE B MARKET UNITS	No.	Description	Date
Title FIRS	T FLOOR LAYOUT DETAILS			



NOTES

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MINISTRY O HOUSING AN STATE DEPARTN DEVELOPMENT

Client

RY OF LANDS, PUBLIC WORKS
NG AND URBAN DEVELOPMEN

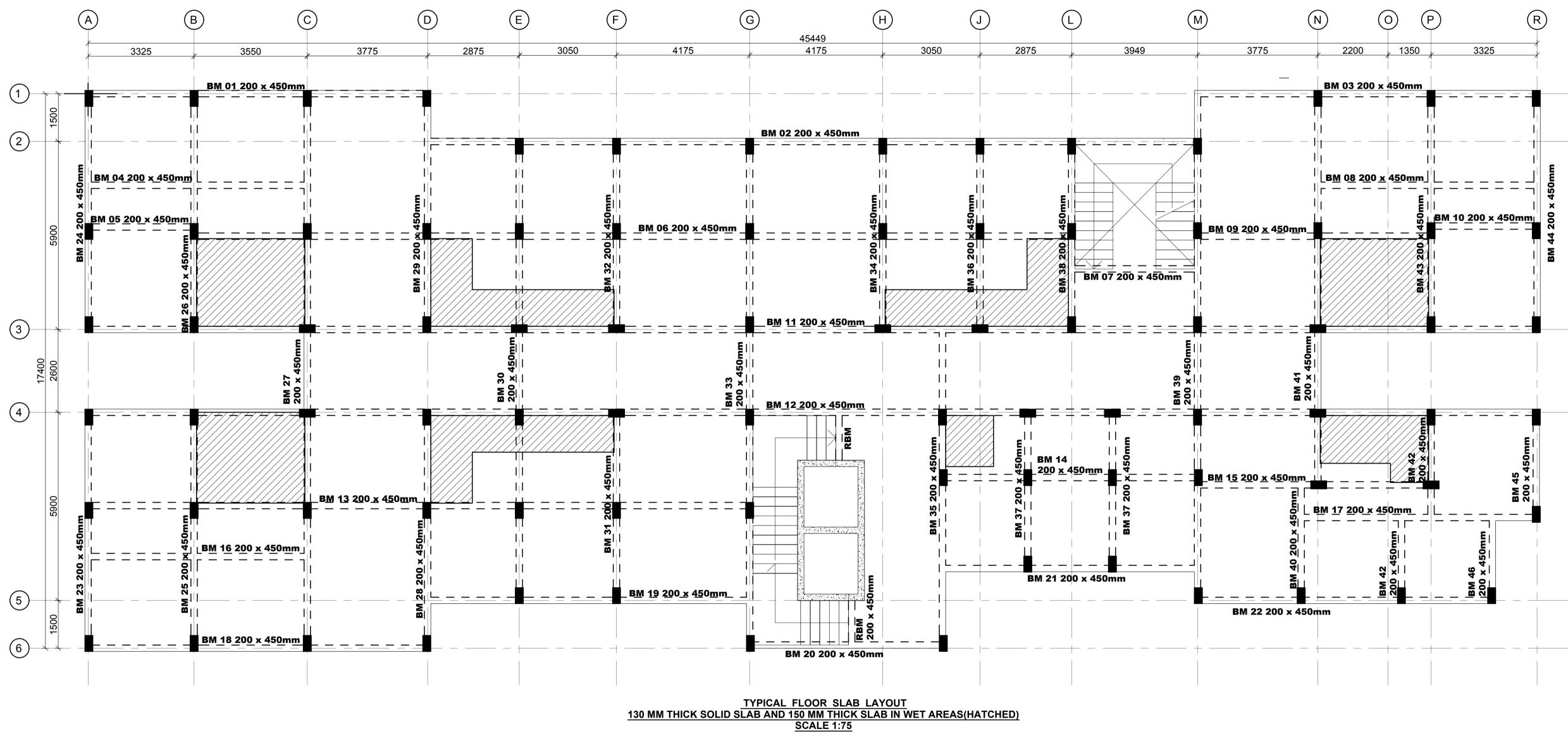
STATE DEPARTMENT FOR HOUSING AND URBAN

STRUCTURAL ENGINEER:

Designed by: JMNChecked by:JMNApproved by:SECRETARY, HOUSING DEPARTMENTDate: 13th March 2024Scale: As shown

Date:13th March 2024Scale: As shownDrawing Number:AHP-G+9-BLKB 5.2B

Project	PROPOSED AFFORDABLE	Revisions					
	HOUSING DEVELOPMENT (BLOCK TYPE B MARKET UNITS	No.	Description	Date			
Title							
FIRST FLOOR RC SLAB DETAILS							

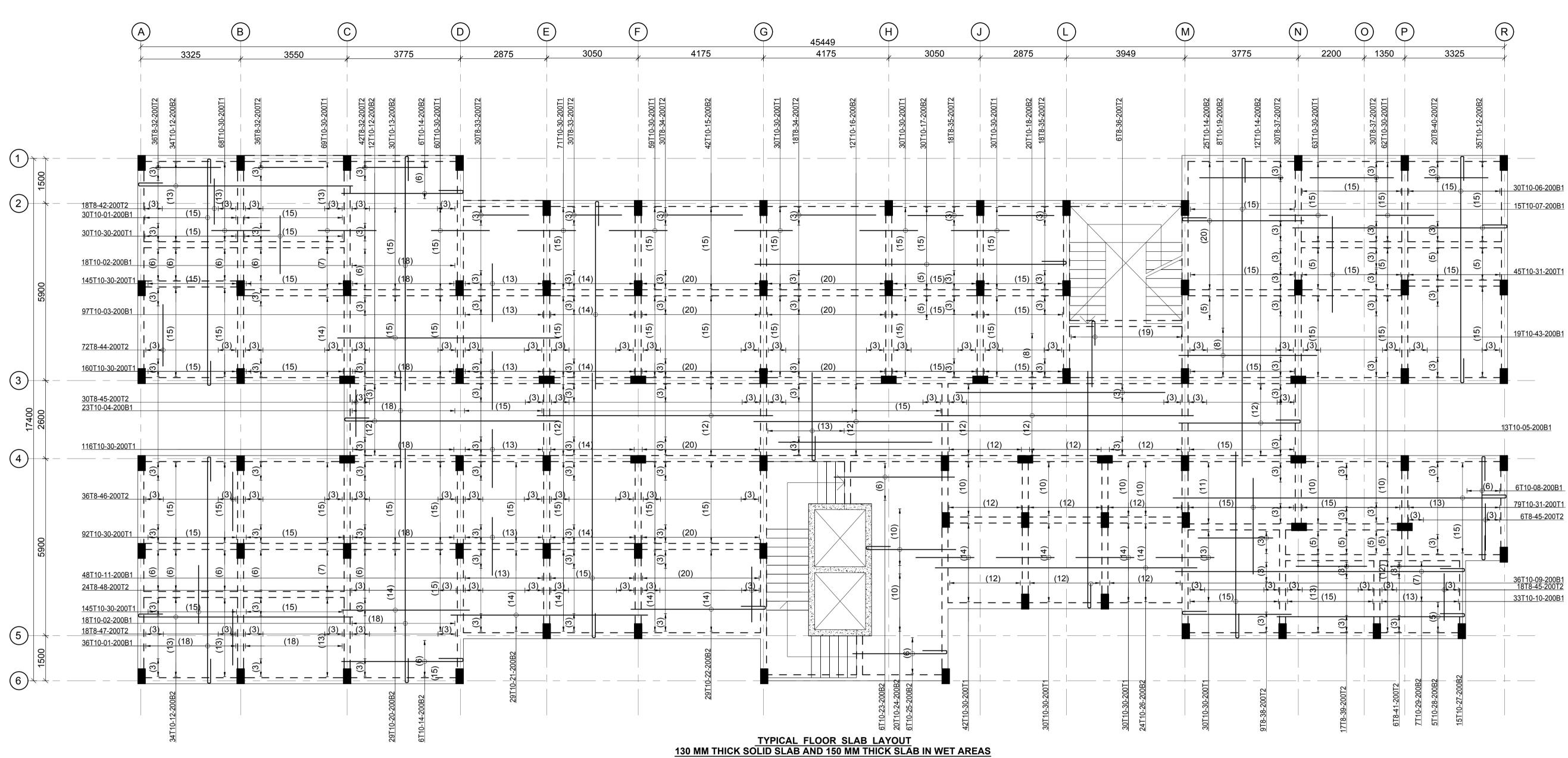


NOTES	6. Symbols; T-TMT Rebars to B S 4 461 : T - Top face	Client
1. All dimensions are in millimetres unless otherwise stated.	B - Bottom face	
2. All reinforcements must be checked and approved by project structural engineer	7. Cover to reinforcement; Slabs - 20mm,	MINISTRY OF LANDS, PUBLIC WORKS,
prior to concreting.	Beams - 25mm,Columns - 40mm, Foundations -50mm	HOUSING AND URBAN DEVELOPMENT
3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix.	8. All structural steel be grade 43A.	
4. Only figured dimensions to be taken from this drawing.	9. All welds are 6mm thick.	STATE DEPARTMENT FOR HOUSING AND URBAN
5. Any descripancy indimensions to be reported to the project consultants i.e	10. All structural steel to be painted with anti-rust primmer paint.	DEVELOPMENT
architect or engineer.		

STRUCTURAL ENGINEER:

Checked by:JMN Designed by: JMN Approved by:SECRETARY, HOUSING DEPARTMENT Date: 13th March 2024 Scale: As shown Drawing Number: AHP-G+9-BLKB 6.0B

1		
	Revisions	
No.	Description	Date
	No.	No. Description



NOTES 1. All dimensions are in millimetres unless otherwise stated.

2. All reinforcements must be checked and approved by project structural engineer prior to concreting. 3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix. 8. All structural steel be grade 43A.

4. Only figured dimensions to be taken from this drawing.

5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.

6. Symbols; T-TMT Rebars to B S 4 461 : T - Top face B - Bottom face

7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm

9. All welds are 6mm thick.

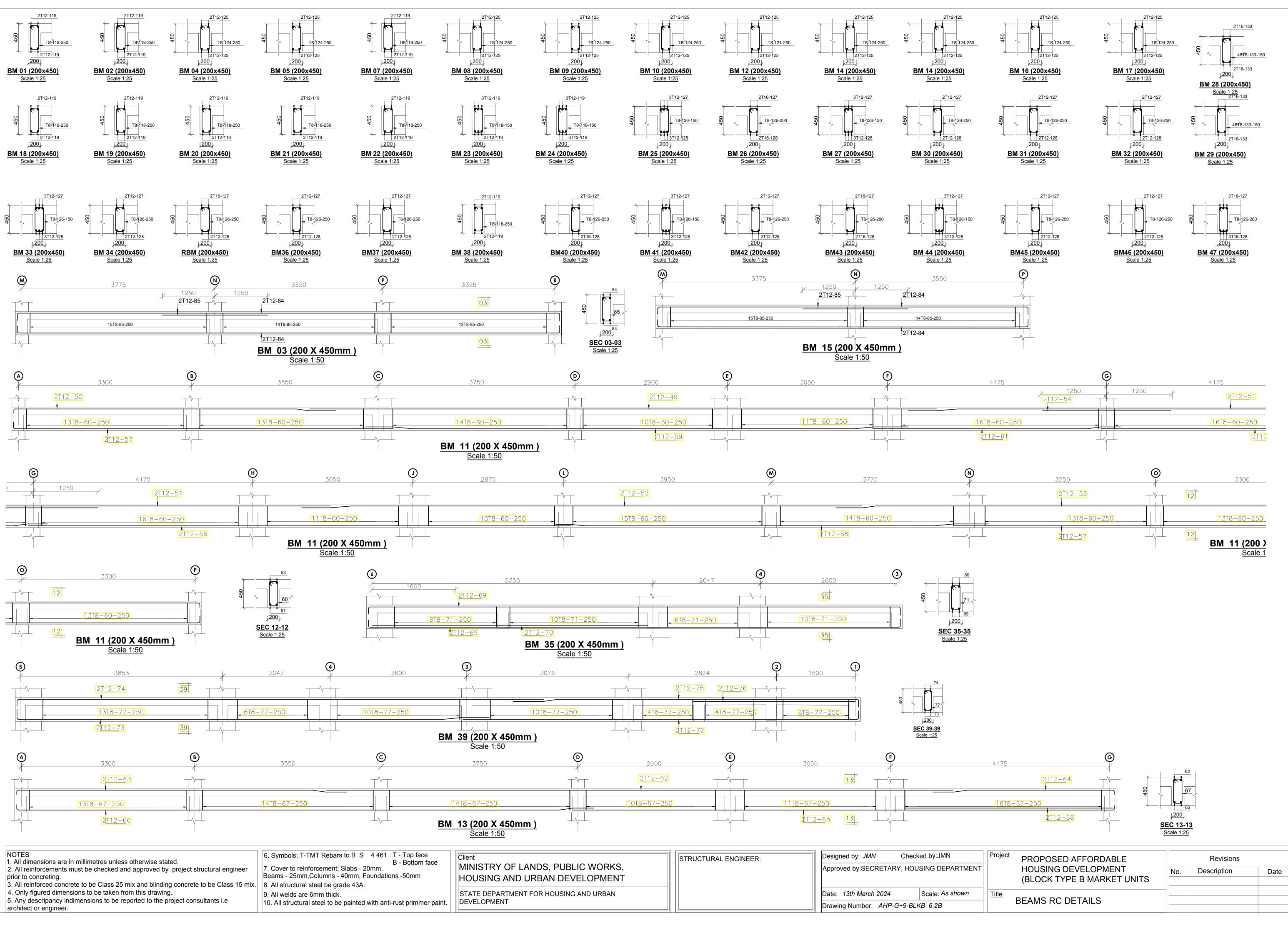
10. All structural steel to be painted with anti-rust primmer paint.

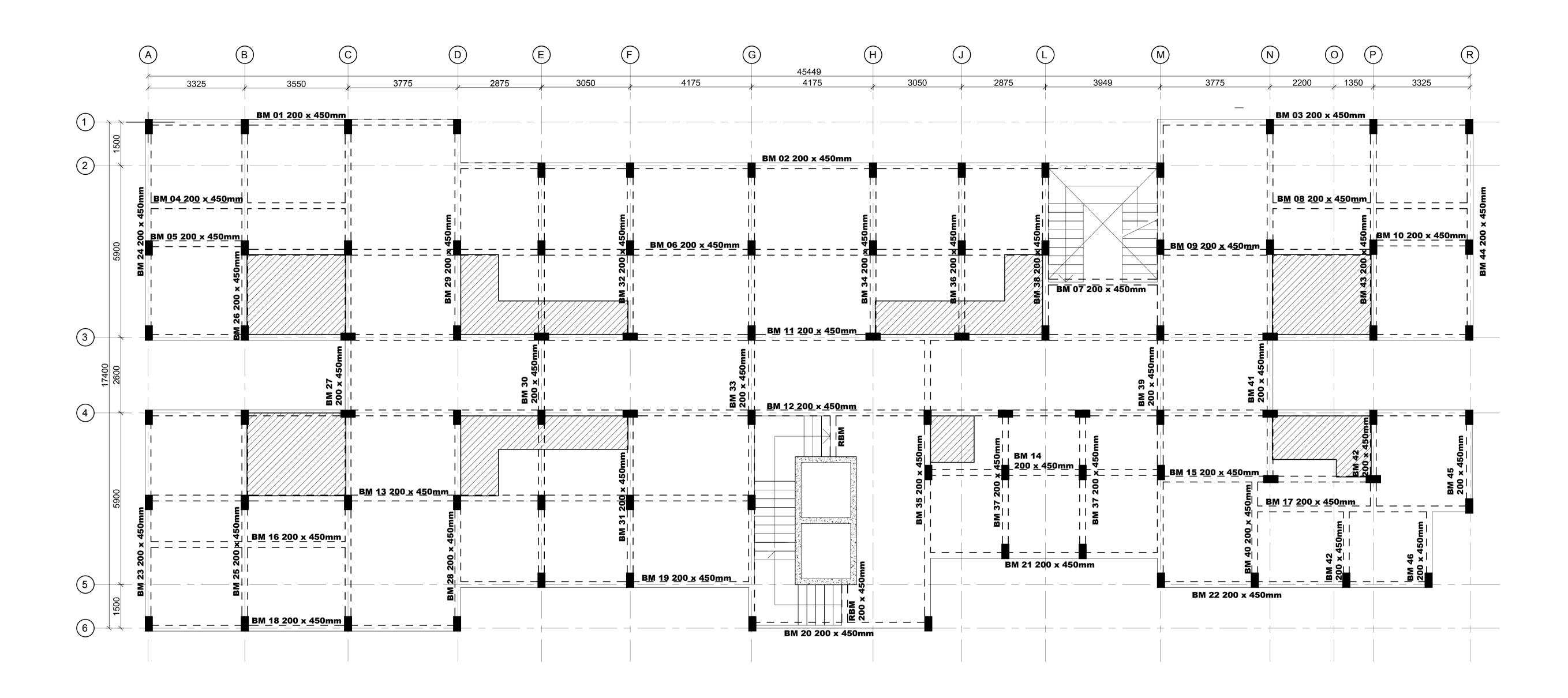
Client

<u>SCALE 1:75</u>

Checked by:JMN Designed by: JMN STRUCTURAL ENGINEER: MINISTRY OF LANDS, PUBLIC WORKS, Approved by:SECRETARY, HOUSING DEPARTMENT HOUSING AND URBAN DEVELOPMENT STATE DEPARTMENT FOR HOUSING AND URBAN Scale: As shown Date: 13th March 2024 DEVELOPMENT Drawing Number: *AHP-G+9-BLKB* 6.1B

Project PROPOSED AFFORDABLE HOUSING DEVELOPMENT (BLOCK TYPE B MARKET UNITS	No.	Revisions Description	Date
Title TYPICAL FLOOR SLAB REBAR DETAILS			





 All dimensions are in millimetres unless otherwise stated.
 All reinforcements must be checked and approved by project structural engineer prior to concreting. 3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix. 8. All structural steel be grade 43A.

4. Only figured dimensions to be taken from this drawing.

NOTES

architect or engineer.

5. Any descripancy indimensions to be reported to the project consultants i.e

6. Symbols; T-TMT Rebars to B S 4 461 : T - Top face B - Bottom face

7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm

9. All welds are 6mm thick. 10. All structural steel to be painted with anti-rust primmer paint.

Client MINIS HOU STATE DEVELOPMEN ROOF TERRACE FLOOR SLAB REBAR DETAILS 150 MM THICK SLAB

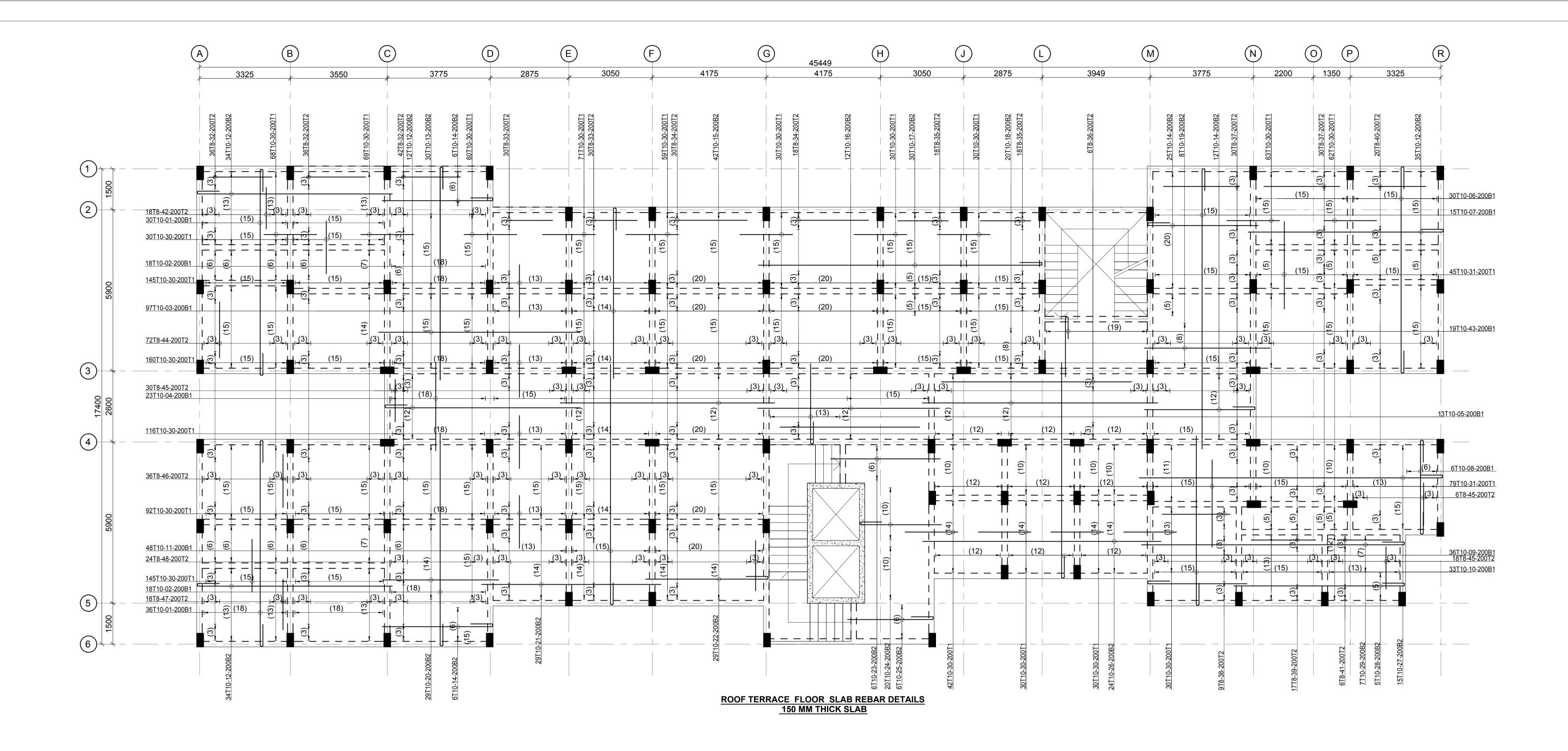
<u>NOTE:</u> -Terrace floor slab to be waterproofed with physical barrier waterproofing membrane such as APP or equivalent.

-APP membrane to be protected using screed and concrete interlocking tiles

	STRUCTURAL ENGINEER:	Designed by: JMN	Checke	ed by:JN
STRY OF LANDS, PUBLIC WORKS, SING AND URBAN DEVELOPMENT		Approved by:SECRETARY	, HOUS	SING DE
DEPARTMENT FOR HOUSING AND URBAN		Date: 13th March 2024		Scale: A
OPMENT		Drawing Number: AHP-G+	-9-BLK	B 7.0B

Checked by:JMN , HOUSING DEPARTMENT Scale: As shown

-	Project PROPOSED AFFORDABLE HOUSING DEVELOPMENT (BLOCK TYPE B MARKET UNITS	Revisions     No.   Description		Date
-	Title ROOF TERRACE FLOOR SLAB LAYOUT DETAILS			



1. All dimensions are in millimetres unless otherwise stated. 2. All reinforcements must be checked and approved by project structural engineer prior to concreting.

3. All reinforced concrete to be Class 25 mix and blinding concrete to be Class 15 mix. 8. All structural steel be grade 43A. 4. Only figured dimensions to be taken from this drawing.

