



**CONSTRUCTION OF LIBRARY BLOCK FOR THE LIAQUAT
UNIVERSITY OF MEDICAL & HEALTH SCIENCE
JAMSHORO, SINDH**



LIBRARY BLOCK (COVERED AREA = 18805 SFT)

BILL OF QUANTITIES

APRIL 2024



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**CONSTRUCTION OF LIBRARY BLOCK FOR THE LIAQUAT UNIVERSITY OF
MEDICAL & HEALTH SCIENCE JAMSHORO, SINDH
(COVERED AREA = 14,335 Sft)**

BILL OF QUANTITIES

Rates Based on Composite Schedule of Rate (GENERAL-2012) Sindh

Sr. No.	DESCRIPTION	AMOUNT
1.	CIVIL WORKS	
a	Cost of Schedule Items	24,732,695
b	Add/ Deduct _____ % above/ below on Scheduled Items	
c	Cost of Non-Schedule Items	
	TOTAL OF CIVIL WORKS-A	
2.	PUBLIC HEALTH WORKS	
a	Cost of Schedule Items	1,587,379
b	Add/ Deduct _____ % above/ below on Scheduled Items	
c	Cost of Non-Schedule Items	
	TOTAL OF PHE WORKS -B	
3.	ELECTRICAL WORKS	
a	Cost of Schedule Items	2,581,834
b	Add/ Deduct _____ % above/ below on Scheduled Items	
c	Cost of Non-Schedule Items	
	TOTAL OF ELECTRICAL WORKS-C	
	TOTAL (A+B+C)	
	5% SST	
	GRAND TOTAL WITH SST	

Amount in Words:

Contractor

Client

**CONSTRUCTION OF LIBRARY BLOCK FOR THE LIAQUAT UNIVERSITY OF
MEDICAL & HEALTH SCIENCE JAMSHORO, SINDH
(COVERED AREA = 14,335 Sft)**

BILL OF QUANTITIES

CIVIL WORKS

Rates Based on Composite Schedule of Rate (GENERAL-2012) Sindh

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
1	C-1/18(b)	Excavation in foundation of Building Bridges and other structures including dagbelling dressing, refilling around structure with excavated earth Watering and ramming lead upto 5 ft in Ordinary Soil.	%0Cft	11254.39	3176.25	35,747
2	C-1/19	Cutting hard rock such as granite, ballast, hard lime stone or sand stone etc. with chisels and hammers for small foundations.	%0Cft	10774.51	28672.05	308,927
3	C-18/92	Providing Anti -termite treatment by spraying /sprinkling /spreading Neptachlar 0.5% Emulsion as an overall pre - construction treatment in slab type construction under the slab and along attached perches or entrances etc, complete as per directions of Engineer Incharge.	P.Sft	22500.00	9.74	219,150
4	C-4/5(i)	Cement concrete plain including placing compacting, finishing and curing, complete (including screening and washing at stone aggregate without for all shuttering.(Mix 1:4:8)	%Cft	1679.94	11288.75	189,644
5		R.C work in roof slab, beams columns rafts, lintels and other structural members laid in situ or precast laid in position complete in all respects (I) Ratio (1 : 2: 4) 90 Lbs.cement 2 Cft. Sand 4 Cft. Shingle 1/8" to 1/4" gauge .(Foundation, Beams, Slabs, Stairs)				
(i)	C-4/6 a-i	Ground Floor	P.Cft	11148.51	337.00	3,757,047
(ii)	C-4/6 a-i +6 (d)	First Floor	P.Cft	6665.17	349.10	2,326,811
(iii)	C-4/6 a-i +6 (d)	Second Floor	P.Cft	1888.35	361.20	682,070
6		Reinforced cement concrete in roof slab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- Type B (nominal mix 1: 1.5: 3) Columns				
(i)	C-4/6 a-ii	Ground Floor	P.Cft	6223.56	349.00	2,172,024
(ii)	C-4/6 a-ii +6 (d)	First Floor	P.Cft	1918.18	361.10	692,654
(iii)	C-4/6 a-ii +6 (d)	Second Floor	P.Cft	614.25	373.20	229,238
7	C-5/4-I(e)	Pacca brick work in foundation and plinth in cement sand mortar 1:6.	%Cft	10889.98	11948.36	1,301,174
8	C-1/21	Filling, watering and ramming earth in floors with surplus earth from foundation lead upto one chain and lift upto 5 feet.	%0Cft	7342.97	1512.50	11,106
9	C-5/5-I(d)	Pacca brick work in Ground Floor cement, sand mortar Ratio 1:5	%Cft	7165.77	12902.08	924,533
10	C-5/5-I(c)	Pacca brick work in Ground Floor cement, sand mortar Ratio 1:4	%Cft	7217.94	13227.41	954,747
11	C-5/5-I(d) + 6	Pacca brick work in First Floor cement, sand mortar Ratio 1:5	%Cft	3549.66	13340.71	473,549
12	C-5/5-I-c + 6	Pacca brick work in First Floor cement, sand mortar Ratio 1:4	%Cft	995.04	13666.04	135,983

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
13		Cement plaster 1:5 upto 12' height:- b) 1/2" thick. Ground Floor				
(i)	C-9/12(b)	Ground Floor	%Sft	34542.32	2241.80	774,370
(ii)	C-9/12(b)+29	First Floor	%Sft	18302.18	2382.77	436,099
(iii)	C-9/12(b)+29	Second Floor	%Sft	13883.42	2523.74	350,381
14		Cement plaster 1:4 upto 12' height:- b) 3/8" thick. Ground Floor				
(i)	C-9/11(a)	Ground Floor	%Sft	34042.52	2197.52	748,091
(ii)	C-9/11(a) +29	First Floor	%Sft	17530.96	2338.49	409,960
(iii)	C-9/11(a) +29	Second Floor	%Sft	13222.30	2479.46	327,842
15	C-9/40.A + 40-B	Preparing the surface and painting with plastic emulsion paint of approved make l/c rubbing the surface with sand Paper, filling the voids with chalk / plaster of paris and then painting etc. complete. Three Coats	%Sft	29873.65	2237.95	668,557
16	C-9/(38.A+38.B)	Preparing the surface and painting with weather coat l/c rubbing the surface with rubbing brick / sand Paper, filling the voids with chalk/ plaster of Paris and then painting with weather coat of approved make.- three coats	%Sft	14230.03	2567.95	365,420
17	C-4/5(i)	Cement concrete plain including placing compacting, finishing and curing, complete (including screening and washing at stone aggregate without for all shuttering.(Mix 1:4:8)	%Cft	7175.13	11288.75	809,982
18	C-4/5(f)	Cement concrete plain including placing compacting, finishing and curing, complete (including screening and washing at stone aggregate without for all shuttering.(Mix 1:2:4)	%Cft	1748.35	14429.25	252,274
19	C-8/16-a +C-8/18	Providing and laying 3" thick topping cement concrete (1:2:4) including Surface finishing and dividing into panels: (Roof)	%Sft	7500.00	4638.70	347,902.50
20	C-7/18	Khuras on roof 2'x2'x6" (600 x 600 x 150 mm)	Each	15.00	358.68	5,380
21	C-10/03 (a)	Teak wood wrought framed and fixed in place including chowkats hold fasts, tower bolts, chocks, cleats, handles cord with hooks and cost of nails and screws, etc.	P.Sft	162.00	2557.08	414247
22	C-10/19-(A)-ii	Providing and fixing sliding bolt to doors.Iron sliding bolt 12" long.(a) Panelled or panelled and glazed or fully glazed 2" thick.	Each	5.00	222.23	1,111
23	C-10/21	Providing and fixing, approved quality mortice lock.	Each	17.00	1786.13	30,364
24	C-11/7-(a)	French Polishing Complete (a) on New Works	%Sft	264.60	2116.41	5,600
25	C-18/83(a)	Supplying & fixing in position Aluminium channels framing for hinged doors or Alcop made with 5 mm thick tinted glass glazing (Belgium) and Alpha (Japan) locks l/c handles, stoppers etc. (a) Deluxe model (White)	P.Sft	128.00	1450.76	185,697.28
26	C-18/84(a)	Supplying & fixing in position Aluminium channels framing for slidding windows & ventilators of Alcop made with 5 mm thick tinted glass glazing (Belgium) & Aluminium fly screen l/c handles stoppers & locking arrangement etc. complete. (a) Deluxe model (White).	P.Sft	2625.00	1592.69	4,180,811
27	C-Public Health Part B/J/Page-35	Providing C.I Manhole Cover & Frame i/c cost of Material etc.	P.Kg	30.00	140.00	4,200
Total of SOR ITEMS						24,732,695

