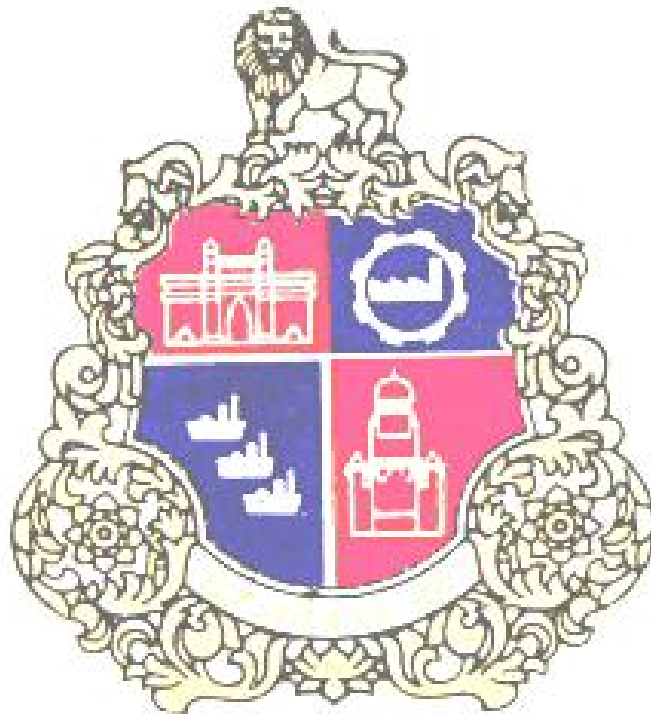


MUNICIPAL CORPORATION OF GREATER MUMBAI

WATER SUPPLY PROJECTS DEPARTMENT



VOLUME-I
UNIFIED SCHEDULE OF RATES FOR
WATER SUPPLY PROJECTS
2013

FOREWORD



Municipal Corporation of Greater
Mumbai

Foreword

Ever since establishment of Bombay Municipal Corporation (now Municipal Corporation of Greater Mumbai) in 1888 by the erstwhile British rulers in India, in the last 125 years of the history of its existence MCGM has catered to every aspect of the citizen of Mumbai that can be conceived of. Look to heritage buildings like Victoria Terminus (Chhatrapati Shivaji Terminus), Office of Municipal Corporation, Dadabai Naoroji Road, Dr. Babasaheb Ambedkar Road, Marine Drive (Netaji Subhash Road), Prince of Wales Museum, Gateway of India, Malabar Hill Reservoir, Nair Hospital, Lokmanya Tilak Hospital, KEM Hospital etc which are the service centers for the citizens. Municipal Services have also been provided in the suburban and extended suburban areas merged in 1950 & 1957 respectively. The obligatory duties are performed well but still there is need to improve in quantity and quality of services to be provided to the citizens.

Ethical governance and righteous work culture will certainly bring positive changes in design and implementation of projects. One may take an example of the first Municipal Head Quarter Building, that was completed in year 1893, in four years, designed by F W Stevens and the execution part was dealt by Project Engineer Shri Rao Saheb Sitaram Khanderrao Vaidya, who executed the project of 77.70m high structure and saved Rs.68,000/- as against estimated cost of Rs. 11.80 Lakhs.

The need is to work with precision and accuracy. There shall be harmony between planning and execution so as to evolve best economics with focused goals.

MCGM is one of the largest local self governments in the Asian Continent. In observance of historic traditions of strong civic activism, with the change in time and living conditions to match with the urbanization, MCGM has focused in providing variety of engineering services viz, storm water drain, sewerage, water supply, roads, bridges, solid waste management, environmental services. Beside this, the Corporation is also providing dedicated services in the Health sector by establishing Major and Peripheral hospitals.

To update and modernize the mechanism being used for working on related projects from the stage of conceptualization to execution, the need was realized to revise prevailing "Schedule Of Rates" along with specifications which were in operation with various departments and being prepared individually as per their need and revised at different span of time, resulting into various anomalies. To overcome all these, it was essential to revise the schedule of rates, not only with simple mechanized revision but incorporating major changes to keep up with the pace of urbanization, civilization, construction techniques / mechanization and voluminous developments by restructuring



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items in the schedule to cover all requirements. This exercise would provide comfort with designs and field necessities and will assist in effective checks on creation of extra items during execution.

A conscious decision has been taken to prepare Unified Schedule of Rates to keep pace with the changing time; a first step forward in this direction. Since long time, there have been demands made by the stake holders like Municipal Engineers and Contractors to remove non-uniformity, anomalies and discrepancies in various schedules of rates for work contracts of various departments of MCGM. Every department had its own expertise and way of functioning which got reflected in its independent schedule of rates, which however, had no linkage with the fair market rates and schedules of other departments, resulting into extra items and fair rates. In place of earlier 9 Schedule Of Rates, the Unified Schedule of Rates is an effort and seeks to rectify the defects, discrepancies and non uniformities which will provide ease and accuracy of estimation to the Engineers.

In view of the enormous and voluminous nature of work, keeping time frame in perspective and above all, to ensure professionalism, the work of preparation of Unified Schedule of Rates (USR) was awarded to the eminent consultants M/s. TATA Consulting Engineers Ltd. M/s. TATA Consulting Engineers Ltd were directed to conduct a integrated factual market research for major materials from stockists/manufacturers/dealers and to study schedules of rates of Govt. bodies like C.P.W.D., P.W.D. etc The new Rate Analysis are based on Factual Market research done by M/s.TATA Consulting Engineers Ltd.

The anomalies in rate are minimized after extensive market research and collection of quotations from reputed large scale stockists/dealers, and also after comparison with rates of CPWD, PWD etc.

The Unified Scheduled of Rates is linked with its comprehensive specifications of basic important activities so as to have clarity in execution. These specifications follow a chronology of general scope of the item, material required, processing of material, construction operation, finishing and mode of measurement. Rigid Standard Operating Procedures (SOPs) and complete control on processes will certainly satisfy quality parameter. The need for checking the quality of construction is quite apparent and shall be ensured throughout the construction process. To achieve this, the Unified Scheduled of Rates incorporates quality assurance procedures.

All the rates are also linked to their detailed specifications and wherever required, with drawings. Though there are about 12500 items, every item is now given a Unique Code No. which will eliminate the repetition.

It has been our endeavor to include all the necessary modern materials and technologies in Unified Schedule of Rates, for example, the concept of green building, which will go a long way to have control on creation of extra items and fair rates. A salient feature of this Unified Schedule of Rates is 'Starring of items' specified categorically which can be used only at certain works or locations.



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Another salient feature is 'Dynamic Rate System' which will be based on study of data base of quantities and bidding prices of awarded contracts on the basis of which necessary corrections can be applied to the Unified Schedule of Rates at specified intervals. The MCGM will be now be in a position to revise the Unified Scheduled of Rates every year, after incumbency period of M/s.TATA Consulting Engineers Ltd of one year, to work with and correct the system as and when necessary.

I am sure that this 'Unified Scheduled of Rates' will be a milestone in civic governance by MCGM. This publication shall be of great help and guidance to the officers engaged in the project work of MCGM.

A.M.C. (Project)

Municipal Commissioner



General Notes



GENERAL NOTES

A. COMMON GENERAL NOTES

1. The schedule of rates will be operative from 16-09-2013
2. The unified schedule of rates includes following department:
 - i. Buildings
 - ii. Water Supply Projects
 - iii. Hydraulic Engineering
 - iv. Sewerage Projects
 - v. Storm Water Drainage
 - vi. Roads
 - vii. Bridges
 - viii. Traffic and Signals
 - ix. Mechanical and Electrical
 - x. Garden Works
3. Volume-I contains USR, basic rate list and approved makes and Volume-II contains specification along with drawings wherever necessary and mandatory tests.
4. The specification of the items shall be as per latest Indian Standard Codes unless otherwise specified.
5. The rates of the items in this schedule of rates are worked out assuming average lead for Greater Mumbai area for all sorts of materials.
6. The rates are inclusive of transportation, duties, taxes and charges of all Government, Municipal or any other statutory body, applicable from time to time but exclusive of Works Contract Tax and Labour Cess levied by Government of Maharashtra.
7. The rates also includes Overheads @ 5% and Contractor's Profit @10% which is inclusive of labour supervision charges, tools and plants.
8. Rates of common material and labour is attached in the Annexure-A in Volume-I.
9. The building Schedule of Rates 2013 includes the existing items of FMA, FMB 2009, SIC and Fair items, with deletion of obsolete items, merger of similar items

and value addition of new items in line with modern technology and trends in accordance with latest rules, regulation, byelaws etc.

10. As per the Government policy the use fly ash is done for framing the items of work in accordance with the latest provisions of IS Codes. Also green building items have been introduced in new schedule to minimize the consumption of energy during construction and occupancy of building and also maintaining ecological balance.
11. From safety, health and environment point of view two legged steel tubular scaffolding shall be used, without making any holes in the outer face of the building or any structure. And no extra payment shall be made for works like scaffolding, centering for any height unless otherwise specified.
12. All materials shall be as per approved list of MCGM or equivalent material having quality standards as per relevant IS codes and shall be of first quality unless otherwise specified.
13. Following basic rates are considered in the USR:
 - i. Cement : Rs. 6,000/ MT
 - ii. Mild Steel : Rs. 47,400/ MT
 - iii. HYSD Steel (Fe415) : Rs. 48,400/ MT
 - iv. T.M.T. (Fe500) : Rs. 49,400/ MT
 - v. Structural Steel : Rs. 53,400/ MT
14. Rates given in SOR are for estimation purpose.
15. Rates of items and specification for excavation, concrete, plaster and brickwork shall be referred from common schedule unless and otherwise not mentioned in concerned department's schedule.

For Earthwork:

16. Lead will be admissible only within MCGM limits. The distance between centerlines shall be taken as the lead which shall be measured by the shortest route on the plan and not the actual route taken by the Contractor. Here Centerlines represents the center point (for area/mass excavation) and the center chainage for linear excavation.

17. The Engineer In Charge shall exclusively include these directions in the Tender/Bid document and the Tenders/Bidders shall be insisted to make the declaration of the dumping plot at the time of submission of Bid.
18. The Engineer In Charge shall take the quantity in account for the disposal only upto Municipal Limits for the Shortest Route and payment will be made as per the actual distance within municipal limit. The payment will be restricted to the shortest distance upto the Municipal limit for the plot identified outside the Municipal limit.