5. Any descripancy indimensions to be reported to the project consultants i.e architect or engineer.

NOTES

6. Symbols; T-TMT Rebars to B S 4 461 : T - Top face B - Bottom face

7. Cover to reinforcement; Slabs - 20mm, Beams - 25mm,Columns - 40mm, Foundations -50mm

9. All welds are 6mm thick.

10. All structural steel to be painted with anti-rust primmer paint.

<sup>Client</sup> MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT	STRUCTURAL ENGINEER:		Checked by:JMN Y, HOUSING DEPARTMENT	Project	PROPOSED AFFORDABLE HOUSING DEVELOPMENT (BLOCK TYPE B MARKET UNITS	No.	Revisions Description	Date
STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT		Date: 13th March 2024 Drawing Number: AHP-G	Scale: As shown S+9-BLKB 7.1B	Title	ROOF TERRACE FLOOR SLAB REBAR DETAILS			

# AHP NGONG

# ELECTRICAL DRAWINGS

## GENERAL NOTES

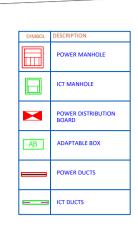
1. This drawing to be read in conjunction with architectural drawings.

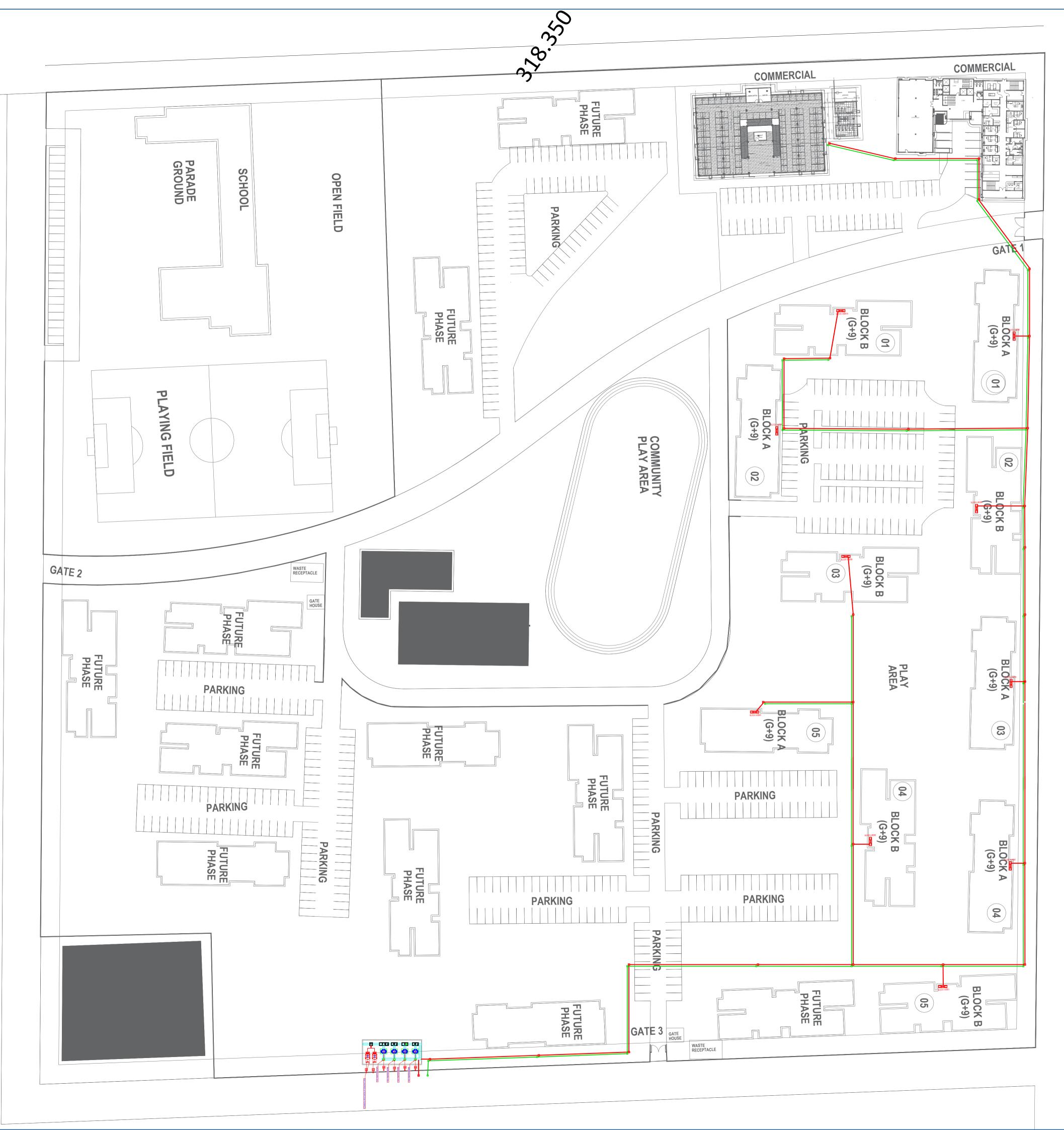
2. All dimensions are in mm unless otherwise specified.

3. Drawings are not to be scaled . Only figured dimensions should be used .

4. The contractor must check and verify all dimensions before commencement of work and if necessary confirm with the architect .

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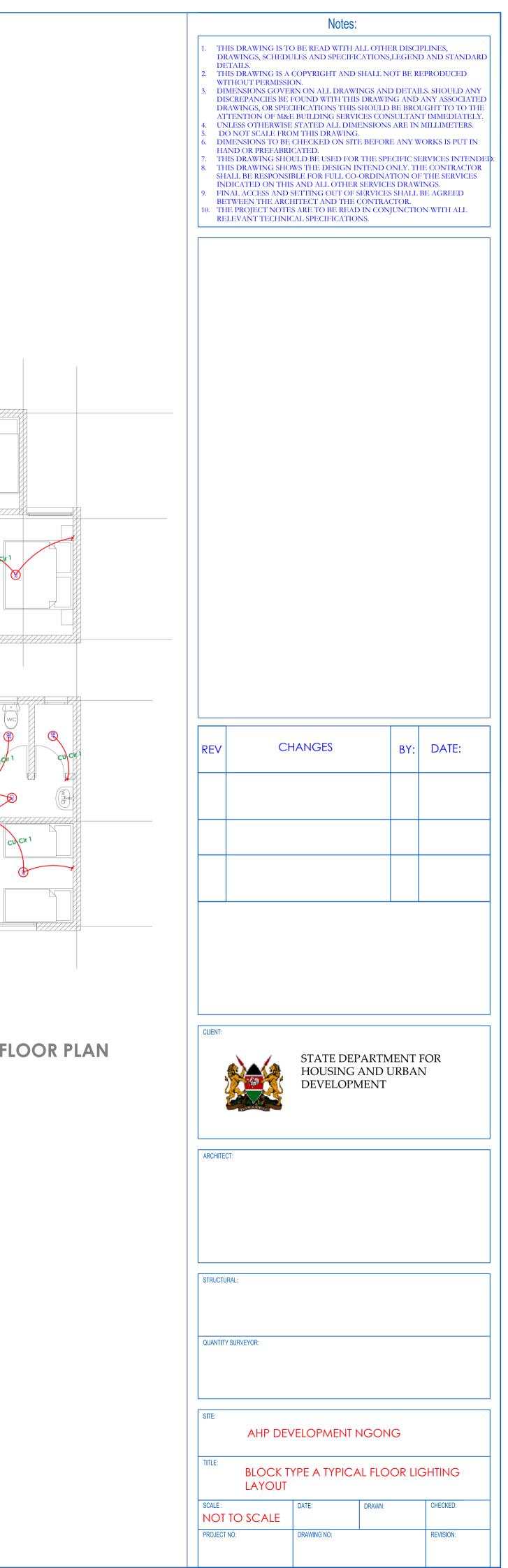


# PROPOSED TYPICAL SOCIAL+ AFFORDABLE UNITS BLOCK TYPE A

# PROPOSED TYPICAL 1ST-9TH FLOOR PLAN

SYMBOL	L DESCRIPTION	SYMBOI	L DESCRIPTION
CR	12W Ceiling Rose	1	2 WAY I GANG SWITCH
DL1	12W Surface LED Down lighter	•1	1 WAY SWITCH
BF	12W Ball Fitting	*	2 WAY 2 GANG SWITCH
6	15W Presence Sensor		
	10W Ball Fitting		

PROPOSED GROUND FLOOR PLAN





# PROPOSED TYPICAL SOCIAL+ AFFORDABLE UNITS BLOCK TYPE A

# PROPOSED TYPICAL 1ST-9TH FLOOR PLAN

SYMBOI	L DESCRIPTION	SYMBOI	L DESCRIPTION
4	13A Twin sockets	k	3-ph ISOLATOR
<u>ککم</u>	13A Twin sockets with data	Ē	45A KITCHEN UNIT
	CONSUMER UNIT	F	Surveillance Camera
	DISTRIBUTION BOARD	0	20A D.P Switch with Neon Light
人	TV Point		Instant Shower Point
B	Door Bell		KPLC Meterboard

PROPOSED GROUND FLOOR PLAN

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Notes:



# PROPOSED TYPICAL AFFORDABLE +MARKET UNITS BLOCK TYPE B

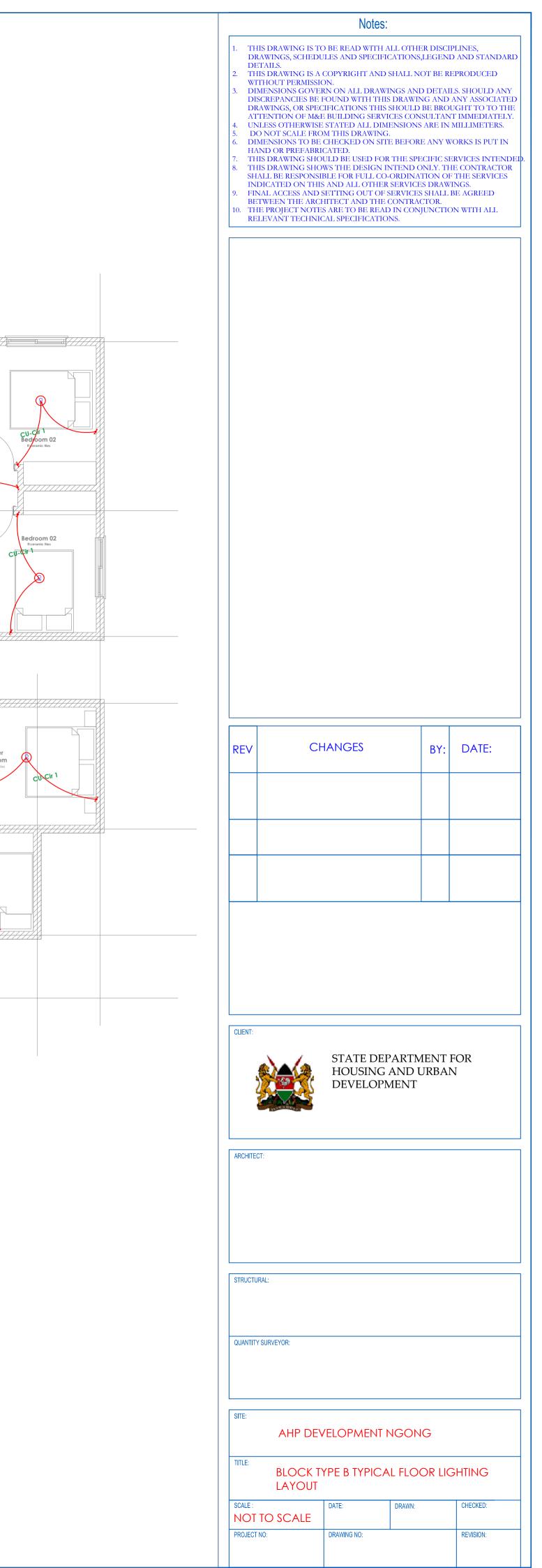
PROPOSED TYPICAL 1ST-9TH FLOOR PLAN

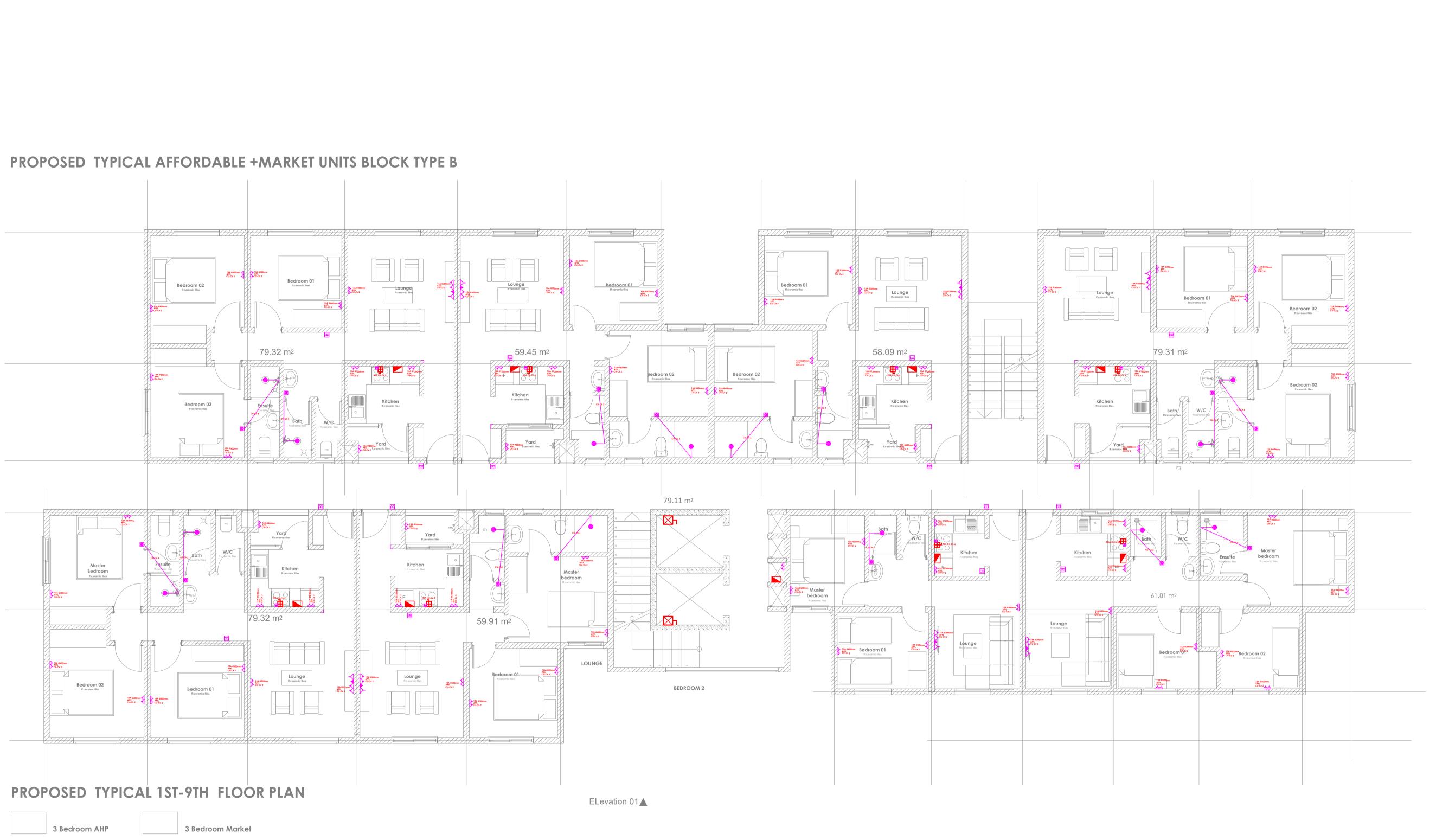
3 Bedroom AHP

3 Bedroom Market

SYMBO	L DESCRIPTION	SYMBOI	L DESCRIPTION
CR	12W Ceiling Rose	1	2 WAY I GANG SWITCH
DL1	12W Surface LED Down lighter	•1	1 WAY SWITCH
BF	12W Ball Fitting	*	2 WAY 2 GANG SWITCH
<b>o</b>	15W Presence Sensor		
	10W Ball Fitting		

ELevation 01





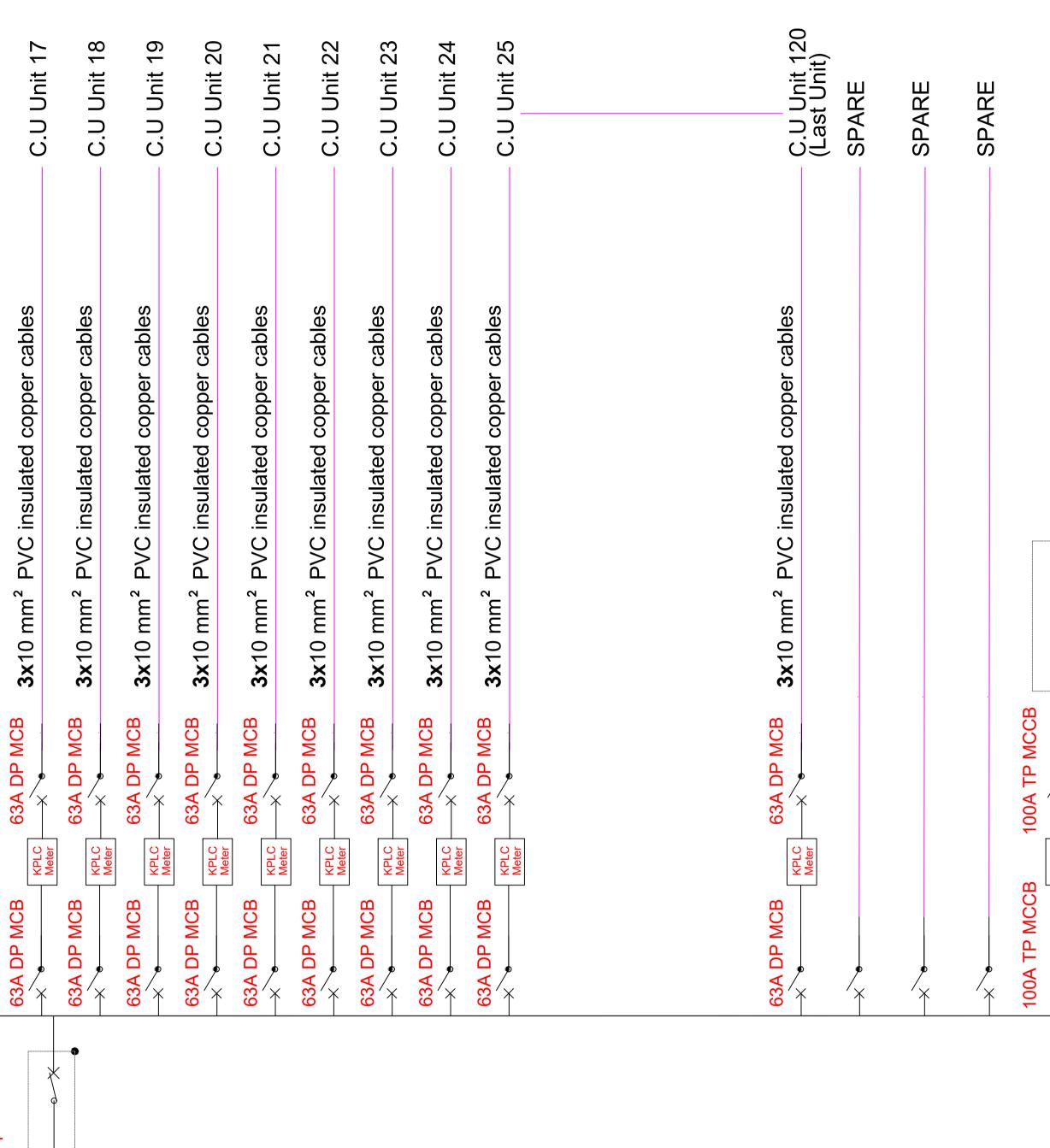
DESCRIPTION SYMBOL SYMBOL DESCRIPTION 3-ph ISOLATOR 13A Twin sockets  $\square$ <u>ക</u> 13A Twin sockets with data Ē 45A KITCHEN UNIT CONSUMER UNIT Surveillance Camera 20A D.P Switch with Neon Light DISTRIBUTION BOARD  $\square$ 0 TV Point Instant Shower Point 大  $\bigcirc$ Door Bell KPLC Meterboard В

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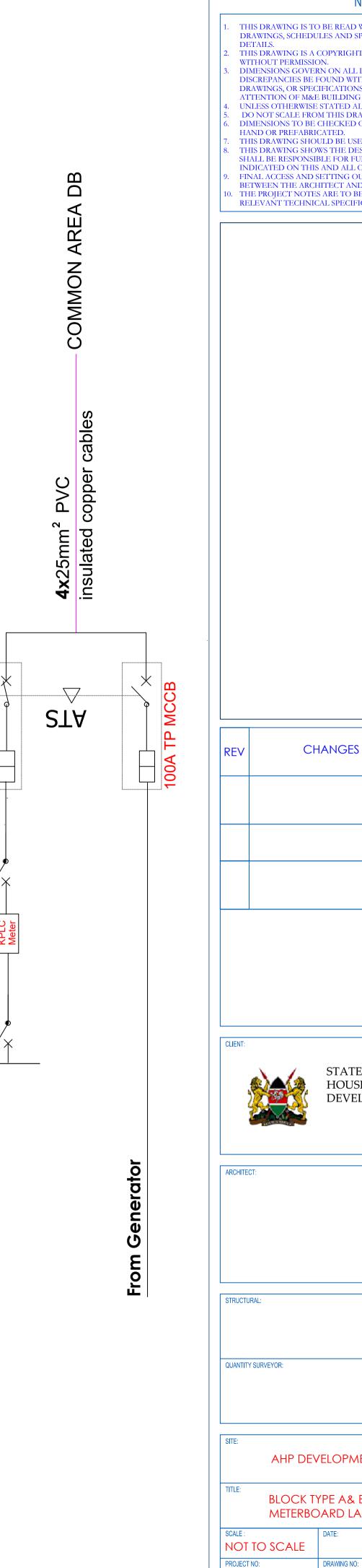
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# THIS DRAWING IS TO BE READ WITH ALL OTHER DISCIPLINES, DRAWINGS, SCHEDULES AND SPECIFICATIONS, LEGEND AND STANDARD THIS DRAWING IS A COPYRIGHT AND SHALL NOT BE REPRODUCED DIMENSIONS GOVERN ON ALL DRAWINGS AND DETAILS. SHOULD ANY DISCREPANCIES BE FOUND WITH THIS DRAWING AND ANY ASSOCIATED DRAWINGS, OR SPECIFICATIONS THIS SHOULD BE BROUGHT TO TO THE ATTENTION OF M&E BUILDING SERVICES CONSULTANT IMMEDIATELY. UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE FROM THIS DRAWING. DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORKS IS PUT IN HAND OR PREFABRICATED. THIS DRAWING SHOULD BE USED FOR THE SPECIFIC SERVICES INTENDED THIS DRAWING SHOWS THE DESIGN INTEND ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL CO-ORDINATION OF THE SERVICES INDICATED ON THIS AND ALL OTHER SERVICES DRAWINGS. FINAL ACCESS AND SETTING OUT OF SERVICES SHALL BE AGREED BETWEEN THE ARCHITECT AND THE CONTRACTOR. THE PROJECT NOTES ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT TECHNICAL SPECIFICATIONS. CHANGES BY: DATE: STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT

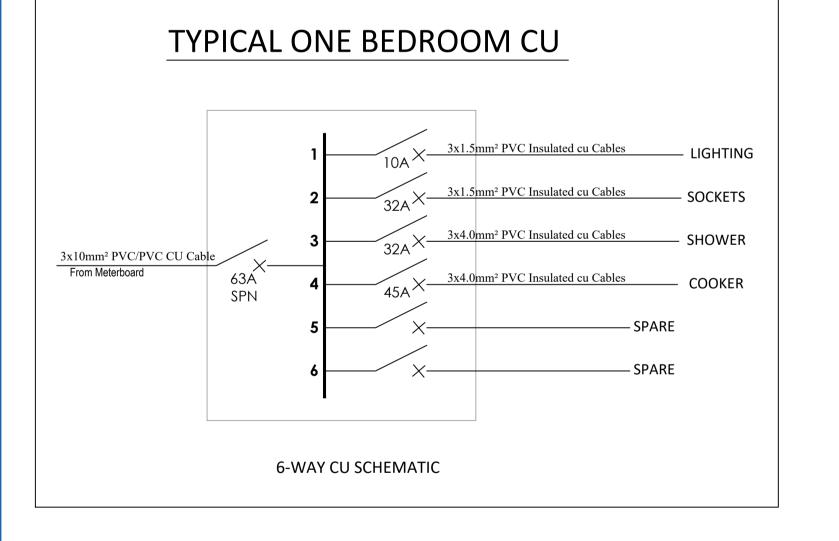
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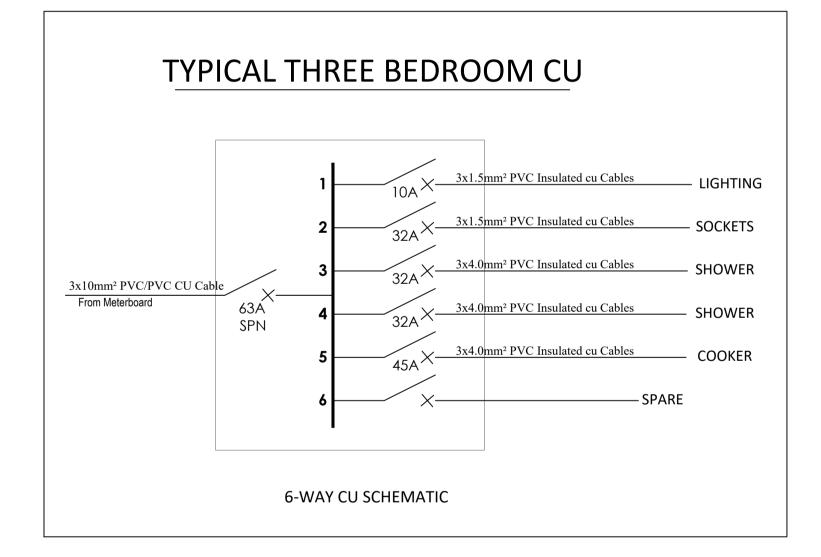
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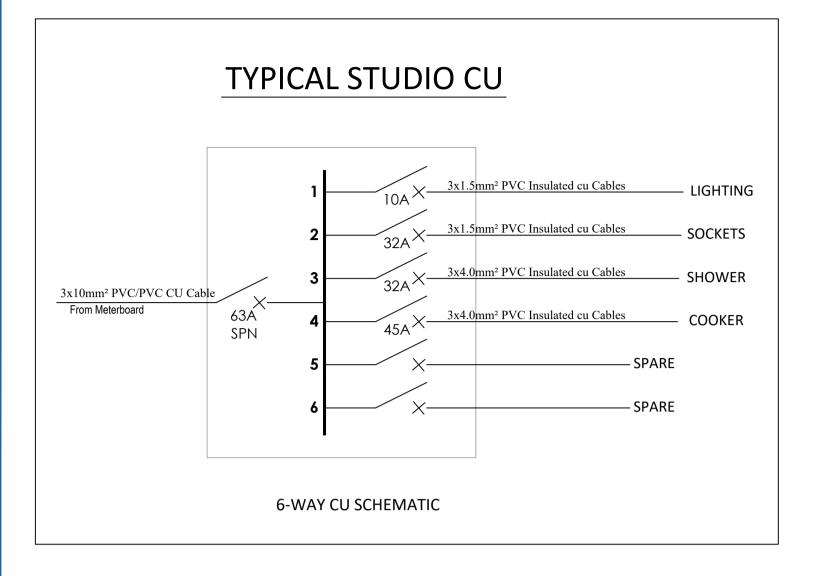
BLOCK TYPE A& B TYPICAL BLOCK METERBOARD LAYOUT CHECKED: DRAWN: DATE:

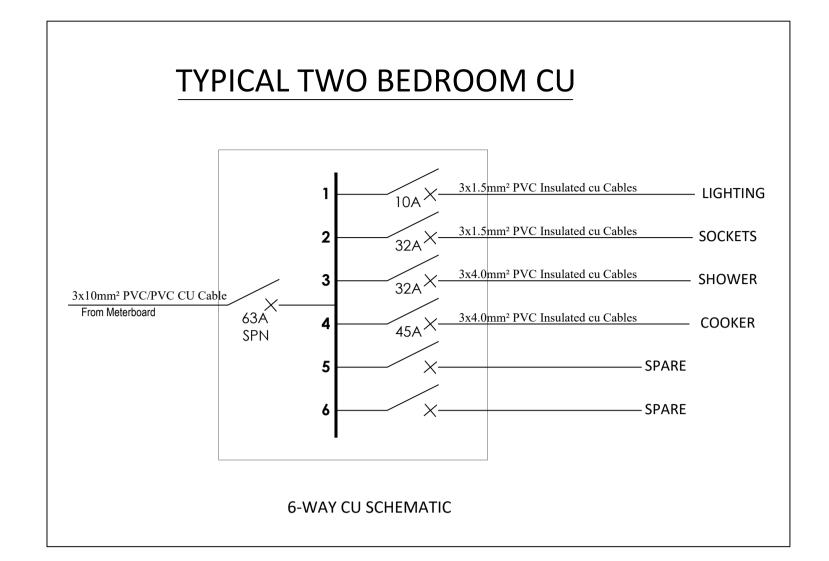
REVISION:

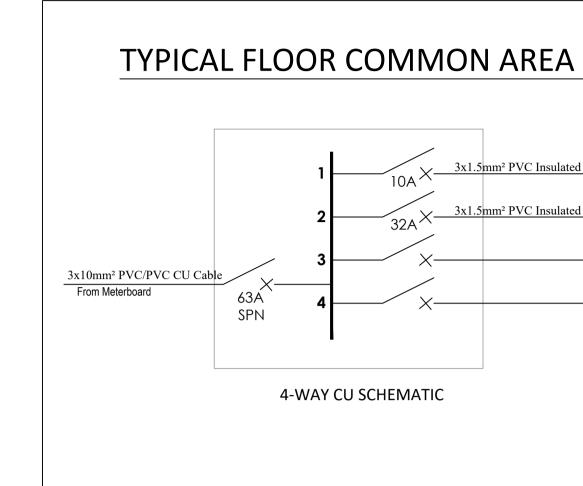
# PROPOSED AFFORDABLE UNITS BLOCK TYPE A

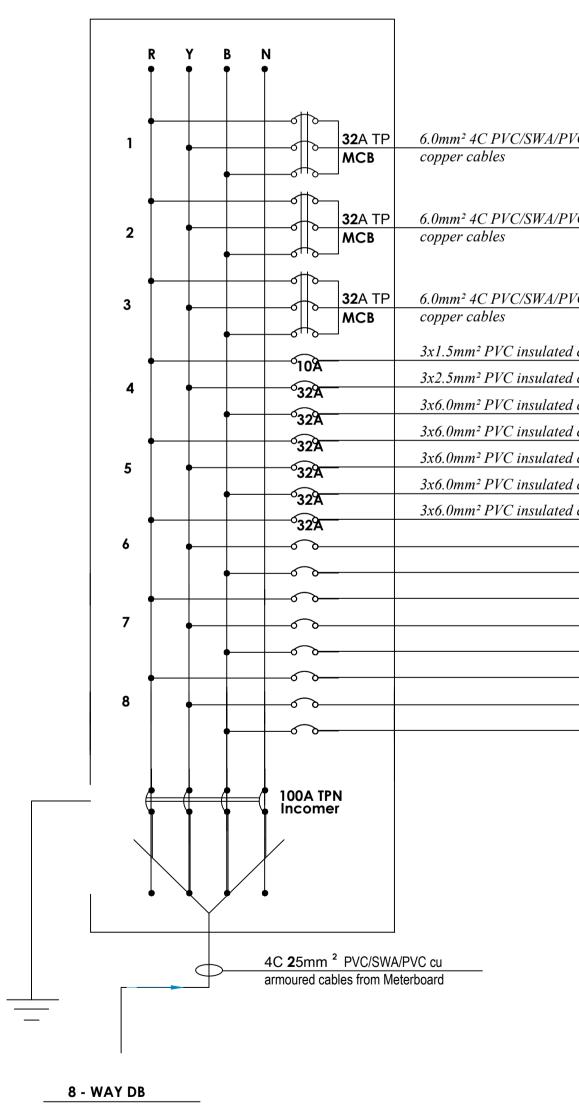




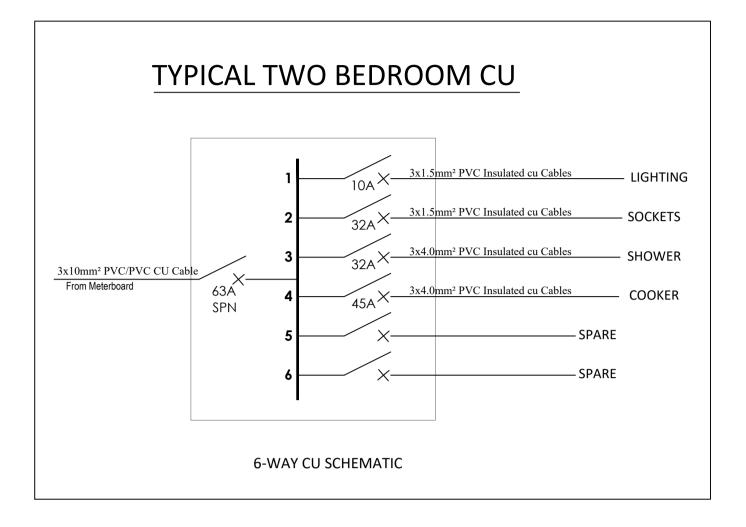


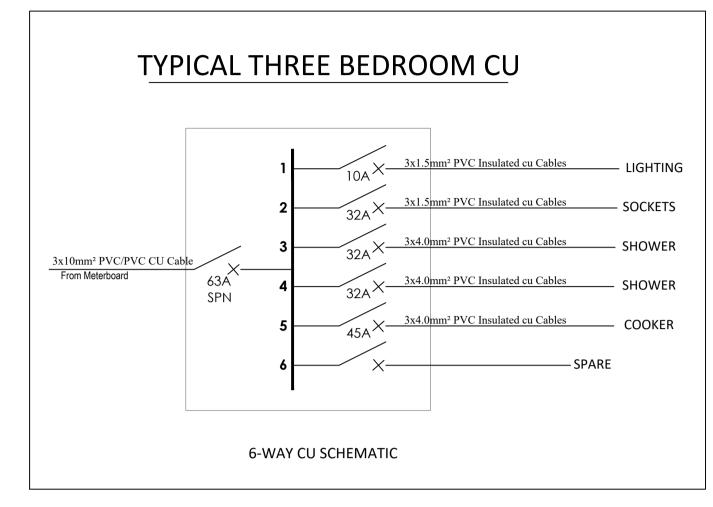


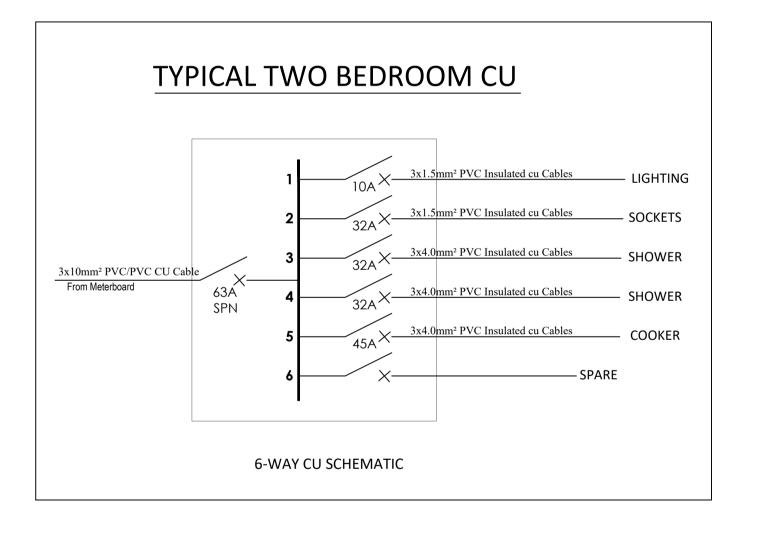


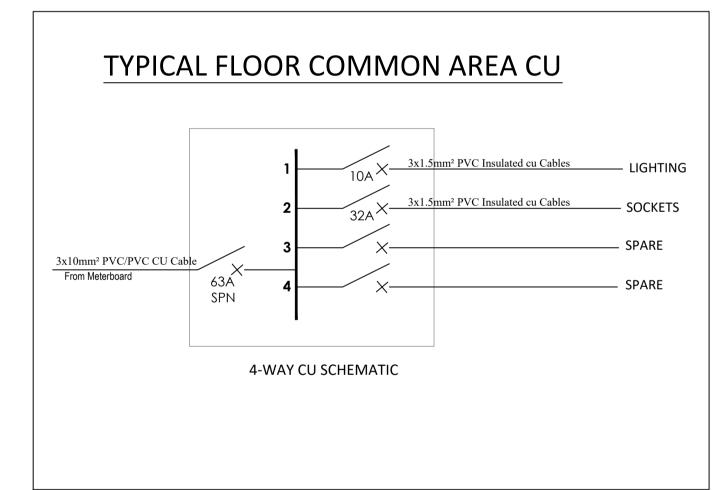


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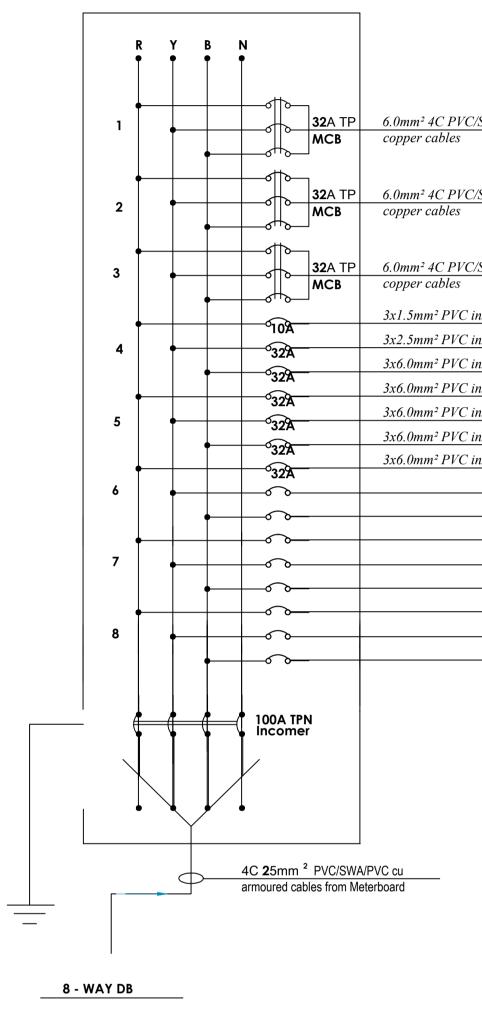








# PROPOSED AFFORDABLE UNITS BLOCK TYPE B



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		4. UI		STATED ALL DIMENSION		
		6. D	IMENSIONS TO BE ( AND OR PREFABRIC	CHECKED ON SITE BEFC CATED.		
		8. TI	HIS DRAWING SHO	JLD BE USED FOR THE S WS THE DESIGN INTEND BLE FOR FULL CO-ORDIN	ONLY. TH	HE CONTRACTOR
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		10. TI	HE PROJECT NOTES	ITECT AND THE CONTR ARE TO BE READ IN CO AL SPECIFICATIONS.		ON WITH ALL
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Notes:

# AHP NGONG MECHANICAL DRAWINGS

## GENERAL NOTES

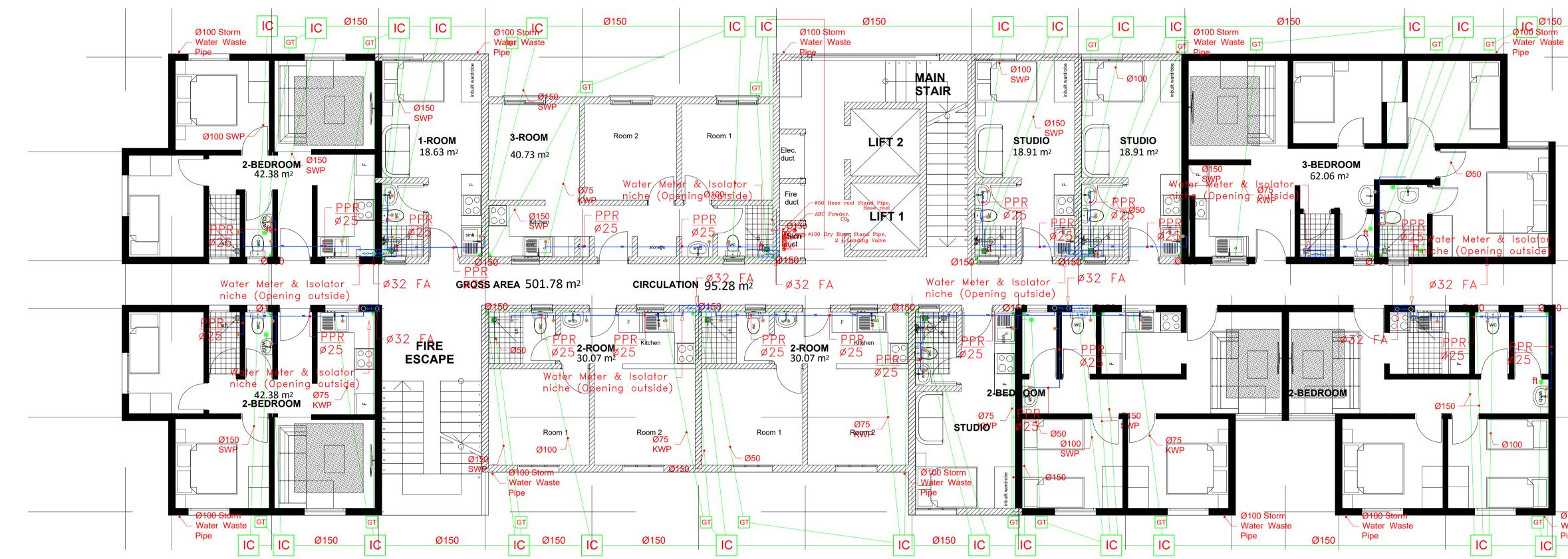
1. This drawing to be read in conjunction with architectural drawings.

2. All dimensions are in mm unless otherwise specified.

3. Drawings are not to be scaled . Only figured dimensions should be used .

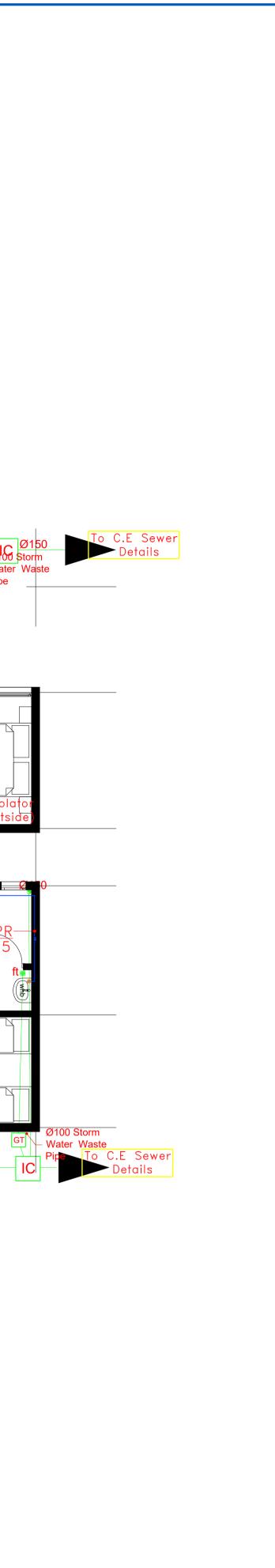
4. The contractor must check and verify all dimensions before commencement of work and if necessary confirm with the architect .