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BILL OF QUANTITIES

CIVIL WORKS

Non-Scheduled Items

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
1		Providing and laying hard grade ribbed deformed (minimum yield point 60,000 psi) reinforcement bars of all sizes with & including the cost of straightening, cutting, bending laying in position, making joints, wastage, overlaps, steel chairs, etc. including the cost of binding wire and labor charges for binding of steel reinforcement overlaps other than those shown on drawings, steel chairs, precast chairs, removal of rust from bars placing in position on cement concrete complete in all respect Amreli Steel, Agha Steel, Razaque Steel or equivalent approved by engineer incharge.	P.Kg	130000.00		
2	NSI	Providing and laying sweat earth with new earth excavated from outside including watering ramming compacting in layers up to 12" thick etc completed as directed by engineer Incharge including 15 km carriage etc.	P.Cft	87000.00		
3	NSI	Supplying laying River sand or pit sand of approved quarry and levelling dressing, watering ramming and compacting by manual / electric compactor method etc complete. Incharge including 15 km carriage etc.	P.Cft	4452.84		
4	NSI	Providing and laying travertine stone of (12" x 6") size of laid in white cement and matching pigment over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement and matching pigment and also including all type labours and also scaffolding charges with labour complete in all respect as approved by the Engineer incharge.	P.Sft	6052.73		
5	NSI	Providing and laying porcelain tiles flooring 24"x24"x3/8" light color laid in white cement and matching pigment over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement and matching pigment complete in all respect. (Master, Shabbir Tiles or Equivalent)	P.Sft	14207.78		
6	NSI	Providing and laying porcelain tiles for dado size 24"x48"x3/8" light color laid in white cement and matching pigment over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement and matching pigment complete in all respect. (Master, Shabbir Tiles or Equivalent)	P.Sft	566.99		
7	NSI	Providing and laying Ceramic Matt Tiles Texture Light color for flooring size 12"x18"x3/8" laid over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement and matching pigment i/c cutting charges complete in all respect as approved & directed by the Engineer/ Incharge. (Shabbir Tile, Master or Equivalent)	P.Sft	894.77		
8	NSI	Providing and laying Ceramic Tiles Texture Light color for skirting / dado size 12"x18"x3/8" laid over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement and matching pigment i/c cutting charges complete in all respect as approved & directed by the Engineer/ Incharge. (Shabbir Tiles, Master or Equivalent)	P.Sft	3725.70		

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
9	NSI	Providing and fixing 3/4" thick China Verona full width area above 2 Sft laid in white cement matching pigment 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment, making gola on exposed edges complete in all respect as approved by the Engineer/ Incharge.(Stairs, Podium, Planter and Vanity)	P.Sft	3632.02		
10	NSI	P/F 1-1/2" thick solid flush door comprising of 2.5 mm thick Commercial ply compressed over 2.5 mm thick commercial ply over 1" thick packing wood in style and rails under proper pressure i/c french polish Master, Happy or Equivalent Brand the cost of nails, sliding bolt, tower bolt , handles, glue, sawing charges, Painting charges, sand papering and 3/8" thick matching wooden lipping as approved and directed by the Engineer Incharge.	P.Sft	308.00		
11	NSI	Providing and fixing PVC Doors 38mm thickness i/c delux matching color PVC frame matt or glossy finish having color (white-Gray-Marble Gray-Oak Wood- Dard Oak Wood, Coffee Wood Honey Pine Wood-Mahagony-Marry Gold-Chocolate Brown-Honey Dew) i/c all accessories i/c mortice locks complete in all respect as approval by the Engineer Incharge.	P.Sft	400.58		
12	NSI	Providing and fixing M.S. grill fabricated with MS Square polished Vertical/horizontal Bars of specified size @ 4" c/c ' passed through punched holes in MS Patti of 1-1/4"x1/8" i/c the cost of 1-1/4"x1/8" MS patti for Frame of windows and painting Master, Happy or Equivalent 3 coat complete in all respect as approved and directed by the Engineer Incharge. (ii) 1/2" Square Bars	P.Sft	19.25		
13	NSI	Providing and fixing aluminium glazed partition of anodized / powder coated using section of M/s. Al-Cop/ Pakistan Cable or approved equivalent manufacturer, having 2 mm thick Frame size D48-A , i/c 12 mm Tempered glass with sand blasting and edge polishing i/c the cost of tear resistance film,rubber gasket,Floor Hinges, Door Lock, Handle and all hardware etc. complete in all respect as approved and directed by the Engineer Incharge.	P.Sft	1421.40		
14	NSI	Providing and fixing 2'-9" high stair railing comprising of non magnetic (304) Stain less steel 2" dia pipe railing of 18 SWG welded with vertical posts of 2" dia stainless steel round/ Squar pipe/ Tong (chimta) @ 2-ft c/c fixed on alternate steps with 3" long steel screws and brass rawal plugs , 3-Nos diagonal stainless steel pipes of 1/2" dia passes through goties fixed on vertical post, i/c staines steel welding, fixing & polishing complete in all respects as approved and directed by the Engineer Incharge	P.Rft	358.80		
15	NSI	Providing and fixing steel Fire Rated Emergency Exit Door ,Door manufactured as per NFPA 252 & UL 10C standards Steel Door (MS) Size: 60" x 98" Double Leaf door, Filled with fire-rated material With Inner Steel Stiffeners for reinforcement.Door Leaf 1.2-1.5mm, Door Frame 1.5- 2.0mm, Accessories: Hinges, Panic Bar On single Leaf, SS Handle, Glass 12x24 ft, and Door closer on single Leaf. complete in all respect as approved & directed by the Engineer/ Incharge. (TECHNO (PVT) LTD or Equivalent)	Each	4.00		
16	NSI	Providing and applying of 2 coat of Acrylic Re-enforced Cementitious water proofing & Protective Coating (ConFlex 515) Complete in all respects.	P.Sft	11512.70		

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
17	NSI	Providing and fixing 5.00 ft dia MS spiral stair comprising of triangular steps made of 1-1/4"x1-1/4"x3/16" duly welded with 3/8"MS squar bars steps, supported/welded with main vertical post of 4" dia GI pipe (Medium Quality) embeded in PCC in ground i/c the cost of pipe railing comprising of 2" dia MS pipe of 16 SWG supportrd with 2 no 5/8" squar bars in each step, i/c fixing & painting complete in all respects as approved and directed by the Engineer Incharge.	P. Rft Height	16.00		
18	NSI	Providing and fixing Steel Sheet (Jisti) hollow press frame of doors, etc. (Chowkhat only) of 16 SWG welded with M.S. flat 6"x1½"x1/8" (150x40x3mm) M.S. hold fast 9"x1"x1/8" (225x25x3mm) welded/ screwed 4" (100mm) long iron hinges including fitting chowkhat with cement sand mortar 1:8 and embedding hold fast in cement concrete 1:2:, Single Rebate, 10" wide, including of Master, Happy or Equilant Paint of 3 Coats complete in all respect as per direction of Engineer in-charge.	P.Sft	449.40		
19	NSI	Providing and fixing auotomatic hydraulic operated door closer imported heavy duty complete in all respect as approved and directed by the Engineer Incharge.	Each	17.00		
20	NSI	Providing and fixing Stainless Steel (24 SWG) Letters of 2 feet Height with CNC laser cutting i/c all hardware required complete in all respect as per drawings and direction of Engineer In-charge. (Drawing Reference Page No. 3D-02)	Each	12.00		
21	NSI	Providing and fixing stainless steel mesh of 16 guage fixed with nails for concrete and bricks joint complete in all respect and as approved and directed by the Engineer Incharge.	P.Sft	7500.00		
Total of Non SOR ITEMS						

**CONSTRUCTION OF LIBRARY BLOCK FOR THE LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCE
JAMSHORO,SINDH
(COVERED AREA = 14,335 Sft)**

