



भारतीय राष्ट्रीय राजमार्ग प्राधिकरण

(सड़क परिवहन और राजमार्ग मंत्रालय, भारत सरकार)

National Highways Authority of India

(Ministry of Road Transport and Highways, Government of India)

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भाराराप्रा/ नीति दिशानिर्देश/ व्यावसायिक प्रचालन / 2026

नीति परिपत्र सं. 17.5.101/2026 दिनांक 27th अगस्त, 2026

{(ई-ऑफिस फाइल सं. DPR-12024/5/2026-DPR Cell (कम्प्यूटर सं. 312460 पर लिया गया निर्णय))}

NHAI/ Policy Guidelines/ Commercial Operation/ 2026

Policy Circular No. 17.5.101 / 2026 dated 27th August, 2026

{(Decision taken on E-Office File No. DPR-12024/5/2026-DPR Cell (Comp No. 312460))}

विषय: राष्ट्रीय राजमार्गों एवं एक्सप्रेसवे पर टोल प्लाज़ाओं में कार्यालय-सह-प्रचालन एवं अनुरक्षण (ओएंडएम) केंद्र भवनों के मानकीकरण के संबंध में।

Sub: Standardization of Office-cum-Operation & Maintenance (O&M) Centre Buildings at Toll Plazas on National Highways and Expressways - reg:-

संदर्भ: भा.रा.रा.प्रा. नीति परिपत्र सं. 17.5.82 दिनांक 24.05.2021।

Ref.: NHAI Policy Circular No. 17.5.82 dated 24.05.2021.

वर्तमान में, टोल प्लाज़ाओं पर प्रशासनिक भवनों का निर्माण भा.रा.रा.प्रा. नीति परिपत्र सं. 17.5.82 दिनांक 24.05.2021 में दिए गए भवन के लेआउट के आधार पर किया जा रहा है।

Presently, Administration Buildings at Toll Plazas are being constructed based on layout of building provided in NHAI Policy Circular No. 17.5.82 dated 24.05.2021.

2. पारंपरिक टोल संग्रहण से मल्टी लेन फ्री फ्लो (एमएलएफएफ) टोलिंग की ओर पारगमन के मद्देनज़र, टोल प्लाज़ाओं पर विद्यमान प्रशासनिक भवन अपने वर्तमान स्वरूप में नई टोलिंग व्यवस्था की कार्यात्मक आवश्यकताओं को पूरा नहीं कर सकते हैं। एमएलएफएफ व्यवस्था के अंतर्गत प्रमुख अवसंरचनात्मक आवश्यकता एक एकीकृत कार्यालय-सह-प्रचालन एवं अनुरक्षण (ओएंडएम) केंद्र की है, जो एमएलएफएफ टोलिंग के प्रचालन के साथ-साथ उन्नत यातायात प्रबंधन प्रणाली (एटीएमएस) के लिए नियंत्रण केंद्र के रूप में कार्य करेगा।

In view of transition in Toll collection methods from conventional Toll collection to Multi Lane Free Flow (MLFF) Tolling, the existing Administration Building at Toll Plazas, in its current form may no longer meet the functional requirements of the new Tolling ecosystem. Under the MLFF regime, the primary infrastructure requirement is an integrated Office-cum-Operation & Maintenance (O&M) Centre to support MLFF Tolling Operations along with a Control Centre for the Advanced Traffic Management System (ATMS).

3. तदनुसार, योजना एवं डिजाइन में एकरूपता सुनिश्चित करने, कार्यात्मक दक्षता बढ़ाने तथा प्रचालन एवं अनुरक्षण में सुगमता प्रदान करने के उद्देश्य से, सभी राष्ट्रीय राजमार्गों एवं एक्सप्रेसवे पर टोल प्लाज़ाओं में कार्यालय-सह-प्रचालन एवं अनुरक्षण (ओएंडएम) केंद्र भवनों के डिजाइन, लेआउट तथा तकनीकी विनिर्देशों को मानकीकृत करने का निर्णय लिया गया है।

Accordingly, with a view to ensuring uniformity in planning and design, enhancing functional efficiency and facilitating ease of operation and maintenance, it has been decided to standardize the Design, Layout, and Technical Specifications of Office-cum-Operation & Maintenance (O&M) Centre Buildings at Toll Plazas across all National Highways and Expressways.

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4. मानकीकृत प्रावधानों का उद्देश्य निम्नलिखित सुनिश्चित करना है:
The Standardized Provisions aim to provide:

- i. टोल प्रचालन, प्रचालन एवं अनुरक्षण तथा एटीएमएस नियंत्रण केंद्र के लिए एकरूप, कार्यात्मक एवं सुव्यवस्थित कार्यालय-सह- ओएंडएम केंद्र भवन;
Uniform, Functional and Well-planned Office-cum-O&M Centre Building for Toll Operations, Operation & Maintenance and ATMS Control Centre;
- ii. वर्तमान प्रचालन आवश्यकताओं के साथ साथ-भविष्य की कार्यात्मक आवश्यकताओं को पूरा करने हेतु उपयुक्त अवसंरचना।
Infrastructure designed to support present operational requirements as well as future functional requirements.

5. तदनुसार, कार्यालय-सह-प्रचालन एवं अनुरक्षण (ओएंडएम) केंद्र भवन का मानक आरेख इस परिपत्र के अनुलग्नक-I के रूप में संलग्न है। विस्तृत विनिर्देश अनुलग्नक-II के रूप में संलग्न हैं। संलग्न मानक आरेख, भा.रा.रा.प्रा. नीति परिपत्र सं. 17.5.82 दिनांक 24.05.2021 के संलग्नक-(ई) में दिए गए टोल प्लाज़ा पर प्रशासनिक भवन की अस्थायी योजना का अधिक्रमण करेगा। इसके अतिरिक्त, विस्तृत संरचनात्मक, विद्युत, प्लंबिंग एवं अन्य संबद्ध आरेख संदर्भ हेतु भाराराप्रा की वेबसाइट के 'मानक दस्तावेज़' अनुभाग में उपलब्ध हैं।

Accordingly, the Standard Drawing for the Office-cum-Operation & Maintenance (O&M) Centre Building is enclosed as Annexure-I to this Circular. The Detailed Specifications are enclosed as Annexure-II. The enclosed Standard Drawing shall supersede the Tentative Plan for Administrative Building at Toll Plaza at enclosure-(e) to NHAI Policy Circular No. 17.5.82 dated 24.05.2021. In addition to the above, detailed structural, electrical, plumbing and other allied drawings are available on the NHAI website under the 'Standard Documents' section for reference.

6. इस परिपत्र की प्रयोज्यता निम्नानुसार होगी:

Applicability of this Policy Circular shall be as under:

- (a) सभी नई परियोजनाओं में टोल प्लाज़ाओं पर कार्यालय-सह-प्रचालन एवं अनुरक्षण (ओएंडएम) केंद्र भवन का निर्माण इस परिपत्र के साथ संलग्न मानक आरेख एवं विनिर्देशों के अनुसार ही किया जाएगा। उक्त प्रावधानों को सभी नई डीपीआर की अनुसूची-'सी' में सम्मिलित किया जाएगा। जिन परियोजनाओं में निविदाएं आमंत्रित की जा चुकी हैं, परंतु अभी प्राप्त नहीं हुई हैं, उनमें आरएफपी में संशोधन जारी कर इन प्रावधानों को सम्मिलित किया जाएगा।

In all new Projects, the Office-cum-Operation & Maintenance (O&M) Centre Building at Toll Plazas shall be constructed strictly in accordance with the enclosed standard drawing and specifications. The provisions shall be incorporated in Schedule-'C' of all new DPRs. In Projects where Bids have been invited but not yet received, the Provisions shall be incorporated by issuing amendment in the RFP.

- (b) प्रगति पर चल रही उन परियोजनाओं में, जिनमें टोल प्लाज़ा के प्रशासनिक भवन का निर्माण कार्य प्रारम्भ नहीं हुआ है, इन मानकीकृत प्रावधानों को अपनाया जाएगा। संविदा में चेंज ऑफ़ स्कोप (सीओएस) के लिए प्रत्यायोजित शक्तियों के अनुसार, विद्यमान प्रावधानित लागत को घटाकर निवल लागत वृद्धि हेतु इसे सीओएस के अंतर्गत लिया जा सकता है। ऐसी सुविधा का प्रचालन एवं अनुरक्षण संविदा के प्रावधानों के अनुसार संविदाकार/कंसेसनेयर के कार्यक्षेत्र में होगा।

In Ongoing Projects where construction of the Toll Plaza Administration Building has not commenced, these Standardized Provisions shall be adopted. The same may be taken under Change of Scope (COS) for the net increase in cost by deducting the existing provisioned cost, as per the delegated powers for COS under the Contract. The Operation and Maintenance of such facility shall be in the Scope of the Contractor / Concessionaire as per the provisions of the Contract.