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# PROPOSED TYPICAL SOCIAL+ AFFORDABLE UNITS BLOCK TYPE A

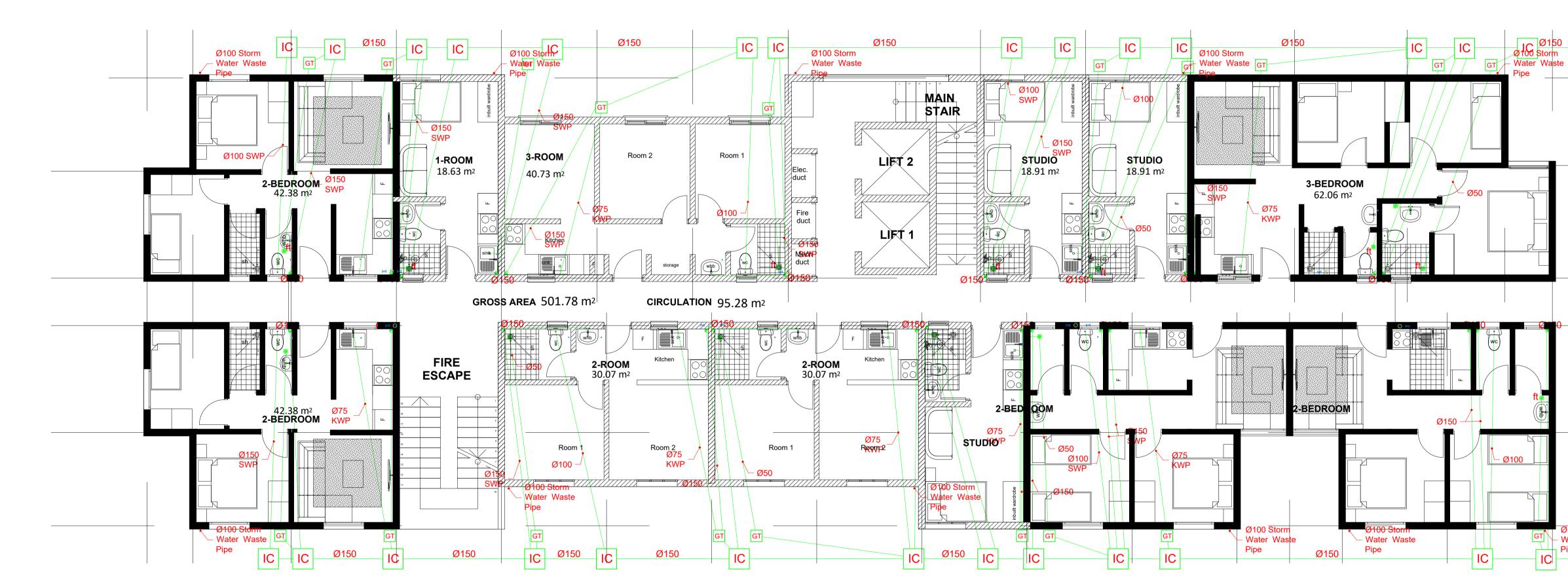
PROPOSED GROUND FLOOR PLAN



# THIS DRAWING IS TO BE READ WITH ALL OTHER DISCIPLINES, DRAWINGS, SCHEDULES AND SPECIFICATIONS, LEGEND AND STANDARD DETAILS. THIS DRAWING IS A COPYRIGHT AND SHALL NOT BE REPRODUCED WITHOUT PERMISSION. DIMENSIONS GOVERN ON ALL DRAWINGS AND DETAILS. SHOULD ANY DISCREPANCIES BE FOUND WITH THIS DRAWING AND ANY ASSOCIATED DRAWINGS, OR SPECIFICATIONS THIS SHOULD BE BROUGHT TO TO THE ATTENTION OF M&E BUILDING SERVICES CONSULTANT IMMEDIATELY UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE FROM THIS DRAWING. DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORKS IS PUT IN HAND OR PREFABRICATED. THIS DRAWING SHOULD BE USED FOR THE SPECIFIC SERVICES INTENDE THIS DRAWING SHOWS THE DESIGN INTEND ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL CO-ORDINATION OF THE SERVICES INDICATED ON THIS AND ALL OTHER SERVICES DRAWINGS. FINAL ACCESS AND SETTING OUT OF SERVICES SHALL BE AGREED BETWEEN THE ARCHITECT AND THE CONTRACTOR. 0. THE PROJECT NOTES ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT TECHNICAL SPECIFICATIONS. DISCRIPTION HOT N PILLAR TAP -**OPFFD INSTALLATION COLOURS** SANITARY WARE DET BACK TO WALL WC STAIL SECTION 'A-A' N WATER PIPE & ROUTING DE' CLIENT: STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT ARCHITECT: STRUCTURAL: QUANTITY SURVEYOR: SITE: AHP DEVELOPEMENT NGONG TITLE: BLOCK A - GROUND FLOOR PLUMBING DRAINAGE & FIRE FIGHTING LAYOUT SCALE : CHECKED: DRAWN: NOT TO SCALE PROJECT NO: REVISION: DRAWING NO:

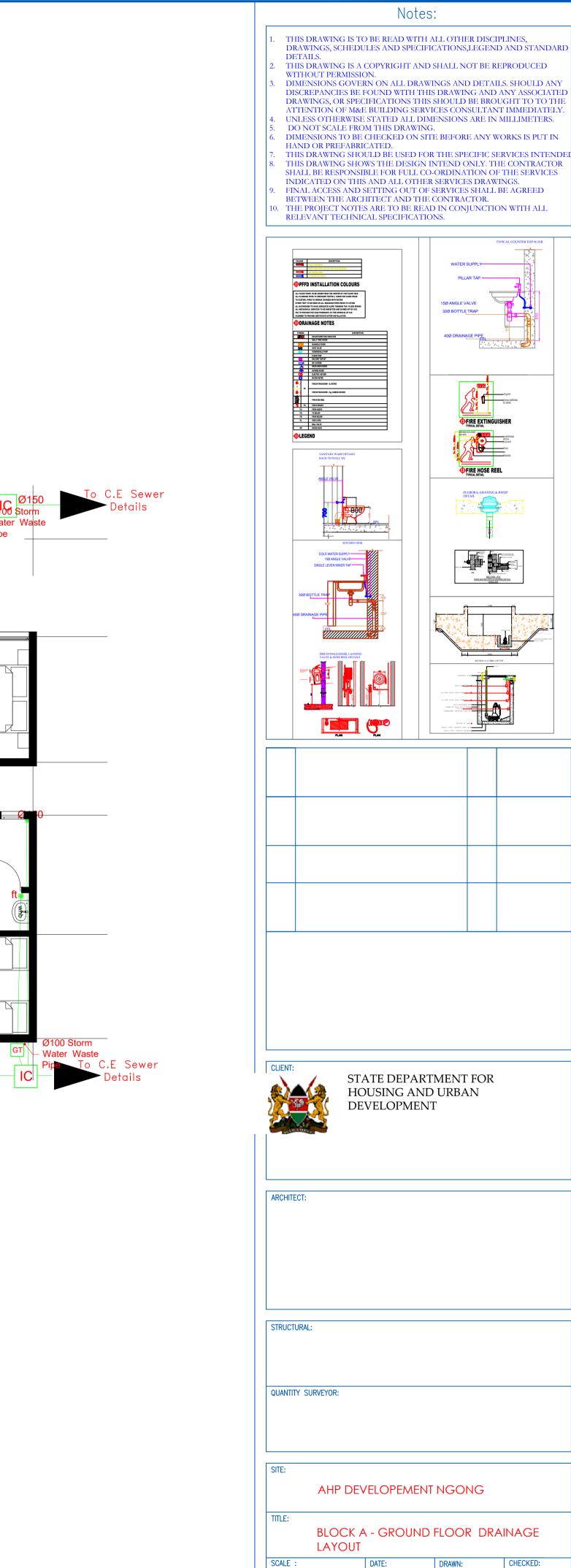
Notes:





# PROPOSED TYPICAL SOCIAL+ AFFORDABLE UNITS BLOCK TYPE A

PROPOSED GROUND FLOOR PLAN



- STAIL SECTION 'A-A' N WATER PIPE & KHURRA DETA ECALE - MIR

BLOCK A - GROUND FLOOR DRAINAGE

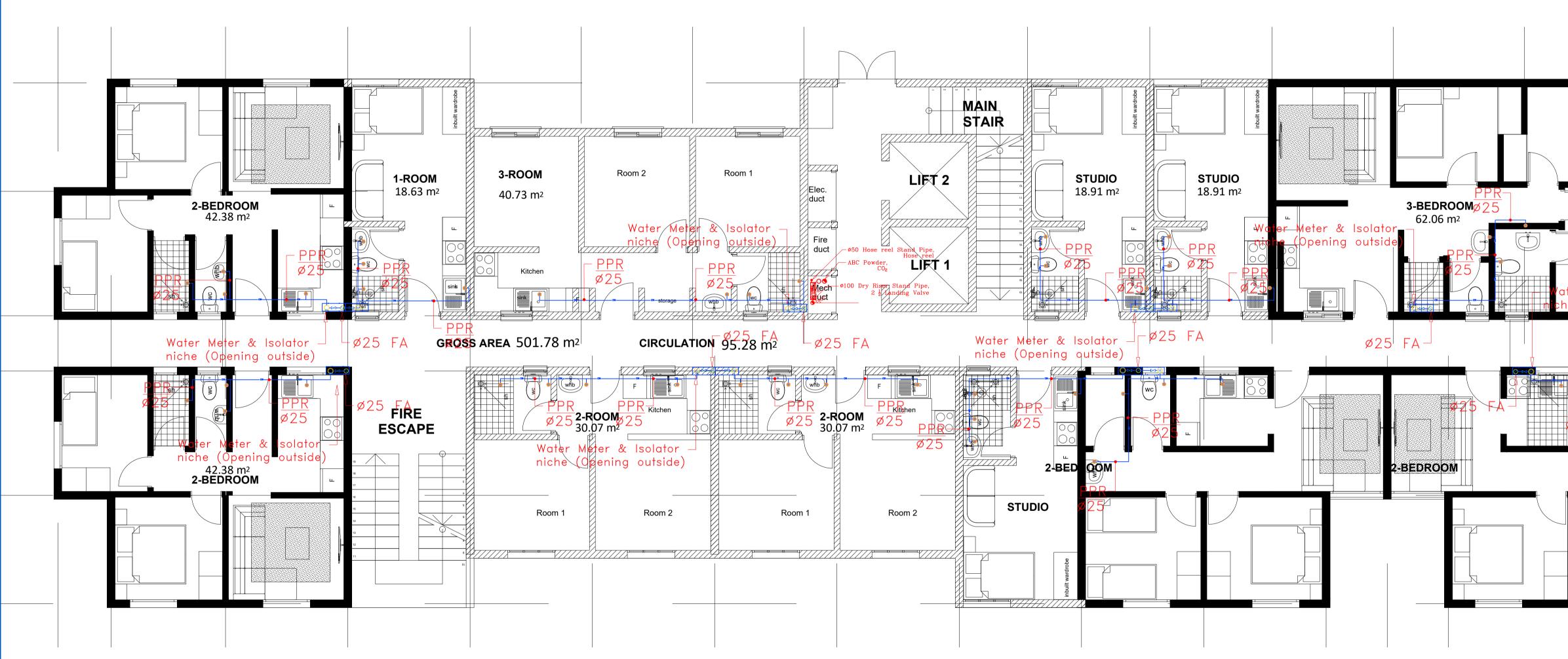
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CHECKED