BILL OF QUANTITIES

PUBLIC HEALTH WORKS

Rates Based on Composite Schedule of Rate (GENERAL-2012) Sindh

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
		SANITARY FIXTURES AND FITTINGS				
1	SOR(Water supply & Sewerage (Ch 1/5)	Providing and fixing European type white glazed earthen ware wash down W.C. pan complete with and l/c the cost of white/black plastic seat (Best quality) and lid with C.P.brass hineges and buffers, 3 gallons white glazed earthen ware low level foushing cistern with siphon fitting 1-1/2" dia white porcelain enamelled fluish bend 3/4" dia and making requiste number of holes in walls, plinth and floor for pipe connections and making good in cement concrete 1:2:4. (ICL or Equivalent)	Each	3.00	11,477.40	34,432.20
2	SOR(Water supply & Sewerage (Ch 1/2-A ii)	Providing and Fixing squatting type white glazed earthen ware w.c pan with front fresh inlet & complete with including the cost of flushing cistern with internal fitting and flush pipe with bend and making requisite number of holes in walls plinth & floor for pipe connection and making good in cement concrete 1:2:4. (A) W.C pan 23" & low level earthen ware flush tank 3 gallons. (ii) with 4" dia white glazed earthen ware trap and plastic thumble. (Foriegn Quality)	Each	10.00	5,772.80	57,728.00
3	SOR(Water supply & Sewerage (Ch 1/19-c)	Providing and fixing steel sinks stainless local make complete with cast iron or wraught iron brackets 6 inches built in wall, 1-1/2" c.p bubber plug chrome plated brass chain, 1-1/2" c.p brass waste, with 1-1/2" P.V.C. waste pipe & making requisite number of holes in wall, plinth & floor for pipe connection & making good in cement concrete 1:2:4. (c) Steel sink stainless sized 33" x 18" local make (Standard pattern) (Master or Equivalent)	Each	3.00	5,712.30	17,136.90
4	SOR(Water supply & Sewerage (Ch 6/19 (a)	Providing and fixing CP Muslim shower with double bib cock & ring pipe etc complete.	Each	12.00	3,432.00	41,184.00
5	SOR(Water supply & Sewerage (Ch 2/5)	Providing and fixing soap tray earthen ware with c.p screws etc.complete.	Each	12.00	497.20	5,966.40
6	SOR(Water supply & Sewerage (Ch 2/1 (iii-b)	Providing and fixing chrome plated brass towel rail complete with brackets fixing with 1" long c.p brass screws. (iii) Towel Rail 24" long (b) 3/4" dia round or square (Superior Quality)	Each	12.00	1,082.95	12,995.40
7	SOR(Water supply & Sewerage (Ch 2/2 (b)	Providing and fixing c,p brass toilet paper holder of standard size with chrome plated brass brackets complete (Similar to twyforde design No 1108) (b) Superior Quality	Each	12.00	1,071.40	12,856.80
8	SOR(Water supply & Sewerage (Ch 1/22)	Providing and fixing (1/2") dia, lead connection complete with a (1/2") dia brass stop cock, two brass nuts & lining jointed to lead pipe with plumber wiped solder joints (1/2" lead pipe to be of not less than 4lbs per lineal yard.	Each	105.00	689.70	72,418.50

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
9	SOR(Water supply & Sewerage (Ch 10/1 (i)	Providing and fixing 6" x 4" C.C gully trap with 4" outlet complete with 4" thick 1:2:4 C.C for bed & 1/2" thick cement plaster (1:3) to the karb. C.I grating 6" x 6' C.I cover and frame 12" x 12" (inside) etc complete. Earthen ware glazed Gully trap 6" x 6" x 4" with C.I cover & Frame.	Each	5.00	1,220.67	6,103.35
10	SOR (PHE works) Part-B (II) A-2	Providing and laying R.C.C. pipe & collors of class "B" and fixing in trench i/c cutting,fitting and jointing with maxphalt composition and cement mortar (1:1) i/e. testing with water to a head of 22.5 meter or 76 ft. (e) 300mm (12") i/d	P.Rft	550.00	543.75	299,062.50
11	SOR (PHE works) Part-B (III) A-1	Excavation for pipeline in trechches, and pits in soft soils i/c trimming and dressing sides to true allignment and shape levelling of beds of trenches to correct level and grade, cutting joint and holes and disposal of surplus earth within a one chain as directed by engineer incharge.Providing fence guards, lights, flags and temperory crossings for non-vehicular traffic where ever required lift upto 5ft. (1.52 m) and lead upto one chain (30.5 m).	1000 Cft	4,950.00	3,600.00	17,820.00
12	Ch/1/13 (d)	Earth work compaction (Soft, ordinary or hard soil). (d) Ramming earth work (All types of soil).	1000 Cft	4,950.00	453.75	2,246.06
13	Ch/1/9 (a)	Rehandling of earth work. (a) Lead upto a single throw of Kassi, Phawrah or a = Shovel.	1000 Cft	4,950.00	756.25	3,743.44
14	SOR(Water supply & Sewerage (Ch 6/4 (iv)	Providing and fixing full way gun metal peet/gate valve with wheels, threaded or flabged ends with rubber washing. (iv) 1-1/4" (Light pattern)	Each	6.00	337.92	2,027.52
15	SOR(Water supply & Sewerage (Ch 6/4 (v)	Providing and fixing full way gun metal peet/gate valve with wheels, threaded or flabged ends with rubber washing. (v) 1-1/2" (Light pattern)	Each	6.00	695.42	4,172.52
		MANHOLE				
16	SOR (PHE works) P-1	Constructing manhole or inspection chamber for the required diameter of circular sewer and 3'-6" (1067 mm) depth waith walls of BB in cement sand mortar 1:3 cement plastered 1:3, 1/2" thick. Inside of walls and 1" (25 mm) thick over benching and channel i/c fixing C.I manhole cover with frame of clear opening 1-1/2' x 1-1/2' (457 x 457mm) of 1.75 cwt. (88.9 Kg) embaded in plain C.C 1:2:4 and fixing 1"(25mm) dia MS steps 6" (150 mm) wide projecting 4" (102mm) from the face of wall at 12" (305mm) C/C duly painted etc. Complete as per Standard specification and drawing.	Job	13.00	14,748.00	191,724.00
17	SOR (Water supply & Sanitary works) Ch 1-13	Providing & fixing 22"x 16" lavatory basin in white glazed earthen ware complete with & i/c the cost of W.I or C.I cantilever brackets 6 inches built into walls, painted white in 2 coats after a primary coat of red lead paint, a pair of 1/2" rubber plug & chrome brass waste of approved pattern 1-1/4" dia malleable iron or CP brass trap, malleable iron or brass unions and making requisite number of holes in walls plinth and floor for pipe connection &making good in cement concrete 1:2:4 (Foreign or Equivalent)	Each	30.00	6,237.00	187,110.00
18	SOR (Water supply & Sanitary works) Ch 1-20	Providing and fixing 6" x 2" or 6" x 3" C.I floor trap of the approved self cleaning design with a C.I screwed down grating without a vent arm complete with & i/c making requisite number of holes in walls, plinth & floor for pipe connections & makinggood cement concrete 1:2:4.	Each	62.00	2,042.43	126,630.66

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
19	SOR (Water supply & Sanitary works) Ch 1-26 (b)	Providing and fixing 24"x 18" bavelled edge mirror of belgium glass complete with 1/8' thick hard board and c.p screws fixed to wooden pleat. (Standard Pattern)	Sft	160.00	2,376.00	380,160.00
		VALVES				
20	SOR (Water supply & Sanitary works) Ch 6-5	Providing and fixing handle valves (China) 16bars or equivalent complete in all respects as approved by the engineer incharge.				
	ii	3/4 inch	Each	14.00	271.92	3,806.88
	i	1/2 inch	Each	10.00	200.42	2,004.20
21	SOR (Water supply & Sanitary works) Ch 6-6 (iv)	Providing, fixing and testing PPRC ball valve 32mm , (with unsoldered copper ball) made to B.B.S 1212.	Each	4.00	510.84	2,043.36
22	SOR (Water supply & Sanitary works) Ch 6-6 (v)	Providing, fixing and testing PPRC ball valve 40mm , (with unsoldered copper ball) made to B.B.S 1212.	Each	4.00	573.70	2,294.80
23	SOR (Water supply & Sanitary works) Ch 4-1	Providing G.I Pipes,specials, and clamps etc. including fixing cutting & fitting complete with and l/c the cost of breaking through walls and roof, making good etc. Painting two coats after cleaning the pipe etc. with white zink paint with pigment to match the color of the building and testing with water to a pressure head of 200 feet and handling.				
	v	1-1/2" dia G.I pipe	Rft	150.00	188.97	28,345.50
	vi	2" dia G.I pipe	Rft	110.00	233.00	25,630.00
		1 no. Bore				
24	SOR (PHE works) Part-B (II) (O-1 (a))	Boring for tubewell in all water bearing soils from ground level upto 100 ft. (30.5 m) depth, including sinking and with drawing of casing pipe:- 3" (80 mm)	Rft	150.00	160.00	24,000.00
25	SOR (PHE works) Part-B (II) (O-9 (a))	Providing and installing P.V.C. strainers `B' class of approved design quality and make including necessary sockets and solvent, etc. complete: 3" (80 mm)	Rft	80.00	166.35	13,308.00
26	SOR (PHE works) Part-B (II) (O-8 (b))	Supplying & fixing M.S bail plug.	Each	4.00	2,607.00	10,428.00
Total of SOR ITEMS						1,587,378.99

