

PROJECT : Innovating Nuclear Medicine Research and Services: Development of Emerging PET Radiopharmaceutical Early Cancer Staging and Assessment of Biologic Functions in Cancer Cells Building (CY 2022) - Phase 3

LOCATION : PNRI Compound, Commonwealth Avenue, Diliman, Quezon City

OWNER : Philippine Nuclear Research Institute (PNRI)

SUBJECT : DETAILED COST ESTIMATE

Item No.	ITEM/DESCRIPTION	QTY	UNIT	MATERIAL COST		LABOR COST		ESTIMATED	MARK-UPS IN PERCENT			TOTAL MARK-UP		VAT	TOTAL	TOTAL	UNIT
				UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	DIRECT COST	CONT.	OCM	PROFIT	%	VALUE		INDI. COST	COST	COST
A	GENERAL REQUIREMENTS																
1	Mobilization/Demobilization (Manpower, Tools, materials and equipment)	1	lot														
2	Bonds/Insurance	1	lot														
3	Temporary Facilities	1	lot														
4	As-Built plan	1	lot														
5	Project Billboard	1	lot														
	Sub-total																
B	SITE WORKS																
1	Site clearing (Total lot area = 393 sq.m.)																
	-Breaking of concrete pavement, curb and gutter	393.00	sq.m														
	-Clearing and grubbing (Disposal of demolished concrete)	393.00	sq.m.														
2	Earth works (total building floor area = 393 sqm)																
	-Excavation (Soil with rock)	125.00	cu.m														
	-Backfilling	74.00	cu.m														
	-Grading	393.00	sq.m														
	-Gravel bedding	38.00	cu.m														
	-Compaction	393.00	sq.m														
	-Disposal of Surplus Excavated materials	68.00	cu.m														
	-Soil poisoning/Termite treatment	393.00	sq.m														
	-Imported filling materials	200.00	sq.m														
	Sub-total																
C	STRUCTURAL WORKS (Ready Mixed Concrete - 4,000Psi)																
1	Columns (Above Cyclotron Bunker)																
1.1	Concrete w/ forms																
	-4,000 psi concrete	24.00	cu.m														-
	-4' x 8' x 3/4" Phenolic Board	43.00	pcs.														-
	-Coco Lumber	1,700.00	bd.ft.														-
	-CW Nails	29.00	kg.														-
	-Scaffolding Rental Fee (2months) Using (1 1/2" Ø x 20' G.I pipes, clamps and accessories	100.00	pcs.														-
1.2	Rebars																
	- Gr.60 25 mm Ø def.bar (192 pcs. X7.5m) @ 28.90 kg/pc.	5,535.00	kg.														-
	- Gr.40 10 mm Ø def.bar (135 pcs. X 7.5m) @ 4.62kg/pc.	623.00	kg.														-
	- Gr.40 12 mm Ø def.bar (411 pcs. X 7.5m) @ 6.66 kg/pc.	2,733.00	kg.														-
	- G.A 16 G.I wire	83.00	kg.														
2	Roof Beam (Roof Deck above Cyclotron Bunker)																
2.1	Concrete w/ forms																
	- 4,000 psi concrete	13.00	cu.m														
	-4' x 8' x 3/4" Phenolic Board	27.00	pcs.														