**REVISION:** 



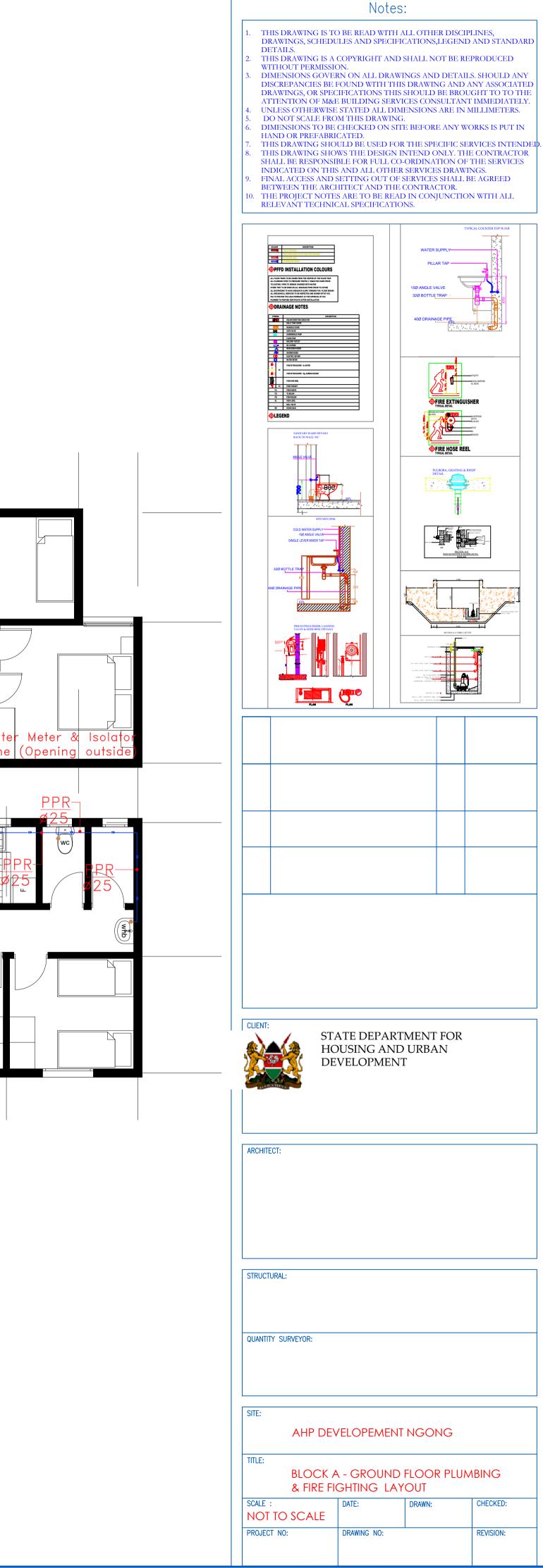


### **TYPICAL SOCIAL+ AFFORDABLE UNITS BLOCK TYPE A**

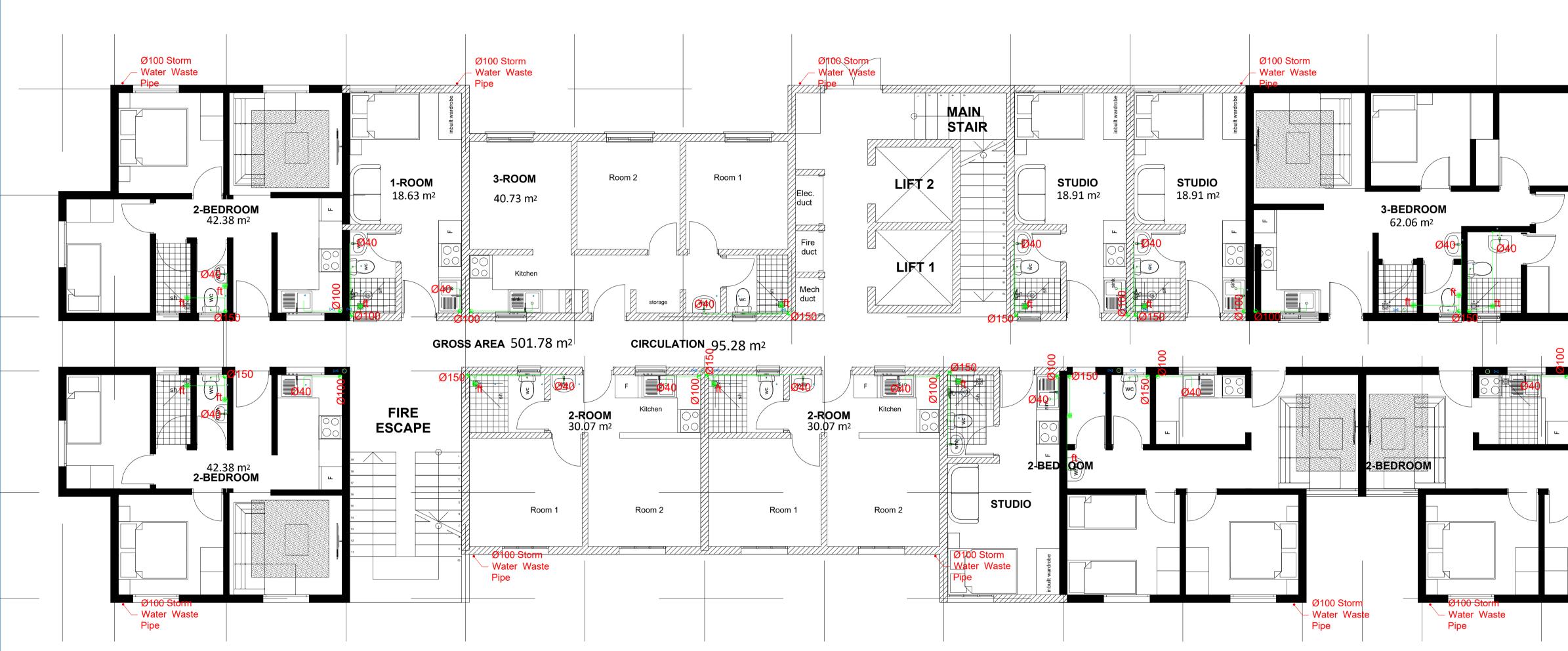
PROPOSED GROUND FLOOR PLAN

# PROPOSED TYPICAL FLOOR PLAN



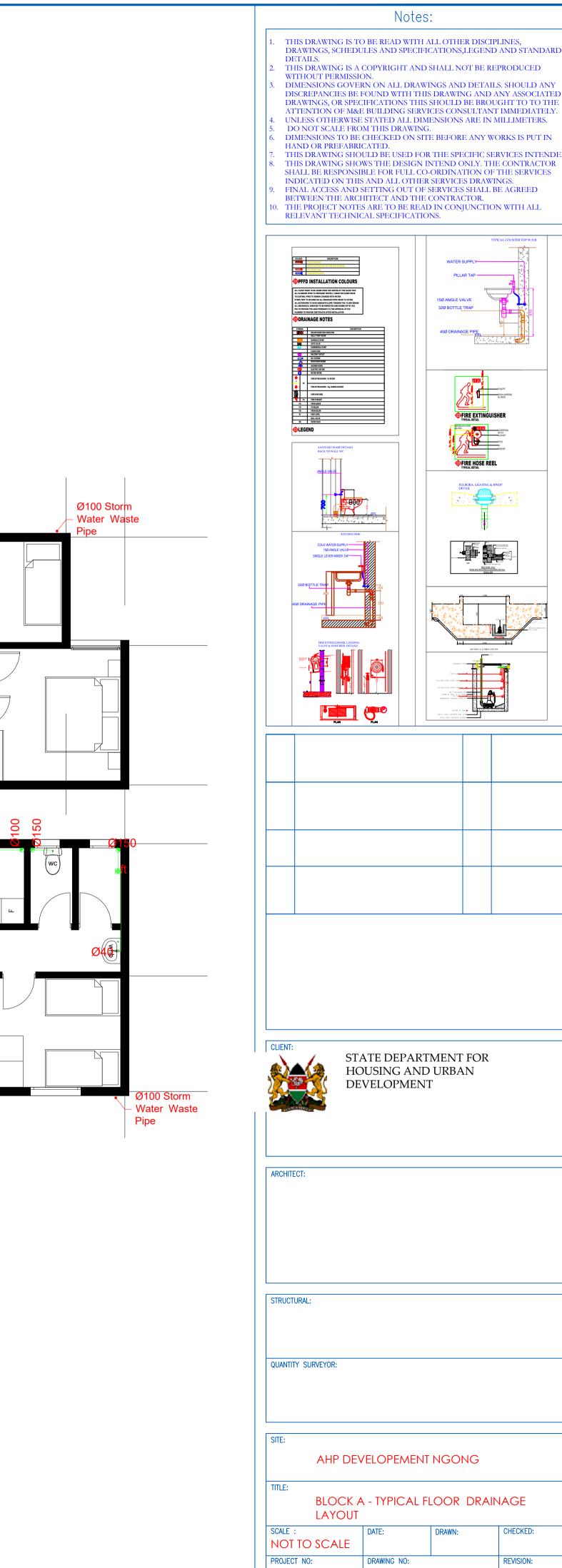


## PROPOSED GROUND FLOOR PLAN PROPOSED TYPICAL FLOOR PLAN

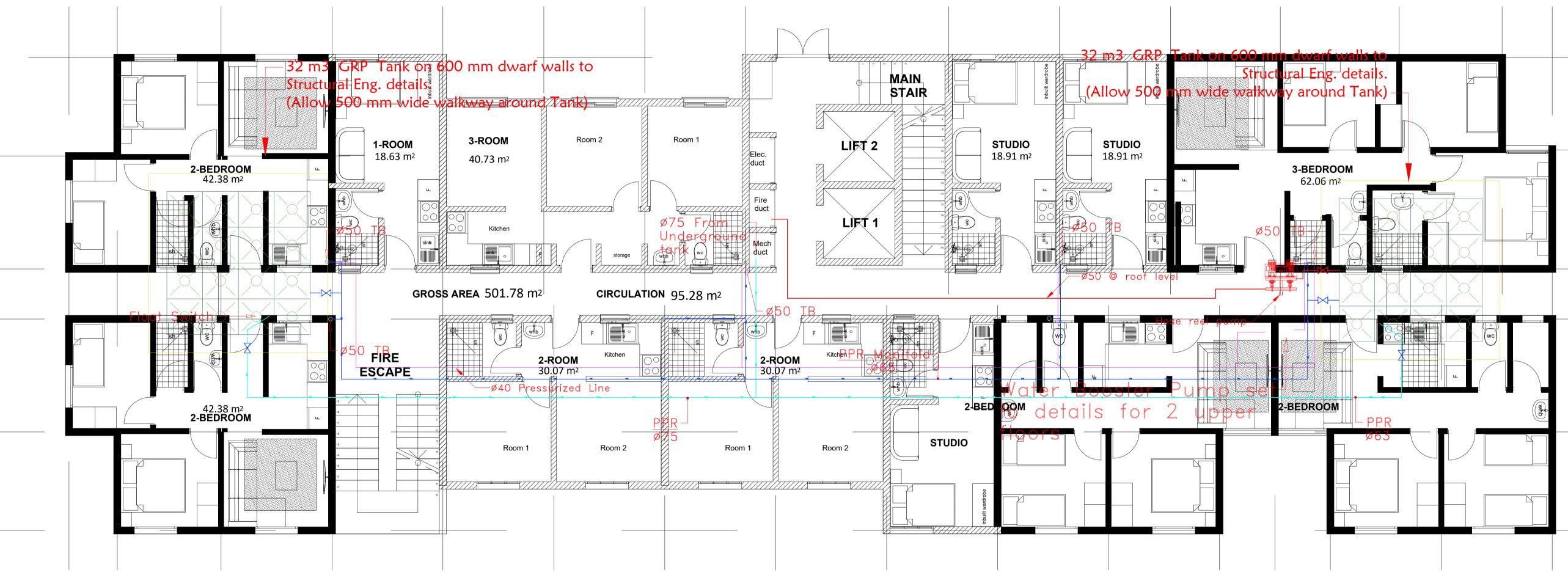


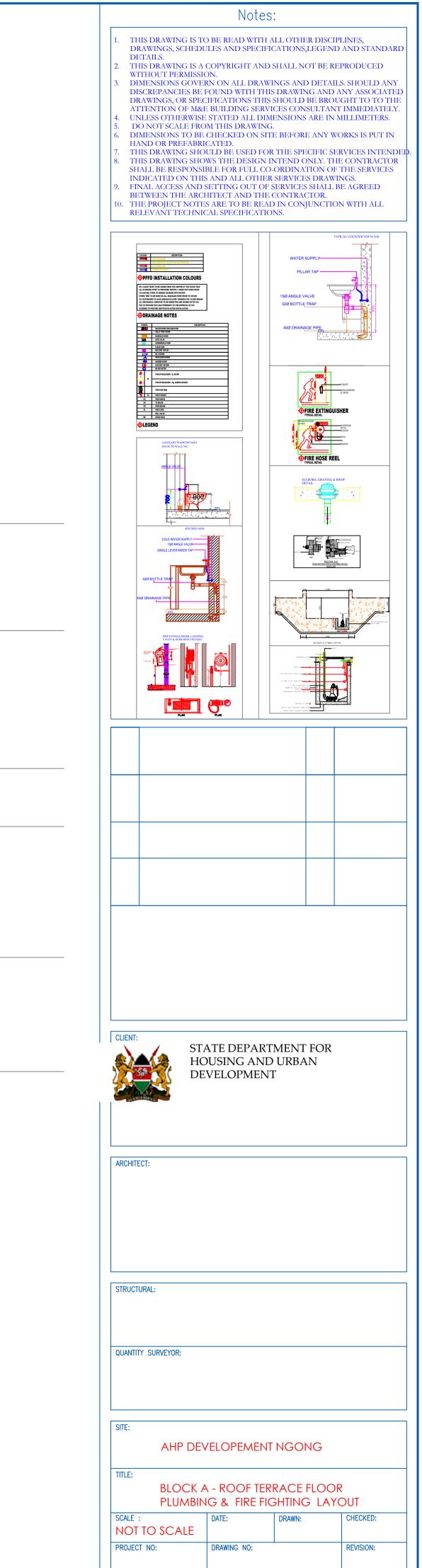
### TYPICAL SOCIAL+ AFFORDABLE UNITS BLOCK TYPE A

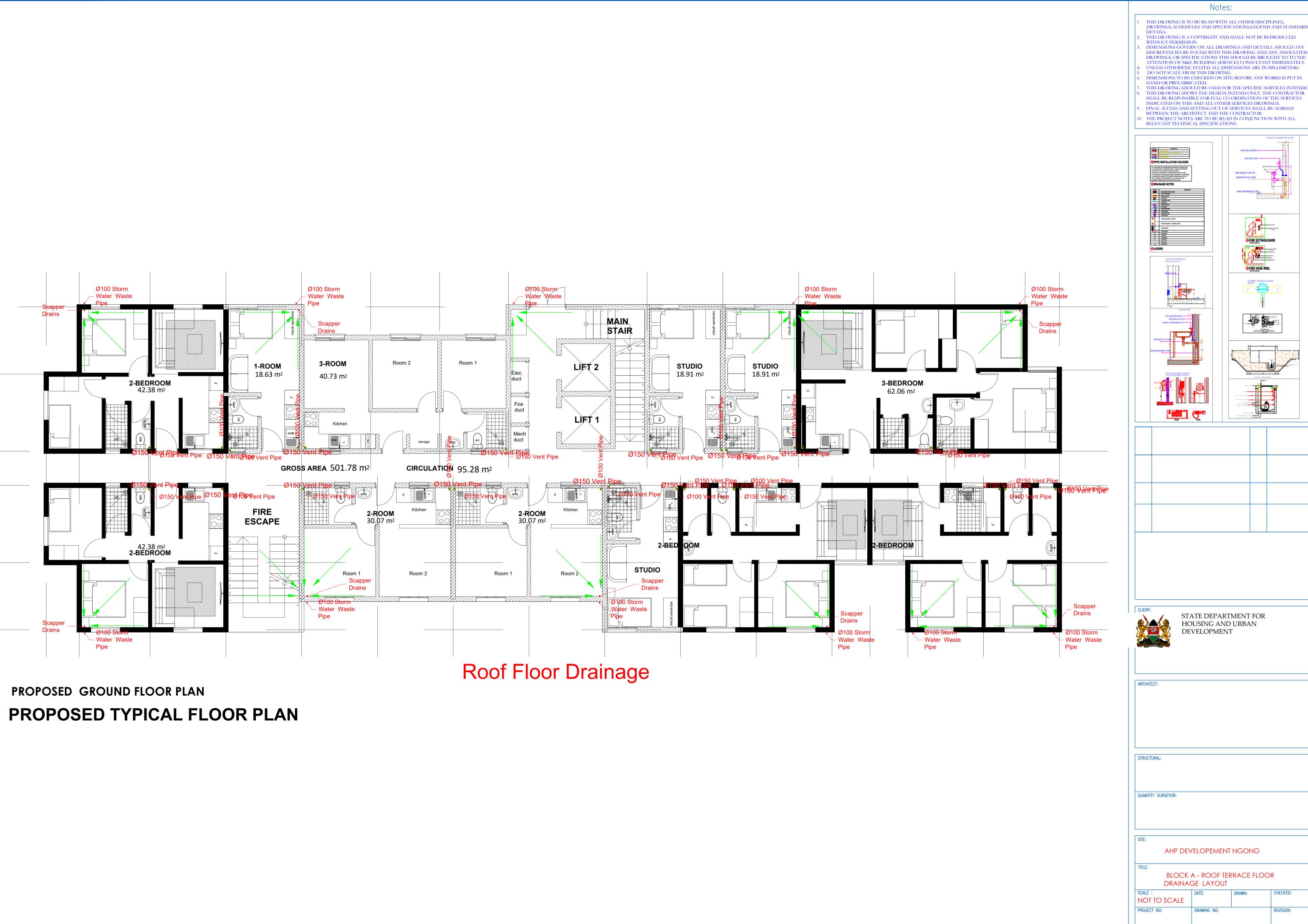




## PROPOSED GROUND FLOOR PLAN PROPOSED TYPICAL FLOOR PLAN







SECTION 'A-A' MATER PIPE & KHURRA DE'

CHECKED

**REVISION:** 

# TYPE A

INLET 2(BOREHOLE ) INLET 1(MUNICIPAL)

75Ø

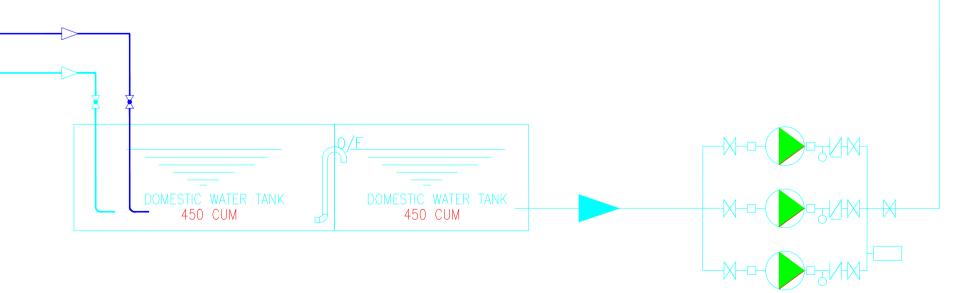
63Ø 40Ø 2B MARKET UNIT **3B MARKET UNIT** 2B MARKET UNIT %+1+ SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY-1-SY %,+ U = 250 %,+ U = 2500 % 2B MARKET UNIT **3B MARKET UNIT** 2B MARKET UNIT 4-12-₩-₩ ₩ + + + + 5 -7 -7 -2 50 -2 50 2-WC 2-WB 2-SH 1-KS 1-WM 2B MARKET UNIT **3B MARKET UNIT** 2B MARKET UNIT 1-WM 1-KS 2-SH 2-WB 2-WC 2-WC 2-WC 2-WB 2-WB 2-SH 1-KS 25Ø 25Ø 2B MARKET UNIT **3B MARKET UNIT** 2B MARKET UNIT 2-WC 2-WB 2-SH 1-KS 1-WM 25Ø 2B MARKET UNIT **3B MARKET UNIT** 2B MARKET UNIT 
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75Ø

TO FIREFIGHTING LINE

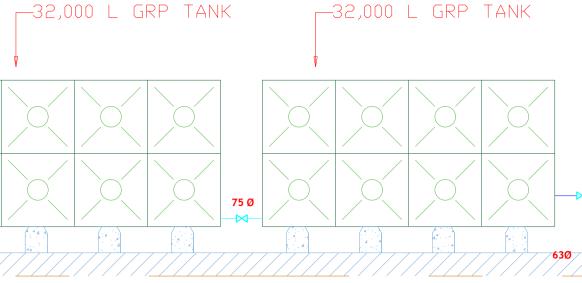
LEVEL CONTROL SWITCH

# PRPROPOSED TYPICAL SOCIAL+ AFFORDABLE UNITS BLOCK



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### Notes: THIS DRAWING IS TO BE READ WITH ALL OTHER DISCIPLINES, DRAWINGS, SCHEDULES AND SPECIFICATIONS,LEGEND AND STANDARD DETAILS. THIS DRAWING IS A COPYRIGHT AND SHALL NOT BE REPRODUCED WITHOUT PERMISSION. DIMENSIONS GOVERN ON ALL DRAWINGS AND DETAILS. SHOULD ANY DISCREPANCIES BE FOUND WITH THIS DRAWING AND ANY ASSOCIATED DRAWINGS, OR SPECIFICATIONS THIS SHOULD BE BROUGHT TO TO THE ATTENTION OF M&E BUILDING SERVICES CONSULTANT IMMEDIATELY UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE FROM THIS DRAWING. DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORKS IS PUT IN HAND OR PREFABRICATED. THIS DRAWING SHOULD BE USED FOR THE SPECIFIC SERVICES INTENDE THIS DRAWING SHOWS THE DESIGN INTEND ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL CO-ORDINATION OF THE SERVICES INDICATED ON THIS AND ALL OTHER SERVICES DRAWINGS. FINAL ACCESS AND SETTING OUT OF SERVICES SHALL BE AGREED BETWEEN THE ARCHITECT AND THE CONTRACTOR. ). THE PROJECT NOTES ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT TECHNICAL SPECIFICATIONS. DISCRIPTION HOT N PILLAR TAP **OPFFD INSTALLATION COLOURS** E DONE ON ALL BRAINAGE PIPES PRIOR TO CSTING O HAVE ABEQUATE SLOPE TOWARDS THE FLOOR BR-ERVICES TO BE INSPECTED AND SIGNED OFF BY M.E. INAGE NOTES FIRE EXTINGUISHER FIRE EXTINGUISHER FIRE HOSE REEL FIRE HOSE REEL RM RISI SANITARY WARE DET BACK TO WALL WC STAIL A A 15/2 ANGLE VALVE SECTION 'A-A' N WATER PIPE & ROUTING DE' INGUISHER, LANDE Constant Constant CLIENT: STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT ARCHITECT: STRUCTURAL: QUANTITY SURVEYOR: SITE: AHP DEVELOPEMENT NGONG TITLE: BLOCK A - PLUMBING SCHEMATIC

• 09TH FLOOR LEVEL

**ROOF FLOOR LEVEL** 

• 08TH FLOOR LEVEL

• 07TH FLOOR LEVEL

06TH FLOOR LEVEL

• 05TH FLOOR LEVEL

04TH FLOOR LEVEL

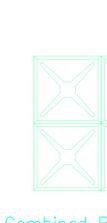
O3RD FLOOR LEVEL

02 - 2ND FLOOR LEVEL

01 - 1ST FLOOR LEVEL

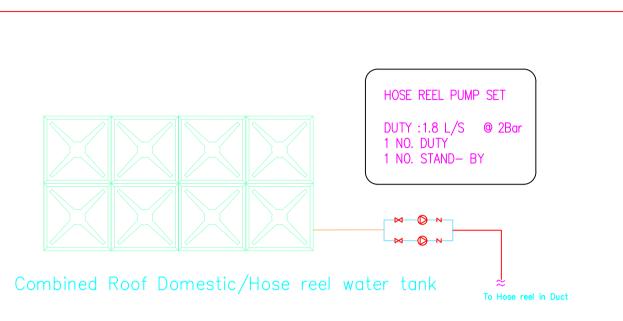
01 - GROUND LEVEL

SCALE : CHECKED: DATE: DRAWN: NOT TO SCALE PROJECT NO: DRAWING NO: **REVISION:** 

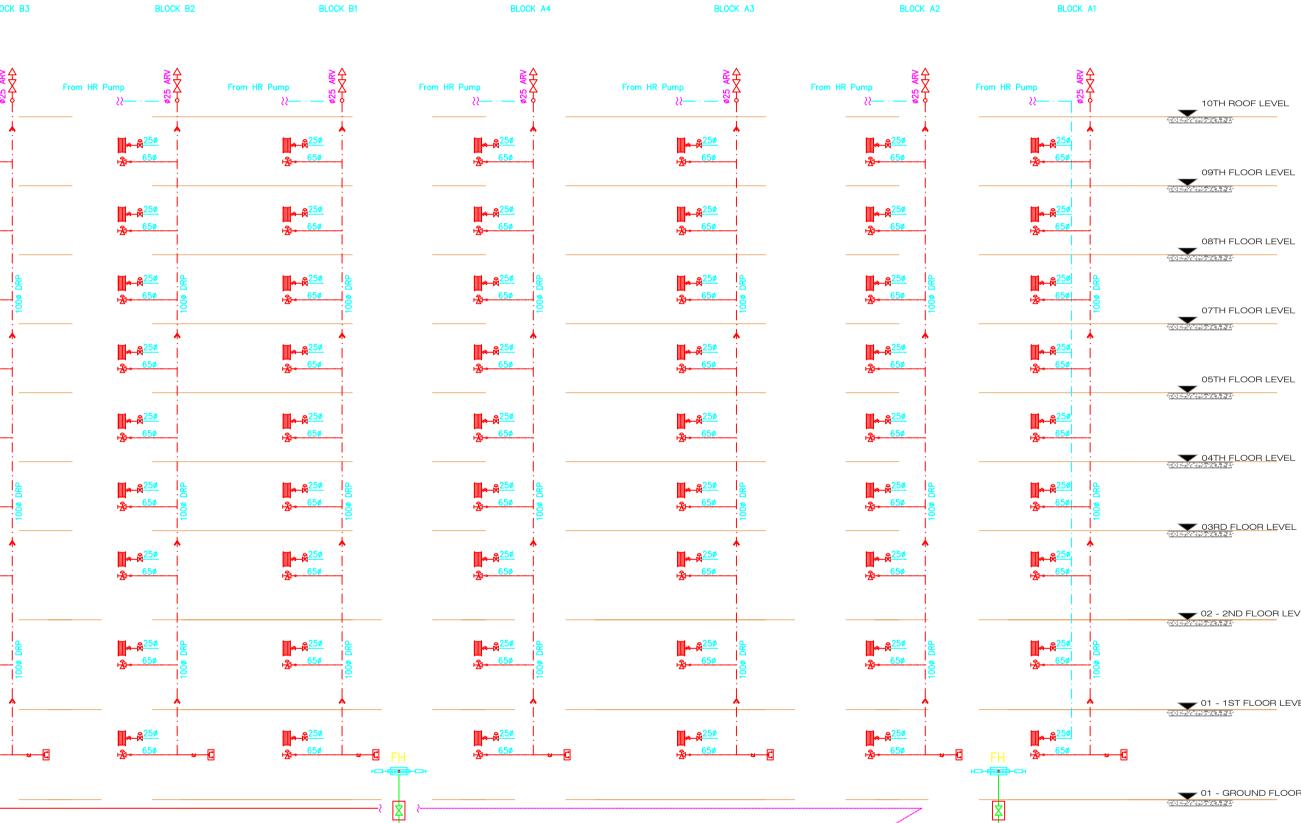


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Connection to Future City water Council Hydrant



Roof Hose Reel Typical Connection



	LEGEND
SYMBOL	DESCRIPTION
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⊮≁	LANDING VALVE
EH E	EXTERNAL HYDRANT VALVE
<u>Å</u>	SINGLE HEADED HYDRANT VALVE
	HOSE REEL DRUM
Ŋ	BUTTERFLY VALVE
	UNION WITH BALL VALVE FOR DRAIN
	Ø50 HOSE REEL PIPE
	Ø160 EXTERNAL HYDRANT PIPE
	Ø100 DRY RISER PIPE
·	

# FIREFIGHTING SCHEMATIC

## CLIENT: STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT ARCHITECT: STRUCTURAL: QUANTITY SURVEYOR: SITE: AHP DEVELOPEMENT NGONG TITLE: BLOCK A - FIRE FIGHTING SCHEMATIC SCALE : CHECKED: DATE: DRAWN: NOT TO SCALE PROJECT NO: DRAWING NO: **REVISION:**

01 - GROUND FLOOR LEVEL

01 - 1ST FLOOR LEVEL

02 - 2ND FLOOR LEVEL

O3RD FLOOR LEVEL

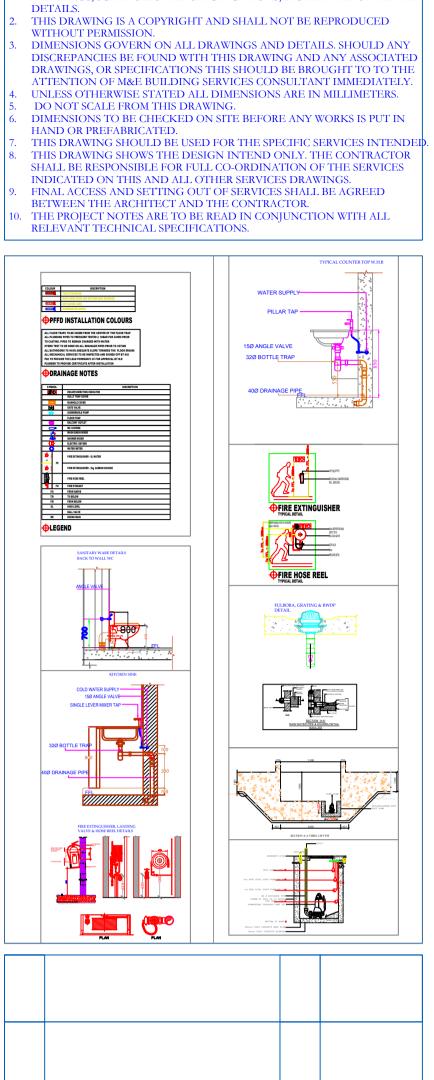
05TH FLOOR LEVEL

07TH FLOOR LEVEL ANNE AND MADE

08TH FLOOR LEVEL

09TH FLOOR LEVEL

10TH ROOF LEVEL 



### Notes:

THIS DRAWING IS TO BE READ WITH ALL OTHER DISCIPLINES, DRAWINGS, SCHEDULES AND SPECIFICATIONS, LEGEND AND STANDARD

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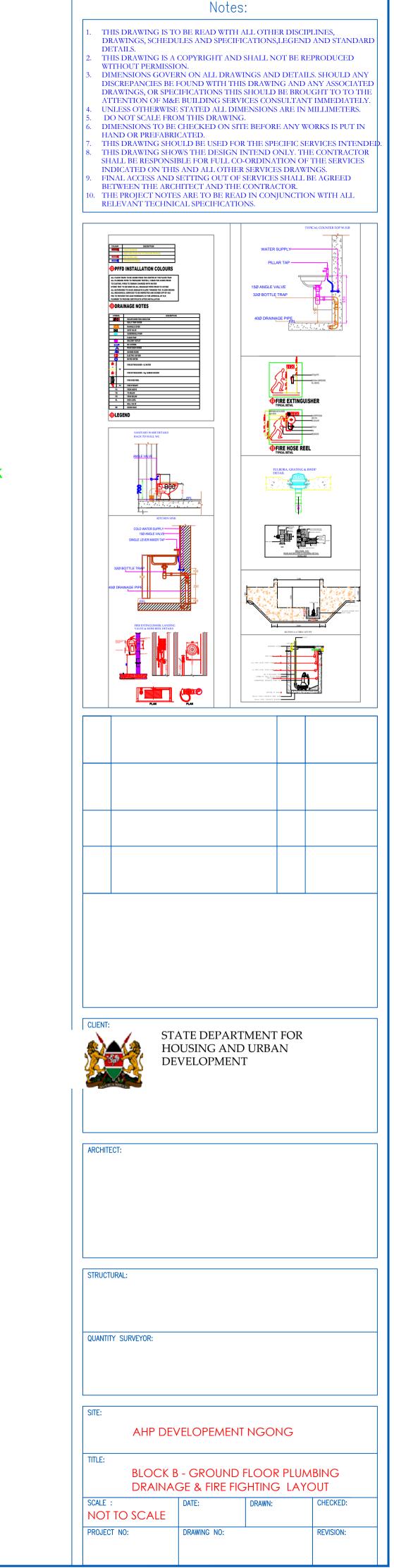
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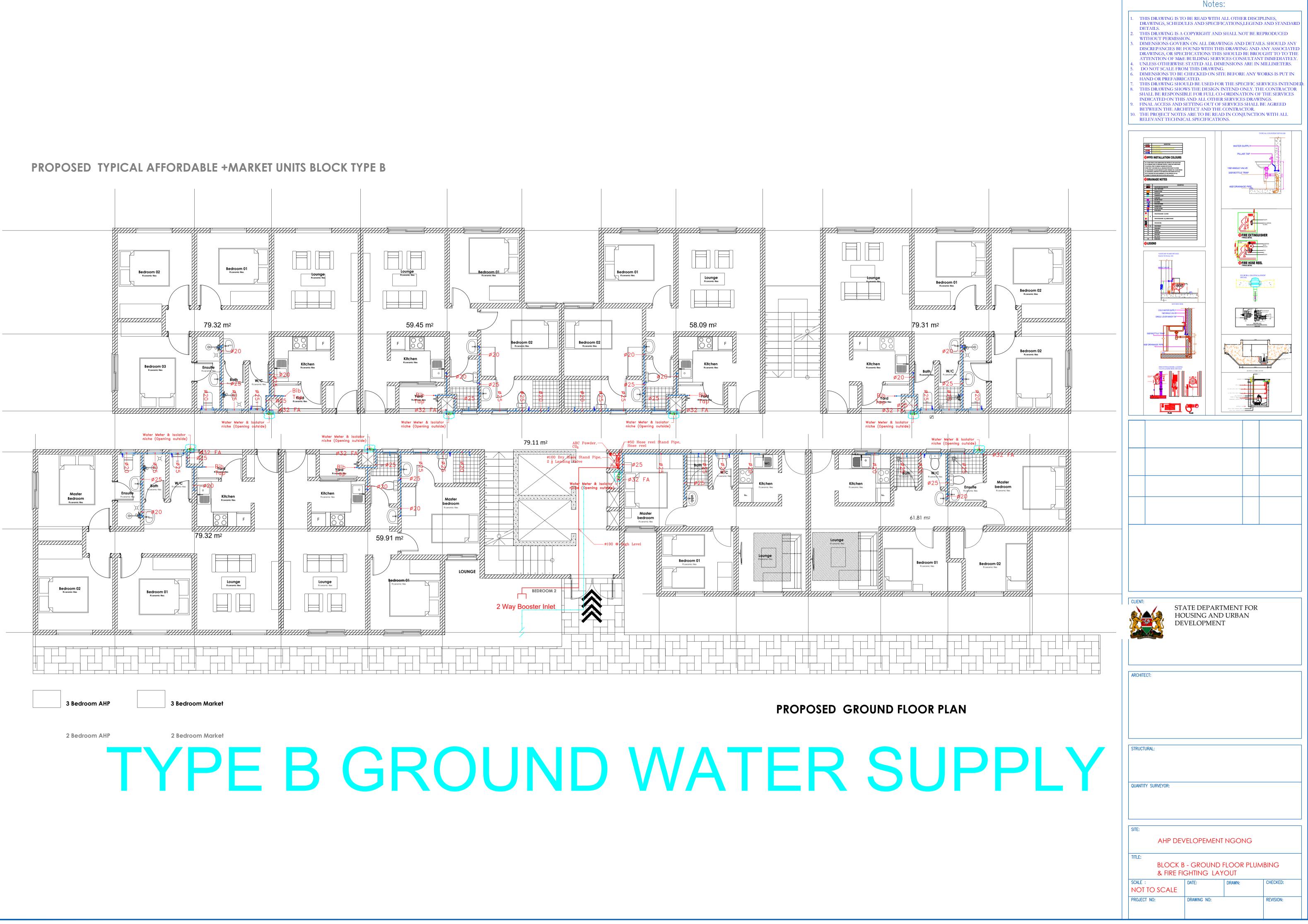