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JAMSHORO, SINDH
(COVERED AREA = 14,335 Sft)**

BILL OF QUANTITIES

PUBLIC HEALTH WORKS

Non-Scheduled Items

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
1	NSI	UPVC Multi Floor Trap (110x75mm) including strainer; making required number of connections; breaking concrete or masonry work & then making it good; etc. of approved make.	Each	8.00		
2	NSI	Providing, Fixing Dadex Class D or equivalent UPVC clean out with cover making requisite number of holes in walls, plinth or floor for pipe connection and making good the same as necessary to the structure complete including, rubber gasket and clamp.	Each	4.00		
3	NSI	Providing and fitting "P" trap:ii) 10 cm (4") glazed.	Each	37.00		
4	NSI	Providing and fixing Wall Shower complete in all respects as approved by the Engineer incharge. (Master, Sonex, or Equivalent)	Each	12.00		
5		WATER SUPPLY PIPES AND FITTINGS				
		P/F Polypropylene Random copolymer (PPRC) PN-20 pipe with fusion / threaded joints including the cost of all specials/ accessories i.e elbow, bend, sockets etc. (Popular /Beta or equivalent) complete in all respect.				
	i	1 1/2" (50 mm) dia.	Rft	260.00		
	ii	1" (32 mm) dia.	Rft	470.00		
	iii	2" (63 mm) dia.	Rft	220.00		
	iv	3/4" (25 mm) dia.	Rft	850.00		
6		SOIL, WASTE, VENTILATING PIPES & FITTINGS				
		Providing , fixing and testing UPVC Nikasi type "B" with solution of same quality make including the cost of all specials/ accessories i.e elbow, bend, sockets etc. (Popular/Beta or equivalent) complete in all respect.				
	i	100 mm (4") dia.	Rft	660.00		
	ii	80 mm (3") dia.	Rft	550.00		
		GAS GESYER				
7	NSI	Providing and Fixing Sui Gas Geyser 60 gallon capacity comprising of internal tank of G.I sheet 14-SWG and External M.S sheet 22-SWG covering with proper foot rests dully enamel painted, 4" thick heigh density glass wool insulation with proper warranty with thermostat temperature gauge including fixing and making connection at site etc. complete in all respects as approved by the Engineer Incharge. (Ambassador/Firex/Exquire)	No	2.00		

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
8	NSI	Providing and Fixing Electric Geyser 20 gallon capacity comprising of internal tank of G.I sheet 14-SWG and External M.S sheet 22-SWG covering with proper foot rests dully enamel painted, 4" thick heigh density glass wool insulation with proper warranty with thermostat temperature gauge including fixing and making connection at site etc. complete in all respects as approved by the Engineer Incharge. (Ambassador/Firex/Exquire)	No	2.00		
9	NSI	Providing and fixing Gate valve 1 bars, RUV(itly) or equivalent complete in all respects as approved by the Engineer incharge.	Each	2.00		
10	NSI	Providing and fixing Gate valve 2 bars, RUV(itly) or equivalent complete in all respects as approved by the Engineer incharge.	Each	2.00		
11	NSI	Providing and fixing of 5.5 HP Centrifugal motor pump having 50mm suction and 100ft head from approved manufacturer complete in all respect as per approval of Engineer Incharge.	Each	2.00		
12	NSI	Supply and fixig, Pressure Booster Pump 0.5 Hp Shahzad company or Equivalent complete in all respects as approved by the Engineer Incharge.	Each	2		
		1 no. Bore				
13	NSI	Supplying and installing PVC blind pipe 'B' Class of approved design quality and make i/c necessary sockets etc. complete.				
	a	1¼" i/d (30 mm) 1 x 70	Rft	150.00		
	b	1½" i/d (40 mm) 1 x 40	Rft	150.00		
	c	2" i/d (50 mm) 1 x 50	Rft	150.00		
Total of Non SOR ITEMS						

**CONSTRUCTION OF LIBRARY BLOCK FOR THE LIAQUAT UNIVERSITY OF
MEDICAL & HEALTH SCIENCE JAMSHORO, SINDH
(COVERED AREA = 14,335 Sft)**

BILL OF QUANTITIES

ELECTRICAL WORKS

Rates Based on Composite Schedule of Rate (GENERAL-2012) Sindh

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
1		DISTRIBUTION BOARDS				
		(General Description) Supply at site, fabrication, installation, testing and commissioning of Distribution Board (DB), made of sheet steel 16 SWG, degreased and derusted, with 2 coats of antirust paint, 2 coats of powder coated paint of approved colour, protection classification IP-44, totally enclosed indoor floor mounting cubicle type in free standing design, with hinged door, handle including cost of all auxiliaries, internal wiring, designation labels on MCCBS, grounding bar suitable for system Voltage 440 V, 50 Hz, 3 Phase and neutral bus bars of 99.9% electrolytic copper, including cost of cable terminal blocks wiring from breakers, brass cable glands, all accessories complete in all respects mention in BOQ or not required for performing completely. All incoming and outgoing breakers shall be accessible only by opening the front door having further M.S. sheet cover gaskets shall also be provided where necessary. Panel should be completely made in certified factory. ie PEL, Green T & D, Mazcorp engineering or equivalent as per instructions by engineer incharge.				
		(General Description) All MCCBs shall be suitable to operate without any derating at 40°C ambient temperature and shall be of one make only. The sides of MDB shall also have louvers at bottom and top on sides of panel for hot air exhaust, wire mesh etc. The back of the panel shall be lockable door instead of bolted and shall conform to single line diagram. item should be of ABB, Schneider or equivalent as per instructions by engineer incharge				
i)		DISTRIBUTION BOARD DB AC GF				
		INCOMMING				
a	ELECT SH-X(208)	Providing and fixing circuit breaker 125,150,200 & 225 amps TP(XS-225NS) on prepared board as required.	Per No.	1	25541	25,541
b	ELECT SH-XV(269)	Providing and fixing of current transformer of ration 60/5 amps (round) RLC-30 as required or as per instructed as EI.	Per No.	3	1191	3,573
c	ELECT SH-XVI(285)	Providing and fixing voltmeter size 96/96mm 500 volt as required and as instruction of EI.	Per No.	3	999	2,997
d	ELECT SH-X(203)	Providing and fixing circuit breaker 6,10,15,20,30,40,50 & 63 amps SP(TB-5S) on prepared board as required.	Per No.	3	916	2,748
		OUTGOING				
e	ELECT SH-X(203)	Providing and fixing circuit breaker 6,10,15,20,30,40,50 & 63 amps SP(TB-5S) on prepared board as required.	Per No.	6	916	5,496
f	ELECT SH-X(207)	Providing and fixing circuit breaker 15,20,30,40,50, 75 & 100 amps TP(XS-100NS) on prepared board as required.	Per No.	1	9261	9,261
g	ELECT SH-X(208)	Providing and fixing circuit breaker 125,150,200 & 225 amps TP(XS-225NS) on prepared board as required.	Per No.	1	25541	25,541
ii)		DISTRIBUTION BOARD DB- LIGHTING & POWER GF				
		INCOMMING				
a	ELECT SH-X(208)	Providing and fixing circuit breaker 125,150,200 & 225 amps TP(XS-225NS) on prepared board as required.	Per No.	1	25541	25,541
b	ELECT SH-XV(269)	Providing and fixing of current transformer of ration 60/5 amps (round) RLC-30 as required or as per instructed as EI.	Per No.	3	1191	3,573
c	ELECT SH-XVI(285)	Providing and fixing voltmeter size 96/96mm 500 volt as required and as instruction of EI.	Per No.	3	999	2,997
d	ELECT SH-X(203)	Providing and fixing circuit breaker 6,10,15,20,30,40,50 & 63 amps SP(TB-5S) on prepared board as required.	Per No.	3	916	2,748
		OUTGOING				
e	ELECT SH-X(203)	Providing and fixing circuit breaker 6,10,15,20,30,40,50 & 63 amps SP(TB-5S) on prepared board as required.	Per No.	32	916	29,312

