KERALA WATER AUTHORITY



DETAILED PROJECT REPORT

SEWERAGE SYSTEM TO KASARAGOD
MUNICIPALITY PHASE 2 - CONSTRUCTION OF 4MLD
CAPACITY SEWAGE TREATMENT PLANT AT KORAKOD
VAYAL AND LAYING SEWERAGE NETWORK



KERALA WATER AUTHORITY
PPD & SEWERAGE VERTICAL
KOZHIKODE

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We express our gratitude to the authorities of Kasaragod municipality for their support, without which this endeavour would not have been possible. We extend our sincere gratitude to M/S Crowned Eagle Survey & Development Pvt.Ltd. for timely completing the DGPS survey work. We trust that the project will become a reality as per the timeline shown, and it would be beneficial to reduce the pollution load on the Chandragiri River and improve people's living standards in Kasaragod municipality.

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PROJECT AT A GLANCE

SI. No.	Irem	Description	
1	Name of the Project	Sewerage System to Kasarago 2- Construction of 4 MI Treatment Plant and Laying Korakod Vayal zone of Kasar	D capacity Sewage Sewerage Network to
2	Name of District	Kasaragod	, , , , ,
3	Name of Municipality	Kasaragod	
4	Project area covered(km2)	10.6	
5	Population Benefitted (in year 2054)	45789	
6	STP Capacity	4 MLD	4
7	Total Network Length	26.18 km	
8	Number of Wells	0	
9	Number of Pumping Stations	9	
10	Number of Manholes	1160	
11	Number of Connections	3000	
12	O&M cost for 10 Years including 18% GST (including electricity charges)	331179421.2	
13	Electricity charge for one year	15663708.55	
14	Amount required for Land acquisition	20000000	
15	Total cost including 10years O&M cost	1081000000	
16	Implementation agency	Kerala Water Authority	49/
17	Period of execution	2 Years	Sewerage, PPD & W

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Siccle 1. B Assistant Engineer ASST. EXECUTIVE ENGINEER

Kerala Water Authority Kasaragod - 671 123

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ABSTRACT OF ESTIMATE

SL NO	HEADING DESCRIPTION	AMOUNT IN RS.
1	Cost of STP	76886095.60
2	Cost of ELECTRO MECHANICAL ITEMS	57254104.08
	Cost of NETWORK	417712635.23
3	(Including sewer connection charges)	
4	O&M charges for 10 years (STP + Network)	280660526.48
5	Centage @10% (1+2+3+4)	83251336.14
6	GST @18% (1+2+3+4)	149852405.05
7	DPR PREPERATION CHARGES @2.5% (1+2+3)	13796320.87
8	Unforeseen items (including LS round off)	1586576.55
9	Grand Total	1081000000.00
	Rupees One hundred Eight Crore Ten Lakhs Only	

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Kozhikode

EXECUTIVE SUMMARY

Environmental protection has been widely accepted as a vital aspect of sustainable development. Proper sewage and septage management are a crucial parameter in achieving this. Though considerable achievement has been marked by the state in the drinking water sector, the development in sewerage sector is lagging much behind. Unplanned urbanisation and poor sewage management has resulted in large scale pollution of water resources. This has become a complex challenge to the environment as well as to the public health. Realizing the threat, the government, in recent years, has made much deliberations and initiatives to address the situation. Moreover, the Honourable National Green Tribunal (NGT) has given mandate to implement sewerage system in whole of the state in a time bound manner.

The local bodies, who have been constitutionally entrusted with the responsibility of environmental protection, have only limited infrastructure and expertise to tackle the situation. Hence Kerala Water Authority, being a state wide establishment with qualified and experienced personnel in Public Health Engineering, has been considered by the government to take up the responsibility. As per the Kerala Water Supply and Sewerage Act, 1986 KWA has the function of rendering services in collection and disposal of waste water. KWA, as a knowledge partner, service provider and central agency for coordinating the activities related to the planning and implementation of sewerage systems for LSGIs can contribute in scientific and systematic way. To meet the growing demand for waste water management, KWA established a Sewerage Vertical Wing, led by the Chief Engineer, PPD & WASCON. The former Sewerage Circle office in Kochi, which had a Superintending Engineer, one Executive Engineer, and two Assistant Executive Engineers, has now been merged with this. In addition to their existing responsibilities, the PPD Wing's three circle offices in Thiruvananthapuram, Kochi, and Kozhikode have been designated as Sewage Circle offices. This wing is responsible for the investigation, planning, design, and DER preparation of sewerage projects.

This Detailed Engineering Report envisions the establishment of sewerage facilities to the Kasaragod Municipality's Korakod Vayal zone (Zone-2) is designed to meet the sewerage demand up to the year 2053, using 2023 as the base year and a design period of 30 years. Kasaragod Municipality is divided into two main sewer zones based on topography, population, railway line, and other factors. A septage zone is also proposed in areas where the population density is less than 1500.km2. Furthermore, septage treatment is proposed in

densely populated areas where there is no road network. The ultimate sewage load for this Zone is 4 MLD including non-domestic demand and infiltration.

The scheme covers 10.6 km²area in Kasaragod Municipality's Korakod Vayal zone with the design population of 45789. Co- Treatment is proposed along with the Sewage Treatment Plant for Zone-2 covering this septage zones of Municipality. This proposal includes 4 MLD STP with MBBR technology at Korakod vayal in Kasaragod Municipality, a sewer network of 26.184 km, 1160 manholes and 9 lifting stations. Manholes at 30 m intervals and at all intersections are proposed to facilitate maintenance operations. Total Estimated cost of the project including 10-year O&M cost is \$108.1 Crores

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Chapter 1 INTRODUCTION

1.1 BACKGROUND

Provision of drinking water and sanitation facilities has always been a key priority in our country as it is directly related with the health of the community and the responsibility for providing these services lies with the public domain. With unplanned urbanization the sewage management and pollution of water resources has become a complex challenge to the environment as well as to the public health. Even though Kerala State has achieved significant results in terms of improved water supply coverage through Kerala Water Authority, the sanitation sector could not cope up with the water supply sector. Immediate removal of sewage from its source of generation followed by proper treatment and safe disposal into environment in an eco-friendly manner or reuse is highly necessary to protect the public health and environment.

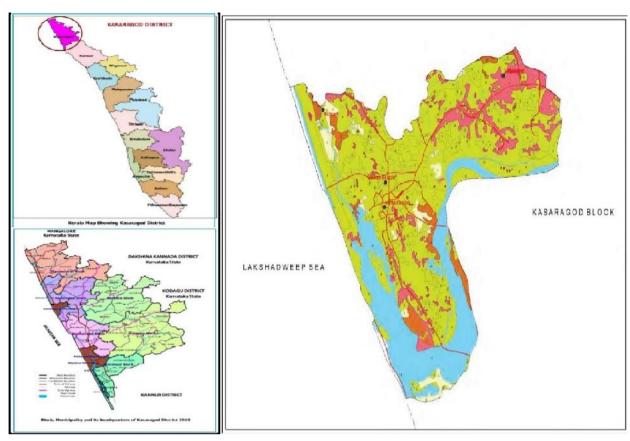
1.2 SCOPE OF THE REPORT

The scope of this work consists of planning and design of a comprehensive sewerage scheme for Korakod zone of Kasaragod Municipality of Kasaragod district in Kerala State. The project proposes a well-planned sewerage pipe line network for the core area of Municipality, pumping stations, and sewerage treatment plant with MBBR technology so as to ensure the quality of effluent as per KSPCB standards. Septage management facility will be provided for the area where laying sewerage network is not feasible.

1.3 PROJECT AREA

The Kasaragod Municipality is located 50 km south of the major port city Manglore and 364 km north of the major port city Kochi, between Kasaragod and Kanhangad, on National Highway 66. The historical place Bekal fort, built by Sivappa Nayak in 1650 is near Kasaragod Municipality. Kasaragod is well connected to major towns like Vidyanagar, Uppala, Uduma, Kanhangad etc. Municipality is Located on the East, West South bank of Chandragiri River, which acts like a boundary Kasaragod Municipality.

Kasaragod Municipality is well connected with road and rail. NH 66 passes through Municipality. Kasaragod Railway station is situated in the boarder of city. The nearest airport is Manglore international airport situated at a distance of about 60 km from municipal area. The latitude for Kasaragod, Kerala, India is: 12.501041 and the longitude is: 74.993304. Kasaragod Municipality is in Kasaragod Taluk of Kasaragod district and there are 44 Divisions in Kasaragod Municipality. The Municipality is under Kasaragod Parliament Constituency and Kasaragod Assembly Constituency.



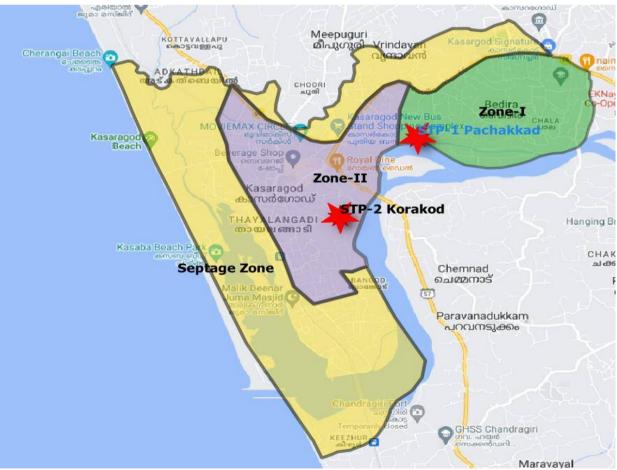


Figure 1.1 Project Area

1.4 POPULATION PATTERN

The Kasaragod Municipality has population of 54172 of which 26319 are males while 27853 are females as per report released by Census India 2011. Density of population is 3200/sq.km

Table 1.1 Population Pattern

Population as per 2011 census	No.of households	Male	Female	Transgender	SC/ST
54172	10202	26319	27853	0	1711

1.5 SOCIO-ECONOMIC PROFILE

Kasaragod Municipality is located on the estuary. The number of business establishments is increasing year by year as lots of construction activities are going on in Municipality. Literacy rate of Kasaragod is 94.76%, which is higher than Kerala average of 94.00%. A good number of people are engaged in business, agriculture and employed in private establishments. A minority of the population are employed in Government offices, the main agriculture product being Cashew, Paddy, Pepper and Arecanut. Small section of people in the coastal area is employed in fishing. The important public offices in Municipality are located in the Civil Station Building, Vidyanagar.

1.6 GEOGRAPHICAL FEATURES

Kasaragod Municipality covers area of 16.69km/sq and the boundaries are

South - Chandragiri River and Chemmanad Panchayath

North - Mogral Puthur and Madhur Panchayaths

East - Chengala Panchayath

West - Arabian Sea

1.7 RAINFALL & TEMPERATURE

Kasaragod Municipality has a mean annual temperature 28°c. The mean annual rainfall is 3350mm. The south west monsoon occurs between May and October. There is an average 160 rainy days in a year. Excessive rain fall causes frequent floods in rivers and canals causing submerges in low level areas.

1.8 LAND USE

The current land use pattern indicates that 34.5% of the land is for residential use which comprises houses in individual plot scattered all over the city. Commercial area is comparatively less and comprises small establishment.

Table 1.2 Land use Pattern

SI No	Land use	Percentage
1	Residential	34.5
2	Transport	2
3	Agriculture	41.69
4	Water bodies	17
5	commercial	1
6	Common land	1.89
7	others	1.92

1.9 SOIL TYPE

Four distinct soil types are dominant in the area. Geologically crystalline rocks of Archaean Age occupy the entire district except along the coast. A narrow strip of tertiary and recent sedimentary rocks is seen along the coast. Charnockites and gneisses are the crystalline rocks. The crystalline rocks are extensively laterites. The laterites by virtue of porous nature form potential aquifers and store groundwater. Lateritic soil is the most predominant soil in highland area.

DRAINAGE AND DRAINAGE PATTERN

The river Chandragiri is passes through the southern boundary of Kasaragod Municipality. The Chandragiri River originates from the northern slopes of the Greater Talacauvery National Park in the Western Ghats and empties to Arabian Sea at Thalangara. The river has a total length of 105km.



Figure 1.2 River Basin Maps

Chapter 2 PROJECT RATIONALE AND METHODOLOGY

2.1 SANITATION – VISION, STATUS AND GOALS

To address the situation of inadequate sanitation facilities to the urban population, the Government of India has formally approved the National Urban Sanitation Policy in 2008 which envisions the creation of totally sanitized cities and towns. The policy articulates awareness generation and behaviour change, open defectaion free cities in which all urban dwellers have access to safe sanitation, integrated city wide sanitation planning and sanitary and safe disposal of urban wastes.

The vision of the policy is that the municipality shall be totally sanitized, healthy and liveable and ensure and sustain good public health and environmental outcomes for all the citizens with a special focus on hygienic and affordable sanitation. The policy articulates the following goals-

- 1. Awareness Generation and Behavioural Change
- 2. Open Defecation Free Cities
- 3. Integrated City Wide Sanitation
- 4. Sanitary and Safe Disposal
- 5. Proper Operation and Maintenance of all Sanitary Installations

Wastewater disposal and treatment is a major problem in cities in Kerala. The wastewater from toilets has been disposed through septic tanks and soak pits and grey form of wastewater from kitchen and bathrooms is directly discharged into the sludge drains without any treatment. As per Census 2011, 45.45% of the urban households have "no drainage". There are 14.32% of the households connected to centralized sewerage system. About 97.43% of the households in the urban areas of Kerala state have a toilet within their residential premises. Almost 56.69% of them are connected to septic tanks, 21.87% to pit latrines while households having connection to the centralized sewer system are about 14.32%. There are both technical and institutional dimensions to the problem of septic tanks in the state of Kerala. The septic tanks design does not comply with the national guidelines with reference to planning, design and construction. Local masons are unaware of the existing design and construction guidelines to construct and design the septic tanks. There are multiple agencies involved in operation and maintenance of water and sanitation services in Kerala. Septage management is viewed as private provision with limited role of urban local bodies. Another set of reasons cited for urgency in taking up septage management is the occupational hazards for emptying the septic tanks. The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 has expanded the definition of workers engaged in such sanitation works by including the practice of septic tank emptying and manual handling of such faecal sludge. The revised Manual Scavenging Act will require states to gear up the Municipal bodies in discharging their responsibilities effectively. In the absence of efficient waste water treatment systems and solid waste management systems, untreated domestic and industrial wastes, and agriculture-runoff flow into the rivers polluting the rivers in Kerala. There has been widespread bacteriological contamination of faecal origin in ground and surface water which relate to proximity of increasing numbers of leach pit latrines, leakages from septic tanks, washing, bathing and other domestic activities. Hence the goals for setting a sewerage strategy for a district

will involve multi-faceted approach to cover every habitation and other institutions and establishments. This will render adequate results in both short term and long-term development plans. If a plan has been chalked out which can provide a systematic and flexible implementation mode, stage by stage implementation and better control over the system can be achieved. A district level plan document for sewerage prepared by KWA will create a backbone for the subsequent formation of detailed engineering reports for ULBs.

National Green Tribunal (NGT) while considering various OAs related to pollution of river trenches, pollution of coastal regions, pollution of ground water and restoration of water bodies in various States and UTs has ordered that all States and UTs shall ensure that various measures are taken to prevent the pollution of river stretches, water bodies and coastal areas on priority basis and within specified time limits. One of the directions is to ensure 100% treatment of sewage at least to the extent of in-situ remediation. Following this, being the agency for ensuring sewerage services in the State, Kerala Water Authority (KWA) has created a separate Vertical with in it exclusively for preparation of DPR sewerage works across the State. The newly formed Sewerage Vertical of KWA has prepared Preliminary Engineering Report for establishing a sewerage network/ septage management across the State.

As per order no GO(Rt) No.352/2021/P&EA dated 16/8/2021 Administrative Sanction has been accorded for conducting DGPS levelling survey work for 28 Urban Local Bodies and DPR preparation of 4 corporations in Kerala and Kasaragod Municipality is one among them. PPD and Sewerage Vertical Circle, Kozhikode is assigned with the task of preparation of DPR for sewerage scheme for Kasaragod Municipality.

2.2 NEED FOR SEWERAGE SCHEME

The sewerage project in respect of which considerable public and social resources are being used, form a basic infrastructure for the country and an indisputable indicator of civilization and development. The works cover a number of substantial social needs and aim to improve the quality of life and to protect public health and the environment. Some of the benefits and advantages of the sewerage system are as follows:

(a) Upgrading the quality of life

The quality of life and the hygienic conditions in the areas where the system operates have already improved. The operation of the sewerage system has relieved these areas to a great extent from previous problems that were caused by the continuous emptying of cesspools. In the past, hotels and blocks of apartments were required to empty and maintain septic tanks and soak ways. The sewerage system provides a healthier and more appropriate way to manage liquid wastes.

(b) Preserving the natural environment

Previously, all sewage waste was discharged in septic tanks and cesspits, resulting in the pollution of the ground water of the areas where such waste was discharged. Polluted waters then ended in the sea and caused various risks and other environmental problems. With the operation of the sewerage system no more pollution of ground water is affected and the discharge of sewage waste has significantly been reduced moreover, the wastewater treatment plant produces by-products such as treated biosolids and methane. Treated sludge is used as a soil-improving

substance mainly for tree cultivations whilst methane is being used for electricity generation, covering part of the power, required to operate the plant.

c) Saving and processing waters

Water is a substantial natural resource for our country and it should be managed in the best possible manner. The tertiary treated effluent at the wastewater treatment plant is reused for agricultural and other purposes. On completion of the project, the amount of water to be saved is expected to exceed 1.45 million cubic metres per year.

(d) Economic development and tourism

The most significant advantage of the system is maintaining sustainable development, the protection of the environment and improvement of the quality of life in our town, with a further impact on the development of tourism and the economy in general.

(e) Standard of living

As a result of the above, the sewerage system contributes to further development and increase of the standard of living of the town of Kasaragod inhabitants. Considering all the above advantages, there is no doubt that if we all cooperate, ourselves and our children will enjoy a better quality of life in the years to come and that we will secure a better environment.



Figure 2.1 Wastewater

2.3 PRESENT SEWERAGE SYSTEM- OVERVIEW

Like all other Municipalities in Kerala, Kasaragod Municipality is also not having a sewerage system. All the residential building, commercial buildings, institutional establishments are having their own septic tanks for collecting sewage from latrines and grey water is either collected in leach pits or directly disposed to drainage system and nearby canals. Most of septic tanks are unscientifically constructed and do not have the facility for treating the effluent resulting in contamination of surroundings and the ground water. Even though Hospitals and other institutions are having their own independent facilities, in most cases partly treated effluent is discharged to nearby drains or water bodies. Most of dwellings have their own wells as drinking water source and proximity to the septic tanks leads pollution in well water also. Coliform bacteria is detected in 70% of wells in Kerala and emphasising the need for a well-planned sewerage system.

2.4 2.4 WATER SUPPLY FACILITIES

2.4.1 PRESENT SYSTEM

At present there is only one water supply system within the municipality area, that is WSS to Kasaragod, this scheme is very old and not functioning satisfactory due to many reasons such as quality problem, inadequacy of source, frequent leak in pipe lines, break down with old pump sets, etc. The distribution system laid very long back as a part of WSS to Kasaragod.

2.5 ONGOING AND PROPOSED WATER SUPPLY SYSTEM

The ongoing project is KIIFB- Special Investment Package-WSS to Kasaragod Municipality and Chemmanad Panchayath Phase-1, with 55 MLD capacity is intended to provide adequate drinking water to the entire population of Kasaragod and five adjoining panchayats. It is proposed to draw raw water from the intake well at Bavikkara to STP, which is 1.1km away from the well. The treated water is then transmitted to the Service Reservoirs. For Kasaragod municipality 2 OHSR/GLSR are constructed at Vidyanagar and 1 OHSR/GLSR at Pulikkunnu. After commissioning the ongoing scheme will be compiled with the existing scheme WSS to Kasaragod.

The distribution system of Kasaragod Municipality will be fulfilled by the upcoming JJM-Urban scheme.

Table	2	1	Water	Tank	details
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Tank Location	Capacity (LL)	Туре
Bavikkara Hills	11 LL	OHSR(new)
Vidyanagar	5 LL	OHSR(new)
Vidyanagar	21 LL	OHSR(new)
Pulikkunnu	8 LL	OHSR(new)
Vidyanagar	2.5 LL (2nos)	OHSR(Existing)
Pulikkunnu	1.8 LL	OHSR(Existing)

2.6 GROUND WATER SOURCES

Most of the people depends ground water source, open wells and shallow tube wells for their drinking water needs. Studies have revealed that

- Almost all samples were contaminated with Total Coli forms
- Level of bacteriological contamination is very high during monsoon
- Elevated areas had comparatively lesser level of contamination
- Contamination was higher in the vicinity of onsite sanitation structures especially in open wells situated within 10-15 m from latrines
- In a number of cases cause of contamination is of human origin

2.7 METHODOLOGY FOR PREPARATION OF SEWERAGE MASTER PLAN

The following tasks have been performed during the planning of the proposed Sewerage System:

- Data Collection and Field Visits
- Review of adequacy of existing sewerage system
- field levelling survey using DGPS
- Social survey
- Population Projection and Sewage Flow Estimation
- Design of Sewage Collection System
- STP site identification, assessing area requirement
- Phasing of construction of STP
- Capital cost and O & M costs

2.8 FIELD INVESTIGATIONS

General Field investigations like topographic survey, geotechnical investigation to be conducted to ascertain the topography of the area, the soil classifications and to ascertain its characteristics for designing the type of treatment, which forms the basis for proceeding further in designing the sewerage system.

2.9 SURVEY WORK

Topographical Survey Topographical survey forms a very important component in formulating the sewerage project. A detailed topographical survey has been performed covering the area using DGPS and Total Station.

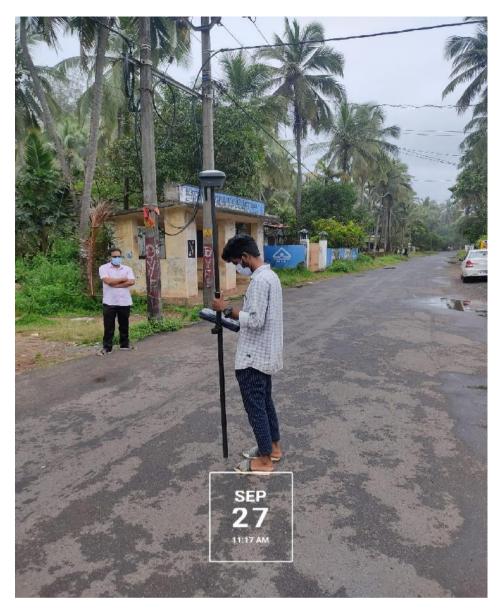


Figure 2.2 DGPS Survey

Topographical survey of the project area was conducted using DGPS and Total station. Ground Levels have been taken along the roads at suitable intervals along straight portions and at all junctions of alignment. Important features and obligatory points like junctions such as culverts, major drains, and public utilities, cross roads, railway line have been captured. Using the topographical survey data and detailed base map showing the features like roads, land marks, public buildings, parks etc. has been developed.

2.10 SOCIAL SURVEY

Social Survey was carried out for locating each building for arriving the sewer load in manholes. Identifying and arriving possible shock loads from institutions such as, flats, and other establishments are very important for avoiding overflows in manholes. Identifying the buildings which are not feasible to be connected to network, for arriving septage load /separate pumping arrangements is also carried out in social survey. Moreover, the areas likely to be developed in future are to be identified for arriving sewer load to be incorporated in design.

Chapter 3 DESIGN CRITERIA

3.1 SEWAGE COLLECTION & CONVEYANCE SYSTEM

The sewerage system or storm water carriage system can be separate system or combined system or partially separate system depending on domestic sewage and rain water are drained through two separate set of pipes or through single set of piping. However, the combined system is not quite suitable in tropical Indian conditions as;

- i) Heavy and concentrated rainfall occurs during the monsoon period and thus there is a large variation in the quantity of sewage during different months of the year,
- ii) Dry weather flow is generally a very small proportion of the total flow and hence sewers are likely to get silted up due to low velocity of flow in lean periods,
- iii) Capital funds are limited,
- iv) Treatment costs and pumping costs are significantly reduced in separate system due to reduction in quantity.
- v) If the system is overdesigned, external flushing to attain the areas where the self-cleansing velocity is not attained which will increase the O&M cost. It affects system efficiency.

The pipes for collection can have;

- i) Zonal pattern in which entire city is divided into suitable zones and a separate interceptor is provided for each zone,
- ii) Radial pattern in which sewers are laid radially outwards from the center of the city to dispose sewage at multiple points,
- iii) Interceptor pattern in which sewers are intercepted by large size sewers laid along the natural watercourses or,
- iv) Fan pattern in which the STP is located at a certain point and the entire sewage flow is directed towards this point.

3.2 3.2 ESTIMATION OF QUANTITY OF SEWAGE

Separate drainage system is proposed for rain water as such only dry weather flow will pass through sewers. The connection of roof, backyard and foundation drains to the sanitary sewers should be avoided and hence shall not be considered for estimation of sanitary sewage. The prevalent sewerage systems in India do receive rain water even if separate system for rain water exists but sewers are designed for 30 years and have spare capacity in early phases of implementation and considering that by end of 30 years sewerage system will become water tight to rain water, it is appropriate to design system assuming no rain water penetration in sewers. The quantity of domestic sewage can be best estimated by quantity of water supply consumption minus evaporation plus sewage flow from personal water sources which are other than those of community water supply and this water reaching to sewers. Another important factor in Indian

cities is generally less connectivity of sewage to the sewerage system as many people continue to use on site sanitation i.e., septic tanks and soak pits etc. particularly in colonies where sewerage system is laid after a long gap of construction of houses which is a general phenomenon in Indian cities. In actual practice about 70-80% of the water supplied is reaching to sewers. As such 80% of quantity of water supply can be taken as sewage generation.

3.2.1 INFILTRATION AND LEAKAGE.

Some quantity of ground water or subsoil water may infiltrate into sewers through defective joints, broken pipes etc. This is significant when water table is high and head of ground water is more than the head of sewage in sewers. Some quantity of sewage may leak out from defective joints and defective pipes when head of sewage is more in sewers than head of ground water outside. Infiltration and leakage mainly depend on quality of construction and water table levels. Infiltration can be considered 5000-50000 litres per day per hectare or 500-5000 litres per day per km length of sewers or 250-500 litres per day per manhole for sewers laid below ground water level.

3.2.2 ESTIMATION OF INDUSTRIAL SEWAGE

The quantity of industrial sewage will vary with type and size of industry, the manufacturing processes involved, degree of water reuse and onsite treatment methods that are used, if any. However, in general the quantity of industrial sewage may be taken 80 to 90 % of quantity of water supplied through public water supply system. Some industries develop their own source of water supply and may discharge their liquid waste into sewers. This should be estimated separately for large industries. It may, however, be stated that industrial sewage should be treated to the standards prescribed by the Pollution Control Boards before being discharged into sewers.

3.3 DESIGN PERIOD

Sewerage projects are normally designed to meet the requirements over a period of 30 years after their completion. However, the period of 30 years may be modified in respect of certain components of the project depending on their useful life or the facility for carrying out extensions when required and rate of interest, so that expenditure far ahead of its utilization is avoided. As such design period for various main components has been taken as indicated in Table below.

Table 3.1 Design Period of Sewerage Components

S. N	Design Component	Design	Remarks	
17		Period		
1	Land Acquisition for STP, SPS, sewers etc.	30 Years	Land acquisition in future difficult	
2	Sewer network (laterals, Trunk mains, Outfall etc.)	30 Years	Replacement difficult and costly	
3	Pumping mains	30 Years	Cost may be economical	

4	Pumping Stations- Civil Work	30 Years	Life of civil structure is 30 years
5	Pumping Machinery	15 Years	Life of pumping machinery is 15 years
6	Sewage Treatment Plants	30 Years	The construction shall be modular in phased manner as actual population less than design population and in Indian cities initially flows are much less due to connectivity problems
7	Effluent disposal and utilization	30 Years	Provision of design capacities in the initial stages itself is economical

3.4 VARIATION IN RATE OF FLOW

The rate of flow of sewage varies from season to season (seasonal or monthly variation), from day to day (daily variation) and from hour to hour (hourly variation). For design of sewers maximum or peak flow rates are adopted. The value of peak factor (ratio of maximum flow to average flow) depends on the contributing population and the values recommended in the Manual on Sewerage and Sewage Treatment prepared by CPHEEO are given in Table below.

Table 3.2 Peak Factor

Sl.N	Contributing Population	Peak Factor
1	Up to 20,000	3.00
2	20,000 – 50,000	2.50
3	50,000 - 7,50,000	2.25
4	Above 7,50,000	2.00

The variation between maximum and average rates of flow is large for domestic and lateral sewers because they receive the flow directly from the source. This variation gradually diminishes as the flow reaches the branch or sub main sewers and the main sewers. Minimum rate of flow: The minimum rate of flow may vary from 0.5 to 0.33 of the average flow.

3.5 HYDRAULIC DESIGN OF SEWERS

The design for sewage collection system presumes flow to be steady and uniform. The unsteady and non-uniform sewage flow characteristics are accounted in the design by proper sizing of manhole. The sewage is mostly liquid containing about 0.1% of solid matter and hence follows same laws of flow as water. However the difference in design for water supply network and sewer network is, i) In order to avoid clogging of sewers due to settlement of heavier particles of solids,

sewers are to be laid at such gradient that self-cleansing velocity is achieved at all values of discharge and that the inner surface of the sewers should be capable of resisting the wear and tear due to abrasive action of solid particles and ii) sewage flows under gravity as open channel flow and as such sewers are laid at continuous downward gradient.

3.5.1 DEPTH OF FLOW

The sewers shall not run full as otherwise the pressure will rise above or fall below the atmospheric pressure and condition of open channel flow will cease to exist. Moreover, from consideration of ventilation, sewers should not be designed to run full. In case of circular sewers, the Manning's formula reveals that:

The velocity at 0.8 depth of flow is 1.14 times the velocity at full depth of flow.

The discharge at 0.8 depth of flow is 0.98 times the discharge at full depth of flow.

Accordingly, the maximum depth of flow in design shall be limited to 0.80 of the diameter at ultimate peak flow.

3.5.2 HYDRAULIC FORMULAE FOR DESIGN OF SEWERS

Manning's formula has been used for design of sewers in case of gravity flow. For pressure flow (Pumping Mains), the Hazen-William's formula has been used. Sewer Network design has been done with the help of Manning's Formulae i.e.

Velocity $V = [(1/n) \times (R2/3 .S1/2)]$ (in m/s)

For Circular Sections

 $V = (1/n) (3.968 \times 10-3D2/3S1/2) Q = (1/n) (3.118 \times 10-6D8/3S1/2)$

Where, Q = discharge in lps; S = slope of hydraulic gradient; D = internal dia of pipe line in mm; R = hydraulic radius in m; R = Manning's Coefficient of roughness

3.5.3 PER CAPITA SEWAGE FLOW

The rate of water supply has been adopted 150 LPCD at consumer end throughout the whole design period as water supply schemes are designed with per capita supply of 150lcd in Kerala. 80 percent of the water supply has been considered as sewage flow into the sewerage system

3.5.4 MINIMUM VELOCITY OF FLOW

A minimum velocity of 0.6 m/s for present peak flow and 0.8 m/s at design peak flow is recommended for sanitary sewers. Thus, the sewers are designed on the assumption that although silting might occur at minimum flow, it would be flushed out during peak flows.

3.5.5 RECOMMENDED SLOPES FOR MINIMUM VELOCITY

For sewers running partially full, for a given flow and slope, velocity is little influenced by pipe diameter. As such for present peak flows up to 30 lps, the slopes given in Table below may be adopted which would ensure minimum velocity of 0.6 m/s in the early years.

Table 3.3 Recommended slope

Sl.No.	Present Peak Flow in LPS	Slope per 1000
1	2	6.0
2	3	4.0
3	5	3.1
4	10	2.0
5	15	1.3
6	20	1.2
7	30	1.0

3.5.6 EROSION AND MAXIMUM VELOCITY OF FLOW

Erosion of sewers is caused by sand and other gritty material in the sewer and also by excessive velocity. Non-scouring or limiting velocities in sewers of different materials are given in CPHEEO manual. Accordingly maximum velocity for cement concrete pipes is 2.5- 3.00 m/s.

3.5.7 SEWER TRANSITIONS

Sewers shall be designed to ensure that the energy gradient is a continuous smooth line, thus transitions from larger to smaller diameters shall not be made. The crowns of sewers shall be kept continuous. In no case, the hydraulic flow line in the large sewers shall be higher than the incoming sewer. To avoid backing up, the crown of outgoing sewer shall not be higher than the crown of incoming sewer

3.5.8 MINIMUM PIPE DIAMETER

Minimum pipe diameter recommended in CPHEEO manual is 150 mm except that in hilly areas, where extreme slopes are prevalent, 100 mm can be used. Some states and ULBs have started adopting minimum diameter as 200 mm or even 250 mm. The logic is Maintenance of sewer system is generally not good and 150 mm dia sewer will block frequently and remain unattended for some time, Quality of construction in smaller size RCC main such as 150 mm is not good, The sewerage system is not totally closed one and undesired waste such as solid waste and drains finds way in sewerage, making smaller size sewer lines more prone to frequent blocking, The cost of pipe line element is only about 15 percent of total project cost and increase in pipe size from minimum of 150 mm to minimum of 200 mm size will increase cost of project by 2 percent whereas flow capacity increases by more than 80 percent.

The minimum diameter may be adopted as 200 mm for cities having present / base year population of over 1 lakh. However, depending on growth potential in certain areas even 150 mm diameter can also be considered. However, in towns having present / base year population of less than 1 lakh, the minimum diameter of 200mm shall be adopted.

The house sewer connection pipe to public sewer shall be (a) minimum 100 mm or higher based on the number of houses / flats connected and (b) subject to the receiving public sewer being of higher diameter. In this project 200 mm diameter have been suggested as minimum diameter in design of sewerage network.

3.6 MATERIAL OF CONSTRUCTION FOR GRAVITY SEWERS

Brickwork is used for large diameters as sewers can be constructed in any shape. However now it is not common. Concrete pipes are commonly used now as can be manufactured to any reasonable strength and laying is easy and jointing is leak proof. However, these pipes are subject to corrosion where acid discharges are carried or where velocities are not sufficient to prevent septic conditions or where the soil is highly acidic or contains excessive sulphates. Only high alumina cement concrete should be used when it is exposed to corrosive sewage or industrial wastes. Salt glazed stoneware pipes are mostly manufactured in sizes 80-1000 mm but sizes greater than 380 mm are generally not used due to economic considerations. The length of these pipes is 60 cm75 cm and 90 cm. These pipes are good for corrosion resistance and erosion resistance. However due to less length, more joints, difficulty in jointing, requirement of special bedding and less compressive strength of pipes manufactured in India; use of these pipes is reducing in India.