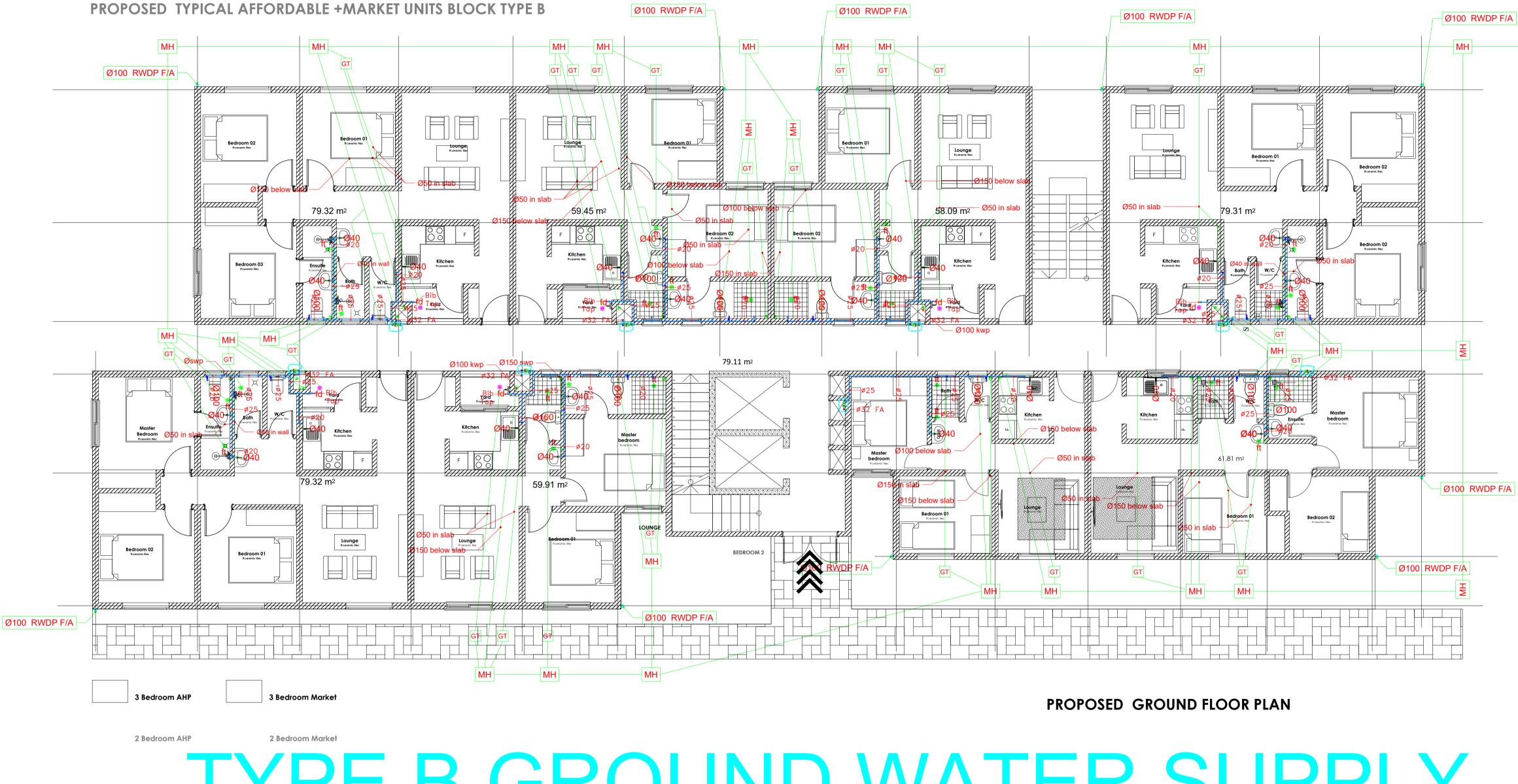
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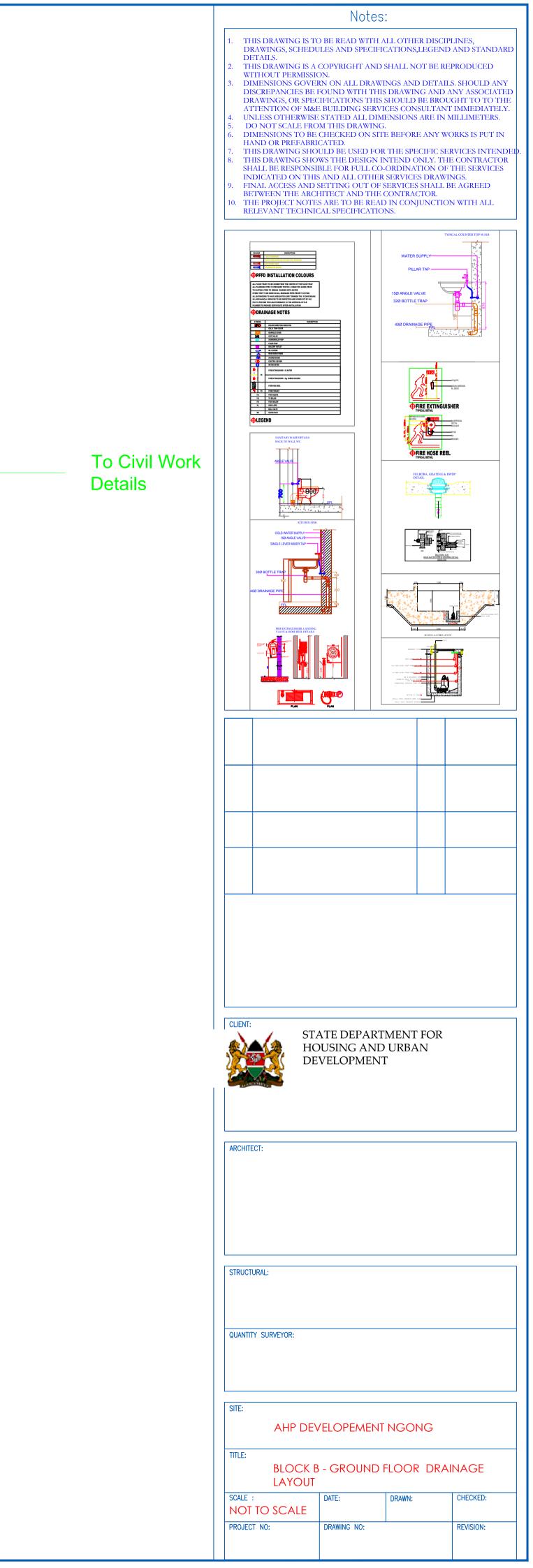
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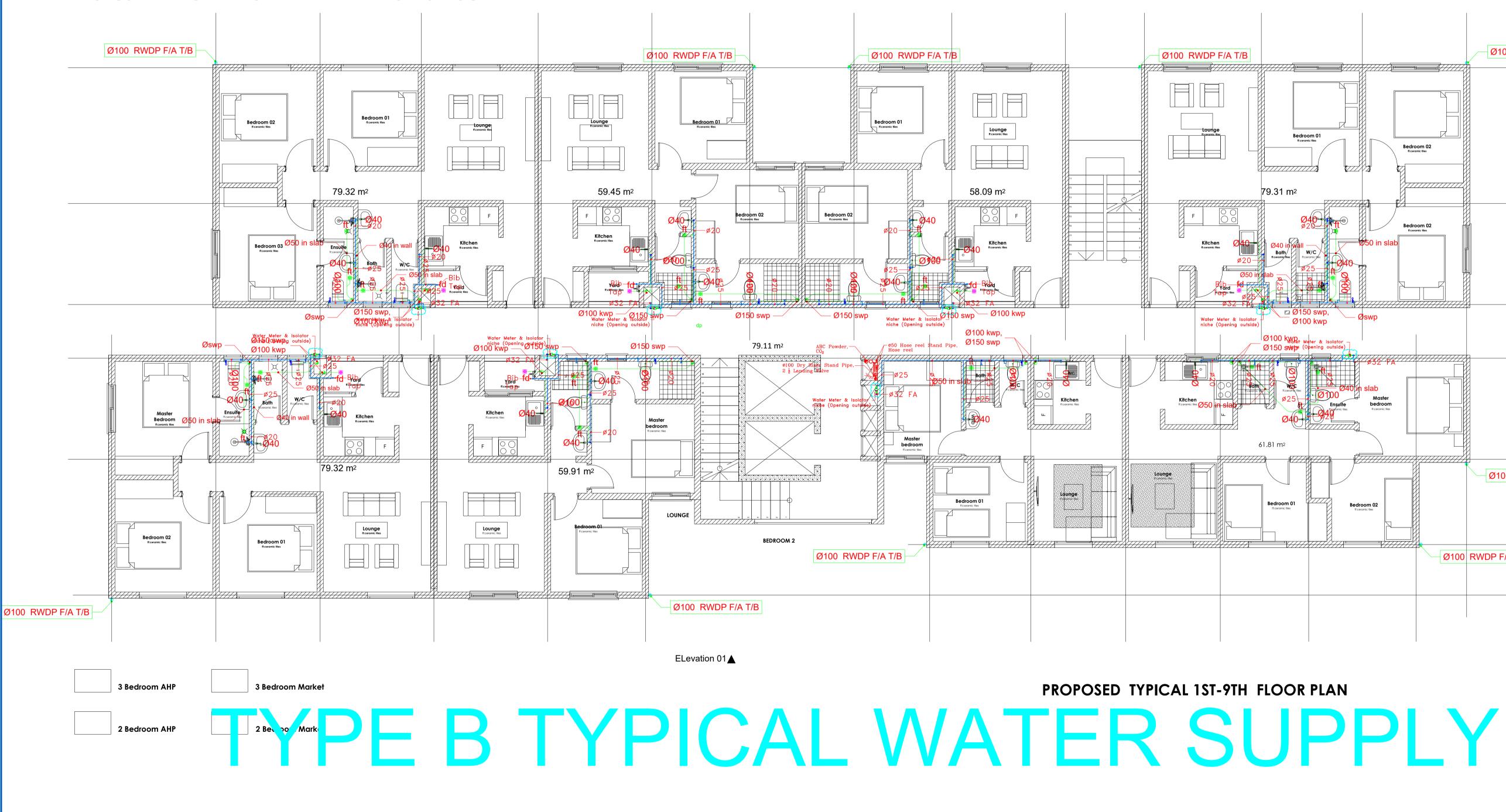


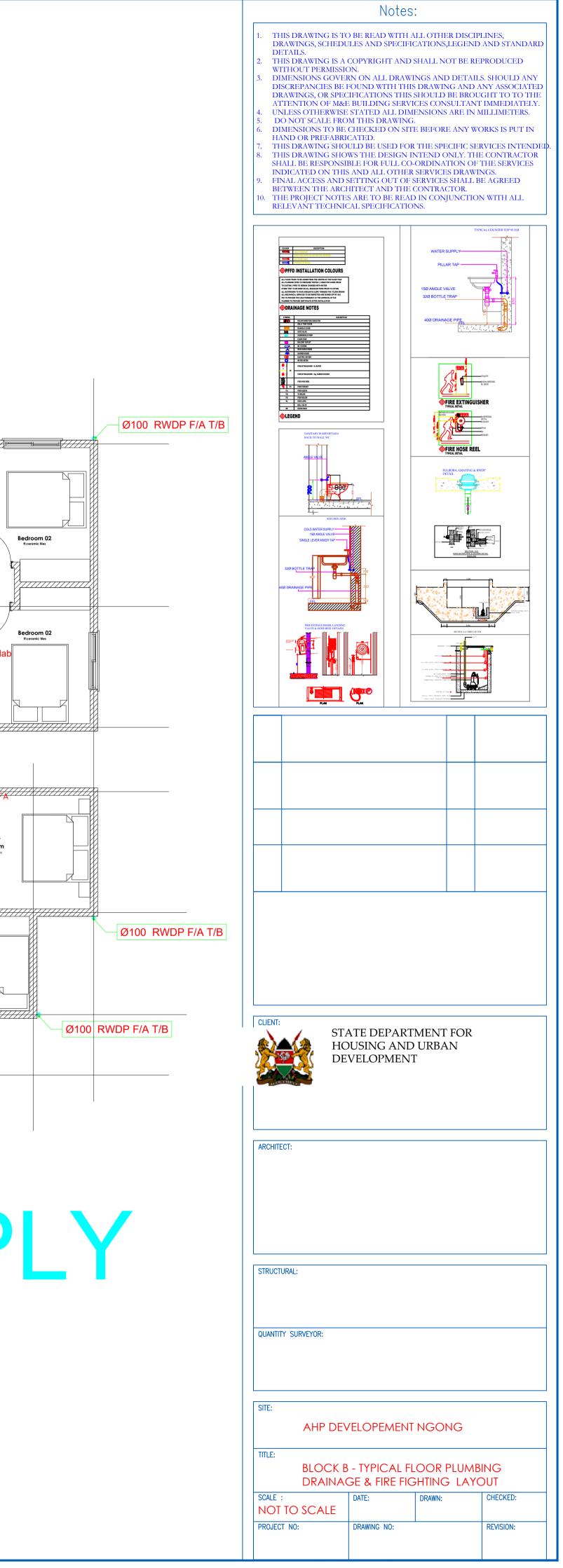


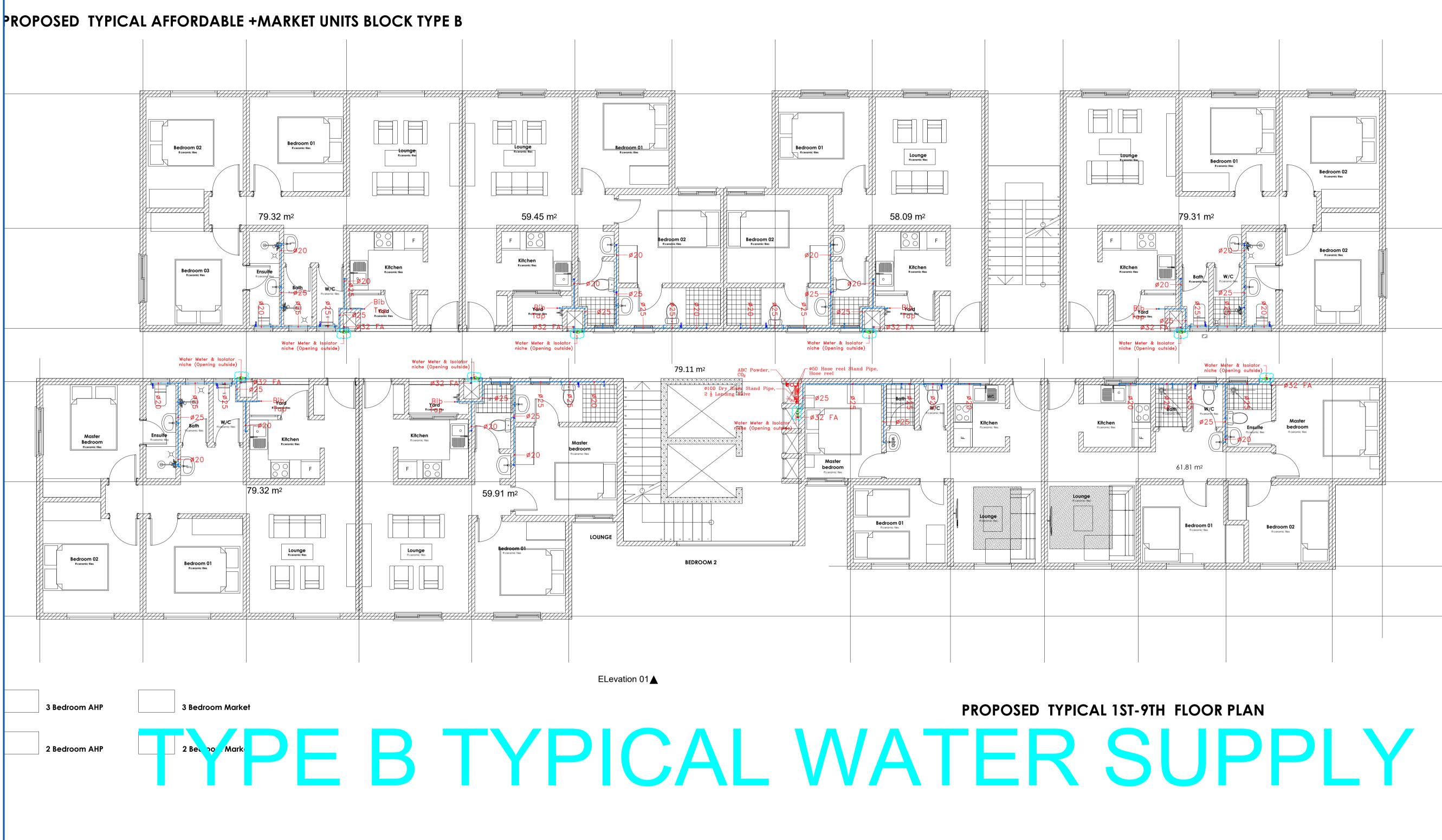


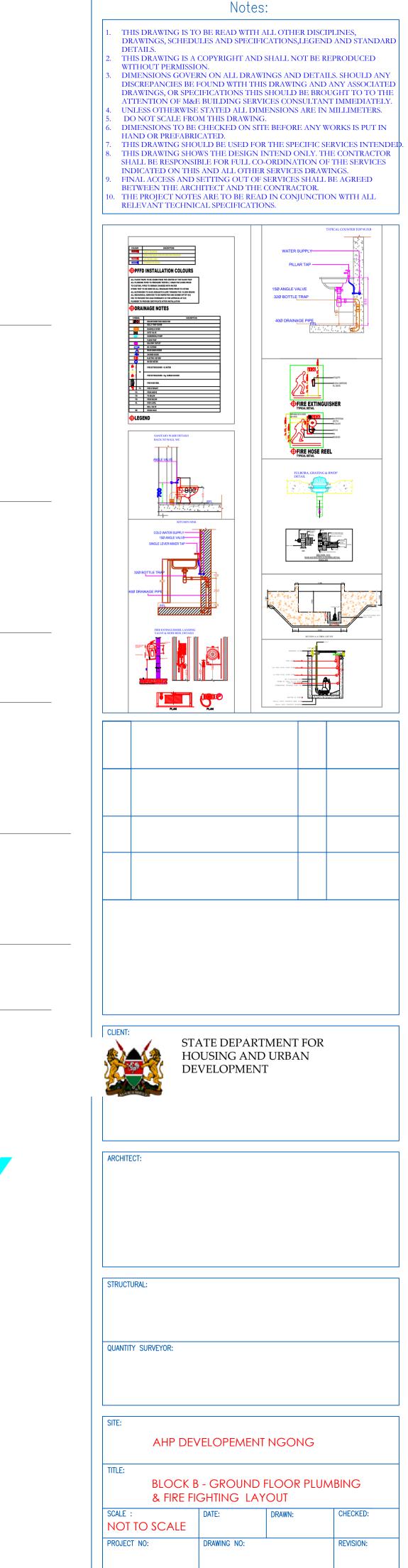
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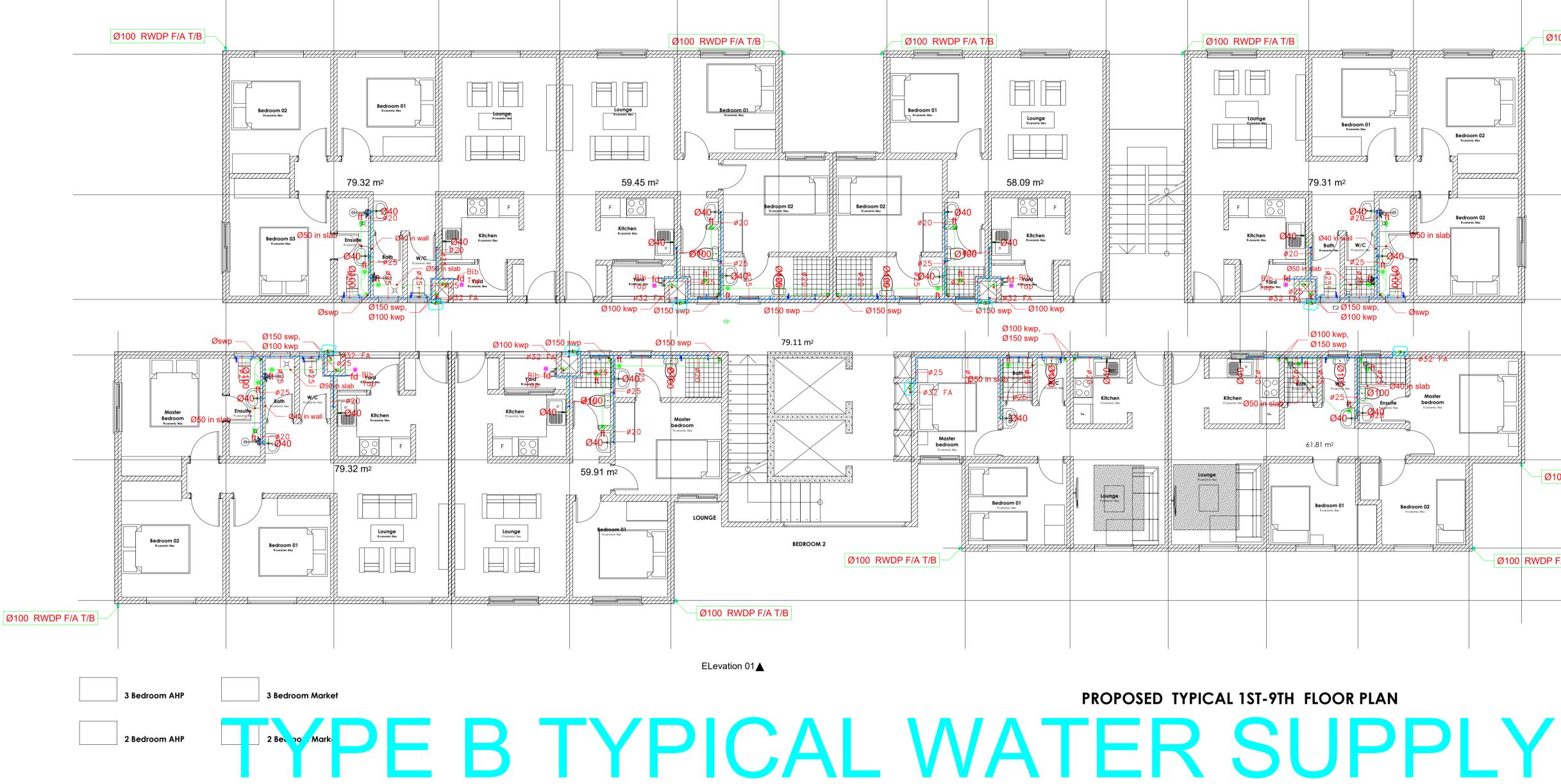