	-Coco Lumber	1,060.00	bd.ft.														
	-CW Nails	18.00	kg.														
	-Scaffolding Rental Fee (1 month) Using (1 1/2" Ø x 20' G.I pipes, clamps and accessories	200.00	pcs.														
2.2	Rebars																
	- Gr.60 20 mm Ø def.bar (94 pcs. X 7.5m) @ 18.50kg/pc.	1,723.00	kg.														
	- Gr.40 10 mm Ø def.bar (202 pcs. X 7.5m) @4.62kg/pc.	933.00	kg.														
	- G.A 16 G.I wire	27.00	kg.														
3	Roof Deck Slab (Above Cyclotron Bunker)																
3.1	Concrete with forms																
	- 4,000 psi concrete	39.00	cu.m.														
	-4' x 8' x 3/4" Phenolic Board	68.00	pcs.														
	-Coco Lumber	2,352.00	bd.ft.														
	-CW Nails	49.00	kg.														
	-Scaffolding Rental Fee (2 months) Using (1 1/2" Ø x 20' G.I pipes, clamps and accessories	100.00	pcs.														
3.2	Rebars																
	- Gr.40 10 mm Ø def.bar (443 pcs. X 7.5m) @ 4.62kg/pc.	2,045.00	kg.														
	- G.A 16 G.I wire	21.00	kg.														
4	Reinforced Concrete (RC) Elevator Block Wall																
4.1	Concrete w/ forms																
	- 4,000 psi concrete	66.00	cu.m.														
	-4' x 8' x 3/4" Phenolic Board	58.00	pcs.														
	-Coco Lumber	6,200.00	bd.ft.														
	-CW Nails	104.00	kg.														
	-Scaffolding Rental Fee (2 months) Using (1 1/2" Ø x 20' G.I pipes, clamps and accessories	400.00	pcs.														
4.2	Rebars																
	- Gr.40 12 mm Ø def.bar (648pcs. X 7.5m) @6.66kg/pc.	4,280.00	kg.														
	- G.A 16 G.I wire	42.00	kg.														
5	Elevator Block Footing																
5.1	Concrete																
	- 4,000 psi concrete	10.00	cu.m.														
5.2	Rebars																
	- Gr.60 25 mm Ø def.bar (19pcs. X 7.5m) @ 28.90kg/pc.	530.40	kg.														
	- Gr.60 20 mm Ø def.bar (19pcs. X 7.5m) @18.50kg/pc.	339.60	kg.														
	- G.A 16 G.I wire	9.00	kg.														
6	Columns with footing and tie beams																
6.1	Concrete w/ forms																
	-4,000 psi concrete	10.10	cu.m														
	-4' x 8' x 3/4" Phenolic Board	18.00	pcs.														
	-Coco Lumber	697.00	bd.ft.														
	-CW Nails	12.00	kgs.														
6.2	Rebars																
	- Gr.60 25 mm Ø def.bar (55pcs. X 7.5m) @28.90kg/pc.	1,572.00	kgs.														
	- Gr.60 20 mm Ø def.bar (18pcs. X 7.5m) @ 18.50kg/pc.	333.00	kg.														
	- Gr.40 12 mm Ø def.bar (46pcs. X 7.5m) @6.66kg/pc.	307.00	kg.														

	- Gr.40 10 mm Ø def.bar (21 pcs. X 7.5m) @4.62kg/pc.	97.00	kg.														
	- G.A 16 G.I wire	35.00	kg.														
7	Ground floor (slab on fill)																
7.1	Concrete w/ forms																
	- 4,000 psi concrete	22.50	cu.m														
	-4' x 8' x 3/4" Phenolic Board	2.00	pcs.														
	-Coco Lumber	65.00	bd.ft.														
	-CW Nails	2.00	kg.														
7.2	Rebars																
	- Gr.40 10 mm Ø def.bar (218 pcs. X 7.5m) @4.62kg/pc.	1,004.00	kg.														
	- G.A 16 G.I wire	15.00	kg.														
8	Mezzanine beam																
8.1	Concrete w/ forms																
	- 4,000 psi concrete	6.84	cu.m.														
	-4' x 8' x 3/4" Phenolic Board	15.00	pcs.														
	-Coco Lumber	552.00	bd.ft.														
	-CW Nails	10.00	kg.														
	-Scaffolding Rental Fee (1 month) Using (1 1/2" Ø x 20' G.I pipes, clamps and accessories	100.00	pcs.														
8.2	Rebars																
	- Gr.60 20 mm Ø def.bar (50pcs. X 7.5m) @ 18.50kg/pc.	911.00	kg.														
	- Gr.40 12 mm Ø def.bar (17pcs. X 7.5m) @ 6.66kg/pc.	110.00	kg.														
	- Gr.40 10 mm Ø def.bar (77pcs. X 7.5m) @4.62kg/pc.	352.00	kg.														
	- G.A 16 G.I wire	15.00	kg.														
9	Second floor slab (2F)																
9.1	Concrete w/ forms																
	- 4,000 psi concrete	28.12	cu.m.														
	-4' x 8' x 3/4" Phenolic Board	49.00	pcs.														
	-Coco Lumber	1,694.00	bd.ft.														
	-CW Nails	36.00	kg.														
	-Scaffolding Rental Fee (1 month) Using (1 1/2" Ø x 20' G.I pipes, clamps and accessories	100.00	pcs.														
9.2	Rebars																
	- Gr.40 10 mm Ø def.bar (487pcs.x 7.5m) @4.62kg/pc.	2,246.00	kg.														
	- G.A 16 G.I wire	23.00	kg.														
10	Second floor beams																
10.1	Concrete w/ forms																
	- 4,000 psi concrete	21.00	cu.m.														
	-4' x 8' x 3/4" Phenolic Board	44.00	pcs.														
	-Coco Lumber	1,706.00	bd.ft.														
	-CW Nails	29.00	kg.														
	-Scaffolding Rental Fee (1 month) Using (1 1/2" Ø x 20' G.I pipes, clamps and accessories	100.00	pcs.														
10.2	Rebars																