For Lift:

19. For the depth beyond 1.5 meter, the excavated quantity shall be worked out with the base rate plus the rate of respective slab of the lift. This is elaborated as below:

If total depth of excavation is 6 meter, wherein for first 4.5 meter soft soil is there and beyond it hard rock is available, then estimate shall be worked out as follows:

Assumed dimension 1 meter x 1 meter x 6 meter

Upto 4.5 meter depth, amount shall be calculated as:

(1x1x4.5) Cu.M x Rs. 220 (Item no. CS-EW-1) +

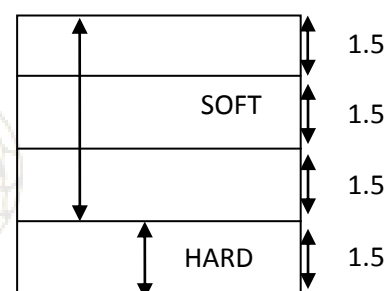
(1x1x1.5) Cu.M x Rs. 48 (Item no. CS-EW-2-a) +

(1x1x1.5) Cu.M x Rs. 71 (Item no. CS-EW-2-b)

For next hard strata excavation (4.5 – 6.0 meter), amount shall be calculated as:

(1x1x1.5) Cu.M x Rs. 873 (Item no. CS-EW-4) +

(1x1x1.5) Cu.M x Rs. 220 (Item no CS-EW-7-c)



20. Coding of items:

- The Coding procedure for Basic master material is as follows:
 - Code will start with the common prefix of “MA” which stands for materials
 - Followed by Abbreviation code for each schedule of rate for eg H.E. for Building works, SP for Sewerage, WSP for water supply and so on and so forth.
 - The first item category in the list will be numbered as “1”
 - The last part of the code will be a number starting with “a” to indicate the item number in the master list.
 - The alpha numerics will be separated by (dash).
 - The code will look like: MA-GN-01

➤ The Coding procedure for SOR is as follows:

- Code will start from abbreviation for Department name “HE” or “WSP” or “SP”
- The USR will be subdivided into chapters according to the item classification; these chapters will be numbered as 1, 2, 3
- The items under the chapter will be numbered from 1
- The sub items will be numbered as a, b, c
- The code will look like CS-CW-1-a-1

➤ Abbreviations to be used for Department

Sr. No.	Department	Abbreviation
1	Building works/Common Schedule	CS
2	Roads	RW
3	Traffic and Signaling	RT
4	Bridges	BW
5	Water Supply Projects	WSP
6	Hydraulic Engg.	HE
7	Sewerage Projects	SE
8	Storm Water Drains	SWD
9	Mechanical and electrical	ME
10	Garden Works	GW

B. SALIENT FEATURES OF SOR FOR BUILDING WORKS

- 1) All the rates are for all heights and levels unless noted otherwise.
- 2) Chloropyrifos EC 20 has been considered for anti termite treatment.
- 3) Artificial sand (crushed sand) has been considered for flooring bedding and for concrete work.
- 4) All the items are excluding fixtures otherwise not specified in respective item. In such case, items of Hardware section shall be used for fixtures.
- 5) For plastering and mortar work, river sand has been considered.
- 6) For plastering work all the rates are for all heights and levels and architectural decorative surface.
- 7) All external plaster items are including waterproofing compound except plastering item for structures like compound wall, masonry pedestals, pillars, etc.
- 8) Items for ashlar masonry, dewatering, self compacting concrete, vacuum dewatered concrete flooring and TMT steel bars have been introduced.
- 9) Rates of all the items in roofing work are inclusive of staging or scaffolding for any height.
- 10) Non-asbestos cement sheet provided in place of asbestos cement sheet roofing.
- 11) Concreting of pile shall be done with RMC only.
- 12) Rates of piling are inclusive of Chiseling of intermediate local boulders. No separate payment shall be made for the same
- 13) While estimating the quantity for Grouting of bentonite slurry in bored precast piles shall be measured as per bore dia. and pile dia. Exact quantity can be measured while execution and shall be paid accordingly
- 14) Rates considered in concrete items are including pumping of concrete upto placing point.
- 15) New items like Self compacting concrete, vacuum dewatered concrete flooring and TMT steel bars have been introduced.
- 16) The dismantling and demolishing chapter covers only removing old items and repair work covers both removing old items and re-fixing the new.
- 17) For heritage works the rate includes the statutory charges for heritage committee and conservation architect and no extra payment will be made.
- 18) APP (Atactic poly-propylene) modified polymeric membrane water proofing will be used only for trial basis on approval of City Engineer and/or Chief Engineer (P&D).

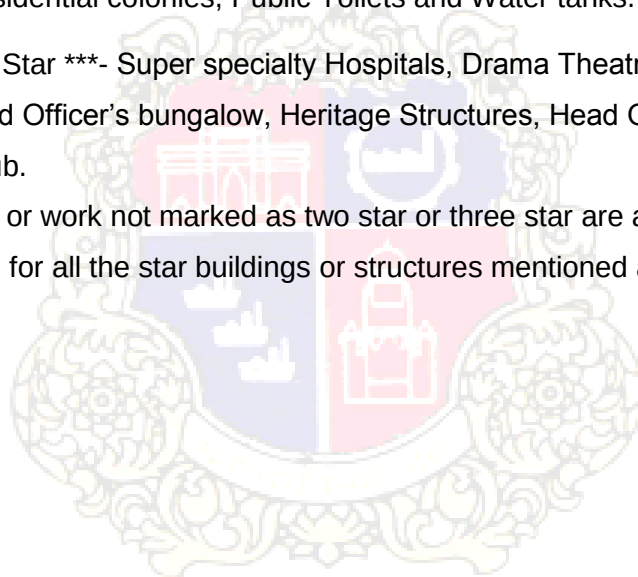
19) In plumbing waterless urinals, fly ash bricks, fly ash concrete for green building concept have been introduced.

Star Rating:

In view of ambiguity related to choice of quality or grade of materials and subsequent items of works to be used at Ward level projects, Centralized projects or Special projects of and for smooth functioning during planning stage of a project, the new concept of Star Rating has been introduced for building works depending on the life expectancy of building, degree of occupancy of building and comfort to the end user. The buildings or structures rated are as follows:

- i. Two Star **- Ward offices and Central dept. Offices, schools, Small Hospitals, Primary Health Center, Fire Station, Crematorium, Slaughter Houses, Markets, Swimming Pools, Zoos, Chowkies, Libraries, Staff quarters and residential colonies, Public Toilets and Water tanks.
- ii. Three Star ***- Super specialty Hospitals, Drama Theatres, MCGM Mayor's and Officer's bungalow, Heritage Structures, Head Office and Engineer's Hub.

The items or work not marked as two star or three star are assumed to be applicable for all the star buildings or structures mentioned above.



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C. GENERAL NOTES WATER SUPPLY PROJECTS DEPARTMENT

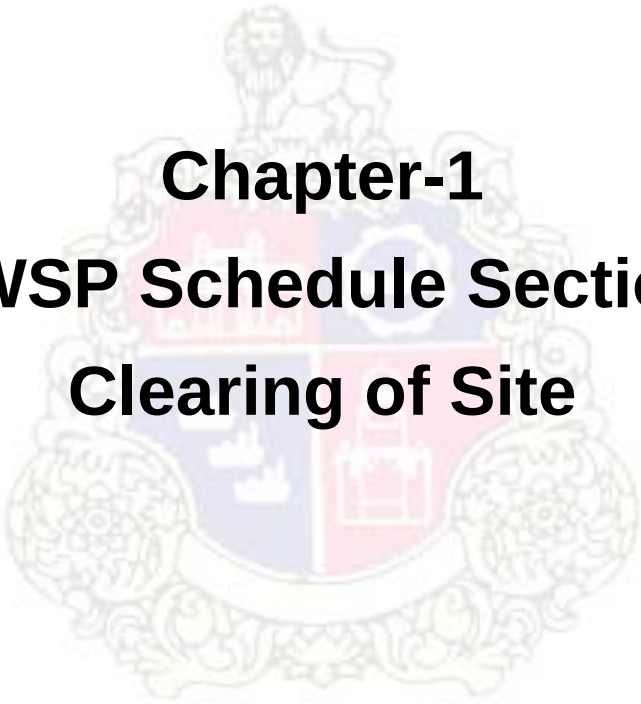
- 1 Excavation and backfilling items required for laying of pipelines have been covered under the SOR for Excavation Works. However for items no. E-25 and E-26 (making access opening in pipelines) the item considers excavation, backfilling, painting, etc.
- 2 The item for valves has been covered under Mechanical SOR. Any small civil work like construction of small chamber associated with the fixing of valves shall be covered under the same mechanical item since the cost of valves is very high.
- 3 Items for Reservoir Works shall be compiled separately and not as a part of the WSP SOR. (Balance Works)
- 4 The encasement for pipelines shall be covered under SOR for Sewerage Works
- 5 Piling if required in case of protecting sides of excavation shall be covered in the SOR for Piling.
- 6 (Large size) MS cover on valve chambers has been covered in SOR for Storm water drains.
- 7 The item for all types of specials has been converted from RM to MT.
- 8 The rate of completing cement mortar lining manually is only for those locations in the pipe wherein the mortar lining machine could not reach.
- 9 Covering capacity of polyurethane paint is assumed to be 8 sqm/litre.
- 10 Covering Capacity of Epoxy primer/Epoxy paint is 5 sqm/litre.
- 11 Consumption of Thinner is assumed to be 10% of the paint volume.



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Chapter-1

WSP Schedule Section-1

Clearing of Site



Municipal corporation of Greater Mumbai

WSP Schedule -Section 1				
ITEM CODE	ITEM DESCRIPTION	UNIT	RATE IN Rs	Remarks
WSP-1-1	Clearing the land of all vegetation, stumps, removal of roots, cutting and disposal of the trees upto 30 cms. in girth.	Sqm		Refer to Landscaping SOR (Next Revision)
WSP-1-2	Felling, logging, fashioning of timber and billeting of trunks and branches, stacking the material neatly nearby as directed, including removal of roots, etc. complete:			Refer to Landscaping SOR (Next Revision)
	(a) Trees with girth above 30 cm Upto 100 cm	Nos		
	(b) Trees with girth above 100 cm Upto 200 cm	Nos		
	(c) Trees with girth above 200 cm	Nos		
WSP-1-3	Transporting the cut trees to the store or wherever necessary and stacking the same as directed:			Refer to Landscaping SOR (Next Revision)
	(a) Upto a distance of 2 km	MT.		
	(b) Beyond 2 km upto 5 km	MT.		
	(c) Beyond 5 km upto 10 km	MT.		