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
f	ELECT SH-X(207)	Providing and fixing circuit breaker 15,20,30,40,50, 75 & 100 amps TP(XS-100NS) on prepared board as required.	Per No.	1	9261	9,261

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
iii)		DISTRIBUTION BOARD DB- LIGHTING & POWER FF				
		INCOMMING				
a	ELECT SH-X(207)	Providing and fixing circuit breaker 15,20,30,40,50, 75 & 100 amps TP(XS-100NS) on prepared board as required.	Per No.	1	9261	9,261
b	ELECT SH-XV(269)	Providing and fixing of current transformer of ration 60/5 amps (round) RLC-30 as required or as per instructed as EI.	Per No.	3	1191	3,573
c	ELECT SH-XVI(285)	Providing and fixing voltmeter size 96/96mm 500 volt as required and as instruction of EI.	Per No.	3	999	2,997
d	ELECT SH-X(203)	Providing and fixing circuit breaker 6,10,15,20,30,40,50 & 63 amps SP(TB-5S) on prepared board as required.	Per No.	3	916	2,748
		OUTGOING				
e	ELECT SH-X(203)	Providing and fixing circuit breaker 6,10,15,20,30,40,50 & 63 amps SP(TB-5S) on prepared board as required.	Per No.	22	916	20,152
iv)		DISTRIBUTION BOARD DB- AC FF				
		INCOMMING				
a	ELECT SH-X(208)	Providing and fixing circuit breaker 125,150,200 & 225 amps TP(XS-225NS) on prepared board as required.	Per No.	1	25541	25,541
b	ELECT SH-XV(269)	Providing and fixing of current transformer of ration 60/5 amps (round) RLC-30 as required or as per instructed as EI.	Per No.	3	1191	3,573
c	ELECT SH-XVI(285)	Providing and fixing voltmeter size 96/96mm 500 volt as required and as instruction of EI.	Per No.	3	999	2,997
d	ELECT SH-X(203)	Providing and fixing circuit breaker 6,10,15,20,30,40,50 & 63 amps SP(TB-5S) on prepared board as required.	Per No.	3	916	2,748
		OUTGOING				
e	ELECT SH-X(203)	Providing and fixing circuit breaker 6,10,15,20,30,40,50 & 63 amps SP(TB-5S) on prepared board as required.	Per No.	7	916	6,412
f	ELECT SH-X(207)	Providing and fixing circuit breaker 15,20,30,40,50, 75 & 100 amps TP(XS-100NS) on prepared board as required.	Per No.	4	9261	37,044
2		WIRING IN CONCEALED CONDUITS				
i)		Distribution board to Switch				
		(General Description) Wiring of light circuit from Distribution Board to switch,with Three nos. single core 2.5 Sqmm PVC insulated 450/750 volts grade stranded copper conductor cables in concealed PVC conduits (conduits partly shared) including PVC conduit, and conduit accessories etc. Cable should be of Newage, Fast cable, Universal cables or equivalent and conduit should be of Dadex, Turkplast, Easyfit or equivalent as per instructions by engineer incharge				
a	ELECT SH-(24)	Providing and laying (main or Sub Main Pvc insulated with 3-7.29 copper conductor in 3/4" dia PVC conduit recessed in the wall or column as required.	Rmtr	1000	294.00	294,000
ii)		Switch to light point				
		(General Description) Wiring from switch to light or fan point with 3 nos. single core 1.5 Sqmm PVC insulated 450/750 Volts grade stranded copper conductor cables in concealed PVC conduit including PVC conduit, Conduit accessories,etc.(conduit partly shared).				
a	ELECT SH-(124)	Wiring of Light and fan point with 3.29 Pvc insulated wire in 20mm (3/4") dia PVC conduit recessed in the wall or column as required.	Per/Point	164	1,130.00	185,320
		Point to point wiring				
b	ELECT SH-(22)	Providing and laying (main or Sub Main Pvc insulated with 3-3.29 copper conductor in 3/4" dia PVC conduit recessed in the wall or column as required.	Rmtr	1284	220.00	282,480
iii)		Switch to Switch				
		(General Description) Wiring from switch to switch with 3 nos. single core 2.5 Sqmm PVC insulated 450/750 Volts grade stranded copper conductor cables in concealed PVC conduit including PVC conduit, Conduit accessories,etc.(conduit partly shared).				
a	ELECT SH-(24)	Providing and laying (main or Sub Main Pvc insulated with 3-7.29 copper conductor in 3/4" dia PVC conduit recessed in the wall or column as required.	Rmtr	280	294.00	82,320

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
iv)		Distribution board to General Purpose (5A/13A) socket				
		(General Description) Wiring of circuit from Distribution Board to 5A/13A ,230Volts with 3 nos. single core 2.5 Sqmm PVC insulated 450/750 Volts graded , 2&3 pin switched socket, stranded copper conductor cables in concealed PVC conduit, including conduit accessories, etc(conduit partly shared)				
a	ELECT SH-(24)	Providing and laying (main or Sub Main Pvc insulated with 3-7.29 copper conductor in 3/4" dia PVC conduit recessed in the wall or column as required.	Rmtr	680	294.00	199,920
v)		Socket to Socket				
		(General Description) Wiring from 5 Amps, 2&3 pin socket to socket with 3 nos. single core 2.5 Sqmm PVC insulated 450/750 Volts grade solid or stanerd copper conductor cables in concealed PVC conduit including PVC conduit,Conduit accessories, etc complete. (conduit partly shared)				
a	ELECT SH-(24)	Providing and laying (main or Sub Main Pvc insulated with 3-7.29 copper conductor in 3/4" dia PVC conduit recessed in the wall or column as required.	Rmtr	126	294.00	37,044
vi)		Distribution board to 20Amps socket				
		(General Description) Wiring of circuit from distribution board to 20A, 230Volts, DP switch with 3 or 5 nos. single core 6 Sqmm PVC insulated 450/750 Volts grade stranded copper conductor cables in concealed PVC conduit including PVC conduit, Conduit accessories, etc (conduit partly shared for A/Cs)				
a	ELECT SH-I(26)	Providing and laying (main or Sub Main Pvc) insulated with 3-7.44 copper conductor in 1" dia PVC conduit recessed in the wall or column as required.	Rmtr	40	468.00	18,720
b	ELECT SH-I(40)	Providing and laying (main or Sub Main Pvc) insulated with 4-7.44 copper conductor in 1-1/2" dia PVC conduit recessed in the wall or column as required.	Rmtr	280	613.00	171,640
vii)		Wiring for flood lights				
a	ELECT SH-I(25)	Providing and laying (main or Sub Main Pvc) insulated with 3-7.36 copper conductor in 3/4" dia PVC conduit recessed in the wall or column as required.	Rmtr	140	338.00	47,320
3		LT Cables				
i)	ELECT SH-(113)	Providing and Laying (MAIN or SUB MAIN) PVC insulated & PVC sheeted with 4 core Armoured copper conductor 600/1000 volts size 16 mm2	Per Meter	10	1,679.00	16,790
ii)	ELECT SH-(116)	Providing and Laying (MAIN or SUB MAIN) PVC insulated & PVC sheeted with 4 core Armoured copper conductor 600/1000 volts size 50 mm2	Per Meter	70	3,910.00	273,700
iii)	ELECT SH-(119)	Providing and Laying (MAIN or SUB MAIN) PVC insulated & PVC sheeted with 4 core Armoured copper conductor 600/1000 volts size 120 mm2	Per Meter	60	9,606.00	576,360
4		MISCELLANEOUS FITTINGS				
ii)	ELECT SH(235)	Providing and fixing brass Ceiling fan 56" (good quality)	Per No.	41	3,185.00	130,585
Total of SOR Items						2,581,834