	- Gr.60 20 mm Ø def.bar (149pcs. X 7.5m) @18.50kg/pc.	2753	kg														
	- Gr.40 12 mm Ø def.bar (35pcs. X 7.5m) @6.66kg/pc.	233	kg.														
	- Gr.40 10 mm Ø def.bar (214pcs. X 7.5m) @4.62kg/pc.	988	kg.														
	- G.A 16 G.I wire	48	kg.														
11	CHB Wall footing																
11.1	Concrete																
	- 4,000 psi concrete	15.75	cu.m														
11.2	Rebar																
	- Gr.40 10 mm Ø def.bar (132pcs. X 7.5m) @4.62kg/pc.	607	kgs.														
	- G.A 16 G.I wire	10	kgs.														
12	Reinforced concrete wall (Radioactive waste storage)																
12.1	Concrete w/ forms																
	- 4,000 psi concrete	9.5	cu.m.														
	-4' x 8' x 3/4" Phenolic Board	20	pcs.														
	-Coco Lumber	780	bd.ft.														
	-CW Nails	10	kgs.														
12.2	Rebar																
	- Gr.40 12 mm Ø def.bar (106pcs. X 7.5m) @6.66kg/pc.	705	kgs.														
	- G.A 16 G.I wire	10	kgs.														
	Sub-total																
D	CYCLOTRON SHIELDING WORKS																
1	Top Slab																
1.1	Concrete w/ forms																
	- 4,000 psi concrete	594.00	cu.m.														
	-4' x 8' x 3/4" Phenolic Board	94.00	pcs.														
	-Coco Lumber	3,760.00	bd.ft.														
	-CW Nails	63.00	kg.														
	-Scaffolding Rental Fee (2 months) Using (1 1/2" Ø x 20' G.I pipes, clamps and accessories	550.00	pcs.														
	-Steel bracing and shoring support and steel plate (rental)	1.00	lot														
1.2	Rebars																
	- Gr.60 28 mm Ø def.bar (1550 pcs. X 7.5m) @ 96.25kg./pc.	56,158.40	kg.														
	- G.A 16 G.I wire	562.00	kg.														
2	Footing																
2.1	Concrete w/ forms																
	- 4,000 psi concrete	594.00	cu.m.														
	-4' x 8' x 3/4" Phenolic Board	94.00	pcs.														
	-Coco Lumber	3,760.00	bd.ft.														
	-CW Nails	63.00	kg.														
2.2	Rebars																
	- Gr.60 28 mm Ø def.bar (1,483 pcs. X 7.5m) @36.25kg./pc.	53,750.16	kg.														
	- G.A 16 G.I wire	538.00	kg.														