Table 3.4 Pipe material Comparison

S.N	EVALUATI ON CRITERIA	RCC PIPES	DI PIPES	PE PIPES	DWC PE PIPES
1	Type of Joint	Available in both collar and S&S joints.	Tyton joint With rubber gasket	Butt fusion welding process.	Simple push fit joints with Elastomeric sealing Ring for online system or with extra couplers.
2	Weight	Heavy	Lighter than R.C.C.	Light	Very Light in Comparison of Other Solid Wall Pipes.
3	Corrosion resistance	To prevent corrosion sulphate resistant cement concrete to be used for pipe manufacture .	Protective layers are Required to protect corrosion	Highly corrosion resistant	Highly corrosion resistant

4	Remarks on Cost	NP2 is Cheapest among all materials	Costlier than other pipes but cheaper than PE pipes.	Smaller diameter pipes are cheaper and higher diameter Pipes are costlier.	Uses minimal material for equal strength, therefore cost cheaper from other pipes.		
5	Infiltration	Infiltration is less	Infiltration is very less	Infiltrati on is very less	Infiltration is very less		
6	Workability	due to heavy weight handling to be done with care	weight for easy handling.		weight fri for easy fas handling. ind		They are user friendly, very fast and inexpensive in installation
7	Jointing	Jointing is easy in S&S pipes with Rubber ring joints.	Jointing is easy in S&S pipes with Rubber ring joints.	Jointing is expensiv e	Joining time is 2-5 minutes per joint		
8	Maintenance	Almost nil if proper velocity is maintained.	Minimum	Pipe may get damaged due to rodding	Maintenance is low because of non-adherence of sewage elements.		
9	Previous Experience/P erformance	In use for long period and performanc e is Good	It is durable pipe. Performan ce is yet to be proven	Recent use started in India. It is durable.	They are maintenance free and therefore, once installed, will ie underground for years.		
10	Trenchless compatibility	Micro tunneling	Micro tunneling	HDD &Micro tunneling	Not suitable for Trenchless		

AC pipes cannot stand high superimposed loads, subject to corrosion from acids in sewage and high sulphate soils, require special bedding and weak against erosion where high velocities are encountered; as such use of AC pipe is not prevalent. Cast iron, DI and steel pipes are not used due to high cost. UPVC pipes are manufactured in sizes 75, 90,110, 140-, 160,250,290- and 315-mm outer dia. PVC pipes are smooth, light, and easy to joint and have leak proof joint. Rates are also low. These days these pipes are used for making connection from house to sewer but not prevalent in street sewers.

GRP pipes are widely used in other countries where corrosion resistant pipes are required at reasonable rates. When using concrete or reinforced concrete, high density sulphur resistant cement should be used. These pipes are made of slag cement that contains fewer calcareous (CaOH2) particles than pipes made of Portland cement. These particles react with the sulphuric acid (created by bacterial dissipation of hydrogen sulphide) in sewers, causing the aforementioned crown corrosion. If this particular cement is not used, lifetime of concrete sewers cannot be expected more than 30 years. A comparative study of characteristics of various pipe options for gravity sewers is presented in table above.

3.6.1 BENEFITS OF PE PIPES FOR SEWERS

When compared to other common wastewater piping system materials, such as PVC, ductile iron, or concrete, PE pipe offers significant benefits. Some of these include:

- Chemical Resistance. Hydrogen sulphide gas (H2S) corrosion is a serious threat to conventional sewer lines, like concrete and ductile iron, greatly reducing their service life. WL Plastics PE pipe is not attacked, corroded or degraded by H2S, ensuring a service life of 100 years.
- Anti-corrosive properties. PE piping systems are immune to the harmful effects of corrosion and tuberculation, common factors that reduces the operational life of concrete and ductile iron wastewater systems. PE also resists other corrosive or harmful agents, including scaling and organics such as fungi, bacteria, and other microbial contaminants.
- Leak-free. PE pipe is joined together via heat fusion, creating a welded, leak- free joint unlike conventional bell and spigot joints. These leak-free joints prevent infiltration and exfiltration making it a truly sanitary piping system.
- Durability. PE pipe is resistant to fatigue from water hammer and surge events in sewer force mains. PE pipe is also abrasion resistant, ensuring that flowing water and slurries won't damage the pipe throughout its service life.
- Lightweight. PE pipes are much lighter in weight compared with ductile iron or concrete alternatives, which makes transportation and installation significantly easier and safer.
- Cost-effectiveness. PE pipe is cost competitive with other sewer pipe options. PE pipe is faster, easier, and safer to install due to longer cut lengths and more linear footage per truck, which significantly reduce the overall project costs. With low maintenance costs and long service life, PE pipe is the ideal solution for wastewater systems.

However, PE pipes are slightly costlier compare to RCC pipe but as of now most of sewer pipes are laid through Trenchless technology method and because of this, plastic pipes like PE/ u

PVC are most suitable and easy to use for trenchless as well as open cut trench method for pipe laying. The use of PE pipes are more economical and to be considered for smaller diameter pipes up to 110mm where they are available on coils thereby avoiding joints. Hence lesser number of joints thereby reducing leaks and the rates of pipes are reasonable. As a general pipe policy decision, the use of PE pipe shall be preferred up to 200mm & occasionally up to 350mm (source-KWA pipe policy, page 19).

Therefore, considering the above benefits of PE pipe over RCC pipes, PE pipes are recommended to use for maximum stretch of network. The pipe policy of KWA also favours adoption of PE pipes. However, RCC pipe (PE lined) has been recommended for higher diameter pipe (i.e. above 700 mm) as PE pipes for higher diameter pipes are not easily available and very costly for large diameter and generally not manufactured.

3.7 MANHOLES

A manhole is an opening constructed on the alignment of a sewer for facilitating a person to access the sewer for the purpose of inspection, testing, cleaning and removal of obstructions from the sewer line. Manholes will be located at:

- Change of direction
- Change of slope
- Change of pipe diameter
- Change of material
- Ginning of each line at points of branches Manhole Sizes

Table 3.5 Recommended Size of manholes

SI.No.	Depth of Manhole(m)	Diameter of Manhole(m)
1	Above 0.9m and up to 2.5m	1.2m(TYPE-I)
2	Above 2.50m and up to 6.5m	1.5 m(TYPE-II)

3.7.1 STRAIGHT – THROUGH MANHOLES

The simplest type of manhole is that built on a straight run of sewer with no side junctions. Where there is change in the size of sewer, the soffit or crown level of the two sewers should be the same, except where special conditions require otherwise.

3.7.2 JUNCTION MANHOLES

A manhole is provided at every junction of two or more sewers, and the curved portions of the inverts of tributary sewers have been formed within the manhole. The gradient of the smaller sewer may be steepened from the previous manhole sufficiently to reduce the difference of invert level at the point of junction to a convenient amount.

3.7.3 DROP MANHOLES

As per CPHEEO manual, drop manhole is to be provided when a sewer connects with another sewer, where the difference in level between water lines (peak flow levels) of main line and the invert level of branch line is more than 600mm or a drop of more than 600mm is required to be given in the same line and it is uneconomical or impractical to arrange the connection within 600mm.

The drop pipe may be either outside the manhole shaft and encased in concrete or supported on brackets inside the shaft. If the drop pipe is outside the shaft, a continuation of the sewer should be built through the shaft wall to form a rodding and inspection eye, which should be provided with a half blank flange. If the drop pipe inside the shaft, it should be in cast iron/ductile iron and it would be advantageous to provide adequate means for rodding and water cushion of 150mm depth should also be provided. The drop pipe should terminate at its lower end with a plan or duck-foot bend turned so as to discharge its flow at 45 degrees or less to the direction of the flow in the main sewer and the pipe, unless of cast iron, should be surrounded with 150mm concrete.

3.7.4 FLUSHING MANHOLES

Where it is not possible to obtain self-cleansing velocities due to flatness of the gradient especially at the starting point of branch sewers which receive very little flow, it is essential that some form of flushing device to be incorporated in the system. Flushing can be very conveniently accomplished using a fire hydrant or tanker and hose pipe.

The upper reaches of lateral sewers, the discharges shall be partially full even at the ultimate design flow conditions, because of necessity of adopting the prescribed minimum size of sewer. In such situations, flushing arrangements have to be provided in the initial years.

3.8 MATERIAL OF CONSTRUCTION FOR MANHOLE

3.8.1 BRICK MASONRY MANHOLES

Bricks used for construction of manholes shall conform to the relevant Indian Standards. They shall be sound, hard and homogeneous in texture, well burnt in kiln without being vitrified, table moulded, deep red, cherry or copper coloured, of regular shape and size and shall have sharp and square and parallel faces. The bricks shall be free from pores, chips, flaws or humps of any kind. Bricks containing unground particles and/or which absorb water more than 1/6 th of their weight when soaked in water for twenty-four hours shall be rejected. Over burnt or under burnt bricks shall be liable to rejection. The bricks shall give a clear ringing sound when struck and shall have a minimum crushing strength of 35 Kg/sq.cm unless otherwise noted in drawings.

The class and quality requirements of bricks shall be as laid down in IS: 1077. The size of the brick shall be 23.0 x 11.5 x 7.5 or unless otherwise specified. Mortar for brick masonry shall be prepared as per IS: 2250. Manholes shall be constructed in brick masonry with cement mortar (1:4), 20 mm thick inside plaster with plasticized water proofing material consisting of 12 mm thick backing coat in CM 1:3 and 8 mm thick finishing coat in CM 1:1 and 15 mm thick outside plaster in CM 1:3. Whenever a pipe enters or leaves a manhole, bricks on edge must be cut to a proper form and laid around the upper end of the pipe so as to form an arch. All around the pipes, there shall be a joint of cement mortar (1:2) 13 mm thick between it and the bricks. The manhole

base has been kept as 150mmfor manholes upto1mdepth, and 200mmfor manholes from 1 to 2 m depth and 300 mm for greater depths. In all cases, the thickness shall be counter checked for uplift conditions based on maximum ground water elevations at the site on the soil side by considering empty manhole conditions.

The thickness of walls shall be typically one brick up to 1.5 m deep manholes, one and a half brick for depths greater than 1.5 m. The actual thickness in any case shall be verified on the basis of engineering design in difficult soil conditions

3.8.2 RCC MANHOLES

The idea of RCC manholes is essentially to quicken the work of construction in the roads by adopting precast sections assembled at site. Thus, the issues related to their construction are more of design itself and quality control in casting. In general, plain and reinforced concrete work for manholes shall be carried out in accordance with the specification given in CPHEEO manual otherwise specified in this specification. Wherever good quality of brick and workmanship of the construction cannot be ensured, it is advisable to go in for RCC manholes. The provisions of IS: 456 and IS3370 Part I, II and IV shall inter alia apply to the design. The entire structure shall at all times be designed to the condition where the ground water is at ground level itself and the inside is empty and there is no superimposed load on the manhole and not considering the skin friction of the manhole side wall with the soil.

Now the newly available precast RCC chambers shall be conveniently used for the manholes up to 6.0m or more depth. This will make the construction very easy and faster. So the same are proposed for Kasaragod scheme.

3.8.3 PE MANHOLES

Polyethylene manholes remain leak-free because there is no chemical attack. The toughness of polyethylene eliminates the chance of cracking during installation. There is no infiltration of external ground water, reducing the amount of treatment required. There is no exfiltration of sewage to the environment. PE manholes are available with ladders installed. Ladder design has been inspected and meets all OSHA dimensional requirements

Chapter 4 PROPOSED SEWERAGE SYSTEM

4.1 POPULATION PROJECTION

Population of the city normally depends on factors such as birth and death rates, migration, industrial development, general environmental conditions etc. Usually, the population forecast of a city is made on the basis of methods of population forecast as provided for in section 1.5 of the CPHEO manual for sewerage and sewerage treatment. The latest available census records are that of 2011. As far as Kerala is concerned it is quite different from other states on education, health, life expectancy etc. The demographic pattern of the state therefore is quite different and need to take into account all the developmental parameters so as to avoid undue over designs.

The anticipation of future growth in any community in terms of population or commercial and industrial expansion forms the basis for preparation of plan for providing the amenities including installation of sewers in the area to be served. The anticipated population, its density and its waste production is generally estimated for a specified planning period. The recommended planning period is 30 years.

Decadal growth of 8.58% is adopted for population projection, as the district average for the decade from 2001 to 2011 is 8.58%

Decadal increase	8.58%
Current Year	2022
Execution Period	2 Year
Design Year	2054
Design Period	30 Years

Based on topography, population etc municipality is divided into two sewer zones as below. Population for the zone 1 and 2 has been worked out and provided as per the projection the designed population is as follows

Table 4.1 Population Projection

S1 No	Name	Area	2011	2021	2024	2039	2054
1	Kasaragod	Municipality	54172	58820	60215	67965	75715
2	zone 1	Pachakkad Thuruthu Area	12205	13252	13567	15314	17060
3	zone 2	Korakod Vayal	12668	13755	14082	15895	17707

Table 4.2 Zone Boundary

Zone	West	East	south	North
Zone- 1	Pachakkad Vayal	Nayanmarmoola	Chandragiri River	Vidyanagar, NH-66
Zone 2	Railway line	Chandragiri River	Chandragiri River	NH-66

Based on the population density a septage zone is also proposed to area where population density is below 3200/km2. In addition, in the high density populated areas but where there is no road network, septage treatment is proposed.

Table 4.3 STP Capacity Calculation

Design Period	30
Decadal increase in Population	8.58%
Sewerage return ratio	80%
Septage return ratio	10%

	Population		Projected 2		
Year	2011	2021	2024	2039	2054
Kasaragod Municipality	54172	58820	60215	67965	75715
Network area of Zone-2	12668	13755	14082	15895	17707
Septage area of Zone-2	20091	21815	22333	25208	28082

	Rate of	Water Demand (MLD)				
Year	supply	2021	2024	2039	2054	
Kasaragod Municipality	150	8.82	9.03	10.19	11.36	
Network area of Zone-1	150	2.06	2.11	2.38	2.66	
Septage area of Zone-1	150	3.27	3.35	3.78	4.21	

	Non- Domestic	Non 1	Domestic (Ml	Water Do	emand	Sev	werage F	low (MI	LD)
Year	Demand	2021	2024	2039	2054	2021	2024	2039	2054
Kasaragod Municipality	20%	1.76	1.81	2.04	2.27	8.46	8.67	9.78	10.9
Network area of Zone-1	20%	0.41	0.42	0.48	0.53	1.98	2.02	2.29	2.55
Septage area of Zone-1	20%	0.65	0.67	0.76	0.84	0.39	0.4	0.45	0.51

Total sewage flow (Dry weather flow)	2.55	MLD
Total septage load	0.51	MLD
Maximum infiltration limited to 5000 Ltr/km/day	0.131	MLD
Number of persons giving un authorised connection	1 in 50	
Number of households in 2021	2751	
Number of households in 2054	3541	
Number of houses giving unauthorised connection	71	
Unauthorised water entering the sewer	0.3905	MLD
Capacity of Sewage Treatment plant	4	MLD

Zone 2 coverage area of 10.6 km². This is the residential and commercial area of Kasaragod Municipality and is thickly populated. The total length of sewer network comes to 26184.7 m. The proposed location of treatment plant is near Korakod Vayal. The capacity of the plant is 4 MLD. Co- Treatment is proposed along with the Sewage Treatment Plant for Zone-2. The capacity of Plant is arrived adding the part septage load in Kasaragod Municipality.

4.2 SEWERAGE NETWORK AND MANHOLES

The collection system has been designed for ultimate year peak flow. The cumulative flows and the cumulative contributory population are discussed zone wise in the succeeding sections. The design diameter and slope have been finalized based on the minimum flow velocity of 0.60 m/s (present peak flow) with maximum velocity of 3.00 m/sec.

Design calculations are shown in Annexure attached. The sewerage system network has been so planned to limit lifting and pumping stations. The Maximum depth of the sewer lines are kept at 5.72 m from the existing ground level.

Design & estimates of the sewer collection system has prepared so as to limit the depth of excavation and to accommodate changes in location of STP. It is proposed to have 9 lifting stations for this zone-2 with a common STP, pumping route of Lifting stations are given in table.

Table 4.4 Pumping Route from lifting station to manholes

SI.No.	From Lifting Station	To Manhole ID
1	LS-1	351
2	LS-A	101
3	LS-2	659
4	LS-3	125
5	LS-4	30
6	LS-B	30
7	LS-5	369
8	LS-6	146
9	LS-C	90

Based on the analysis of the topography of the city area and its surroundings, the existing and future land use of the area, the existing status of water courses, the proposal for network, manholes have been arrived.

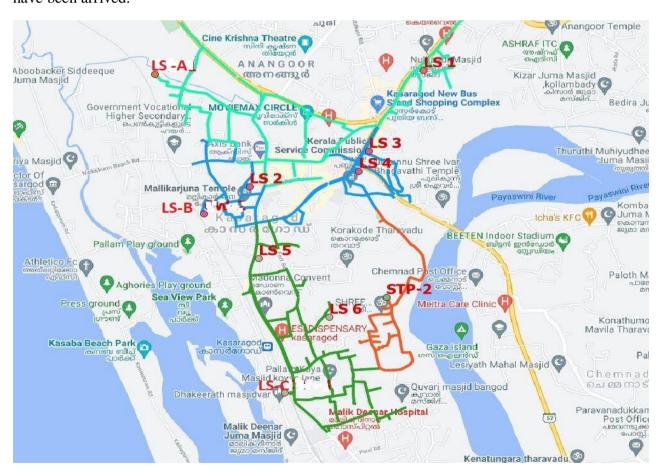


Figure 4.1 Network Sketch

4.2.1 DETAILS OF SEWER NETWORK

Abstract of sewer network is furnished below

Table 4.5 Network details

SI NO	Diameter in mm	Pipe Material	Length in metres
1	225	PE PE100	23147.40
2	250	PE PE100	169.00
3	280	PE PE100	649.50
4	315	PE PE100	1507.60
5	355	PE PE100	249.70
6	400	PE PE100	397.40
7	560	PE PE100	64.10
	Total		26184.70

Upto3 meter depth of sewer line open cutting is proposed and above 3 m depth pipe laying through HDD method is proposed.

Table 4.6 Excavation Details

Diameter (mm)	Open Cut in metres	HDD in metres	Total
225	22144.40	1003.00	23147.40
250	169.00	-	169.00
280	649.50	-	649.50
315	1507.60	-	1507.60
355	249.70	-	249.70
400	397.40	-	397.40
560	64.10	-	64.10

4.2.2 MANHOLES

Total number of manholes comes to 1160

Table 4.7 Details of Manholes

Manhole depth in Meters	No of manholes
Up to 1.5	855
1.5 to 2.5	216
2.5 to 3.5	52
3.5 to 4.5	25
4.5 to 5.5	7
5.5 to 6.5	5
Total	1160

4.3 PUMPING STATION AND RISING MAIN

4.3.1 GENERAL

Pumping or force mains deliver wastewater discharged from a pumping station to its destination, which may be a treatment plant or the final disposal point.

4.3.2 LIFTING STATION / PUMPING STATION

Pump stations are normally required in a sewage collection system to lift the sewage against a gradient or to limit the depth of cutting of the pertinent sewer line. A simplified form of the pump station, called a Lift Station, is also employed for the same purpose. The primary difference between a pump station and a lift station is that the Pump Station shall handle greater flows with arrangements for removal of floating material and grit prior to pumping through a force main. Lift Stations will have only an enlarged manhole as a wet well with pumps installed and a small control room adjacent to it, for lifting the sewage to ground level.

Lift stations are generally used to restrict the depth of cutting and discharging normally to the manhole in a downstream trunk sewer. No screens and grit wells are provided in lift stations. Pumping and lifting stations shall use submersible pumps, such stations have a single well, circular or rectangular, in which pumps are installed. Superstructure requirement is minimum. The pump stations have been designed considering easy removal and reinstallation of the pumps without disturbing the connecting delivery pipe work. Hydraulic Criteria: According to the existing ground level contour from the topographic survey, the number of pumping stations has been finalized. Lift stations are generally proposed where depth of cutting exceeds 5.5 m. The location of pumping stations is at lower points of the network, but away from public and flood areas. Overflow is not allowed

4.3.3 DETAILS OF LIFTING STATIONS

Table 4.8 Lifting station details

Sl No	LS No	Peak Flow in LPS	Detention Period in Minutes	Storage Capacity m3	SWD in Metres	Diameter in metres	Total Depth in metres
1	LS-1	7.007	10	4.20	1.40	2	5.56
2	LS-A	29.106	10	17.46	2.7	3	4.46
3	LS-2	1.848	10	1.11	1.5	2	2.77
4	LS-3	7.7	10	4.62	1.6	2	2.94
5	LS-4	11.319	10	6.79	2.2	2	3.47
6	LS-B	40.733	10	24.44	3.7	3	5.00
7	LS-5	6.16	10	3.7	1.5	2	2.77
8	LS-6	1.001	10	0.60	0.75	2	2.00
9	LS-C	26.411	10	15.85	2.5	3	3.82

4.3.1 PUMPING MAINS AND LIFTING MAINS

Table 4.9 Pumping mains and Lifting mains

SI NO	Name	Length in metres	Diameter in mm	Material	Route
1	LS-1	445	100	DI	LS-1 TO MHID-351
2	LS-A	810	200	DI	LS-A TO MHID-101
3	LS-2	110	100	DI	LS-2 TO MHID-659
4	LS-3	172	100	DI	LS-3 TO MHID-125
5	LS-4	440	150	DI	LS-4 TO MHID-30
6	LS-B	1700	250	DI	LS-B TO MHID-30
7	LS-5	315	100	DI	LS-5 TO MHID-369
8	LS-6	195	100	DI	LS-6 TO MHID-146
9	LS-C	850	200	DI	LS-C TO MHID-90
10	Well at STP to Receiving chamber	30	300	DI	Well to Receiving Chamber
11	Septage Tank to Receiving chamber	30	100	DI	Septage Tank to Receiving chamber

4.4 PUMP AND OPERATION CONTROL

Fluid level activated switches will be provided to start and to stop the pumps depending upon the quantity of sewage available in the pump house. This will ensure that the pumps will not run dry. A sluice valve will be provided on the suction side and a sluice valve and a non- return valve will be provided on the delivery side. Flow meter (digital type) will be provided to measure the quantity of sewage flowing out of the pumping station. It will be an integrating type indicating instantaneous flow and the cumulative flow.

4.4.1 DETAILS OF PUMP SETS

Table 4.10 Details of pump sets

Sl NO	Name	Number of Pup sets	HP	Туре	Remarks
1	LS-1	2	3	Submersible	
2	LS-A	2	15	Submersible	
3	LS-2	2	0.5	Submersible	
4	LS-3	2	2	Submersible	
5	LS-4	2	6	Submersible	
6	LS-B	2	37	Submersible	
7	LS-5	2	2	Submersible	
8	LS-6	2	0.5	Submersible	
9	LS-C	2	12	Submersible	
12	Well at STP to Receiving chamber	2	30	Submersible	
13	Septage Tank to Receiving chamber	2	1.5	Submersible	

4.5 LAYING OF SEWER NETWORK

In the following sections, important matters in connection with the laying of sewer network and making the system efficient is illustrated in detail.

4.5.1 EXCAVATION AND LAYING

 On all excavation work, safety precautions for the protection of life and property are essential; and measures to avoid too great inconveniences to the public are desirable. Such measures and precautions include the erection and maintenance of signs (to fore warn public), barricades, bridges and detours; placing and maintenance of lights both for

- illumination and as danger signals; provision of watchmen to exclude unauthorized persons, particularly children from tress passing on the work.
- 2. Computation of the safe load carrying capacity of the pipe when installed and bedded in the manner to be specified using a suitable factor of safety and making certain the design supporting strength thus obtained is greater than the maximum load to be applied.
- 3. Sewers may be laid in trenches or under embankment in areas which may be temporarily or permanently submerged in water. The fill load in such cases will be reduced and will correspond to the buoyant weight of the fill material. However, effect of submergence could be ignored which provides an additional factor of safety, but it may be necessary to check whether a pipe is subject to flotation. Under submergence, the minimum height of the fill material that will be required to prevent flotation ignoring the frictional forces in the fill can be determined. Wherever sufficient height of fill material is not available, anti-flotation blocks should be provided.
- 4. All rigid pipes may be tested for strength in the laboratory by the three-edge bearing test (ultimate load).
- 5. Width of the trench specified for a particular job should be minimum in consonance with the requirements of adequate working space to allow access to all parts and joints of pipe.
- 6. The Field Engineer should keep in touch with the Design Engineer throughout the duration of the Project and any deviation from the design assumptions due to the exigencies of work, should be immediately investigated and corrective measures taken in time.
- 7. All pipes used on the work should be tested as per the IS specifications and test certificates of the manufacturers should be furnished for every consignment brought to the site.
- 8. Whenever shoring is used, the pulling out of planks on completion of work, should be carried out in stages and this should be properly supervised to ensure that the space occupied by the plank sis properly back filled.
- 9. Proper backfilling methods both as regards to selection of materials, methods of placing and proper compaction should be in general agreement with the design assumptions.
- 10. In quicksand conditions, it is necessary to anchor the sewer to the ground and hold it at the grade as laid in the face of soil sink age.
- 11. The type of bedding (granular, concrete cradle, full concrete encasement etc.) would depend on the soil strata and depth at which sewer is laid.
- 12. It is understood that the line (horizontal alignment) and grade layout of a sewer line as per design must be carried out meticulously. The horizontal layout determines the location as well as direction of the sewer line, while slope (grade) of the line provides the necessary hydraulic carrying capacity of the sewerage system.

13. The location of the trench is generally laid out first as an offset line running parallel to the proposed sewer centre line. This offset line is demarcated by wooden stakes driven into the ground surface at intervals of, say, 15 m. The offset line, as is clear, is quite away from the sewer centre line with a view not to allow it being disturbed during construction; however, it must be proximate enough so that the transfer of measurements to the actual trench can readily be done.

4.6 GANTRY

Gantry of adequate capacity having floor control pendant will be provided for handling heavy parts of equipment's, valves etc. during erection and maintenance of pumping stations. Proper opening to lift the heavy equipment will be provided at motor floor slab in pumping station.

4.7 ARRANGEMENTS FOR POWER SUPPLY

KSEB will supply power at 11/22KV HT supply or 440 V LT supply for the operation of pumps in the pumping stations and for operation of equipment in the STP. In respect of HT supply, suitable transformers would be provided to step down the voltages to 440V. In case the Horse Power of pump set is less than 75HP, 440V LT supply will be availed. Each pumping station shall have Motor control centre for start-stop and other controls for protection and safety of motors and other auxiliary equipment. Capacitors of suitable capacity would be provided to improve the power factor to so that power consumption can be brought down.

Chapter 5 PROPOSED SEWERAGE TREATMENT PLANT

5.1 GENERAL

The constituents of concern found in wastewater are removed by physical, chemical, and biological methods. The individual methods usually are classified as physical unit operations, chemical unit processes, and biological unit processes. Treatment methods in which the application of physical forces predominate are known as physical unit operations. Examples of physical unit operations include screening, mixing, sedimentation, gas transfer, filtration and adsorption. Treatment methods in which the removal or conversion of constituents is brought about by the addition of chemicals or other chemical reactions are known as chemical unit processes. Examples of chemical unit processes include disinfection, oxidation and precipitation. Treatment methods in which the removal of constituents is brought about by biological activity are known as biological unit processes. Biological treatment is used primarily to remove the biodegradable organic constituents and nutrients in waste water. From practical observations, the rates at which physical, chemical and biological reactions and conversions occur are important, as they will affect the size of the treatment facilities that must be provided. The rate at which reactions and conversions occur, and the degree of their completion, is generally a function of the constituents involved, the temperature, and the type of reactor. The fundamental basis for the analysis of the physical, chemical and biological unit operations and processes used for wastewater treatment is the material mass balance principle in which an accounting of the mass is made before and after reactions and conversions have taken place.

5.2 CHARECTERISTICS OF SEWAGE

5.2.1 INFLUENT CHARACTERISTICS

Table 5.1 Influent Characteristics

Parameters	Units	Value
Bio chemical Oxygen Demand(BOD ₅)	mg/l	250
Chemical Oxygen Demand(COD)	mg/l	400
рН	Units	6.00-7.00
Total Suspended Solids(TSS)	mg/l	400
Total Dissolved Solids(TDS)	mg/l	800
Total Organic Nitrogen(Kjeldhal)	mg/l	>35<55
Oil and Grease	mg/l	>1<10

5.2.2 EFFLUENT CHARACTERISTICS

Table 5.2 Effluent Characteristics

Parameters	Units	Value
Bio chemical Oxygen Demand(BOD5)	mg/l	<10
Chemical Oxygen Demand(COD)	mg/l	<50
рН	Units	6.5– 7.5
Total Suspended Solids(TSS)	mg/l	<10
Total Dissolved Solids(TDS)	mg/l	100

5.3 CAPACITY CALCULATION OF STP

The details of forecasting of population and demand for zone2 is shown below

Last census Population 2011 12668 Persons

Population for sewerage zone-2011 12668

Decennial increase 8.58 %

Current year 2022

Design period 30 Years

Execution period 2 Years

Projected population 2054 17707 Persons

Per capita water supply 150 LPCD

Waste water generated 80% of water supply

Quantity of waste water generated 2.13 MLD

Groundwater Infiltration for pipeline & Manholes 5000L/km/day

Total Ground water infiltration 5000x 26 = 0.131 MLD

Number of persons per house 5Persons

Average roof area 55m2

Rainfall intensity 100mm/day

Number of house hold sin 2054 3541 Nos

Waste water generated accounted for Rain water 0.3905 MLD

Non domestic demand 0.42 MLD

Total sewerage load 3.0715 MLD

Septage load for co-treatment 0.51 MLD

Total 3.581 MLD

Say 4 MLD

5.4 UNIT OPERATIONS IN TREATMENT OF SEWAGE

Table 5.3 Unit Operations

Sl No.	Unit	Function	Unit Operations /Phases
1	Primary	• Removal of rags, floating matter, grit, oil and grease etc.	 Screening Grit removal Oil and grease trap
2	Secondary	 Removal of Bio degradable organic matter and suspended solids Also include nutrient removal (Nitrate and Phosphate) in advanced technologies 	 Aerobic suspended growth (Aerobic and anaerobic)Lagoon Nitrate and phosphate removal Chemical oxidation Suspended growth Nitrification/Denitrification Air stripping Ion exchange Chemical treatment Biological nutrient removal
3	Tertiary	Polishing the effluent for reuse application	 Pathogen removal Chlorine compounds O₃, UV Radiation Membrane filtration Filtration variation Carbon Adsorption Iron exchange

5.5 THE PROPOSED PFD PROCESS FLOW DIAGRAM OF PROPOSED STP

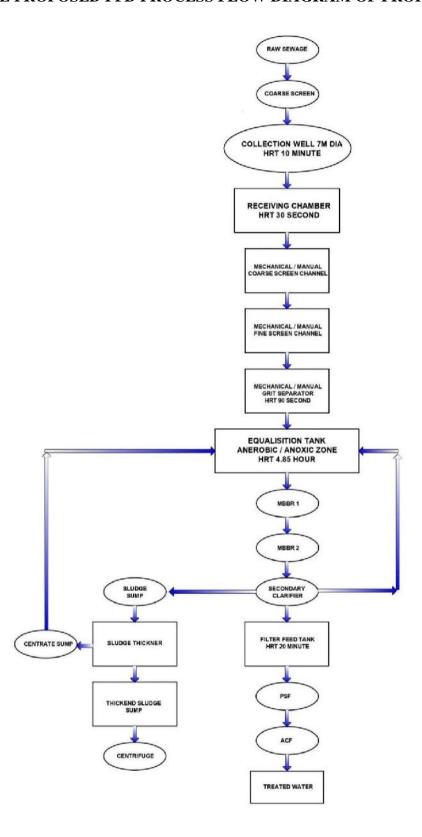


Figure 5.1 Process Flow Diagram

5.6 SELECTION OF TECHNOLOGY FOR THE PROPOSED STP

MBBR Technology is opted for secondary treatment in this project for following reasons.

- 1. MBBR has been in existence for a long time, also in India is approved technology.
- 2. Minimum foot print
- 3. Better Stabilized sludge
- 4. Better Effluent Quality
- 5. Less sophisticated
- 6. Spare parts available
- 7. Lower life cycle cost
- 8. Nil odour nuisance and other environmental hazards

5.7 FEATURES OF MBBR

Biochemical oxygen demand (BOD) is an indirect measure of the concentration of biodegradable organic matter in water or wastewater. Organic matter (as measured by BOD) is one of the major constituents removed from wastewater in domestic wastewater treatment plants. The reason for being concerned about organic matter in water is its effect on dissolved oxygen in the receiving stream. Dissolved oxygen in water is essential for much of aquatic life, so organic contaminants that affect dissolved oxygen level in water are of concern.

The two major reactions that take place in the organic carbon cycle are biological oxidation of waste organic matter and photosynthesis, which is the process by which green plants produce organic matter from carbon dioxide and water in reactions that are catalysed by sunlight and the chlorophyll in the green plants. Through the biological oxidation process, aerobic microorganisms utilize oxygen in breaking down organic matter to carbon dioxide and water together with small amounts of other end products.

The process takes place as aerobic microorganisms utilize the waste organic matter as their food (energy) source. The process uses oxygen, so if it is taking place in a water body, dissolved oxygen is consumed. A large quantity of organic matter in the water will result in multiplication of microorganisms and rapid removal of dissolved oxygen, leading to oxygen depletion below the level needed by aquatic life. This is also the process that takes place in biological oxidation processes in wastewater treatment plants for removal of organic matter from the incoming wastewater.

The MBBR process for wastewater treatment was invented and initially developed by Professor Hallvard Ódegaard in the late 1980s at the Norwegian University of Science and Technology. Use of this wastewater treatment process has spread rapidly.

The MBBR process is an attached growth biological wastewater treatment process. That is, the microorganisms that carry out the treatment are attached to a solid medium, as in trickling filter or RBC systems. By contrast, in a suspended growth biological wastewater treatment process, like the activated sludge process, the microorganisms that carry out the treatment are kept suspended in the mixed liquor in the aeration tank. In the conventional attached growth biological treatment

processes, like trickling filter or RBC systems the microorganisms are attached to a medium that is fixed in place and the wastewater being treated flows past the surfaces of the medium with their attached biological growth, which are described in more detail in the next section. The MBBR treatment processes typically take place in a tank like an activated sludge aeration tank. In contrast, an MBBR process utilizes small plastic carrier media, which are kept suspended by a diffused air aeration system for an aerobic process or by a mechanical mixing system for an anoxic or anaerobic process. A sieve is typically used at the tank exit to keep the carrier media in the tank.