Chapter-2
WSP Schedule Section-2
Pipe Laying and Cement Mortar
Lining



WSP Schedule -Section 2			
Item code	Item Description	Unit	Rates 2013
WSP-2-1	Transporting within 500 m., laying in position to the correct line and level, M.S. Pipes with/without any out- coating on pedestals or chairs upon prepared formation. The rate to include loading, unloading, hoisting, marginal cutting wherever required, assembling and tack-welding complete as directed by Engineer-in -Charge. The diameter mentioned below shall be considered as clear internal diameter of pipe		
	a) <u>5 mm. to 8 mm. thick plate</u>		
	i) Upto 250 mm. dia. pipe	Rmt	1157
	ii) Above 250 mm. upto 500 mm. dia pipe	Rmt	1174
	iii) " 500 mm. " 750 mm. "	Rmt	1183
	iv) " 750 mm. " 1000 mm. "	Rmt	1192
	v) " 1000 mm. " 1250 mm. "	Rmt	1390
	b) <u>Above 8 mm. upto 12 mm. thick plate</u>		
	i) From 750 mm. upto 1000 mm. dia. pipe	Rmt	1192
	ii) Above 1000 mm. upto 1250 mm. dia pipe	Rmt	1390
	iii) " 1250 mm. " 1500 mm. "	Rmt	1601
	iv) " 1500 mm. " 1750 mm. "	Rmt	1629
	v) " 1750 mm. " 2000 mm. "	Rmt	2032
	vi) " 2000 mm. " 2250 mm. "	Rmt	2418
	vii) " 2250 mm. " 2500 mm. "	Rmt	2435
	c) <u>Above 12 mm. upto 16 mm. thick plate.</u>		
	i) From 2000 mm. upto 2250 mm. dia.pipe.	Rmt	2418
	ii) Above 2250 mm.upto 2500 mm. dia.pipe.	Rmt	2435
	iii) 2500 " 2750 "	Rmt	2453
	iv) " 2750 mm. " 3000 "	Rmt	2470
	v) " 3000 mm. " 3250 "	Rmt	2488
	vi) " 3250 mm. " 3500 "	Rmt	2505
	d) <u>Above 16 mm. upto 20 mm. thick plate.</u>		
	i) From 2500 mm.upto 2750 mm. dia. pipe	Rmt	2453
	ii) Above 2750 " 3000 mm. "	Rmt	2470
	iii) " 3000 " 3250 "	Rmt	2488
	iv) " 3250 " 3500 "	Rmt	2505
	v) " 3500 " 3750 "	Rmt	3784
	vi) " 3750 " 4000 "	Rmt	5045
	e) <u>Above 20 mm. upto 25 mm. thick plate</u>		
	i) From 3500 mm. upto 3750 mm. dia.pipe	Rmt	3784
	ii) Above 3750 " 4000 mm. "	Rmt	5045
WSP-2-2	Transporting within 500 mtrs. and laying in position to the correct line and level, M.S. specials with/without any out coating such as distance pieces, straps, bends, tapers, etc.as per specification on pedestals or chairs upon formation. The rate to include loading, unloading, hoisting, marginal cutting wherever required, assembling and tack-welding, complete directed by Engineer-in - Charge. The diameter mentioned below shall be considered as clear internal diameter of pipe		



WSP Schedule -Section 2			
Item code	Item Description	Unit	Rates 2013
	<u>a) 5 mm. to 8 mm. thick plate.</u>		
i)	Upto 250 mm. dia. pipe	Rmt	1331
ii)	Above 250 mm. upto 500 mm. dia pipe	Rmt	1351
iii)	" 500 mm. " 750 mm. "	Rmt	1361
iv)	" 750 mm. " 1000 mm. "	Rmt	1371
v)	" 1000 mm. " 1250 mm. "	Rmt	1738
	<u>b) Above 8 mm. upto 12 mm. thick plate.</u>		
i)	From 750 mm. upto 1000 mm. dia. pipe	Rmt	1371
ii)	Above 1000 mm. upto 1250 mm. dia pipe	Rmt	1738
iii)	" 1250 mm. " 1500 mm. "	Rmt	2002
iv)	" 1500 mm. " 1750 mm. "	Rmt	2037
v)	" 1750 mm. " 2000 mm. "	Rmt	2540
vi)	2000 " 2250 "	Rmt	3023
vii)	2250 " 2500 "	Rmt	3409
	<u>c) Above 12 mm. upto 16 mm. thick plate.</u>		
i)	From 2000 mm. upto 2250 mm. dia. pipe	Rmt	3023
ii)	Above 2250 " 2500 "	Rmt	3409
iii)	" 2500 " 2750 "	Rmt	3435
iv)	" 2750 " 3000 "	Rmt	3458
v)	3000 " 3250 "	Rmt	3484
vi)	" 3250 " 3500 "	Rmt	3507
	<u>d) Above 16 mm. upto 20 mm. thick plate.</u>		
i)	From 2250 mm. upto 2750 mm. dia. pipe.	Rmt	3435
ii)	Above 2750 mm. " 3000 mm. "	Rmt	3458
iii)	" 3000 mm. " 3250 mm. "	Rmt	3484
iv)	" 3250 mm. " 3500 mm. "	Rmt	3507
v)	" 3500 mm. " 3750 mm. "	Rmt	5298
vi)	" 3750 mm. " 4000 mm. "	Rmt	7063
	<u>e) Above 20 mm. upto 25 mm. thick plate.</u>		
i)	From 3500 mm. upto 3750 mm. dia. pipe.	Rmt	5298
ii)	Above 3750 mm. " 4000 mm. "	Rmt	7063
WSP-2-3	Transporting within 500 meters and laying in position to the correct line and level M.S. Pipe with/without any out coating on pedestals or chairs upon piers, trestles, etc. The rate to include loading, unloading, hoisting, marginal cutting wherever required, assembling and tack-welding complete directed by Engineer-in - Charge. The diameter mentioned below shall be considered as clear internal diameter of pipe		
	<u>a) 5 mm. to 8 mm. thick plate</u>		
i)	Upto 250 mm. dia. pipe.	Rmt	1265
ii)	Above 250 mm. upto 500 mm. dia. Pipe.	Rmt	1274
iii)	" 500 mm. " 750 mm. "	Rmt	1291
iv)	" 750 mm. " 1000 "	Rmt	1300
v)	" 1000 mm. " 1250 "	Rmt	1517
	<u>b) Above 8 mm. upto 12 mm. thick plate.</u>		
i)	From 750 mm. upto 1000 mm. dia. pipe.	Rmt	1300
ii)	Above 1000 " 1250 "	Rmt	1517



WSP Schedule -Section 2						
Item code	Item Description				Unit	Rates 2013
	iii)	"	1250	" 1500 "	Rmt	1745
	iv)	"	1500	" 1750 "	Rmt	1756
	v)	"	1750	" 2000 "	Rmt	2195
	vi)	"	2000	" 2250 "	Rmt	2634
	vii)	"	2250	" 2500 "	Rmt	2652
	<u>c) Above 12 mm. upto 16 mm. thick plate.</u>					
	i)	From 2000 mm. upto 2250 mm. dia. pipe			Rmt	2634
	ii)	Above 2250	"	2500 mm. "	Rmt	2652
	iii)	"	2500	" 2750 mm. "	Rmt	2669
	iv)	"	2750	" 3000 mm. "	Rmt	2687
	v)	"	3000	" 3250 mm. "	Rmt	2704
	vi)	"	3250	" 3500 mm. "	Rmt	2722
	<u>d) Above 16 mm. upto 20 mm. thick plate.</u>					
	i)	From 2500 mm. upto 2750 mm. dia. pipe			Rmt	2669
	ii)	Above 2750	"	3000 mm. "	Rmt	2687
	iii)	"	3000	" 3250 mm. "	Rmt	2704
	iv)	"	3250	" 3500 mm. "	Rmt	2722
	v)	"	3500	" 3750 mm. "	Rmt	4108
	vi)	"	3750	" 4000 mm. "	Rmt	5478
	<u>e) Above 20 mm. upto 25 mm. thick plate</u>					
	i)	From 3500 mm. upto 3750 mm. dia. pipe.			Rmt	4108
	ii)	Above 3750 mm.	"	4000 mm. "	Rmt	5478
WSP-2-4	Transporting within 500 mtrs. and laying in position to the correct line and level, M.S. Specials such as distance pieces, straps, bends, tapers, etc. as per specification on pedestals or chairs upon piers or trestles, etc. The rate to include loading, unloading, hoisting, marginal cutting wherever required, assembling and tack welding, complete as directed by Engineer-in -Charge. The diameter mentioned below shall be considered as clear internal diameter of pipe					
	<u>a) 5 mm. to 8 mm. thick plate.</u>					
	i)	Upto 250 mm. dia. pipe.			Rmt	1455
	ii)	Above 250 mm. upto 500 mm. dia. pipe.			Rmt	1466
	iii)	"	500 mm.	" 750 "	Rmt	1485
	iv)	"	750 mm.	" 1000 "	Rmt	1495
	v)	"	1000 mm.	" 1250 "	Rmt	1897
	<u>b) Above 8 mm. upto 12 mm. thick plate</u>					
	i)	From 750 mm. upto 1000 mm. dia. pipe.			Rmt	1495
	ii)	Above 1000	"	1250 mm. "	Rmt	1897
	iii)	"	1250	" 1500 "	Rmt	2182
	iv)	"	1500	" 1750 "	Rmt	2195
	v)	"	1750	" 2000 "	Rmt	2744
	vi)	"	2000	" 2250 "	Rmt	3293
	vii)	"	2250	" 2500 "	Rmt	3713
	<u>c) Above 12 mm. upto 16 mm. thick plate.</u>					
	i)	From 2000 mm. upto 2250 mm. dia. pipe			Rmt	3293



WSP Schedule -Section 2				
Item code	Item Description			Rates 2013
	ii) Above 2250	"	2500	"
				Rmt
	3713			
	iii) "	2500	"	2750
				Rmt
	3737			
	iv) "	2750	"	3000
				Rmt
	3762			
	v) "	3000	"	3250
				Rmt
	3786			
	vi) "	3250	"	3500
				Rmt
	3811			
	<u>d) Above 16 mm. upto 20 mm. thick plate.</u>			
	i) From	2500 mm.	upto 2750 mm.	dia. pipe.
				Rmt
	3737			
	ii) Above 2750	"	3000	"
				Rmt
	3762			
	iii) "	3000	"	3250
				Rmt
	3786			
	iv) "	3250	"	3500
				Rmt
	3811			
	v) "	3500	"	3750
				Rmt
	5752			
	vi) "	3750	"	4000
				Rmt
	7670			
	<u>e) Above 20 mm. upto 25 mm. thick plate.</u>			
	i) From	3500 mm.	upto 3750 mm.	dia. pipe.
				Rmt
	5752			
	ii) Above 3750	"	4000	"
				Rmt
	7670			
WSP-2-5	Transporting within 500 meters, laying in position to the correct line and level, M.S. pipes with/without any outcoating on prepared bedding in trenches including marginal cutting wherever required, assembling, tack welding the same. The rate to include loading, unloading, hoisting, etc. complete as directed by Engineer-in - Charge. The diameter mentioned below shall be considered as clear internal diameter of pipe			
	<u>b) Above 8 mm. Upto 12 mm. thick plate.</u>			
	vi) Above	2000 mm.	"	2250 mm. dia. pipe
				Rmt
	2418			
	vii) "	2250 mm.	"	2500 mm. "
				Rmt
	2435			
	<u>c) Above 12 mm. upto 16 mm. thick plate.</u>			
	i) From	2000 mm.	upto 2250 mm.	dia. pipe.
				Rmt
	2418			
	ii) Above 2250	"	2500	"
				Rmt
	2435			
	iii) "	2500	"	2750
				Rmt
	2453			
	iv) "	2750	"	3000
				Rmt
	2470			
	v) "	3000	"	3250
				Rmt
	2488			
	vi) "	3250	"	3500
				Rmt
	2505			
	<u>d) Above 16 mm. upto 20 mm. thick plate.</u>			
	i) From	2500 mm.	upto 2750 mm.	dia. pipe.
				Rmt
	2453			
	ii) Above 2750	"	3000	"
				Rmt
	2470			
	iii) "	3000	"	3250
				Rmt
	2488			
	iv) "	3250	"	3500
				Rmt
	2505			
	v) "	3500	"	3750
				Rmt
	3784			
	vi) "	3750	"	4000
				Rmt
	5045			
	<u>e) Above 20 mm. upto 25 mm. thick plate.</u>			
	i) From	3500 mm.	upto 3750 mm.	dia. pipe.
				Rmt
	3784			
	ii) Above 3750	"	4000	"
				Rmt
	5045			