3	Walls																
3.1	Concrete w/ forms																
	- 4,000 psi concrete	1,206.26	cu.m.														
	-4' x 8' x 3/4" Phenolic Board	426.00	pcs.														
	-Coco Lumber	17,040.00	bd.ft.														
	-CW Nails	284.00	kg.														
	- Scaffolding Rental Fee (2 months) Using (1 1/2" Ø x 20' G.I pipes, clamps and accessories	550.00	pcs.														
	-Steel bracing and shoring support and steel plate (rental)	1.00	lot														
3.2	Rebars																
	- Gr.60 28 mm Ø def.bar (1,481 pcs. X 7.5m) @ 36.25kg./pc.	53,667.60	kg.														
	- G.A 16 G.I wire	536.00	kg.														
	Sub-total																
E	MASONRY WORKS																
1	Construction of Exterior building perimeter wall (6" thk CHB w/ mortar & rebar) From Ground Floor Finish Floor Line to Roof Parapet																
	-Gr.40 10 mm Ø def.bar (493pcs. X 7.5m) @4.62kg./pc.	2,277.00	kg														
	-CHB 6"	11,889.00	pcs														
	-Cement	604	bags														
	-Sand	99	cu.m														
	-Scaffolding Rental Fee (2 months) using (1 1/2"Ø x 20' G.I Pipes, Clamps and Accessories)	255	pcs														
	-Ga. 16 G.I. Wire	42	kgs														
	-Hauling of Materials from ground floor to upper floors	2.3	mos														
2	Interior concrete partition wall (6" thk CHB w/ mortar & rebar) atleast 3.00m minimum height from finish floor line.(Ground floor to roofdeck of the whole building)	1,735.00	sq.m.														
	- Gr.40 10 mm Ø def.bar (1,095 pcs. X 7.5m) @ 4.62kg/pc.	5,057.00	kg.														
	- CHB 6"	24,796.00	pcs.														
	- Cement	1,458.00	bag.														
	- Sand	164.27	cu.m.														
	Sub-total																
F	STRUCTURAL STEEL WORKS																
1	Fabrication of Steel trusses with steel purlins, sagrod, cross brace, girt and other structural support with epoxy primer paint finish (Roof above Cyclotron Bunker)																
	-3"x3"x1/4" x 6 m Angle Bar	45	pcs														
	-2"x2"x1/4" x 6 m Angle Bar	98	pcs														
	-16 mm Ø x 6 m Plain Round Bar	25	pcs														
	-12 mm Ø x 6 m Plain Round Bar	24	pcs														
	-Ga.16 - 2" x 6" x 6 m C-Purlins	111	pcs														

	-W8 x 21 x 6m Steel	10	pcs													
	-4' x 8' x 1" thk MS Plate	1	pcs													
	-4' x 8' x 1/4" thk MS Plate	3	pcs													
	-Welding Rods	2	box													
	-Anchor Bolt 5/8" X 12" X 2" w/ Nut & Washer	59	pcs													
	-Heavy duty crane	14	hrs													
	*P2,800/hour (Rental) for lifting and installation of heavy steel trusses															
	-Mobilization/Demobilization of Crane	1	lot													
	-Epoxy Primer	2	tin													
	-Miscellaneous (cutting disc, grinding disc, paint brush, turco, cutting torch, oxyacetylene, etc.)	1	lot													
	Sub-total															
G	TINSMITHRY WORKS															
1	Pre-painted long span roofing and accessories (Roof above Cyclotron Bunker)															
	-Pre-painted G.I. Ribbed-type Long Span Roofing, Ga. 24	285	l.m.													
	-Pre-painted G.I. Capping, Ga. 24	49	l.m.													
	-Pre-painted G.I. Flashing, Ga. 24	46	l.m.													
	-Stainless steel Outside Gutter, Ga. 24	115.00	l.m.													
	-Miscellaneous (blind rivets, tekscrew, touch-up paint, sealant, etc.)	1	lot													
2	Roof insulation w/ G.I. wire screen support															
	-12mm thk 2-side E-WHA Foam Insulation	7	rolls													
	-30 m Wire Screen Support Wire Mesh	15	rolls													
	Sub-total															
H	PLUMBING WORKS															
1	Drainage Pipes and Fittings															
	-100 mm Ø (4") PVC Pipe x 3m	23.00	pcs													
	-75 mm Ø (3") PVC Pipe x 3m	32.00	pcs													
	-50 mm Ø (2") PVC Pipe x 3m	32.00	pcs													
	-100 mm Ø (3) PVC Elbow 45 deg.	57.00	pcs													
	-75 mm Ø (3) PVC Elbow 45 deg.	44.00	pcs													
	-50 mm Ø (2") PVC Elbow 45 deg.	57.00	pcs													
	-100 mm Ø (2") Floor Drain stainless steel	42.00	pcs													
	-2" P-Trap	42.00	pcs													
	-Stainless steel Roof Vent Cap	6.00	pcs													
	-Stainless steel Roof strainer	13.00	pcs													
	-Miscellaneous (Solvents, Sealants, Etc.)	1.00	pcs													
	Sub-total															

I	SANITARY DRAINAGE AND CIVIL WORKS																
	-Septic Vault	1.00	set														
	-Catch Basin	14.00	set														
	-300mm Ø (8") RCP x 1m	37.00	pcs														
	-375mm Ø (8") RCP x 1m	16.00	pcs														
	-450mm Ø (8") RCP x 1m	11.00	pcs														
	-Sand & Cement	1.00	lot														
	-Miscellaneous (handles, hand tools, etc.)	1.00	lot														
	Sub-total																
	TOTAL PROJECT COST																