MBBR processes use plastic media support carriers like those shown in Figure 11. As shown in Figure, the carrier is typically designed to have a high surface area per unit volume, so that there is a lot of surface area on which the microorganisms attach and grow. Two properties of the carrier are needed for the process design calculations are the specific surface area in m2 /m3 and the void ratio. The specific surface area of MBBR carriers is typically in the range from 350 to 1200 m2 /m3 and the void ratio typically ranges from 60% to 90%. Design values for these carrier properties should be obtained from the carrier manufacturer or vendor (Harlan H. Bengtson).

The MBBR wastewater treatment process is quite flexible and can be used in several different ways:

- 1. Single stage BOD removal 2. Two stage BOD removal 3. Two stage BOD removal and Nitrification
- 2. Single stage tertiary Nitrification 5. Pre-Anoxic Denitrification 6. Post-Anoxic Denitrification (Harlan H. Bengtson).

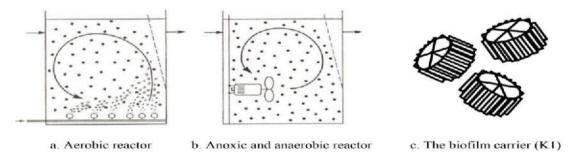




Figure 5.2 MBBR Carrier media in a MBBR tank

The idea behind the development of the moving bed biofilm process was to adopt the best from both the activated sludge process and the bio filter processes without including the worst. Contrary to most biofilm reactors, the moving bed biofilm reactor utilises the whole tank volume for biomass growth, as does also the activated sludge reactor. Contrary to the activated sludge reactor, it does not need any sludge recycle, as also the case in other biofilm reactors. This is achieved by having the biomass grow on carriers that move freely in the water volume of the reactor, kept within the reactor by a sieve arrangement at the reactor outlet. Since no sludge recirculation takes place, only the surplus biomass must be separated – a considerable advantage over activated sludge process. The reactor may be used for both aerobic, anoxic or anaerobic processes (H. Ødegaard).

The key design parameter for sizing the MBBR tank is the surface area loading rate (SALR), typically with units of g/m² /day, that is g/day of BOD coming into the MBBR tank per m² of carrier surface area. Using design values for wastewater flow rate and BOD concentration entering the MBBR tank, the loading rate in g BOD/day can be calculated. Then dividing BOD loading rate in g/day by the SALR in g/m² /day gives the required carrier surface area in m². The carrier fill %, carrier specific surface area, and carrier % void space can then be used to calculate the required carrier volume, tank volume and the volume of liquid in the reactor (Harlan H. Bengtson).

As an improvement over the attached growth systems, the concept of trapping the microbes into the attached biomass concentration and long solids retention time in a biological reactor can limit the waste sludge production for a given reduction of BOD. This is due to the higher biomass concentration in the reactor due to the immobilized biomass and hence the Food/Microorganism ratio Nitrification going beyond the extended aeration. It is stated that during aeration, the synthesis and accumulation of readily biodegradable storage compounds are observed and these can be used for de nitrification under starvation conditions.

Enhancing active biomass concentration, prolonging the life of immobilized carrier and improving the stability of immobilized microorganism play important roles in the process efficiency. The construction, operation, preventing clogging and reducing renewal costs are challenges in the commercial engineering of this technology. However, the fact remains that there are commercially operating STPs built with this technology in our country using various patented media of the respective vendors and with their own design criteria. As such, this technology holds the potential of reducing the footprint of the STP especially in land locked high density urban centres and thus merits its relative consideration.

The requirements for reactor media are high specific surface area, high percent void space, resistance to abrasion or disintegration during placement, insolubility in sewage and resistance to spalling and flaking. The inbuilt configuration must permit hydraulic self-cleaning of the media itself and thereby safeguarding the need to take the reactor out of service to attend for cleaning the clogged media.

Netting to hold back media is an important requirement and is usually provided near the top outlet of the treated sewage in the form of spread-out netting across the entire plan area or a netted cowl around the off take of the outlet pipe. Care is needed periodically to renew these.

5.7.1 NITRIFICATION

Biological nitrification/de nitrification is a two-step process. The first step is nitrification, which is conversion of ammonia to nitrate through the action of nitrifying bacteria. The second step is nitrate conversion (de nitrification), which is carried out by facultative heterotrophic bacteria under anoxic conditions.

There are two groups of chemoautotrophic bacteria that can be associated with the process of nitrification. One group (Nitrosomonas) derives its energy through the oxidation of ammonium to nitrite, whereas the other group (Nitrobacter) obtains energy through the oxidation of nitrite to nitrate. Both the groups, collectively called Nitrifiers, obtain carbon required, from inorganic carbon forms.

Combined system is favoured method of operation as it is less sensitive to load variations - owing to larger sized aeration tank - generally produces a smaller volume of surplus sludge owing to higher values of qc adopted, and better sludge settleability.

Care should be taken to ensure that the oxygenation capacity of aeration tank is sufficient to meet oxygen uptake due to carbonaceous demand and nitrification. Recycling of sludge must be rapid enough to prevent de nitrification (and rising sludge) owing to anoxic conditions in the settling tank. This is rising sludge happens, the tertiary filters will chock very fast and will result reduction in plant capacity.

In separate system, the first tank can be smaller in size since a higher F/M ratio (Food to Microorganism Ratio) can be used, but this makes the system somewhat more sensitive to load variations and also tends to produce more sludge for disposal. An additional settling tank is also necessary between the two aeration tanks to keep the sludge separate. A principal advantage of this system is its higher efficiency of nitrification and its better performance when toxic substances are feared to be in the inflow.

5.7.2 DENITRIFICATION

The biological reduction of nitrate (NO3) to nitrogen gas (N2) by facultative heterotrophic bacteria is called De nitrification. "Heterotrophic" bacteria need a carbon source as food to live. "Facultative" bacteria can get their oxygen by taking dissolved oxygen out of the water or by taking it off of nitrate molecules.

De nitrification occurs when oxygen levels are depleted and nitrate becomes the primary oxygen source for microorganisms. The process is performed under anoxic conditions, when the dissolved oxygen concentration is less than 0.5 mg/L, ideally less than 0.2. When bacteria break apart nitrate (NO3-) to gain the oxygen (O2), the nitrate is reduced to nitrous oxide (N2O), and, in turn, nitrogen gas (N2). Since nitrogen gas has low water solubility, it escapes into the atmosphere as gas bubbles. Free nitrogen is the major component of air; thus, its release does not cause any environmental concern.

5.7.3 PHOSPHOROUS REMOVAL

The consciousness to restrict the phosphorous in the treated sewage before Discharge into the environment to curtail eutrophication is being recognised. The phosphorous can be removed by a

process called as the luxury uptake. There are at least six different variations of these processes which have all been developed in advanced countries and every situation will need a separate evaluation and validation.

An alternative process is to introduce a chemical precipitation either in the secondary clarifier or as a separate tertiary stage where phosphorous is precipitated by coagulating with Ferric or Aluminium salts. There is also another technology of high Lime followed by acidification or carbonation whereby in addition to phosphorous removal, colour, heavy metals, fluorides, silica and magnesium can also be simultaneously removed. It is necessary to conduct lab studies to establish the efficiency and the type of chemicals.

5.7.4 A20 PROCESS

The combined removal of carbon, nitrogen and phosphorus can be achieved by several biological treatment processes. Two common biological treatment processes are the A2O and Barden-pho processes. The A2O process is a modification of A/O phosphorus removal process is to include an anoxic stage for de nitrification. Influent and return activated sludge flow into the anaerobic tank while nitrified liquor is recycled with a circulating pump from the aerobic (nitrification) tank to the anoxic (de nitrification) tank. Ammonia nitrogen is oxidized to nitrite or nitrate in the aerobic tank, and then nitrite or nitrate is denitrified to nitrogen gas in the anoxic tank

5.8 PROPOSED TREATMENT UNITS

5.8.1 RECEIVING CHAMBER

The sewage received in the collection well located at the plant premises is pumped to the receiving chamber. The average quantity of flow in to the receiving chamber is assumed to be 38.08ltr/sec whereas peak flow is taken as 95.22ltr/sec. Dimension of receiving chamber is $2.25 \times 1.0 \times 1.0$ m with a freeboard of 0.5m.

5.8.2 SCREEN CHANNEL

After receiving chamber, sewage passes through screening chambers provided. The principal role of the fine screening is to remove floating materials from the sewage that could damage subsequent process equipment, eliminate materials that may inhibit the beneficial reuse of bio solids and reduce overall treatment process effectiveness. Screened materials are mechanically removed by the scrappers. In case of emergency, the screen chamber can be bye passed to the manual screen chamber so that the treatment is continuously ensured.

5.8.3 GRIT SEPARATOR

The grit chamber is used to remove grit, consisting of sand, gravel, cinder, or other heavy solids materials that have specific gravity much higher than those of the organic solids in waste water. Grit chambers are provided to protect moving mechanical equipment from abrasion and abnormal wear; avoid deposition in pipelines, channels, and conduits; and to reduce frequency of digester cleaning. Two numbers of grit chambers are provided in the plant (one stand by) with a dimension of 3.3x3.3 x2.50 m.

5.8.4 APPROACH CHANNEL FOR PARSHALL FLUME

A Parshall flume is a fixed, hydraulic structure that is placed in a flow stream to determine the flow of water. The flume accelerates flow by both a contraction of the parallel sidewalls and a drop in the floor elevation in the throat. It is used to measure volumetric flow rate in industrial discharges, municipal sewer lines, and influent/effluent flows in waste water treatment plants.

5.8.5 EQUALISATION TANK

Flow equalization is used to minimize the variability of water and waste water flow rates and composition. Each unit operation in a treatment train is designed for specific waste water characteristics. Improved efficiency and control are possible when all unit operations are carried out at uniform flow conditions. The equalization tanks are provided (i) to balance fluctuating flows or concentrations, (ii) to assist self-neutralization, or (iii) to even out the effect of a periodic "slug" discharge from a batch process. The design is done to have a hydraulic retention time of 4.85 hours. A square tank with length and breadth 14.6 mis proposed with a depth of 4.50m. Equalization tank is divided into Anaerobic and Anoxic areas with the help of baffle wall for de nitrification

5.8.6 MIXING EQUIPMENT

Mixers are often employed in equalization basins to achieve homogeneity in and to aerate the wastewater. Various types of mixers are available. The classification of mixers depends on the flow pattern the mixers produce.

5.8.7 PUMPSETS TO MBBR

Horizontal Centrifugal, level controlled, submersible, detachable non clog submersible pump sets (2W+1SB) shall be used to lift sewage to the MBBR chamber of the STP from Equalization Tank.

5.8.8 MOVING BED BIO REACTOR (MBBR)

Moving Bed Biofilm Bioreactor (MBBR) process uses the whole tank volume for biomass growth. It uses simple floating media, which are carriers for attached growth of bio films. Biofilm carrier movement is caused by the agitation of air bubbles. This compact treatment system is effective in removal of BOD as well as nitrogen and phosphorus while facilitating effective solids separation. Design of the reactor is based on the actual wastewater characteristics and local conditions. MBBR units are placed in series based on the load entering each reactor. Two square MBBR tank is designed with sides15.2m with a depth of 4.50m.

5.8.9 AIR BLOWERS

Aeration is the most critical component of a treatment system using the Moving Bed Bio Reactor. A well-designed aeration system has a direct impact on the level of sewage treatment it achieves. An ample and evenly distributed oxygen supply in anaeration system is the key to rapid, economically-liable, and effective waste water treatment. Two numbers (1W+1S) of air blowers of 175 HP with a discharge of 5528cum/hr are provided.

5.8.10 SECONDARY CLARIFIER

Clarifiers are settling tanks built with mechanical means for continuous removal of solids being deposited by sedimentation. A clarifier is generally used to remove solid particulates or suspended solids from liquid for clarification and (or) thickening. Secondary Clarifier is a circular basin in which effluent from the MBBR process is held for a period of time during which the heavier biomass (microorganisms) settles to the bottom as "activated sludge". There is no need for sludge recirculation in MBBR due to its high MLSS values. So secondary settling tanks are just used for removing excess settleable solids present in the effluent comes out from MBBR tanks. One number of secondary clarifiers with 15.70m diameter and 3.3m depth is provided with a retention period of 3.10 hrs.

5.8.11 SLUDGE SUMP

Total sludge generated in the secondary clarifier is calculated as 914.46kg/day. Sludge sump is designed to have a hydraulic retention time of 2hrs. One number of sludge sump having circular shape with diameter 2.2-man depth 2.35 mis provided.

5.8.12 THICKENER FEED PUMP

The major function of sludge thickener feed pump is to transfer the sludge from sludge sump to sludge thickener. Two numbers (1W+1SB) of non-clog, submersible pumps are provided with a discharge of 17.93cum/hr

5.8.13 SLUDGE THICKENER

Sludge thickening normally refers to the process of reducing the free water content of sludge or Thickening is a procedure used to increase the solids content of sludge by removing a portion of the liquid fraction.

5.8.14 CENTRIFUGE FEED PUMP

The major function of Centrifuge feed pump is to transfer the sludge from thickened sludge sump to Centrifuge. Two numbers (1W+1SB) of non-clog, submersible pumps are provided with a discharge of 5.49cum/hr

5.8.15 SLUDGE CENTRIFUGE

Centrifugal thickening and dewatering of sewage sludge is a high speed process that uses the force from rapid rotation of a cylindrical bowl to separate wastewater solids from liquid. The centrifugal force in the decanters is utilized to separate the solids from the water. The use of organic flocculants, the poly electrolytes, made it possible to coagulate the fines sludge particles to relatively large sludge floc in the centrifugal field so that reliable separation of solids and water could take place.

5.8.16 PRESSURE SAND FILTER (PSF)

The treated water which is collected in the filter feed tank shall be pumped into the Pressure Sand Filter using the Filter Feed Pumps. They are the most popular method for removal of turbidity from water. The Pressure Sand Filter consists of a multiple layer of sand with a variety in size and specific gravity. These Filters are designed to remove turbidity and suspended particles present in the feed water with minimum pressure drop. Raw water flows down wards through the

filter bed and as the suspended matter, which is treated by addition of a coagulant like alum or poly electrolyte, is retained on the sand surface and between the sand grains immediately below the surface. There is steady rise in the loss of head over a period of time and the flow reduces once the pressure drop across the filter is excessive. The filter is then taken out of service and cleaning of the filter media is affected by flow reversal also called as backwash. To assist in cleaning the bed, the backwash operation is sometimes preceded by air scouring by way of agitation through the under-drain system. The air scouring agitates the sand with a scrubbing action, which loosens the intercepted particles.



Figure 5.3 Pressure Sand Filter

Pressure sand filter is designed to have a dimension of 2.4mØ and 2.5m height. The work pressure is 3.5bar and it can be increased up to a maximum of 3.50 bar. Materials used in pressures and filter are sand and anthracite (Dual media).

5.8.17 ACTIVATED CARBONFILTER(ACF)

Filtered wastewater from Pressure sand filter is then passed through the Activated Carbon Filter. They are generally employed in the process of removing organic compounds and/or extracting free chlorine from water, thereby making the water suitable for discharge.

Activated carbon is commonly used for removing organic constituents and residual disinfectants in water supplies. This not only improves taste and minimizes health hazards; it protects other water treatment units such as reverse osmosis membranes and ion exchange resins from possible damage due to oxidation or organic fouling. Activated carbon is a favored water treatment technique because of its multifunctional nature and the fact that it adds nothing detrimental to the treated water. Most activated carbons are made from raw materials such as nut shells, wood, coal and petroleum.

Carbon filtering is a method of filtering that uses a bed of activated carbon to remove contaminant sand impurities, using chemical adsorption. Each particle/granule of carbon provides

a large surface area/pore structure, allowing contaminants the maximum possible exposure to the active sites within the filter media.

The dimension of Activated Carbon Filter is 2.6mØx2.5m height.



Figure 5.4 Activated Carbon Filter

5.8.18 TREATED WATER TANK

The treated water is finally fed in to the treated water tank having a capacity of 176.40 m³. Treated water from Activated Carbon filter is pumped in to the treated water tank of dimension 9.8x6x3.35m. Hydraulic retention time of 60 minutes is given in the treated water tank.

5.8.19 CHLORINE CONTACT TANK

No separate Chlorine contact tank is proposed. Treated water tank is proposed as chlorine contact tank itself.

5.8.20 EFFLUENT CHANNEL

Effluent Conveyance System called as Effluent Channel is provided to carry treated effluent from STP to the sea.

5.8.21 OUT FALL

The disinfected clear effluent shall be let out to the sea through a RCC covered channel of adequate slope.

5.9 DETAILED DESIGN

Detailed design of the Sewage Treatment Plant with MBBR Technology is provided in the annexure

5.10 POWER REQUIREMENT

The total running power requirement is 163HP/136KW and the installed capacity is 350HP/260KW. The single largest motor capacity is 175HP (Air blower). An Indoor type transformer and a Generator is proposed with the following capacities.

a. Transformer : 250KVAb. Generator : 250KVA

5.11 OTHER FACILITIES

Following provisions are also included in the proposal

- Comfort room cum office in the laboratory
- Internal Roads
- Storm Water Drain
- Providing Lawns
- Planting trees
- Bye-passing Arrangements
- Walk ways for all major elevated units
- Walkways/ground pavements
- Water Supply and sanitation arrangements
- Laboratory

5.12 PLAN FOR REUSE OF RECYCLED SEWAGE

In the planning and implementation of water reclamation and reuse, the reclaimed water application will usually govern the wastewater treatment needed to protect public health and the environment, and the degree of reliability required for the treatment processes and operation (Metcalf and Eddy). The major waste water reuse categories are as follows:

- a] agricultural irrigation, crop irrigation and commercial nurseries
- b] landscape irrigation
- c] industrial recycling and reuse
- d] groundwater recharge, groundwater replenishment and saltwater intrusion control
- e] recreational/environmental uses
- f] Non potable urban reuse

5.13 MAINTENANCE OF AN ECO-FRIENDLYSYSTEM

Since the treated water contains plant nutrients also, it will be beneficial for the environment when discharged as soil infiltration. Care has also been taken to properly treat the sludge produced during the operation It has also been decided to impart a green environment to the STP units with special methods of growing plants at the exterior of plant components and space between units. Maximum utilization of space has been taken at the planning and design stage itself and using the natural treatment properties of the soil, such decentralized systems provide good opportunities to

use the natural environment. They can help reduce the level of difficulty and cost to treat pollutants, such as nutrients, and keeping them from entering lakes, rivers, and streams. The soil acts as a natural filter and provides final treatment by removing harmful bacteria, viruses, and nutrients.

5.14 PRELIMINARY STRUCTURAL DESIGN OF COMPONENTS

For the various units of the STP structural analysis and design have been performed in accordance with the stipulations of all relevant Indian Standard Codes of practice. For the reinforced concrete elements, special attention has been given to arrive at the preliminary dimensions to satisfy norms and conditions for the water retaining structures. For the metallic structures like pressure filter units, similar approach has been adopted. Since the units are constantly in contact with aggressive environment like sewage, non-corrosive coating for reinforcing steel and water proofing application for the inner side of reinforced concrete structures are recommended. These provisions are already given in the detailed estimates. During the execution stage, a detailed structural analysis of the components can be performed. However, the dimensions are expected to fall within the limits of the values obtained from the preliminary analysis. In the case of foundations, simple raft and beam-slab type raft is adopted for safety considerations. Since the soil nature is observed to be satisfactory to withstand medium loading conditions, deep foundations are not suggested. Soil analysis reports available for the locality has been examined to arrive at a decision. However, during the execution stage, detailed soil investigations can be performed. Cover for the reinforced concrete elements is to be given in accordance with the exposure conditions given in the IS 456 Code of practice.

5.15 SEPTAGE

Septage or septic tank waste refers to the partially treated matter stored in and pumped out of a septic tank. In other words, fecal sludge from septic tanks is known as Septage, but fecal sludge and Septage are interchangeably used in India. Septage is a by- product of pretreatment of household wastewater in a septic tank where it accumulates overtime. It is generally pumped out of a septic tank or onsite sanitation system using a vacuum tanker. Septage is the liquid and solid material that is pumped from a septic tank, cesspool, or other such onsite treatment facilities after it has accumulated over a period of time.

5.15.1 SEPTAGE MANAGEMENT

Sanitation often focuses only on the provisioning of physical infrastructure toilets or latrine sin order to increase the 'coverage of toilets', or to look at the epitome of sanitation: ODF cities. But in order to provide tangible and sustainable sanitation, there is a need to focus on the entire 'sanitation chain'. In simple terms, a sanitation chain is an outline for understanding how fecal waste lows through each system. It sets out interlinked steps vital to manage septage and effluent from generation to disposal or end use, thereby summarizing the city-level outcomes and current status of the same.



From generation to disposal or end use, thereby summarizing the city-level outcomes and current status of the same.

5.15.2 TRANSPORTATION OF SEPTAGE

Transportation is a very vital stage in the sanitation value chain and so are safety measures involved in it. Vehicles that carry Septage act as mobile sewer networks for OSS. Ideally, an ultimate discharge point of collected Septage is an STP or Septage treatment plant. The two main types of vehicles used in India are:

1. Truck-mounted vacuum tankers: These trucks have vacuum pumps with sizes based on lift elevation, pumping distance, volume of sludge to be removed, and volume of the tank. Their capacity varies between 3,000–10,000 liters.

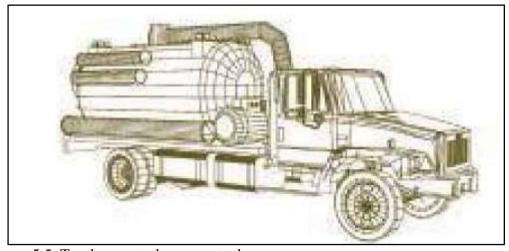


Figure 5.5 Truck-mounted vacuum tankers

2. Tractor-mounted tankers: These vehicles are locally made across India, but their capacity is similar to that of vacuum trucks. The motor, the tank and the tractor are assembled according to the complimenting capacity of each module.

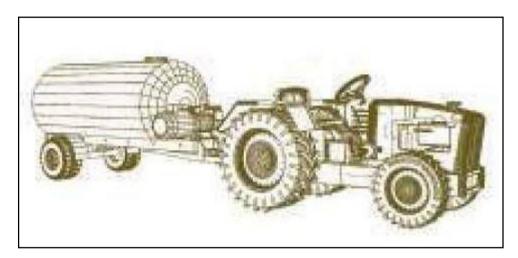


Figure 5.6 Tractor-mounted tankers

Septage transportation is one of the most important components of Septage management. There is need for evolving a standard method of collection, handling and transportation of Septage. Desludging trucks act as a "mobile sewer network" for onsite sanitation systems. They collect the Septage at the household level and transport it to treatment or disposal sites, thereby complimenting the functions of underground sewer network. It may be assumed that one vehicle having a capacity of 2,000 liters shall clean 3 to 10 septic tanks per day. This is based on the frequency of cleaning of septic tanks (once in 2-3 years) and also the distance from the location of septic tanks to the Septage treatment facility. The vehicles are available in different capacities from 2,000 up to 12,000 liters. It is to be noted that the requirement of machines also varies depending upon the capacity of vehicles, road width etc. In case of bigger cities having sufficient width of roads, vehicles having larger capacities may be adopted. Adequate provision for standby machines for cleaning of septic tanks may also be made. Small scale vacuum trucks called Vacutug (from 200 up to 2,000 Liters capacity) also are recommended for use in areas inaccessible to large desludging vehicles. The Vacutug is mounted on wheels and can be attached to a small vehicle. It can be manufactured locally to offer flexibility and mobility without losing the capacity to collect a substantial volume of fecal sludge within one operation.

For the purpose of planning sewerage/septage management systems for this proposal the project area is broadly categorized into two: areas with higher population density and areas with lower population density. Networked sewerage system with STPs is proposed for the first category where the density is generally more than 1500 per square kilometre. Furthermore, septage treatment is proposed in densely populated areas where there is no road network. Septage load from this zone of Kasaragod Municipality is proposed to be transported to the 4 MLD STP with MBBR technology at Korakod Vayal in Kasaragod Municipality where Co-treatment facility will be provided.

5.15.3 SEPTAGE CO-TREATMENT PROPOSED

Septage collected from the septage Zone is proposed to be treated in the Sewage Treatment Plant. Capacity of septage load is considered while designing the Sewage Treatment Plant. A septage collecting tank of size 6mX3mX3m is proposed to collect the septage received by trucks. The septage is diluted with effluent from secondary clarifier and proposed to pump to receiving chamber of Sewage Treatment Plant.

5.16 LAND REQUIRED FOR STP AND WELLS

The details of land required for Sewage Treatment Plant, pumping stations and lifting stations are detailed below. Procurement of land is the sole responsibility of Municipal Authority.

Table 5.4 Land details

Sl No	Components	Area required in cents	Remarks
1	Sewage Treatment Plant	200	SurveyNo:14/3,4,5,6 Thalangara Village, Lat Lon.12.49580378, 74.99462937
2	STP Link road	45	Korakod Vayal, 12.49580378, 74.99462937
3	LS-1	1	12.50989810, 74.99689596
4	LS-A	1.5	12.50937274, 74.98091408
5	LS-2	1	12.50222986, 74.98612375
6	LS-3	1	12.50442017, 74.99348622
7	LS-4	1	12.50302173, 74.99307432
8	LS-B	1.5	12.50035410, 74.98361257
9	LS-5	1	12.49727409, 74.98681682
10	LS-6	1	12.49345908, 74.99102215
11	LS-C	1.5	12.48837092, 74.98904994



Figure 5.7 STP-Location

5.17 SMART MANAGEMENT AND ON-LINE MONITORING USING INTERNET OF THINGS (Io T)

Advancement in the field of digital technology has enabled the wastewater treatment system operator sand managers to control and enhance the performance of various components of the system. Internet of things (Io T) consists of a network of physical objects using various sensors as end points to enable monitoring from a remote station.

For the sewerage treatment plant, a network of various sensors can capture the variations of values of parameters like temperature, dissolved oxygen, chemical composition, TDS etc. at different control points of the system. The continuous data obtained through IoT is used by a customized algorithm for synthesis to impart a decision-making procedure. A centralised information processing system (CIPS) can be formed for this task. In addition to this smart water flow meters can also be coupled to this digital environment. IoT in wastewater management can also be used to calculate residual chemicals after the treatment. This data can be further used to calculate the efficiency of the treatment process and ensure that water quality standards are met before it is discharged in a water body.

By using real-time data gathered through different embedded sensors, performance characteristics of machines can be monitored that further increase the productivity of equipment and boost maintenance tasks. In the present study for the hospital, provision for implementing a IoT based control of the unit shave been suggested.

ODOUR CONTROL METHODS

Odours are a complex combination of a wide variety of compounds; however, there are certain compounds and groups of compounds that contribute specifically to sewage odours, and

significantly determine the selection of the control technology. These include the following: Hydrogen sulphide, and Ammonia.

Odour control is a complex and time-consuming challenge, often requiring a combination of methods for treating odorous gases and for removing or reducing the potential causes of the odours. If an odour problem is severe enough to affect the community, an emergency response and solution to the problem must be carried out quickly. The approach for selecting an odour control method or technology includes the following steps:

- A. Identify the odour source and characteristics through sampling and analysis.
- B. List and assign priorities to controlling a specific odour problem, recognizing considerations such as cost, plant location, future upgrading of various sewage processes, severity of the odour problem, and the nature of the affected area.
- C. Select one or more odour control method or technology for implementation to meet the objectives of steps "a" and "b", taking in to consideration the advantages and disadvantages of each.
- D. Monitor odour missions from the treated air for process adjustments and for feedback to evaluate the solution's effectiveness.

Hydrogen sulphide (H2 S) is the most common odorous gas found in sewage collection and treatment systems and results from the reduction of sulphate by bacteria under an aerobic condition. Its characteristic rotten-egg odour is well known. The gas is corrosive, toxic and soluble in sewage. Hydrogen sulphide is considered a broad-spectrum poison, meaning it can poison several different systems in the body.

PREVENTION OF ODOUR

Hydrogen sulphide production can be controlled by maintaining conditions that prevent the build-up of sulphides in the sewage. The presence of oxygen at concentrations of more than 1.0 mg/L in the sewage prevents sulphide build-up because sulphide produced by anaerobic bacteria is aerobically oxidized. Maintaining anaerobic environment inhibits the anaerobic degradation process, which contributes to the generation of hydrogen sulphide. A checklist is given below:

- Prevent corrosion in the collection well of the facility by blowing air through the facility
- Avoid storing screenings and grit generated in the grit chamber for a long time. Dispose of screening sand grit at appropriate Intervals
- Retention time of sludge in the sludge treatment facilities should be appropriate (Do not retain sludge for a long time)
- Maintain sewage at neutral pH range because most of the sulphide is present at a pH value of less than 7.

Following is a short checklist of operational considerations for controlling odours of primary treatment facilities: (May also apply in other facilities)

- Remove scum routinely, with increased frequency during warm weather.
- Remove sludge before it can bubble or float.
- Wash weirs and other points where floatable and slime collect. Some facilities use submerged pipe swith holes rather than effluent troughs. The submerged pipes do not splash the primary effluent, there by reducing there lease of hydrogen sulphide.
- Wash down all spills and grease coatings.
- When draining a tank, immediately flush it completely. If sludge does not drain quickly, spray lime, calcium hypochlorite, or potassium permanganate on the sludge surface to reduce odours. Because even a clean tank can produce odours, flushing the tank with a chlorine solution or keeping the tank floor covered with allow concentration of chlorine solution will reduce odours.
- If the sewage is septic, add chemicals in the collection system or at the plant, as appropriate, to reduce sulphides.
- If tanks are covered for odour control, keep plates and access hatches in place.
- Routinely check any odour scrubbers or deodorizers for plugging, adequate supply of chemicals, proper pressures for demisting, and/or effectiveness of carbon.
- The splashing of primary sewage into weir troughs and effluent channels can result in the release of hydrogen sulphide. If possible, try to minimize the splashing of primary sewage in to the channel or weirs. I fit cannot be accomplished operationally, then installing submerged sewer pipes may be necessary. This will require tank modifications to verify the plant hydraulics and provide proper control to avoid fluctuations in the tank levels.
- Minimize the stripping of hydrogen sulphide from the sewage when using channel air diffuser systems. Adoption of the following regular practices will not only increase removal efficiency but will provide better working conditions for the operator:
- Regularly remove accumulations from the inlet baffles and outlet weirs with a hose or a broom with stiff bristles. Only experience will determine the necessary frequency.
- Cleans cum removal equipment regularly; otherwise, obnoxious odours and a nun sightly appearance will result.
- Keep cover plates in place except when operations or maintenance require the removal.

- Immediately flush and remove all sewage and sludge spills. Avoid hosing down motors and enclosed control devices.
- Establish a house keeping schedule for the primary treatment area, including galleries, stairwells, control rooms, and related buildings, and assign responsibility for each item to a specific employee.
- Re paint surfaces as necessary for surface protection and appearance.

CONTROLOF ODOUR BY CHEMICAL ADDITION

Chemical addition can control odours in STP by preventing anaerobic conditions or controlling the release of odorous substances.

Table 5.5 Control of odour by chemical addition

Chemical Effectiveagainst	
Oxidizers	
Ozone	Atmospheric hydrogen sulphide only
Hydrogen peroxide	Hydrogen sulphide, also acts as oxygen source
Chlorine	Hydrogen sulphide and other reduced sulphur compounds
Sodium and calcium hypochlorite	Hydrogen sulphide and other reduced sulphur compounds
Potassium permanganate	Hydrogen sulphide and other reduced sulphur compounds

Chapter 6 COST ESTIMATE, OPERATION AND MAINTENANCE CHARGES

6.1 DETAILED ESTIMATE

6.1.1 GENERAL

The detailed estimate for the STP components and Network components is prepared in accordance with the Delhi Schedule of Rates (DSR) 2018 provisions after applying District Cost Index. For certain items, market rates are adopted. The estimate prepared in Kerala Water Authority Price software.

6.1.2 DETAILED ESTIMATE OF COMPONENTS

The detailed estimates have been divided into components as Raw sewage well ,Receiving Chamber, Screen Chamber, Grit chamber, Equalization Tank, Aeration/MBBR Tank, Secondary Settling Tank, Filter Feed Tank, Treated Water tank, Sludge sump, Sludge Thickener, Thickened sludge Centrifuge Structure, Centrate sump, Chlorinator room, Air blower room, Administrative Building, Well and pump house, Sewer network, Control room, etc, Mechanical works, Electrical installations and instrumentation, Operation and maintenance. The total estimate amount comes to Rs. 86 Cores including O&M for 10 years. Detailed estimate is enclosed as annexure.

6.1.3 PROPOSED SEWERAGE SYSTEM O&M

On completion of the construction, the system should be commissioned in phases. Trial commissioning and operation of all the components of the project shall be carried out in phases and any defects found during the period shall be attended immediately. The following components require regular supervision, operation and maintenance.

- 1. Sewerage Network.
- 2. Pumping Stations.
- 3. Sewage Treatment Plants.

For the efficient operation and maintenance of sewerage system, proper planning, staff/labour, tools & equipment and spares are required. For estimating the O&M cost for the Sewerage system, the cost is broadly categorized into

- 1. Establishment Charges
- 2. O&M for Network maintenance cost
- 3. O&M for STP

6.1.4 SEWER NETWORK MAINTENANCE

For the purpose of maintenance, the jet rodding machine will be used along with other components for maintenance of the collection system. It can either be procured or can be hired. The staff shall be properly trained to operate the jet rodding machine. All the new connections shall be given under the supervision of O&M staff. No unauthorized connection shall be given to the sewerage system. Sewer inspections and maintenance should be planned. The whole sewerage be marked on a plan and divided into sections and areas.

Quality maintenance shall be the most important step in smooth functioning of the proposed sewers. This includes the optimum use of labour, equipment and material to keep the system in good condition.

6.2 TYPES OF MAINTENANCE

There are two types of maintenance of an underground sewerage system - preventive and emergency. It is necessary that preventive or routine maintenance are carried out to prevent any breakdown of the system and to avoid emergency operations to deal with clogged sewer lines or over flowing manholes or backing up of sewage into a house or structural failure of the system. Preventive maintenance is more economical and provides for reliability in operations of the sewer facilities. Emergency repairs, which would be very rare if proper maintenance is carried out will also have to be provided for proper inspection and preventive maintenance is a necessity.

The organization required for the maintenance of the sewerage system will vary with the size and type of the sewerage system and the relative age of the system. The larger the municipality, the larger and more complex will be its maintenance organization. The size of the organization will vary from a couple of employees to several hundred regular employees. The primary effort of the staff is to maintain sewers free flowing and unobstructed.

6.2.1 STEPS TO BE TAKEN FOR OPERATION AND MAINTENANCE OF THE SEWERAGE NETWORK DETAILED IN THIS SECTION ARE AIMED AT

- Regular maintenance of the system for proper functioning
- Preventing any breakdown of the system
- Emergency operations to deal with clogged sewer lines or overflowing manholes
- Preventing back flow of sewage into residence sand
- Preventing structural failure of the system.

6.2.2 INSTITUTIONAL STRUCTURE

Operation and maintenance of the proposed scheme shall be carried out through the maintenance wing of KWA.

The following list gives the duties that are to be performed for proper sewer maintenance:

- Inspection of sewers, sewer appurtenance sand Sewage Treatment Plant.
- Cleaning of sewers and sewer appurtenances.
- Checking manhole conditions for deposition of silt etc.
- Replacing broken manhole covers.
- Raising the manhole cover for the construction of culverts, resurfacing etc.
- Approval of sewer connection applications and executing connections
- Maintaining records of sewers and STP including:
- Daily operation and maintenance report

- syst Complaints register
- Stock of equipment
- Disposal of silt, garbage removed after cleanings ewer, manholes and treatment plants.
- Removal of debris, brick bats etc. After any repair work.
- Identifying locations where regular maintenance is needed (problem areas) in sewers and STP.
- Ensuring work is carried out correctly and safely with due regards to health and safety regulations.
- Adopting preventive maintenance within the sub division as a whole, conducting periodic staff meeting and record of the proceedings.

6.2.3 PREVENTIVE MAINTENANCE

In order to maintain the sewer system in satisfactory manner, desilting of manholes and sewers is to be done by any of the following methods suitable for the purpose.

- a) By manually by ball passing method
- b) By drag bucket machine
- c) By jet rodding machine

6.2.4 BREAK DOWN MAINTENANCE

The work of each sewer maintenance gang would consist of the following:

- 1) The house sewer obstruction and main sewer obstruction or any other related complaints to be attended with high priority.
- 2) There were line leaks/complaints are to be attended with high priority.
- 3) Any silt or mud removed during sewer cleaning operation shall be removed from the roads within 24 hours to approved location.

It shall be the responsibility of the O&M division to arrange for traffic control and to obtain permission from concerned agencies for traffic diversion etc for purpose of maintenance. All necessary precautions shall be taken. After the maintenance works are completed roads, cables, utilities etc shall be restored to the original condition.

6.2.5 PERFORMANCE LEVEL TO BE ACHIEVED

- a) Collection system shall be maintained without over flows from manholes/sewers on to streets or into storm water drains.
- b) Silt and trash removed from sewers during removal of block ages/routine cleaning of sewers shall be disposed off hygienically within 24hours.
- c) Preventive maintenance shall be carried out as per approved schedule.
- d) Duration of break down maintenance shall not exceed the specified norms.
- e) All safety precautions shall be taken in sewer maintenance`

On completion of the construction, the system should be commissioned in phases. Trial commissioning and operation of all the components of the project shall be carried out in phases and any defects found during the period shall be attended immediately. The following components require regular supervision, operation and maintenance.

- Sewerage Network.
- Pumping Stations.
- Sewage Treatment Plants.

6.3 SAFTEY PRACTICES

Sewer cleaning is an occupation that has an overall accident frequency rate that is relatively higher than any other industry. The employer has the responsibility of providing the worker with a safe place to work. Never the less, the worker has the overall responsibility and must ensure that it is a safe place to work. This can only be done by constantly thinking of safety and working safely. The worker has the responsibility of protecting not only himself, but also all other plant personnel or visitors by establishing safety procedures for the plant and then ensuring they are followed. He must train himself to analyse jobs, work areas and procedures from a safety stand point and learn to recognize potentiality hazardous actions or conditions. When he recognizes a hazard, he must take immediate steps to eliminate it through corrective action. If correction is not possible, guard against the hazard by proper use of warning signs and devices / by establishing and maintaining safety procedures. As an individual, the supervisor can be held liable for injuries or property damage, which results from an accident caused by his negligence.

6.4 O&M CHARGES

O&M charges for 10 years (STP + Network) excluding	Rs. 253071526.48
centage and GST	

Chapter 7 IMPLIMENTATION OF THE PROJECT

7.1 IMPLEMENTING AGENCY

Kerala Water Authority is the responsible agency in Government sector in the water supply sector and sewerage Sector for implementation of Major Projects under various funding agencies AMRUTH, NABARD, Rebuild Kerala, ADB assistance, and also STATE PLAN Works. Being high value projects Implementation of sewerage projects also requires an agency with expertise and having sufficient human resources. Implementation can be done through concerned Project Divisions of KWA.

7.2 STEPS TO TAKEN WHILE TENDERING.

Conditions should be incorporated in the NIT that detailed field survey and design of network shall be carried out for ascertaining the levels due to road developments if any and in order to accommodate the fact that sewer network design based on gravity flow and accurate levels with Total Station equipment along both sides of road and centre of road is required. Due to limitation of fund and time DGPS survey along one side of the road is only taken in the present proposal. Additional changes required for satisfactory completion of work additional sewer lines required with additional manholes, lifting stations required due to future developments in the scheme area shall also be included in the scope of work while implementing the project. Better and advanced technology for treatment to be considered for STP while implementing the project. Soil investigation of STP site, well sites not carried out as the land proposed are private lands. Hence detailed soil investigation is to be carried out and type of foundation of the structures to be changed accordingly.

7.3 INTEGRATION WITH OTHER PROJECTS

Planning and design of sewerage schemes can be combined with other water projects. This is since most of these projects are inter-related and environment sensitive. Hence the location of an STP, collection wells and coverage of sewerage networks in an area depends upon the water supply system existing in that area, proximity of irrigation canals, water bodies and flood routing structures if any. Planning shall also be done for integrating with road development projects in the scheme area so as to execute all road reformation works after laying sewerage system.

7.4 SUPPORT ACTIVITIES

It has been observed that in many cases of the implementation of the sewerage projects, public protests are experienced by the implementing agencies and authorities. This is because of the unawareness of the local people about the treatment process, disposal of sludge and re-use of treated sewage etc. In this regard, it is essential to educate the consumers to make them aware of the waste management process thereby encouraging them to come up with sewerage connections. The state government is promoting the waste management concept in all the possible ways. More support is needed from the Local Self Government Departments, Suchitwa Mission Kerala, Haritha Keralam Mission Kerala and all the other departments by organizing programmers for motivation public through seminars and awareness classes.

7.5 IMPLIMENTATION SCHEDULE

Proposed implementation Schedule is provided above. The project is proposed to complete within a period of two years.

Table 7.1 Implementation Schedule

	Year 2022						Year 2023						
		12	34	56	78	9 10	1112	12	34	5 6	78	9 10	11 12
1	Appraisal of the report												
2	Sanction of the project												
3	Tendering, and awarding work												
4	Civil works												
5	Mechanical works												
6	Electrical and instrumentation works												
7	Sewer network and allied works												
8	Trial and commissioning												

7.6 ENVIRONMENTAL IMPACT MANAGEMENT

The project area is not falling under environmental sensitive zones. There are no natural reserve forests or parks or the presence of coastal belt. During the construction phase, the emissions from movement of vehicles used for project activity may affect the air quality due to the particulate matter generated during loading, transporting, unloading of materials during construction. Movement of heavy vehicles and concrete mixer would generate considerable noise in the surrounding environment. Hence a proper traffic management plan is recommended during the construction activities.

Sludge generated in the STP must be properly disposed off by transforming it into fertilizer products or bricks for low impact construction activities. Recycled water generated from the STP is to be used as per the guide lines already given.

Regarding the positive impacts, it is to be noted that water quality of the rivers and streams will be greatly improved along with the general environment. The large quantity of recycled water will be useful for multiple purposes including agriculture.

Chapter 8 CONCLUSION AND RECOMMENDATION

- The responsibility of providing sewerage systems rest with local bodies which can be facilitated by Kerala Water Authority. KWA has recently set up a Sewerage Vertical with four sewerage circles towards this. The idea and vision behind it are to visualize and materialize complete sewerage schemes for the State as it is vital for a safe environment. Moreover, there are directions from the Honourable National Green Tribunal (NGT) for ensuring the installation of Effluent Treatment Plants (ETPs), Common Effluent Treatment Plants (CETPs), Sewage Treatment Plants (STPs) and other pollution control measures. Hon. NGT has also directed to take necessary action to abate discharge of pollution into rivers (OA No. 673 of 2018).
- This proposal includes 4 MLD STP with MBBR technology at Korakod Vayal in Kasaragod Municipality, a sewer network of 26.184 km, 1160 manholes, 9 lifting stations. Manholes at 30 m intervals and at all intersections are proposed to facilitate maintenance operations. Septage load from entire Kasaragod Municipality is proposed to be transported to the 4 MLD STP where Co-treatment facility will be provided.
- The cost estimate of the project is excluding land cost. The fund for land has to be provided by the local bodies /Government, according to the source of funding for the scheme.
- If sufficient funds and lands are made available, the projects can be taken up by KWA and can be completed in 2 years. For efficient control of operation and maintenance a monitoring cell at institutional level is to be formed.
- For better performance of the system testing of influent samples, effluent samples after treatment from each unit is to be tested at regular intervals and modifications if any shall be made at the initial stage itself so as to ensure efficiency of individual units and effluent standards as per design.
- Better and advanced technology for treatment can be considered for STP while implementing the project.

APPENDIX -I

APPENDIX -I DESIGN OF STP WITH MOVING BED BIOFILM-REACTOR (MBBR)										
			EACTOR (M	RRK)						
Average flow	4 174	MLD	44=2042			3,,				
Design flow	4.174	MLD	4173913			m ³ /day				
Working hours	23		4174	KLD	173.91	m ³ /hour				
Assumed peak factor	2.5					2				
Peak design flow	9.39	MLD	9391304	LPD		m ³ /day				
					391.30	m ³ /hour				
Raw Sewage Characteristics										
Average sewage flow entering the STP	173.91	m ³ /hour								
Peak flow entering the STP	391.30	m ³ /hour								
COD	400	mg/l								
Primary ST/ET effluent BOD	250	mg/l								
Thickener overflow return as fraction of plant flow	0.15									
Thickener overflow return	0.626	MLD								
Thickener overflow return BOD	500	mg/l								
Centrate from sludge dewatering as fraction of plant flow	0.006									
Centrate from sludge dewatering return	0.02504	MLD								
Centrate from sludge dewatering return BOD	380	mg/l								
Influent BOD to aeration tank	283.1	mg/l								
TSS	400	mg/l								
Total Nitrogen (As N)	40	mg/l								
Total Phosphorous (As P)	7	mg/l	1							
Faecal Coliform E Coliform		mpn/100 m								
Chlorides as Cl	40000000 125	mg/l	1							
pH	6	mg/i								
Treated Sewage Characteristics (after filtration)	U									
COD	50	mg/l								
BOD	10	mg/l								
TSS	10	mg/l								
Total Nitrogen (As N)	9	mg/l								
Total Phosphorous (As P)	1	mg/l								
E Coliform	1000	mpn/100 m	1							
pH	7									
Receiving Chamber										
Average quantity of flow	173.91	m ³ /hour								
Peak flow	391.30	m ³ /hour								
	0.109	m ³ /sec								
Average Retention Time for peak flow	30	sec	offset to wall	0.3	m					
Volume of the inlet chember	3.26	m^3	free board	0.5						
Assumed depth of flow	1.5	m	total height		m					
Area required for inlet chamber	2.17	m^2	wall thickness	0.25						
Length of the tank	2.25	m	slab thickness	0.3						
Breadth of the tank	0.97	fix		m	area in m ²	7.035				
Mechanical Coarse Screen Channel	0.57	IIIX	1	1111	urca in in	7.055				
Peak design flow	0.109	m ³ /sec			<u> </u>					
Number of screen	1	111 / SCC								
Peak flow rate per screen	0.109	m ³ /sec								
Velocity at peak flow	0.109	m/sec	assumed							
Velocity through clean bar screen	0.86	m/sec	assumed							
Length of channel U/S	1	m								
Width of channel provided	0.8	m								
Depth of flow	0.17	m								
Area required for screen	0.17	sqm								
Headloss through bar screen	0.01	m	assuming head	l loss coe	fficient = 0.7	I				
Assumed depth of flow after inserting bar screen	0.2	m		(control						
Width of channel required	0.68	m	fix	`	m					
Clear bar spacing	20	mm	(20 to 50 mm)							
Bar thickness	10	mm	(5 to 15 mm)							
Number of bars	25		Í							
Clear bar spacing obtained	31	mm	OK							
Inside width of screen (openings)	0.75	m								

Full height of shannel	1	I.m	fb	0.5		1
Full height of channel Angle of inclination	70	m degree	1.22	0.5		
Actual velocity at peak flow	0.82		60 m/sec and 0		3)	
Length of channel required D/S	2.74	m	fix	2.75	/	3.75
Manual Coarse Screen Channel	2.71	111	IIX	2.73	111	3.73
Peak design flow	0.1087	m³/sec				
Number of screen	1	III / Sec				
Peak flow rate per screen	0.109	m ³ /sec				
Velocity at peak flow	0.105	m/sec	assumed			
Velocity through clean bar screen	0.90	m/sec	ussumea			
Length of channel U/S	1	m	wall thickness	0.25	m	
Width of channel provided	0.8	m	offset to wall	0.25		
Depth of flow	0.17	m	slab thickness	0.30		
Area required for screen	0.136	sqm				
Headloss through bar screen	0.01	m	assuming head	l loss coe	fficient = 0.7	
Assumed depth of flow after inserting bar screen	0.2	m	0.18	(control	value)	
Width of channel required	0.68	m	fix	1	m	
Clear bar spacing	20	mm	(20 to 50 mm)			
Bar thickness	10	mm	(5 to 15 mm)			
Number of bars	25					
Clear bar spacing obtained	31	mm	OK			
Inside width of screen (openings)	0.75	m			area in m ²	7.5
Full height of channel	1	m	fb	0.3		
Angle of inclination	70	degree	1.22			
Actual velocity at peak flow	0.80	,	60 m/sec and 0			
Length of channel required D/S	2.74	m	fix	2.75	m	
Mechanical Fine Screen Channel		2	T	ı	1	
Peak design flow	0.109	m ³ /sec				
Number of screen	1	2				
Peak flow rate per screen	0.109	m ³ /sec				
Velocity at peak flow	0.8	m/sec	assumed			
Velocity through clean bar screen	1.10	m/sec				
Length of channel U/S	1.75	m	wall thickness	0.25		
Width of channel provided	0.6	m	offset to wall	0.25		
Depth of flow Area required for screen	0.23	m	slab thickness	0.30	m	
Headloss through bar screen	0.14 0.04	sqm		11	60 - :	
Assumed depth of flow after inserting bar screen	0.04	m m	assuming head	(control		
Width of channel required	0.23	m	fix	_	m	
Clear bar spacing	6	mm	(up to 6 mm)	1	111	
Bar thickness	10	mm	(5 to 15 mm)			
Number of bars	63	iiiiii	(5 to 15 mm)			
Clear bar spacing obtained	6.0	mm				
Inside width of screen (openings)	0.37	m				
Full height of channel	1	m	fb	0.5		
Angle of inclination	45	degree	0.79	rad		
Actual velocity at peak flow	1.10		60 m/sec and 1		:)	
Length of channel required D/S	1.00	m	fix	1	m	2.75
Daily screening quantity						
Daily sewage quantity	4174	m ³ /day				
Rate of screening quantity	0.015	$m^3/1000 \text{ m}^3$	3			
Daily screening quantity	0.0626	m ³ /day				
Grit Separator Chamber	3,0020	1-11 / 444 /		l .		
Number of grit units	1	SB	1			
Peak flow	0.1087	m ³ /sec				
Flow in one unit	0.1087	m ³ /sec				
Grit particle size	0.1087	mm				
HRT	90	sec	(45 to 90 sec, 1	tvnical 60))	
Volume of grit chamber	9.78	m ³	15 10 70 360, 1	, ypicai 00		
	9.78	$m^3/m^2/day$	Commissis 1 C		ntion=)	
SOR			(empirical, fro	m observ	aπons)	
	0.010	$\frac{\text{m}^3/\text{m}^2/\text{sec}}{2}$				
Area required	10.43	m ²	wall thickness	0.25		
SWD	2.00	m	slab thickness	0.30	m	

Side of square channel	3.23	I	offset to wall	0.3	l	
Fix length	3.23	m m	freeboard	0.5		
Fix width	3.3			10.89		OV
		m	area given			OK
Shape factor	0.85		volume given	21.78	m	OK
Specific gravity of liquid	2.65	2.				
Kinematic viscosity	1.003E-06	m ² /sec	L			
V _p in m/sec	0.036		apply Stoke's la	w to get	terminal velo	city vp
$N_{\rm r}$	6	apply Newi	ton's equation			
assumed velocity in m/sec	0.0146					
Nr	2				area in m ²	19.36
drag coefficient Cd	11.95					
vp in m/sec	0.019					
Critical displacement velocity, Vc	0.0190	m/sec		R_t	1.65	
Horizontal velocity of flow, Vh	0.0165	m/sec	OK	$R_{\rm v}$	1.15	
Equalisation Tank						
Number of units	1		1			
Average design flow	173.91	m ³ /hour				
Volume of tank required	843.00	m^3	from detailed o	analysis		
HRT	4.85	hours	free board	0.50	m	
SWD	3.5	m	offset to wall	0.35		
Area required for each tank	240.86	m ²	wall thickness	0.3		
Diameter of circular tank	17.51	m	fix	18		
Side if square tank	15.52	m	fix length	16		
Thickness of foundation slab	0.45	m	fix breadth	16		
Actual capacity provided	890.6	m ³	circular	OK		
Trottual cupacity provided	896.00	m ³	rectangular	OK	area in m ²	306.25
Sewage pump- for pumping to MBBR tank	870.00	[111	rectangular	OK	area iii iii	300.23
Number of pumping system	1	SB	1			
Type of pump set	fugal sewag					
Average flow	4173.91	m ³ /day	l			
Peak design flow	9391.30	m³/day				
		m ³ /hour				
Flow capacity of each pump Peak factor	173.91	m /nour				
	1.20	I DC	0.0580	3,		
Discharge	57.97	LPS	0.0580	m'/sec		
Head required Efficiency	12 50%	m				
Power required	18.55	HP	fix	10	HP	
Energy Energy	318.29	kwh	IIX	19	пР	
Moving Bed Bio-Reactor (MBBR)-Single Stage	310.27	KWII				
Number of tanks proposed	1		1			
Average design flow/tank	4173.91	m³/day				
Number of streams	1173.71	III /day				
BOD of incoming sewage	283.11	mg/l				
TSS of incoming sewage	400	mg/l	1			
BOD expected after treatment	10	mg/l	1			
BOD to be removed	273.11	mg/l				
BOD removal % expected	96.47	0-				
BOD loading rate/volume	4	kg/m³/day	4-7 kg/m ³ /day	as per N	1&E	
Actual BOD loading rate	1181.69	kg/day	, , , , , ,			
Quantity of BOD to be removed per day	1139.95	kg/day	1			
Volume of reactor required	295.42	m ³				
Surface area loading rate (SALR) for BOD removal	7.50	g/m ² /day	1			
Required carrier surface area	157559.20					
Specific surface area of carrier	450.00	m^2/m^3	+			
		m/m m ³				
Required carrier volume	350.13	m	1			
Volume of media required	40%	3	1 1 2	0.7		
	118.17	m ³	depth of base	0.9		
Volume of tank required-BOD loading rate/volume method	413.59	m ³	slab thickness	0.35		
Volume of tank required- SALR method	875.33	m ³	offset to wall	0.45		
Volume of each tank	875.33	m^3	total height	3.50		
SWD	4	m	wall thickness	0.30	m	

	210.02	m ²	l.c. 1:	15.0	1	
Area of each tank Diameter of circular tank	218.83 16.69	m m	fix dia length	17.2 15		
Side of square tank	14.79	m	breadth	15		
Actual capacity provided-circular	929.41	m ³	OK	13	111	
Actual capacity provided-rectangular	900.00	m ³	OK			
Fix capacity	924.16	m ³	OK			
Actual volume of media obtained	369.66	m ³				
Actual carrier surface area	166348.80	m ²				
Volume of liquid in the tank	776.29	m ³				
Hydraulic Retension Time at design average flow	4.46	hours	267.8	minutes		
Hydraulic Retension Time at peak flow	1.98	hours		minutes		
SARR for the given SALR	6.94	g/m ² /day			area in m ²	272.25
Estimated BOD removal rate	1154.04	kg/day				
Actual BOD removal rate %	97.66	BOD of eff	luent	6.62	mg/l	ok
Moving Bed Bio-Reactor (MBBR)-Single Stage Nitrificat		ı	T.			
Number of tanks proposed	1	3,,				
Average design flow/tank Number of streams	4173.91	m ³ /day				
BOD of incoming sewage	10.00	mg/l				
NH ₄ -N of incoming sewage	40.00	mg/l				
Alkalinity as CaCO ₃	140.00					
Target effluent NH ₃ -N		mg/l	0/ 1	01.75		
3	3.30	mg/l	% removal	91.75		
DL level to be maintained in tank	2.00	mg/l ° C				
Design minimum waste water temperature SARR _{max}		C	SARR temp co	efft A	1.058	
	0.61				g/m²/day	
Minimum NH ₃ -N at SARR _{max}	0.50	. 2	SARR _T	0.81	g/m /day	
Design value of SALR	0.88	g/m ² /day				
NH ₃ -N loading rate	166.96	kg/day				
Required carrier surface area	189431.10	m ² /day				
Specific surface area of carrier	600.00	m^2/m^3				
Required carrier volume	315.72	m ³ /day	depth of base	0.65		
Volume of media required	40%	3	slab thickness	0.35		
Volume of tank required- SALR method	789.30	$\frac{\text{m}^3}{3}$	offset to wall	0.45		
Volume of each tank SWD	789.30	m ³	total height wall thickness	3.50		
	197.32	m m ²		0.30		
Area of each tank Diameter of circular tank	15.85	m	fix dia fix length	16 15		
Side of square tank	14.05	m	fix breadth	15		
Actual capacity provided-circular	804.25	m ³	OK	10		
Actual capacity provided-rectangular	900.00	m ²	OK			
Fix capacity	804.25	m ³	011			
Actual volume of media obtained	321.70	m ³				
Actual carrier surface area	193020.00	m ²			area in m ²	272.25
Volume of liquid in the tank	675.57	m ³				272.20
Hydraulic Retension Time at design average flow	3.88	hours	233.07	minutes		
Hydraulic Retension Time at peak flow	1.73	hours		minutes		
Estimated NH ₃ -N removal rate	156.08	kg/day				
NH ₃ -N of effluent	2.60	mg/l				
BOD SALR	0.22	g/m ² /day	should be < 0 .	5 to achie	ı eve 200d nitri	ification
Using the equivalent weight of CaCO ₃ as 50, the equivalent			-			
CaCO ₃ /g NH ₃ -N and the target effluent alkalinity as 80 mg/						
CaCO ₃ .	2203	, 5	amaili	-, 1-4411		, <u>6</u> L 46
Influent alkalinity	140.00	mg/l				
Target effluent alkalinity	80.00	mg/l				
Alkalinity used for Nitrification	7.14	g CaCO ₃ /g	NH ₃ -N			
Alkalinity to be added	202.04	mg/l				
Rate of alkalinity addition needed as CaCO ₃	843.29	kg/day				
Equiv wt. of CaCO ₃	50.00	g/equivaler	it			
Equiv wt. of NaHCO ₃	84.00	g/equivaler				
, J		10 -401 10101		l	L	

Daily NaHCO ₃ requirement	1416.73	kg/day NaHCO ₃		1	
Blower air requirement				1	
BOD loading/tank	1181.69	kg/day			T
NH ₃ -N loading rate/tank	166.96	kg/day			
Oxygen uptake ratio-BOD	1.50	kg of O ₂ /kg of BOD			
Oxygen uptake ratio-NH ₃ -N	4.35	kg of O ₂ /kg of NH ₃ -N			
Oxygen required for BOD loading	1772.54	kg/day			
Oxygen required for NH ₃ -N loading	726.26	kg/day		+	
Percentage of O ₂ in air		kg/uay			
Weight of air required-BOD loading	21.00	1/1			
Weight of air required-NH ₃ -N loading	8440.67	kg/day			
	3458.39	kg/day			
Density of air	1.225	kg/m ³			
Volume of air-BOD loading	6890.34	m ³ /day		-	
Volume of air-NH ₃ -N loading	2823.17	m³/day			
Air transfer efficiency of diffuser	0.100	2			
Quantity of air required-BOD loading	68903.44	m³/day			
Quantity of air required-NH ₃ -N loading	28231.72	m ³ /day			
Factor of saftey	1.10				
Volume of air required-BOD loading	3158.07	m³/hour			
Volume of air required-NH ₃ -N loading	1293.95	m³/hour			
Volume of equalisation tank	843.00	m^3			
Normal inflow	0.048	m ³ /sec			
Air requirement for equalisation tank	1.25	m ³ /m ³ /hour			
Air requirement for sludge tank	3.00	m ³ /m ³ /hour			
Volume of ET	843.00	m^3			
Volume of air required for ET	1053.75	m ³ /hour			
Volume of air required for ST	22.41	m^3			
Total air required	5528.19	m³/hour			
Capacity of blower	5528.00	m³/hour			
Number of blowers working	1.00	SB 1		1	
Air required per blower	5528.00	m³/hour			
Pressure given	0.60	kg/cm^2 5.89	m		
Volumetric efficiency	70%	ing time			
Power required for blower motor	173.36	HP 175.00	kw		
Fix power of blower motor	175.00	НР			
Energy/tank	3103.85	kwh			
Alum solution tank					
number of units	1				
dosage of alum	50	ppm			
requirement for 8 hours	69.570	kg m ³			
volume of solution at 10% strength/unit	0.630			+	
breadth of tank	1	m m		+	
liquid depth	0.63	m			
total depth	1	m			
solution flow rate	0.0788	m ³ /hour			
Lime solution tank	·			•	
number of units	1				
dosage of lime	35	ppm			
requirement for 8 hours	48.7	kg			
volume of solution at 10% strength/unit	0.45	m3		1	
length of tank	1	m		1	
breadth of tank	0.45	m		+	
liquid depth total depth	0.45 0.75	m m		1	
solution flow rate	0.75	m m ³ /hour			
Secondary Clarifier	0.03023	III /IIOUI			
No. of Tanks	1			T T	
Average Flow in each tank	4173.91	m³/day		1	
SOR	25.00	m ³ /m ² /day		+	
	25.50	· ·/	ı		1

SWD	2.90	I		I	<u> </u>	
Solid conc. In settled sludge -%	2.80 0.8 to 0.9	m o/				
Withdrawal frequency - continuous	0.8 10 0.9	70				
	166.96	m^2				
Area Required for the Tank Diametre Required for Secondary Settling Tank	14.58					
Assumed Detention Period		m				
	3.10	hrs m ³		ED	0.7	
Volume	539.13			FB	0.5	
Depth of the Clarifier assumed	2.80	m				
Area of the Clarifier	192.55	m ²				
Provide Secondary Clarifier of Diametrer	15.70	m				
Surface Loading Rate	21.68	m ³ /m ² /day		OK		
Check for Peak flow	48.77	m ³ /m ² /day		OK		
Sludge Sump						
Number of units	1					
Average flow/tank	4173.91	m ³ /day				
TSS	400	mg/l				
BOD	283.11	mg/l				
Assumed TSS Sludge	30%					
Assumed BOD Sludge	35%	_				
Sludge generated-TSS	500.9	kg/day				
Sludge generated-BOD	413.6	kg/day				
Total sludge	914.46	kg/day				
% sludge with 1.02 specific gravity	10%					
Sludge volume per day/tank	89.65	m ³ /day				
	3.74	m ³ /hour				
Assumed HRT	2	hours	freeboard	0.35	m	
Volume of tank	7.47	m^3	slab thickness	0.3	m	
Assumed SWD	2	m	offset to wall	0.3		
Area of the tank	3.74	m ²	wall thickness	0.25	m	
Diameter of circular tank	2.18	m	fix	2.2		
Actual capacity provided	7.60	m^3			area in m ²	3.30
Pump for Sludge transfer to Thickner	7.00	111			area in in	3.50
Number of pumps	1.00	W	1	SB		
Specific gravity of liquid	1.03					
Tipe of pump set		e transfer-no	n clog			
Working hours	5.00	hours	<u> </u>			
Discharge required	17.93	m ³ /hour	0.004981	m ³ /sec		
Required head	15.00	m	0100100			
Velocity in sludge transfer pipe adopted	0.70	m/sec				
Pipe diameter required					1	
Efficiency	95.18	mm	fix	100	mm	
	95.18 50%	mm	fix	100	mm	
	95.18 50% 1.99	mm HP	fix fix	2.00		
Power required Energy	50%					
Power required	50% 1.99	НР				
Power required Energy	50% 1.99	НР				
Power required Energy Sludge Thickener	50% 1.99 7.43	НР				
Power required Energy Sludge Thickener Number of units Total sludge	50% 1.99 7.43	HP kwh				
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate	1.99 7.43 1 914.46	HP kwh				
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate Thickening area required	1.99 7.43 1 914.46 40 22.86	HP kwh kg/day kg/m²/day m²				
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate Thickening area required Surface Loading Rate	1.99 7.43 1 914.46 40 22.86 12	HP kwh kg/day kg/m²/day m² m³/m²/day	fix	2.00	HP	
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate Thickening area required Surface Loading Rate Thickening area required	1.99 7.43 1 914.46 40 22.86 12 7.47	HP kwh kg/day kg/m²/day m² m³/m²/day m²	fix	2.00	HP m	
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate Thickening area required Surface Loading Rate Thickening area required Maximum area	1.99 7.43 1 914.46 40 22.86 12 7.47 22.86	HP kwh kg/day kg/m²/day m² m³/m²/day	fix freeboard slab thickness	2.00 0.35 0.35	HP m m	
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate Thickening area required Surface Loading Rate Thickening area required Maximum area Area of distribution chamber	1.99 7.43 1 914.46 40 22.86 12 7.47 22.86 20%	kg/day kg/m²/day m² m³/m²/day m²	fix freeboard slab thickness offset to wall	0.35 0.35 0.35	m m	
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate Thickening area required Surface Loading Rate Thickening area required Maximum area Area of distribution chamber Total area required	1.99 7.43 1 914.46 40 22.86 12 7.47 22.86 20% 27.43	HP kwh kg/day kg/m²/day m² m³/m²/day m² m²	freeboard slab thickness offset to wall wall thickness	0.35 0.35 0.35 0.35	m m m	
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate Thickening area required Surface Loading Rate Thickening area required Maximum area Area of distribution chamber Total area required Diameter of circular tank	1.99 7.43 1 914.46 40 22.86 12 7.47 22.86 20% 27.43 5.91	kg/day kg/m²/day m² m³/m²/day m² m² m²	fix freeboard slab thickness offset to wall	0.35 0.35 0.35	m m m	
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate Thickening area required Surface Loading Rate Thickening area required Maximum area Area of distribution chamber Total area required Diameter of circular tank Thickening area available	1.99 7.43 1 914.46 40 22.86 12 7.47 22.86 20% 27.43 5.91 30.19	HP kwh kg/day kg/m²/day m² m³/m²/day m² m² m²	freeboard slab thickness offset to wall wall thickness	0.35 0.35 0.35 0.35	m m m	
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate Thickening area required Surface Loading Rate Thickening area required Maximum area Area of distribution chamber Total area required Diameter of circular tank Thickening area available SWD	1.99 7.43 1 914.46 40 22.86 12 7.47 22.86 20% 27.43 5.91 30.19 2.5	HP kwh kg/day kg/m²/day m² m³/m²/day m² m² m	freeboard slab thickness offset to wall wall thickness	0.35 0.35 0.35 0.35	m m m	
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate Thickening area required Surface Loading Rate Thickening area required Maximum area Area of distribution chamber Total area required Diameter of circular tank Thickening area available SWD Actual volume provided	1.99 7.43 1 914.46 40 22.86 12 7.47 22.86 20% 27.43 5.91 30.19 2.5 75.48	HP kwh kg/day kg/m²/day m² m³/m²/day m² m² m m² m	freeboard slab thickness offset to wall wall thickness fix	0.35 0.35 0.35 0.35	m m m	
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate Thickening area required Surface Loading Rate Thickening area required Maximum area Area of distribution chamber Total area required Diameter of circular tank Thickening area available SWD Actual volume provided Thickened sludge consistency	1.99 7.43 1 914.46 40 22.86 12 7.47 22.86 20% 27.43 5.91 30.19 2.5 75.48 3%	kg/day kg/m²/day m² m³/m²/day m² m² m² of total sluce	freeboard slab thickness offset to wall wall thickness fix	0.35 0.35 0.35 0.35	m m m m	
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate Thickening area required Surface Loading Rate Thickening area required Maximum area Area of distribution chamber Total area required Diameter of circular tank Thickening area available SWD Actual volume provided Thickened sludge consistency Thickened sludge volume	1.99 7.43 1 914.46 40 22.86 12 7.47 22.86 20% 27.43 5.91 30.19 2.5 75.48	HP kwh kg/day kg/m²/day m² m³/m²/day m² m² m m² m	freeboard slab thickness offset to wall wall thickness fix	0.35 0.35 0.35 0.35	m m m	7.50
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate Thickening area required Surface Loading Rate Thickening area required Maximum area Area of distribution chamber Total area required Diameter of circular tank Thickening area available SWD Actual volume provided Thickened sludge consistency Thickened sludge transfer to Centrifuge	1.99 7.43 1 914.46 40 22.86 12 7.47 22.86 20% 27.43 5.91 30.19 2.5 75.48 3%	kg/day kg/m²/day m² m³/m²/day m² m² m² of total sluce	freeboard slab thickness offset to wall wall thickness fix	0.35 0.35 0.35 0.35	m m m m	7.50
Power required Energy Sludge Thickener Number of units Total sludge Solids Loading Rate Thickening area required Surface Loading Rate Thickening area required Maximum area Area of distribution chamber Total area required Diameter of circular tank Thickening area available SWD Actual volume provided Thickened sludge consistency Thickened sludge volume	1.99 7.43 1 914.46 40 22.86 12 7.47 22.86 20% 27.43 5.91 30.19 2.5 75.48 3%	HP kwh kg/day kg/m²/day m² m³/m²/day m² m² m² of total sluct m³/day	freeboard slab thickness offset to wall wall thickness fix	0.35 0.35 0.35 0.35	m m m m m	7.50

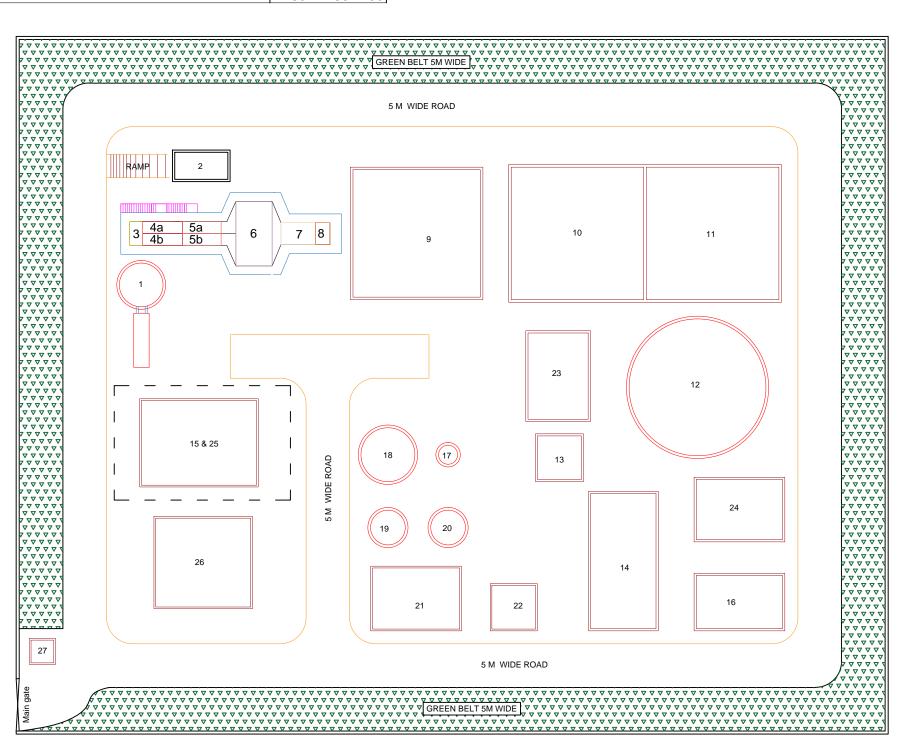
1 0.25 10% 914.46 2 1.83 0.1	m³/day hours m³/hour m fix kwh SB m³/hour kg/day kg/1000 kg kg/day	1.5E-03 1.00			
5.49 15.00 50% 0.61 2.274 1 0.25 10% 914.46 2 1.83 0.1 1.83	m³/hour m fix kwh SB m³/hour kg/day kg/1000 kg	1.00			
15.00 50% 0.61 2.274 1 0.25 10% 914.46 2 1.83 0.1 1.83	fix kwh SB m³/hour kg/day kg/1000 kg	1.00			
1 0.25 10% 914.46 2 1.83 0.1	fix kwh SB m³/hour kg/day kg/1000 kg		НР		
0.61 2.274 1 0.25 10% 914.46 2 1.83 0.1	SB m³/hour kg/day kg/1000 kg		HP		
2.274 1 0.25 10% 914.46 2 1.83 0.1 1.83	SB m³/hour kg/day kg/1000 kg		nr		
1 0.25 10% 914.46 2 1.83 0.1	SB m³/hour kg/day kg/1000 kg	1			
0.25 10% 914.46 2 1.83 0.1 1.83	m ³ /hour kg/day kg/1000 kg	1			
0.25 10% 914.46 2 1.83 0.1 1.83	m ³ /hour kg/day kg/1000 kg	1			
10% 914.46 2 1.83 0.1 1.83	kg/day kg/1000 kg			1	
914.46 2 1.83 0.1 1.83	kg/1000 kg				
1.83 0.1 1.83	kg/1000 kg				
1.83 0.1 1.83					
0.1 1.83					
1.83	Kg/ddy				
	m^3				
1828.92	litres				
76.21	litres/hour				
0.61	m ³				
1	m				
_					
		C		. 2	
0.78	m	İıx	0.8	area in m	1.28
20		CC	0.2		
	m³				
	m	freeboard	0.35		
					50.41
5.90	m	fix	6	m	
		wall thickness	0.25	m	
57.97	m^3	slab thickness			1
2.5	m	freeboard	0.35	m	
23.19	m^2				
4.82	m	fix length			
		fix breadth			
62.50	OK			area in m ²	37.21
2					
2086.96	m ³ /day				
20	hours				
104.35	m ³ /hour				1
12	m ³ /m ² /hour				
8.70	m^2				
3.33	m	fix	3.4	m	
2.5	m	offset to wall			
3.5	Bar				
Sand				area in m ²	38.72
2					
2086.96	m ³ /day				
20	hours				
104.35					
	_	fiv	2.7	m	
3.5	Bar	onset to wan	0.3	111	
U.J	~	<u> </u>	İ		
	2.5 23.19 4.82 62.50 2 2086.96 20 104.35 12 8.70 8.70 3.33 2.5 3.5 Sand 2 2086.96 20 104.35 104.35	0.61 m² 0.78 m 0.78 m 30 minutes 173.91 m³/hour 86.96 m³ 2.5 m 34.78 m² 5.90 m 20 minutes 173.91 m³/hour 57.97 m³ 2.5 m 23.19 m² 4.82 m 62.50 OK 20 hours 104.35 m³/hour 12 m³/m²/hour 8.70 m² 8.70 sqm 3.33 m 2.5 m 3.5 Bar Sand 20 hours 104.35 m³/hour 104.35 m³/hour 104.35 m³/hour 104.35 m³/hour	0.61 m² m² m fix	0.61 m² fix 0.8 30 minutes offset to wall 0.3 173.91 m³/hour wall thickness 0.25 86.96 m³ slab thickness 0.35 2.5 m freeboard 0.35 34.78 m² 0.35 5.90 m fix 6 20 minutes offset to wall 0.3 173.91 m³/hour wall thickness 0.25 57.97 m³ slab thickness 0.3 2.5 m freeboard 0.35 2.5 m fix length 5 62.50 OK 0K 0K 2.0 hours 0K <td< td=""><td> 0.61 m² m fix m m m m m m m m m </td></td<>	0.61 m² m fix m m m m m m m m m

Pump for clarified water to PSF and ACF						
Type of pump set	CF					
Number of pumps	2.00	W	1	SB		
Discharge of clarified water required/pum set	0.00	m ³ /hour				
Working hours of pumps	20.00	hours				
Discharge required/pump set	0.00	m ³ /hour	0.0E+00	m ³ /sec		
Head required	40.00	m				
Efficiency	60%					
Power required	0.00	fix	30.00	HP		
Energy	0.00	kwh				
Treated Water Tank						
HRT	60	minutes	offset to wall	0.3	m	
Average flow	173.91	m ³ /hour	wall thickness	0.3	m	
Volume of the tank	173.9	m^3	slab thickness	0.35	m	
Assumed liquid depth	3	m	freeboard	0.35	m	
Area of the tank	57.97	m^2				
Number of tanks	1		fix length	9.8	m	
Area of one tank	57.97	m ²	fix breadth	6	m	
Side of square tank	7.61	m				
Volume provided	176.40	m^3	OK			

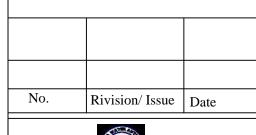
NO	DESCRIPTION	Size
1	RAW SEWAGE WELL	
2	SEPTAGE TANK	6.00x6.00x3.00
3	RECIVING CHAMBER & COLLECTION WELL	5.00
4 a	COARSE SCREEN CHANNEL-MECHANICAL	2.75 x 1
4 b	COARSE SCREEN CHANNEL-MANUAL	2.75 x 1
5 a	FINE SCREEN CHANNEL-MECHANICAL	2.75 x 1
5 b	FINESCREEN CHANNEL-MANUAL	2.75 x 1
6	GRIT CHAMBER	3.00x3.00x2.50
7	PARSHALL FLUME	3.00x2.00
8	DISTRIBUTION CHAMBER	2.00x2.00
9	EQUALISATION TANK	14.60x14.60x4.50

10	MBBR 1	15.2	20x15.2	20
11	MBBR 2	15.2	20x15.2	20
12	SECONDARY SETTING TANK	15.70	D ÁHÉ	ÄĈ
13	FILTER FEED TANK	5.0x	5.0x2.8	35
14	PSF/ACF			
15	DG ROOM			
16	TREATED WATER TANK	5.0x	5,0x2,8	
17	SLUDGE SUMP	2.2	ÉGH	AO
18	SLUDGE THICKNER	6.2	ÁEÁÖ)
19	CENTRATE SUMP	4.0	ÁGÉ ÁÖ)

	20	THICKNED SLUDGE SUMP
	21	CENTRIFUGE BUILDING
	22	SLUDGE SHED
	23	AIR BLOWER ROOM
		CHLORINATION ROOM
	25	TRANSFORMER YARD
	26	ADMINISTRATIVE BUILDING
	27	SECURITY ROOM
l		



- ALL DIMENSIONS ARE IN METERS
- DIMENSIONS NOT IN SCALE
- FOR ESTIMATION PURPOSE ONLY





PPD & SEWERAGE CIRCLE, KERALA WATER AUTHORITY, KOZHIKODE

PROJECT NAME

SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY (PHASE-2) -CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK

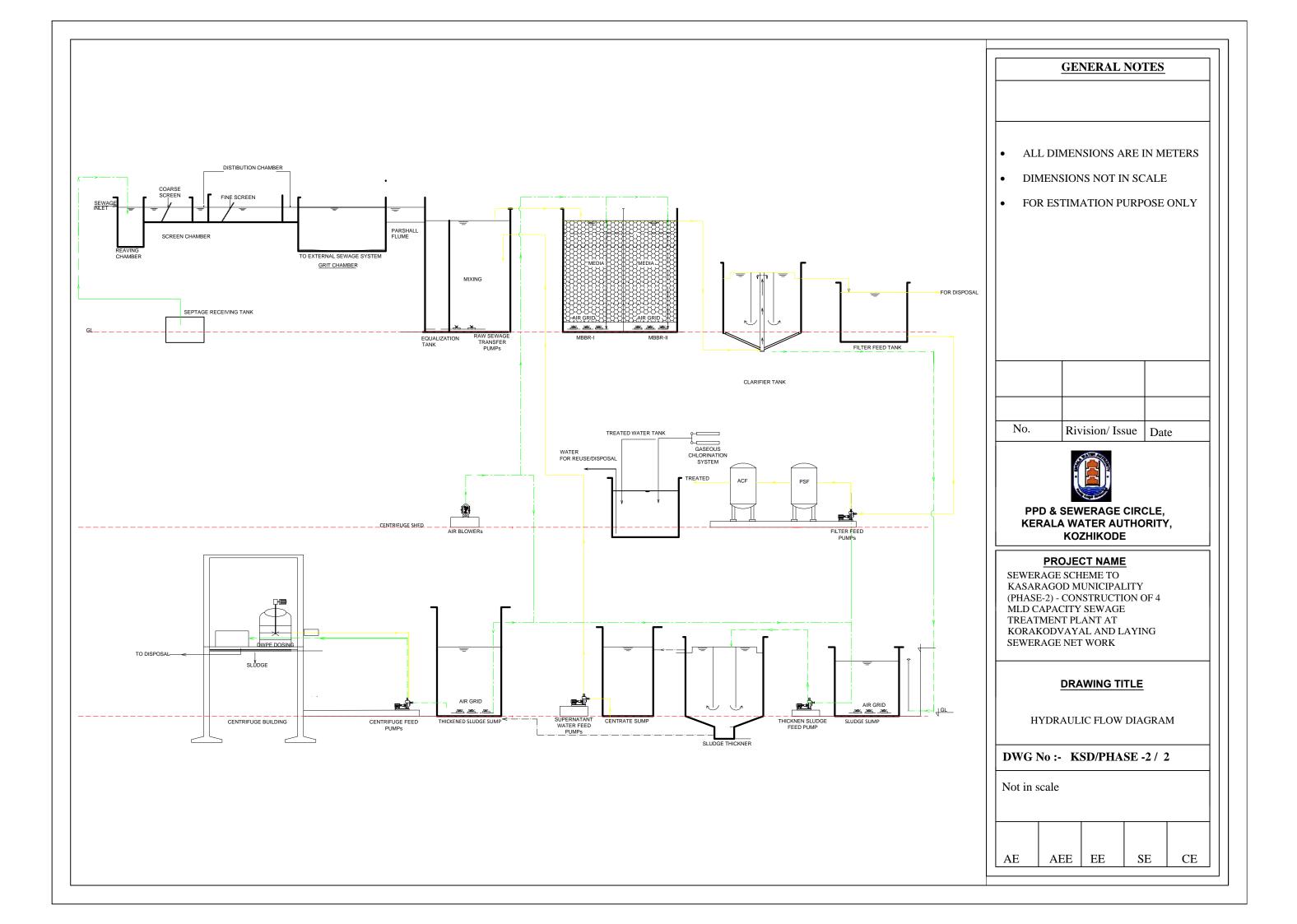
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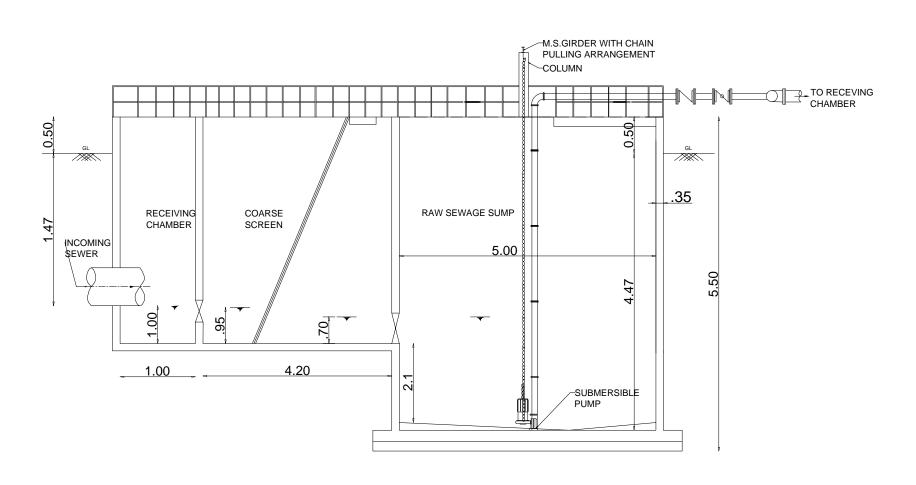
STP LAYOUT

DWG No:- KSD/PHASE -2/1

Not in scale

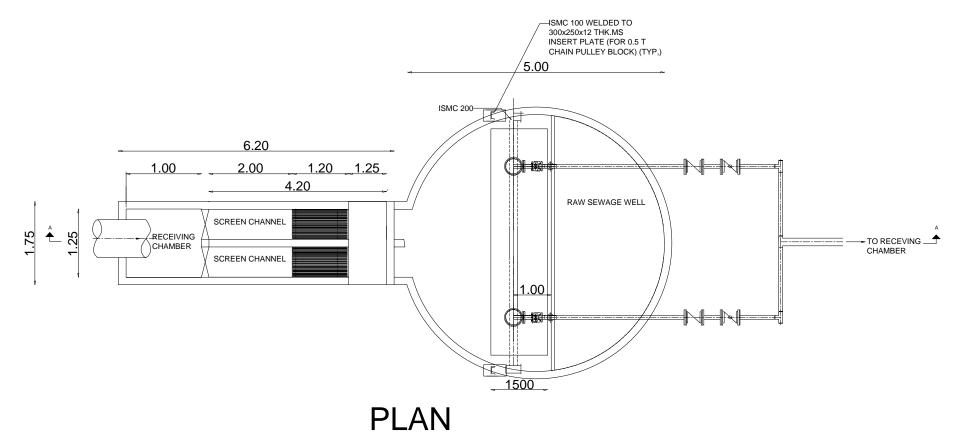
AE AEE EE SE CE





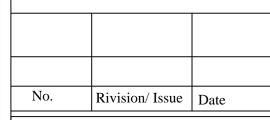
SECTION

: A-A



GENERAL NOTES

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PPD & SEWERAGE CIRCLE, KERALA WATER AUTHORITY, KOZHIKODE

PROJECT NAME

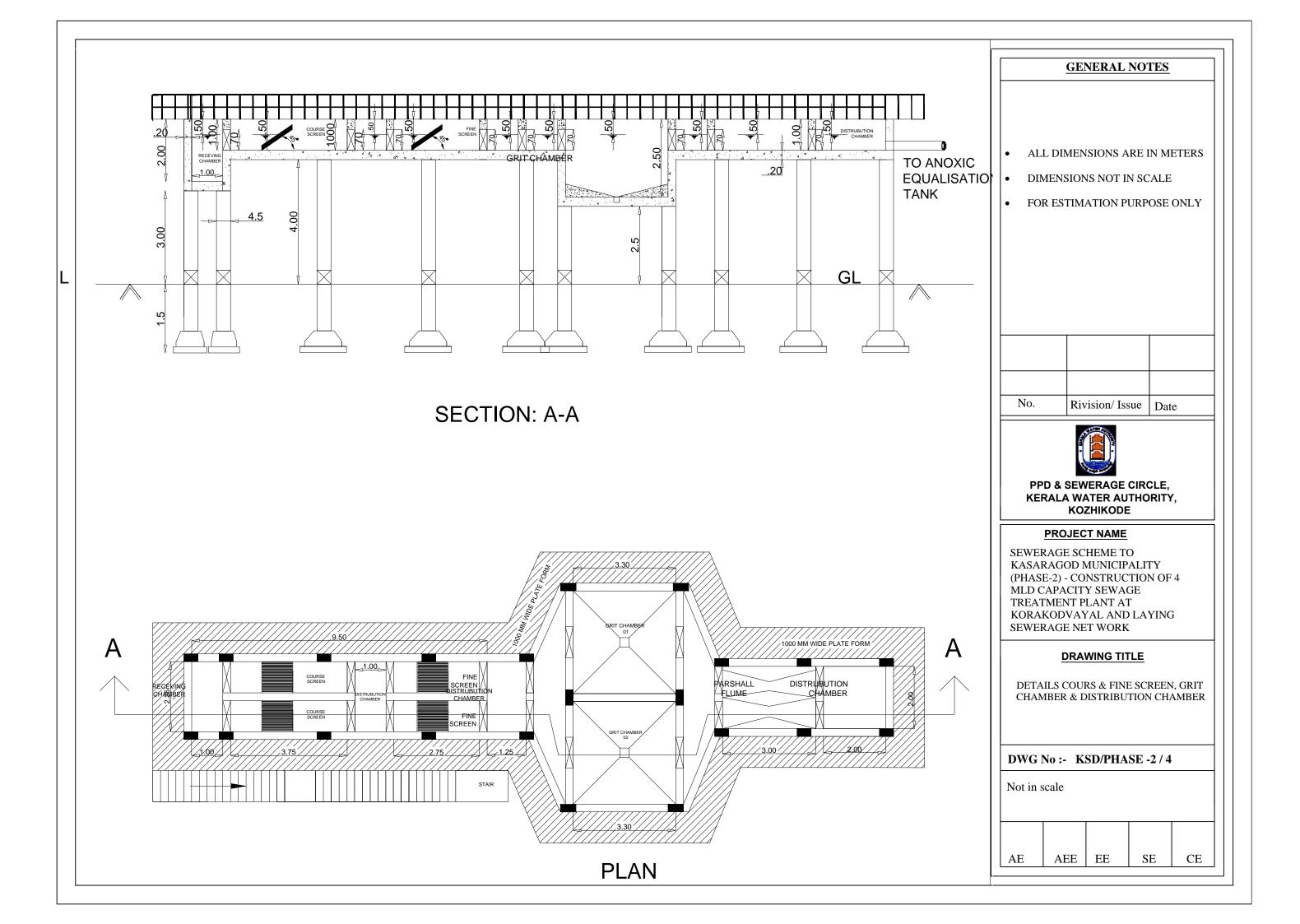
SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY (PHASE-1) -CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK

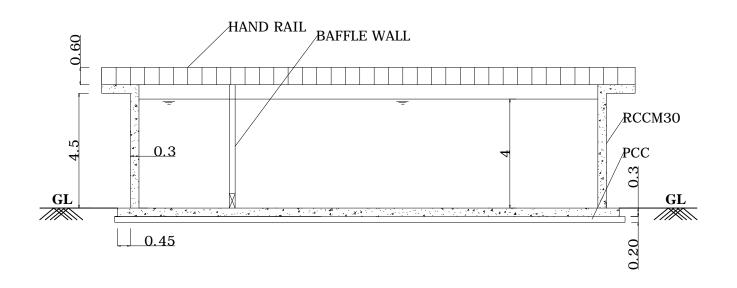
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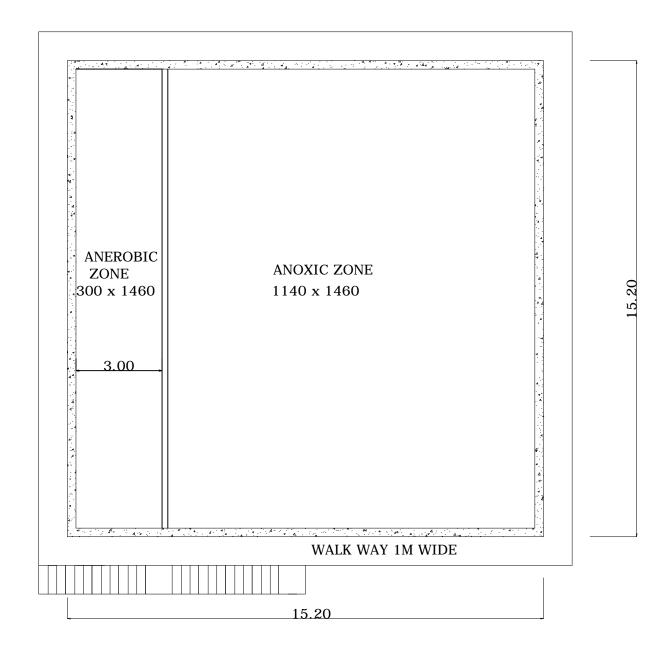
DETAILS OF RECEIVING CHAMBER SCREEN RAW SEWAGE WELL

DWG No:- KSD/PHASE -2/3

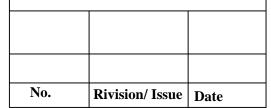
4.17	A DD		an-	GE.
AE	AEE	EE	SE	CE







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- FOR ESTIMATION PURPOSE ONLY





PPD & SEWERAGE CIRCLE, KERALA WATER AUTHORITY, KOZHIKODE

PROJECT NAME

SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY (PHASE-2) - CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK

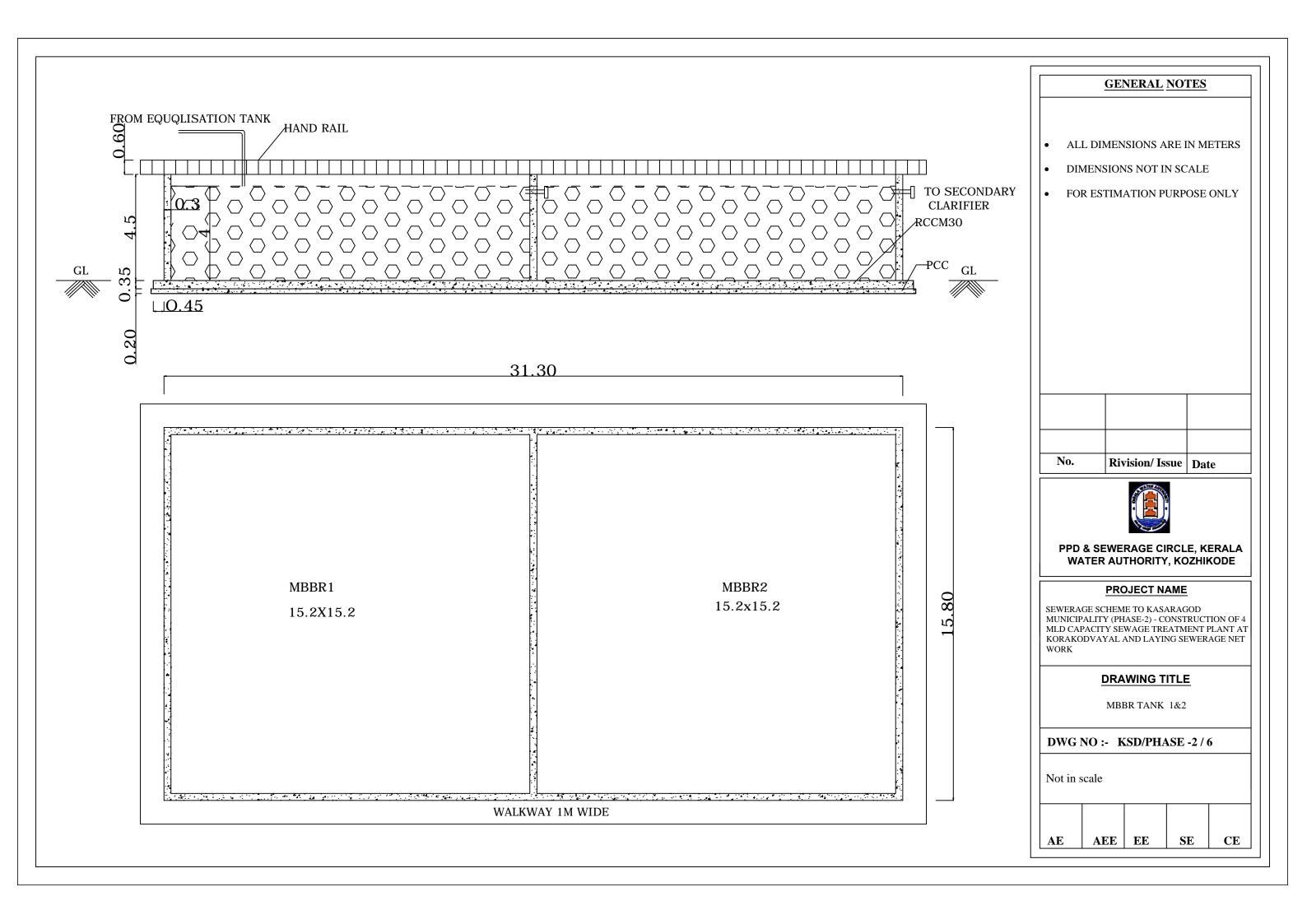
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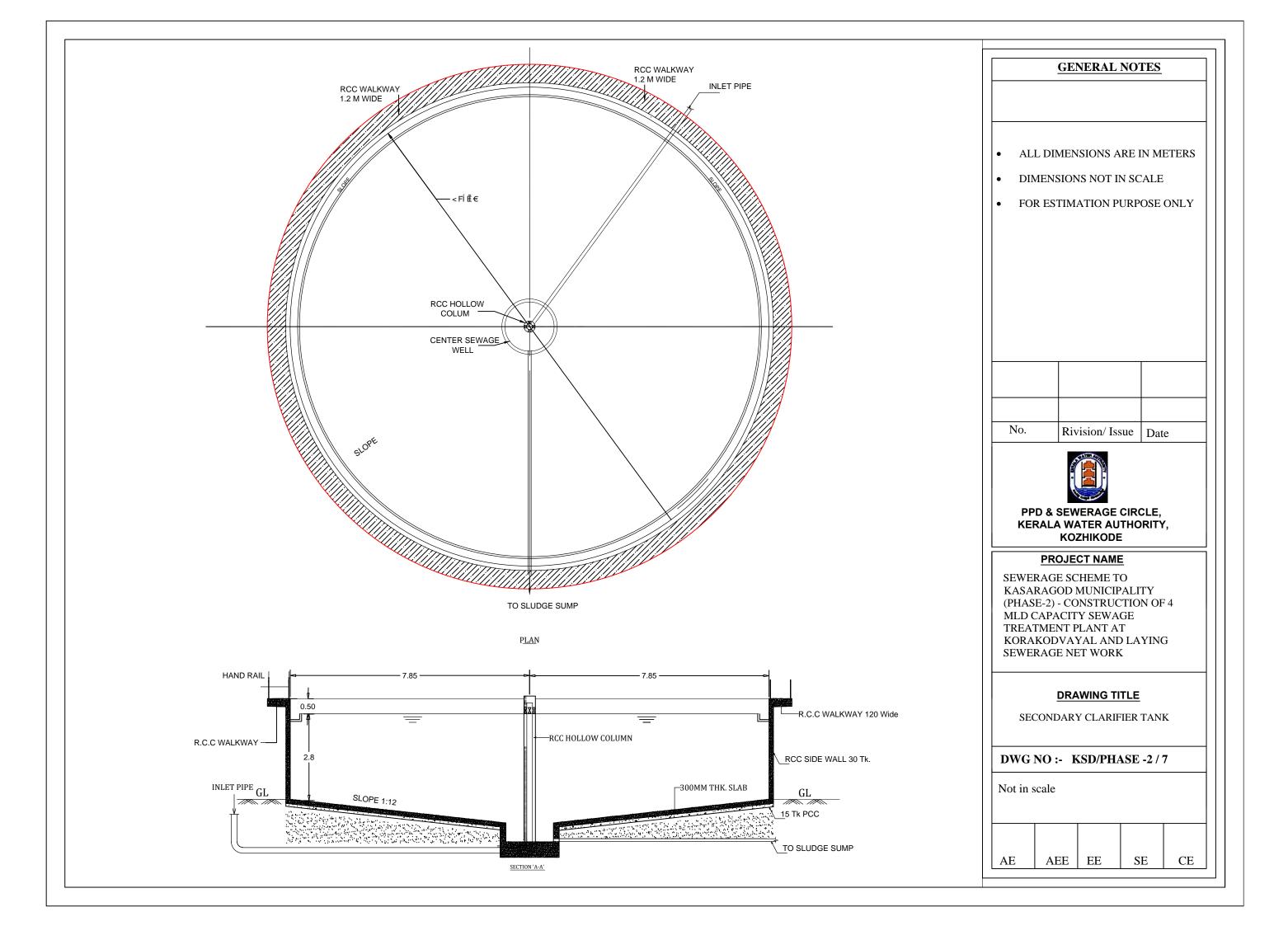
EQUALIZATION TANK

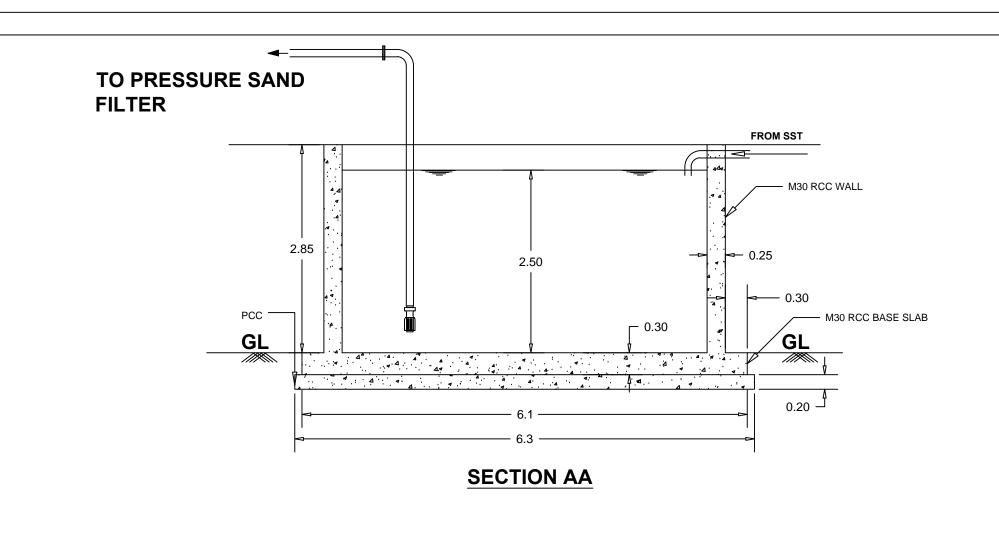
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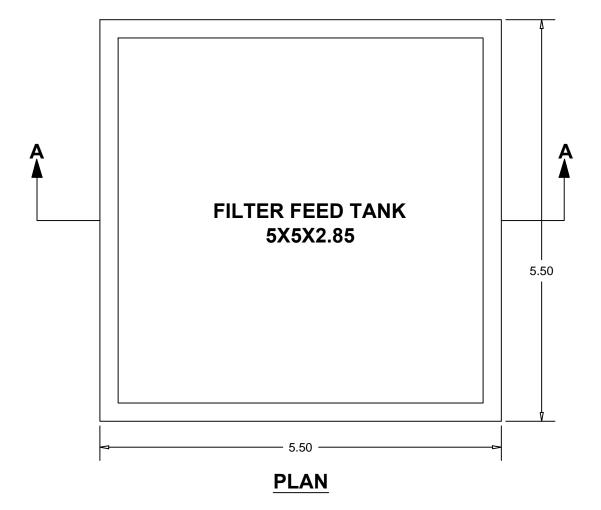
Not in scale

AE AEE EE SE CE

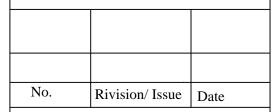








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PPD & SEWERAGE CIRCLE, KERALA WATER AUTHORITY, KOZHIKODE

PROJECT NAME

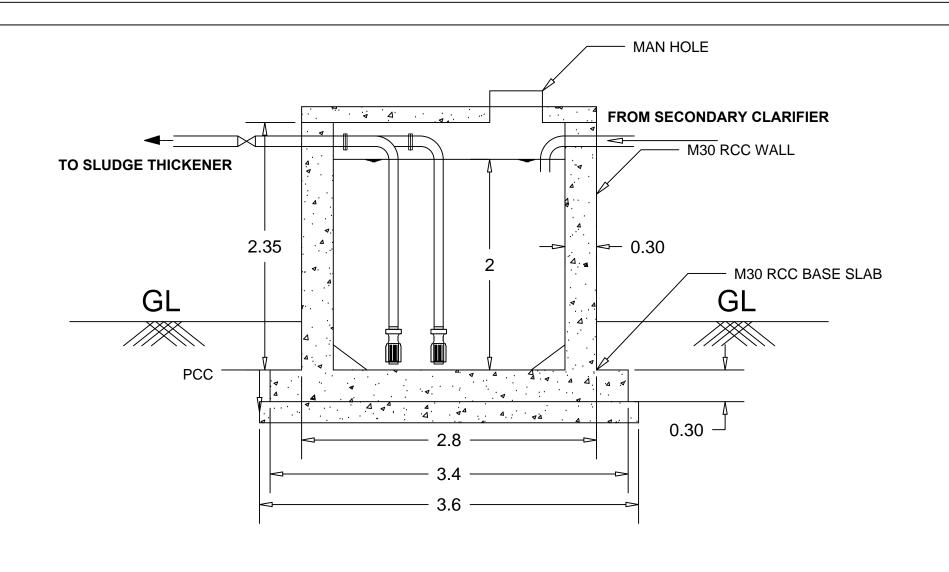
SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY (PHASE-2) - CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK

DRAWING TITLE

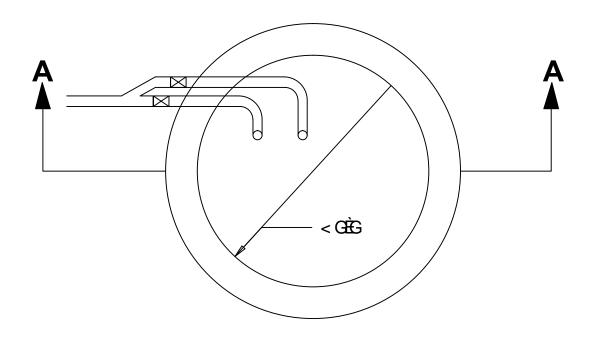
FILTER FEED TANK

DWG NO:- KSD/PHASE -2/8

AE	AEE	EE	SE	CE



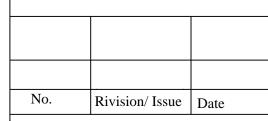
SECTION AA



PLAN

GENERAL NOTES

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PPD & SEWERAGE CIRCLE, KERALA WATER AUTHORITY, KOZHIKODE

PROJECT NAME

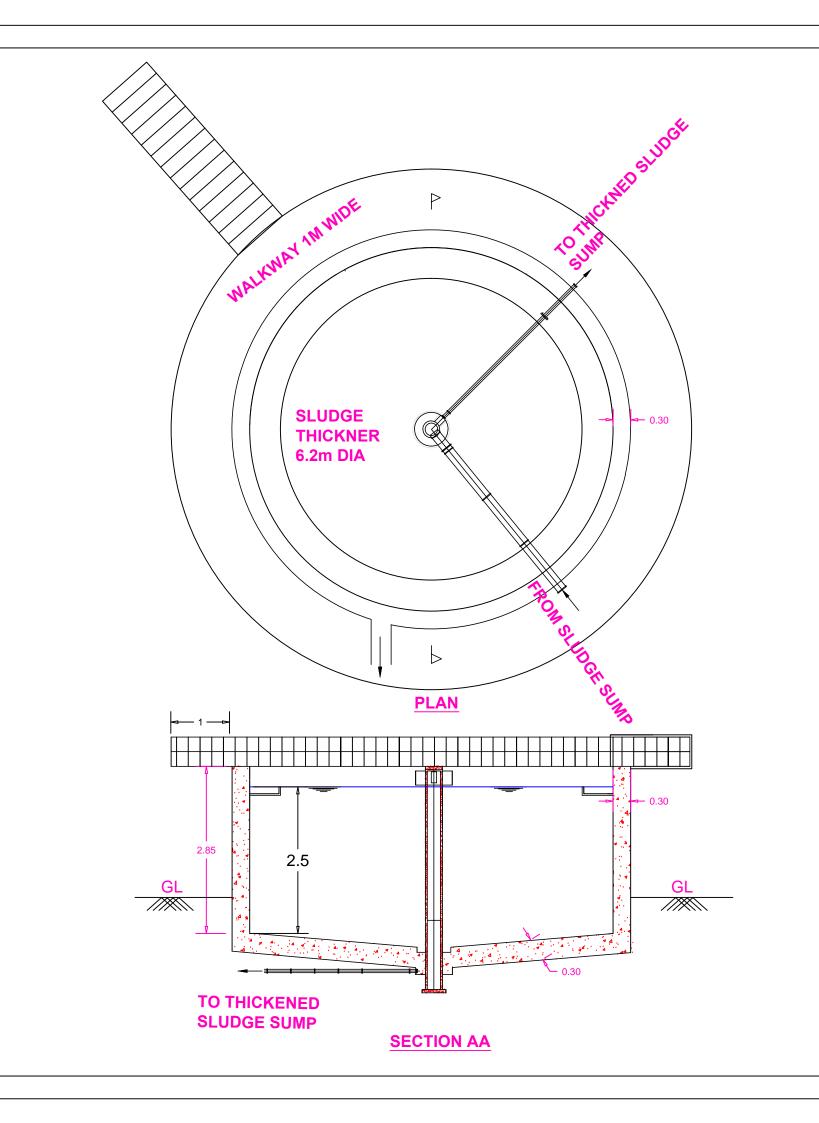
SEWERAGE SCHEME TO
KASARAGOD MUNICIPALITY
(PHASE-2) - CONSTRUCTION OF 4
MLD CAPACITY SEWAGE
TREATMENT PLANT AT
KORAKODVAYAL AND LAYING
SEWERAGE NET WORK

DRAWING TITLE

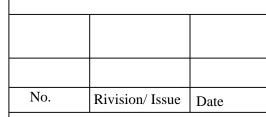
SLUDGE SUMP

DWG NO:- KSD/PHASE -2/9

AE	AEE	EE	SE	CE



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PPD & SEWERAGE CIRCLE, KERALA WATER AUTHORITY, KOZHIKODE

PROJECT NAME

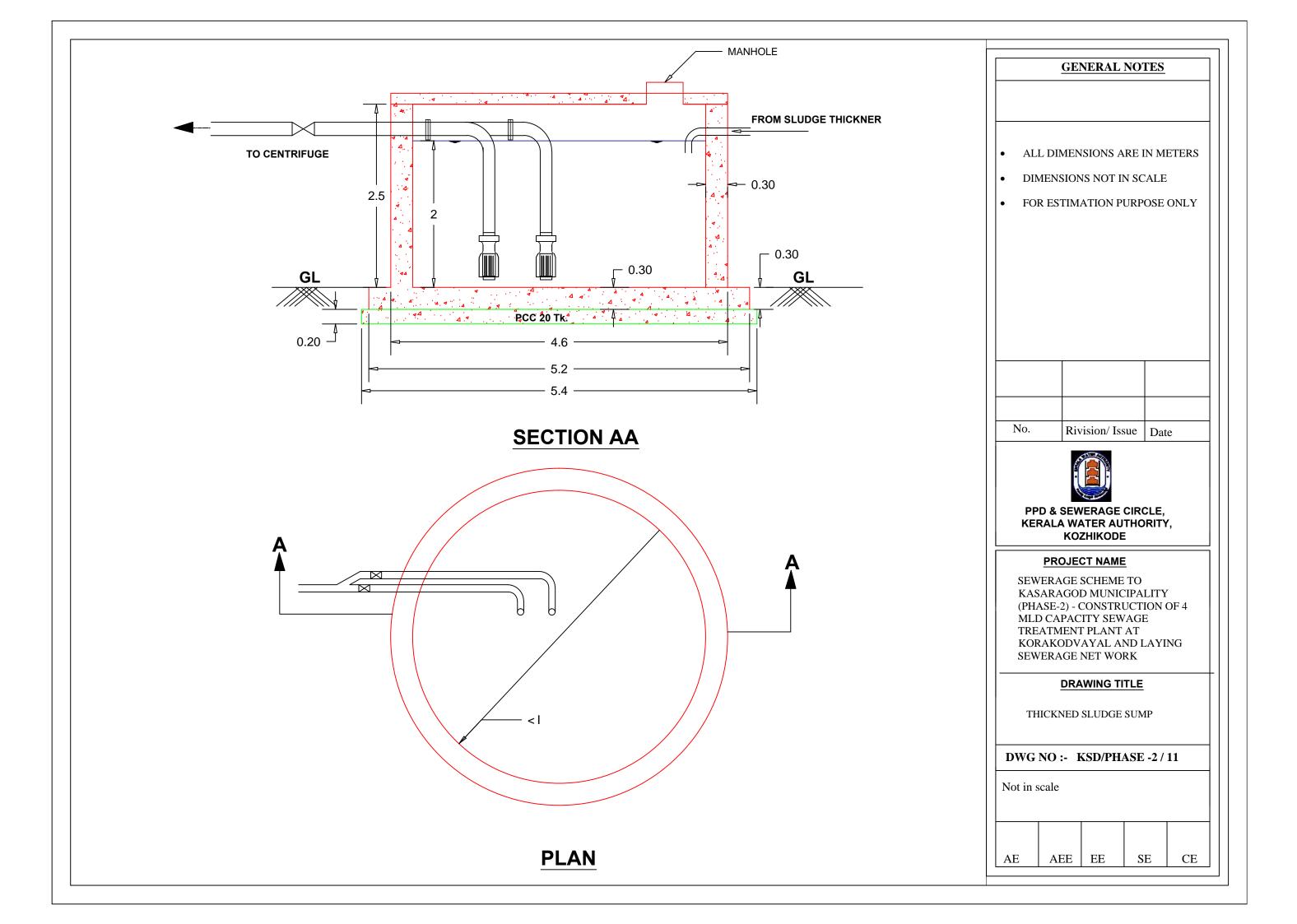
SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY (PHASE-2) - CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK

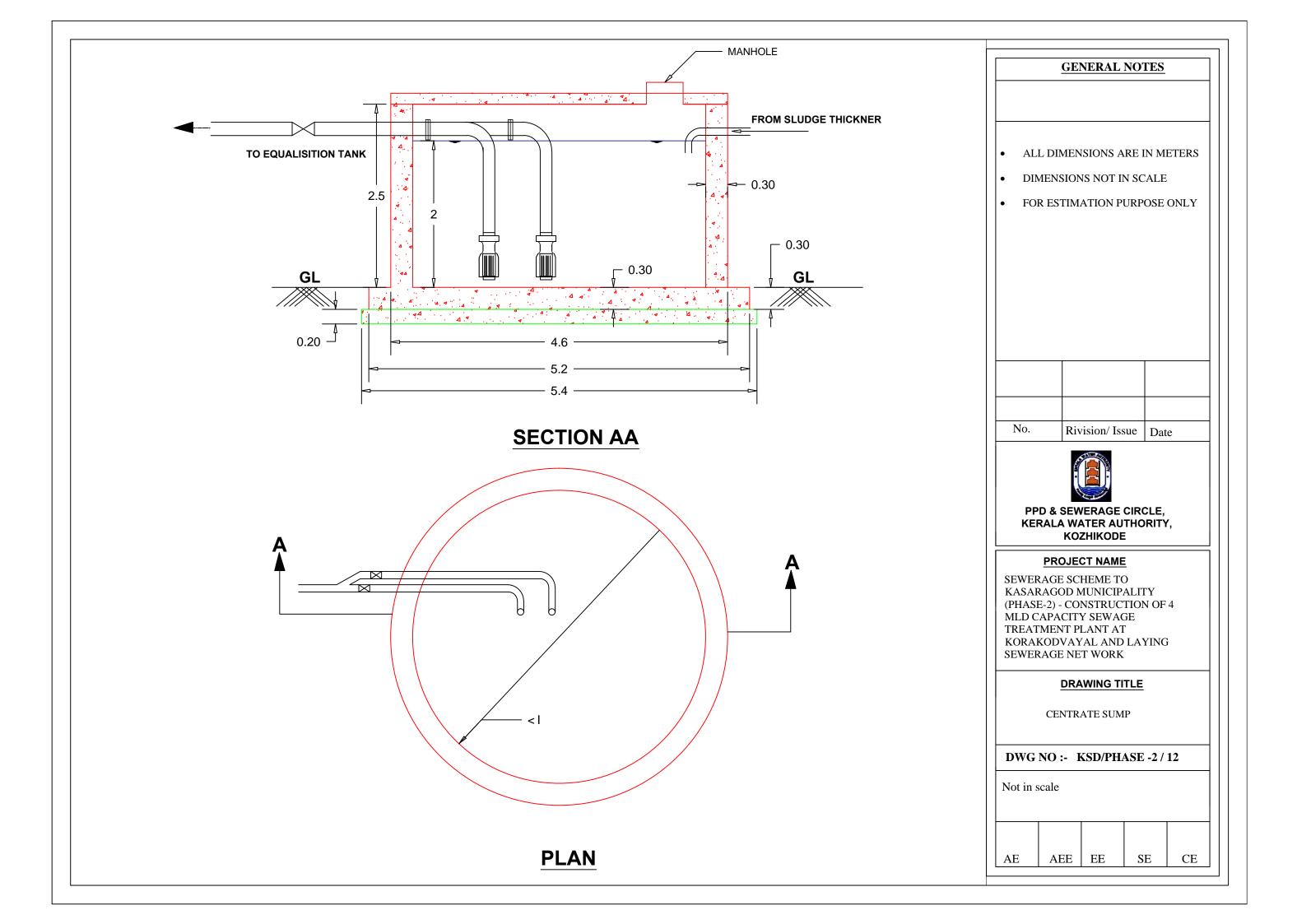
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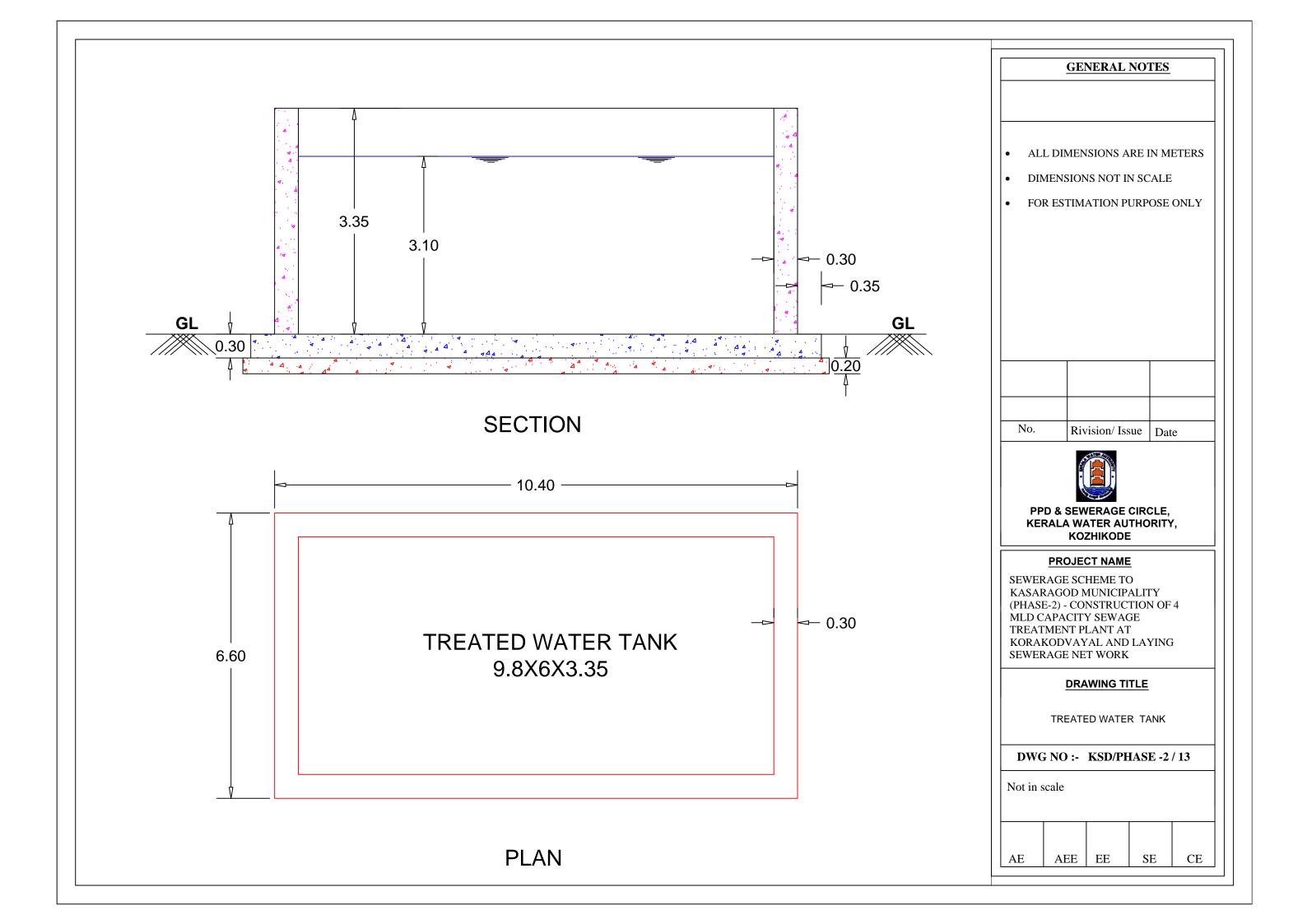
SLUDGE THICKNER

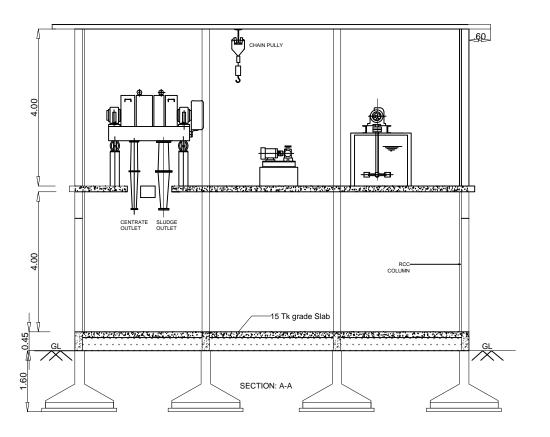
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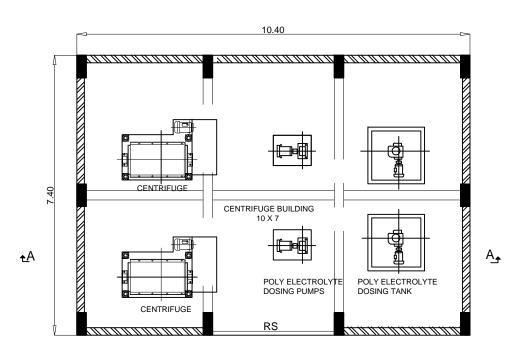
AE	AEE	EE	SE	CE





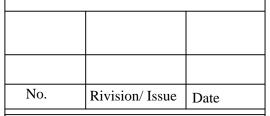






PLAN OF CENTRIFUGE BUILDING

- ALL DIMENSIONS ARE IN METERS
- DIMENSIONS NOT IN SCALE
- FOR ESTIMATION PURPOSE ONLY





PPD & SEWERAGE CIRCLE, KERALA WATER AUTHORITY, KOZHIKODE

PROJECT NAME

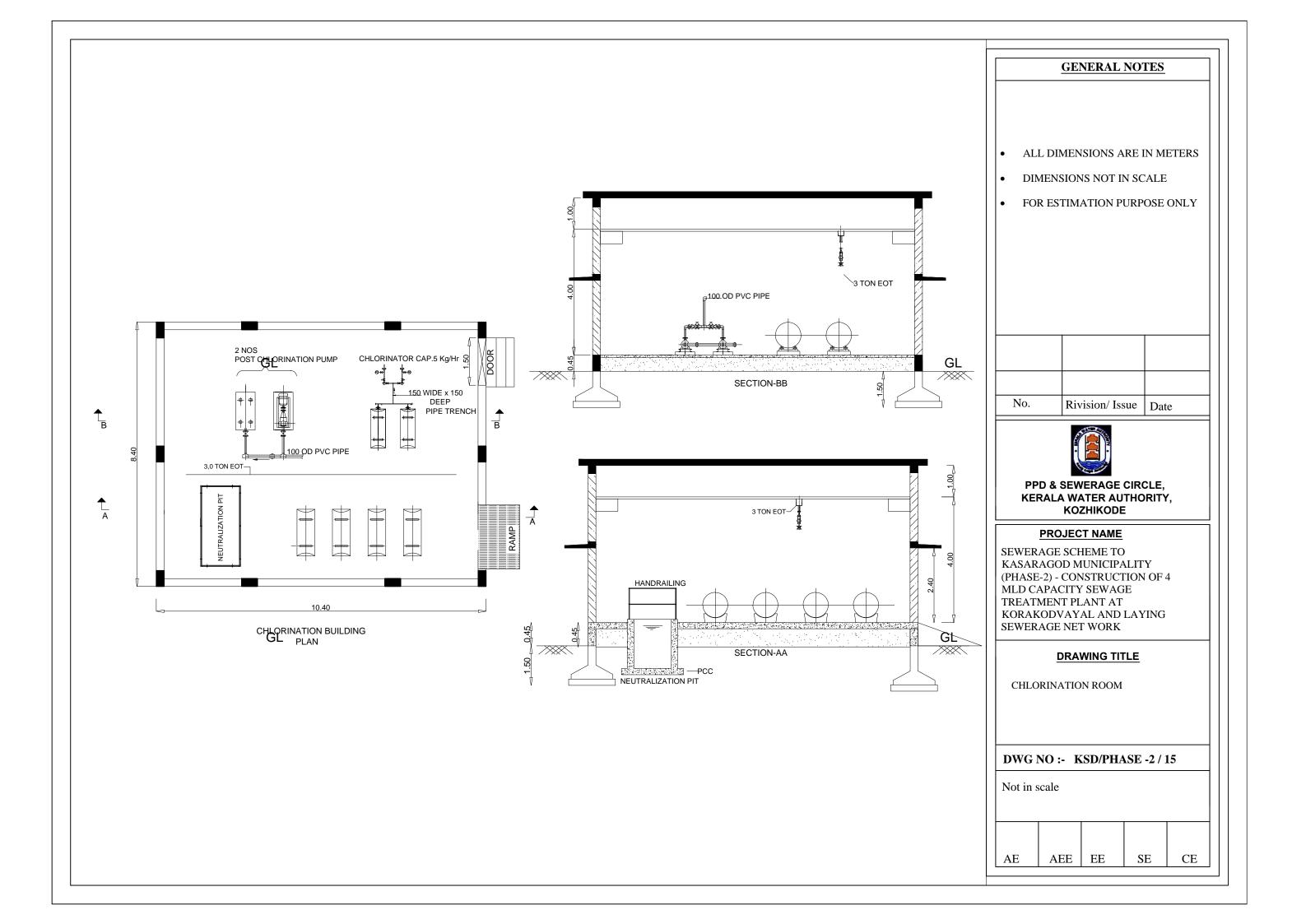
SEWERAGE SCHEME TO
KASARAGOD MUNICIPALITY
(PHASE-2) - CONSTRUCTION OF 4
MLD CAPACITY SEWAGE
TREATMENT PLANT AT
KORAKODVAYAL AND LAYING
SEWERAGE NET WORK

DRAWING TITLE

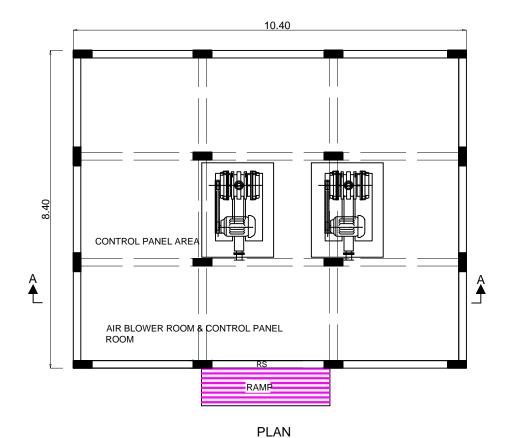
CENTRIFUGE BUILDING

DWG NO :- KSD/PHASE -2 / 14

AE	AEE	EE	SE	CE

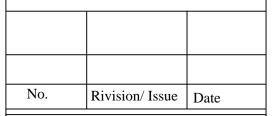


ISMB FOR CHAIN PULLY BLOCK AIR BLOWER ROOM & RECYLE PUMB HOUSE AIR FILTER SUCTION SILENCER SILENCER SILENCER SECTION A-A



GENERAL NOTES

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PPD & SEWERAGE CIRCLE, KERALA WATER AUTHORITY, KOZHIKODE

PROJECT NAME

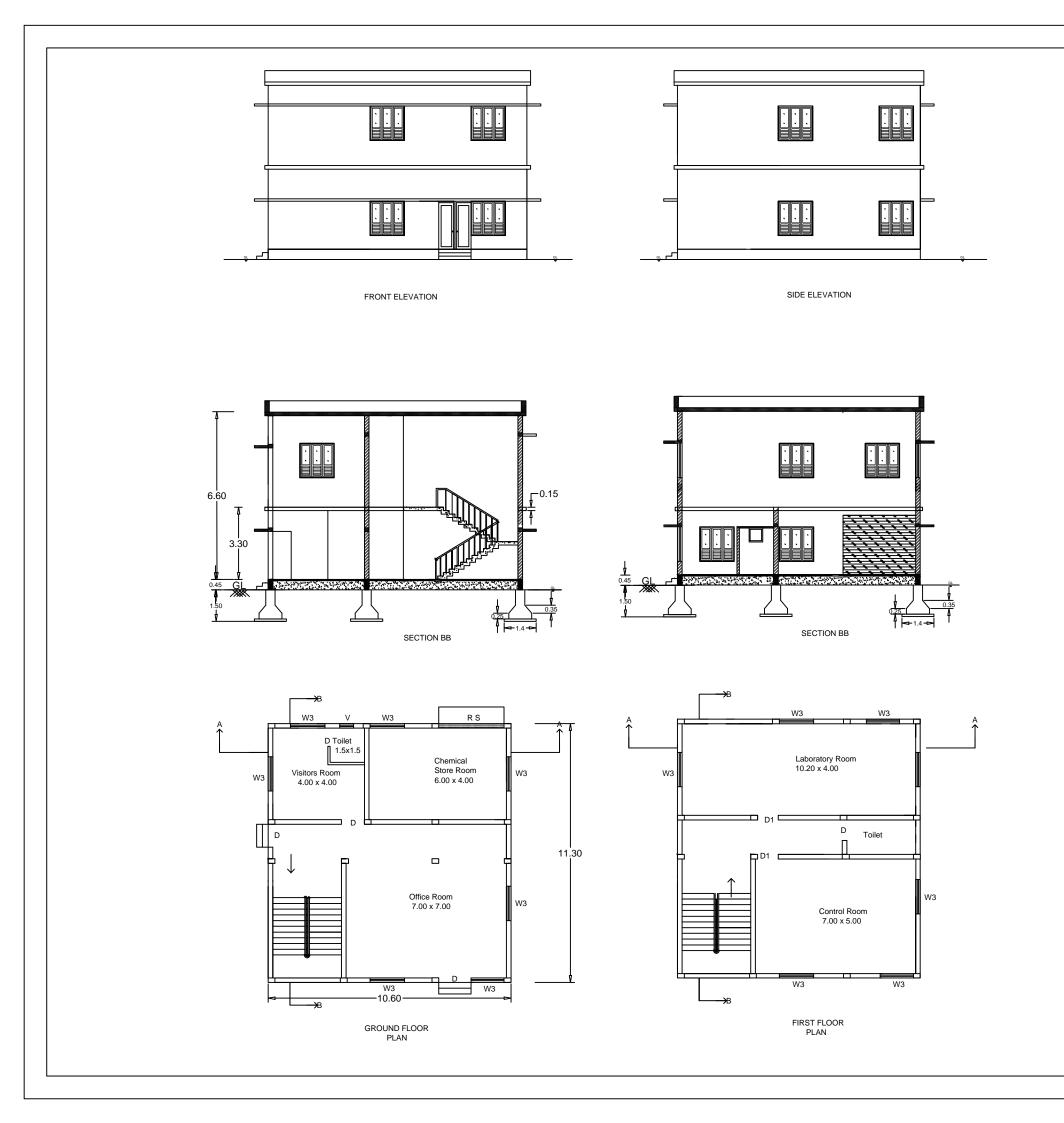
SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY (PHASE-2) - CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK

DRAWING TITLE

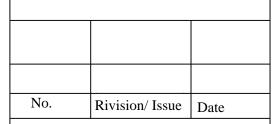
AIR BLOWER ROOM AND CONTROL PANEL ROOM

DWG NO :- KSD/PHASE -2 / 16

AE	AEE	EE	SE	CE



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PPD & SEWERAGE CIRCLE, KERALA WATER AUTHORITY, KOZHIKODE

PROJECT NAME

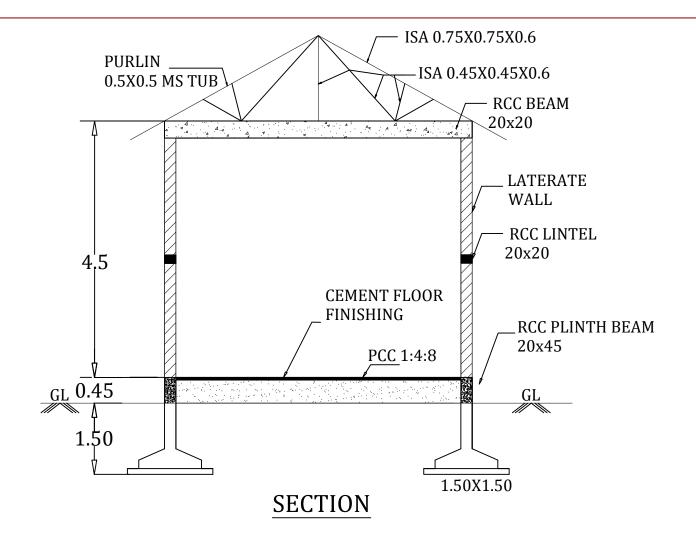
SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY (PHASE-2) - CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK

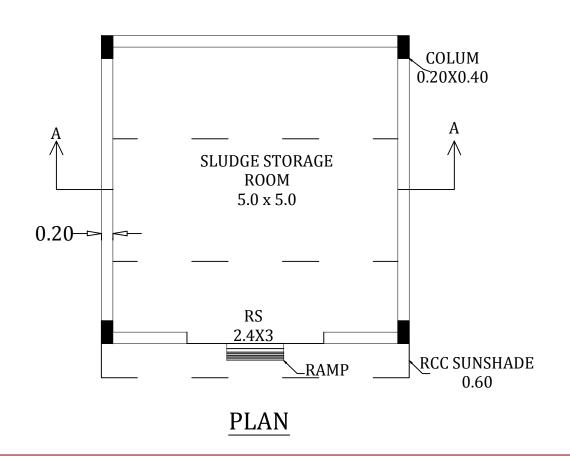
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ADMINISTRATIVE BUILDING MCC AND LAB

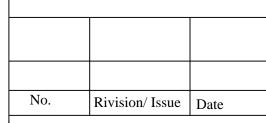
DWG NO :- KSD/PHASE -2 / 17

AE	AEE	EE	SE	CE





- ALL DIMENSIONS ARE IN METERS
- DIMENSIONS NOT IN SCALE
- FOR ESTIMATION PURPOSE ONLY





PPD & SEWERAGE CIRCLE, KERALA WATER AUTHORITY, KOZHIKODE

PROJECT NAME

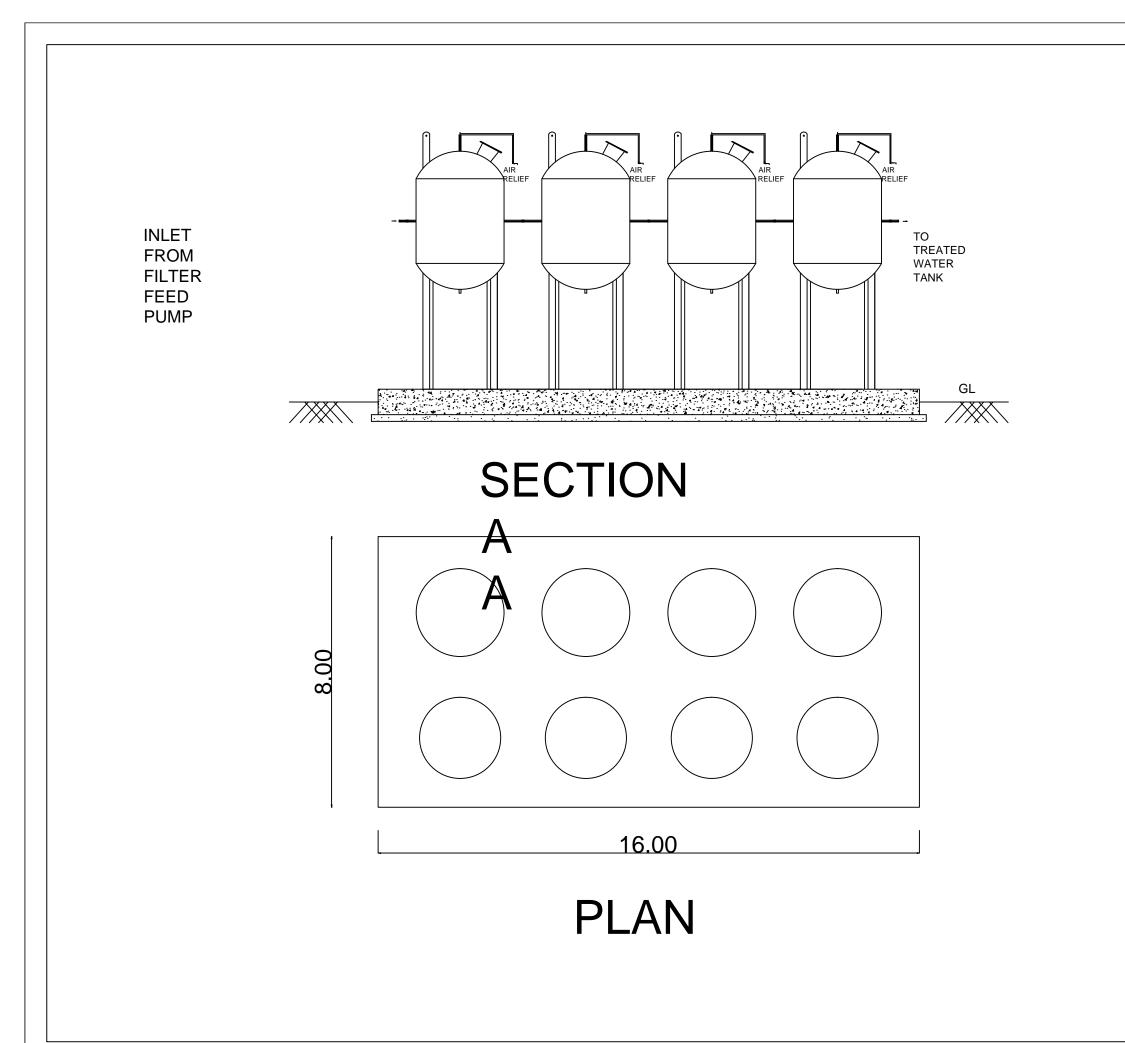
SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY (PHASE-2) - CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK

DRAWING TITLE

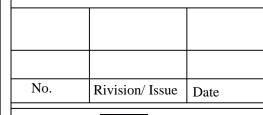
SLUDGE STORAGE ROOM

DWG NO :- KSD/PHASE -2 / 18

AE	AEE	EE	SE	CE



ALL DIMENSIONS ARE IN METERS
DIMENSIONS NOT IN SCALE
FOR ESTIMATION PURPOSE ONLY





PPD & SEWERAGE CIRCLE KERALA WATER AUTHORITY KOZHIKODE

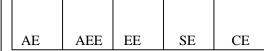
PROJECT NAME

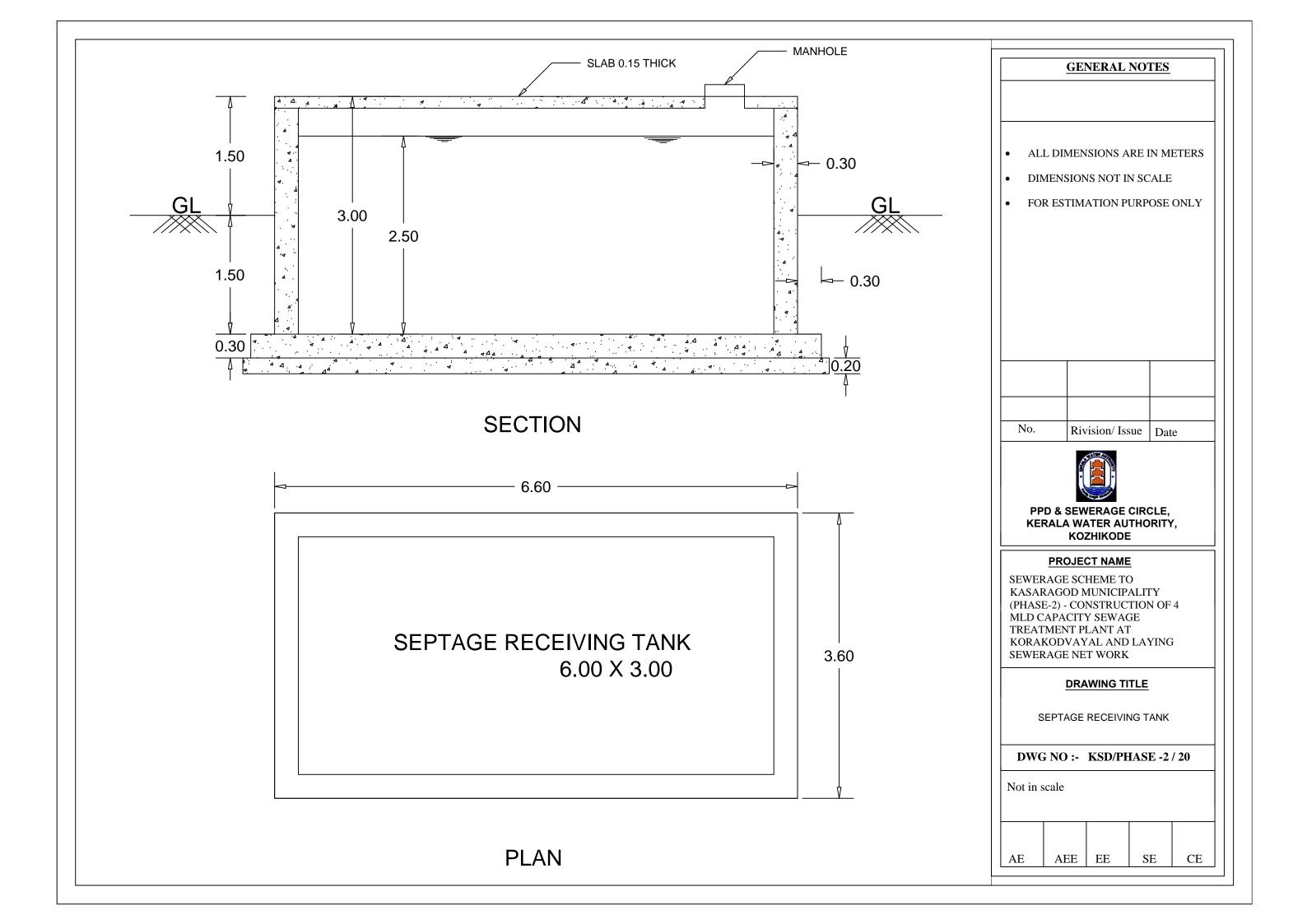
SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY (PHASE-2) -CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK

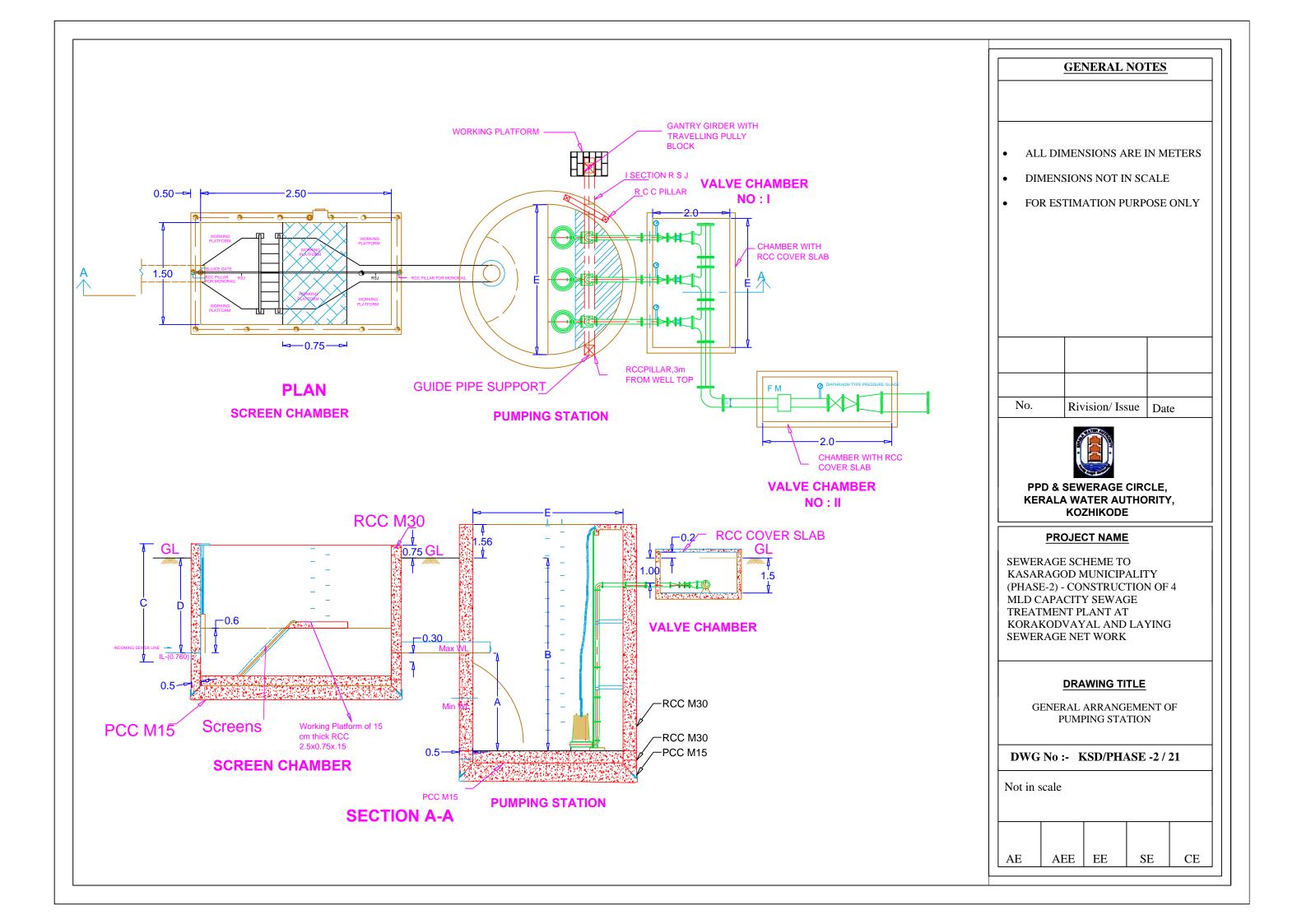
DRAWING TITLE

PSFACF UNIT

DWG NO :- KSD/PHASE -2 / 19

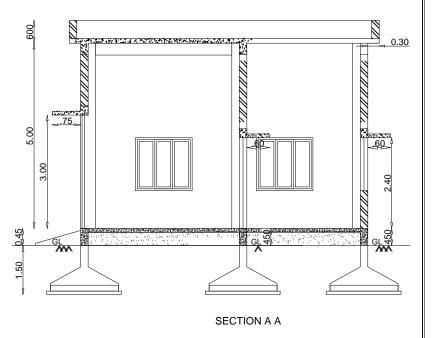






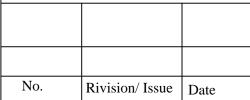
CONTROL ROOM 13.20 X 4.00 W TRANSFORMER ROOM 6.50 X 5.50 RS Ramp Ramp Ramp

PLAN OF GENERATOR WITH DG ROOM



GENERAL NOTES

- ALL DIMENSIONS ARE IN METERS
- DIMENSIONS NOT IN SCALE
- FOR ESTIMATION PURPOSE ONLY





PPD & SEWERAGE CIRCLE, KERALA WATER AUTHORITY, KOZHIKODE

PROJECT NAME

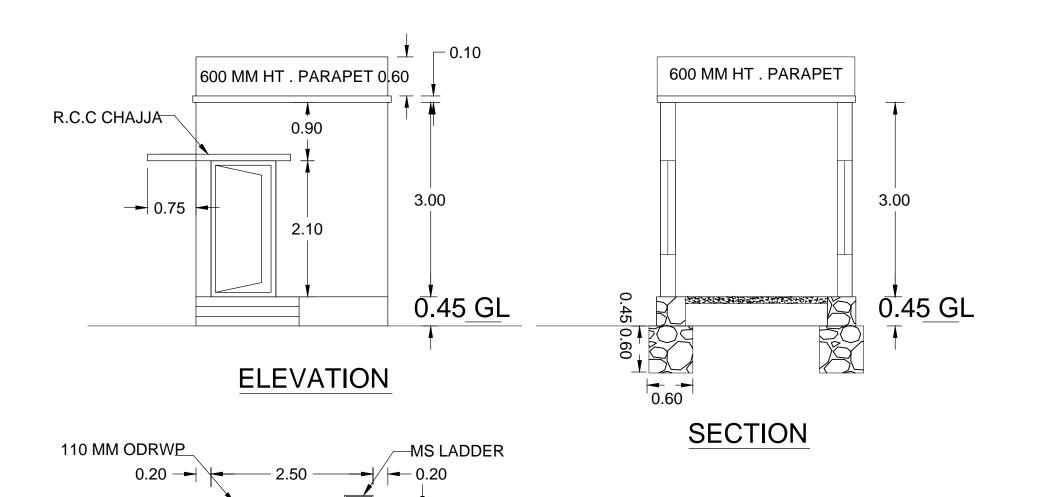
SEWERAGE SCHEME TO
KASARAGOD MUNICIPALITY
(PHASE-2) - CONSTRUCTION OF 4
MLD CAPACITY SEWAGE
TREATMENT PLANT AT
KORAKODVAYAL AND LAYING
SEWERAGE NET WORK

DRAWING TITLE

GENERATOR WITH CONTROL ROOM

DWG No :- KSD/PHASE -2 / 22

AE	AEE	EE	SE	CE



0.75

0.90 (D1)

UP

-1.36 -

1.66 W 1.20

0.75

SECURITY ROOM

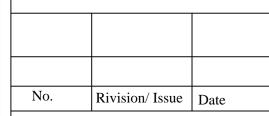
2.50 * 2.50

PLAN

W)2.50

GENERAL NOTES

- ALL DIMENSIONS ARE IN METERS
- DIMENSIONS NOT IN SCALE
- FOR ESTIMATION PURPOSE ONLY





PPD & SEWERAGE CIRCLE, KERALA WATER AUTHORITY, KOZHIKODE

PROJECT NAME

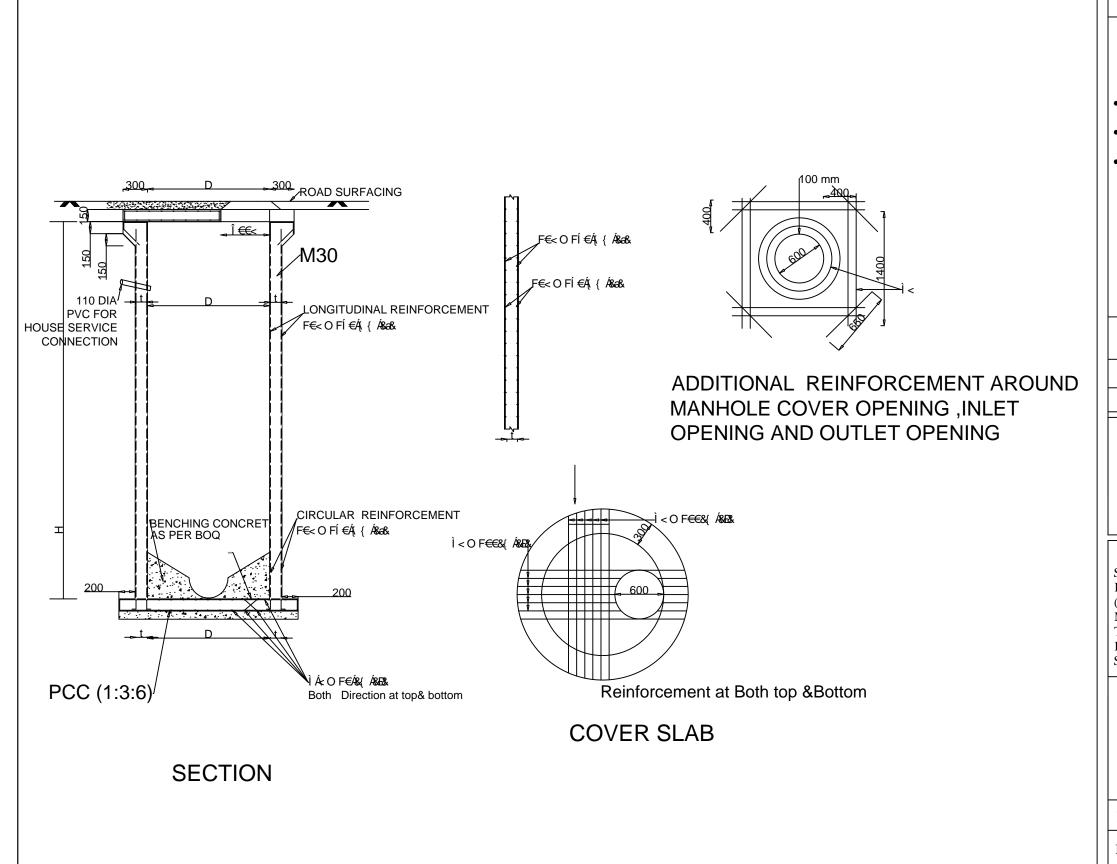
SEWERAGE SCHEME TO
KASARAGOD MUNICIPALITY
(PHASE-2) - CONSTRUCTION OF 4
MLD CAPACITY SEWAGE
TREATMENT PLANT AT
KORAKODVAYAL AND LAYING
SEWERAGE NET WORK

DRAWING TITLE

SECURITY ROOM

DWG NO :- KSD/PHASE -2 / 23

AE	AEE	EE	SE	CE



- ALL DIMENSIONS ARE IN METERS
- DIMENSIONS NOT IN SCALE
- FOR ESTIMATION PURPOSE ONLY

DEPTH,H,(m)	DIA,D(m)	[THICKNESS T(mm)]
<1.5	1.2	150
1.5 to 2.5	1.2	150
2.5 to 6.0	1.5	200
6.0 to 7.5	1.8	250
	-	

No.	Rivision/ Issue	Date



PPD & SEWERAGE CIRCLE, KERALA WATER AUTHORITY, KOZHIKODE

PROJECT NAME

SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY (PHASE-2) - CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK

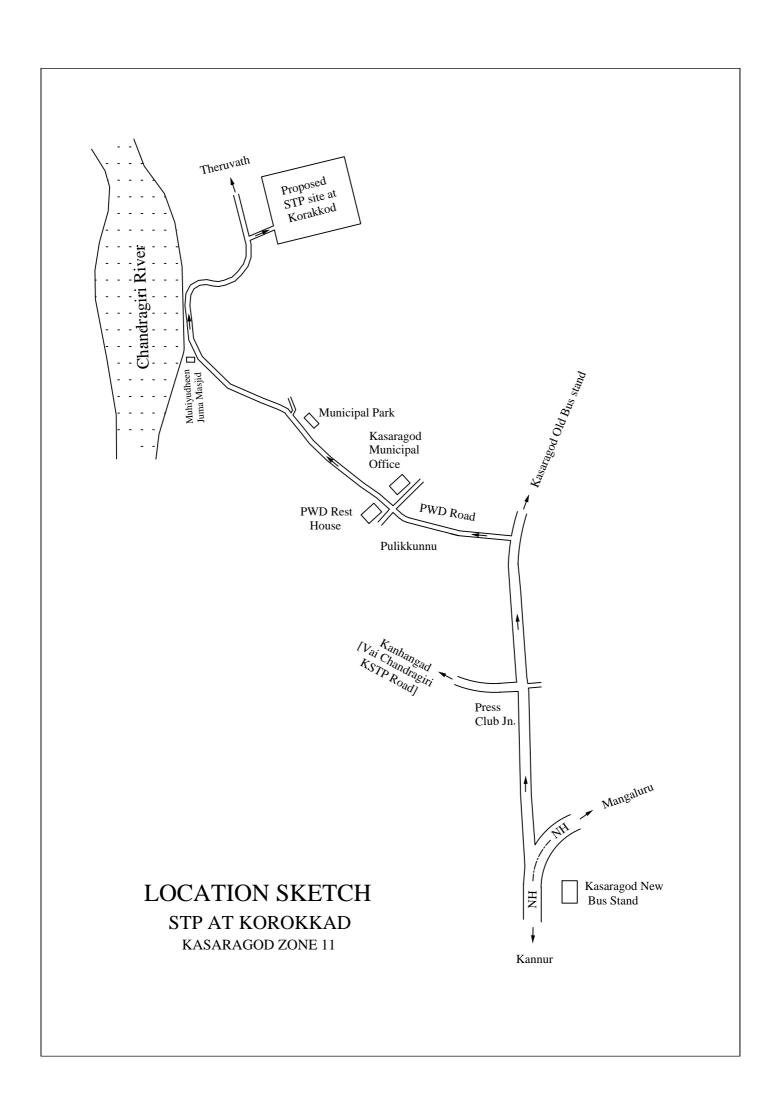
DRAWING TITLE

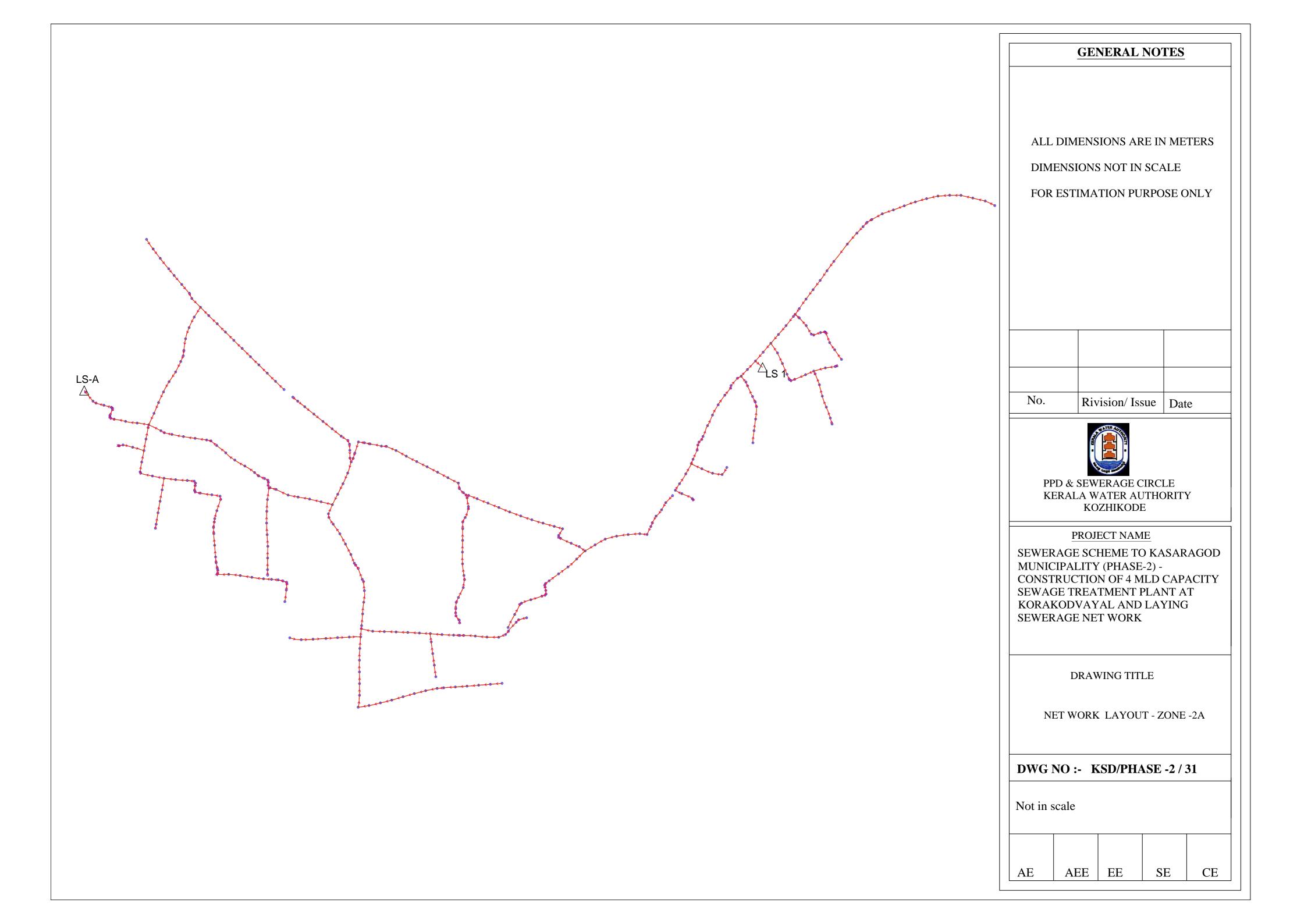
TYPICAL MANHOLE DETAILS

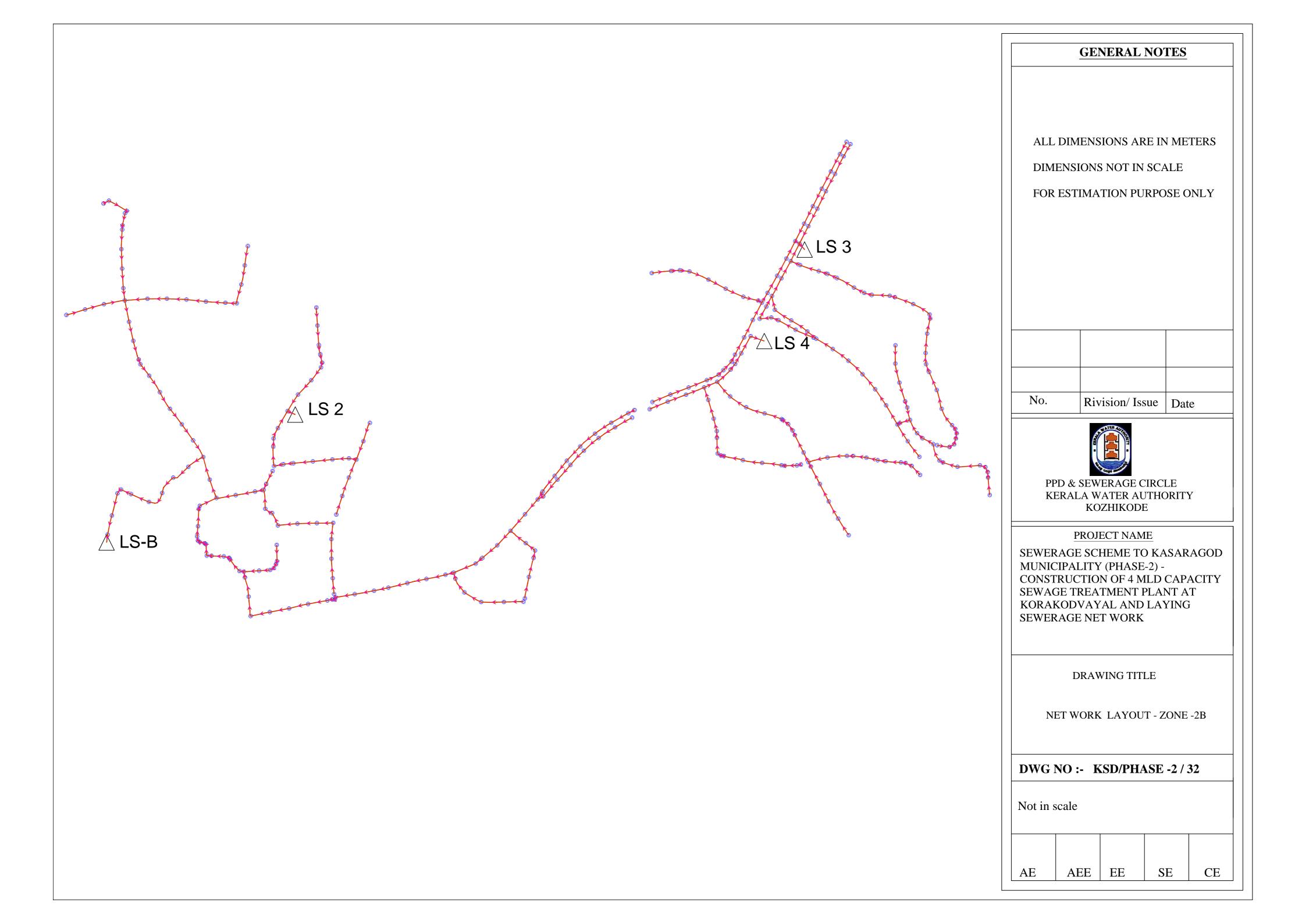
DWG No :- KSD/PHASE -2 / 24

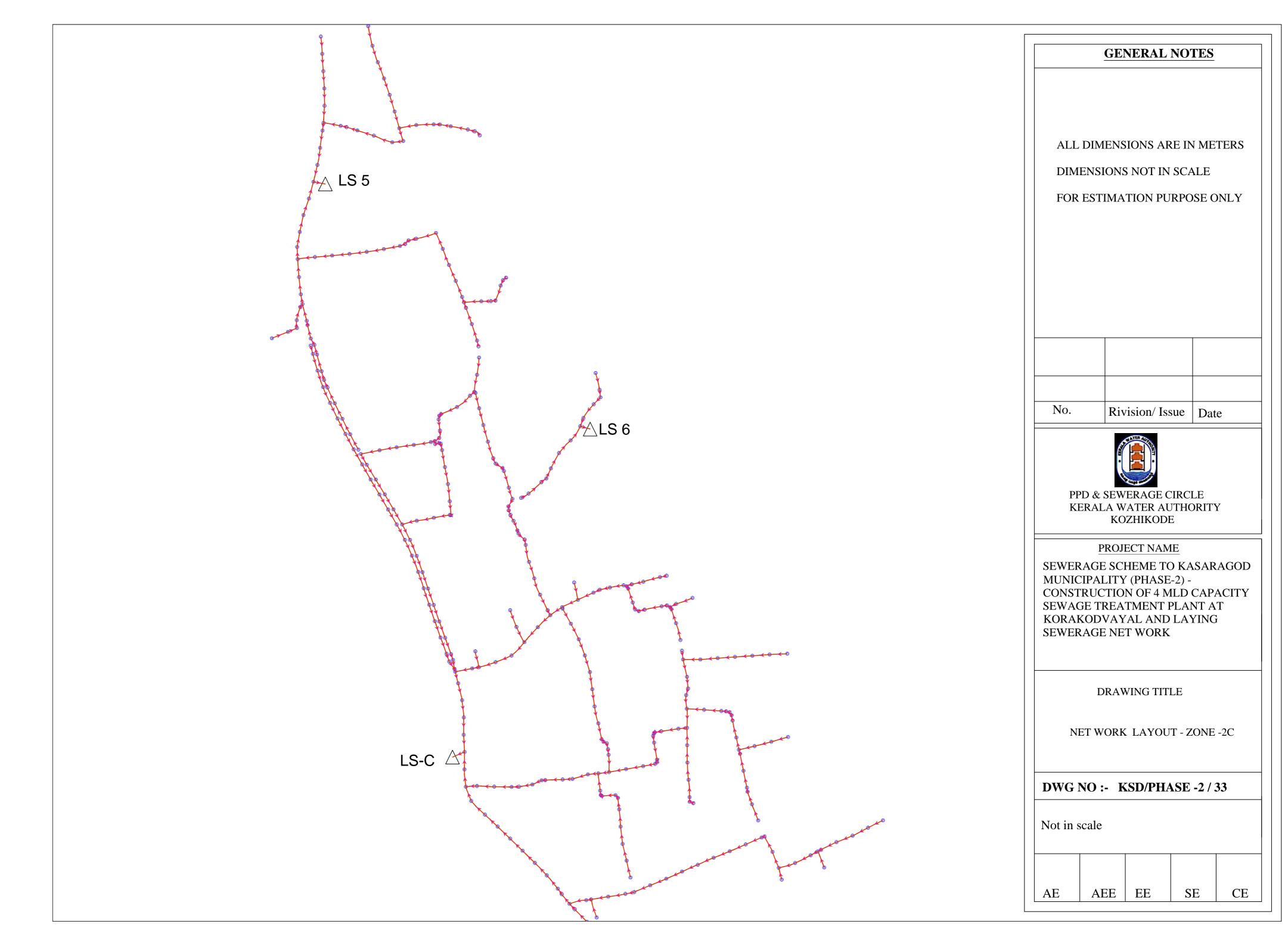
Not in scale

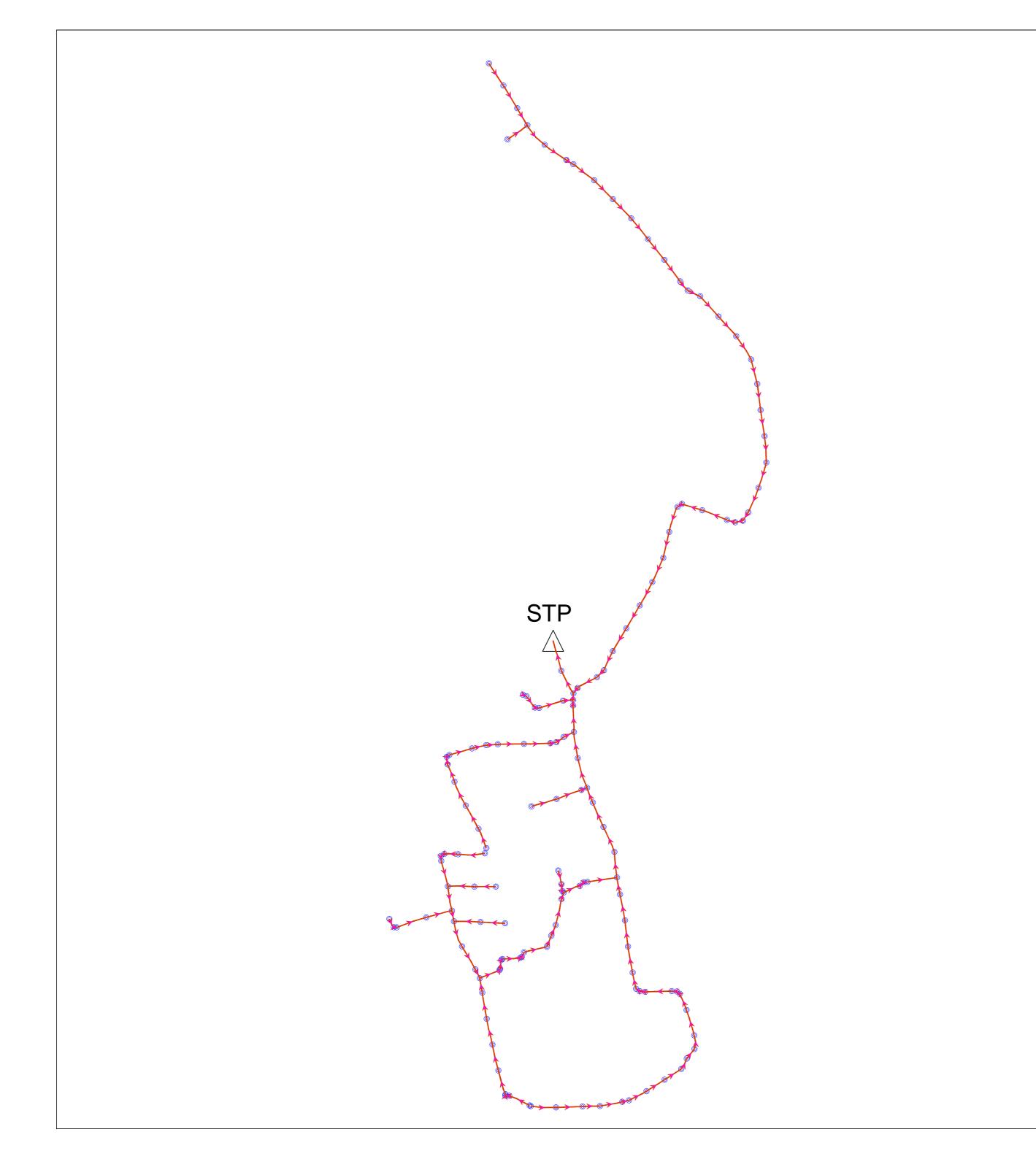
AE AEE EE SE CE



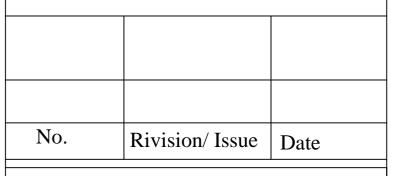








ALL DIMENSIONS ARE IN METERS
DIMENSIONS NOT IN SCALE
FOR ESTIMATION PURPOSE ONLY





PPD & SEWERAGE CIRCLE KERALA WATER AUTHORITY KOZHIKODE

PROJECT NAME

SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY (PHASE-2) -CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK

DRAWING TITLE

NET WORK LAYOUT - ZONE -2D

DWG NO :- KSD/PHASE -2 / 34

AE	AEE	EE	SE	CE

		DES	SIGN OF WE	APPENI		ING STAT	TONS		
Sl no.	Name of wetwell/Ls	Peak flowLPS	Detention Period in min.	Storage capacity m ³	SWD (m)	Area m ²	Size	Depth up to invert of pipe (m)	Total Depth (m)
1	LS1	7.007	10.00	4.20	1.40	3.00	1.95 say 2 m dia	4.164	5.56
2	LS-A	29.106 29.106	10.00	17.46	2.70	6.47	2.87 say 3 m dia	1.761	4.46
3	LS2	1.848	10.00	1.11	1.50	0.74	0.97 say 2 m dia	1.266	2.77
4	LS3	7.700	10.00	4.62	1.60	2.89	1.92 say 2 m dia	1.339	2.94
5	LS4	11.319	10.00	6.79	2.20	3.09	1.98 say 2 m dia	1.266	3.47
6	LS-B	40.733	10.00	24.44	3.70	6.61	2.90 say 3 m dia	1.299	5.00
7	LS5	6.160	10.00	3.70	1.50	2.46	1.77 say 2 m dia	1.273	2.77
8	LS6	1.001	10.00	0.60	0.75	0.80	1.01 say 2 m dia	1.251	2.00
9	LS-C	26.411	10.00	15.85	2.50	6.34	2.84 say 3 m dia	1.322	3.82
10	Well at STP	89.320 89.320	10.00	53.59	3.50	15.31	4.42 say 5 m dia	1.471	4.97