- (c) प्रगति पर चल रही उन परियोजनाओं में, जिनमें टोल प्लाज़ा के प्रशासनिक भवन का निर्माण कार्य प्रारम्भ हो चुका है, किंतु पूर्ण नहीं हुआ है, मानकीकृत प्रावधानों को सम्मिलित करने, जिसमें आवश्यकतानुसार सुविधाओं का उन्नयन/संशोधन भी सम्मिलित है, के संबंध में निर्णय संबंधित क्षेत्रीय अधिकारी द्वारा प्रत्येक मामले के आधार पर लिया जाएगा। इसमें निर्माण की अवस्था, तकनीकी व्यवहार्यता, विद्यमान प्रावधान, लागत प्रभाव, स्थल संबंधी बाधाओं तथा प्रचालन एवं अनुरक्षण संबंधी आवश्यकताओं, जिसमें एटीएमएस/एमएलएफ़एफ़ संबंधी आवश्यकताएं भी सम्मिलित हैं, को ध्यान में रखा जाएगा तथा इसका निस्तारण उप-पैरा (b) के अनुसार किया जाएगा।

In ongoing Projects where construction of the Toll Plaza Administration building has commenced but has not been completed, the decision regarding incorporation of the Standardized Provisions, including Up-gradation/Modification of the facilities, wherever required shall be taken by the concerned Regional Officer on a case-to-case basis, considering the stage of construction, technical feasibility, existing provisions, cost implications, site constraints and Operational and Maintenance requirements including ATMS/MLFF requirements and shall be dealt with as per Para (b) above.

- (d) जिन मामलों में टोल प्लाज़ा का प्रशासनिक भवन पहले ही निर्मित किया जा चुका है, उनमें मानक कार्यालय-सह-ओएंडएम केंद्र भवन के अनुरूप उन्नयन/पुनर्निर्माण अथवा अतिरिक्त सुविधाओं के प्रावधान के संबंध में निर्णय संबंधित सदस्य द्वारा प्रत्येक मामले के आधार पर लिया जाएगा। इसमें विद्यमान भवन की स्थिति एवं उपयोगिता, उपलब्ध स्थान, पहुंच, एटीएमएस/एमएलएफ़एफ़ तथा अन्य प्रचालन एवं अनुरक्षण संबंधी आवश्यकताओं तथा स्थल संबंधी बाधाओं को ध्यान में रखा जाएगा।

In cases where Toll Plaza Administration Building has already been constructed, the decision regarding Up-gradation/re-construction or Provision of additional facilities to conform to the standard Office-cum-O&M Centre Building shall be taken by the Member concerned on a case-to-case basis, considering the condition and utilization of the existing building, available space, accessibility, ATMS/MLFF and other Operational and Maintenance requirements and site constraints.

- (e) क्षेत्रीय अधिकारी को ऐसे निर्माण/उन्नयन कार्य की सैद्धांतिक लागत को भा.रा.रा.प्रा. नीति परिपत्र सं. 1.6.6 दिनांक 11.10.2023 के पैरा एफ़ ("लागत"), क्रम सं. II में निर्धारित दरों के अनुसार अनुमोदित करने की शक्ति होगी। तत्पश्चात, व्यवहार्यता एवं आवश्यकता के अनुसार किसी टोल प्लाज़ा हेतु विस्तृत प्राक्कलन के आधार पर निविदाएं आमंत्रित कर निर्माण/उन्नयन कार्य कराया जाएगा। भुगतान बीओक्यू के अनुसार वास्तविक रूप से निष्पादित मदवार मात्रा के आधार पर किया जाएगा।

The Regional Officer shall have the Power to approve the In-Principle cost of such Construction/Up-gradation in accordance with the rates prescribed under Para F ("COST"), Sr. No. II of NHAI Policy Circular No. 1.6.6 dated 11.10.2023. Construction/up-gradation shall thereafter be undertaken through invitation of bids based on detailed estimates for a Toll Plaza, depending upon feasibility and requirement. The Payment shall be made as per the actual Item-wise Quantity executed based on the BOQ.

7. इन सुविधाओं के लिए केवल इनके उद्देश्य से अतिरिक्त भूमि का अधिग्रहण नहीं किया जाएगा। कार्यालय-सह-प्रचालन एवं अनुरक्षण (ओएंडएम) केंद्र भवन का लेआउट, टोल प्लाज़ा की अवसंरचना के साथ, कार्यात्मक आवश्यकताओं, यातायात परिसंचरण, पहुंच, सुरक्षा, उपयोगिता संबंधी आवश्यकताओं तथा भविष्य में प्रचालन एवं अनुरक्षण में सुगमता को ध्यान में रखते हुए डीपीआर परामर्शदाता द्वारा तैयार किया जाएगा।

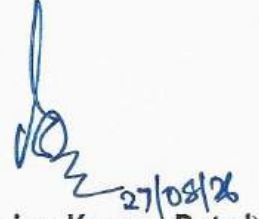
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No additional Land shall be acquired solely for the purpose of these facilities. The layout of the Office-cum-Operation & Maintenance (O&M) Centre Building along with the Toll Plaza Infrastructure shall be planned by the DPR Consultant considering Functional requirements, Traffic Circulation, Accessibility, Safety, Utility requirements and ease of future Operation and Maintenance.

8. यह सक्षम प्राधिकारी के अनुमोदन से जारी किया जाता है।
This issues with the approval of Competent Authority.

संलग्नक: यथोपरी।

Encl.: As stated above.



(सीएस. संजय कुमार पटेल/ CS. Sanjay Kumar Patel)
प्रभारी मुख्य महाप्रबंधक(समन्वय) (i/c) Chief General Manager (Coord.)

प्रति/ To:

भाराराप्रा मुख्यालय/आरओ/पीआईयू/सीएमयू/साइट कार्यालयों के सभी अधिकारी।
All Officers of NHAI HQ/ ROs/ PIUs/ CMUs/ Site Offices.

प्रतिलिपि/ Copy to:

1. पुस्तकालय की साइट पर प्रकाशन के लिए पुस्तकालय को।
Library for hosting the Circular on Library site.
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PPS to Secretary, MoRT&H for Kind Information.

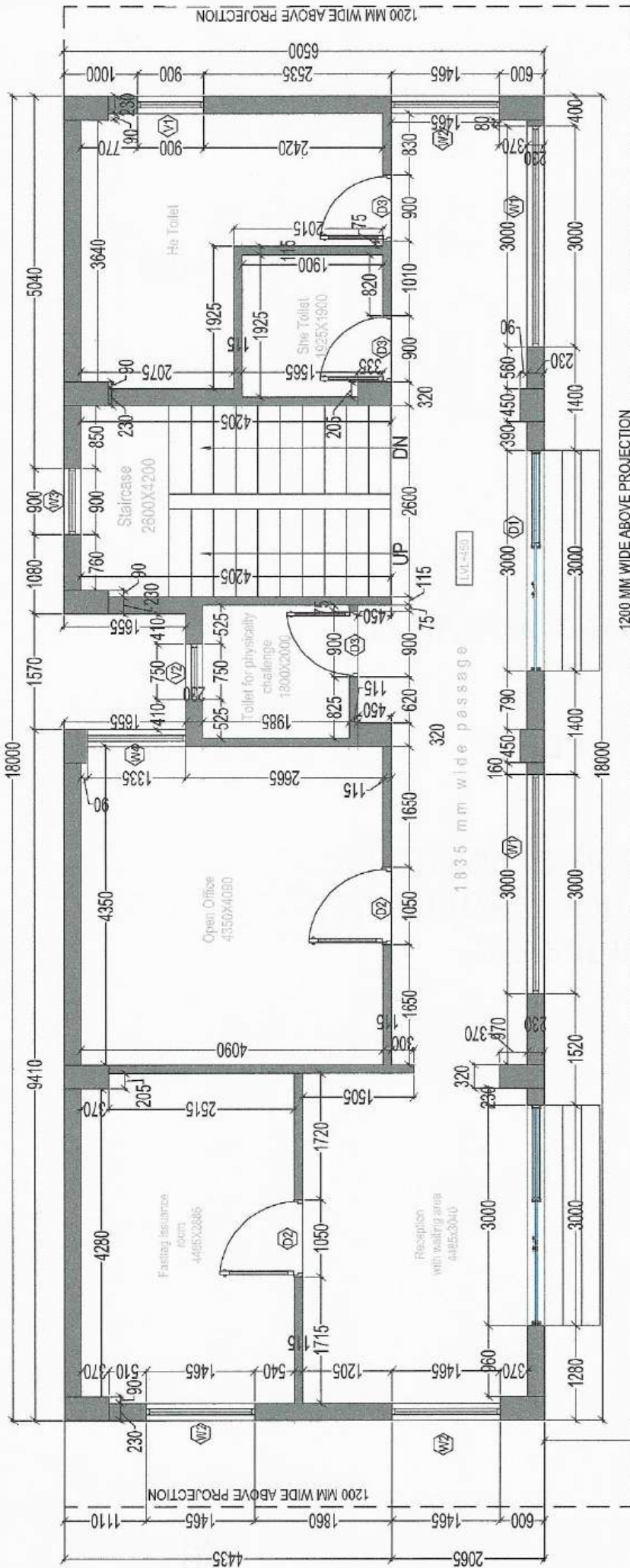
ANNEXURE-I

STANDARD DRAWINGS

FOR

**OFFICE-CUM-OPERATION &
MAINTENANCE (O&M) CENTER
BUILDING**





ABOVE PROJECTION

1200 MM WIDE ABOVE PROJECTION

DOOR AND WINDOW (OPENING)
SCHEDULE AT GROUND FLOOR

S. NO.	NAME	SIZE WIDTH HEIGHT	SILL HT. FROM F.F.L	LINTEL LEVEL FROM F.F.L	NO
1.	D1	3000 2400	0	2400	02
2.	D2	1050 2400	0	2400	02
3.	D3	900 2400	0	2400	03
4.	V1	900 600	1800	2400	01
5.	V2	750 600	1800	2400	01
6.	W1	3000 1500	900	2400	02
7.	W2	1465 1500	900	2400	03
8.	W3	900 1500	900	2400	01
9.	W4	1335 1500	900	2400	01

ABOVE PROJECTION



NATIONAL HIGHWAYS AUTHORITY OF INDIA

STANDARD DRAWING FOR OFFICE CUM OPERATION & MAINTENANCE CENTER

TITLE:-

GROUND FLOOR WORKING PLAN

DRG. NO. :- 005

DESIGNED BY:-

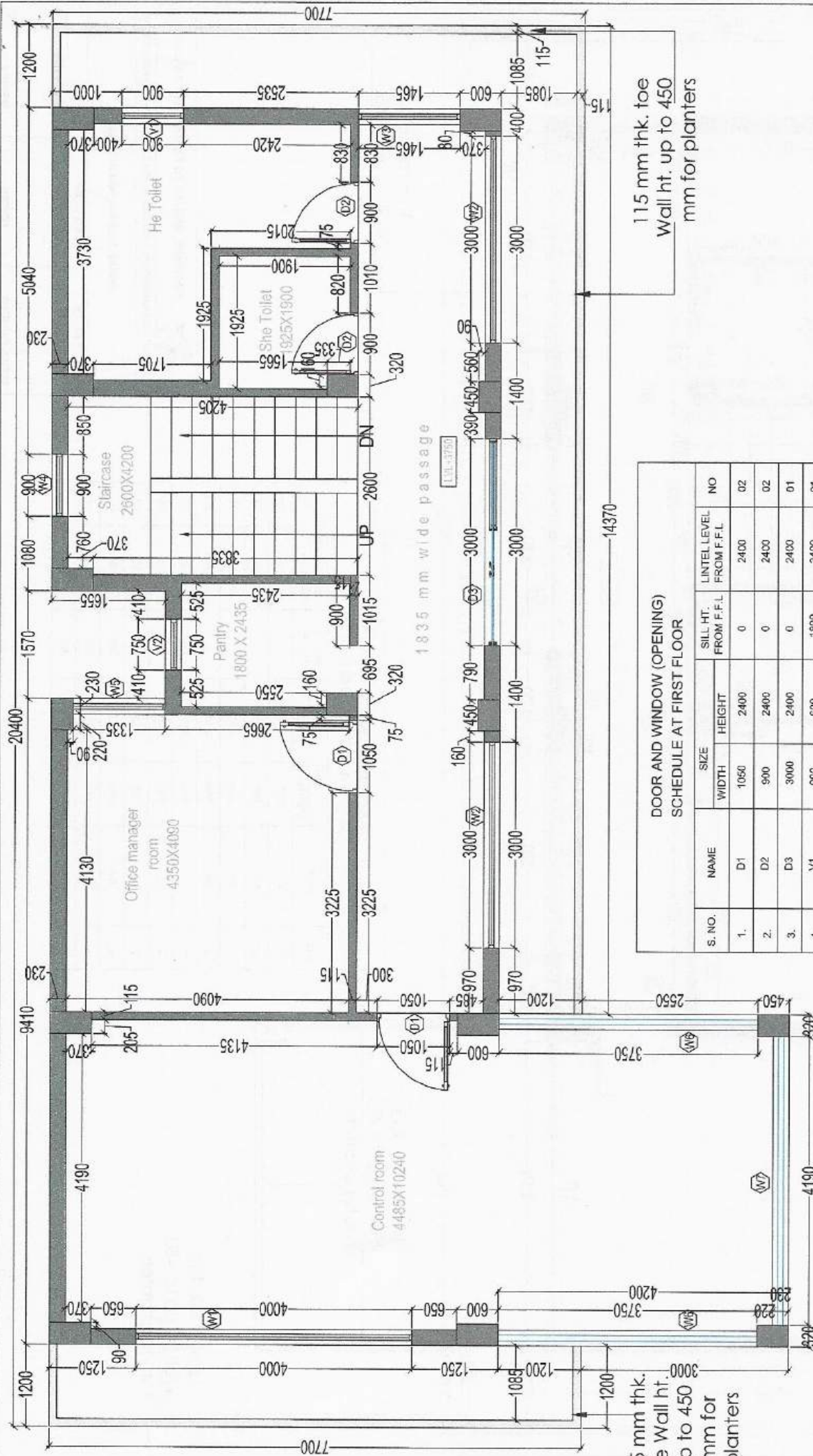
RECOMMENDED:-

APPROVED:-

DESIGN ENGINEER

GM/CGM

MEMBER (P)



S. NO.	NAME	SIZE		SILL HT. FROM F.F.L	LINTEL LEVEL FROM F.F.L	NO
		WIDTH	HEIGHT			
1.	D1	1060	2400	0	2400	02
2.	D2	900	2400	0	2400	02
3.	D3	3000	2400	0	2400	01
4.	V1	900	600	1800	2400	01
5.	V2	750	600	1800	2400	01
6.	W1	4000	2100	300	2400	01
7.	W2	3000	2100	300	2400	02
8.	W3	1485	2100	300	2400	01
9.	W4	900	1500	900	2400	01
10.	W5	1335	2100	300	2400	01
11.	W6	3750	1500	900	2400	02
12.	W7	4190	1500	900	2400	01



NATIONAL HIGHWAYS AUTHORITY OF INDIA

STANDARD DRAWING FOR OFFICE CUM OPERATION & MAINTENANCE CENTER

TITLE:-

FIRST FLOOR WORKING PLAN

DATE:- 22-07-2026

DESIGNED BY:-

APPROVED:-

DRG. NO. :- 006

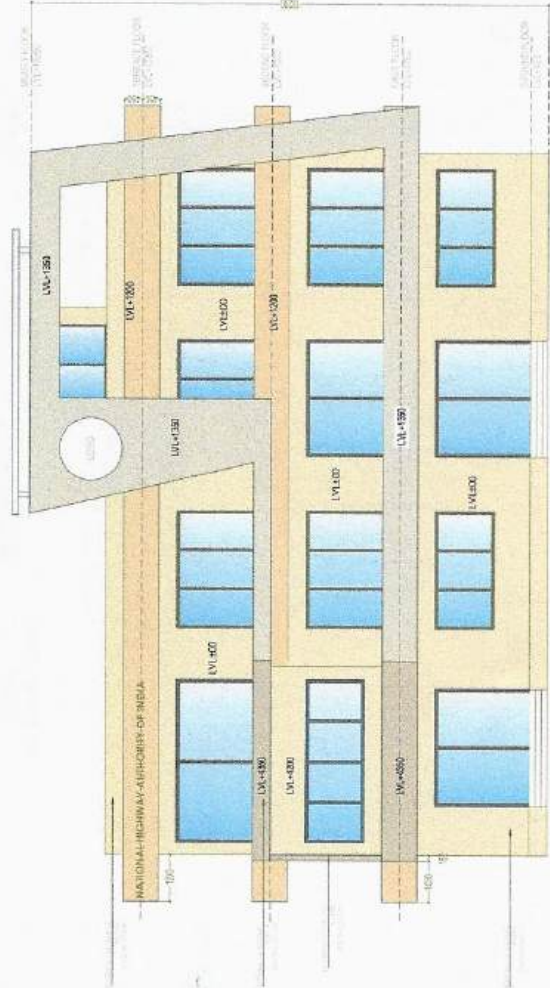
DESIGN ENGINEER

RECOMMENDED:-

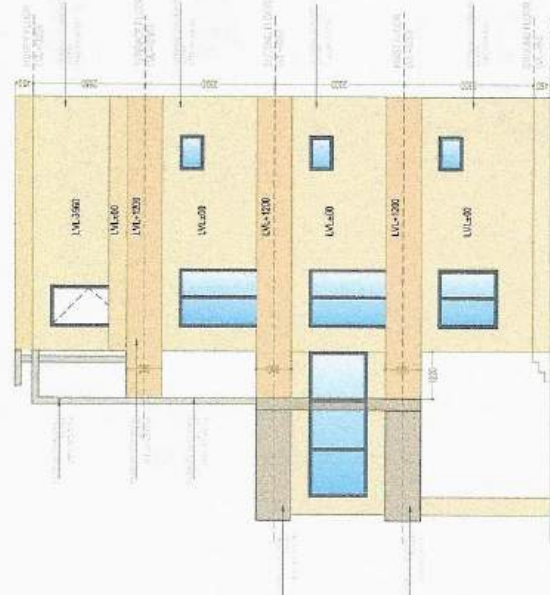
APPROVED:-

MEMBER (P)

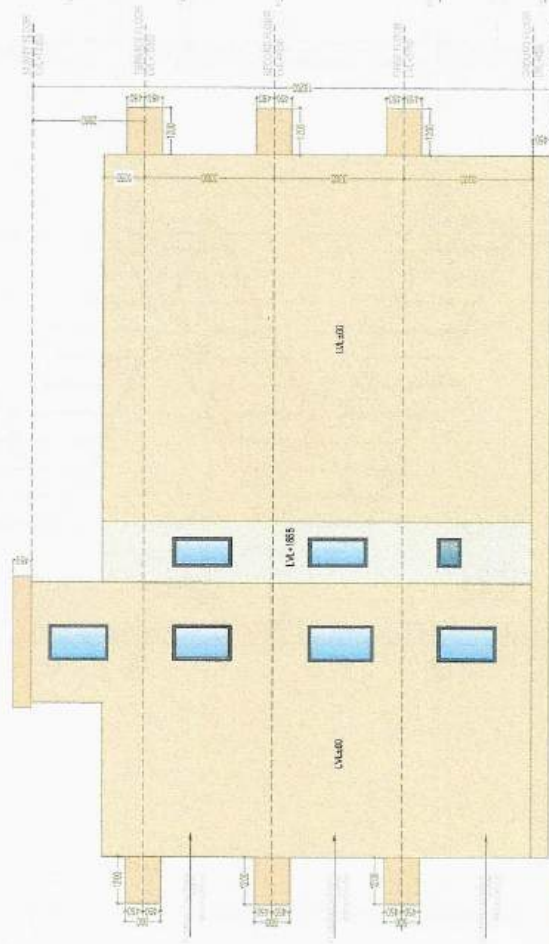
GWCGM



Front Elevation



Side Elevation



Rear Elevation



Side Elevation



 NATIONAL HIGHWAYS AUTHORITY OF INDIA STANDARD DRAWING FOR OFFICE CUM OPERATION & MAINTENANCE CENTER			
TITLE:- ALL SIDE ELEVATIONS			
DATE:- 22-07-2026	DESIGNED BY:-	DRG. NO. :- 015	RECOMMENDED:-
DESIGN ENGINEER	GM/CGM	APPROVED:-	MEMBER (P)



RM

Detailed Specifications for Office -cum-Operation & Maintenance (O&M) Center Building				Annexure-II
S.No	Item	Description	Recommended make / approved Material	Remarks
1	EARTH WORK	Excavation & filling	as per CPWD specification	
	Anti Termite treatment-	For creating a continuous chemical barrier under and around the column pits, wall trenches, basement excavation, top surface of plinth filling, junction of wall and floor along the external perimeter of building expansion joints, over the top surface of consolidated earth of which approach is to be laid surrounding of pipes and conduits etc. complete as per specification.	Bayer (Premise /Temprid), Syngenta, FMC, UPL, and Pidilite (Terminator) and equivalent	
2	CONCRETE WORK			
i)	PCC work	Using cement concrete 1:4:8 in foundations/ plinth and bedding including spreading, ramming, consolidation		
ii)	PVC Sheet	Providing & Laying one layer of LDPE sheet of 100 Microns thick approved quality on Plinth		
iii)	M-25	Ready mix concrete manufactured in fully automatic Batching Plant and transported to site in transit mixer for having continuous agitated mixer, manufactured as per approved mix design of specified grade of RCC work including pumping of R.M.C. from transit mixer to site of laying.		
iv)	TMT Reinforcement work	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete all level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	TISCO, SAIL, VIZAG STEEL (RINL), JISCO, JVSL, LLOD STEEL, ESSAR and equivalent	
3	MASONRY WORK	Brick masonry with F.P.S. bricks of class designation 75 in sub structure & super structure with bricks at any height/ position using Cement mortar 1 : 4 (1 cement : 4 coarse sand) 230mm Thick as well as 115mm thick wall	as per CPWD specification	
4	FINISHING			
i)	Plaster :-	20 mm thick Plaster in CM 1:4		
ii)	External Finish	Washed stone grit plaster on exterior walls height upto 10 metre above ground level, in two layers, under layer 12 mm cement plaster 1:4 (1 cement : 4 coarse sand), furrowing the under layer with scratching tool, applying cement slurry on the under layer @ 2 Kg of cement per square metre, top layer 15 mm cement plaster 1:1/ 2:2 (1 cement: 1/2 coarse sand : 2 stone chipping 10 mm nominal size), in panels with groove all around as per approved pattern, including scrubbing and washing the top layer with brushes and water to expose the stone chippings ,complete as per specification and direction of Engineer-in-charge (payment for providing grooves shall be made separately).	as per CPWD specification	
5	WINDOWS (Fixed)	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass/ stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : Powder coated aluminium (minimum thickness of powder coating 50 micron)	Jindal/hindalco and equivalent	
5A	Toughened Glass	Design, Providing, installation and fixing 12 mm thick Toughened Glass partitions upto 3.00 M , frameless door and facade glazing at control room with proper machine edge finish in angle & fixed in the flooring with Aluminium 'U' channel & flushed with the ceiling. Glass panels to be formed as per approved modules 12 mm thick clear toughened glass edge polished and accurate designed holes to be installed by means of steel angle or spider fittings of an approved make Saint Gobain / Asahi or equivalent. The structural Glass walls system shall be complete with proper water tight silicon sealants /gaskets. M.S Brackets to support the structure system shall be hot dipped galvanized and slots in the brackets to be pre drilled not flame cut. All bolts,nuts,washers shall be 300 series non magnetic stainless steel and lock washers to be provided at all bolting connections. All anchor fasteners shall be of Hilti/Fisher make. All structural silicone shall be of Dow Corning make. The Rates includes all material, Labour, Wastages, Cost of scaffolding,fixing & Finishing with frosted design film etc. Complete	Saint-Gobain India, Asahi India Glass (AIS) and equivalent	

S.No	Item	Description	Recommended make / approved Material	Remarks
6	Doors and Fittings	Wood Chowkhat & ISI marked decorative type flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.	Century Ply, Greenply, Duro Door and equivalents	
		Architectural door hardware	Godrej, doorset, dormakaba and equivalent	
7	FLOORING WORK/ DADO WORK/ BASIN COUNTER/JAMB WORK	Polished Granite stone flooring using 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement	as per CPWD specification	
		Granite stone of size 18 mm thick on common areas and stair including skirting		
		Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only. Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily. Make Kajaria, Nitco, Somany, Jhonson		
		600X1200 for Rooms	KAJARIA, SPARTEX, JOHNSON S, NAVEEN, SOMANI, BAJAJ, Equivalent	KAJARIA-SEILO MARFIL
		600X600 for toilet Floors & Walls		
		Grouting the joints of flooring tiles having joints of 3 mm width, using epoxy grout mix of 0.70 kg of organic coated filler of desired shade (0.10 kg of hardener and 0.20 kg of resin per kg), including filling/grouting and finishing complete as per direction of Engineer-in-charge.	MYK LATICRETE (LATAPOXY), Pidilite (Roff), Weber, and Kajaria Gresbond and equivalent	
		polished granite stone slabs up to 18 mm thick for 600 mm width for basin counter platform with rounding, nosing on a bed of 20 mm thick cement mortar 1:4	as per CPWD specification	
		Granite stone up to 18mm thick of window jambs frame top, bottom and sides. The marble jamb shall be fixed with stone adhesive/white cement		
		Granite stone up to 18mm thick of door jambs frame top, and sides. The marble jamb shall be fixed with stone adhesive/white cement		
8	PAINTING			
i)	Putty :-	Providing and applying white cement based putty (of approved brand) on all internal/external plaster surfaces and ceiling surface to be painted	JK, WALCARE, BIRLA, and equivalent	
ii)	Interior Paint :-	Acrylic Emulsion paint of all shades to give an even shade including all scaffolding and applying two or more coats.	SHALIMAR, ASIAN, BERGER, NAROLAC, DULUX and equivalent	asian-L146, narolac-2953P
iii)	Exterior Paint :-	Exterior acrylic paint of all shades to give an even shade including all scaffolding and applying two or more coats.	SHALIMAR, ASIAN, BERGER, NAROLAC, DULUX and equivalent	
iv)	Polish on Door Chowkhat	Melamine Polish	SHALIMAR, ASIAN, BERGER, NAROLAC, DULUX and equivalent	
9	WATER PROOFING	For Sunken Portion		
		Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying :	Pidilite/Sika/Fosroc and equivalent	
		(a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours.		
		(b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours.		
		The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.		
		For Roof		

S.No	Item	Description	Recommended make / approved Material	Remarks
		Providing and laying water proofing treatment on roofs of slabs by applying cement slurry mixed with water proofing cement compound consisting of applying:		
		(a) after surface preparation, first layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm.		
		(b) laying second layer of Fibre glass cloth when the first layer is still green. Overlaps of joints of fibre cloth should not be less than 10 cm.		
		(c) third layer of 1.5 mm thickness consisting of slurry of cement @ 1.289 kg/sqm mixed with water proofing cement compound @ 0.670 kg/sqm and coarse sand @ 1.289 kg/sqm. This will be allowed to air cure for 4 hours followed by water curing for 48 hours. The entire treatment will be taken upto 30 cm on parapet wall and tucked into groove in parapet all around.		
		(d) fourth and final layer of heat resistant tiling with cement mortar (which will be paid for separately).		
		For the purpose of measurement the entire treated surface will be measured.		
	Tile over Roof	Providing and fixing Heat Resistant Terrace Tiles (300 mm x 300 mm x 20 mm) with SRI (solar refractive index) > 78, solar reflection > 0.70 and initial emittance > 0.75 on waterproof and sloped surface of terrace, laid on 20 mm thick cement sand mortar in the ratio of 1:4 (1 cement : 4 coarse sand) and grouting the joints with mix of white cement & marble powder in ratio of 1:1, including rubbing and polishing of the surface upto 3 cuts complete, including providing skirting upto 150 mm height along the parapet walls in the same manner.	KAJARIA, SPARTEX, JOHNSON S.NAVEEN, SOMANI, BAJAJ, Equivalent	
10	Front projection Façade work	1) Providing and fixing 3mm/4mm ACP sheeting with back support frame of aluminium tubes 2) Covering facade with polycarbonate 3 mm with ms pipe grid, aluminium strip joint caps and epdm rubber with front elevation of ACP CNC	ALUCOBOND, ALUDECOR, REYNOBOND, Equivalent ACP- Alstone-AN/506, Aiudecor, EC-02 Tuscan Clay	
11	RAILING WORK/SS fixtures	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners, stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	OZONE, GEZE, JINDAL STEEL, Equivalent	
12	WC cubical	Thickness of Compact Laminate : 12mm Color of HPL Boards: Single Standard Compact Color Special Remarks For Customization : : Size of Cubicle : 1100mm (W) X 1300mm (D) X 2003mm (H) . Door Size : 1750mm (H) x 600mm (W) Divider Size : 1820mm (H) Overall Height Of Cubicle : 2003mm (Including bottom Gap of 150mm) Accessories: Standard - Merino Make Aluminum, Stainless Steel - 304 Grade accessories) a) Aluminum "U" Channel b) Aluminum "F" Channel (Only Corner Unit) c) Aluminum Door Stopper Channel d) Aluminum Top Rail e) SS Coat Hook f) SS Privacy Thumb turn c/w Occupancy Indicator g) SS Door Knob h) SS Spring Loaded Butt Hinges with Cover i) SS Adjustable Foot 316 Grade j) Rubber Door Stopper Lining k) Screws & Wall Plugs SPECIAL NOTE - Warpage Criteria is 3.0 mm/1000mm for MRS panels as per EN standard- 438	Merino, century, greenlam and equivalent	
13	Urinal Modesty Panels	Providing & Fixing in position urinal partition made of standard marino HPL board with all fixtures and fittings complete as per direction of engineer in charge	Merino, century, greenlam and equivalent	
14	Water Supply pipe	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.	Supreme/Prince/Finolex/Oriplast/E equivalent	
15	Drain/sewerage pipe	Providing and fixing uPVC Pipe & Fittings	Supreme/Prince/Finolex/Oriplast/E equivalent	



S.No	Item	Description	Recommended make / approved Material	Remarks
16	WC	Providing and Fixing of vitreous china single trap syphonic pattern having back inlet, supporting chair wall hung water closet with flush valve and CP brass flush bend (European type) Wall Hung water closet with seat and lid, with C.P. brass hinges and rubber buffers, adapter, rubber joints fixed to W.C., C.P. brass screwed washers including cutting and making good the walls and floors wherever required and HDPE wc pan connector including jointing with white cement complete in all respects.)	CERA, Hindware, Parryware Jaquar and equivalent	Jaquar-ONS-WHT-10953B1UFSM, CERA- cat.no-S1044142
17	WB	Providing and fixing white color vitreous China flat back, counter Top wash basin with R.S. or CI bracket and 32 mm dia outlet, with brass C.P. wall cap and extension pieces, 15 mm dia C.P. brass angle stop cock with 10mm dia C.P. brass connection pipe etc. CP brass chain, CP wall flange, rubber adapter for waste connection complete, CP brass chain CP waste and CP pipe to wall with CP wall flange and rubber adapter for waste connection complete, with pedestal of matching model below wash basin, including cutting and making good the walls wherever required.	CERA, Hindware, Parryware Jaquar and equivalent	Jaquar-JDS-WHM-25911, cera-cat no-S2020172
18	URINAL	Providing and fixing fully automatic urinal pot with fixing accessories complete.as per direction of Engineer-in-Charge.	CERA, Hindware, Parryware Jaquar and equivalent	
19	CISTERN TANK	Providing and Fixing of low noise Concealed cistern, mounting module for brick work with actuation plate with water saving: delayed filling process saves appr. 0,5 l/flush ; Dual Flush - 3 litre and 6 Litre	CERA, Hindware, Parryware Jaquar and equivalent	
20	Wash basin mixture	Providing and fixing of self-closing wash basin tap high pressure cold and pre-mixed water with a plastic cartridge ; manual actuation and automatic closing action should Comprises: mounting accessories for single-hole installation and with technical data: as flow volume 6,0 l/min	CERA, Hindware, Parryware Jaquar and equivalent	CERA-F1005453, Jaquar-OPP-15005BPM
21	bottle trap	Providing and fixing CP Bottle Trap for basin, sink and urinal.	CERA, Hindware, Parryware, Jaquar and equivalent	Jaquar-ALD-769250X190
22	health spary	Providing and fixing of ABS health spary which can tolerate water pressure up to 6 bar flow pressure with metal hose and holder in Polished Chrome ;	CERA, Hindware, Parryware Jaquar and equivalent	
23	pvc water tank	Providing and placing on terrace (at all floor levels) polyethylene water storage tank ISI :12701 marked with cover and suitable locking arrangement and making necessary holes for inlet,outlet and overflow pipes but without fittings and the base support for tank. Minimum 3000 L capacity.	Sintex/Reno/Aquatech and equivalent	
24	hand drier	Supply, installtion, testing of stainless steel fully automatic "No Touch" hand drier suitable to operate on 220 volts, single phase 50 hz., A.C. power.	Dolphy, Euronics, Jaquar, and Dyson / equivalent	
25	mirror	providing and fixing 900 mm wide beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete	MODI FLOAT GLASS / SAINT GOBEIN Equivalent	
26	HE/SHE TOILET Signages	Door and/or Directional Signages (Sizes between 225mmx150mm till 600mmx600mm) : Design, Supply of Acrylic multilingual Braille Tactile signages - like Building entrance , Door signages, Name plates, (raised domes) signboards of minimum size 9"X6" (225x150mm) to for doors, specific areas like toilets, water, etc. & directions (without maps or drawings) , designed as per the drawings issued and having 3+2mm thick blue Acrylic non glare base plate, and 0.5mm Thick Aluminium plate at backside, with Upper Case San Serif words made of white acrylic non glare cut out letters of height 15mm raised 0.8mm above base plate and the equivalent word/s written in Hindi with Devnagri non glare acrylic letters of height 15mm raised 0.8mm above base plate. Signage to have a relevant symbol made of white cut out acrylic and raised by 0.8mm above base plate. Grade 1 Braille consisting of raised domes of 1.5 to 1.6mm dia. and spacing as per Braille standards given by GOI to be integral with the sign face and be raised 0.6 to 0.9mm above base plate.Each signboard to be fixed as per manufacturers specifications at the specified locations at a height of 1200mm from FFL and up to the satisfaction of the engineer in charge.		

S.No	Item	Description	Recommended make / approved Material	Remarks
27	Door Braille Signages	uilding Tactile Door Braille Signages, Providing of Stainless Steel Multilingual Braille Tactile signages "9 X 6" Inches having 1mm non glare matt finish Stainless Steel sheet + 4mm thick acrylic base plate on back side with Upper Case San Serif words made of black acrylic non glare cut out letters of height 15mm raised 0.8mm above base plate and the equivalent word/s written in Hindi with Devnagri non glare acrylic letters of height 15mm raised 0.8mm above base plate. Grade 1/2 Braille consisting of raised domes of 1.5 to 1.6mm dia. and spacing as per Braille standards given by GOI to be integral with the sign face and be raised 0.6 to 0.9mm above base plate.Each signboard to be fixed as per manufacturers specifications at the specified locations at a height of 1200mm from FFL and up to the satisfaction of the engineer in charge.		
28	SWINGING GRAB BAR	Providing S.S. 304 SWINGING GRAB BAR - 750 mm, and of DIA: 32MM, Brush/Matt finished, with safety locking system for preventing accidental falling down, MAKE :Prosafe Living and to be installed on the rear wall of the WC, at the specified location as per accessibility standards and to be installed firmly as per the installation instructions of the product issued by the manufacturer and using the specified hardware and as per the direction of the engineer in charge.		
29	GRAB BAR	Providing S.S. 304 GRAB BAR - 600 mm, and of DIA: 32MM, Brush/matt finished MAKE :Prosafe Living and to be installed on the rear wall, at the specified location as per accessibility standards and to be installed firmly as per the installation instructions of the product issued by the manufacturer and using the specified hardware and as per the direction of the engineer in charge.		
30	WC	Providing and fixing of white vitreous china European raised seat water closet for handicap toilet including providing & fixing CP bolts, nuts, fisher/anchor bolt are required for hangong of WC, exposed low volume compatible dual flush chinaware cistern with CP bolts, nuts, supporting arrangements, bakelite/ poly propylene seat & cover with CP hinges & rubber buffers, WC pan connector (straight/offset type Macfit single body push fit type WC pan connector with factory supplied spring loaded seal guard with integral single mould sealing fins made of flexible EVA body, including bush/adaptor for use with C.I/PP/uPVC Pipe as supplied with the pan connector), wall mounted 32 mm dia seamless stainless steel tube coated with nylon non-slip gripping surface hinged Hand Rail 750 x 100 mm complete with all accessories. Including cutting & making good the walls & floors wherever required.	CERA, Hindware, Parryware, Jaquar and equivalent	JAQUAR-DIS-WHT-93955P180UF
31	SANITRY and PLUMBING WORK	Sanitary plumbing, water supply including cold water line, rain water disposal, sewage work (disposal and treatment using modular STP of suitable capacity), toilet fittings (using CP fittings and hidden flushing cistern, sensor based urinal cistern, Hand Dryer (automatic) and soap dispenser, Bottle trap and SS bin (one in each WC cuboidal and one bin in common area) (provision of cover and foot operated) etc. Sanitary Fittings (Counter sunk WHB/Wall Mounted WC/urinal (with 8mm thk toughened glass partitions) and Plumbing Pipes. Overhead tank shall be multi layered HDPE with thermal insulation fitted with automatic pressure pump fittings in the toilet . Automatic Air Freshener spray shall also be provisioned in each block (Gents/ladies/handicap/feeding room).		
32	Handicap Toilet	This toilet shall equipped with Toilet paper holder, Grab bar, Low-height washbasin, Wider door with no threshold and Lever-type fittings		
33	Looking Mirror	In front of each WHB (preferably of size 20"x36" (min) thk 6 mm (min)) fixed on wall using without frame.		
34	External development	making subgrade, laying WMM and Providing Laying 80mm/60mm Paver Block in roads and Path respectively & Kerb stone		
35	Horticulture Work	Grassing & Plantation of shrubs and trees		
36	pvc conduit	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.25mm dia	BAJAJ,FINOLEX,AKG,KALING A AND Equivalent	
37	Wiring	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.	polycab, finolex. equivalent	

S.No	Item	Description	Recommended make / approved Material	Remarks
38	earth wire	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.	polycab, finolex, equivalent.	
39	GI box	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Havells, RR Kabel, and Kisaan, equivalent	
40	mcb distribution board	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	MDS/ Havells/ Indo Asian/ Hager/MK SENTRY/ABB, equivalent	
41	Solar Power Systems			
a	Rooftop Solar PV System	Provision of minimum 10 kWp capacity Hybrid Rooftop Solar Photovoltaic (PV) System.	Rooftop Solar PV systems shall comply with applicable MNRE guidelines, CEA regulations, relevant BIS/IEC standards and local DISCOM requirements, as amended from time to time.	
b	Solar Street Light	Supply and fixing of All In One Solar LED Street Light of required wattage (Lumen output not less than 10500 lumens) having following specifications:- Solar Panel: 1. Solar panel should be made from Monocrystalline cells . 2. The Solar Module Power shall be ≥ 100 Wp. 3. Cell efficiency should be $\geq 21\%$, 4. Module efficiency should be $\geq 17\%$. 5. Glass should be Borosilicate only . 6. Manufacturer should comply to IEC 61215, IEC 61730 & IEC 61701 standards.	BAJAJ/ TRANSRAIL/VALMONT, equivalent	
42		Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.		
		Group A		
43		Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed PVC conduit, and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required		
		Group A		
44		wiring of following light point with 1.5 sq.mm FRLS PVC insulated copper conductor cable in PVC conduit recessed including chasing of wall, filling of chases with cement mortar 1:3 mix and /or fixing conduit on surface of wall/ceiling including fixing of saddles etc. including modular range of plate switches, modular cover plate, ceiling rose, surface or deep tee, circuit wiring (2x2.5+1x2.5), 1.5 sq.mm FRLS PVC insulated copper earth wire, etc. complete as required.		
		One point controlled by one number 10 Amp MCB (First point)		
		Looping Point above		
45		Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.		
		2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire		
		2 X 4 sq. mm + 1 X 4 sq. mm earth wire		
		2 X 10 sq. mm + 1 X 6 sq. mm earth wire		
		4 X 6 sq. mm + 2 X 6 sq. mm earth wire		
46		Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.		
		25 mm		
47		Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch, connections etc. as required.		
48		Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required.		

S.No	Item	Description	Recommended make / approved Material	Remarks
49		Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/ Isolator)		
		6 way (4 + 12), Double door		
50		Supplying and fixing following rating, four pole, 415 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.		
		40 amps		
51		Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.		
		40 amps		
52		Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.		
		Single pole		
53		Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.		
54		SITC OF 9 W LED 6500 K Slim, compact, aluminum die cast edge lit panel. Recess mounted round fixture with opal diffuser and separate electronic driver.	Havells or equivalent	
		SITC of 5 W WH LED Mirror Light		
		Supply installation testing commissioning of 10W Wall bracket light		
		Supply installation testing commissioning of Exhaust Fan Heavy Duty		
		Supply installation testing commissioning of 1200 MM Ceiling fan		
55		Supply, Installation, Testing & Commissioning of Network WDR 2MP IR Bullet Camera having 1/2.8" 2 Megapixel progressive CMOS, 2.7 mm – 13.5 mm MFZ Lens, True day/night (IR-cut filter), Wide dynamic range up to 120 dB, Low-light performance down to 0.002 Lux / F1.5 (color, 30IRE), 0 Lux (IR ON), Up to 197 ft (60 m) IR illumination, H.264/H.264B/H.265/Smart Codec/MJPEG (Sub Stream), Support up to Up to 128 GB micro SDHC card, Class 10 (not included), DC12V or PoE (802.3af)(Class 0), IP67 INGRESS PROTECTION, ONVIF Profile S/G/Q, FCC Part 15B, EN 55032, EN 50130-4, UL 60950-1, ROHS- EN 62368-1, certifications, etc as required.	HONEYWELL/ CP PLUS/ HIKVISION / equivalent	
56		Supply, Installation, Testing, Commissioning, Integration of 8-Channel 4K NVRs:- Third-party network cameras supported Up to 5 Megapixels resolution recording With 2 SATA Port up to 12 TB Supported Support 1-ch HDMI, 1-ch VGA, HMDI at up to 4K(3840x2160) resolution 4-ch network cameras can be connected with 40M/60M/80M incoming bandwidth Support dual-os to ensure high reliability of system running Support various VCA detection alarm and VCA search Support H.265/H.264/MPEG4 video formats		
57		Supply, installation, testing and commissioning of 4TB Surveillance Hard Disk S V SERIES-offer high capacities, durable reliability and performance tuned to the high-write workloads of today's 24x7 video surveillance systems as required.	SEAGATE / WD/ HITACHI / equivalent	
58		Supplying, Laying & fixing of 15 MTR HDMI cable on surface as reqd.	Stackline / Extron / Kramer / equivalent	
59		Supply, installation, testing and commissioning of 3 KVA UPS with 30 minutes back-up with inbuilt battery complete etc as required.	APC / MICTOTEK / VGUARD / equivalent	
60		Supply, installation, testing and commissioning of 32" LED monitor includes Screen size :43" Diagonal Size, LED BLU type technology, resolution- 3840 X 2160 ,250 nits brightness, 4700:1 contrast ratio, stereo mini jack, HDMI I/p-2, USB-I, compatability for wifi, bluetooth suitable for operation on AC Power supply AC 240 V~ (+/- 10 %), 50/60 Hz, etc required.(SAMSUNG, Model – BE 43TH/SONY/LG)	SAMSUNG, Model – BE 43TH/SONY/LG, Or equivalent	
		Supply, Installation, Testing, Commissioning, Integration of 8+2 Giga uplink Port POE Switch 10/100/1000 MBPS (GIGABYTE)		

S.No	Item	Description	Recommended make / approved Material	Remarks
61	GYPSUM FALSE CEILING	Providing and fixing in position 12.5mm Thick Gypsum board ceiling to G.I. framing perfect in level including marking grooves at the junction of ceiling and walls/columns/partitions etc, cut out for light fittings, A/c Grills, Speakers, services etc. and including providing and fixing of necessary G.I/Wooden frame supports for the above fixtures and additional suspenders to hang the same independently. G.I frame to consist of Proprietary supplied frames and as per manufacturers recommendation, suspended from the corrugated sheet with wedge nuts to exposed reinforcement of the structural slab by means of GI proprietary angles. Gypsum board fixed with propriertart supplied fixing devices and finally finished with paint of approved make & shade including preperation of required base. Cost to including required wide return air slits and A/C boxing wherever indicated. (Wedge Nut System to be Paid Separately)	Saint Gobain, USG Boral, Knauf, equivalent	
62	MICRO PERFORATED GYPSUM CEILING WITH ACOUSTICAL BACKING - CLASS A (NRC 0.9) :	Supply and installation of 12.5mm thick micro perforated gypsum plaster board of Perforated gypsum acoustic board with regular square perforation that is used in conjunction with Gyproc or GypLyner systems. The reverse of the board incorporates an acoustic fleece which provides sound absorption performance. Rigitone boards provide sound absorption when used in conjunction with an air space behind the ceiling or wall. Perforation type - Regular square perforation. Perforation size - 12 x 12mm, cc 25mm.	Gyproc Rigitone, Knauf Cleaneo, equivalent	
63	METAL GRID CEILING:	Providing & Fixing horizontal level suspended ceiling comprising of GI Bioguard Clip-in Plain Tile 600x600mm (Nominal Size) tiles of 120 gsm galvanized steel as per IS 277 (2003) suitable for architectural finishes in 0.5mm thickness as per in IS:513 (1994) in Global white color with concealed suspension system having a bevelled edge of 3x3mm and height of 33mm on one side and 18mm on the other side. Tiles shall be flattened by precision leveller to minimize sag to less than 1/400mm. The tiles shall have double round pip of ϕ 2mm and ϕ 6mm for secure engagement and levelling respectively, along with swing down feature and special tabs to allow removal of tile to enable plenum access. The coated surface of the tile shall exhibit anti-microbial properties (eradication and inhibition of growth) and shall achieve up to 99.99% reduction in bacterial activity as per ISO22196:2011 when tested for organisms: Escherichia Coli, Bacillus Subtilis, Pseudomonas Aeruginosa, Clostridium Perfringens, Enterococcus Faecalis, Staphylococcus Aureus, Salmonella Enterica, Streptococcus Faecalis and MRSA.		
		The coated surface of the tile shall also exhibit fungal resistance properties and shall achieve a "Rating 0" (No fungal growth observed) as per ASTM G-21 when tested for Aspergillus Brasiliensis, Penicillium Pinophilum and Candida Albicans. The tile shall be electrostatically polyester powder coated using RoHS compliant powder having coating thickness ranging from 60-80 microns. The powder coating shall pass Salt Spray Test for 750 Hours as per ASTM B117, QUV -A Test for 1000hours as per ASTM G-154 - (Cycle - 1) and Humidity test for 1000hours as per DIN 50017. The powder coating shall have an adhesion of GT0 as per EN ISO 2409. The shade variation across batches shall be delta E<1 using Excite/BYK Gardner instrument and gloss level of 25 $\pm$ 5% at 60' as per ASTM D523. The tile shall have scratch, mar & abrasive resistance properties. The tile shall have a Light Reflectance of $\geq$ 63% in accordance with ASTM 1477-98 and Fire Performance of class 0/1 as per BS 476 Part 6 & 7 in module size of 600x600mm.	Hunter Douglas, Durlum, Armstrong, equivalent	
64	ACCESS PANEL WITH MOISTURE RESISTANT GYPSUM CEILING: TRAP DOOR :	Providing of following size, Gypsum/ Moisture Resistant Gypsum Board Access Panel with Powder coated Aluminium framing & stiffeners, push-catch closing mechanism with door retaining safety cable and hook, concealed locking arrangement Single layer of 12.5 mm tapered edge frame is then screw fixed to ceiling section with 25 mm dry wall screws at 230 mm centers. Screw fixing is done mechanically either with screw driver or drilling machine with suitable attachment. The work shall also include jointing and fixing to a flush finish of tapered edges of Gypsum board with recommended filler, paper tapes and two coats of putty, 2 coats of primer and 3 coats of acrylic emulsion paints for gypsum board to achieve a smooth finish as per manufacture's specifications. Cost to include paint finish as well	Gyproc, Knauf, equivalent	
		450mm x 450mm		

S.No	Item	Description	Recommended make / approved Material	Remarks
		600mm x 600mm		
		Above 600 mm any size in length & width		
65	GYPSUM COVE:	Making cove in false ceiling 100 mm deep and height of 200 mm in 12.5 mm thk. gypsum board as per design & detail, inclusive of necessary framework with supporting GI frame work wherever required, making cutout for light fixtures, bulkheads & finally finished with paint of approved make & shade with required base complete in all respect.	Saint-Gobain Gyproc, USG Boral, Knauf, equivalent	
66	ROCKWOOL INSULATION	Providing and placing 50 mm thick Rock wool insulation of 48 kg/ cum. density neatly packed in black fleece bag (Non Woven Tissue) of various sizes and shapes, bags shall be fully stitched all round with 25 mm double leaf fold, sealing the rockwool fibre fully. The bags to be stuffed in the cavities of Gyp. partitions from floor up to corrugated sheet above, cross stitched from one side with GI frame work of partition by 24g GI wire to keep bags in position. The quoted rate should be inclusive of RF tissue paper.	ROCKWOOL, Lloyd, Rockinsul, equivalent	
67	LAMINATE CLADDING	Providing and fixing laminate (1 mm thick) paneling with approved finish on top of the existing frame works and ply with grooves to pattern as per the detail drawings.	Century, Royale Touche, Greenlam, equivalent	
		1mm laminate with 12mm ply & 4mm MDF backing to form 4mm grooves		
68	LACQUERED GLASS	Providing and fixing 6 mm thick Lacquered Glass at selected internal partitions and feature walls in the Reception & Waiting Area, Control Room and MLFF Control Centre, of approved make & shade with MDF lipping over existing partition as per the details. Glass to be fixed on 6 mm MDF backing using 3M double sided tape/adhesives.	Saint-Gobain, Asahi India Glass (AIS), Modi Guard, equivalent	
69	FABRIC PANELING / SOFT BOARD	Providing and fixing Fabric panelling with gripper system over existing MDF Backing with soft board + 6mm foam infill will be used behind the fabric. The fabric wrapped over the Husk / citatex board as per the architects / PM's Instructions. Using necessary hardwares, adhesives etc as per the details. Vendor to install fabric paneling as per pattern shown in drawing. back.	Camira, Guilford, FabriTex, Response, equivalent	
70	FRAMELESS GLASS DOOR:	Providing and fixing 10 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & double acting hydraulic floor spring type, Door Handle, lock & door stopper fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge. cost to be including of materials, labour, usage charges of machinery complete as per specifications and as per directions of the Engineer-in-Charge.	Saint-Gobain / AIS glass Hardware: Dorma, Geze, equivalent	
(a)		900 mm x 2400 mm (Single)		
(b)		1050 mm x 2400 mm (Single)		
71	LOGO	Providing & fixing of Logo. (Size - 6'x3')		
		Providing and fixing main LOGO in reception & Facade ALL RELEVANT AS PER INSTRUCTIONS etc in 25mm thk Acrylic finish with text of approved style and font as per instructions of the architect with backlit.	3M, Prolite, equivalent	
		With Acrylic backlit Letters		
72	SIGNAGES	Providing and fixing signages in hanging pattern or box form. Size - 300 x 150mm (approx.)	3M, Prolite, equivalent	
73	Room Signages	Providing & fixing of room/ area Signage's of size 300mmx100mm with SS finish, with Symbol/ artwork, hanged from ceiling/ pasting on doors with hanging / pasting accessories. Rate should be inclusive of Plotter cut vinyl lettering of approved design & pattern. All complete as per detailed drawings & instruction of Architect.	3M, Prolite, equivalent	

S.No	Item	Description	Recommended make / approved Material	Remarks
74	ROLLER BLINDS WORK - MANUAL (Opaque / Blackout)	Supply and installation of roller blinds including gear manual based mechanism as per specifications mentioned below. Fabric to be combination of glass fiber and polyester as per manufacturer's standards. Spanning between mullions with overlap of 50mm wherever required	Vista, Hunter Douglas, Mac, equivalent	
75	SOFT BOARD / PIN UP BOARD	Providing and fixing of fabric board panelling with square edges. 12mm thick Soft Board to be wrapped on the front side with approved fabric with an option of colours as per the choice of the architect. The fabric shall be fixed using Grippers and stretched uniformly along the direction of weave and shall be wrinkle free. Cost should be inclusive of 12mm thick commercial ply. Mode of measurements:- Front Elevation, one side only. (Size:- 3' L X 1'-6" ht.)	Pinboard India, Local OEM, equivalent	
76	Low Height Storage	Providing and constructing 1mm laminate finished storage 18mm BWP ply with 6mm back ply of width 600mm and size as per drawings, with top, sides and bottom, back and intermediates, shutters all as per detailed drawings. All exposed edges to be finished in approved teak wood. Rate to include hardware such as approved locks, auto closing hinges for shutters, approved handles, door stop, tower bolt, etc. complete.		
77	Full Height Storage	Providing and constructing 1mm laminate finished storage 18mm BWP ply with 6mm back ply of width 600mm and size as per drawings, with top, sides and bottom, back and intermediates, shutters all as per detailed drawings. All exposed edges to be finished in approved teak wood. Rate to include hardware such as approved locks, auto closing hinges for shutters, approved handles, door stop, tower bolt, etc. complete.		
78	PLANTS WITH PLANTER BOX	Supplying of FRP planter box of size 900mm L X 300mm Ht. with approved plant.	Local FRP vendor / Fibertech, equivalent	
(a)		Rectangular		
(b)		Square		
(c)		Circular (400mm Ø)		
79	NOTICE BOARD	Providing & fixing of Magnetic notice board in frisking lobby as per design. 900mm L X 600mm Ht.		
80	Hi- Wall Mounted SPLIT Air CONDITIONING UNIT	Supply, Installation, testing & commissioning of Hi Wall split air-conditioning unit of below mentioned capacity suitable to operate from 230+10% volt, 50 Hz, 1/3 phase power supply, with air-cooled evaporator with coil, fan, and fan motor, air-cooled condenser with thermetically sealed scroll/rotary type compressor condenser coil, propeller fans controls, control panel, drain pan. The charging of ref/ oil if required shall be included in the cost, including Remote Thermostat, Stabilizer, outdoor unit stand & with all accessories. Including control wiring, necessary power cable, drain piping & pair of copper piping. The Unit should be 3 Star rated (on the date of procurements the minimum EER value of the units should be as per BEE Standard). To be provided in enclosed rooms and cabins.	Daikain, Hitachi, LG or equivalent	
		1.0TR		
		1.5TR		
		2.0TR		
81	Cassette-Unit Ceiling Mounted-SPLIT AIR CONDITIONING UNIT	Supply, Installation, testing & commissioning of 4-Way Flow Cassette Unit split air-conditioning unit of below mentioned capacity suitable to operate from 230+10% volt, 50 Hz, 1/3 phase power supply, with air-cooled evaporator with coil, fan, and fan motor, air-cooled condenser with thermetically sealed scroll/rotary type compressor condenser coil, propeller fans controls, control panel, drain pan. The charging of ref/ oil if required shall be included in the cost, including Remote Thermostat, Stabilizer, outdoor unit stand & with all accessories. Including control wiring, necessary power cable, drain piping & pair of copper piping. The Unit should be 3 Star rated (on the date of procurements the minimum EER value of the units should be as per BEE Standard). To be provided in open office areas and other large occupied spaces with false ceiling.	Daikain, Hitachi, LG or equivalent	
		2.0TR		

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S.No	Item	Description	Recommended make / approved Material	Remarks
82	PIPING WITH INSULATION COPPER REFRIGERANT PIPING	Supply, installation, testing and comissioning of interconnecting copper refrigerant piping of DHE Grade C12200- ASTM B68, B75, chemical composition of copper % 99.0 Min and Phosphorus % 0.015 to 0.040 . For Annealed copper tube :- Tensile strength = 210 Mpa wih elongation % = 40 Min . Ink Mark Brand Printing on Hard Tubes should be present. duly insulated with tubular elastomeric nitrile rubber FM/UL approved with high water vapor diffusion resistance and low thermal conductivity should be certified 'Class O' in Fire Propagation as per BS 476 Part 6 including chase cutting andfilling with mortar. Slotted channel supports mounted on 10 mm threaded rod at suitable spacing the exposed piping shall be wrapped with glass woven cloth and lag coating for vapour barrier and weather protection. Joints shall be covered with nitrile rubber tape of 3 mm thick complete as required of following sizes. All as per pre approved by Engineer in charge. For additional technical parameters of products/ work.	Mexflow (Mehta Tubes), Totaline (Carrier), Rajco, Godrej, and Mandev or equivalent	
		Pipe Size Thickness of CSE		
		(O.D.) Insulation		
		12.7 mm O.D., wall thickness $\geq 0.8\text{mm}$ (insulation – 13 mm thick)		
		6.4 mm O.D., wall thickness $\geq 0.8\text{mm}$ (insulation – 13 mm thick)		
		15.9 mm O.D., wall thickness $\geq 0.8\text{mm}$ (insulation – 13 mm thick)		
		9.5 mm O.D., wall thickness $\geq 0.8\text{mm}$ (insulation – 13 mm thick)		
83	CONDENSATE DRAIN PIPING - cPVC	Providing & Fixing of IS : 4985 - 2000 Class -4 (10 Kg/ Sqcm) UPVC drain water piping with fittings (IS:7834 & 10Kg/sqcm) like elbow, socket, Tee, solvent cement jointing, support with MS hanger on ceiling or recessed in wall with chasing & plastering with 6 mm thick closed cell elastomeric nitrile rubber insulation including leakage testing etc. as required of following Nominal sizes. All as per pre approved by Engineer in charge. For additional technical parameters of products/ work.	finolex.supremc , astral, equivalent	
		25mm dia		
84	IP Dome camera:	Supply, installation, testing & commissioning of Indoor Application 2 MP IP Dome cameras with resolution, SD card recording support, POE Mounted on True Ceiling / False ceiling . Complete with all mounting brackets & accessories.		
85	IP Bullet camera:	Supply, installation, testing & commissioning of Outdoor Application 2 MP IP Bullet cameras with resolution, SD card recording support, POE Mounted on True Ceiling / False ceiling . Complete with all mounting brackets & accessories.		
86	8 Channel NVR (Network Vedio Recorder):	Supply, Installation, Testing & commissioning of 8 Channel NVR (Network Vedio Recorder), for recording upto 16CH @ 1080P with 01 nos. SATA HDDs		
87	LED screen	Supply, installation, testing & commissioning of 32" inches LED screen suitable for showing out puts from NVRs on a single screen complete in all respect .	Samsung/LG/ Equivalent	
88	LAYER 2 SWITCH	LAYER 2 SWITCH Supply, Installation, Testing and Commissioning of Layer 2 manageable networking switch, 24 port 10/100/1000Tx ports, all 24 ports shall be capable of providing PoE as per 802.3at, minimum, Uplink- 4 SFP ports - For CCTV and IP Phone.		
89	CAT-6 Cable	Supply & laying of CAT-6 Cable 23AWG solid bare electrolytic grade copper unshielded type cable. Unshielded twisted pair cabling system, TIA / EIA 568-C.2 Category 6 Cabling system, CM/CMR rated.cable should be ETL Verified, UL Listed and UL channel verified- All three Certificates are mandatory.It should be IEEE 802.3ab - Zero-bit Error, ETL verified .cable Frequency tested up to 500 MHz.		
90		Supply, installation, testing & commissioning of 4 TB		
91		Supply and laying Cat -6 Patch Code 1 Mtr./2 Mtrs.		
92		Supply Installation Testing & Commissioning of floor Mount Rack 17 U/600mm(W)/800mm(D),Single Section(Alongwith Front Glass Door Lockable), Fan 90CFM 230 VAC (Directly Mounted on Top Panel) 19" Cable Manager 1U (MS),19" Cantilever Tray 1U/255mm(D), Hardware Front pannel (Pkt of 10 Nos),Anchor Fashner (Set of 4 Nos.), PDU 6 Points 5 Amp. Socket,		
93	PABX	Supply Installation Testing & Commissioning of a latest IP server based PABX with all facilities like non blocking and open standard with power supply.		
94	IP Telephone	Supply Installation Testing & Commissioning of IP Telephone		
95	Information Outlet	Supply Installation Testing & Commissioning of Information Outlet - For Data and Voice		

S.No	Item	Description	Recommended make / approved Material	Remarks
96	Single Face Plate with gang box	Supply Installation Testing & Commissioning of Single Face Plate with gang box - For CCTV		
97	Dual Face Plate with gang box	Supply Installation Testing & Commissioning of Dual Face Plate with gang box - For Data and Voice		
98	Port Patch Panel	Supply Installation Testing & Commissioning of 24 Port Patch Panel- for data, cctv, ipbax.		
Note - All the equipment above shall be from reputed brand/make				