WSP Schedule -Section 2			
Item code	Item Description	Unit	Rates 2013
WSP-2-6	Transporting within 500 meters, laying in position to the correct line and level, M.S. Specials with/without any outcoating such as distance pieces, straps, bends tapers, etc. as per specification on prepared bedding in trenches including marginal cutting wherever required, assembling, tack welding the same. The rate to include loading, unloading, hoisting, etc. complete as directed by Engineer in -Charge. The diameter mentioned below shall be considered as clear internal diameter of pipe		
	<u>b) Above 8 mm. Upto 12 mm. thick plate.</u>		
	vi) Above 2000 mm. " 2250 mm. dia. pipe	Rmt	3023
	vii) " 2250 mm. " 2500 mm. "	Rmt	3409
	<u>c) Above 12 mm. upto 16 mm. thick plate.</u>		
	i) From 2000 mm. upto 2250 mm. dia. pipe.	Rmt	3023
	ii) Above 2250 " 2500 "	Rmt	3409
	iii) " 2500 " 2750 "	Rmt	3435
	iv) " 2750 " 3000 "	Rmt	3458
	v) " 3000 " 3250 "	Rmt	3484
	vi) " 3250 " 3500 "	Rmt	3507
	<u>d) Above 16 mm. upto 20 mm. thick plate.</u>		
	i) From 2500 mm. upto 2750 mm. dia. pipe.	Rmt	3435
	ii) Above 2750 " 3000 "	Rmt	3458
	iii) " 3000 " 3250 "	Rmt	3484
	iv) " 3250 " 3500 "	Rmt	3507
	v) " 3500 " 3750 "	Rmt	5298
	vi) " 3750 " 4000 "	Rmt	7063
	<u>e) Above 20 mm. upto 25 mm. thick plate.</u>		
	i) From 3500 mm. upto 3750 mm. dia. pipe.	Rmt	5298
	ii) Above 3750 " 4000 "	Rmt	7063
WSP-2-7	Field welding in all position with required number of runs, for M.S. pipes internally and/or externally including gauging wherever necessary, fixing appurtenances and other accessories in connection of pipe laying work as directed by Engineer-in -Charge		
	A)Butt Joints		
	h) 14 mm	Rmt	1490
	i) 16 mm	Rmt	1668
	j) 18 mm	Rmt	1695
	k) 20 mm	Rmt	1845
	l) 22 mm	Rmt	2093
	m) 25 mm	Rmt	3070
	B)Lap Joints with convex fillet welds:		
	f) 14 mm	Rmt	838
	g) 16 mm	Rmt	1047
	h) 18 mm	Rmt	1152
	i) 20 mm	Rmt	2408



WSP Schedule -Section 2			
Item code	Item Description	Unit	Rates 2013
	i) 22 mm	Rmt	2700
	k) 25 mm	Rmt	3750
WSP-2-8	Shifting and aligning ring girders including removing tack welds, and retacking in the correct position etc. complete as per specifications for the pipes of diameters mentioned below and as directed by Engineer-in -Charge		
	a) Above 1000 mm. upto 1250 mm.	Nos	1574
	b) " 1250 " 1500 "	Nos	1923
	c) " 1500 " 1750 "	Nos	2273
	d) " 1750 " 2000 "	Nos	2623
	e) " 2000 " 2250 "	Nos	2972
	f) " 2250 " 2500 "	Nos	3322
	g) " 2500 " 2750 "	Nos	3671
	h) Above 2750 mm. upto 3000 mm.	Nos	4021
	i) " 3000 " 3250 "	Nos	4371
	j) " 3250 " 3500 "	Nos	4720
	k) " 3500 " 3750 "	Nos	5070
	l) " 3750 " 4000 "	Nos	5420
WSP-2-9	Transporting within 500 meters and fixing in position stools, base plates, roller sets, grease box covers, etc. including welding wherever necessary. The rate also to include fixing stools, base plates, etc. in true line and level connecting the base plate to anchor bolts by flush welding including cutting the bolts, if required, assembling and aligning C.I.. or M.S. roller sets of any sizes including oiling, greasing, etc. The rate also to include the cost of fixing in position and grouting the anchor bolts, welding of two halves of grease box covers as directed, complete, for pipes of diameters mentioned below and as directed by Engineer-in -Charge		
	a) Above 1000 mm. upto 1250 mm.	Pair	2957
	b) " 1250 " 1500 "	Pair	3614
	c) " 1500 " 1750 "	Pair	4271
	d) " 1750 " 2000 "	Pair	4929
	e) " 2000 " 2250 "	Pair	5586
	f) " 2250 " 2500 "	Pair	6243
	g) " 2500 " 2750 "	Pair	6900
	h) " 2750 " 3000 "	Pair	7557
	i) " 3000 " 3250 "	Pair	8214
	j) " 3250 " 3500 "	Pair	8871
	k) " 3500 " 3750 "	Pair	9528
	l) " 3750 " 4000 "	Pair	10185
WSP-2-10	Transporting within 500 metres and aligning, fixing in position and tack welding expansion joints suitable for pipeline of diameters mentioned below as directed by Engineer-in -Charge		
	a) Above 1000 mm. upto 1250 mm.	Nos	3660
	b) " 1250 " 1500 "	Nos	4474
	c) " 1500 " 1750 "	Nos	5287
	d) " 1750 " 2000 "	Nos	6100
	e) " 2000 " 2250 "	Nos	6914



WSP Schedule -Section 2				
Item code	Item Description			Rates 2013
	f) “ 2250 “ 2500 “	Nos		7727
	g) “ 2500 “ 2750 “	Nos		8540
	h) “ 2750 “ 3000 “	Nos		9354
	i) “ 3000 “ 3250 “	Nos		10167
	j) “ 3250 “ 3500 “	Nos		10980
	k) “ 3500 “ 3750 “	Nos		11793
	l) “ 3750 “ 4000 “	Nos		12607
WSP-2-11	Transporting within 500 meters, aligning and fixing in position and tack welding only including marginal cutting, supplying and providing rubber packing, etc. where necessary and as directed by Engineer-in -Charge			
	A) Minor fixtures such as manhole covers, pressure and non-pressure type blank flanges, loose flange, small pipes to form saddle, bypass arrangement, plug plates, ladders, platform, stiffener rings, etc.	MT		21649
	B) Major fixture such as Tees, Domes, ‘Y’ Branches, Insulating flange ring assembly, etc.	MT		21649
WSP-2-12	Transporting within 500 meters, hoisting, lowering in position, fixing in true plumb and level, following appurtenances complete as per drawing and specifications. The rate to include cost of spun yarn, fibre, asbestos ring, rubber packing, white zinc paint, making lead joints including supply of lead for all the sluice valves from 150 mm. dia. to 1200 mm. dia. and other necessary materials for making joints :-			
	i) Sluice valves :-			
	a) 1200 mm. dia.	Nos		19636
	b) 900 “	Nos		19636
	c) 750 “	Nos		19636
	d) 600 “	Nos		19636
	e) 450 “	Nos		10666
	f) 300 “	Nos		10666
	g) 200 to 250 mm. dia.	Nos		10666
	h) 150 mm. dia.	Nos		6052
	Note:- The rebate as follows will be taken for providing rubber packing instead of lead joints for fixing sluice valves.			
	1200 mm dia.	Nos		9818
	900 mm dia.	Nos		9818
	750 mm dia.	Nos		9818
	600 mm dia.	Nos		9818
	450 mm dia.	Nos		5333
	300 mm dia.	Nos		5333
	200 to 250 mm dia.	Nos		5333
	150 mm dia.	Nos		3026
	ii) Anti vacuum air valves :-			
	a) 380 mm. dia.	Nos		5333
	iii) Scour valves(sluice valves)			



WSP Schedule -Section 2			
Item code	Item Description	Unit	Rates 2013
	a) 300 mm. dia.	Nos	10666
	b) 230 “	Nos	10666
	c) 150 “	Nos	6052
	iv) Kinetic Air Valves with sluice valve :-		
	a) 200 mm. dia.	Nos	10666
	b) 150 “	Nos	6052
	c) 80 “	Nos	6052
WSP-2-13	Transporting appurtenances or any other fabricated steel materials including loading, unloading, etc. complete upto 2 km.	MT	995
WSP-2-14	Extra over the above rate of Item No. WSP-2-13 for transporting the material beyond 2 km.	MT/Km	847
WSP-2-15	Providing M.S. bar mesh (prepared out of 16 mm. dia. M.S. bars at 15 cms. C/c. both ways welded to flange ring including tack welding of bars and fixing the same with nuts and bolts on open faces of outlet/inlet pipes in the sump of the reservoir etc. complete as directed.		
WSP-2-16	Providing permanent test points on the pipeline as per drawing and as directed including providing and fixing sluice valves road boxes for sluice valves of size 80 mm. to 250 mm. dia. in one-brick masonry chamber 300 mm. x 300 mm. clear, in C.M. 1:5 and 12 mm. thick 1:3 cement plaster both inside and outside on M 10 c.c. 150 mm. thick etc. complete as specified and directed.	Nos	32045
WSP-2-17	Transporting within 200 Mts. Hoisting, lowering in position, fixing in true plumb and level, butterfly valves including fixing flange adapter, actuators etc. as per drawing and specifications. (All materials to be installed will be supplied by the Corporation).		
	i) 600 mm. dia.	Nos	19636
	ii) 750 “	Nos	19636
	iii) 900 “	Nos	19636
	iv) 1200 “	Nos	19636
	v) 1400 “	Nos	20326
	vi) 1800 “	Nos	20326
	vii) 2400 “	Nos	20326
WSP-2-18	a) Hydraulic testing of M.S. Pipeline to the specified pressure for the length upto 1 km. using reciprocating type pumps which should be able to provide specified test pressure, pressure gauges, & other necessary equipments labour, operation charges, etc. required testing. The rate under this item shall also include cost of re-testing if necessary. Water will be made available free of cost by MCGM for first testing and water charges will be borne by contractor for re-testing.		



WSP Schedule -Section 2			
Item code	Item Description	Unit	Rates 2013
	<u>Dia of pipeline</u>		
	i) 600 mm. dia.	Km	22408
	ii) 750 "	Km	22965
	iii) 900 "	Km	23643
	iv) 1050 "	Km	24447
	v) 1200 "	Km	25374
	vi) 1500 "	Km	28288
	vii) 1800 "	Km	31006
	viii) 2235 "	Km	35825
	ix) 2500 "	Km	39271
	x) 2750 "	Km	42875
	xi) 3000 "	Km	46822
	xi) 3600 "	Km	57695
	xi) 4000 "	Km	66042
	b) Extra over and above rates for hydraulic testing beyond 1km for every additional km or part thereof.		