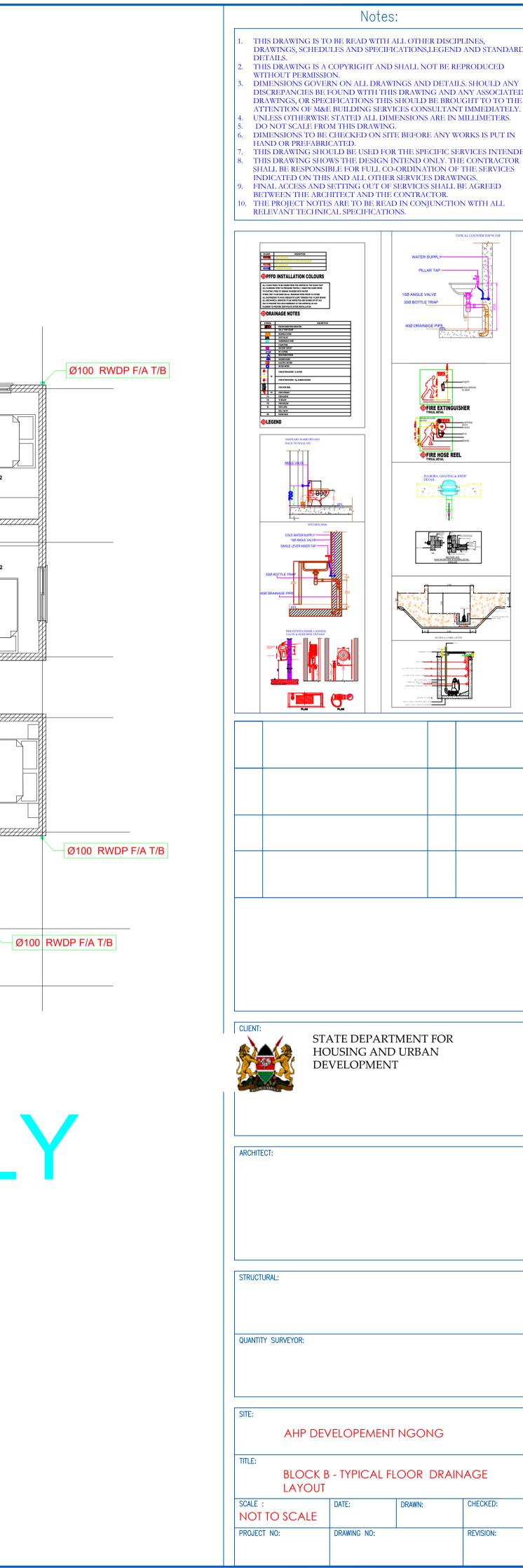


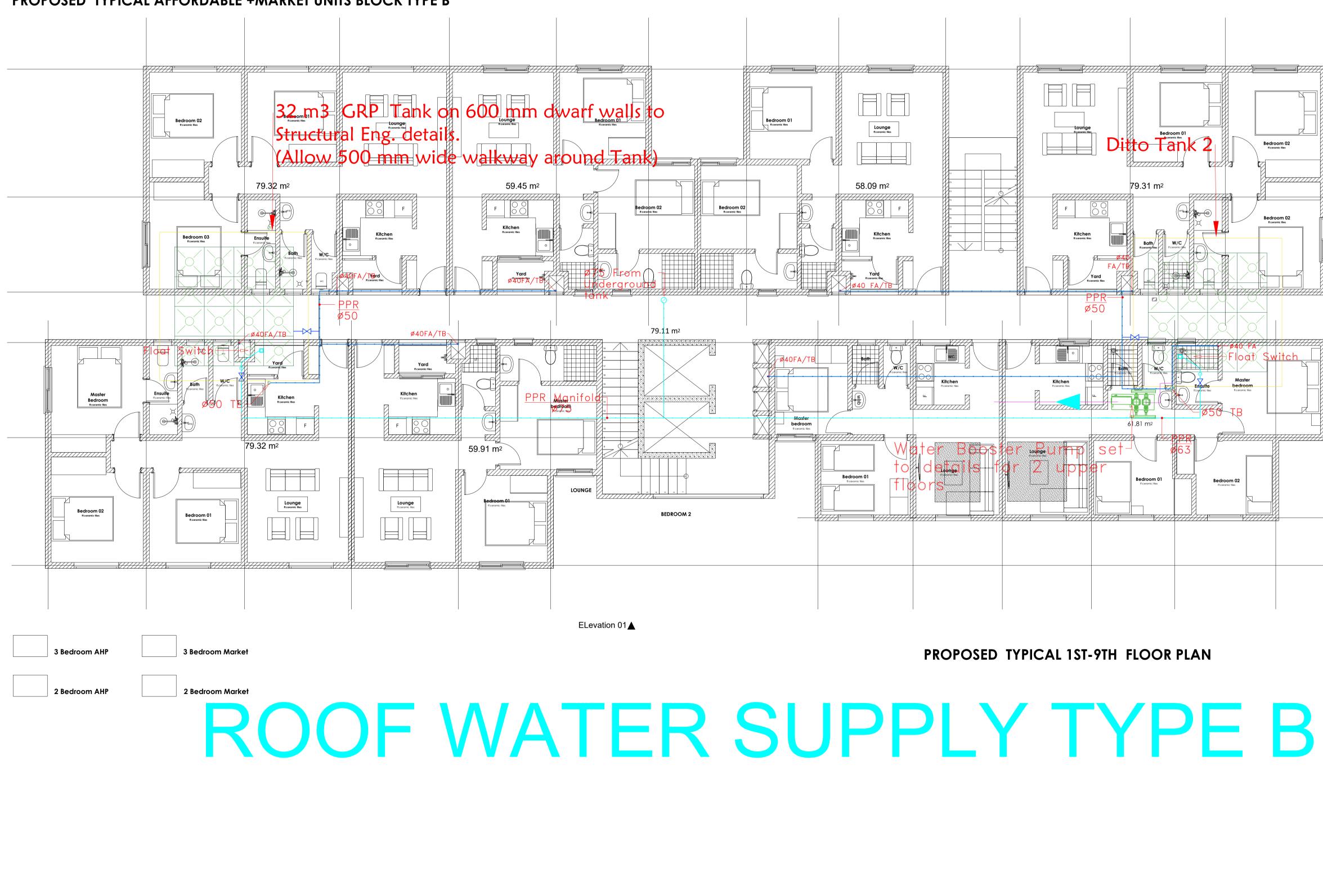




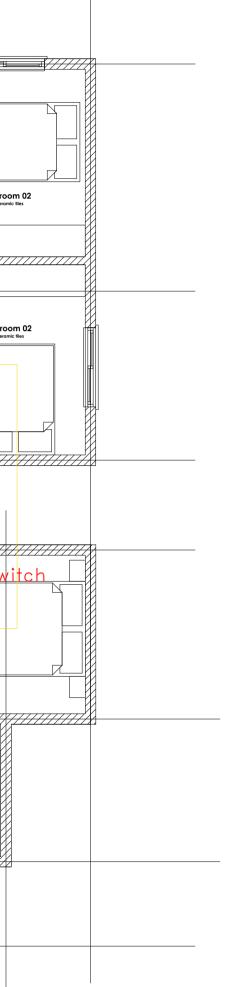




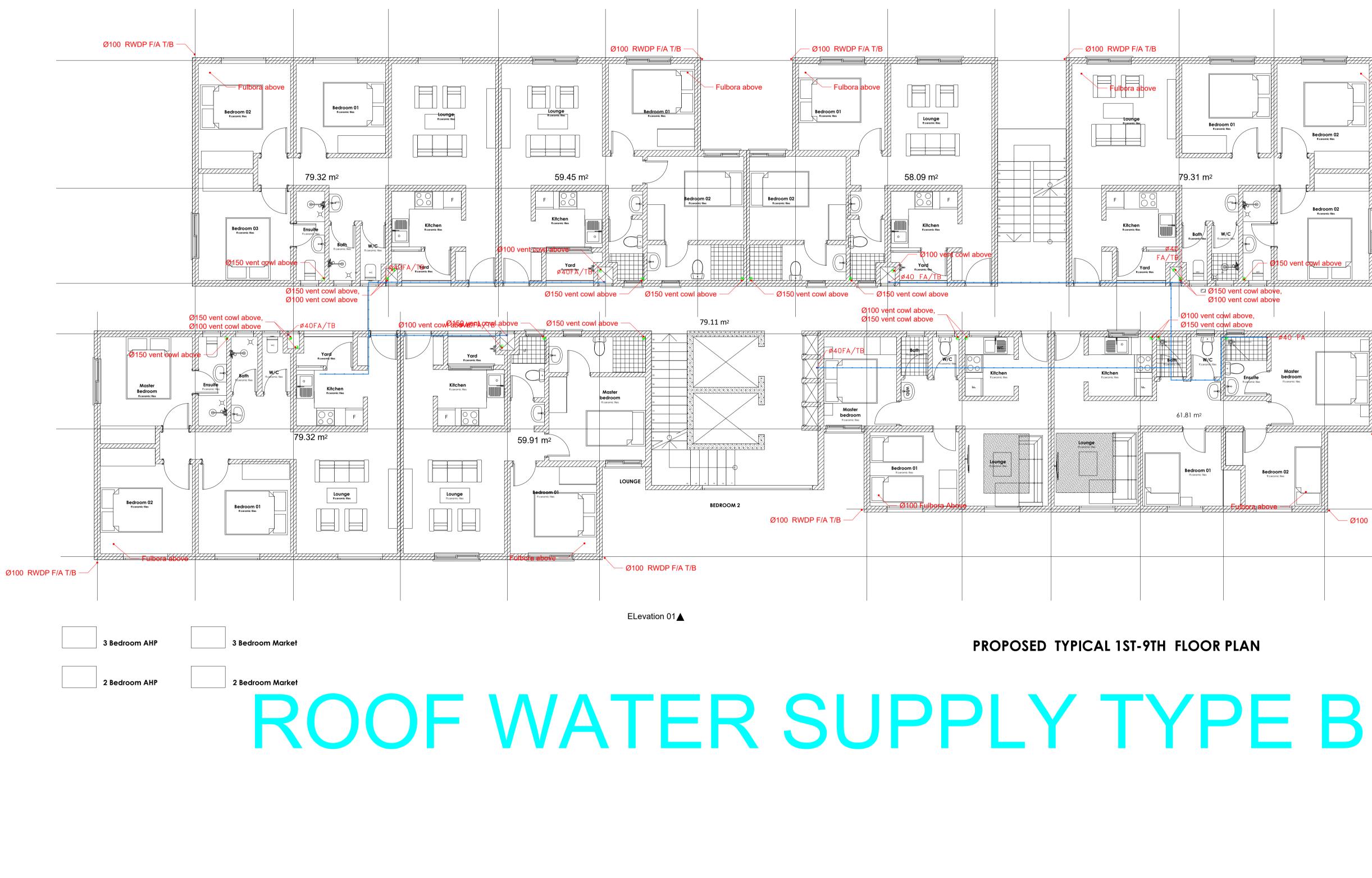


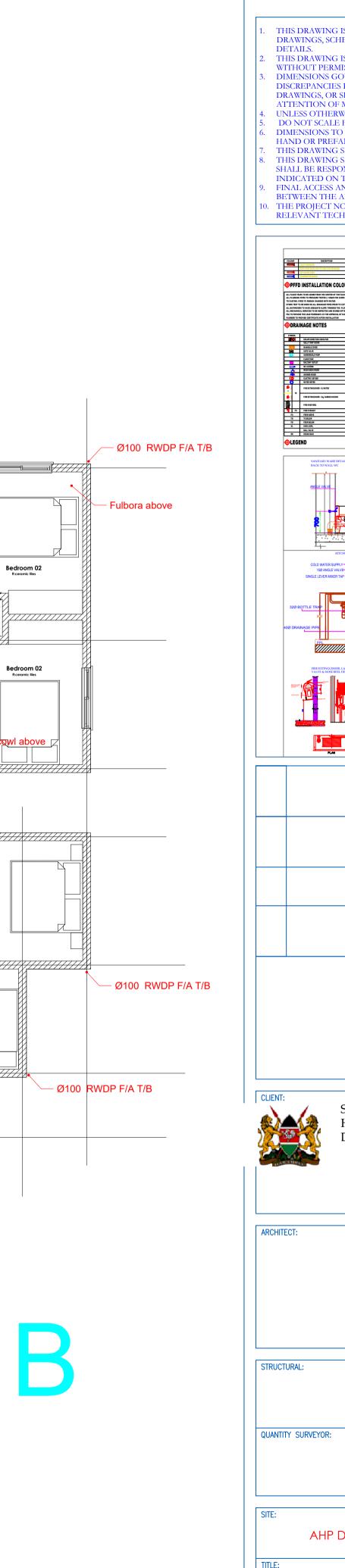


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# THIS DRAWING IS TO BE READ WITH ALL OTHER DISCIPLINES, DRAWINGS, SCHEDULES AND SPECIFICATIONS, LEGEND AND STANDARD THIS DRAWING IS A COPYRIGHT AND SHALL NOT BE REPRODUCED WITHOUT PERMISSION. DIMENSIONS GOVERN ON ALL DRAWINGS AND DETAILS. SHOULD ANY DISCREPANCIES BE FOUND WITH THIS DRAWING AND ANY ASSOCIATED DRAWINGS, OR SPECIFICATIONS THIS SHOULD BE BROUGHT TO TO THE ATTENTION OF M&E BUILDING SERVICES CONSULTANT IMMEDIATELY UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE FROM THIS DRAWING. DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORKS IS PUT IN HAND OR PREFABRICATED THIS DRAWING SHOULD BE USED FOR THE SPECIFIC SERVICES INTENDE THIS DRAWING SHOWS THE DESIGN INTEND ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL CO-ORDINATION OF THE SERVICES INDICATED ON THIS AND ALL OTHER SERVICES DRAWINGS. FINAL ACCESS AND SETTING OUT OF SERVICES SHALL BE AGREED BETWEEN THE ARCHITECT AND THE CONTRACTOR. . THE PROJECT NOTES ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT TECHNICAL SPECIFICATIONS. DISCRIPTION PILLAR TAP **OPFED INSTALLATION COLOURS** FIRE HOSE REEL STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT AHP DEVELOPEMENT NGONG **BLOCK B - ROOF TERRACE FLOOR** DRAINAGE LAYOUT

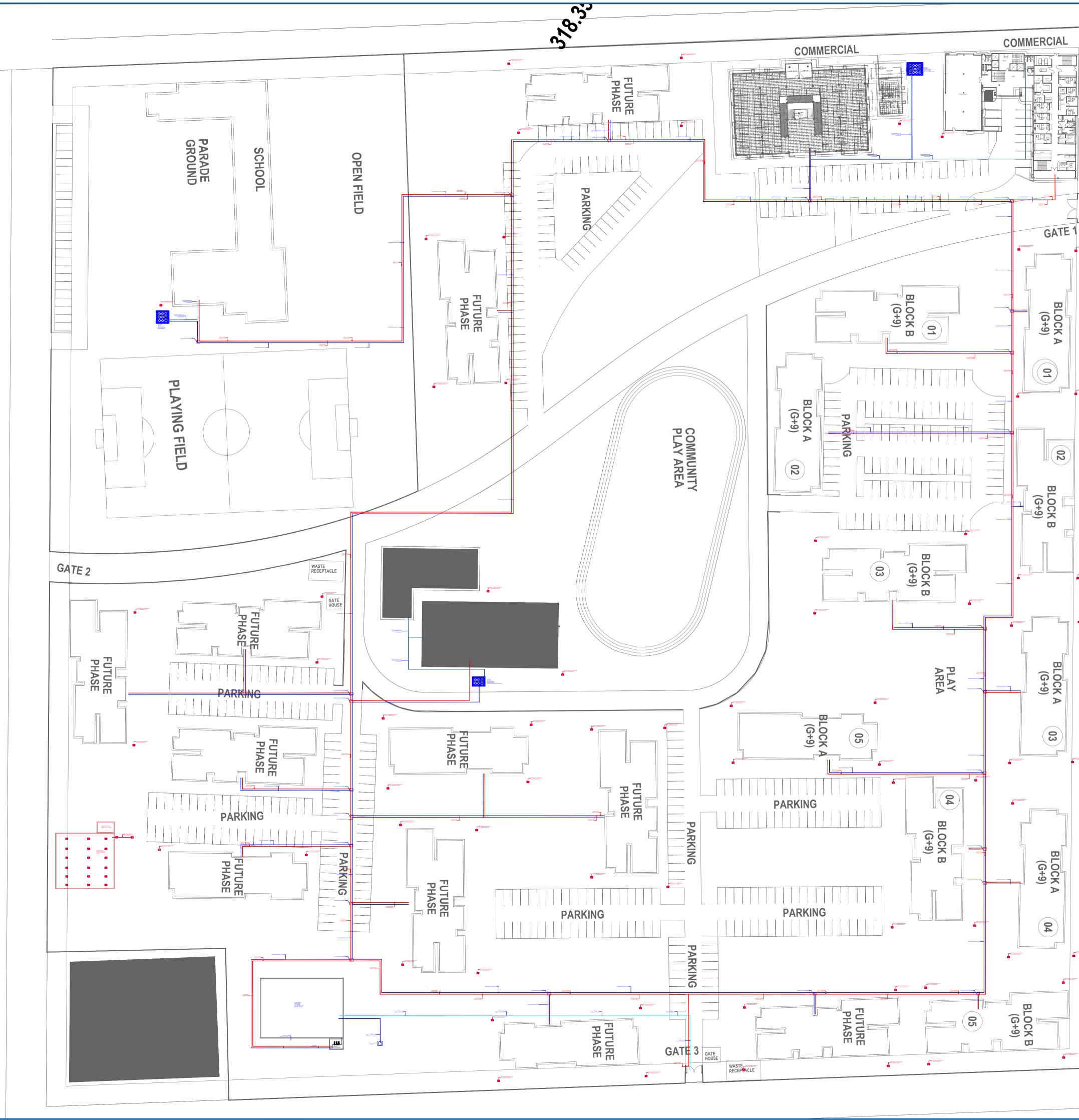
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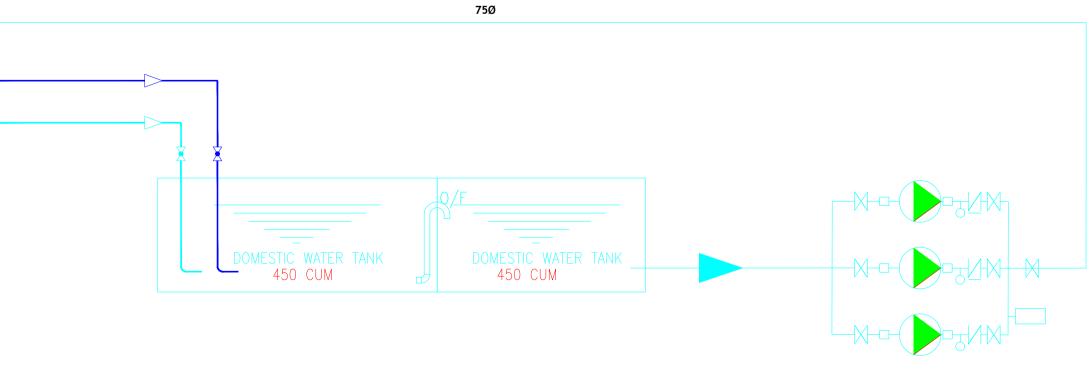
Notes:



Notes:			
<ol> <li>THIS DRAWING IS TO BE READ WITH ALL OTHER DISCIPLINES, DRAWINGS, SCHEDULES AND SPECIFICATIONS, LEGEND AND STANDARD DETAILS.</li> <li>THIS DRAWING IS A COPYRIGHT AND SHALL NOT BE REPRODUCED WITHOUT PERMISSION.</li> <li>DIMENSIONS GOVERN ON ALL DRAWINGS AND DETAILS. SHOULD ANY DISCREPANCIES BE FOUND WITH THIS DRAWING AND ANY ASSOCIATED DRAWINGS, OR SPECIFICATIONS THIS SHOULD BE BROUGHT TO TO THE ATTENTION OF M&amp;E BUILDING SERVICES CONSULTANT IMMEDIATELY.</li> <li>UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETERS.</li> <li>DO NOT SCALE FROM THIS DRAWING.</li> <li>DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORKS IS PUT IN HAND OR PREFABRICATED.</li> <li>THIS DRAWING SHOULD BE USED FOR THE SPECIFIC SERVICES INTENDED.</li> <li>THIS DRAWING SHOULD BE USED FOR THE SPECIFIC SERVICES INTENDED.</li> <li>THIS DRAWING SHOWS THE DESIGN INTEND ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL CO-ORDINATION OF THE SERVICES INDICATED ON THIS AND ALL OTHER SERVICES DRAWINGS.</li> <li>FINAL ACCESS AND SETTING OUT OF SERVICES SHALL BE AGREED BETWEEN THE ARCHITECT AND THE CONTRACTOR.</li> <li>THE PROJECT NOTES ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT TECHNICAL SPECIFICATIONS.</li> </ol>			
CLENT:   STATE DEPARTMENT FOR   HOUSING AND URBAN   DEVELOPMENT			
STRUCTURAL:			
SITE:       AHP DEVELOPEMENT NGONG         TITLE:       SITE PLAN PLUMBING DRAINAGE & FIRE         FIGHTING LAYOUT       FIGHTING LAYOUT         SCALE :       DATE:       DRAWN:         NOT TO SCALE       DRAWING NO:       REVISION:			

# BLOCK TYPE B





-32,000 L GRP TANK

INLET :	2(BOREH	OLE

75Ø

		75Ø	
		TO FIREFIGHTING LINE	
750			63Ø
		40	Ø
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	2B MARKET UNIT	3B MARKET UNIT 3B MARKET UNIT 250 ♥Ă ♥Ă ♥Ă ♥Ă	
750	2B MARKET UNIT 2B MARKET UNIT * 또 등 등 등 등 250	3B MARKET UNIT       250     →       250     →       250     →       250     →       250     →       250     →       250     →       250     →       250     →       250     →       250     →       250     →	2B MARKET UNIT ≥B MARKET UNIT S S S S S S S S S S S S S
	2B MARKET UNIT 2B MARKET UNIT 2B V: 5:0 2B V: 5:0 250	3B MARKET UNIT       3B MARKET UNIT       250     ▼, 7	2B MARKET UNIT 2B MARKET UNIT 2B MARKET UNIT 2B MARKET UNIT 250 250
	2B MARKET UNIT	82 3B MARKET UNIT 250 ▼3, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7,	2B MARKET UNIT 2B MARKET UNIT ※ 또 동 원 것 전 250
750	2B MARKET UNIT	82 3B MARKET UNIT 250 \$250 \$250 \$250 \$250 \$250 \$250 \$250 \$	2B MARKET UNIT
	2B MARKET UNIT 2B MARKET UNIT	3B MARKET UNIT 3B MARKET UNIT 250 ▼X, ▼X, ▼X, ▼X, ▼X, ▼X, ▼X, ↓X, ↓X, ↓X, ↓X, ↓X, ↓X, ↓X, ↓X, ↓X, ↓	28 MARKET UNIT 28 MARKET UNIT 3 4 4 5 4 7 4 250 4 4 5 7 7 250
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750	2B MARKET UNIT 2B MARKET UNIT ₩ \$25 5,5 250 250	3B MARKET UNIT 3B MARKET UNIT 250 ▼2, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7,	2B MARKET UNIT 2B MARKET UNIT 25Ø 25Ø 25Ø
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-32,000 L GRP TANK LEVEL CONTROL SWITCH