**CONSTRUCTION OF LIBRARY BLOCK FOR THE LIAQUAT UNIVERSITY OF
MEDICAL & HEALTH SCIENCE JAMSHORO, SINDH
(COVERED AREA = 14,335 Sft)**

BILL OF QUANTITIES

ELECTRICAL WORKS

Non-Scheduled Items

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
1		<u>DISTRIBUTION BOARDS</u>				
		(General Description) Supply at site, fabrication, installation, testing and commissioning of Distribution Board (DB) , made of sheet steel 16 SWG, degreased and derusted, with 2 coats of antirust paint, 2 coats of powder coated paint of approved colour, protection classification IP-44, totally enclosed indoor floor mounting cubicle type in free standing design, with hinged door, handle including cost of all auxiliaries, internal wiring, designation lables on MCCBS, grounding bar suitable for system Voltage 440V, 50 Hz, 3 Phase and neutral bus bars of 99.9% electrolytic copper, including cost of cable terminal blocks wiring from breakers, brass cable glands, all accessories complete in all respects metion in BOQ or not required for performing completely. All incoming and outgoing breakers shall be accessible only by opening the front door having further M.S. sheet cover gaskets shall also be provided where necessary. Panel should be compeltely made in certified factory. ie PEL, Green T & D, Mazcorp engineering or equivalent as per instructions by engineer incharge				
		(General Description) All MCCBs shall be suitable to operate without any derating at 40°C ambient temperature and shall be of one make only. The sides of MDB shall also have louvers at bottom and top on sides of panel for hot air exhaust, wire mesh etc. The back of the panel shall be lockable door instead of bolted and shall conform to single line diagram. item should be of ABB, Schneider or equivalent as per instructions by engineer incharge				
		<u>DISTRIBUTION BOARD DB AC GF</u>				
	NSI	Providing and fixing of Metal Clad, free standing, front access, totally enclosed, frame febreccated from 14/16 SWG, MS sheet with surface treatment Powder Coated Paint RAL 7035, Texture White, Suitable for system voltage 400/230, 50HZ, 3 Phase Copper bus bar, Neutral bus bar, Earting bus bar and internally wired., Mechanical interlocking for MCCBs, 03 No Phase Indication Lights, 220 VAC (R-Y-B) 01 No Digital Ampere Meter, 01 No Ampere Selector Switch, 03 No CTs 200/5A Wall Mounted DB Panel In door Type (Suitable Size) complete in all respect as approved or directed by engineer incharge.	Job	1		
		<u>DISTRIBUTION BOARD DB- LIGHTING & POWER GF</u>				

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
	NSI	Providing and fixing of Metal Clad, free standing, front access, totally enclosed, frame fabricated from 14/16 SWG, MS sheet with surface treatment Powder Coated Paint RAL 7035, Texture White, Suitable for system voltage 400/230, 50HZ, 3 Phase Copper bus bar, Neutral bus bar, Earthing bus bar and internally wired., Mechanical interlocking for MCCBs, 03 No Phase Indication Lights, 220 VAC (R-Y-B) 01 No Digital Ampere Meter, 01 No Ampere Selector Switch, 03 No CTs 200/5A Wall Mounted DB Panel In door Type (Suitable Size) complete in all respect as approved or directed by engineer incharge.	Job	1		
iii)		DISTRIBUTION BOARD DB- LIGHTING & POWER FF				
	NSI	Providing and fixing of Metal Clad, free standing, front access, totally enclosed, frame fabricated from 14/16 SWG, MS sheet with surface treatment Powder Coated Paint RAL 7035, Texture White, Suitable for system voltage 400/230, 50HZ, 3 Phase Copper bus bar, Neutral bus bar, Earthing bus bar and internally wired., Mechanical interlocking for MCCBs, 03 No Phase Indication Lights, 220 VAC (R-Y-B) 01 No Digital Ampere Meter, 01 No Ampere Selector Switch, 03 No CTs 200/5A Wall Mounted DB Panel In door Type (Suitable Size) complete in all respect as approved or directed by engineer incharge.	Job	1		
iv)		DISTRIBUTION BOARD DB- AC FF				
	NSI	Providing and fixing of Metal Clad, free standing, front access, totally enclosed, frame fabricated from 14/16 SWG, MS sheet with surface treatment Powder Coated Paint RAL 7035, Texture White, Suitable for system voltage 400/230, 50HZ, 3 Phase Copper bus bar, Neutral bus bar, Earthing bus bar and internally wired., Mechanical interlocking for MCCBs, 03 No Phase Indication Lights, 220 VAC (R-Y-B) 01 No Digital Ampere Meter, 01 No Ampere Selector Switch, 03 No CTs 200/5A Wall Mounted DB Panel In door Type (Suitable Size) complete in all respect as approved or directed by engineer incharge.	Job	1		
2		LIGHT FIXTURES				
		(General Description) Supply, installation, testing and commissioning of following light fittings, ceiling, recessed, wall mounted as per specified fixture. Complete with internal wiring, Grounding terminal, driver complete in all respects. Lights should be of Phillips, ledvance, Sky LED or equivalent.				
i)	NSI	24 Watt (White) LED Light Fixture surface/recessed mounted, IP-22 rated	No.	276		
ii)	NSI	18 Watt (White) LED Light Fixture surface/recessed mounted, IP-22 rated	No.	5		
iii)	NSI	12 Watt LED Light Fixture surface/recessed mounted, IP-22 rated	No.	30		
iv)	NSI	20 Watt Flood lights	No.	8		

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
3		MISCELLANEOUS FITTINGS				
		(General Description) Supply, installation, testing & commissioning of Ceiling/ Exhaust fan. The ceiling/exhaust fan shall comprise circular fan metallic/ plastic body, metallic fan blades, down rod (if necessary) of suitable dia & length, AC capacitor, internal wiring, terminals all installation & operational accessories as per tender specifications, as per site requirements and as per instructions by the Engineer. make GFC, Pak Fan, Royal Fan or approved equivalent.				
i)	NSI	10 " outer dia exhaust fan with plastic body,fan blades and louvers	No.	14		
4		WIRING ACCESSORIES				
		(General Description) Supply at site, installation, testing and commissioning of the following wiring accessories, complete in all respects. Made of TJ, Legrand or approved equivalent.				
i)	NSI	10 Amps, 250Volts one way, One gang light control switches including appropriate size concealed Plastic back box.	No.	12		
ii)	NSI	10 Amps, 250Volts one way, Two gang light control switches including appropriate size concealed Plastic back box.	No.	7		
iii)	NSI	10 Amps, 250Volts one way, Three gang light control switches including appropriate size concealed Plastic back box.	No.	10		
iv)	NSI	10 Amps, 250Volts one way, Four gang light control switches including appropriate size concealed Plastic back box.	No.	15		
v)	NSI	10 Amps, 250Volts one way, Five gang light control switches including appropriate size concealed Plastic back box.	No.	7		
vi)	NSI	10 Amps, 250Volts one way, Six gang light control switches including appropriate size concealed Plastic back box.	No.	9		
vii)	NSI	13 Amps, 250Volts, 3 pin flat switch socket single outlet including appropriate size Plastic back box.	No.	35		
viii)	NSI	20A DP Switch with Neon & Earth including appropriate size Plastic back box.	No.	1		
ix)	NSI	45A TP breaker with appropriate size Plastic cover box.	No.	7		
x)	NSI	1Gang Cat-6 RJ45 Data Outlet	No.	21		
xi)	NSI	Fan Dimmer 250 watt with switch including appropriate size Plastic back box. with all associated accessories.	No.	41		
xii)	NSI	Appropriate size of plastic body fan box and ceiling fan rod 24" in length	Nos	41		
xiii)	NSI	MS BAR for hanging Ceiling fan	Nos	41		
5		GROUNDING SYSTEM				
i)		GROUNDING cable				

