

“ഭരണഭാഷ - മാതൃഭാഷ”

ചീഫ് എഞ്ചിനീയറുടെ കാര്യാലയം
തദ്ദേശ സ്വയംഭരണ വകുപ്പ്
റവന്യൂ കോംപ്ലക്സ്, മൂന്നാം നില
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നം.ഡിബി5/7507/11/സിഇ/തസഭവ

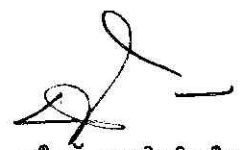
തീയതി : 03.08.2016

സർക്കുലർ

വിഷയം:- തസഭവ - ശുചിത്വമിഷൻ - തദ്ദേശ സ്വയംഭരണ വകുപ്പ് സ്ഥാപനങ്ങളിൽ മെറ്റീരിയൽ റിക്കവറി ഫെസിലിറ്റി സെന്റർ (MRF) സ്ഥാപിക്കുന്നത് - സംബന്ധിച്ച്.

സൂചന:- ശുചിത്വമിഷൻ ഡയറക്ടറുടെ കത്ത് നം. 1892/സി2/2016/എസ്.എം. തീയതി 03/08/2016.

ബഹു. ധനകാര്യ വകുപ്പ് മന്ത്രിയുടെ ബഡ്ജറ്റ് നിർദ്ദേശ പ്രകാരം 2016 നവംബർ 1 -ാം തീയതി മുതൽ മാലിന്യ സംസ്കരണ മേഖലയിൽ ഒരു ജനകീയ മുന്നേറ്റം നടത്തുന്നതിന് സർക്കാർ തീരുമാനമെടുത്തിട്ടുണ്ട്. പ്രസ്തുത ക്യാമ്പയിന്റെ വിജയത്തിനായി അജൈവ മാലിന്യ സംഭരണം, പുനഃചംക്രമണം തുടങ്ങിയവ ശാസ്ത്രീയമായി നടപ്പിലാക്കേണ്ടതുണ്ട്. ആയതിനുവേണ്ടി എല്ലാ തദ്ദേശ സ്വയംഭരണ വകുപ്പ് സ്ഥാപനങ്ങളിലും മെറ്റീരിയൽ റിക്കവറി ഫെസിലിറ്റി സെന്റർ (MRF) സ്ഥാപിക്കുന്നതിലേക്കായി MRF -ന്റെ പ്ലാനിന്റെയും എസ്റ്റിമേറ്റിന്റെയും 3 മാതൃകകൾ ഇതോടൊപ്പം ഉള്ളടക്കം ചെയ്യുന്നു. ആയതിന് ആവശ്യമായ സാങ്കേതികാനുമതി ബന്ധപ്പെട്ട തദ്ദേശ സ്വയംഭരണ വകുപ്പ് സാങ്കേതിക വിഭാഗം എൻജിനീയർമാർ മുഖേന ലഭ്യമാക്കി MRF -ന്റെ നിർമ്മാണം അടിയന്തിരമായി നടപ്പിലാക്കാൻ നിർദ്ദേശിക്കുന്നു. ടി MRF -ന്റെ ചെലവ് തുക അതാത് തദ്ദേശ സ്വയംഭരണ സ്ഥാപനങ്ങളുടെ മാലിന്യ നിർമ്മാർജ്ജനത്തിന് മാറ്റിവയ്ക്കുന്ന പദ്ധതി വിഹിതത്തിൽ നിന്നും കണ്ടെത്താവുന്നതാണ് .



ചീഫ് എൻജിനീയർ

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CONSTRUCTION OF A PITCHED ROOF BUILDING FOR MATERIAL RECOVERY FACILITY

Plinth Area 47.43m² or 510.33 Square Feet

- 1) 2.6.1. Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas(exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

Alround Wall	1	x	27.70	x	0.40	x	0.50	=	5.54
Longitudinal (M) Wall	1	x	4.70	x	0.40	x	0.50	=	0.94
Cross Wall	2	x	1.90	x	0.40	x	0.50	=	0.76
									7.24
									=====

Say 7.25m³

Rs. 198.45/m³

= Rs. 1439 /-

- 2) OD16 Soid Concrete block 40 x 0.20 x 20 Cms size for fou dation, basement and super structure

Foundation :-

Alround	1	x	27.70	x	0.40	x	0.50	=	5.54
Longitudinal	1	x	4.70	x	0.40	x	0.50	=	1.54
Cross	2	x	1.90	x	0.40	x	0.50	=	0.76

Basement

Alround	1	x	27.70	x	0.30	x	0.45	=	3.73
Longitudinal	1	x	4.80	x	0.30	x	0.45	=	0.65
Cross	2	x	2.00	x	0.30	x	0.45	=	0.54

Super Structure

Alround	1	x	27.70	x	0.20	x	2.50	=	13.85
Longitudinal	1	x	4.90	x	0.20	x	2.50	=	2.45
Cross	2	x	2.10	x	0.10	x	2.50	=	1.05
									<u>30.11</u>

Deduction

GI Post fixing block	2	x	2.00	x	0.30	x	0.45	=	0.54
Hall outer Wall	2	x	6.25	x	0.20	x	2.05	=	5.13
Hall outer Wall	2	x	5.30	x	0.20	x	2.05	=	4.35
Door	3	x	0.80	x	0.20	x	2.10	=	1.01
Entrance (Hall)	1	x	1.20	x	0.20	x	0.45	=	0.10

	Window	1 x 1.10 x 0.20 x 1.50 = 0.33	
	Total deduction		11.46
	Less deduction		18.65
		LS for steps	0.35
		Total	19.00
	Say 19.00m ³	Rs. 4969.61/m ³	= Rs. 94423/-
3)	5.9.1. Centering and shuttering including strutting, propping etc. and removal of form for Foundations, footings, bases of columns, etc. for mass concrete		
	Say 2.50 m ²	4 x 1.2 x 0.45 x 2.16	
4)	4.1.3. 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	Rs. 250.55/m ²	= Rs. 626/-
	GI Posts foundation block	2x2 x 0.30 x 0.30 x 0.45 = 0.162	
	Say 0.20 m ³	6971.67 /m ³	= Rs. 1394/-
5)	10.16.1 Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.		
	a) 65 ^{mm} dia GI Pipe	(2 x 2 x 2.95 = 11.80m x 6.420kg/m = 75.75kg	
	b) Rectangular Hollow section 80x40x2.60 ^{mm}		
	Wall Plate	2 x 9.40 = 18.80	
	Wall Plate	2 x 5.30 = 10.60	
		29.40 m x 4.55 kg = 133.77kg	
	c) Rectangular Hollow section 60 x 40x2.60 ^{mm}		
	Common rafter	2 x 5x3.38 = 33.80mx3.73kg/m = 126.07kg	
	d) Rectangular Hollow section 50x25x2.60 ^{mm}		
	tie beam	5 x 2.10 = 10.50m x 2.71kg/m = 28.45kg	

e) Square Hollow section
2.5x2.5x2.60^{mm}

Purlin

$$2 \times 3 \times 9.85 = 59.10 \text{m}$$

$$1.69 \text{kg/m} = 99.87 \text{kg}$$

Say 475 kg

Total

$$= 463.91 \text{kg}$$

$$\text{Rs. } 217.5/\text{kg} =$$

Rs. 103351/-

6) 12.50 Providing and fixing pre-coated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm (+ 0.05 %), total coated thickness with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping

Roof

$$2 \times 3.45 \times 9.90 = 68.31$$

Ridge

$$1 \times 0.60 \times 9.90 = 5.94$$

$$\underline{74.25 \text{m}^2}$$

Say 74.50 m²

$$793.29/\text{m}^2$$

= Rs. 59100/-

7) 4.1.8.

1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size)

Hall

$$1 \times 6.00 \times 4.65 \times 0.075 = 2.09$$

Office

$$1 \times 1.85 \times 1.75 \times 0.075 = 2.24$$

Toilet

$$1 \times 0.95 \times 0.95 \times 0.075 = 0.07$$

Dressing Room

$$1 \times 1.85 \times 1.25 \times 0.075 = 0.17$$

$$\underline{2.57}$$

Say 2.60 m³

$$5485.65/\text{m}^3$$

= Rs. 14263/-

8) 13.1.1. 12 mm cement plaster of mix:
1:4 (1 cement : 4 fine sand)

Outer Basement	1	x	28.50	x	0.45	=	12.83
Outer Hall Length Wise	2	x	6.45	x	0.45	=	5.80
Outer Hall Width Wise	1	x	5.30	x	0.45	=	2.38
Inner Hall Length Wise	2	x	6.25	x	0.45	=	5.63
Inner Hall Width Wise	1	x	4.90	x	0.45	=	2.20
Top	2	x	6.45	x	0.20	=	2.58
Top Hall	1	x	4.90	x	0.20	=	0.98
Outer (Right)	1	x	9.90	x	2.50	=	24.75
Inner office	1	x	8.20	x	2.50	=	20.50
Washing area	1	x	3.20	x	2.50	=	8.00
Toilet	1	x	4.80	x	2.50	=	12.00
Dress	1	x	7.20	x	2.50	=	18.00
							<u>115.65</u>

Deduction

Wall ties	1	x	4.80	x	1.50	=	7.20
Door	3	x	0.75	x	2.10	=	4.72
window	1	x	1.10	x	1.50	=	1.65
Entrance	1	x	1.20	x	0.45	=	0.54
Total Deduction							14.11
Less Deduction							101.5

Say 105m²

259.22/m²

= Rs.27218/-

9)

Supplying fixing Anjili wood framed work for doors and windows frames including all cost of material and labour charges etc. complete.

Door size 0.8 x 2.10 (3 Nos)

Vertical Frame 3x2 x 0.10 x 0.075 x 2.10 = 0.094

Horizontal Frame 3x2 x 0.10 x 0.075 x 0.80 = 0.033

Window Size 1.10x1.50 (1No)

Vertical Frame 1x3 x 0.10 x 0.075 x 1.50 = 0.033

Horizontal Frame 1x2 x 0.10 x 0.075 x 1.10 = 0.016

0.176

Say 20m³

Rs. 82599.52/m³

= Rs.16520/-

- 10) 11.37 Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), including pointing the joints with white cement and matching pigment etc., complete.

Office	1 x	2.30 x	2.20 =	5.06
Toilet	1 x	1.20 x	1.20 =	1.44
Dress	1 x	2.30 x	1.20 =	3.91
Washing area	1 x	1.00 x	1.30 =	1.3
				<u>11.71</u>

Say 1175m²

Rs. 1001.69/m²

= Rs. 11770/-

- 11) 17.1.1. Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm Sand Cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required: White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests

Say 1 No.

Rs. 4327.15/E

= Rs. 4327/-

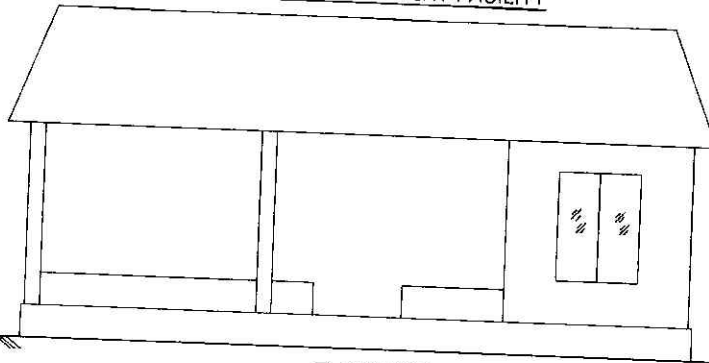
	Say 5.00m ²	Rs.1860.87/m ²	4.87	= Rs. 9304/-
17	Supplying and laying M.S. angle and M.S rods for providing partition in the Material Recovery Facilities building (calculatiion should seperately attached)			

Horizontal	2 x 4.00 x 1.00 x 1.20 = 9.60
Vertical	5 x 1.00 x 1.20 = 9.60
	<u>15.60m² or 195.78kg</u>

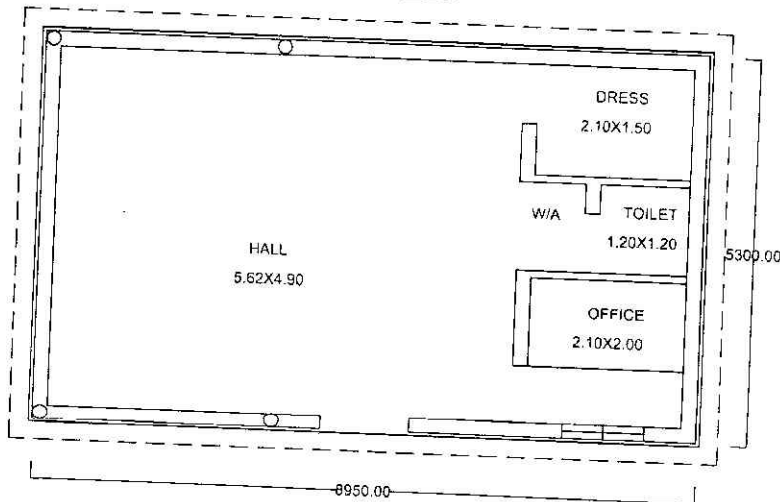
	Say 200kg	Rs.107.05/kg		= Rs.21410/-
18	Providing and instaling double cavity baling machine and as per standard specification.			

Total			LS	<u>Rs.350000/-</u>
Unforeseen				Rs. 733345/-
				<u>Rs. 6655/-</u>
		Total		= Rs. 740000/-
				=====

MATERIAL RECOVERY FACILITY



ELEVATION



PLAN

CONSTRUCTION OF A PITCHED ROOF BUILDING FOR MATERIAL RECOVERY FACILITY

Plinth Area 11.60 x 8.00 = 92.80m² or 998.89 Square Feet

- 1) 2.6.1. Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas(exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

Alround Wall	1	x	38.50	x	0.40	x	0.50	=	7.70
Longitudinal (M) Wall	1	x	7.40	x	0.40	x	0.50	=	1.48
Cross Wall	2	x	2.50	x	0.40	x	0.50	=	0.92
									10.10
									=====

Say 10.10m³

Rs. 198.45/m³

= Rs. 2004/-

- 2) OD-16 Soid Concrete block 40 x 0.20 x 20 Cms size for fou dation, basement and super structure

Foundation :-

Alround	1	x	38.50	x	0.40	x	0.50	=	7.70
Longitudinal	1	x	7.40	x	0.40	x	0.50	=	1.48
Cross	2	x	2.30	x	0.40	x	0.50	=	0.92

Basement

Alround	1	x	38.50	x	0.30	x	0.45	=	5.19
Longitudinal	1	x	7.50	x	0.30	x	0.45	=	1.01
Cross	2	x	2.40	x	0.30	x	0.45	=	0.65

Super Structure

Alround	1	x	38.50	x	0.20	x	2.50	=	19.25
Longitudinal	1	x	7.60	x	0.20	x	2.50	=	3.80
Cross	2	x	2.50	x	0.20	x	2.50	=	2.50

42.50

Deduction

Hall Fortion	2	x	8.70	x	0.20	x	2.05	=	7.13
	1	x	8.00	x	0.20	x	2.05	=	3.28

Door	3	x	0.80	x	0.20	x	2.10	=	1.01
Entrance (Hall)	1	x	1.20	x	0.20	x	0.45	=	0.11
Window	2	x	1.10	x	0.20	x	1.50	=	0.66
GI Pipes	2x3	x	0.30	x	0.30	x	0.45	=	0.24
Total deduction									12.43
Less deduction									30.37

Say 30.10m³

Rs. 4969.61/m³

= Rs. 149585/-

3) 4.1.3.

1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)

GI Posts foundation block 2x3 x 0.30 x 0.30 x 0.45 = 0.24

Say 0.25 m³

6971.67 /m³

= Rs. 1743/-

4) 10.16.1 Steel work in built up tubular (round, square or rectangular hollow tubes etc) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.

a) 65^{mm} dia GI Pipe (2x3) x 2.95 = 17.70m x 6.420kg/m = 132.57kg

(1x1)x 2.95 = 2.95m x 20.85kg/m

b) Rectangular Hollow section 80x40x2.60^{mm}

Wall Plate 2 x 12.10 = 24.00

Wall Plate 2 x 7.60 = 15.20

4.55 kg/m = 174.72kg

c) Rectangular Hollow section s 60 x 40x2.60^{mm}

Common rafter 2 x 6 x 4.75 = 57.00mm x 3.73kg/m m=212.61kg

d) Rectangular Hollow section 50x25x2.60^{mm}

tie beam 6 x 2.20 = 13.20m x 2.71kg/m=35.77kg

e) Square Hollow section 2.50x2.50x2.60^{mm}

Purlin 2x4 x 12.50 = 100 m x 1.69kg/m = 169.00kg

Total

= 724.67kg

Say 725.00 kg

Rs. 217.58/kg

Rs. 157746/-

- 5) 12.50 Providing and fixing precoated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm (+ 0.05 %), total coated thickness with zinc coating 120grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping

Roof	2 x	4.80 x	12.55 =	120.48
Rudge	1 x	0.60 x	12.55 =	7.53
				<u>128.01</u>

Say 130.00 m²

793.29/m³

= Rs. 103128/-

- 6) 4.1.8. 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size)

Hall	1 x	8.25 x	7.35 x	0.075 =	4.55
Office	1 x	2.25 x	2.75 x	0.075 =	0.46
Toilet	1 x	2.25 x	2.45 x	0.075 =	0.41
Dressing Room	1 x	1.25 x	2.45 x	0.075 =	0.12
Wash area	1 x	0.75 x	0.80 x	0.075 =	0.05
					<u>5.59</u>

Say 5.60 m³

5485.65/m³

= Rs. 30720/-

- 7) 13.1.1. 12 mm cement plaster of mix: 1:4 (1 cement : 4 fine sand)

Outer basement	1 x	39.20 x	0.45 =	17.64
Outer Hall	1 x	25.40 x	0.45 =	11.43

Outer rooms	1	x	13.80	x	2.50	=	34.50
Inner Hall	1	x	24.60	x	0.45	=	11.07
Top	2	x	8.50	x	0.20	=	3.40
Inner Room	2	x	8.00	x	0.20	=	1.60
Office	1	x	11.00	x	2.50	=	27.50
Dressing room	1	x	10.40	x	2.50	=	26.00
Toilet	1	x	6.00	x	2.50	=	15.00
Washing Area	1	x	7.60	x	2.50	=	19.00
							<u>167.14</u>

Deduction

Dadoing portion	1	x	6.00	x	1.50	=	9.00
Hall portion	1	x	25.00	x	2.05	=	57.25
Door	3	x	0.80	x	2.10	=	5.04
window	2	x	1.10	x	1.50	=	3.30
Total Deduction							<u>68.59</u>
Less Deduction							98.55

Say 100m²

259.22/m²

= Rs.25922/-

- 8) 11.37 Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), including pointing the joints with white cement and matching pigment etc., complete.

Office	1	x	2.70	x	3.20	=	8.64
Toilet	1	x	1.50	x	1.50	=	2.25
Dress	1	x	2.70	x	2.90	=	7.83
Washing area	1	x	1.10	x	1.70	=	1.87
							<u>20.59</u>

Say 21.00m²

Rs. 1001.69/m²

= Rs.21035/-

- 9) 11.36 Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to bespecified by the manufacturer), of approved make, in all colours, shades except burgundy, bottlegreen, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3 kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.
- Toilet
- 1 x 6.00 x 1.50 = 9.00
 Say 9.00m² Rs. 1067.06/m² = Rs. 9604/-
- 10) 17.7.2 White Vitreous China Wash basin size 630x450 mm with a single 15 mm C.P. brass pillar tap
- Say 1 No. Rs. 2563.98/E = Rs. 2563/-
- 11) 17.1.1. Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm Sand Cast Iron F or S trap, 10 litre low level white F.V.C. flushing cistern, including flush pipe, manually controlled device(handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting andmaking good the walls and floors wherever required:White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests
- Say 1 No. Rs. 4327.15/E = Rs. 4327/-

12) 13.39.1 Colour washing such as green, blue or buff to give an even shade: New work (two or more coats) with a base coat of white washing with lime

As per item No. 7

Say 100m².

284.71

13)

Water supply and sanitary fitting

Rs.28.12/m²

= Rs. 2812/-

L.S

= Rs. 5000/-

14)

Centering and shuttering including strutting, propping etc. and removal of form for Foundations, footings, bases of columns, etc. for mass concrete

Say 3.50 m²

6 x 1.20 x

0.45 = 3.24

Rs. 250.55/m²

= Rs. 877/-

15) OD
27/37

Supplying and fixing door and windows frame by Angily wood.

Door

Vertical Frame

3 x 2 x 0.10 x 0.075 x 2.10 = 0.094

Horizontal Frame

3 x 2 x 0.10 x 0.075 x 0.80 = 0.036

Window

Vertical Frame

2 x 2 x 0.10 x 0.075 x 1.50 = 0.067

Horizontal Frame

2 x 2 x 0.10 x 0.075 x 1.10 = 0.033

Total = 0.23m³

Rs. 82599.52/m³

= Rs. 20650/-

16) OD
27/46

supplying and fixing fully pannelled angily wood shutter for door and window etc. complete.

Door

3 x 0.7 x 1.98 = 4.15

Window

2x2 x 0.33 x 1.35 = 1.782

5.94

Say 6.00m².

Rs.1860.87/m²

= Rs.11165/-

17

Supplying and laying M.S. angle and M.S rods for providing partition in the Material Recovery Facilities building (calulation should seperately attached)

Horizontal

2 x 4.00 x 1.00 x 1.20 = 9.60

Vertical

5 x 1.00 x 1.20

= 9.60

15.60m2 or 195.78kg

18

Say 200kg
Providing and installing double
cavity baling machine and as
per standard specification.

Rs.107.05/kg

= Rs.21410/-

Total
Unforeseen

LS

Rs.350000/-

Rs.920291/-

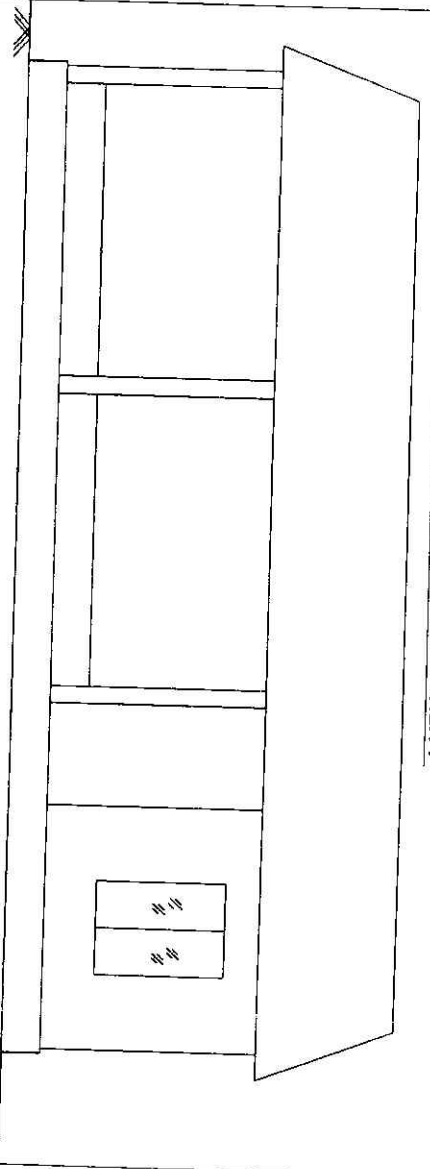
Rs. 4709/-

Total

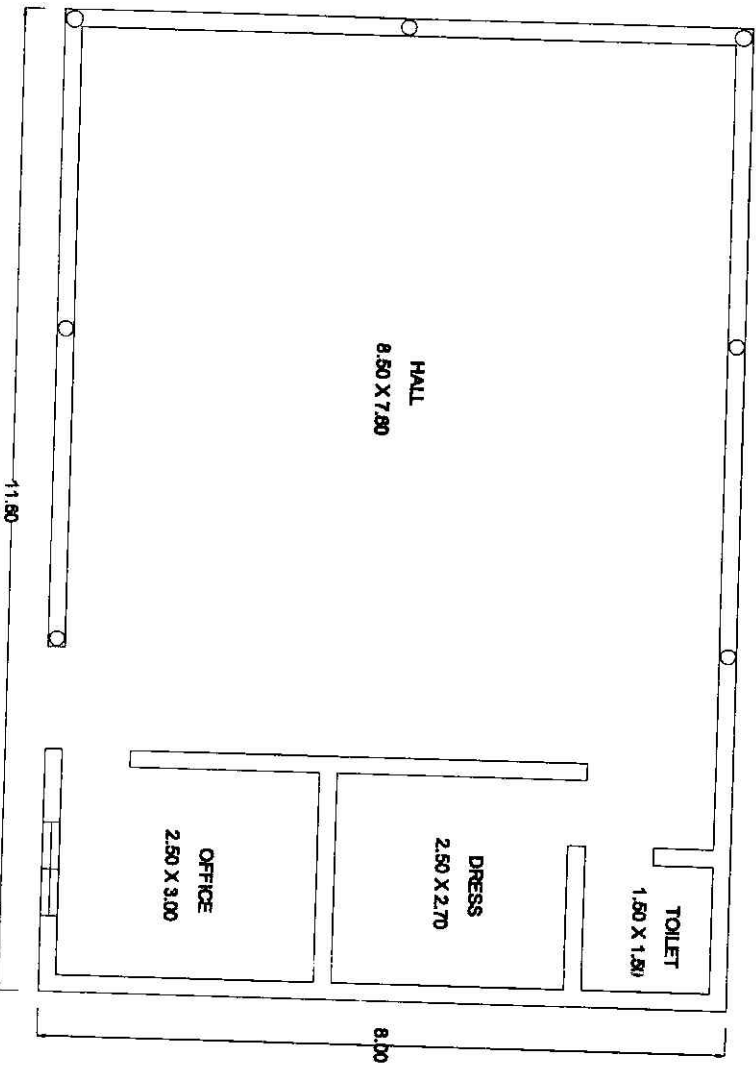
Rs.925000/-

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MATERIAL RECOVERY FACILITY



ELEVATION



PLAN

All dimensions are in M
Pillath Area : 11.80 x 8.00 = 92.80 sqm

CONSTRUCTION OF A PITCHED ROOF BUILDING FOR MATERIAL RECOVERY FACILITY

Plinth Area 23.10x8.00=184.80m² or 1989.18 Square Feet

- 1) 2.6.1. Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas(exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

Alround Wall	1	x	61.80	x	0.40	x	0.40	=	9.88
Longitudinal (M) Wall	1	x	7.40	x	0.40	x	0.40	=	1.18
Cross Wall	2	x	2.50	x	0.40	x	0.40	=	0.80
									11.86
									=====

Say 15.00m³

Rs. 198.45/m³

= Rs. 2977/-

- 2) OD-16 Soid Concrete block 40 x 0.20 x 20 Cms size for fou dation, basement and super structure

Foundation :-

Alround	1	x	61.80	x	0.40	x	0.40	=	9.88
Longitudinal	1	x	7.40	x	0.40	x	0.40	=	1.18
Cross	2	x	2.50	x	0.40	x	0.40	=	0.80

Basement

Alround	1	x	61.80	x	0.30	x	0.45	=	8.34
Longitudinal	1	x	7.50	x	0.30	x	0.45	=	1.01
Cross	2	x	2.60	x	0.30	x	0.45	=	0.70

Super Structure

Alround	1	x	61.80	x	0.20	x	2.50	=	30.90
Longitudinal	1	x	7.60	x	0.20	x	2.50	=	3.80
Cross	2	x	2.70	x	0.20	x	2.50	=	2.70

59.31

Deduction

Hall Portion	1	x	48.00	x	0.20	x	2.05	=	19.68
Door	3	x	0.80	x	0.20	x	2.10	=	1.01
Entrance (Hall)	1	x	1.20	x	0.20	x	0.45	=	0.11
Window	2	x	1.10	x	0.20	x	1.50	=	0.66
									<u>21.46</u>
Total deduction									37.85

Total deduction

Less deduction

Say 38.00m³

Rs. 4969.61/m³

= Rs. 188845/-

- 3) 5.9.1. Centering and shuttering including strutting, propping etc. and removal of form for :Foundations, footings, bases of columns, etc. for mass concrete

$$1 \times 9 \times 1.20 \times 0.45 = 4.86$$

Say 5.00 m²

Rs. 250.55/m²

= Rs. 1253/-

- 4) 4.1.3. 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)

GI Posts foundation block	2x4	x	0.30	x	0.30	x	0.45	=	0.324
	1	x	0.30	x	0.30	x	0.45	=	<u>0.041</u>
									0.365

Say 0.365 m³

6971.67 /m³

= Rs. 2545/-

- 5) 10.16.1 Steel work in built up tubular 10.1 (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.

a) 65^{mm} dia GI Pipe (2x4+1) x 2.95 = 26.55m x 6.420kg/m = 170.45kg

- b) Rectangular Hollow section

80x40x2.60^{mm}

Wall Plate 2 x 23.50 = 47.00

Wall Plate 2 x 7.60 = 15.20

62.20 m x 4.55 kg/m = 283.01kg

- c) Rectangular Hollow section

s 60 x 40x2.60^{mm}

Common rafter

2 x 12 x 4.75 = 114.00mm x 3.73kg/m = 425.22kg

d) Rectangular Hollow section

50x25x2.60^{mm}

tie beam

$$12 \times 2.10 = 25.20 \text{m} \times 2.71 \text{kg/m} = 68.29 \text{kg}$$

e) Square Hollow section

2.50x2.50x2.60^{mm}

Purlin

$$2 \times 4 \times 24.00 = 192.00 \times 1.69 \text{kg/m} = 324.48 \text{kg}$$

Total

$$= 1271.45 \text{kg}$$

$$\text{Rs. } 217.58/\text{kg}$$

Say 1275.00 kg

6) 12.50 Providing and fixing pre-coated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm (+ 0.05 %), total coated thickness with zinc coating 120grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping

Roof

$$2 \times 4.80 \times 24.10 = 231.36$$

Ridge

$$1 \times 0.60 \times 24.10 = 14.46$$

$$\underline{245.82}$$

Say 246.00 m²

$$793.29/\text{m}^3$$

$$= \text{Rs. } 277415/-$$

7) 4.1.8. 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size)

Hall

$$1 \times 19.75 \times 7.35 \times 0.075 = 10.89$$

Office

$$1 \times 2.45 \times 2.75 \times 0.075 = 0.51$$

Toilet

$$1 \times 2.45 \times 2.45 \times 0.075 = 0.45$$

Dressing Room

$$1 \times 1.25 \times 1.25 \times 0.075 = 0.12$$

Wash area

$$1 \times 1.08 \times 25.00 \times 0.075 = \frac{0.1}{12.07}$$

Say 12.10 m³

5485.65/m³

= Rs. 66376/-

8) 13.1.1. 12 mm cement plaster of mix:
1:4 (1 cement : 4 fine sand)

Outer	2	x	23.10	x	2.50	=	115.5
Basement	2	x	8.00	x	2.50	=	40.00
Hall	1	x	62.20	x	0.45	=	27.99
Office	1	x	55.20	x	2.50	=	138.00
Dressing room	1	x	11.40	x	2.50	=	28.50
Toilet	1	x	10.80	x	2.50	=	27.00
	1	x	6.00	x	2.50	=	15.00
							<u>391.99</u>
Deduction							
Hall	1	x	4.80	x	2.05	=	98.40
Door	3	x	0.80	x	2.10	=	5.04
window	1	x	1.10	x	1.50	=	3.30
Entrance	1	x	1.20	x	0.45	=	<u>0.54</u>
Total Deduction							107.28
Less Deduction							284.47

Say 285m²

259.22/m²

= Rs.73878/-

9) 11.37 Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), including pointing the joints with white cement and matching pigment etc., complete.

Office	1	x	2.90	x	3.20	=	9.28
Toilet	1	x	1.50	x	1.50	=	2.25
Dress	1	x	2.90	x	2.90	=	8.41
Washing area	1	x	1.30	x	1.70	=	<u>2.25</u>
							22.15

Say 22.15m²

Rs. 1001.69/m²

= Rs.22187/-

10) 11.36 Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottlegreen, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3 kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.

Toilet

1 x 6.00 x 1.50 = 9.00

Say 9.00m²

Rs. 1067.06/m²

= Rs. 9604/-

11) 13.39.1 Colour washing such as green, blue or buff to give an even shade: New work (two or more coats) with a base coat of white washing with lime

As per item No. 8

Say 285m²

284.71

Rs. 28.12/m²

= Rs. 8014/-

12) 17.1.1. Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm Sand Cast Iron Floor trap, 10 litre low level white F.V.C. flushing cistern, including flush pipe, manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required: White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests

Say 1 No.

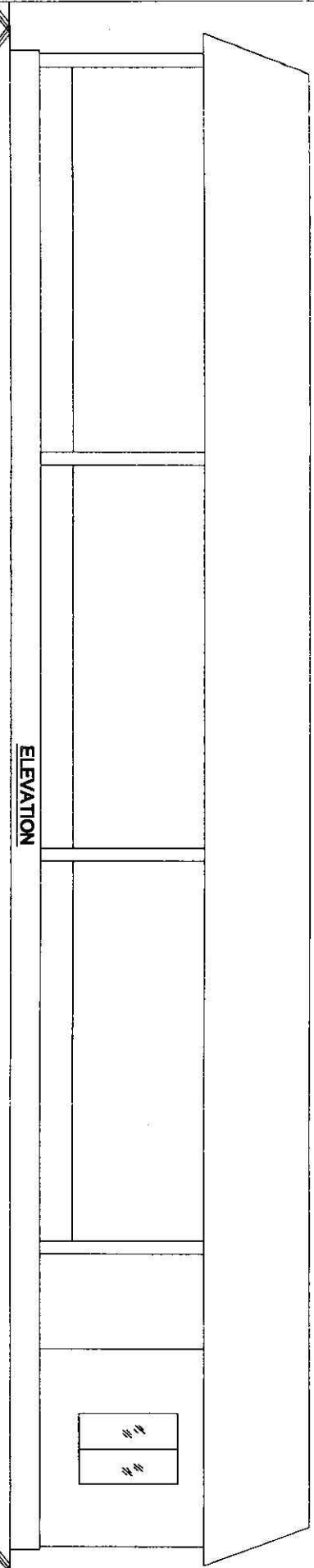
Rs. 4327.15/E

= Rs. 4327/-

13)	17.7.2	White Vitreous China Wash basin size 630x450 mm with a single 15 mm C.P. brass pillar tap					
			Say 1 No.	Rs. 2563.98/E			= Rs. 2564/-
14)		Water supply and sanitary fitting			LS		= Rs. 5000/-
15)	OD 27/46	Supplying and fixing door and windows frame by Angily wood.					
		Door					
		Vertical Frame	3 x 2 x 0.10 x 0.075 x 2.10 =	0.094			
		Horizontal Frame	3 x 2 x 0.10 x 0.075 x 0.80 =	0.036			
		Window					
		Vertical Frame	2 x 2 x 0.10 x 0.075 x 1.50 =	0.067			
		Horizontal Frame	2 x 2 x 0.10 x 0.075 x 1.10 =	0.033			
			Total	= 0.23m³			
			Say 0.25m ³	Rs. 82599.52/m ³			= Rs. 20650/-
16)	OD 27/46	supplying and fixing fully pannelled angily wood shutter for door and window etc.					
		Door	3 x 0.7 x 1.98 =	4.15			
		Window	1x2 x 0.33 x 1.35 =	1.782			
				<u>5.94</u>			
			Say 6.00m ² .	Rs.1860.87/m ²			= Rs.11165/-
17)		Supplying and laying M.S. angle and M.S rods for providing partition in the Material Recovery Facilities building (calculatiion should seperately attached)					
		Horizontal	2 x 4.00 x 1.00 x 1.20 =	9.60			
		Vertical	5 x 1.00 x 1.20 =	9.60			
				<u>15.60m2 or 195.78kg</u>			
			Say 200kg	Rs.107.05/kg			= Rs.21410/-
18)		Providing and instaling double cavity baling machine and as per standard specification.				LS	<u>Rs.350000/-</u>
			Total				Rs.1068210/-
			Unforeseen				Rs. 6790/-
							<u>= Rs. 1075000/-</u>
							=====
				Total			

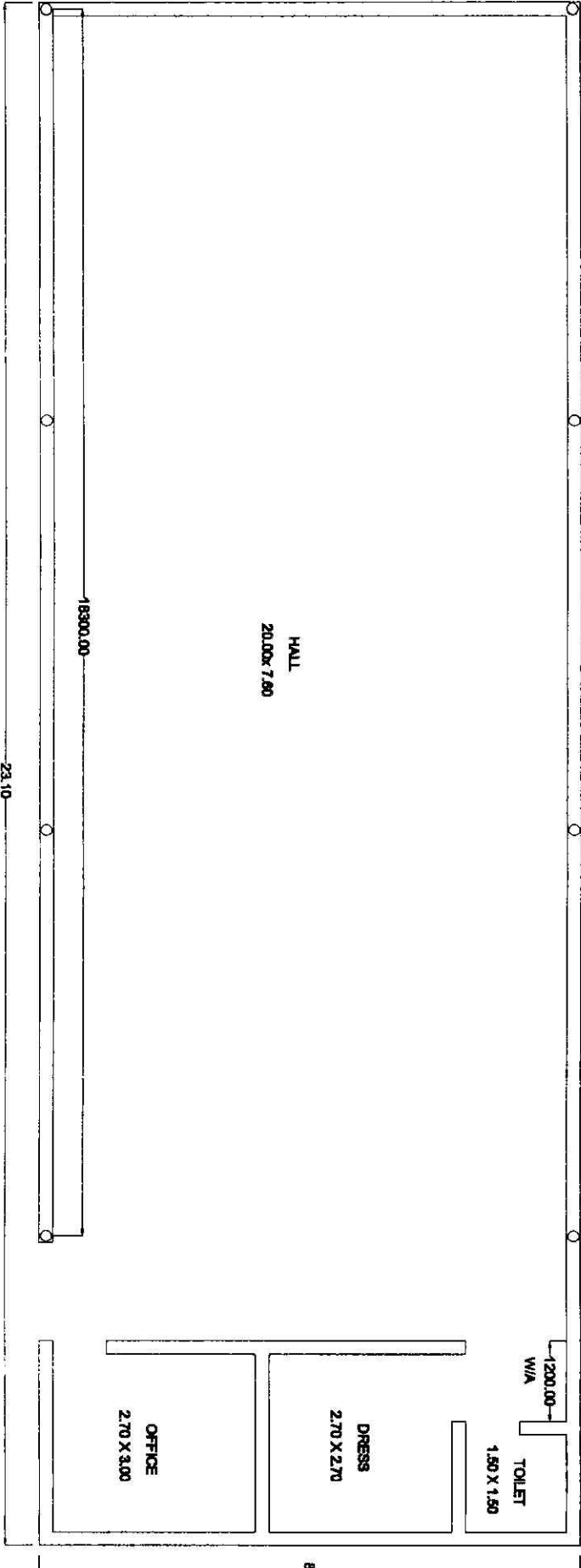
MATERIAL RECOVERY FACILITY

ELEVATION



HALL
20.00x 7.60

18300.00



PLAN

All dimensions are 1/16"
Finish Area : 23.10 X 8.00 = 184.80 sqm