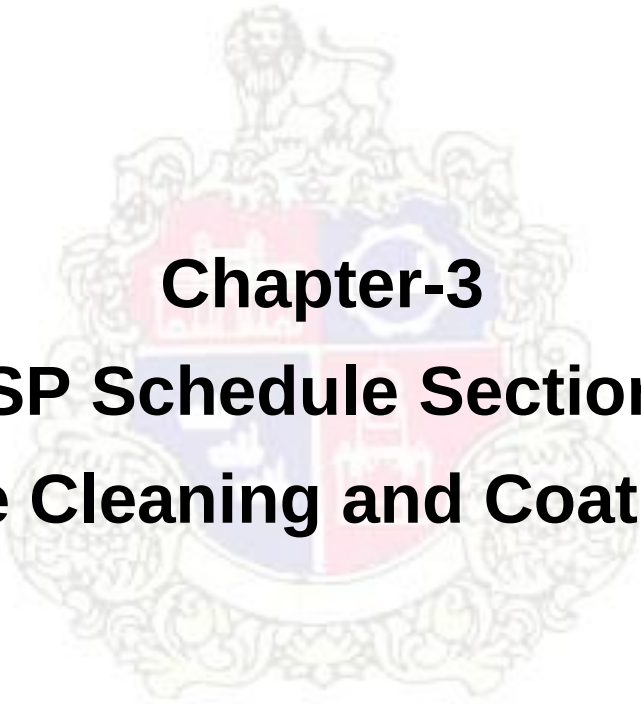


WSP Schedule -Section 2			
Item code	Item Description	Unit	Rates 2013
	<u>Dia of pipeline</u>		
	i) 600 mm. dia.	Km	2241
	ii) 750 "	Km	2297
	iii) 900 "	Km	2365
	iv) 1050 "	Km	2445
	v) 1200 "	Km	2538
	vi) 1500 "	Km	2829
	vii) 1800 "	Km	3101
	viii) 2235 "	Km	3583
	ix) 2500 "	Km	3928
	x) 2750 "	Km	4288
	xi) 3000 "	Km	4683
	xi) 3600 "	Km	5770
	xi) 4000 "	Km	6605
WSP-2-19	Providing and Applying Cement mortar lining of specified thickness with proportion of cement-sand ratio (1:1) by weight for underground and aboveground pipeline by mechanical trowelling i.e. with the use of mortar lining machine and including curing etc. complete as per specification and as directed by Engineer-in - Charge	Sqm	317



WSP Schedule -Section 2			
Item code	Item Description	Unit	Rates 2013
WSP-2-20	Providing Cement mortar lining of specified thickness with proportion of cement-sand ratio (1: 1) by weight for underground and aboveground pipeline such as bends, tapers, cross connections, dipping where machine lining is not possible, by hand lining including curing etc. as per specification and as directed by Engineer-in -Charge	Sqm	340
WSP-2-20A	Transporting butterfly valves with all accessories including flange-adaptors etc. from Municipal stores to the work site including loading, unloading etc. complete.	MT/Km	
WSP-2-20B	Extra over the above rate of E20A for loading and unloading with the help of crane and taking out insurance towards damage during loading , unloading and transporting etc. complete.	MT	
WSP-2-21	Scraping & cleaning of the interior surface of pipeline either manually or by any other suitable technique such as mechanical scrapper to remove all rust, dirt, silts, scales, tuberculosis etc. including flushing with water and dewatering the flushed water so obtained ,artificial drying of internal surface and disposing off the residue as per specification and direction complete as directed by Engineer-in -Charge	Sqm	46
WSP-2-22	Making access opening on all sizes of underground pipeline. The work includes excavation, shoring, providing flat stiffeners of required size and shape, dewatering, hand lining from inside, cutting pipes, welding back the pipe pieces, taking out cutholes or suitable size circular opening for internal welding of access opening and closing the circular opening etc. as per specification and direction complete as directed by Engineer-in -Charge	Nos	9476
WSP-2-23	Making 600 m.m. dia. manhole access opening on all sizes of underground pipeline. The work includes excavation , shoring, dewatering, providing doublers of required size but includes cutting pipes, welding back the pipe pieces, and painting with one coat of zinc rich epoxy primer and 3 coats of inertol of 49 W thick or equivalent approved paint internally as per specification and direction complete as directed by Engineer-in -Charge	Nos	7978





Chapter-3

WSP Schedule Section-3

Pipe Cleaning and Coatings



Municipal Corporation of Greater Mumbai

WSP Schedule -Section 3			
Item code	Item Description	Unit	Rates 2013
WSP-3-1	Providing and applying two component (DFT-100 Micron Minimum) Amine or polyamide cured surface Tolerant Epoxy Primer on external surface of water trunk main, ring girders, stools and roller cover etc. using best quality brush/ airless spray with best workmanship and in approved manner as per detailed technical specification and directions at site to get uniform film with recommended Dry Film Thickness through out exterior surface. etc. complete as per specifications and as directed by Engineer-in -Charge	Sqm	146
WSP-3-2	Providing and applying two Component polyurethane finish coat on previous epoxy primer & finish coat on external surface of water trunkmain, ring girders, stools and roller cover etc. using best quality brush / roller and spray with best workmanship and in approved manner as per detailed technical specification and directions at site to get uniform film with minimum Dry Film Thickness of 50 micron through out exterior surface.etc. complete as per specifications and as directed by Engineer-in - Charge	Sqm	260
WSP-3-3	Providing and applying two component high build epoxy barrier/tie coat after curing of previous epoxy primer coat on external surface of water trunkmain, ring girders, stools and roller cover etc. using best quality brush / roller and spray with best workmanship and in approved manner as per detailed technical specification and directions at site to get uniform film with Dry film thickness of 125 micron through out exterior surface.etc. complete as per specifications and as directed by Engineer-in - Charge	Sqm	152
WSP-3-4	Cleaning of exterior surface of mild steel water trunkmain, ring girders, stools & roller covers etc. mechanically by means of power wire brushes, mechanical scrapper, using power tools for cleaning including removing all the dust, dirt, loose rust / corrosion scale, loose paint flakes, oil / grease and any other foreign substances deposited completely from the surface and preparing the surface totally clean, smooth and uniform.etc. complete as per specifications and as directed by Engineer-in -	Sqm	177



Chapter-4
WSP Schedule Section-4
Miscellaneous including
Concrete items



WSP Schedule -Section 4				
Item code	Item Description	Unit	Rates-2013	Remarks
WSP-4-1	Providing colcrete bedding for flooring (with contractors' rubble and Metal) in cement mortar 1:3	Cum		Refer Reservoir Schedule (Next Revision)
WSP-4-2	Providing colgrout flooring (with contractors rubble and metal) in 1:3 cement sand mortar including finishing the surface with grout floating as per specifications :			Refer Reservoir Schedule (Next Revision)
	a) 150 mm. thick	Sqm		
	b) 230 mm. thick	Sqm		
WSP-4-3	Providing and laying R.C.C. spun pipes for drains including jointing, caulking, etc. as directed. (NP2 Class for 150mm to 300mm) and (NP3 class for 450mm to 900mm)			
	a) 150 mm.	Rmt	486	Refer SWD-72
	b) 250 mm.	Rmt	741	Refer SWD-73
	c) 300 mm.	Rmt	908	Refer SWD-74
	d) 350 mm.	Rmt	not available in market	
	e) 400 mm.	Rmt	not available in market	
	f) 450 mm.	Rmt	1625	Refer SWD-76-A
	g) 500 mm.	Rmt	2572	Refer SWD-77-A
	h) 600 mm.	Rmt	3095	Refer SWD-78-A
	i) 700 mm.	Rmt	4009	Refer SWD-79-A
	j) 800 mm.	Rmt	4986	Refer SWD-80-A
	k) 900 mm.	Rmt	6185	Refer SWD-81-A



WSP Schedule -Section 4				
Item code	Item Description	Unit	Rates-2013	Remarks
WSP-4-4	Providing precast porous cement concrete pipes of 300 mm. internal dia. With 50 mm wall thickness in M 15 c.c. with metal No.1 only, without any sand content , including curing, formwork etc. as per relevant B.I.S. Specifications for foundation of drains laid in required line and level with open joints or prepared sand bedding as specified and directed.	Rmt		Refer Reservoir Schedule (Next Revision)
WSP-4-5	Providing and fixing PVC water stops or their equivalent in the joints in reservoir wall, roof slab and flooring including welding to make long continuous length or 'T' junctions complete as directed	Rmt		Refer Reservoir Schedule (Next Revision)
	a) 150 mm.(6")wide (4 to 7 mm.thick)			
	b) 230 mm(9")wide (8 to 12 mm thick)			
	c) 300 mm(12")wide(8 to 12 mm thick			
WSP-4-6	Providing Epoxy mortar in 12 mm.x 20 mm. groove at the joint of reservoir flooring , roofs etc.	Rmt		Refer Reservoir Schedule (Next Revision)
WSP-4-7	Providing filter media for foundation drains as per specifications complete	Cum		Refer Reservoir Schedule (Next Revision)
WSP-4-8	Providing and laying Polythene paper including overlaps of 10 cms. Complete as directed and specified.	Sqm		Refer Reservoir Schedule (Next Revision)
WSP-4-9	Providing and filling hot bitumen of approved quality in 20 mm. x 40 mm. groove including painting the surface with two coats of bitumastic paint of approved quality (The strip shall be 150 mm.wide)	Rmt		Refer Reservoir Schedule (Next Revision)
WSP-4-10	Providing hot bitumen of approved quality in 12 mm.x 20 mm.groove including painting the surface in continuous strip with 2 coats of bitumastic paint of approved quality. (The strip shall be 150 mm. wide)	Rmt		Refer Reservoir Schedule (Next Revision)



WSP Schedule -Section 4				
Item code	Item Description	Unit	Rates-2013	Remarks
WSP-4-11	Providing & fixing premoulded bitumastic filler in the groove at the expansion joint including applying primer coat to the surface. Thickness of filler (approximate)			Refer Reservoir Schedule (Next Revision)
	a) 12 mm.	Sam		
	b) 20 mm	Sam		
	c) 25 mm.	Sam		
	d) 30 mm.	Sam		
WSP-4-12	Providing & fixing C.I. covers with frames over chambers of any size & type.	MT	90040	
WSP-4-13	Fixing vent pipes in the roof of the reservoir	Nos		Refer Reservoir Schedule (Next Revision)
WSP-4-14	Providing and fixing in position 40 mm. (approximately) dia G.I. pipes for taking float cables to Control Room. ('C' Class G.I.pipes)	Rmt	648	Refer HE-7-1, HE-7-2
WSP-4-15	Providing and fixing in position 50 mm. (approximately) dia G.I. pipes for taking flood light cables to Control Room. ('C' Class G.I.pipes)	Rmt	868	Refer HE-7-1, HE-7-2
WSP-4-16	Providing and laying sand cushion of approved quality below the M.S./Concrete pipes as a leveling course of the thickness as specified and as directed by Engineer-in -	Cum	2239	
WSP-4-17	Providing and filling hot bitumen of approved quality in 25 mm. x 75 mm. groove including painting the surface with 2 coats of bitumastic paint of approved quality. (The strip shall be 150 mm. wide)	Rmt		Refer Reservoir Schedule (Next Revision)
WSP-4-18	Providing and filling hot bitumen of approved quality in 12 mm. x 20 mm. groove in broken marble mosaic flooring without strip painting.	Rmt		Refer Reservoir Schedule (Next Revision)
WSP-4-19	Providing and laying R.C.pipes (NP3 class) with rubber ring jointing etc. complete as specified and directed. <u>Diameter of pipes</u>			Refer SE-5-8
	a) 350 mm.	Rmt	1753	
	b) 400 mm.	Rmt	1995	
	c) 450 mm.	Rmt	2184	



WSP Schedule -Section 4				
Item code	Item Description	Unit	Rates-2013	Remarks
d)	500 mm.	Rmt	2572	
e)	600 mm.	Rmt	3095	
f)	700 mm.	Rmt	4009	
g)	800 mm.	Rmt	4986	
h)	900 mm.	Rmt	6185	
i)	1000 mm.	Rmt	6807	
j)	1100 mm.	Rmt	8003	
k)	1200 mm.	Rmt	8628	
l)	1400 mm.	Rmt	11375	
m)	1500 mm.	Rmt	12643	
n)	1600 mm.	Rmt	13910	
o)	1800 mm.	Rmt	16828	
WSP-4-20	(a) Providing and applying primer and polysulphide sealant material for construction joints in R.C.C. floor & side wall of the reservoir Groove size 12 mm x 20 mm.	Rmt		Refer Reservoir Schedule (Next Revision)
	(b) Providing and applying primer and polysulphide sealant material for the expansion joint in R.C.C. roof slab of reservoir . Size of groove is 15 mm.x 25 mm.	Rmt		Refer Reservoir Schedule (Next Revision)
WSP-4-21	Providing & fixing non-slippery type of chequered plates , complete with cutouts and in size suitable for removal by hand shall be of mild steel Fe250 of thickness (5 mm.to 7 mm.) as per direction & instructions to the true line and level etc. complete.	Sqm	4393	
WSP-4-22	Providing and fixing 25 mm.thick thermocol in the roof slab expansion joint.	Sqm	202	Refer CS-CW-48
WSP-4-23	Providing no fine concrete slab for foundation drains as specified and directed	Cum		Refer Reservoir Schedule (Next Revision)
WSP-4-24	Providing special refill around and over the pipeline by using earth sieved through 12 mm. Sieve.	Cum	543	
WSP-4-25	Refilling the trenches with contractors' earth, murum etc. of approved quality around and over the pipeline upto ground level and also above ground level if required in layers not exceeding 30 cms. Including consolidation by watering, ramming with power rammer etc. complete as directed.	Cum	589	



WSP Schedule -Section 4				
Item code	Item Description	Unit	Rates-2013	Remarks
WSP-4-26	Extra over item No. WSP-4-25 for providing special refill with contractors' earth around and over the pipeline by using earth sieved through 12 mm. sieve.	Cum	183	
WSP-4-27	Embankment with municipal earth and murum in layers not exceeding 30 cms. thick from the excavated earth and murum including consolidation by ramming, rolling with power rollers of 8 to 10 Tonnes capacity, watering ,etc. complete as specified. (Cost of excavation and lead etc. shall be covered	Cum	232	
WSP-4-28	Embankment with contractors' earth or murum of approved quality in layers not exceeding 30 cms. thick including consolidation by ramming, watering, rolling with power rollers (capacity 8 to 10 tonnes)	Cum	681	
WSP-4-29	Embankment with the municipal rubble including hand packing the same and filling up the voids with smaller chips, earth etc. complete as specified (Cost of excavation and lead etc. shall be covered under other items). The rate also to include finishing the side slopes neatly	Cum	116	
WSP-4-30	Embankment with contractor's rubble including hand packing the same and filling up the voids with small chips, earth etc. complete as specified. The rate also includes finishing the side slopes neatly.	Cum	770	
WSP-4-31	Providing and laying 20 cms. Thick hand set dry rubble soling including filling in interstices with small chips and ramming the same for road work as well as for foundations of	Sqm	325	
WSP-4-32	Providing and laying hand set rubble stone pitching 15 cms. thick for the side slopes of earthen embankment including filling in interstices with small chips, etc. complete.	Sqm	273	
WSP-4-33	Providing special bedding for the pipeline			
	a) Using screened fine sand of grain size not larger than 2 mm.	Cum	2239	
	b) Using screened stone dust of grain size not larger than 2 mm.	Cum	1775	

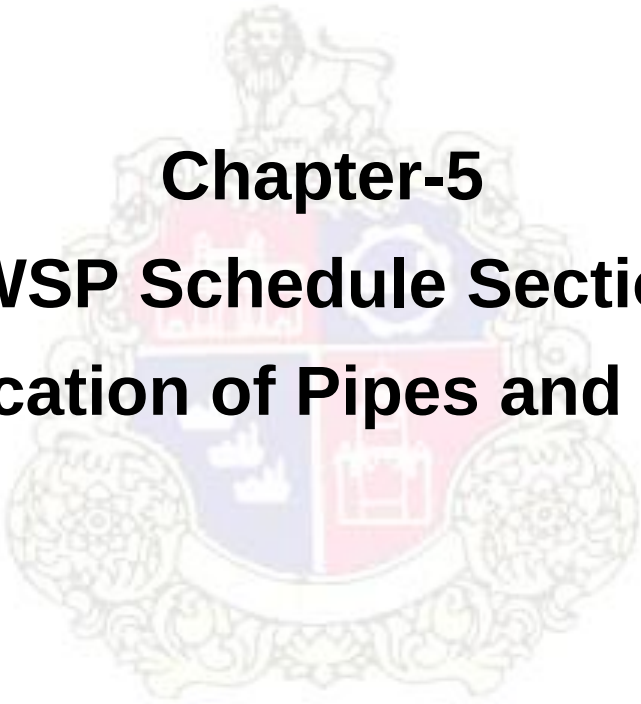


WSP Schedule -Section 4				
Item code	Item Description	Unit	Rates-2013	Remarks
WSP-4-34	Providing rubble in concrete for plum concrete. The rate includes stacking the rubble for the purpose of measurement, placing rubble in the concrete as directed. (60% of the stack measurements will be taken as solid volume of rubble supplied.)	Cum	988	
WSP-4-35	a) providing hand packed dry rubble filling behind the retaining walls, abutments, wing walls etc. complete.	Cum	770	
	b) providing hand packed dry rubble filling behind the retaining walls, abutments, wing walls etc. complete. (with municipal rubble)	Cum	116	
WSP-4-36	Providing and laying M20 controlled cement concrete with minimum cement content of 340 Kg. Per Cu.M. for all structural members (footing, columns, beams etc.) below plinth level and encasement of pipes, including mixing, placing, consolidating, curing etc. complete including shuttering (All steel will be paid separately.) (The word 'encasement of pipes' is added.)	Cum	7132	



WSP Schedule -Section 4				
Item code	Item Description	Unit	Rates-2013	Remarks
WSP-4-37	Providing and removing steel/plywood shuttering and centering for C.C. encasement of M.S.pipes, hidden faces (Type F1) for footing, plinth beams, col. Below plinth level etc. (Item deleted and included in WSP-4-36)	Sqm		
WSP-4-38	Providing and fixing reusable and adjustable Accrow type props of approved make & size, inside 1200 mm and 3000 mm dia M.S. pipeline and removing the same as specified and directed.	Usage		Covered in the Schedule-H within the fabrication item (spiders)
WSP-4-39	Providing and fixing in position M.S. angles, tees, plates, rolled steel beams, joist and stachions, M.S. covers on valve chambers etc. including all labour and material, hoisting, fixing with bolts and nuts or by welding, painting will 3 coats of Synthetic Enamel paint etc. complete welding, painting with 3 coats of Synthetic Enamel paint etc. complete as directed by Engineer in Charge.	MT	85528	
WSP-4-40	Breaking stems of R.C.C.members viz. Columns, slabs, R.C.C. walls, <u>encasement of pipes</u> etc. of any grade of concrete / colcrete without damaging reinforcement (bars) or pipes after removing rust, cleaning the same etc. including removal of debris etc. complete as directed.	Cum	1216	
WSP-4-41	Providing and laying M-25 R.C.C. <u>Dhapas</u> includng all shuttering and centering, mixing, placing, curing etc. complete (Steel will be paid separately.)	Cum	6744	
WSP-4-42	Providing and driving sheet piles conforming to IS 2314 and driving the sheet pile to desired depth upto 10 M. to protect sides of excavation with adequate sizes of wailers and struts for designed depth with proper design. (to be approved by engineer in-charge.)	Sqm	12918	Refer CS-PLG-22.2





Chapter-5

WSP Schedule Section-5

Fabrication of Pipes and Specials



Municipal Corporation of Greater Mumbai

WSP Schedule -Section 5			
Item code	Item Description	Unit	Rates-2013
WSP-5-1	Fabricating pipes including short pipes (shorter than one strake length) from steel plates supplied free of cost by the BMC and stacking the same in the fabricators' yard. The rate to include cutting the plates , rolling, tack welding, assembling in suitable lengths to form pipes, hydraulic testing, welding on automatic welding machines and forming 'V' edge for both the ends of pipe (including accrow type props)		
	Thickness of plate Diameter of pipe		
	<u>a) 5 mm. to 8 mm</u>		
	i) Upto 250 mm	Rmt	1315
	ii) Above 250 mm upto 500 mm	Rmt	1676
	iii) Above 500 mm upto 750 mm	Rmt	2262
	iv) Above 750 mm upto 1000 mm	Rmt	2848
	v) Above 1000 mm upto 1250 mm	Rmt	3434
	<u>b) Above 8 mm. upto 12 mm</u>		
	i) From 750 mm upto 1000 mm	Rmt	4018
	ii) Above 1000 mm upto 1250 mm	Rmt	4919
	iii) Above 1250 mm upto 1500 mm	Rmt	5820
	iv) Above 1500 mm upto 1750 mm	Rmt	6722
	v) Above 1750 mm upto 2000 mm	Rmt	7623
	vi) Above 2000 mm upto 2250 mm	Rmt	8525
	vii) Above 2250 mm upto 2500 mm	Rmt	9426
	viii) Above 2500 mm upto 2750 mm	Rmt	10328
	<u>c) Above 12 mm. upto 16 mm</u>		
	i) From 2000 mm upto 2250 mm	Rmt	11659
	ii) Above 2250 mm upto 2500 mm	Rmt	12921
	iii) Above 2500 mm upto 2750 mm	Rmt	14183
	iv) Above 2750 mm upto 3000 mm	Rmt	15445
	v) Above 3000 mm upto 3250 mm	Rmt	16707
	vi) Above 3250 mm upto 3500 mm	Rmt	17969
	<u>d) Above 16 mm. upto 20 mm.</u>		
	i) From 2500 mm. upto 2750 mm	Rmt	18061
	ii) Above 2750 mm upto 3000 mm	Rmt	19684
	iii) Above 3000 mm upto 3250 mm	Rmt	21306
	iv) Above 3250 mm upto 3500 mm	Rmt	22929
	v) Above 3500 mm upto 3750 mm	Rmt	24552
	vi) Above 3750 mm upto 4000 mm	Rmt	26174
	<u>e) Above 20 mm. upto 25 mm.</u>		
	i) From 3500 mm. upto 3750 mm	Rmt	30589
	ii) Above 3750 mm upto 4000 mm.	Rmt	32617



WSP Schedule -Section 5			
Item code	Item Description	Unit	Rates-2013
WSP-5-2	Testing the pipes hydraulically to the required pressure as per the specifications for diameters :		
	i) Upto 1000 mm	Rmt	349
	ii) Above 1000 mm upto 1250 mm	Rmt	525
	iii) Above 1250 mm upto 1500 mm	Rmt	770
	iv) Above 1500 mm upto 1750 mm	Rmt	908
	v) Above 1750 mm upto 2000 mm	Rmt	1046
	vi) Above 2000 mm upto 2250 mm	Rmt	1185
	vii) Above 2250 mm upto 2500 mm	Rmt	1323
	viii) Above 2500 mm upto 2750 mm	Rmt	1847
	ix) Above 2750 mm upto 3000 mm	Rmt	2406
	x) Above 3000 mm upto 3250 mm	Rmt	2613
	xi) Above 3250 mm upto 3500 mm	Rmt	3312
	xii) Above 3500 mm upto 3750 mm	Rmt	4046
	xiii) Above 3750 mm upto 4000 mm	Rmt	4886
WSP-5-3	Fabricating one piece degree cants, from the steel plates supplied free of cost by BMC and stacking the same in fabricators' yard. The rate to include cutting the plates, rolling, tacking, welding either on automatic welding machine or manually and forming 'V' edge to the both ends of pipe :	MT	24722
WSP-5-4	Fabricating composite bends from steel plates supplied free of cost by BMC and stacking the same in the fabricators' yard. The rate to include cutting the plates, rolling , tacking , drums , assembling the same to form bend of suitable length, welding either on automatic welding machine or manually and forming 'V' edge to both ends of bend but the rate excluding the circumferential butt welding required for assembling cants to form necessary composite bend. Circumferential butt welding will be paid for separately under Item .WSP-5-12 However the rate under this item will include the cost of longitudinal butt welding of pipe strakes.	MT	24722



WSP Schedule -Section 5			
Item code	Item Description	Unit	Rates-2013
WSP-5-5	Fabricating tapers from the steel plates supplied free of cost by BMC and stacking the same in the fabricators' yard. The rate to include cutting the plates, rolling, tack welding , welding either on automatic welding machine or manually and forming 'V' edge to both ends of tapers but the rate excludes the circumferential butt welding required for assembling drums to form necessary tapers. Circumferential butt welding will be paid for under Item No.WSP-5-12. However the rate under this item includes the longitudinal butt welding to form drums. The rate shall also include the cost of fabrication of stiffener rings and gussets and mounting the same on tapers, tack & chain welding etc. as directed.	MT	24275
WSP-5-6	Fabricating specials and fixtures from steel materials supplied free of cost by B.M.C.		
	The weight for payment under this item shall be calculated on the basis of finished material neglecting the bolt holes wherever provided		
	i) Saddle pieces, loose stiffener rings, pressure & non-pressure type blank flanges, ladders, platforms, & any other minor fixtures. The rate to include cutting, bending, tack welding etc. complete.	MT	9457
	ii) 'Y' branches 'T' branches. The rate to include cutting bending, tack welding etc. complete.	MT	23800
	iii) Dished closures such as domes. The rate to include cutting, cold pressing & tack welding etc. complete.	MT	24497
	iv) Dished closures such as manhole covers. The rate to include cutting, cold pressing & tack welding only. The rate also to include drilling holes including grinding wherever necessary, supply of bolts , nuts, washers, etc. complete as per drawing.	MT	25193
	v) Flat manhole covers. The rate to include cutting, tack welding. The rate also to include drilling holes including grinding wherever necessary , supply of bolts , nuts , washers, etc. complete as per drawing.	MT	15040
	vi) (a) Flange rings below 40 mm. thick. The rate to include gas cutting , tack welding , welding to form ring wherever necessary , drilling holes including grinding wherever necessary etc. complete	MT	11770



WSP Schedule -Section 5			
Item code	Item Description	Unit	Rates-2013
	vi) (b) Flange rings 40 mm. & above thick. The rate to include gas cutting , tack welding to form ring , drilling holes including grinding wherever necessary etc. complete.	MT	24372
	vii) (a) Machining of flange rings for cut upto 2 mm. including handling, assembling , aligning the ring on machine etc. complete as directed.		
	(i) For thickness of flange ring below 40 mm	Sqm	589
	(ii) For thickness of flange ring from 40 mm upto 100 mm.	Sqm	1219
	vii) (b) Extra over & above (vii)(a) for machining beyond 2 mm. additional cut of 2 mm or part thereof.	Sqm	442
	viii) Stress relieving of flange rings as specified and directed.	Sqm	2438
	ix) Plug plates –150 mm. dia & the thickness of plate from 14 mm. to 25 mm.as per drawing. The rate to include gas cutting, drilling holes, cost of G.I.Plugs, rolling to required curvature & threading etc. complete.	Each	216
WSP-5-7	Providing and Fabricating expansion joints for pipelines as per the drawings, & stacking the same in fabricators' yard. The rate to include machining the strakes & steel ring as shown in the drawing & welding on either automatic welding machine or manually. All other materials such as rubber ring, synthetic rubber packing, grease, bolts & nuts etc. shall be as per specifications, and as directed by Engineer-in -Charge		
	i) From 1000 mm upto 1250 mm	Each	167956
	ii) Above 1250 mm upto 1500 mm	Each	198905
	iii) Above 1500 mm upto 1750 mm	Each	229854
	iv) Above 1750 mm upto 2000 mm	Each	298269
	v) Above 2000 mm upto 2250 mm	Each	331778
	vi) Above 2250 mm upto 2500 mm	Each	363633
	vii) Above 2500 mm upto 2750 mm	Each	397143
	viii) Above 2750 mm upto 3000 mm	Each	428997
	ix) Above 3000 mm upto 3250 mm	Each	462507
	x) Above 3250 mm upto 3500 mm	Each	491052
	xi) Above 3500 mm upto 3750 mm	Each	524975
	xii) Above 3750 mm upto 4000 mm	Each	558898



WSP Schedule -Section 5			
Item code	Item Description	Unit	Rates-2013
WSP-5-8	Fabricating ring girder as per drawing & specifications from M.S.channels, flats, plates, etc. supplied free of cost by BMC & assembling the same on the ring girder strake & tack welding as per directions.	MT	17445
WSP-5-9	Fabricating ring girder supports (stools)as per drawing & specifications complete with top plates, base plates, side flats for fixing rollers wherever necessary , grease box covers, rag bolts, guide rods etc. including welding wherever necessary from steel material supplied free of cost by BMC & stacking the same in Fabricators' yard.	MT	19818
WSP-5-10	Fabricating and assembling M.S. Roller Sets for ring girder from steel material supplied free of cost by BMC & stacking the same in Fabricators' yard.	MT	17175
WSP-5-11	Gas cutting (either square or 'V' cut) Pipes , plates , specials , etc. as specified & directed <u>Plate thickness :</u> i) Upto 5 mm ii) Above 5 mm. upto 10 mm. iii) Above 10 mm. upto 14 mm iv) Above 14 mm. upto 18 mm v) Above 18 mm upto 22 mm vi) Above 22 mm	Rmt	176 249 322 396 469 542
WSP-5-12	Electric or gas welding steel materials as specified & directed : <u>a) Butt Joints :Plate Thickness</u> i) 4 mm. ii) 5 mm iii) 6 mm iv) 7 mm v) 8 mm vi) 10 mm vii) 12 mm viii) 14 mm ix) 16 mm x) 18 mm xi) 20 mm xii) 22 mm xiii) 25 mm xiv) 32 mm xv) 36 mm <u>b) Lap joints with convex fillet welds :</u>	Rmt	116 174 404 456 561 584 757 1192 1334 1356 1476 1675 2456 2825 3193



WSP Schedule -Section 5			
Item code	Item Description	Unit	Rates-2013
	Leg Lengths :		
	i) 5 mm	Rmt	183
	ii) 6 mm	Rmt	235
	iii) 7 mm	Rmt	261
	iv) 8 mm	Rmt	323
	v) 10 mm	Rmt	436
	vi) 12 mm	Rmt	561
	vii) 14 mm	Rmt	671
	viii) 16 mm	Rmt	838
	ix) 18 mm	Rmt	922
	x) 20 mm	Rmt	1927
	xi) 22 mm	Rmt	2160
	xii) 25 mm	Rmt	3000
	xiii) 32 mm	Rmt	3450
	xiv) 36 mm	Rmt	3900
WSP-5-13	Transporting all Fabricated materials from stacking yard of factory to laying site or from municipal stores to factory or anywhere directed upto a distance of 2 km Including loading, unloading and stacking near the laying site as directed.	MT	995
WSP-5-14	Extra over & above rate of Item No. WSP-5-13 for transporting the materials beyond 2 kms.	MT/Km	847
WSP-5-15	Blast cleaning the surface of the pipes at factory internally to remove all rust etc. complete as directed by Engineer-in -Charge	Sqm	189
WSP-5-16	Blast cleaning the surface of the pipes at factory externally to remove all rust etc as directed by Engineer-in -Charge	Sqm	207
WSP-5-17	Providing and applying primer & one coat of red oxide of Iron paint, internally, at factory after cleaning the surface of the pipes with steel scrappers, wire brushes and metal cleaning solution etc.	Sqm	326
WSP-5-18	Providing and applying primer & one coat of red oxide of Iron paint internally at factory to blast cleaned surface of the pipes as directed by Engineer-in -Charge	Sqm	137



WSP Schedule -Section 5			
Item code	Item Description	Unit	Rates-2013
WSP-5-19	Providing & applying one coat of Zinc Rich Epoxy Primer, to the internal surface of pipes at factory as per specifications and as directed by Engineer-in -Charge	Sqm	493
WSP-5-20	Providing & applying first coat of Inertol 49W thick to the internal surface of pipes at factory as per specifications and as directed by Engineer-in -Charge	Sqm	151
WSP-5-21	- do - - do - "Second Coat "	Sqm	76
WSP-5-22	- do - - do - "Third Coat "	Sqm	38
WSP-5-23	Fabricating and fixing insulated flange rings assembly as per drawing from steel materials supplied free of cost by B.M.C. The rate to include fabrication of tail pipes (about 0.6 m long) fabrication of flange rings, machining , drilling holes, including grinding wherever necessary and welding. The rate above to include nuts, bolts washers etc. but shall not include supply and fixing of bakelite / PVC rings, cylinders and rubber packing.		
	<u>For pipe dia.</u>		
	i) From 300 mm upto 450 mm	Each	4378
	ii) Above 450 mm upto 750 mm	Each	6865
	iii) Above 750 mm upto 1000 mm	Each	11457
	iv) Above 1000 mm upto 1250 mm	Each	16015
	v) Above 1250 mm upto 1500 mm	Each	23755
	vi) Above 1500 mm upto 1750 mm	Each	27915
	vii) Above 1750 mm upto 2000 mm	Each	36603
	viii) Above 2000 mm upto 2400 mm	Each	47445
WSP-5-24	Transporting M.S.Plates, cut plates, structural steel and cut sections of various sizes from Veravali and Powai or any other Mun.store in Gr.Mumbai to the fabrication shop upto a distance of 2 Km. And transporting back the plates, cut plates, structurals, cut section and scrap from Fabrication shop to Veravali or Powai or any other Mun.store in Gr.Mumbai upto a distance of 2 Km. Including stacking as per direction etc.	MT	995
WSP-5-25	Extra over & above rate of Item No. WSP-5-24 for transporting the materials beyond 2 Kms.	MT/Km	847



WSP Schedule -Section 5			
Item code	Item Description	Unit	Rates-2013
WSP-5-26	Providing,fabricating, M.S. pipes including short pipes (shorter than one strake length) as per specification of required diameters and shell thicknesses given below. The rate to include procurement of MS plates, transport, cutting the plates to the required size rolling, tack welding , assembling in desired lengths to form pipes, welding on automatic welding machine forming 'V edge with or without shoulder cut/root face on both the ends of pipe. The rate should also include hydraulic testing of pipes to the required pressure as per the specifications, transporting pipes mounted on it as required by adopting suitable transporting means without any damage, from the fabrication factory to the laying site of work intact , including unloading at the site, stacking them as directed, fixing of accrow type props etc'.complete as specified and directed by Engineer-in -Charge. The shop paint shall be paid separately as per quoted rates and shall not be included under this item.		
	Thickness of plate Diameter of pipe		
	<u>a)5 mm. to 8 mm</u>		
	i) Upto 250 mm	Rmt	4535
	ii) Above 250 mm upto 500 mm	Rmt	6774
	iii) Above 500 mm upto 750 mm	Rmt	10413
	iv) Above 750 mm upto 1000 mm	Rmt	14051
	v) Above 1000 mm upto 1250 mm	Rmt	17689
	<u>b)Above 8 mm. upto 12 mm</u>		
	i) From 750 mm upto 1000 mm	Rmt	21314
	ii) Above 1000 mm upto 1250 mm	Rmt	26912
	iii) Above 1250 mm upto 1500 mm	Rmt	32509
	iv) Above 1500 mm upto 1750 mm	Rmt	38107
	v) Above 1750 mm upto 2000 mm	Rmt	43704
	vi) Above 2000 mm upto 2250 mm	Rmt	49302
	vii) Above 2250 mm upto 2500 mm	Rmt	54900
	viii) Above 2500 mm upto 2750 mm	Rmt	60497
	<u>c) Above 12 mm. upto 16 mm</u>		
	i) From 2000 mm upto 2250 mm	Rmt	68764
	ii) Above 2250 mm upto 2500 mm	Rmt	76327
	iii) Above 2500 mm upto 2750 mm	Rmt	83587
	iv) Above 2750 mm upto 3000 mm	Rmt	90847
	v) Above 3000 mm upto 3250 mm	Rmt	98107
	vi) Above 3250 mm upto 3500 mm	Rmt	105271
	<u>d)Above 16 mm upto 20 mm.</u>		
	i) From 2500 mm. upto 2750 mm	Rmt	105770
	ii) Above 2750 mm upto 3000 mm	Rmt	114549
	iii) Above 3000 mm upto 3250 mm	Rmt	123327



WSP Schedule -Section 5			
Item code	Item Description	Unit	Rates-2013
	iv) Above 3250 mm upto 3500 mm	Rmt	132106
	v) Above 3500 mm upto 3750 mm	Rmt	140884
	vi) Above 3750 mm upto 4000 mm	Rmt	149662
	<u>e) Above 20 mm. upto 25 mm.</u>		
	i) From 3500 mm. upto 3750 mm	Rmt	173547
	ii) Above 3750 mm upto 4000 mm.	Rmt	184520
WSP-5-27	Providing,fabricating, M.S. composite bends of required diameter and shell thickness. The rate to include procurement of M.S. plates, transport, cutting the plates to the required size, rolling, tack welding, assembling in desired lengths to form composite bend, welding on automatic welding machine or manually and forming 'V' edge with or without shoulder cut/root face to both ends of the composite bend. The rate shall also include transporting composite bends with or without stiffener rings mounted on it, as required, by adopting suitable transporting means without any damage, from the fabrication factory to the site of work intact, including all loading and unloading fixing of accrow type props etc. complete as specified and directed by Engineer-in -Charge The shop paint shall be paid separately as per quoted rates and shall not be included under this item.	MT	106954



WSP Schedule -Section 5			
Item code	Item Description	Unit	Rates-2013
WSP-5-28	Providing,fabricating, M. S. tapers of required diameter and shell thickness. The rate to include procurement of M.S. plate, transport, cutting the plates to the required size, rolling, tack welding assembling in desired lengths to form tapers, welding on automatic welding machine or manually and forming 'V' edge with or without shoulder cut/ root face to both ends of the taper. The rate also includes providing and welding stiffener rings of required size as directed. The rate also include transporting specials and fixtures by adopting suitable means without any damage, intact to the site of work including all loading and unloading, fixing of accrow type props etc. complete as specified and directed by Engineer-in -Charge. The shop paint shall be paid separately as per quoted rates and shall not be included under this item.	MT	104545
WSP-5-29	Providing,fabricating, specials and fixtures of required size and shape from M. S. Plates and other structural steel. The rate to include procurement of plates and other structural steel, transport, cutting the plates and structural steel to the required size, rolling, bending, tack welding, assembling in desired size and shape, welding on automatic welding machine or manually and forming 'V' edge with or without shoulder cut/root face to both ends wherever required. The rate shall also include transporting specials and fixtures by adopting suitable means without any damage, intact to the site of work including all loading and unloading etc. complete as specified and directed. The rate should also include Saddle pieces, loose stiffener rings, pressure and non-pressure type blank flanges, ladders, platforms, protective covers for air valves and any other minor fixtures. The shop paint shall be paid separately as per quoted rates and shall not be included under this item.		
	Fabricating Spls & Fixtures- Minor fixures such as Saddles etc.	MT	98589



WSP Schedule -Section 5			
Item code	Item Description	Unit	Rates-2013
WSP-5-30	Providing, fabricating, T-junctions and Y-junctions of required size and shape from M. S. Plates and other structural steel. The rate to include procurement of plates and other structural steel, transport, cutting the plates and structural steel to the required size, rolling, bending, tack welding, assembling in desired size and shape, welding on automatic welding machine or manually and forming 'V' edge with or without shoulder cut/root face to both ends wherever required. The rate shall also include transporting specials with or without stiffener rings, fixtures mounted on it, as required, by adopting suitable means without any damage, intact to the site of work including all loading and unloading, fixing of accrow type props etc. complete as specified and directed by Engineer-in -Charge	MT	107406
WSP-5-31	Providing, fabricating dished closures such as domes of required size and shape from M. S. Plates and other structural steel. The rate to include procurement of plates and other structural steel, transport, cutting the plates and structural steel to the required size, rolling, bending, tack welding, assembling in desired size and shape, welding on automatic welding machine or manually and forming 'V' edge with or without shoulder cut/root face to both ends wherever required. The rate shall also include transporting specials and fixtures by adopting suitable means without any damage, intact to the site of work including all loading and unloading etc. complete as specified and directed by Engineer-in -Charge. The rate to include cold pressing etc. complete.	MT	107056



WSP Schedule -Section 5			
Item code	Item Description	Unit	Rates-2013
WSP-5-32	Providing, fabricating specials and fixtures of required size and shape from M. S. Plates and other structural steel. The rate to include procurement of plates and other structural steel, transport, cutting the plates and structural steel to the required size, rolling, bending, tack welding, assembling in desired size and shape, welding on automatic welding machine or manually and forming 'V' edge with or without shoulder cut/root face to both ends wherever required. The rate shall also include transporting specials and fixtures by adopting suitable means without any damage, intact to the site of work including all loading and unloading etc. complete as specified and as directed by Engineer-in -Charge. Dished closures such as manhole covers. The rate to include cold pressing, drilling holes, grinding wherever necessary, supply of bolts, nuts, washers, etc. complete as per drawing. The shop paint shall be paid separately as per quoted rates and shall not be included under this item.	MT	107056
WSP-5-33	Providing and fabricating specials and fixtures of required size and shape from M. S. Plates and other structural steel. The rate to include procurement of plates and other structural steel, transport, cutting the plates and structural steel to the required size, rolling, bending, tack welding, assembling in desired size and shape, welding on automatic welding machine or manually and forming 'V' edge with or without shoulder cut/root face to both ends wherever required. The rate shall also include transporting specials and fixtures by adopting suitable means without any damage, intact to the site of work including all loading and unloading etc. complete as specified and directed. (a) Flange rings below 40 mm. thick. The rate to include drilling holes, grinding wherever necessary. The rate shall also include fixing flange rings with circumferential manual welding to saddle pieces, tapers, distance pieces manhole covers, etc. complete wherever required and directed.	MT	65170



WSP Schedule -Section 5			
Item code	Item Description	Unit	Rates-2013
WSP-5-34	Providing and fabricating specials and fixtures of required size and shape from M. S. Plates and other structural steel. The rate to include procurement of plates and other structural steel, transport, cutting the plates and structural steel to the required size, rolling, bending, tack welding, assembling in desired size and shape, welding on automatic welding machine or manually and forming 'V' edge with or without shoulder cut/root face to both ends wherever required. The rate shall also include transporting specials and fixtures by adopting suitable means without any damage, intact to the site of work including all loading and unloading etc. complete as specified and directed. Plug plates-150 mm. dia., the thickness of plate from 14 mm. to 25 mm. as per drawing. The rate to include gas cutting, drilling holes, cost of G.I. Plugs, rolling to required curvature and threading etc. complete as specified and directed.		
	<u>Fabricating Plug plates</u>	Nos	367
WSP-5-35	Providing and fabricating ring girders as per drawing and specifications from M.S. Channels or by fabricating M.S. Channels from M.S. Plates and flats of required thickness including necessary welding and assembling the same on the ring girder strake and tack welding as specified and as directed by Engineer-in -Charge The rate to include procurement of M.S. Channels, flats, plates etc., transport, cutting, rolling, bending and assembling the same on the ring girder strake in desired shape including tack welding and horizontal butt welding. In case of fabricating of ring girder from M.S. plates and flats (of required size) to form channels, the rate shall also include circumferential welding.	MT	124936



WSP Schedule -Section 5			
Item code	Item Description	Unit	Rates-2013
WSP-5-36	Providing and fabricating ring girder supports (stools) as per drawing and specifications complete with top plates, base plates, side flats for fixing rollers wherever necessary, grease box covers, rack bolts, guide rods etc. Including welding wherever necessary. The rate to include procurement of plates and other structural steel, transport, cutting to the required size and shape, tack welding, assembling in desired size and shape, welding either on automatic welding machine or manually. The rate shall also include transporting stools by using suitable means without any damage, intact to the site of work inclusive of loading and unloading etc. complete as directed by Engineer-in -Charge	MT	123130
WSP-5-37	Providing, fabricating and assembling M.S. Roller as per drawing. The rate to include procurement of M.S. Round bars and other structural steel, transport, cutting to the required size and shape, machining, assembling and fixing the same to the side flats provided below the top plates of ring girder supports (stools), greasing, including providing antitheft measures as directed. The rate shall also include transporting rollers by using suitable means of transport without any damage, intact to site of work including loading and unloading etc. complete as specified and directed by Engineer-in -Charge	MT	157766