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
		Supply at site, installation, testing and commissioning of PVC insulated non armoured copper conductor cable 450/ 750 Volt grade (or otherwise mentioned in cable description) in prelaid conduits / trenches to be installed as per routes shown on drawings including cost of all necessary materials, connections, identification tags, cables lugs properly crimped at both ends for the following sizes complete in all respects. Actual length of cables to be installed shall be practically measured at site by the Contractor, duly authenticated by the Engineer before placing the order with the manufacturer, however, approximate length of cables are shown herewith. Payments shall be made as per actual length installed. Cable should be of FAST, Newage or universal cables and conduit should be of Solo,popular,easyfit or equivalent as approved by engineer incharge				
a	NSI	Supply and erection of single core PVC insulated, PVC sheathed copper conductor, 450/750 volts grade cable, in prelaid G.I. pipe/M.S. conduits/PVC pipe/G.I. wire/trenches, etc (rate for cable only):- 6 mm sq (7/0.044")	rmtr	290		
b	NSI	Supply and erection of single core PVC insulated, PVC sheathed copper conductor, 450/750 volts grade cable, in prelaid G.I. pipe/M.S. conduits/PVC pipe/G.I. wire/trenches, etc (rate for cable only):- 10 mm sq (7/0.052")	rmtr	70		
c	NSI	Supply and erection of single core PVC insulated, PVC sheathed copper conductor, 450/750 volts grade cable, in prelaid G.I. pipe/M.S. conduits/PVC pipe/G.I. wire/trenches, etc (rate for cable only):- 16 mm sq (7/0.064")	rmtr	60		
6		Earthing				
	NSI	Supply, installation, testing and commissioning of earthing system for protecting Earthing of Rod 19 mm 10 ft long with bare solid Earth conductor 1 x 35sq.mm upto earth connecting point, inspection chamber, marconite concrete, drilling etc, to achieve less than 3 ohms specified Earthing results. complete in all respect as per drawing and specification or as per directed by Engineer.	Each	1		
7		Fire Alarm System				
		(General Description) Supply, installation, testing and commissioning of following items as per drawings, specifications, & instructions of the Engineer, complete in all respect, all item should be of Gent by honeywell, ETON uk, TNA UK or approved equivalent as per instructions by the Engineer as required.				
i)		Manual Call Point				
	NSI	Supply, install testing and commsiong of Addressable Manual Call Point Flush Mount Resetable Call Point, supplied with resetable key. Optional Accessories: TX7140-MB Surface Mount Back Box, TX7140-PFC Protective Flip Cover. Make:TNA UK or equivalent complete in all respect as approved or directed by engineer incharge.	Each	2		
ii)		Smoke Detector				

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
	NSI	Supply, install testing and commsiong of Photoelectric type Fastest resoponse to slow burning or smoldering fires, reliable early detection Smart drift compensation, auto compensate for dust or other environmental changes that affect the performance Stability & prevent fault alarm 360-degree visual indicator Support remote indicator output.Accessories: Base: TX7980 Standard Addressable Base, TX7322 Addressable Sounder Base, TX7232 Base Mount Short Circuit Isolator , TX7302 Addressable Flashing Beacon Base Standard base for addressable detectors Make:TNA UK or equivalent complete in all respect as approved or directed by engineer incharge.	Each	32		
iii)		Sounder				
	NSI	Supply, install testing and commsiong of Addressable Sounder 17 sound tones selection Loop powered Low and normal consumption mode Up to 102dB at 1 meter Make:TNA UK or equivalent complete in all respect as approved or directed by engineer incharge.	Each	2		
iv)		FACP				
	NSI	Supply, install testing and commsiong of Addressable Fire Alarm Control Panel 1 loop. Fire alarm control panel, indicate fire and fault status LCD screen provide real time system & devices information, easy operation and maintainance PC and keypad programming & control, user firendly Built-in Panel Printer, NC7004 Communication Card Outer glass door Wall-mounted Cabinet Size (W X H X D mm): 530 mm x 490 mm x 135 mm Optional Accessories: TX7814 Dongle for TX7, Batteries Make:TNA UK or equivalent complete in all respect as approved or directed by engineer incharge.	Each	1		
v)		Cable				
	NSI	Supply, install testing and commsiong of 2 x 2.5 mmsq shielded drain wire, 30 minutes fire resistance,red, LPCB approved, BS 7629-1/2008, BS 5839-1 standard.(Newage, Pakistan Cable, Fast or approved equivalent). as per instructions by engineer incharge.	Rmtr	220		
vi)		Conduit				
	NSI	Supply and erection of PVC pipe for wiring recessed in walls,including inspection boxes, pull boxes, hooks, cutting jharriesand repairing surface, etc., complete with all specials.25 mm i/d	R.Mtr	220		
vii)		Programing, Testing and Commissioning				
	NSI	Programing, Testing and Commissioning of Complete system by authorized certified company complete in all respects as per instructions of the Engineer.	Job	1		
viii)		Fire Extinguishers				
	NSI	Supply & installation of Dry Chemical Powder (M.S-Steel): Providing of New Fire Extinguisher Dry Chemical Powder (DCP) with one year warranty and filled with Nitrogen pressure along with Wall hook and discharge pipe. Complete in All respects.as approved or directed by engineer incharge.	Nos.	4		
8		Camera System				
i)		Camera Cable				

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
	NSI	Supply, installation, Testing and commissioning of CAT 6 UTP CABLE IN prelaidd PVC PIPE Ø 1"; MEASUREMENT IN METERS complete in all respects. Made of Hikvision,D-Link or equivalent approved by engineer incharge	R.Mtr	625		
ii)		Conduit				
	NSI	Supply and erection of PVC pipe for wiring on surface including inspection boxes, pull boxes, bends, tees, repairing surface, etc., complete with all specials: 25 mmi/d made of easyfit, popular or equivalent as approved or directed by engineer incharge.	R.Mtr	635		
iii)		Optical Fibre				
	NSI	Supply, Installation and commissioning of Black Copper 24-Core Fiber Cable Single Mode Imported Cable top performance cable with good material quality, in prelaidd cable tray from Main Cabinet to Floor Level Cabinets, including all accessories, model no BCGYXTW24B1 or equivalent complete in all respect as approved and directed by the Engineer Incharge.	R.Mtr	10		
iv)		Cameras				
	NSI	Supply, installation & connecting 4MP Fixed Bullet Network Camera High quality imaging with 4 MP resolution Efficient H.265+ compression technology Clear imaging even with strong back lighting due to 120 dB WDR Water and dust resistant (IP67) EXIR 2.0: advanced infrared technology with long IR range -UF: Built-in microphone for real-time audio security,made of AXIS Europe/NOVAS Europe/Avigilon by Motorla, Hikvision model number2cd1043g0-i, USA/Bosch Germany, Pollo Australia or equivalent, as approved as directed by the Engineer Incharge.	Each	18		
v)		CCTV Cabinet				
	NSI	Supply , installation of wall mounted CCTV Cabinet comprising of Powder Coated M.S frame, front glass & two side openings,with all necessary accessories/ materials, complete in all respects. Made of Bosch/ HP / Dell , Pollo Australia, or equivalent or as approved and directed by Engineer Incharge(i) 12U	Each	2		
vi)		Cable Manager				
	NSI	Supply and installation of Cable Metal Organizer, 19" Rack mounted with high graded epoxy powder coating and slideable top- UL Listed. Made of Schneider/i-Connect UK/3M Corning: Pollo Australia or equivalent as approved and directed by the Engineer Incharge	Each	2		
vii)		Patch Panel				
	NSI	Supply and installation of CAT-6 (24 Port Patch Panel with Toolless Support 10-Gigabit). UTP Patch Panel with specified toolless support & Rear Cable Management, UL listed, Loaded with UTP of specified Keystone Jack Toolless Support , Made of Schneider / Norden /3M Corning/D-Link, Pollo Australia or equivalent or as Approved and Directed by Engineer Incharge.	Each	2		
viii)		PDU				
	NSI	Supply & Installation of PDU as approved or directed by engineer incharge.	Each	2		
ix)		24 Port PoE Data Switch				