# PROPOSED TYPICAL AFFORDABLE +MARKET UNITS

63Ø	63Ø		63Ø	
400	40Ø	400	40Ø	
3B MARKET UNIT 25Ø ♥Ă ♥Ă ♥Ă ♥Ă ♥Ă	2B AHP UNIT 오 분 원 분 250	2B MARKET UNIT 25Ø · · · · · · · · · · · · · · · · · · ·	897 3B AHP UNIT 3B AHP UNIT ₩ 250 250 250	3B MARKET UNIT 25Ø · 우주 · 우
3B MARKET UNIT 250 ♥Ă ♥Ă ♥Ă ♥Ă ♥Ă	2B AHP UNIT 알 등 뜻 위 2 주 250	2B MARKET UNIT 250 ♥ڲ ♥ڲ ♥ጟ ♥ڲ 250	3B AHP UNIT → + + + + + + + + + + + + + + + + + + +	
3B MARKET UNIT	2B AHP UNIT 왕 동 방 왕 왕 250	2B MARKET UNIT       250	3B AHP UNIT → → → → → → → → → → → → → → → → → → →	8 3B MARKET UNIT 25Ø ♥Ă ♥Ă ♥Ă ♥Ă
3B MARKET UNIT	2B AHP UNIT 알 등 분 원 것 250	2B MARKET UNIT 250 ♥Ă ♥Ă ♥Ă ♥Ă ♥Ă	3B AHP UNIT → → → → → → → → → → → → → → → → → → →	80 3B MARKET UNIT 3B MARKET UNIT 250 ↓ 2 ↓ 2 ↓ 2 ↓ 2 ↓ 2 ↓ 2 ↓ 2 ↓ 2 ↓ 2 ↓
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3B MARKET UNIT	2B AHP UNIT 오늘 등 것 것 것 전 250	2B MARKET UNIT 250 ▼A VA	38 AHP UNIT 38 AHP UNIT ₩ \$ \$ 5 5 5 5 250 250	3B MARKET UNIT →→→→→→→→→→→→→→→→→→→→→→→→→→→→→→→→→→→→
3B MARKET UNIT 5Ø ♥Ă ♥Ă ♥Ă ♥Ă ♥Ă	2B AHP UNIT 오 분 분 문 분 250	2B MARKET UNIT       250	38 AHP UNIT 38 AHP UNIT ₩ \$2 5 5 5 2 250	3B MARKET UNIT       3B MARKET UNIT       250
3B MARKET UNIT	2B AHP UNIT 2B AHP UNIT 오는 또는 원 것 전 250	2B MARKET UNIT 250 ♥Ă, Ż Ż Ż Ż Ż Ż	38 AHP UNIT 38 AHP UNIT 35 45 55 55 5- 55 55 250 250	38 MARKET UNIT 38 MARKET UNIT 250 \$7,5 \$7,5 250 \$7,5 200
3B MARKET UNIT	2B AHP UNIT 2B AHP UNIT 또한 뜻한 뜻한 것 250	2B MARKET UNIT       250	38 AHP UNIT 38 AHP UNIT ₩ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	8 3B MARKET UNIT 3B MARKET UNIT 25Ø ♥?; ₹ ₹ ₹
3B MARKET UNIT	2B AHP UNIT 오는 뜻은 옷은 옷은 250	2B MARKET UNIT       250	3B AHP UNIT → 52 + 52 + 52 + 250 → 250	3B MARKET UNIT       3B MARKET UNIT       250

### THIS DRAWING IS TO BE READ WITH ALL OTHER DISCIPLINES, DRAWINGS, SCHEDULES AND SPECIFICATIONS, LEGEND AND STANDARD DETAILS. THIS DRAWING IS A COPYRIGHT AND SHALL NOT BE REPRODUCED WITHOUT PERMISSION. DIMENSIONS GOVERN ON ALL DRAWINGS AND DETAILS. SHOULD ANY DISCREPANCIES BE FOUND WITH THIS DRAWING AND ANY ASSOCIATED DRAWINGS, OR SPECIFICATIONS THIS SHOULD BE BROUGHT TO TO THE ATTENTION OF M&E BUILDING SERVICES CONSULTANT IMMEDIATELY. UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE FROM THIS DRAWING. DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORKS IS PUT IN HAND OR PREFABRICATED. THIS DRAWING SHOULD BE USED FOR THE SPECIFIC SERVICES INTENDE THIS DRAWING SHOWS THE DESIGN INTEND ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL CO-ORDINATION OF THE SERVICES INDICATED ON THIS AND ALL OTHER SERVICES DRAWINGS. FINAL ACCESS AND SETTING OUT OF SERVICES SHALL BE AGREED BETWEEN THE ARCHITECT AND THE CONTRACTOR. 0. THE PROJECT NOTES ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT TECHNICAL SPECIFICATIONS. COLOUR DISCRIPTION HOT N PILLAR TAP **OPFFD INSTALLATION COLOURS** HE ON ALL DRAINAGE PIPES PRIOR TO CSTING IVE ADEQUATE SLOPE TOWARDS THE FLOOR DI ICES TO BE INSPECTED AND SIGNED OFF BY MJ INAGE NOTES SYNBOL ESCAPE DIRECTION INDICATOR DISCRIPTION SANITARY WARE DETA BACK TO WALL WC TAIL A CONTRACT SECTION 'A-A' N WATER PIPE & KHURRA DETA CLIENT: STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT ARCHITECT: STRUCTURAL: QUANTITY SURVEYOR: SITE: AHP DEVELOPEMENT NGONG TITLE: BLOCK B - PLUMBING SCHEMATIC SCALE : CHECKED: DATE: DRAWN: NOT TO SCALE PROJECT NO: DRAWING NO: **REVISION:**

• 04TH FLOOR LEVEL

• O3RD FLOOR LEVEL

02 - 2ND FLOOR LEVEL

01 - 1ST FLOOR LEVEL

01 - GROUND LEVEL

• 05TH FLOOR LEVEL

• 06TH FLOOR LEVEL

07TH FLOOR LEVEL

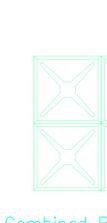
08TH FLOOR LEVEL

2008.B22

ROOF FLOOR LEVEL

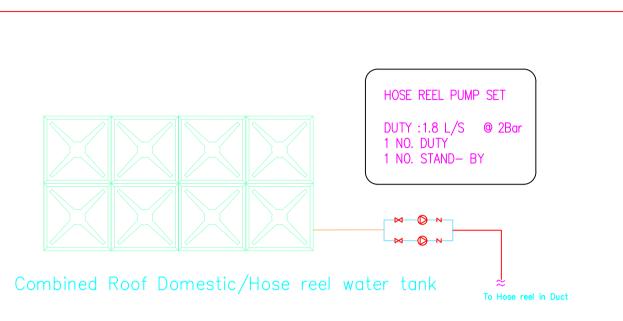
• 09TH FLOOR LEVEL

Notes:

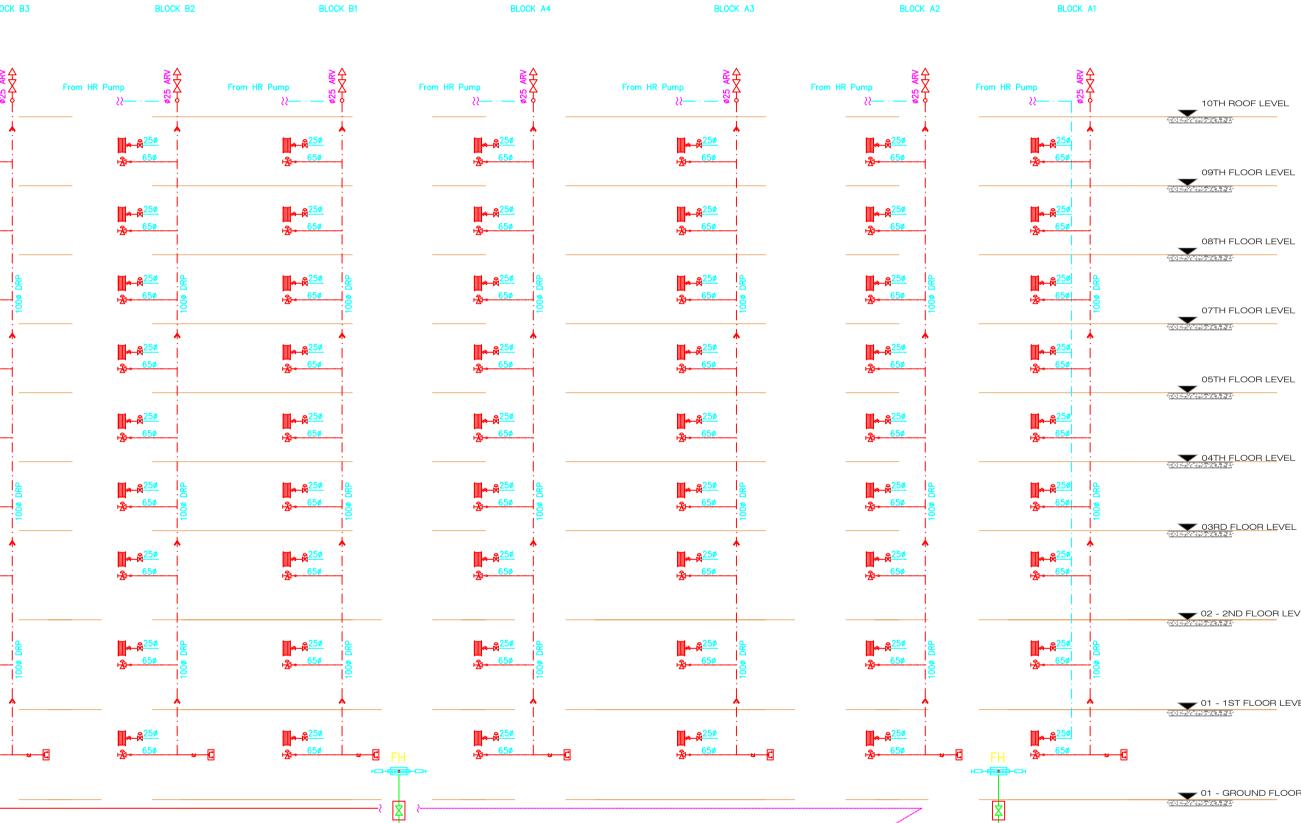


	BLOC	К В6	BLOCK B5	BLOCK B4	BLOCK
	From HR Pump	From HR Pump	AND From		From HR Pump
	<mark>∭⊶ 炎<sup>250</sup></mark> 没 <del>,</del> 650		25ø 5ø	<mark>∭</mark>	₩ <mark>~ 8<sup>25ø</sup> 1⁄2<del>~ 65</del>ø</mark>
	 <mark>∭n &amp;25ø</mark> • <b>≵</b> • 65ø	       <b>∭∾−</b> ậ   	5ø	<mark>∭∾8</mark> <u>25ø</u> • <b>2</b> •65ø	<mark>∭n ∂<sup>25ø</sup> 1<b>3</b>1 - 65ø</mark>
	 <mark>∭n 8250</mark> 1 <del>2</del> 1→ 650			₩ <mark>~ 8<sup>259</sup> 657 80</mark>	₩ <mark>+ 8<sup>25ø</sup>   8</mark>
	 <mark>∭+• ∂<sup>25ø</sup> •≵+<del>•</del> 65ø</mark>		5ø	<mark>∭⊶-</mark> & <sup>25ø</sup> &- 65ø	₩ <mark>₩ 8<sup>25ø</sup> 1<del>2</del>1→ 65ø</mark>
	 <mark>∭*• &amp;25¢</mark> •≵ <del>• 65¢</del>		<u>.5ø</u> .5ø	∭⊶&2 <u>5¢</u> -&	<mark>∭n &amp;</mark> 25ø 1 <b>%</b> i→ 65ø
	 <mark>∭≉ &amp;25⊅</mark> 1 <del>21→ 65∅</del>		50 da 50 da 50 00-	₩ <mark>~ &amp;</mark> 25¢ ₩ <u>~ &amp;</u> 25¢	<mark>∭n &amp;<sup>25ø</sup> 1<mark>% → <sup>65ø</sup></mark></mark>
	 <mark>∭∾ &amp;</mark> 25ø -&- 65ø	↓ ▲ ↓ <b>∭</b> ო-ậŕ	15ø	₩ <mark>₩~~<sup>8</sup><sup>250</sup></mark> 1 <del>21~~659</del>	₩ <mark>~ &amp;<sup>25ø</sup> 2. 65ø</mark>
	 <mark>∭⊶ &amp;</mark> 25ø -&- 65ø		250	₩ <b>~ 8<sup>250</sup></b>	<mark>∭⊶ &amp;</mark> 25ø + <u>2</u> +65ø
FH to the first of	 <mark>∭v &amp;25ø</mark> - <del>2</del> 1→ 65ø	,   	<u>50</u>	k ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	k ∭ <mark>≉ ∂<sup>25ø</sup> 2 • 65ø</mark>
	 			x	

Connection to Future City water Council Hydrant



Roof Hose Reel Typical Connection



	LEGEND
SYMBOL	DESCRIPTION
à	OS & Y GATE VALVE
⊮≁	LANDING VALVE
EH E	EXTERNAL HYDRANT VALVE
<u>Å</u>	SINGLE HEADED HYDRANT VALVE
	HOSE REEL DRUM
Ŋ	BUTTERFLY VALVE
	UNION WITH BALL VALVE FOR DRAIN
	Ø50 HOSE REEL PIPE
	Ø160 EXTERNAL HYDRANT PIPE
	Ø100 DRY RISER PIPE

# FIREFIGHTING SCHEMATIC

# CLIENT: STATE DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT ARCHITECT: STRUCTURAL: QUANTITY SURVEYOR: SITE: AHP DEVELOPEMENT NGONG TITLE: BLOCK B - FIRE FIGHTING SCHEMATIC SCALE : CHECKED: DATE: DRAWN: NOT TO SCALE PROJECT NO: DRAWING NO: **REVISION:**

01 - GROUND FLOOR LEVEL

01 - 1ST FLOOR LEVEL

02 - 2ND FLOOR LEVEL

O3RD FLOOR LEVEL

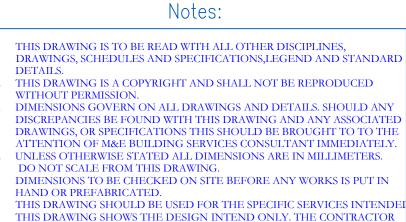
05TH FLOOR LEVEL

07TH FLOOR LEVEL

08TH FLOOR LEVEL

09TH FLOOR LEVEL

10TH ROOF LEVEL 



SHALL BE RESPONSIBLE FOR FULL CO-ORDINATION OF THE SERVICES

DETWEEN THE ARCHITECT AND THE CONTRACTOR.
 THE PROJECT NOTES ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT TECHNICAL SPECIFICATIONS.

WATER SUPPLY

PILLAR TAP

DETAIL

RAIN WATER PIPE & KHURRA DETAIL

INDICATED ON THIS AND ALL OTHER SERVICES DRAWINGS. FINAL ACCESS AND SETTING OUT OF SERVICES SHALL BE AGREED

BETWEEN THE ARCHITECT AND THE CONTRACTOR.

DISCRIPTION

DISCRIPTION

IN AND KITCHEN SOLK DRAINAGE

**OPFFD INSTALLATION COLOURS** L FLOOR TRAPS TO BE 200MM FROM THE CENTER OF THE FLOOR TRAP IN JUNEING PIPES TO PRESSURE TESTED () 10BAR FOR 24HRS PRIOR E DONE ON ALL BRAINAGE PIPES PRIOR TO CSTING TO HAVE ADEQUATE SLOPE TOWARDS THE FLOOR BRAIN ENVICES TO BE INSPECTED AND SIGNED OFF BY M.E.

DRAINAGE NOTES SYMEOL BECAPE DESCRIPTION INDICATOR GULLY TRAP COVER

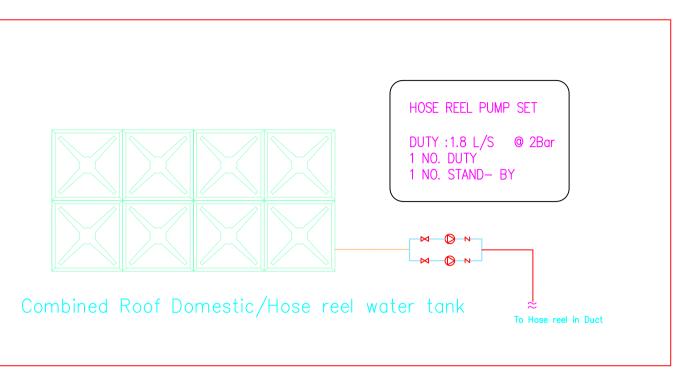
> RN RISING

> > SANITARY WARE DETAI BACK TO WALL WC

15Ø ANGLE VALVE

GUISHER, LANDIN

HOT WAT



BLOCK B6	BLOCK B5 BLOCK E	B4 BLOCK B3	BLOCK B2	BLOCK B1	BLOCK A4	BLOCK A3	BLOCK A2	BLOCK A1	
From HR Pump	Rev Se A Se	From HR Pump	From HR Pump	From HR Pump	From HR Pump	From HR Pump	From HR Pump	From HR Pump	10TH ROOF LEVEL
↓ ↓ ★ ★ ★ ↓ ★ ↓ ★ ↓ ★ ↓ ★ ↓ ★ ↓ ★ ↓ ★ ↓ ★ ↓ ★ ↓ ★ ↓ ★ ↓ ★ ↓ ★ ↓ ★ ↓ ↓ ★ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	i i	₩ <mark>~~&amp;<sup>25ø</sup> *&amp;***********************************</mark>	<mark>∭~-</mark> & <sup>25ø</sup> •& 65ø	<mark>∭~ ⋧<sup>25ø</sup> - -20 - 65ø</mark>	₩ <mark>+ 2<sup>25ø</sup> -2- 65ø</mark>		₩ <mark>~ &amp;</mark> 2 <u>5ø</u> • <u>&amp;</u> 65ø	<mark>∭⊶ ⊗<sup>25ø]</sup> ⊗ • 65ø</mark>	09TH FLOOR LEVEL
<mark>∭.⊶.⊗<sup>25ø</sup> •<u>⊰</u>•••<sup>65ø</sup>•••<mark>5</mark>ø</mark>		<mark>∭⊷-8<sup>25ø</sup>  <del>2</del> •65ø</mark>	<mark>∭~-</mark> & <sup>2<u>5ø</u> •<u>≵</u>•65ø</sup>	<mark>∭⇔ &amp;<sup>25ø</sup> ∕<mark>≳</mark>+ 65ø</mark>	<mark>∭⊷-&amp;</mark> 25ø • <b>≿</b> - 65ø	<mark>∭⊶ &amp;</mark> 2 <u>5ø</u> • <mark>2</mark> • 65ø	<mark>∭⊷-8</mark> 25ø   <del>2</del>  -	<mark>∭⊶</mark> & <mark>25¢</mark>  - <mark>⊗- 65¢</mark>	08TH FLOOR LEVEL
<mark>₩~ &amp;<sup>25¢</sup></mark> & 65¢ & 65¢	da da b b b b c c c c c c c c c c c c c c c	<b>₩</b> • 8 <sup>25ø</sup> 8 •&• 65ø	₩ <mark>~ 8<sup>25ø</sup> 1<del>2</del> • 65ø</mark>	₩ <mark>~~8<sup>25ø</sup> 1⁄2 • 65ø</mark>	₩ <mark>+ 8<sup>25ø</sup> 82 12 + 65¢ 80</mark>	<mark>∭~-8<sup>250</sup> 82 8 €50 88</mark>	<mark>₩ - &amp;<sup>25ø</sup> &amp; &amp;</mark>	₩ <mark>~~<sup>250</sup></mark> 2.~ <sup>650</sup>	07TH FLOOR LEVEL
<mark>∭ ~ ⊗</mark> <sup>25ø</sup> ⊗ ~ 65ø , ⊗ ~ 65ø	- Á- Á-		<mark>∭ ← 8</mark> 25ø 1 <b>2</b> ← 65ø	₩ <mark></mark>	₩ <mark>₩ 8<sup>25ø</sup> 1<del>2</del> • 65ø</mark>	₩ <mark>₩~ 8<sup>25ø</sup> - 8<sup>-65ø</sup></mark>		<b>∭</b> ≁ <del>R</del> <sup>25ø</sup> ∕2 → 65ø	05TH FLOOR LEVEL
<mark>∭.∞ &amp;</mark> 25ø & ∰.∞ & & ∰.∞ & & & & & & & & & & & & & & & & & & &		₩ <mark></mark>	<mark>∭ ~ &amp;</mark> 2 <u>5ø</u> • <b>≵</b> • 65ø	<mark>∭≁-≷</mark> 25ø -2 <mark>9 65ø</mark>	₩ <mark>₩ 8<sup>25ø</sup> 12t<del>-</del>65ø</mark>	<mark>∭≁-</mark> ≹ <sup>25ø</sup> - -2 <mark>0 ←</mark> 65ø		<mark>∭∾-8</mark> 25ø &-65ø	COLORING TENATE
<mark>∭. &amp; &amp;</mark> 25ø & & & & & & & & & & & & & & & & & & &		₹ 250 250 250 250 250 250 250 2	₩ <mark>~ 8</mark> <sup>25ø</sup>	₩ <mark>★ 8<sup>25ø</sup> .20 20 20</mark>	₩ <mark>₩ 8<sup>25ø</sup> 20 12 12 12 12 12 12 12 12 12 12 12 12 12 </mark>	₩ <mark>₩ 8<sup>25ø</sup> - 8 8 • 85ø 8</mark>		<b>∭∾−</b> <u>8</u> 25ø 25ø	CONTRACTOR LEVEL
<mark>∭</mark> <del>~ ⊗<sup>25ø</sup> ⊗ - 65ø • <del>≥</del>• - 65ø</del>	k ∭≪ 8 <sup>25ø</sup> & 65ø		₩ <mark>~ 8</mark> 2 <u>5ø</u> • <u>2</u> • 65ø	<mark>∭⊶_8</mark> 25ø -20 -20	₩ <mark>* 8<sup>25ø</sup> 12 • 65ø</mark>	∭ <mark>⊷-8</mark> 25ø -20	₩ <mark>~ &amp;</mark> 2 <u>5ø</u> • <b>2</b> , 65ø	₩ <mark>₩~~<sup>8</sup>25∅</mark> 2 <b>.</b> ~~65∅	OSRD FLOOR LEVE
<mark>∭~ &amp;<sup>25ø</sup> &amp; &amp; &amp; &amp; &amp; &amp; &amp; &amp; &amp; &amp; &amp; &amp; &amp; </mark>		kan	₩ <mark>~ 8<sup>25ø</sup> 18 18 18</mark>	₩ <mark>₩ 8<sup>25ø</sup> 800</mark>	₩ <mark>★ 8<sup>25ø</sup> 18 18 19</mark>	₩ <mark>~ &amp;</mark> 25ø & & & & & & & & & & & & & & & & & & &	₩ <mark>~ 2<sup>5ø</sup> . 2 '2 '<del>2</del> '<del>2</del></mark>	₩ <mark>~~ &amp;<sup>250</sup> &amp; &amp;</mark>	02 - 2ND FLOOR LE
 	K I I I I I I I I I I I I I	C			k □ FH +&+ 650 ↓ ↓ □ C			E FH 250 1 → C	01 - 1ST FLOOR LEY
					<u></u>			X	01 - GROUND FLOC

Connection to Future City water Council Hydrant

Roof Hose Reel Typical Connection

	LEGEND
SYMBOL	DESCRIPTION
à	OS & Y GATE VALVE
⊮≁	LANDING VALVE
	EXTERNAL HYDRANT VALVE
5	SINGLE HEADED HYDRANT VALVE
	HOSE REEL DRUM
Ŋ	BUTTERFLY VALVE
	UNION WITH BALL VALVE FOR DRAIN
	Ø50 HOSE REEL PIPE
	Ø160 EXTERNAL HYDRANT PIPE
	Ø100 DRY RISER PIPE

# FIREFIGHTING SCHEMATIC

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STRUCTURAL:

QUANTITY SURVEYOR:

SITE:

AHP DEVELOPEMENT NGONG

BLOCK B - DRAINAGE

CHECKED: SCALE : DATE: DRAWN: NOT TO SCALE PROJECT NO: DRAWING NO: REVISION:

01 - GROUND FLOOR LEVEL

TITLE: