



**NOIDA METRO RAIL CORPORATION LIMITED**

**CONTRACT NO: NMRC/Projects/2026/460**

**Civil and Architectural Work for Development of NMRC Project Office at 2nd floor, Ganga Shopping Complex, Sector-29, Noida.**

**VOLUME-3**

**Scope of Work**

**NOIDA METRO RAIL CORPORATION LTD.  
Block-III, 3rd Floor, Ganga Shopping Complex,  
Sector-29, Noida -201301,  
District Gautam Budh Nagar, Uttar Pradesh, India**

## **1.0 Scope of Work**

- 1.1.1 These Specifications contained herein shall be read in conjunction with other tender documents.
- 1.1.2 The contractor will execute the work as per the tender drawing and shall prepare the Method statements/Progress charts for the approval of the NMRC as per scope of works.
- 1.1.3 The work shall be executed and measured as per metric units given in the Schedule of Quantities, drawings etc.
- 1.1.4 Absence of terms such as providing, supplying, laying, installing, fixing etc in the descriptions does not even remotely suggest that the Contractor is absolved of such providing, supplying etc unless an explicit stipulation is made in this contract. The Owner shall bear no costs of materials, labour, equipment, duties, taxes, royalties etc.
- 1.1.5 The work shall be carried out with contractor's own material & labour as per the specification & drawing approved by NMRC.
- 1.1.6 The work under this contract shall consist of, but not limited to, all materials, labour, equipment's, tools, plants and necessary machinery as required to completely execute any or/ and following works within NMRC premises/ scope:
- a) Planning & Executing the Civil & Architectural work for Development of NMRC Project Office at 2nd floor, Ganga Shopping Complex, Sector-29, Noida. The item rates in BOQ are inclusive of all Works.
  - b) The Summary of the Civil works to be executed as per the item of works mentioned in the BOQ/Tender Drawings provided unless otherwise as per the instruction of the Engineer.
  - c) The bidder should inspect the work site after receiving NOA and obtain for himself at his own responsibility all the information which may be necessary for the purpose of the successful execution of the contract.
  - d) The bidder shall also make himself conversant with all the local conditions, means of access to the site of work, nature, extent of transport facilities and character of the work and supply of materials, conditions affecting labour and other matters that may affect his tender.
  - e) There is a requirement of demolition work in the existing structure at the 2<sup>nd</sup> Floor of Ganga Shopping Complex. Bidder must inspect the structure properly and ensure proper methodology prior to carry out the demolition work.
  - f) All the work in the BOQ must be done as per instructions of Engineer In charge and also take approval of Make of BOQ items before any purchase.

## **2.0 Contractor to Provide:-**

The Contractor shall provide and maintain at site throughout the period of works the following at his own cost and without extra charge, Except for the items specified in the Bill of Quantities the cost being held to be included in the Contract Rates:

- I. General works such as setting out, site clearance before setting out and on completion of works.
- II. All labour, materials, plant, equipment and temporary works, Overhead charges as well as general liabilities, obligations, insurance and risks arising out of GCC, required to complete and maintain the works to the satisfaction of the Engineer
- III. Adequate lighting for night work, and also whenever and wherever required by the Engineer
- IV. Temporary fences, barricades, guards, lights and protective work necessary for protection of workmen, supervisors, engineers, General public and any other persons permitted access to the site. Contractor shall provide proper signage as directed.
- V. All equipment, instruments, labour and materials required by the Engineer for checking alignment, levels, slopes and evenness of surfaces measurements and quality etc.
- VI. Design mixes and testing them as per relevant clauses of specifications giving proportion of ingredients, sources of aggregates and binder along with accompanying trial mixes. Test results to be submitted to the Engineer for his approval before adoption on works.
- VII. Cost of Preparation and compliance with provision of a quality assurance control program.
- VIII. Cost of safe guarding the environment.

## **2.0 MATERIALS**

### **2.1 Quality Assurance & Quality Control**

- The work shall conform to high standards of design and workmanship, shall be structurally sound and aesthetically pleasing. The Contractor shall conform to the Quality standards prescribed, which shall form the backbone for the Quality Assurance and Quality Control system.
- At the site, the Contractor shall arrange the materials, their stacking/storage in appropriate manner to ensure the quality. The Contractor shall provide all the necessary equipment and qualified manpower to test the quality of materials, assemblies etc., as directed by the Engineer. The tests shall be conducted at specified intervals and the results of tests properly documented. In addition, the Contractor shall keep appropriate tools and equipment for checking alignments, levels, slopes and evenness of the surfaces.

- The Engineer shall be free to carry out such tests as may be decided by him at his sole discretion, from time to time, in addition to those specified in this document. The Contractor may provide the samples and labour for collecting the samples. Nothing extra shall be payable to the Contractor for samples or for the collection of the samples.
- The test shall be conducted at the Site laboratory that may be established by the Contractor or at any other Standard Laboratory selected by the Engineer.
- The Contractor shall transport the samples to the laboratory for which nothing extra shall be payable. In the event of the Contractor failing to arrange transportation of the samples in proper time the Engineer shall have them transported and recover two times the actual cost from the Contractor's bills.
- All testing shall be performed in the presence of Engineer. Testing may be witnessed by the Contractor or his authorized representative if permitted by the Test House. Whether witnessed by the Contractor or not, the test results shall be binding on the Contractor.
- The Engineer shall have the right at all times to inspect all operations including the sources of materials, procurement, layout and storage of materials, all equipment including the concrete batching and mixing equipment, and the quality control system. Such an inspection shall be arranged and the Engineer's approval obtained prior to starting of the particular item of work. This shall however, not relieve the Contractor of his responsibilities. All materials which do not conform to these specifications shall be rejected and shall be removed from the site immediately. The Engineer shall have the powers to cause the Contractors to purchase and use materials from any particular source, as may in the Engineer's opinion be necessary for the proper execution of work.

## **2.2 Rejection**

- Any material found not to conform to the specifications shall be rejected forthwith and shall have to be removed from the site by the contractor at his own cost
- Any work not to the satisfaction of the engineer or his representative will be rejected and same shall be rectified, or removed and replaced with work of required standard of workmanship at no extra cost.

## **3.0 TIME SCHEDULE**

- The Contractor shall complete field work within **4 weeks**. This schedule is to be within the overall completion period of **04 months**.

#### **4.0 TECHNICALSPECIFICATIONS FOR CIVIL WORK**

##### **4.1 Specifications**

IS (Indian Standards) Codes and CPWD (Central Public Works Department) Specifications are applicable in this contract.

##### **4.2 Manufacturers/ Suppliers**

All materials and products shall conform to the relevant standard specification, BIS codes and other relevant codes etc. and shall be of make as approved by Engineer.

The list of makes for products and materials is given below. Other equivalent manufacturers may also be considered with prior approval of the Engineer, if found conforming to all standards. Such requests should be made with all documents to the Engineer at least 45 days before the material is required and any order shall be placed only after receiving the written approval of the Engineer.

<b>S.N.</b>	<b>Details of Materials/ Products</b>	<b>Manufacturer's Name</b>
1	Cement	ACC, Ultratech, Gujarat, Ambuja, Grasim, JK Lakshmi, JSW, Lafarge
2	Reinforcement Bars	SAIL Plants, Rashtriya Ispat Nigam Ltd. (Vizag Steel Plant, Andhra Pradesh), Tata Steel (Jharkhand), Ispat Industries (Maharashtra), JSW Steel (Karnataka), JSP, Essar Steel (Gujarat), Monnet Steel, Electro Steel, Shyam Steel and any other integrated steel plant as per Ministry of Steel's definition.
3	Epoxy	FOSROC, SIKA QUALCRETE, Araldite, BASF, Kunal Conchem, CHRYSO, Don Chemicals, STP, Cleantech SA, TAM, CICO, MC-Bauchemie, Pinnacle, Fibrex, MYK Schomburg, Parex Group (Lanko), Hindustan Silicate & Chemical, ACC, MYK Schomburg
4	Expansion Joints	Kantaflex, Kanta, Maruti Techno, MYK Schomburg, Prequalified Manufacturers as per RDSO's latest approved list
5	Admixtures	FOSROC, MBT, MC Baucheme, Sika, APEX, Pidlite, Polygon, CHRYSO, Choksey, STP, MYK Schomburg, BASF, MAPEI, Kunal Conchem, Durabuild, Conproof, CAC, H & R Johnson, Asian Lab., TAM, Adoadditives, STP, CICO, Fairmate, ATPL, Pinnacle, Rheoplast, Grace Construction, ACC, Hindcon, DON

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<b>S.N.</b>	<b>Details of Materials/ Products</b>	<b>Manufacturer's Name</b>
6	Pile Integrity Testing Agency	CBRI, FUGRO-KND, Pile Dynamic, AIMIL, Geodynamic, CEG Test House, EMC India, Mythcon, ATL AVANTECH, Soil Engineering Consultants
7	Anchor Fastener	HILTI, FISHER, AXEL Industries, Cannon, Pioneer Nuts and Bolts (TUFF Brand), MUNGO, LPSEJOT, Ripple
8	Structural Steel	TATA, SAIL, ESSAR, Maharashtra Pipes, Jindal Steel & Power Ltd., JSW, K.L. Steel, Steel Works & Power Engineers, SKS Ispat & Power, Shamil Steel, Topworth
9	Stainless Steel	Jindal, SAIL or approved equivalent
10	Pre-stressing Strand (LRPC)	TATA SSL Ltd., USHA Martin, DP wires, (Ramsarup Nirmaan) only if there is shortfall
11	Pot/ Elastomeric Bearings	Prequalified Manufacturers as per RDSO's latest approved list
12	Horizontal Tie Bars/ Shear Bars	BB Bars System, BBV Systems, Macalloy or approved equivalent.
13	HDPE Sheathing	Rex Polyextrusion, Gwalior Polypies Ltd., Kataria Sheathing, M/s. Tirupati, M/s. Dynamic Prestress
14	Formwork Release Agent	FOSROC, MBT, MC Baucheme, Ado Conmnat, CICO, CHRYSO, Choksey, BASF, Adoadditives, STP, DON, MYK Schomburg, Pinnacle
15	Prestressing System	Freyssinet, BBR, VSL, Dynamic, Killick Nixon, Tensaccial (India Ltd.), JK Prestressing, Usha Martin, Posten, VSIL, Wartex Systems
16	Reinforcement Couplers	Dextra, Moment, Arise, Hi-Tech, G.Tech, Kridhan, JB Engg., Unitech, Sanfield
17	Hollow Sections, Pipes	Surya Pipes, Hi-Tech Pipes, JSW, JSPL, Bihar, Ravindra Tubes, Garg Ispat Udyog, Navratan
18	Drainage Pipes	Tirupati Plastomatics, Duraline, REX, STIPL, Kriti, Vishal, Eonn
19	Acrylic Textured Coatings	Spectrum, Renova, Wallz, Surfa Nova, Jotun, Asian Paints
20	Non shrink Grout	Fosroc Chemical (India), SIKA BASF, ELCHEM, MBT, Sika, CHRYSO, Don, Choksey, Cleantech IR, Adoadditives, TAM, STP, CICO, MYK Schomburg,

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<b>S.N.</b>	<b>Details of Materials/ Products</b>	<b>Manufacturer's Name</b>
		Pinnacle
21	Bonding Coat	CICO, FOSROC, Sunanda speciality coating Pvt. Ltd., BASF, CHRYSO, TAM, DON, MYK Schomburg
22	Polysuphide Sealant	CICO, Pidilite, BASF, FOSROC, CHRYSO, STP, SIKA, Fairmate, DON
23	Steel Structural Fasteners	Pooja Forge, Sundram Fasteners, Unbrako, Nelson, Panchsheel, LPSEJOT
24	Corrosion Protection Paints	Berger, Johnson Nicholson, Nerolac, Asian, Akzo Nobel, PPG, Jotun, Shalimar 3M, Fosroc
25	Micro Silica	Sika, Elkem, FOSROC, MAPEI, Corniche, Star Silica, TAM, CALIPAR, CICO, Rockfit
26	Fire Resistant Paints	Akzo, Noble, PPG, Jotun
27	External Acrylic Emulsion	Berger, Apex, Asian, Nerolac, Jenson & Nicklson
28	Integral Crystalline Waterproofing Method	Kryton Buildmat Co. (Pvt.) Ltd., Penetron, Vandex International Ltd., BASF, Chryso, XYPEX, Normet India, DON, MYK Schomburg
29	Water stopper/ Bar	Kanta Rubber, Greenstreak, Maruti, Duron, Deep-Jyoti Rubber
30	Liquid polymer membrane waterproofing	INTEGRITANK, BASF, MAPEI, PIDILITE, CICO, Normet India, DON, MYK Schomburg
31	Curing Compound	Clean tech concure, SINAK, FOSROC, Adoadditives, TAM, STP CHRYSO, CICO, DON, Pinnacle
32	Polycarbonate Sheets	M/s. Gallina Acroplus, Coxwell, Poly U, Fabric, Lexan, (SABIC Innovative Plastics), DANPALON, GE Plastics
33	Fly Ash	Thermal Plants, Ashcrete, Ultra Pozz, Star Pozz (the Fly Ash shall be as per our specifications)
34	Pre-coated profiled Metal Sheetings	Blue, Scope steel, Multicolor, Essar Steel, Bhushan Steel, Ispat Profile India.
35	Welding Electrodes	Esab India, Advani-Oerlikon, D&H Welding Electrodes, Superon Schweissttechnik India, Maruti Weld, Modi

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S.N.	Details of Materials/ Products	Manufacturer's Name
		Arc, Modi Hitech, Weld ally

S.N.	Work Category	Items/ Products	Approved Manufacturers/ Vendors
1	FLOORING	VITRIFIED TILES	Kajaria
			H&R Johnson (India)
			Naveen
			Somany
			Orient
			R. K. Ceramics
			Restile Ceramics Limited
			Asian Granito India Ltd.
			Oasis (Marbomax Group)
			Euro Tiles
			Oracle Granito Limited ('Marbito' Vitrified Tiles)
		Nitco	
		CERAMIC TILES/ PORCELAIN TILES	Kajaria
			Bell Ceramics
			H&R Johnson (India)
			Nitco
			Regency Ceramics Ltd.
			Somany
			Orient
			Kenzai Ceramic
			Raja Tiles
			Mridul Enterprises
			Italia
		Euro Tiles	
		Hindustan Tiles	
		TERRAZZO TILES	Nitco
			Hindustan Tiles
		TACTILE	Pelican Ceramic Industries Pvt. Limited
			Uni Stone Products (India) Pvt. Ltd
			Nimco Prefab Ltd.

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S.N.	Work Category	Items/ Products	Approved Manufacturers/ Vendors
		PVC Floors	Armstrong World Industries (India) Pvt. Ltd.
			Gerfloor India
			Tarkett
			Vee Kay Polycoats Limited
		RAISED FLOORS	Hewetson/ Kingspan Access Floors
			United Access Floors/ United Insulation
			Uniflair
			Unifloor
			Acons
		WOODEN FLOORS	Armstrong World Industries (India) Pvt. Ltd.
			Action Tesa (Action Buildwell)
			Pergo
		PU COATED FLOORS	Cipy Polyurethanes
			H.C. Associates
			Pidilite
			Shalimar Paints
			Sika
		GRC PAVING TILES	Unistone
			Nimco Prefab
			Hindustan Tiles
		PAVERS & CHEQUERED TILES	Uni Stone Products (India) Pvt. Ltd
			CCC Builders Merchant Delhi Pvt. Ltd.
			Nimco Prefab
			Hindustan Tiles
			Terra Firma (Now TERRA FIRMA GRC & CONCRETE INDUSTRIES)
			Nitco
			Hindustan Tiles
Ultra Tiles			
Oracle Granito Limited ('Marbito' Vitrified Tiles)			
Bisazza (Glass Mosaic Tiles)			
2	FINISHING	MOSAIC TILES	Mridul Enterprises
			Italia
			Kenzai
			Opio
			Eon Ceramics

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S.N.	Work Category	Items/ Products	Approved Manufacturers/ Vendors
		EMULSION PAINTS	ICI Dulux
			Modi Industries
			Acro Paints
			Asian
			Berger
			Nerolac
			Jenson & Nicholson
			Kamdhenu Paints
			Shalimar Paints
			Sherwin Williams Paints
		SYNTHETIC ENAMELS	ICI Dulux
			Acro Paints
			Asian
			Berger
			Nerolac
			Jenson & Nicholson
			Kamdhenu Paints
			Shalimar Paints
		Sherwin Williams Paints	
		TEXTURE PAINTS	Spectrum
			Unitile
			Bakelite Hylam(Surface Texture Division)- "Heritage" Paints
			Texfin Products (M/s Niko)
			Acro Paints
			Birla
			ICI Dulux
			NCL ALTEK
			Kamdhenu Paints
			Bizzar
		Sherwin Williams Paints	
		POLYURETHAN E PAINTS	MRF paints
			Nerolac
			H.C. Associates
Modi Industries Ltd. (Paint Section)			
WALL CARE PUTTY	J.K. White		
	Unistone		

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S.N.	Work Category	Items/ Products	Approved Manufacturers/ Vendors		
			Birla (Aditya Birla Group)		
			Shalimar Paints		
			Gyproc wall Putty (Saint Gobain)		
		GLASS (Float / Toughened)	Float Glass India Ltd. (Asahi float)		
			Asahi Float (AIS)		
			Modigaurd		
			Glaverbel		
			Saint Gobain		
			Sejal		
			STRUCTURAL GLAZING FABRICATORS	PERMASTEELISA (INDIA) PRIVATE LIMITED	
		Alufit (INDIA) Pvt. Ltd.			
		SP fabricators pvt. Ltd			
		Alpro India,			
		Ashoo Decore (India) Pvt. Ltd.,			
		Innovators			
		Façade India Testing Inc.			
		3	CLADDING	ALUMINIUM COMPOSITE PANEL	Aluco Bond
Reynobond (Marketed through Kawneer India; Stockists HECTAFINE CONSTECH INDIA PVT. LTD.)					
ALPOLIC (A Mitsubishi product)					
Alstrong					
Alex Panels					
ALSTONE INTERNATIONAL					
Aludecor Lamination Pvt. Ltd.					
Alupan Composite Panels Pvt. Ltd.					
GRC PRODUCTS (GRC Screen, Panels etc.)	Uni Stone Products (India) Pvt. Ltd				
	Hindustan				
	TERRA FIRMA GRC & CONCRETE Industries				
WAX PLASTER	Unitile				
	Okios India Pvt. Ltd				
	Acro Paints				
4	CEILINGS			GYPBOARD CEILINGS	Gyproc (Saint Gobain)
					Lafarge Boral Gypsum India Pvt. Ltd.

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S.N.	Work Category	Items/ Products	Approved Manufacturers/ Vendors
		CALCIUM SILICATE BOARD	Promat
			Hilux
			Acon Pan
			Aerolite
		SS, MS / GI POWDER COATED CEILINGS	Hunter Douglas
			Armstrong
			Durlum
			Fameline
			Canon Ceiling System
		ALUMINIUM CEILINGS	Hunter Douglas
			Armstrong
			Durlum
		5	ADHESIVES, FILLERS & SEALANTS
Araldite (Huntsman Advanced Materials)			
Toyo Ferrous Crete (P) Ltd.			
Somany Ezy Grout			
MYK Laticrete			
Mapei			
Unistone Ultimate Tile Adhesive			
TILE JOINT FILLER	Bal Adhesives and Grouts		
	"Roff Rainbow Tile mate" of Roff Construction Chemicals Pvt. Ltd.		
	Winsil 20/ malibu-tech		
	Silicon Sealant of GE Bayer Silicone		
	"Zentrival FM" of MC-Bauchemie (India) Pvt. Ltd.		
	MYK Laticrete		
	Toyo Ferrous Crete(P) Ltd.		
	Mapei		
POLY SULPHIDE SEALANTS	Unistone Super Grout		
	Pidilite		
	STP Limited		
	Sika		
	CICO		
	BASF		
FOSROC			

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S.N.	Work Category	Items/ Products	Approved Manufacturers/ Vendors		
			SWC		
		SILICONE SEALANTS	GE Bayer Silicones		
			Dow Corning		
			Sika		
			Mc Coy Soudal		
		SILICON WATER REPELLANT SOLUTION	GE Bayer Silicones		
			Metroark		
			STP Limited		
			MC Bauchemnic		
		POLYURETHAN E SEALANTS	Choksey Chemicals		
			3M		
			SIKA		
		6	JOINARY/ WOODWORK PRODUCTS	PLYWOOD	Duroply- Sharda Ply wood Industries
					Century Ply
					Kitply
Green Ply wood					
Virgo Lam (M/s Virgo Industries -> Virgo Plywoods Ltd.)					
Swastik Plyboard Ltd. (Swati Plyboard)					
Merino					
BLOCKBOARD	Duroply- Sharda Ply wood Industries				
	Century Ply				
	Kitply				
	Green Ply wood				
	Virgo Lam (M/s Virgo Industries -> Virgo Boards Ltd.)				
	Merino				
LAMINATE	Decolam / Decolite (A Bakelite Hylam Product)				
	Formica Corporation				
	Sundek International Decorative laminates				
	BAKELITE HYLAM LTD				
	Greenlam Asia Pacific Pte Ltd				
	Merino				

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S.N.	Work Category	Items/ Products	Approved Manufacturers/ Vendors
		PRE-LAMINATED PARTICLE BOARD	Virgo Lam (M/s Virgo Industries)
			Novopan (GVK Group)
			Ecoboard
			Action Tesa (Action Buildwell)
		FLUSH DOORS	Bhutan Board
			Kanchan Ply
			Swastik Ply
			Kutty's
			Diamond Flush Doors/Star Metal Forms p. Ltd
			Raa Veela
			Alpro Panels
		COMPACT LAMINATED DOORS	Merino
			Greenlam Asia Pacific Pte Ltd sturdo rest rooms and cubicals
			Green Ply
		PRESSED STEEL DOOR FRAMES	AGEW STEEL MANUFACTURES PVT LTD
			Sen-Harvic Windows Private Limited
			Raymus
		FIRE DOORS	Signum Fire Protection (I) Pvt. Ltd.
			Godrej & Boyce Manufacturing Company Limited.
			RADIANT FIRE PROTECTION ENGINEERS PVT. LTD.
			NAVAIR INTERNATIONAL LTD.
			Sehgal&Sehgal
			Shakti Met
7	PLUMBING	SANITARYWARE	Hindware
			Cera
			Roca
			Parryware
			Euro
			Somany
		SANITARY & BATH FITTINGS	Mayur/ Othello
			Jaquar and Company Pvt. Ltd.
			Kohler
			Kingston (Plastocraft Sanitary India Pvt. Ltd.)

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S.N.	Work Category	Items/ Products	Approved Manufacturers/ Vendors	
			Lauret	
			Marc	
8	HARDWARES	FRAMELESS GLASS PARTITION FIXTURES	Dorma	
			Hafele	
			Dorset	
			Dline	
			Insta Hardware	
			Hardwyn	
			Ozone	
			Kich	
		SPIDER FITTINGS/ PATCH FITTINGS	Dunex	
			Dline	
			ANCHOR FASTENERS	Hilti India Pvt. Ltd.
				BOSCH FISCHER
		Canon Fasteners		
		Axel		
		Boun Group		
		STONE CLADDING CLAMPS	Hilti India Pvt. Ltd.	
			BOSCH FISCHER	
			Canon Fasteners	
			Alex Industries	
			BOUN Group	
		DOOR HARDWARE	Dorma	
			Hafele	
			Dorset	
			Dline	
Hardwyn				
Ozone				
Hettich India Pvt Ltd				
9	PIPES & FITTINGS		DRAINAGE PIPES	Tirupati Plastomatics
		Duraline		
		Rex		
		DUCTILE IRON PIPES	Electro Steel	
			Jindal (Hissar)	
		CAST IRON (L.A.) S/S PIPES	Kesoram	
			KDPL	

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S.N.	Work Category	Items/ Products	Approved Manufacturers/ Vendors
		& FITTINGS (IS:1536)	NECCO
			HEPCO
		GI & MS PIPES (IS :1239 PART I & II, IS :3589)	Jindal (Hissar)
			Surya
			Swastik
			Prakash
		GI FITTING - MALLEABLE (IS:1879 PART I TO X)	Zoloto
			Unik
			"R"
			KS
			DRP
		Upvc pipes & fittings (is: 4985- 1981)	Finolex
			Supreme
			Prince
			Polypack
			Jindal Plast (India)
		CPVC PIPES & FITTINGS	Flowguard– Astral
			Ajay
			Ashirwad
		STONEWARE PIPES & GULLY TRAPS (IS:651)	Perfect
			Anand
			R.K.
			Priya
		RCC PIPES (IS:458)	Pragati
			Jain Spun
			Daya Spun
			Usha
		COPPER PIPES & FITTINGS	Mehta Tubes
			Rajco
			Maxflow
		HDPE PIPES & FITTINGS	Gebreti
			Reliance (Hasti)
			Nosil
		STAINLESS STEEL PIPES	Remi
			Jyoti Apex
			Kamdhenu
		PPR PIPES &	Supreme

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S.N.	Work Category	Items/ Products	Approved Manufacturers/ Vendors
		FITTINGS	Prince
			Uro-Allwin
		POLYBUTYLENE (PB) PIPES & FITTINGS	Georg Fischer
			Flexalen
10	WATERPROOFING/ REPELLANTS COMPOUND	MODIFIED BITUMINOUS MEMBRANE ROOF WATERPROOFING	Multiplas Standard of Integrated Waterproofing Membrane Limited /"SUPER THERMOLAY"/"POLYFLEX' of <u>STP Limited</u>
			"LOTUS-3" of the Structural Waterproofing Co. Limited
			Sika
			Kemco
			Kryton Buildmat
			MBT
			FOSROC
			Kryton Buildmat
		INTEGRAL CRYSTALLINE WATERPROOFING METHOD	Penetron
		Mapei	
		Vandex International Ltd.	
		11	POWDER COATINGS
	Nerocoat		
	Jenson & Nicholson		
	Jatun		
	Radiant Anodisers Pvt Ltd		
12	METALS	ALUMINIUM SECTIONS	Hindustan Aluminium
			Jindal Aluminium Ltd.
			Bhoruka
			Bharat Aluminium Company Limited/vedanta BALCO
			Hindalco
		HOLLOW SECTIONS, PIPES	Surya Pipes
			Hi-Tech pipes
			JSW
			JSPL
			Bihar (Bihar Tubes Ltd)

**Civil and Architectural Work for Development of NMRC Project Office at 2nd floor, Ganga Shopping Complex, Sector-29, Noida.**

S.N.	Work Category	Items/ Products	Approved Manufacturers/ Vendors
		M.S. TUBES/ SECTIONS	Tata Metal
			Llyod Metal
			NSL Limited
			Bihar Tube Ltd
			Swastik Pipes Ltd
			JSW ISPAT
			Rana
		SS Works	Dharam Industries (FABRINOX)
			Ozone
			Jindal Stainless (JSL)
13	ROOFING/ SHEETING	ROOFING SHEETS	Rooffit (Fibre Glass Roofing, Metal Roofing, galvalume Sheets)
			Wonder Sheets (3 layer u PVC - "Wonder Sheets-Pro")
			Lloyd Insulations India Limited
		METAL ROOFS	"TRACDEK" Interarch Building Products Pvt. Ltd. (Metal Roofing Sheet)
			TATA Bluescope (Metal coated and Pre-painted Sheets - "Zincalume" , "Colorbond")
		POLYCARBONA TE SHEETS	"Lexan" (SABIC Innovative Plastics)
			Danpalon
		TENSILE FABRIC	Ferrari
			Mehler



# **NOIDA METRO RAIL CORPORATION LTD.**

*(A joint venture of Govt. of India and Govt. of U.P.)*

## **CONDITIONS OF CONTRACT ON SAFETY, HEALTH AND ENVIRONMENT MANAGEMENT (July 2018)**

**NOIDA METRO RAIL CORPORATION LTD.  
Block – III, 3<sup>rd</sup> Floor, Ganga Shopping Complex,  
Sector-29, Noida – 201 301,  
District Gautam Budh Nagar, Uttar Pradesh, India**

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## **Part – I: Safety Health & Environment Management**

### **1. General**

#### **1.1. Scope**

This document defines the principal requirements of the Employer on Safety, Health & Environment associated with the contracts to be practiced in Housekeeping works of O&M wing.

#### **1.2. Definition / languages**

In this document:

- a. The use of 'shall' indicates a mandatory requirement.
- b. The use of 'should' indicates a guideline that is strongly recommended.
- c. The use of 'may' indicates a guideline that is to be considered.
- d. 'S & H' means Safety and Health.
- e. Employer means Noida Metro Rail Corporation Ltd., (NMRC).
- f. BOCWA means Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996
- g. BOCWR means Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Central Rules, 1998
- h. DG means Director General of Ministry of Labour, Govt. of India
- i. CIIBC means Chief Inspector of Inspection of Building and Other construction

#### **1.3. Application of this document**

This document applies to all aspects of the contractor's scope of work, including all aspects conducted by sub-contractors and all other agencies. There shall be no activity associated to the contract, which is exempted from the purview of this document.

#### **1.4. Purpose of this document**

The objective of these guidelines is to ensure that adequate precautions are taken to avoid accidents, occupational illness and harmful effects on the environment during housekeeping work.

### **2. 'SHE' Targets and Goals**

The SHE targets, goals and aim for the Works are to achieve:

- a. Zero total recordable injuries.
- b. Zero reportable environmental incidents
- c. All personnel inducted in accordance with the approved contractor SHE plan.
- d. Total compliance of conducting inspections and audits as per approved SHE plan
- e. 100% incident recording and reporting
- f. 100% adherence of usage of appropriate PPEs at work.
- g. Executing housekeeping work with least disturbance to the environment, adjoining road users and traffic

### **3. Compliance**

#### **3.1. NMRC's Safety and Health Policy and Management Systems**

The Housekeeping works shall be undertaken in accordance with NMRC's Safety and Health Policy and Management Systems as amended from time to time provided in Safety and Health Manual.

#### **3.2. Indian statutory requirements**

Contractor shall develop thorough understanding about Building and Other construction Workers (Regulation of Employment and Conditions of Service) Act 1996, Central Rules 1998, Building and Other construction workers Welfare Cess Act, 1996 and Central Rules, 1998 and Uttar Pradesh Building Workers' Welfare Board Rules, not only to satisfy the Inspectors' perspective but the use of legislation as the strong tool for effective SHE management at work place work places. Contractor is strongly advised to practice the principle of voluntary compliance.

### **4. ID Card and first day at work; SHE orientation training**

Identity card to each housekeeping staff shall be issued by the Chief Security Commissioner office of NMRC on payment of requisite fee for police verification and cost of card. The contractor should submit application for this in the prescribed format clearly providing basic details affixing photographs and finger prints of the concerned staff. In the absence of valid identity card, the housekeeping staff shall not be permitted to enter into the station premises.

The Contractor shall ensure that all personnel working at the housekeeping work places receive an induction Safety and Health training explaining the nature of the work, the hazards that may be encountered during the work place work and the particular hazards attached to their own function within the operation.

### **5. Safety and Health Training**

Team leader, Manager and supervisors employed for cleaning and housekeeping works should be trained and certified by BICS (British Institute of Cleaning Science, Gurgaon) or Forbes Pro Academy of Eureka Forbes. They shall in turn train their other Housekeeping Personnel under them. Certificate of training of Team Leader, Manager and Supervisor should be produced before start of work.

On-the spot practical skill development training on height safety shall also be conducted to all foremen/ workmen who were associated to the concerned jobs.

### **6. Safety and Health Inspection**

The contractor shall prepare required inspection checklist for all activity operations and equipment. Checklists will be prepared based on the Indian standards, rules and regulations and Employer's requirements.

All records will be properly kept and filed for record purpose.

### **7. Safety Communication**

The contractor shall take every effort to communicate the Safety and Occupational health management measures through posters campaigns /billboards /banners /glow signs being displayed around the housekeeping work places as part of the effort to raise safety awareness amongst the work force. Posters should be in Hindi, English and other suitable language as deemed appropriate.

## **8. Accident reporting and investigation**

- 8.1. Reporting to Employer** All accidents and dangerous occurrences shall immediately be informed verbally to the employer. Reports of all accidents (fatal / injury) and dangerous occurrences shall also be sent within 24 hours as per format provided.
- No accident/ dangerous occurrence is exempted from reporting to the employer. Any wilful delay in verbal and written reporting to the Employer shall be penalised.
- 8.2. Reporting to Govt. organisations** In addition to the above verbal and written reporting to the Employer, a notice of any accident to a worker at the building or work place that causes loss of life; or disables a worker from working for a period of 48 hours or more immediately following the accident;
- shall forthwith be sent by telephone, fax, email or similar other means including special messenger within 24 hours in case of fatal accidents and not later than 72 hours in case of other accidents to:
- a. Regional Labour Commissioner (central), wherein the contractor has registered the firm/work
  - b. the board with which the worker involved was registered as a beneficiary;
  - c. Director General and
  - d. the next of kin or other relative of the worker involved in the accident;
- 8.3. Notice of Accident** Further, notice of accident shall be sent in respect of an accident which causes loss of life; or disables the injured worker from work for more 10 days to
- a. the officer-in-charge of the nearest police station;
  - b. the District Magistrate or, if the District Magistrate by order so desires, to
  - c. the Sub-Divisional Magistrate
- 8.4. Notice of death** Where any accident causing disablement that subsequently results in death, notice in writing of such death, shall be sent to the authorities mentioned above as soon as possible within 24 hrs and maximum 72 hours of such death.
- 8.5. Reporting of dangerous occurrences** All cases of dangerous occurrences shall be reported to the Inspector having jurisdiction, whether or not any disablement or death caused to the worker. The same shall also be immediately reported to the employer.
- 8.6. Accident investigation** Investigations should be conducted in an open and positive atmosphere that encourages the witnesses to talk freely. The primary objective is to ascertain the facts with a view to prevent future and possibly more serious occurrences.
- 8.7. Employers' independent** In case of fatal / dangerous occurrence the Employer shall also conduct independent investigation. Contractor and his staff shall extend

**incident investigation** necessary co-operation and testify about the accident.

## **9. Emergency preparedness plan**

- 9.1.** The Contractor shall prepare an Emergency Response Plan for all work places. Arrangements shall be made for emergency medical treatment and evacuation of the victim in the event of an accident or dangerous incident occurring, the chain of command and the responsible persons of the contractor with their telephone numbers and addresses for quick communication shall be adequately publicized and conspicuously displayed in the workplace.
- 9.2.** Contractors shall require to tie-up with the hospitals located in the neighbourhood for attending to the casualties promptly.
- 9.3.** Contractor shall participate in on-work-place emergency mock drill for all his housekeeping staff along with Mock drill being conducted by NMRC.

## **Part – II: Safety**

### **10. Housekeeping**

- a. Contractor shall understand and accept that improper housekeeping is the primary hazard in any work place and ensure that a high degree of housekeeping is always maintained.
- b. General Housekeeping shall be carried out by the contractor and ensured at all times at Work place, Stores and Offices.
- c. All stairways, passageways and gangways shall be maintained without any blockages or obstructions. All emergency exits passageways, exits fire doors, break glass alarm points, firefighting equipment, first aid stations, and other emergency stations shall be kept clean, unobstructed and in good working order.
- d. Water logging on work places shall not be allowed.
- e. Proper and safe stacking of material needs to be ensured.
- f. All wooden scrap and other combustible packing materials shall be removed from work place to identified location(s).

#### **Do's and Don'ts for Housekeeping Staff**

##### **Do's**

- i. In case of fire / anything unusual on electric traction equipment or wires, inform the station controller/Manager.
- ii. Extinguish fire by special extinguishers (carbon tetrachloride or carbon dioxide type, if available).
- iii. Ensure no water jet to be directed at the fire under any circumstances.
- iv. Before taking up the work on a line running parallel to 25 KV AC lines, the line shall be earthed on both sides. Ensure that the distance between the two earths used for protection does not exceed 1km.
- v. Keep clear of the track and avoid contact with the rails when electric train within 250m.
- vi. Special care should be taken to carry long pipes, poles or ladders so that it should not come in contact with or within 2 meters of live OHE.
- vii. Cleaning work other than that of surface (i.e. of beam, pillars etc.) should be done during block period only.
- viii. Whenever washing or cleaning using water jets is done, take appropriate power block.
- ix. Cases of electric shock arising out of contact with 25 KV A.C traction equipment shall be reported immediately to TPC.

##### **Don'ts**

- i. Do not approach within 2 meters of any traction wires or live EHV equipment.
- ii. Do not work on or near traction wires or any live equipment unless they are made dead, earthed and shut down notices/ permit to work obtained.
- iii. Do not enter any switching station or remote control centre unless specially permitted.
- iv. Do not touch a person in contact with live traction wires. Remove body only after power supply is switched off & earthed.
- v. Do not touch any traction wire hanging from the mast or fallen on the ground and do not allow anyone else to touch it.
- vi. Cleaning work with conducting materials like Aluminum/ Steel rods

should be avoided at all times when power block is not availed.

- vii. Do not lift or raise your tools towards traction wires.
- viii. Do not damage the plinth continuity, connection to BEC, OPC and handrail continuity.
- ix. Do not use steel tape or metallic tape or tape with woven metal reinforcement in electrified area.
- x. Do not forget to give artificial respiration to the victim as per the prescribed procedure laid down at shock treatment charts.
- xi. Metallic telescopic rods are prohibited for use in the NMRC station.
- xii. Do not throw garbage in haste. Dispose it properly at designated place.

## **11. Working at Height**

The contractor shall ensure that work at height is

- a. properly planned for any emergencies and rescue
- b. appropriately supervised; and
- c. carried out in a manner, which is reasonably practicable safe.

### **11.1. Falling objects**

- a. The contractor shall, where necessary to prevent injury to any person, take suitable and sufficient steps to prevent, so far as is reasonably practicable, the fall of any material or object.
- b. Every contractor shall take suitable and sufficient steps to prevent any person being struck by any falling material or object which is liable to cause personal injury.
- c. The contractor shall ensure that no material or object is thrown or tipped from height in circumstances where it is liable to cause injury to any person.
- d. Every contractor shall ensure that, every workplace where chances of fall of material or other risk exist, shall be properly barricaded or provided with suitable safety net as fall catch arrestors etc.

### **11.2. Danger areas**

Every contractor shall ensure that

- a. where a workplace contains an area in which, owing to the nature of the work, there is a risk of any person at work
  - i. falling a distance; or
  - ii. being struck by a falling object

which is liable to cause personal injury, the workplace be so far as is reasonably practicable, equipped with devices preventing unauthorised persons from entering such area; and such area is clearly indicated

### **11.3. Inspection of work equipment**

The contractor shall ensure that, all work equipment used at work place and exposed to conditions causing deterioration shall be inspected regularly and recorded.

### **11.4. Requirements for all Working Platforms**

Every contractor shall ensure that whenever necessary proper, safe and adequate to the working requirement, working platforms is provided.

### **11.5. Requirements for fall protection**

Every contractor shall ensure that fall protection measures are provided for safe means of access as well as safe working

**11.6. Requirements for Ladders**

Every contractor shall ensure that a ladder is used for work at height only if a risk assessment has demonstrated that the use of more suitable work equipment is not justified because of the low risk.

- a. Only metal ladders shall be allowed. Bamboo ladders are prohibited
- b. Any surface upon which a ladder rests shall be stable, firm, of sufficient strength and of suitable composition safely to support the ladder so that its rungs or steps remain horizontal, and any loading intended to be placed on it.
- c. A ladder shall be so positioned as to ensure its stability during use.
- d. A portable ladder shall be prevented from slipping during use by –
  - e. a. securing the stiles at or near their upper or lower ends;
  - f. b. an effective anti-slip or other effective stability device; or
  - g. c. any other arrangement of equivalent effectiveness
- h. A ladder used for access shall be long enough to protrude sufficiently above the place of landing to which it provides access unless other measures have been taken to ensure a firm handhold.
- i. No interlocking or extension ladder shall be used unless its sections are prevented from moving relative to each other while in use.
- j. A mobile ladder shall be prevented from moving before it is stepped on.
- k. Where a ladder or run of ladders raises a vertical distance of 9 metres or more above its base, there shall, where reasonably practicable, be provided at suitable intervals sufficient safe landing areas or rest platforms.
- l. Every ladder shall be used in such a way that
  - i. a secure handhold and secure support are always available to the user; and
  - ii. the user can maintain a safe handhold when carrying a load unless, in the case of a step ladder, the maintenance of a handhold is not practicable when a load is carried, and a risk assessment has demonstrated that the use of a stepladder is justified because of
  - iii. the low risk; and
  - iv. the short duration of use.

**12. Slipping, Tripping, Cutting and Falling Hazards**

- a. All places should be free from dust, debris or similar materials. Sharp projections or any protruding nails or similar objects shall be suitably guarded or shall even be avoided to make the place safe to work.
- b. Open side or opening where worker, equipment, vehicle or lifting appliance may fall at a building or outside shall be guarded suitably except in places of free access by reasons of nature of work.
- c. Suitable safety net shall be provided at places of material / man falling is possible in accordance with national standards.

**13. Work place machinery**

Every work place equipment shall be in sound mechanical working condition and certified by either competent person under Factories Act or manufacturers' warranty in case of brand new equipments or authorized persons / firms approved by Employer before induction to any work place.

**14. Machine and General Area Guarding**

The contractor shall ensure at the work place all dangerous and moving parts of housekeeping machines are securely fenced or legged. The fencing of dangerous part of machinery is not removed while such machinery is in motion or in use.

**15. Manual lifting and carrying of excessive weight**

The contractor shall ensure at his work place no housekeeping staff lifts by hand or carries overhead or over his back or shoulders any material, article, tool or appliances exceeding in weight as said below, unless aided by another housekeeping staff or device.

Person	Maximum weight in kg
Adult man	55
Adult woman	30

**16. Work place Electricity**

- a. Every contractor shall ensure safe usage practices of power supply as well as safe electrical equipments fitted with protection devices.
- b. Cables shall be selected after full consideration of the condition to which they shall be exposed and the duties for which they are required.
- c. The contractor shall ensure plugs, socket-outlets, and couplers available in the work place as per IS/applicable standard.
- d. Every joint and connection in a system shall be mechanically and electrically suitable for use to prevent danger. Proper cable connectors as per standards shall only be used to connect cables.
- e. No loose connections or tapped joints shall be allowed anywhere in the work place, office area, stores and other areas.

**17. Work on or near live conductors**

- a. For working near OHE & other Electrical installation, the rules/measures provided in the Safety Circular – 2 of O&M wing shall be followed.
- b. No person shall be engaged in any work activity on or so near any live conductor (other than one suitably covered with insulating material so as to prevent danger) that danger may arise unless-
  - a. Suitable precautions (including where necessary the provision of suitable protective equipment) are taken to prevent injury.

**17.1. Inspection and Maintenance**

All electrical equipment should be permanently numbered and a record kept of the date of issue, date of last inspection and recommended inspection period.

**18. Hand Tools and Power Tools**

- a. The contractor is wholly responsible for the safe condition of Housekeeping plant and equipment used by his employees and that of his sub-contractors.
- b. Use of short / damaged hand tools shall be avoided and the contractor shall ensure all his hand tools used at his work place are safe to work with or stored and shall also train his employees (including his sub-contractors) for proper use thereby.
- c. All hand tools and power tools shall be duly inspected before use for safe operation.
- d. The contractor shall ensure that power tools (electric) are properly grounded or / and double insulated.

**19. Fire prevention, protection and fighting system**

- a. The contractor shall ensure that storage area is provided with fire extinguishing equipment sufficient to extinguish any small fire at work place.
- b. Recharging of fire extinguishers and their proper maintenance should be ensured and as a minimum should meet Indian National Standards.
- c. Combustible scrap and other work place debris should be disposed off on a regular basis.

**20. Corrosive substances**

Corrosive substances including alkalis and acids shall be stored and used by a person dealing with such substances at a building / work place in a manner that it does not endanger the worker and suitable PPE shall be provided by the contractor to the worker during such handling and work. In case of spillage of such substances on worker, the contractor shall take immediate remedial measures.

**21. Work Permit system**

The Contractor's site staff shall abide by Work Permit system of NMRC, used to control certain types of work that are potentially hazardous.

A permit is needed when work place work can only be carried out if normal safeguards are dropped or when new hazards are introduced by the work. Examples of high-risk activities include but are not limited to:

- a. Entry into confined spaces
- b. Work in close proximity to overhead power lines and telecommunication cables.
- c. Work with electrical equipment and operations closer to live power line.
- d. Working on track & operation rooms.

A Work Permit authorisation form shall be completed with the maximum duration period not exceeding one shift.

A copy of each Permit to Work shall be displayed, during its validity, in a conspicuous location in close proximity to the actual works location to which it applies.

**22. Work to adjacent track**

Whenever work is to be conducted in close proximity to the live track then the following measures shall need to be addressed:

- a. The rules/measures provided in the Safety Circular – 2 of O&M manual shall be followed.
- b. No persons are allowed to work onto the track unless specific authority has been given by NMRC. Adequate protection in accordance with the O&M requirements shall be followed.
- c. All persons shall wear high visibility clothing at all times.
- d. Any induction training requirements of the Track shall be strictly observed.

**23. Personal Protective Equipment (PPEs)**

The contractor shall provide required PPEs to workmen to protect against safety and / or health hazards. Primarily PPEs are required for the following protection:

- a. A. Height Work
  - i. Safety Helmet



## **Part – IV: Penalty and Awards**

### **27. Charges to be recovered from contractor for unsafe act or condition**

NMRC has built an image of safety conscious organisation meticulously over a long period of operation. Any reportable accident (fatality / injury) results in loss of life and/or property damage. These accidents not only result in loss of life but also damage the reputation of NMRC. Most of the accidents are avoidable and caused preliminary due to contractors' negligence. Hence NMRC shall recover the cost of damages from the contractors for every reportable incident (fatality / injury).

In addition, sometimes our activities are exposed to public scrutiny as the work is executed on public places. Any unsafe act / unsafe condition observed by public further damage our reputation. Without limiting to the unsafe acts and or conditions, the Employer shall have the right to deduct charges for any other unsafe act and or condition depending upon the gravity of the situation on a case-to-case basis.

### **28. Stoppage of unsafe activity by contractor**

- a. The Employer shall have the right to stop the work at his sole discretion, if in his opinion the work is being carried out in such a way that it may cause accidents and endanger the safety of the persons and / or property, and / or equipment at specific work place.
- b. The contractor shall not proceed with the work until he has complied with each direction to the satisfaction of Employer.
- c. The Contractor shall not be entitled for any damages / compensation for stoppage of work, due to safety reasons.

### **29. Awards**

The following categories will be considered for awards as per the scheme in practice of Employer

- a. Zero fatality contracts.
- b. 100% adherence to voluntary reporting of all accidents throughout the currency of contract.
- c. Safest Contractor of the year.

## **Part – V: Environment Management**

### **30. Indian statutory requirements**

The Housekeeping works shall be undertaken in accordance with all applicable legislation and Indian statutory requirements listed below but not limiting to:

- a. Environment Protection Act, 1986 and Rules 1986
- b. Air (Prevention and control of Pollution) Act, 1981
- c. Water (Prevention and Control of Pollution) Act, 1974
- d. The Noise Pollution (Regulation & Control) Rules, 2000
- e. Notification on Control of Noise from Diesel Generator (DG) sets, 2002
- f. Solid Waste Management Rules, 2016
- g. Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016
- h. e-waste (Management) Rules, 2016
- i. Batteries (Management & Handling) Rules, 2001 and amendment 2010
- j. Plastic Waste Management Rules, 2016
- k. Bio-Medical Waste Management Rules, 2016

### **31. Procurement of materials**

Cleaning products shall be bio-based, non-toxic, fragrance free, have a pH between 4 and 9, and have low levels of volatile organic compounds (VOCs). Products may not contain: carcinogens, mutagens, teratogens, ozone-depleting compounds, greenhouse gasses, dyes, petroleum distillates, endocrine modifiers, alkyl phenyl ethoxylates, dibutyl phthalate, heavy metals, more than 0.5% phosphorous, chlorinated solvents, or contribute to petrochemical smog or poor indoor air quality.

In addition, concentrated products are used and properly diluted to reduce impacts to human health and the environment.

Re-usable/washable rags and mops should be used, which are effective and do not shed fibers.

Products used should degrade rapidly, should not harm human health, should not pollute the air or water supply, and should present an economically sound cost of usage.

### **32. Waste Management**

Collection, handling, segregation, transportation and disposal of waste may cause environmental degradation and nuisance. To prevent it, waste has to be handled and disposed properly. As such, collection, handling, segregation, transportation and disposal of all waste shall be strictly managed by the contractor.

Training of staff should be undertaken by the contractor in order to increase awareness of waste management issues.

Information regarding waste segregation shall be posted at appropriate locations around the office.

The contractor shall ensure regular maintenance and cleaning of the waste storage areas.

No lubricants and hazardous waste shall be allowed to discharge into water courses. Burning of any type of waste and illegal dumping of waste is strictly prohibited.

**33. Collection**

The contractor shall provide sufficient number of bins to collect the waste items. Hazardous waste, used batteries, bio-medical waste, recyclable paper waste, biodegradable and general refuse shall be collected in separate bins to ensure 100% segregation at source itself.

The collection bins shall be as per applicable legal requirement. All waste collections bins shall be of appropriate size with a closed lid. Each bin shall be clearly labelled both with colour code system and labelled in Hindi and English.

Bio-medical waste shall be collected on daily basis.

**34. Segregation**

The contractor shall collect general refuse on daily basis and shall be segregated into bio-degradable and recyclable. These wastes should be disposed on daily basis through local municipal agency.

**35. Storage and disposal Mechanism**

The contractor shall take all necessary permits or fulfil all necessary legal requirements for storage of all waste items.

Hazardous waste and batteries shall be stored on an impermeable surface with containment bunding to retain leaks, spills and ruptures.

Storage period and disposal mechanism for different waste stream is tabulated below:

S. No.	Waste Stream	Maximum storage period at site	Disposal Mechanism
1.	General Refuse	48 hours	Through Municipal agency
2.	Recyclable paper waste	3 months	Through paper recycling agency appointed by the Employer
3.	Bio-Medical Waste	48 hours	Authorised agency appointed by the employer
4.	Used Batteries	As per law	Authorised agency appointed by the employer
5.	Hazardous Waste	As per law	Authorised agency appointed by the employer
6.	e-Waste	As per law	Authorised agency appointed by the employer

**Appendix– 1: Topics for First Day at Work SHE Orientation Training of Workmen**

- |  |   |
|--|---|
| <b>36. Hazard Identification Procedure</b> | Hazards on work place: <ul style="list-style-type: none"><li>a. Electricity</li><li>b. Machinery</li><li>c. Handling materials</li><li>d. Work place housekeeping</li><li>e. Work at Height</li><li>f. Fire</li></ul>                         |
| <b>37. Personal Protective Equipment</b>   | <ul style="list-style-type: none"><li>a. What is available?</li><li>b. How to obtain it?</li><li>c. Correct use and care.</li></ul>   |
| <b>38. Health</b>                          | <ul style="list-style-type: none"><li>a. Work place welfare facilities</li><li>b. Potential health hazards</li><li>c. First Aid/CPR</li></ul>   |
| <b>39. Duties of the contractor</b>        | <ul style="list-style-type: none"><li>a. Brief outline of the responsibilities of the Contractor by law</li><li>b. Details of Contractor's accident prevention policy</li><li>c. Building and other construction worker Welfare Law</li></ul> |
| <b>40. Employee's Duties</b>               | <ul style="list-style-type: none"><li>d. Brief outline of responsibilities of employee under law</li><li>e. Explanation of how new employees fit into the Contractor's plan for accident prevention. (induction and orientation).</li></ul>   |

## Appendix – 2: ID Card Format

Dimensions (85 mm x 55 mm)

Front Side of ID Card

<b>Noida – Greater Noida Metro Corridor Project</b>				
<b>Company logo</b>			<b>Name</b>	
			<b>Address</b>	
			<b>Designation</b>	
			<b>Blood group</b>	
	<b>Photo</b>		<b>Valid up to</b>	
	<b>Signature:</b>			

Reverse Side of ID Card

<b>Noida – Greater Noida Metro Corridor Project</b>	
<b>Employee Address</b>	
<p>This card is the property of “xx” (Main/Sub/labour Contractor) and must be returned on demand and on transfer/cancellation of employment. A charge will be levied for replacement of the card due to loss or theft. If found please return to the address given below.</p>	
<b>Main Contractor Address</b>	

### **Appendix – 3: Safety and Health Posters**

Every contractor shall prepare a SHE Communication Plan as a part of work place specific SHE Plan and shall include the following minimum requirement of Posters / Signages / Video as applicable. In case readymade posters are available in any of the category from safety related organisations, they may procure the same and display it. In case the same is not available then the contractors shall make necessary arrangements to get the posters designed and printed on their own. The List of Posters:

- a. Mandatory PPE Usage
- b. Working at Height
- c. Work place Electricity
- d. First Aid

**Appendix – 4: Sample Accident Occurrence Form**

<b>NMRCL</b>		<b>Safety Form Reference</b>		<b>Form no:</b>	<b>SAF - 01</b>
<b>Accident/ Dangerous Occurrence Form</b>				<b>Accident no:</b>	
<b>Name of the Contractor</b>			<b>Contract no:</b>		
<p><b>Instructions:</b></p> <ol style="list-style-type: none"> <li>1. A copy of this form shall be completed for every Accident or Dangerous Occurrence</li> <li>2. It must be signed by a senior work place management representative</li> <li>3. A copy shall be sent to the Employers Representative within 24 hours of the Accident</li> </ol>					
<b>Part A – Details of Injured Person</b>					
Name		DOB		Gender	
Address					
Job title		Employer			
<b>Part B – Details of the Accident</b>					
Date		Time		Location	
Describe the task the injured person was doing at the time of the accident:					
Describe in detail how the accident happened: (Attach any sketch, picture, map etc. if required)					
Plant and Machinery involved:	Yes/No	If yes, describe			
Witnesses (if any)					
<b>Part C – Details of the injury</b>					
Injury description					
Injury Category:	Response to injury			Home	
Fatal		First Aid			
Major		Doctor			
Minor		Hospital			
<b>Part D - Certification</b>					
I have checked the above information and can confirm that it is a true record of the accident					
Signed		In-charge name		Date	