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
	NSI	Supply, Installation and Connection of Hikvision 24 Port Gigabit Unmanaged POE Switch, 24 x Gigabit PoE ports, 2 x Gigabit SFP fiber optical ports, IEEE 802.3at/af standard, 6 KV surge protection for PoE ports, PoE power management, Gigabit network access, MAC Address Table : 8 K, Switching Capacity : 52 Gbps, Packet Forwarding Rate : 38.688 Mpps, Internal Cache : 4.1 Mbits, Wire-speed forwarding, Store-and-forward switching, Solid high-strength metal shell made of Hikvision Model no DS-3E0526P-E/M , Huawei, Cisco USA or equivalent as approved or directed by engineer incharge.	Each	2		
x)		NVR				
	NSI	Supply & Installation of model number 7732nxi-i4/s 32 channel Hikvision 1.5U AcuSense 4K NVR, up to 1-ch facial recognition, HDMI and VGA output, Incoming bandwidth 160 Mbps, Outgoing bandwidth 256 Mbps, Up to 4 SATA interfaces for HDD connection (up to 10 TB capacity per HDD)r complete in all respect. made of Hikvision, AXIS Europe/NOVAS Europe/Avigilon by Motrola USA /Huawei, Pollo Australia or equivalent as approved and directed by the Engineer Incharge	Each	1		
xi)		Hard Drive				
	NSI	Supply, Installation and Connection of WD 4TB WD42PURU-64C4CY0 Western Digital 4TB WD Purple Surveillance Internal Hard Drive HDD - SATA 6 Gb/s, 256 MB Cache, 3.5",5640 rpm, 128 MB buffer.. made of WD, Pollo Australia or equivalent, as approved and directed by Engineer Incharge.	Each	1		
xii)		LED				
	NSI	Supply and Installation of 32" LED FHD Monitor, HDMI x 1, VGA x 1, Audio x 1,2 x 2W, 6.91kg net weight,0°C to 50°C operating temperature,<32w power consumption, AC 100 to 240V, 50/60Hz power supply make Uniview model number MW3232-V-K, TCL, Ecostar or equivalent as approved or directed by engineer incharge.	Each	1		
xiii)		HDMI				
	NSI	Supply, Installation of HDMI hikvision fibre 4K length 10 meters as approved or directed by engineer incharge.	Each	1		
9		Data System				
i)		Data Cable				
	NSI	Supply, installation, Testing and commissioning of CAT 6 UTP CABLE IN prelaid PVC PIPE Ø 1"; MEASUREMENT IN METERS complete in all respects. Made of Hikvision,D-Link or equivalent approved by engineer incharge	R.Mtr	735		
ii)		Conduit				
	NSI	Supply and erection of PVC pipe for wiring recessed in walls,including inspection boxes, pull boxes, hooks, cutting jharriesand repairing surface, etc., complete with all specials.25 mm i/d	R.Mtr	735		
iii)		PDU				
	NSI	Supply & Installation of PDU as approved or directed by engineer incharge.	Each	1		
iv)		24 Port PoE Data Switch				

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
	NSI	Supply, Installation and Connection of Hikvision 24 Port Gigabit Unmanaged POE Switch, 24 x Gigabit PoE ports, 2 x Gigabit SFP fiber optical ports, IEEE 802.3at/af standard, 6 KV surge protection for PoE ports, PoE power management, Gigabit network access, MAC Address Table : 8 K, Switching Capacity : 52 Gbps, Packet Forwarding Rate : 38.688 Mpps, Internal Cache : 4.1 Mbits, Wire-speed forwarding, Store-and-forward switching, Solid high-strength metal shell made of Hikvision Model no DS-3E0526P-E/M , Huawei, Cisco USA or equivalent as approved or directed by engineer incharge.	Each	1		
v)		Wifi Router				
	NSI	Supply, Installation and commissioning of wifi router as per specification as approved or directed by engineer incharge.	Each	6		
10		CIVIL WORKS				
i)		Trench				
	NSI	Labour for excavation and refilling of trench 12" wide, 36" deep 4" sand, bricks and warning tape. Compaction below and above preinstalled PVC pipes if any, ramming watering all necessary material, labour etc, complete in all respect. Actual length of the trench shall be as per site condition and paid accordingly however approximate length of trench is given. as approved and directed by engineer incharge.	R.Mtr	50		
ii)		Manhole For LT Cable Pulling (If Required)				
	NSI	Construction of manholes to facilitate pulling of cables in trench or conduit as shown on drawing, manholes shall be of the size 24" x 24" x 30" deep with 9" thick wall with cement mortar, internal plaster 1:4, 100mm thick RCC cover for manhole, including cost of all accessories / materials, complete in all respects. (Tentative number of manholes have been provided, however payment shall be made as per actual and as per quantity requirement)	Nos.	2		
11		Air Conditioning				
		(General Description) Providing, shifting, fixing, testing, commissioning, adjusting and balancing of standard (Cool only) DC inverter technology air conditioning units, including indoor evaporating and out door condensing unit, the indoor units wall mounted of capacities as specified below, complete with factory charged refrigerant, piping insulation including condensate copper piping connection, between indoor/outdoor units conduiting and any additional charge of refrigerant accessories, and Drain piping upto nearest drain water line included in these rates making the job complete in all respect. AC should be of Haier,dawlance, gree or equivalent, copper piping should be of muller, trox and insulation of Durkflex or equivalent, Drain pipe should be 3/4" dia pvc pipeof master, turkplast or equivalent as per instructions by engineer incharge				
		(General Description) 1/4 and 1/2 copper piping shouls be used till 1.5 ton AC and 5/8 and 3/8 piping should be used for 2 ton AC and 3/8 and 1/2 for 4 ton AC between indoor and outdoor unit.				
		(General Description) The AC Unit should maintain approx 11 BTU per cubic feet plus addition of 3000BTU in the total amount for persons and devices				
i)		Copper pipe				

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
a	NSI	Supply ,installation testing and commissioning of Copper piping 1/4" insulation and control wire including making jharies and repairing of surface with all neccessary item job must be complete in all respect	RFT	20		
b	NSI	Supply ,installation testing and commissioning of Copper piping 1/2" insulation and control wire including making jharies and repairing of surface with all neccessary item job must be complete in all respect	RFT	160		
b	NSI	Supply ,installation testing and commissioning of Copper piping 3/8" with insulation and control wire including making jharies and repairing of surface with all neccessary item job must be complete in all respect	RFT	140		
ii)		Drain Pipe				
	NSI	Providing, laying, testing and commissioning of 1/2" µ-PVC (Un plasticized Polyvinyl Chloride) Schedule pipe of nominal diameter, Dadex/Popular / Beta or approved equivalent manufacturer, i/c the cost of solvent and specials complete as approved and directed by the Engineer Incharge.	RMTR	50		
iii)		Control Cable				
	NSI	Supply and erection of copper conductor cables for serviceconnection, in prelaidd pipe/G.I. wire/trenches, etc. (rate for cable only):- b) PVC insulated, PVC sheathed 3 core flexible cable , 300/500 volt cable: iii) 7/0.74 mm (7/0.029")	Rmtr	50		
iv)		Copper pipe insulation				
	NSI	Supply & installation closed cell type Aluminium foil faced XLPE (Cross linked polyethelene) polyolefin pipe insulation tube of density 25 Kg/m ³ of specified thickness & thermal conductivity 0.035 w/m °C and fire retardent of Class "o" rating as specified for refrigerant copper piping as approved by the Engineer Incharge. a) 20 mm thick				
a	NSI	1/4" dia	RFT	20		
a	NSI	1/2" dia	RFT	160		
b	NSI	3/8" dia	RFT	140		
12		Duct panel				
		Supply at site and installation of duct panel on wall where necessary made of popular, dadex, turkplast or equivalent as approved or directed by engineer incharge.				
a	NSI	16 x 25 mm	Rmtr	50		
b	NSI	25 x 25 mm	Rmtr	50		
13		CONDUITS, PIPES, DUCT , CABLE TRAYS, FIXING CLAMPS AND FIXING ARRANGEMENTS				
		Supply, installation, testing and commisiioning of following conduits laid under floor for telephone/ data cables , optical fiber cables, Sub main power cables & earth cables including all conduit accessories. The PVC conduits shall be laid under floor including chiseling and cutting of floor for required dimensions, laying of conduit, backfilling of remaining cavity with CC as specified for floor in that area, making good, complete in all respect. conduit made of solo, popular, easyfit or equivalent as approved by engineer incharge.				

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
i)	NSI	Supply and erection of PVC pipe for wiring recessed in wall including inspection boxes, pull boxes, bends, tees, repairing surface, etc., complete with all specials:made of easyfit, popular or equivalent as approved or directed by engineer incharge. 25 mmi/d	R.Mtr	50		
ii)		Supply and erection PVC pipe for recessed wiring (main and sub-main) purpose, including bends, specials, etc. in floor, wall or trenches:				
a	NSI	50 mm i/d	R.Mtr	10		
b	NSI	80 mm i/d	R.Mtr	70		
c	NSI	100 mm i/d	R.Mtr	60		
Total of Non-SOR Items						