APPENDIX IV: DESIGN OF PUMPSETS

Design of Pumpsets & Pumping mains

Sl no.	Name of	f station	length	Q Peak		Area	Velocity	Pipe dia (Pumping main)	Provided Dia.(mm)	Provided Dia.(m)	Actual velocity	Hf For 1000m (4flv ² /2gd)	Total Hf	Static head(m)	Residual head(m)	Total Head (m)	Pump BHP
	From	То															
1	LS1	351	445	7.0070	Ltrs/sec												
	MH	MH		0.0070	m3/sec	0.0056	1.25	0.0845	100	0.100	0.8926	8.12	3.614	13.98	2.00	19.59	2.62
				0.4204	m3/mint												
																	3 HP
2	LS-A	101	810	29.1060	Ltrs/sec												
	MH	MH		0.0291	m3/sec	0.0233	1.25	0.1722	200	0.200	0.9269	4.38	3.547	20.97	2.00	26.52	14.70
				1.7464	m3/mint												
																	15 HP
3	LS2	659	110	1.8480	Ltrs/sec												
	MH	MH		0.0018	m3/sec	0.0015	1.25	0.0434	100	0.100	0.2354	0.56	0.062	5.27	2.00	7.33	0.26
				0.1109	m3/mint												
																	0.5 HP
4	LS3	125	172	7.7000	Ltrs/sec					0.400			4.60=		• • •		
	MH	MH		0.0077	m3/sec	0.0062	1.25	0.0886	100	0.100	0.9809	9.81	1.687	4.26	2.00	7.95	1.17
				0.4620	m3/mint												
5	LS4	30	440	11.3190	Ltrs/sec												2 HP
3	MH	MH	440	0.0113	m3/sec	0.0091	1.25	0.1074	150	0.150	0.6408	2.79	1.228	20.09	2.00	23.32	5.03
	MH	MH		0.6791	m3/sec m3/mint	0.0091	1.23	0.1074	130	0.130	0.0408	2.79	1.226	20.09	2.00	23.32	3.03
				0.6/91	m3/mint												6 HP
6	LS-B	30	1700	40.7330	Ltrs/sec												VIII
	MH	MH	1700	0.0407	m3/sec	0.0326	1.25	0.2037	250	0.250	0.8302	2.81	4.778	40.34	2.00	47.12	36.56
	IVIII	IVIII		2.4440	m3/mint	0.0320	1.23	0.2037	250	0.230	0.0302	2.01	4.776	10.54	2.00	77.12	30.30
				2.7770	III3/IIIIIt												37 HP
7	LS5	369	315	6.1600	Ltrs/sec												37 111
	MH	MH	010	0.0062	m3/sec	0.0049	1.25	0.0792	100	0.100	0.7847	6.28	1.977	8.65	2.00	12.63	1.48
	11111	1,111		0.3696	m3/mint												
																	2 HP
8	LS6	146	195	1.0010	Ltrs/sec												
	MH	MH		0.0010	m3/sec	0.0008	1.25	0.0319	100	0.100	0.1275	0.17	0.032	7.49	2.00	9.52	0.18
				0.0601	m3/mint												
																	0.5 HP

Sl no.	Name o	f station	length	Q Peak		Area	Velocity	Pipe dia (Pumping main)	Provided Dia.(mm)		Actual velocity	Hf For 1000m (4flv ² /2gd)	Total Hf		Residual head(m)	Total Head (m)	Pump BHP
9	LS-C	90	850	26.4110	Ltrs/sec												
	MH	MH		0.0264	m3/sec	0.0211	1.25	0.1641	200	0.200	0.8411	3.61	3.065	17.77	2.00	22.83	11.49
				1.5847	m3/mint												
																	12 HP
10	CW in STP	Receiving chamber	30	89.3200	Ltrs/sec	0.0715	1.25	0.3017	300	0.200	1.2643	5.43	0.162	15.00	2.00	17.16	29.20
				0.0893	m3/sec	0.0713	1.23	0.3017	300	0.300	1.2043	3.43	0.163	15.00	2.00	17.10	29.20
				5.3592	m3/mint												
																	30 HP
11	co treatment well	Receiving chamber	30	5.9000	Ltrs/sec	0.0047	1.25	0.0775	100	0.100	0.7516	5.76	0.173	10.00	2.00	12.17	1.37
				0.0059	m3/sec												
				0.3540	m3/mint												
																	1.5 HP

APPENDIX : V - FLEX TABLE - CONDUITS SEWERAGE NETWORK DESIGN TO KASARAGOD MUNICIPALITY ZONE -2- CONDUIT TABLE

	SEWER	AGE NET	WORK DE	SIGN TO	KASARAC	OD MUN	ICIPALITY	ZONE -2	- CONDUI	T TABLE	
			T .		T .	Length	Slope		Elevation	Elevation	D: .
ID	Label	Start Node	Invert	Stop Node	Invert	(Scaled)	(Calculate	Material	Ground	Ground	Diameter
			(Start) (m)	1	(Stop) (m)	(m)	d) (%)			(Stop) (m)	(mm)
410	p20	n21	25.44	n22	24.61	30	2.768	HDPE	26.63	25.8	225
411	p21	n22	24.61	n23	23.58	30	3.436	HDPE	25.8	24.77	225
412	p22	n23	23.58	n24	22.45	30	3.769	HDPE	24.77	23.64	225
413	p23	n24	22.45	n25	21.23	30	4.069	HDPE	23.64	22.42	225
414	p24	n25	21.23	n26	19.97	30	4.204	HDPE	22.42	21.16	225
415	p25	n27	19.43	n26	19.97	16.7	3.228	HDPE	20.62	21.16	225
416											225
	p27	n28	19.66	n29	19.47	30	0.633	HDPE	20.85	20.66	
417	p28	n29	19.47	n30	18.63	30	2.801	HDPE	20.66	19.82	225
418	p29	n30	18.63	n31	17.52	30	3.702	HDPE	19.82	18.71	225
419	p30	n32	16.63	n31	17.52	21.5	4.134	HDPE	17.82	18.71	225
420	p31	n27	19.43	n33	18.74	30	2.301	HDPE	20.62	19.93	225
421	p32	n34	18.18	n35	17.61	30	1.901	HDPE	19.37	18.8	225
422	p33	n35	17.61	n36	17.02	30	1.967	HDPE	18.8	18.21	225
423	p34	n36	17.02	n37	16.31	30	2.367	HDPE	18.21	17.5	225
424	p35	n37	16.31	n38	15.59	30	2.401	HDPE	17.5	16.78	225
425	p36	n38	15.59	n39	14.78	28.3	2.864	HDPE	16.78	15.97	225
426	p37	n39	14.78	n41	14.45	30.8	1.072	HDPE	15.97	15.64	225
427	p38	n41	14.45	n42	14.32	30	0.433	HDPE	15.64	15.51	225
428	p39										
	_	n42	14.32	n43	14.1	30	0.733	HDPE	15.51	15.29	225
429	p40	n43	14.1	n44	13.66	30	1.467	HDPE	15.29	14.85	225
430	p41	n44	13.66	n45	13.12	30	1.8	HDPE	14.85	14.31	225
431	p42	n46	12.55	n47	13.06	29.1	1.754	HDPE	13.74	14.25	225
432	p43	n47	13.06	n48	14.09	30	3.436	HDPE	14.25	15.28	225
433	p44	n48	14.09	n49	14.95	30	2.868	HDPE	15.28	16.14	225
434	p45	n49	14.95	n51	15.9	33.2	2.865	HDPE	16.14	17.09	225
435	p46	n51	15.9	n52	16.69	30	2.634	HDPE	17.09	17.88	225
436	p47	n52	16.69	n53	17.27	30	1.934	HDPE	17.88	18.46	225
437	p228	n284	14.26	n285	14.158	30	0.34	HDPE	15.45	15.83	225
438	p229	n285	14.158	n286	14.056	30	0.34	HDPE	15.83	15.68	225
439	p230	n286	14.056	n288	13.939	34.5	0.34	HDPE	15.68	15.26	225
440	p297	n288	13.939	n369	13.82	22	0.54	HDPE	15.26	15.01	225
441	p298	n369	13.82	n370	13.01	30	2.701	HDPE	15.01	14.2	225
442	p299	n370	13.01	n371	12.13	30	2.934	HDPE	14.2	13.32	225
443	p307	n372	11.72	n382	10.56	31.8	3.869	HDPE	12.91	11.75	225
444	p308	n382	8.866	n384	8.22	29.8	2.171	HDPE	11.75	9.41	225
445	p309	n384	8.22	n385	7.14	30	3.602	HDPE	9.41	8.33	225
446	p310	n385	7.14	n386	6.29	30	2.834	HDPE	8.33	7.48	225
447	p311	n386	6.29	n387	5.51	30	2.601	HDPE	7.48	6.7	225
448	p312	n388	3.828	n389	2.33	29.9	5	HDPE	5.2	3.52	225
449	p313	n389	2.33	n390	2.04	30	0.967	HDPE	3.52	3.23	225
450	p314	n390	2.04	n391	1.938	30	0.34	HDPE	3.23	3.26	225
451	p315	n391	1.938	n392	1.836	30	0.34	HDPE	3.26	3.52	225
452	p316	n392	1.836	n393	1.734	30	0.34	HDPE	3.52	3.35	225
453	p310 p317	n393	1.734	n1602	1.625	32.3	0.34	HDPE	3.35	3.29	225
454	p333	n382	8.866	n415	8.968	30	0.34	HDPE	11.75	11.16	225
455	p334	n415	8.968	n416	9.07	30	0.34	HDPE	11.16	10.66	225
456	p335	n416	9.07	n417	9.172	30	0.34	HDPE	10.66	10.45	225
457	p336	n417	9.172	n418	9.274	30	0.34	HDPE	10.45	10.56	225
458	p337	n418	9.274	n419	9.376	30	0.34	HDPE	10.56	10.62	225
459	p338	n419	9.376	n420	9.478	30	0.34	HDPE	10.62	10.68	225
460	p340	n420	9.478	n422	9.58	30	0.34	HDPE	10.68	10.77	225
461	p343	n422	9.58	n425	9.9	30	1.067	HDPE	10.77	11.09	225
462	p344	n425	9.9	n426	10.118	30	0.727	HDPE	11.09	11.37	225
463	p346	n426	10.118	n429	10.22	30	0.34	HDPE	11.37	11.41	225
464	p350	n430	10.15	n433	10.095	16.2	0.34	HDPE	11.34	11.35	225
465	p350	n433	10.095	n434	10.017	22.9	0.34	HDPE	11.35	11.47	225
466	p353	n434	10.017	n436	9.915	30	0.34	HDPE	11.47	11.42	225
467	p362	n448	9.711	n449	9.609	30	0.34	HDPE	10.91	10.81	225
468	p370	n458	8.613	n459	8.715	30	0.34	HDPE	10.32	10.29	225
469	p436	n547	8.85	n548	8.952	30	0.34	HDPE	10.59	10.85	225
470	p437	n548	8.952	n549	9.054	30	0.34	HDPE	10.85	11.55	225
471	p438	n550	9.156	n551	9.258	30	0.34	HDPE	12.39	13.18	225
7/1	P=20	11330	7.130	11.0.01	7.236	30	0.54	TIDLE	14.37	13.10	443

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled) (m)	Slope (Calculate d) (%)	Material	Elevation Ground	Elevation Ground (Stop) (m)	Diameter (mm)
472	p439	n551	9.258	n552	9.36	30	0.34	HDPE	13.18	13.93	225
473	p440	n552	9.36	n553	9.462	30	0.34	HDPE	13.93	14.09	225
474	p450	n563	9.512	n564	9.562	14.8	0.34	HDPE	13.63	13.29	225
475	p451	n564	9.562	n565	9.592	8.9	0.34	HDPE	13.29	13.04	225
476	p452	n566	11.52	n567	11.6	23.5	0.34	HDPE	12.8	12.79	225
477	p453	n567	11.6	n568	11.93	30	1.1	HDPE	12.79	13.12	225
478	p454	n568	11.93	n569	12.238	30	1.027	HDPE	13.12	13.49	225
479	p455	n569	12.238	n570	12.34	30	0.34	HDPE	13.49	13.53	225
480	p456	n570	12.34	n571	12.86	30	1.733	HDPE	13.53	14.05	225
481	p457	n571	12.86	n572	13.43	30	1.901	HDPE	14.05	14.62	225
482	p458	n572	13.43	n573	14.18	30	2.501	HDPE	14.62	15.37	225
483	p459	n574	15.081	n575	15.157	22.2	0.34	HDPE	16.32	16.94	225
484 485	p511 p512	n649 n650	21.99 22.85	n650 n651	22.85	23.3	3.686 2.801	HDPE HDPE	23.18	24.04 24.88	225 225
486	p512	n651	23.69	n652	24.51	30	2.734	HDPE	24.88	25.7	225
487	p513	n652	24.51	n653	25.14	30	2.734	HDPE	25.7	26.33	225
488	p514	n653	25.14	n654	25.96	30	2.734	HDPE	26.33	27.15	225
489	p515	n655	17.861	n656	17.782	23.4	0.34	HDPE	21.88	21.77	225
490	p518	n656	17.782	n659	17.68	30	0.34	HDPE	21.77	21.76	225
491	p520	n659	20.57	n661	20.79	30	0.733	HDPE	21.76	21.98	225
492	p521	n661	20.79	n662	21.05	30	0.867	HDPE	21.98	22.24	225
493	p523	n662	21.05	n665	21.56	30	1.7	HDPE	22.24	22.75	225
494	p525	n665	21.56	n667	22.23	30	2.234	HDPE	22.75	23.42	225
495	p572	n755	29.05	n731	28.47	21.7	2.677	HDPE	30.24	29.66	225
496	p580	n741	28.41	n742	29.907	29.9	5	HDPE	29.6	31.29	225
497	p581	n742	30.1	n743	31.593	29.8	5	HDPE	31.29	34.19	225
498	p582	n743	33	n744	34.231	24.6	5	HDPE	34.19	37.71	225
499	p583	n744	36.52	n746	37.631	22.2	5	HDPE	37.71	40.11	225
500	p584	n741	28.41	n747	29.15	30	2.467	HDPE	29.6	30.34	225
501	p585	n747	29.15	n748	30.08	30	3.101	HDPE	30.34	31.27	225
502	p586	n748	30.08	n749	30.57 30.64	19.6	2.495	HDPE	31.27	31.76	225
503 504	p587 p588	n749 n750	30.57	n750 n751	30.64	18.6	0.376	HDPE HDPE	31.76	31.83 32.19	225 225
505	p590	n754	29.67	n755	29.05	21.2	2.923	HDPE	30.86	30.24	225
506	p590 p591	n756	27.365	n757	26.83	10.7	5	HDPE	28.74	28.02	225
507	p592	n758	23.568	n759	22.07	30	5	HDPE	24.88	23.26	225
508	p593	n759	22.07	n760	21.04	30	3.436	HDPE	23.26	22.23	225
509	p594	n760	21.04	n761	19.948	30	3.642	HDPE	22.23	21.17	225
510	p595	n761	19.948	n762	18.45	30	5	HDPE	21.17	19.64	225
511	p596	n762	18.308	n763	16.81	29.9	5	HDPE	19.64	18	225
512	p597	n764	15.663	n765	15.587	22.4	0.34	HDPE	17.77	17.09	225
513	p598	n765	15.587	n766	15.29	30	0.989	HDPE	17.09	16.48	225
514	p599	n767	15.224	n575	15.157	19.8	0.34	HDPE	16.45	16.94	225
515	p601	n655	17.861	n768	17.927	19.2	0.34	HDPE	21.88	20.76	225
516	p602	n769	17.963	n770	18.065	30	0.34	HDPE	20.6	19.58	225
517	p603	n4912	18.16	n772	19.64	31.9	4.634	HDPE	19.35	20.83	225
518 519	p604	n772	19.64 21.4	n773	21.137	29.9	5	HDPE	20.83	22.59	225
520	p605 p618	n773 n662	21.4	n4911 n792	22.959 21.246	31.2	0.653	HDPE HDPE	22.59 22.24	24.67 22.44	225 225
521	p618	n792	21.03	n792	21.246	30	0.633	HDPE	22.24	22.44	225
522	p619	n793	21.240	n794	21.348	30	0.34	HDPE	22.44	22.64	225
523	p622	n796	21.85	n797	22.33	10.2	4.72	HDPE	23.04	23.52	225
524	p623	n797	22.33	n798	22.441	30	0.368	HDPE	23.52	24.39	225
525	p624	n799	23.67	n800	24.067	7.9	5	HDPE	24.86	25.43	225
526	p625	n800	24.24	n801	25.738	29.9	5	HDPE	25.43	27.16	225
527	p626	n801	25.738	n802	27.21	30	4.913	HDPE	27.16	28.4	225
528	p627	n802	27.21	n803	27.5	30	0.967	HDPE	28.4	28.69	225
529	p628	n803	27.5	n804	28.41	29.9	3.039	HDPE	28.69	29.6	225
530	p629	n804	28.41	n805	29.09	16	4.245	HDPE	29.6	30.28	225
531	p632	n799	22.518	n4978	22.623	30.8	0.34	HDPE	24.86	24.12	225
532	p638	n819	25.15	n820	25.048	30	0.34	HDPE	26.34	26.54	225
533	p639	n820	25.048	n821	24.972	22.5	0.34	HDPE	26.54	26.45	225
534	p642	n825	23.82	n827	23.44	25.6	1.482	HDPE	25.01	24.63	225
535	p643	n827	23.44	n828	23.06	26	1.46	HDPE	24.63	24.25	225

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled)	Slope (Calculate	Material	Elevation Ground	Elevation Ground	Diameter (mm)
536	p644	n828	23.06	n829	23.011	(m) 14.4	d) (%) 0.34	HDPE	(Start) (m) 24.25	(Stop) (m) 24.46	225
537	p645	n830	22.988	n829	23.011	6.7	0.34	HDPE	24.23	24.46	225
538	p646	n829	23.011	n831	23.91	18.3	4.913	HDPE	24.23	25.1	225
539	p649	n831	23.91	n834	24.86	30	3.169	HDPE	25.1	26.05	225
540	p650	n835	25.71	n836	26.38	30	2.234	HDPE	26.9	27.57	225
541	p653	n836	26.38	n840	26.77	30	1.3	HDPE	27.57	27.96	225
542	p655	n840	26.77	n842	27.08	30	1.033	HDPE	27.96	28.27	225
543	p657	n842	27.08	n844	28.3	56.3	2.169	HDPE	28.27	29.49	225
544	p659	n844	28.3	n847	29.65	37.2	3.627	HDPE	29.49	30.84	225
545	p666	n847	29.65	n857	30.28	22.7	2.781	HDPE	30.84	31.47	225
546	p668	n860	30.7	n861	30.81	14.5	0.758	HDPE	31.89	32	225
547	p669	n862	31.29	n863	31.82	30	1.767	HDPE	32.48	33.01	225
548	p671	n863	31.82	n866	32.41	30	1.967	HDPE	33.01	33.6	225
549	p673	n866	32.41	n868	32.94	30	1.767	HDPE	33.6	34.13	225
550	p675	n868	32.94	n870	33.42	30	1.6	HDPE	34.13	34.61	225
551	p677	n870	33.42	n872	34.26	30	2.801	HDPE	34.61	35.45	225
552	p680	n875	35.47	n876	36.92	29	5	HDPE	36.66	38.49	225
553	p681	n876	37.3	n878	38.82	30.9	4.916	HDPE	38.49	40.01	225
554	p684	n883	40.42	n884	41.71	26.9	4.788	HDPE	41.61	42.9	225
555	p1180	n763	15.726	n1515	15.828	30	0.34	HDPE	18	17.37	225
556	p1181	n1515	15.828	n1516	15.93	30	0.34	HDPE	17.37	17.12	225
557	p1182	n1516	15.93	n1517	16.04	30	0.367	HDPE	17.12	17.23	225
558	p1183	n1517	16.04	n1518	16.29	30	0.833	HDPE	17.23	17.48	225
559	p1186	n1519	16.43	n1522	16.54	5.2	2.12	HDPE	17.62	17.73	225
560	p1187	n1523	17.63	n1524	18.77	30	3.803	HDPE	18.82	19.96	225
561	p1188	n1524	18.77	n1525	19.61	25.4	3.307	HDPE	19.96	20.8	225
562 563	p1190	n1528 n1529	20.08	n1529	21.527 25.814	28.9	5	HDPE HDPE	21.27	25.13 29.06	225 225
564	p1191 p1192	n1529	9.617	n4684 n1532	9.694	37.5 22.6	0.34	HDPE	12.74	12.21	225
565	p1192 p1193	n1532	9.694	n1532	9.094	5.5	0.34	HDPE	12.74	12.21	225
566	p1193 p1194	n1532	9.713	n1534	9.796	24.5	0.34	HDPE	12.21	11.25	225
567	p1194	n1534	9.796	n1535	9.841	13	0.34	HDPE	11.25	11.14	225
568	p1196	n1534	9.898	n1537	10	30	0.34	HDPE	11.14	11.19	225
569	p1190	n1537	10	n1538	10.39	30	1.3	HDPE	11.19	11.58	225
570	p1198	n1538	10.39	n1539	10.78	30	1.3	HDPE	11.58	11.97	225
571	p1199	n1539	10.78	n1540	11.56	30	2.601	HDPE	11.97	12.75	225
572	p1200	n1541	11.88	n1543	12.87	20.5	4.832	HDPE	13.07	14.06	225
573	p1201	n1543	12.87	n1544	14.02	28.5	4.041	HDPE	14.06	15.21	225
574	p1202	n1545	14.82	n1546	15.632	16.2	5	HDPE	16.01	17.21	225
575	p1203	n1547	17.41	n4735	18.103	13.9	5	HDPE	18.6	19.88	225
576	p1205	n4772	8.511	n1552	7.374	29.8	3.811	HDPE	10.3	8.92	225
577	p1206	n1553	6.69	n1554	7.66	19.4	5	HDPE	7.88	9.15	225
578	p1207	n1555	6.43	n1556	5.12	30	4.372	HDPE	7.62	6.31	225
579	p1208	n1556	5.12	n1557	5.018	30	0.34	HDPE	6.31	6.3	225
580	p1209	n1557	5.018	n1558	4.916	30	0.34	HDPE	6.3	6.31	225
581	p1210	n1558	4.916	n1559	4.814	30	0.34	HDPE	6.31	6.58	225
582	p1211	n1559	5.39	n1561	6.17	25.5	3.062	HDPE	6.58	7.36	225
583	p1212	n1562	6.44	n1563	7.24	20.4	3.929	HDPE	7.63	8.43	225
584	p1214	n1563	7.24	n1566	8.28	30	3.469	HDPE	8.43	9.47	225
585	p1216	n1566	8.28	n1568	8.92	30	2.134	HDPE	9.47	10.11	225
586	p1218	n1568	8.92	n1570	9.63	30	2.367	HDPE	10.11	10.82	225
587	p1221	n1570	9.63	n1573	9.9	24.2	1.114	HDPE	10.82	11.09	225
588	p1222	n1574	10.81	n1575	11.17	30	1.2	HDPE	12	12.36	225
589	p1223	n1575	11.17	n1576	11.61	30	1.467	HDPE	12.36	12.8	225
590	p1224	n1576	11.61	n1577	11.952	30	1.139	HDPE	12.8	13.28	225
591	p1225	n1559	4.814	n1578	4.669	30	0.483	HDPE	6.58	5.88	250
592	p1226	n1579	4.139	n1580	3.819	30	1.067	HDPE	5.35	5.03	250
593	p1227	n1580	3.819	n1581	3.689	26	0.5	HDPE	5.03	4.9	250
594 596	p1228	n1581	3.689 3.509	n1583	3.574	7	0.34	HDPE	4.9	5.04	250
596	p1230	n1586		n1587	3.487		0.313	HDPE	5.07	4.87	280
598	p1231	n1588	3.446	n1589	3.415	9.9	0.313	HDPE	4.79	4.82	280
598	p1232 p1233	n1590 n1591	3.321 3.214	n1591 n1592	3.214	30	0.357	HDPE	4.57	4.45	280 280
500		n 1791	1 3.7.14	n1592	. 5.054	30	U.333	HDPE	4.45	4.29	Z8U

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled) (m)	Slope (Calculate d) (%)	Material	Elevation Ground (Start) (m)	Elevation Ground (Stop) (m)	Diameter (mm)
601	p1235	n1593	2.944	n1594	2.774	30	0.567	HDPE	4.18	4.01	280
602	p1236	n1594	2.774	n1595	2.716	18.5	0.313	HDPE	4.01	4.36	280
603	p1237	n1595	2.716	n1596	2.68	11.5	0.313	HDPE	4.36	4.16	280
604	p1238	n1596	2.68	n1597	2.586	30	0.313	HDPE	4.16	3.84	280
605	p1239	n1597	2.586	n1598	2.474	30	0.373	HDPE	3.84	3.71	280
606	p1240	n1598	2.474	n1599	2.38	30	0.313	HDPE	3.71	3.69	280
607	p1241	n1600	2.286	n1602	1.625	34.7	1.903	HDPE	3.61	3.29	280
608	p1244	n1602	1.625	n1604	1.55	30	0.249	HDPE	3.29	3.25	315
609	p1245	n1604	1.55	n1605	1.475	30	0.249	HDPE	3.25	3.33	315
610	p1246	n1605	1.475	n1606	1.401	30	0.249	HDPE	3.33	3.23	315
611	p1247	n1606	1.401	n1607	1.379	8.8	0.249	HDPE	3.23	3.2	315
612	p1248	n1608	1.2	n1609	1.177	9.2	0.249	HDPE	2.71	2.8	315
613	p1249	n1609	1.177	n1610	1.102	30	0.249	HDPE	2.8	2.87	315
614	p1250	n1602	2.1	n1611	2.23	7.2	1.795	HDPE	3.29	3.42	225
615	p1251	n1611	2.23	n1612	3.02	30	2.634	HDPE	3.42	4.21	225
616	p1252	n1612	3.02	n1613	3.422	29.9	1.342	HDPE	4.21	6.61	225
617	p1253	n1614	3.611	n1615	3.523	25.7	0.34	HDPE	5.12	5.76	225
618	p1254	n1615	3.523	n1613	3.422	30	0.34	HDPE	5.76	6.61	225
619	p1255	n1613	5.42	n1617	6.917	29.9	5	HDPE	6.61	8.61	225
620	p1256	n1617	6.917	n1618	7.706	25.5	3.102	HDPE	8.61	9.73	225
621	p1257	n4756	7.718	n1620	7.824	31	0.34	HDPE	9.78	10.73	225
622	p1258	n1620	7.824	n1622	7.926	30.1	0.34	HDPE	10.73	10.85	225
623	p1259	n1622	9.66	n1623	11.158	29.9	5	HDPE	10.85	12.57	225
624	p1260	n1623	11.38	n1624	12.877	29.9	5	HDPE	12.57	14.63	225
625	p1261	n1624	13.44	n1625	14.935	29.9	5	HDPE	14.63	17.01	225
626	p1262	n1626	17.95	n1627	18.467	10.3	5	HDPE	19.14	20.04	225
627	p1263	n1628	8.028	n1629	8.13	30	0.34	HDPE	10.37	9.77	225
628	p1264	n1629	8.13	n1630	8.19	17.7	0.34	HDPE	9.77	9.38	225
629	p1265	n1631	8.51	n1632	8.947	12.6	3.461	HDPE	9.7	10.39	225 225
630	p1266	n1633 n1634	8.961 9.006	n1634	9.006 9.108	13.1 30	0.34	HDPE HDPE	10.57	10.74	225
632	p1267		9.008	n1635	9.108	21.3		HDPE	10.74	10.4	225
633	p1268 p1269	n1635 n4753	9.108	n1636 n1638	10.25	30.6	0.34 3.042	HDPE	10.4	11.44	225
634	p1209	n1638	10.25	n1639	11.311	21.2	5.042	HDPE	11.44	12.6	225
635	p1270	n1640	13.944	n1641	15.046	29.9	3.685	HDPE	15.47	17.76	225
636	p1271	n1641	15.046	n1642	15.148	29.9	0.34	HDPE	17.76	19.68	225
637	p1272	n1643	4.05	n1644	4.26	30	0.7	HDPE	5.24	5.45	225
638	p1274	n1644	4.26	n1645	5.29	30	3.436	HDPE	5.45	6.48	225
639	p1275	n1645	5.29	n1646	6.783	29.9	5	HDPE	6.48	9.46	225
640	p1276	n1646	8.27	n1647	9.764	29.9	5	HDPE	9.46	12.23	225
641	p1277	n1647	11.04	n1648	12.51	30	4.907	HDPE	12.23	13.7	225
642	p1278	n1648	12.51	n1649	14.008	30	5	HDPE	13.7	15.26	225
643	p1291	n1668	15.303	n1669	15.405	29.9	0.34	HDPE	21.08	18.8	225
644	p1292	n1669	15.405	n1671	15.506	29.9	0.34	HDPE	18.8	17.53	225
645	p1293	n1671	15.506	n1672	15.608	30	0.34	HDPE	17.53	16.96	225
646	p1294	n1672	15.608	n1673	15.71	30	0.34	HDPE	16.96	16.9	225
647	p1295	n1673	15.71	n1675	16.746	20.7	5	HDPE	16.9	18.49	225
648	p1296	n1676	19.59	n1677	20.226	12.7	5	HDPE	20.78	22.49	225
649	p1297	n1678	23.52	n1679	24.315	15.9	5	HDPE	24.71	25.73	225
650	p1298	n1679	24.315	n1680	25.49	30	3.919	HDPE	25.73	26.68	225
651	p1324	n46	12.55	n1711	11.979	20.8	2.745	HDPE	13.74	13.41	225
652	p1325	n1711	11.979	n1713	12.08	29.7	0.34	HDPE	13.41	13.27	225
653	p1326	n1713	12.08	n1714	12.32	30	0.8	HDPE	13.27	13.51	225
654	p1327	n1714	12.32	n1715	12.68	30	1.2	HDPE	13.51	13.87	225
655	p1328	n1715	12.68	n1716	13.52	30	2.801	HDPE	13.87	14.71	225
656	p1329	n1716	13.52	n1717	15	30	4.94	HDPE	14.71	16.19	225
657	p1330	n1717	15	n32	16.391	27.8	5	HDPE	16.19	17.82	225
658	p1331	n32	16.63	n1719	18.126	29.9	5	HDPE	17.82	20.13	225
659	p1332	n1719	18.94	n1720	20.436	29.9	5	HDPE	20.13	22.27	225
660	p1333	n1720	21.08	n1550	21.856	15.5	5	HDPE	22.27	23.34	225
661	p1334	n1550	22.15	n1721	22.658	10.2	5	HDPE	23.34	24.04	225
662	p1335	n1721	22.85	n1722	24.348	30	5	HDPE	24.04	25.57	225
663	p1336	n1722	24.348	n1723	25.33	30	3.276	HDPE	25.57	26.52	225
664	p1337	n1724	26.16	n1725	27.11	19	5	HDPE	27.35	28.52	225

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled)	Slope (Calculate	Material	Elevation Ground (Start) (m)	Elevation Ground	Diameter (mm)
665	p1338	n1725	27.33	n1727	27.914	(m) 11.7	d) (%)	HDPE	28.52	(Stop) (m) 29.3	225
666	p1338	n1727	28.11	n1727	29.608	29.9	5	HDPE	29.3	31.11	225
667	p1340	n1727	30.361	n1720	31.03	21.2	3.164	HDPE	31.64	32.22	225
668	p4025	n34	18.18	n33	18.74	30	1.867	HDPE	19.37	19.93	225
669	p4026	n45	13.12	n46	12.55	30	1.901	HDPE	14.31	13.74	225
670	p4027	n1577	11.952	n1711	11.979	8	0.34	HDPE	13.28	13.41	225
671	p4031	n1723	25.33	n1724	26.16	29.9	2.772	HDPE	26.52	27.35	225
672	p4036	n1729	30.361	n1728	29.92	8.8	5	HDPE	31.64	31.11	225
673	p4081	n758	23.69	n4706	24.617	18.5	5	HDPE	24.88	26.57	225
674	p4082	n4706	25.38	n757	26.508	22.6	5	HDPE	26.57	28.02	225
675	p4089	n731	28.47	n756	27.55	19.3	4.774	HDPE	29.66	28.74	225
676	p4100	n754	29.67	n4720	30.39	25	2.882	HDPE	30.86	31.58	225
678	p4103	n751	31	n752	31.09	3.7	2.404	HDPE	32.19	32.28	225
679	p4110	n1528	19.877	n1525	19.61	5.3	5	HDPE	21.27	20.8	225
680	p4111	n1523	17.63	n4726	17.22	8.3	4.918	HDPE	18.82	18.41	225
681	p4112	n4726	17.22	n4727	17.09	3.7	3.507	HDPE	18.41	18.28	225
682	p4113	n4727	17.09	n4728	16.65	9.1	4.863	HDPE	18.28	17.84	225
683	p4114	n4728	16.65	n1522	16.54	8.9	1.238	HDPE	17.84	17.73	225
684	p4115	n1519	16.43	n4729	16.39	4.3	0.935	HDPE	17.62	17.58	225
685	p4116	n4729	16.39	n1518	16.29	11.6	0.866	HDPE	17.58	17.48	225
686	p4119	n763	15.726	n764	15.663	18.7	0.34	HDPE	18	17.77	225
687	p4121	n766	15.29	n4733	15.24	5.4	0.926	HDPE	16.48	16.43	225
688	p4122	n4733	15.24	n767	15.224	4.8	0.34	HDPE	16.43	16.45	225
689	p4124	n573	14.18	n574	15.081	30	3.005	HDPE	15.37	16.32	225
690	p4126	n4734	19.022	n4735	18.69	6.6	5	HDPE	20.7	19.88	225
691	p4128	n1547	17.142	n4736	16.76	7.6	5	HDPE	18.6	17.95	225
692	p4129	n4736	16.561	n1546	16.02	10.8	5	HDPE	17.95	17.21	225
693	p4130	n1545	14.705	n1544	14.02	13.7	5	HDPE	16.01	15.21	225
694	p4132	n1541	11.88	n1540	11.56	11	2.909	HDPE	13.07	12.75	225
695	p4133	n1535	9.841	n1536	9.898	17	0.34	HDPE	11.14	11.14	225
696	p4134	n566	11.52	n565	11.498	6.5	0.34	HDPE	12.8	13.04	225
697	p4135	n565	9.592	n1531	9.617	7.4	0.34	HDPE	13.04	12.74	225
698	p4137	n553	9.462	n563	9.512	14.6	0.34	HDPE	14.09	13.63	225
699	p4153	n1675	17.3	n1676	18.151	17	5	HDPE	18.49	20.78	225
700	p4154	n1677	21.3	n4746	21.785	9.7	5	HDPE	22.49	24.1	225
701	p4155	n4746	22.91	n1678	23.12	4.2	5	HDPE	24.1	24.71	225
702	p4156	n1650	14.763	n1649	14.07	13.9	5	HDPE	16.32	15.26	225
703	p4157	n1668	15.303	n4747	15.29	3.8	0.34	HDPE	21.08	20.96	225
704	p4158	n4747	15.29	n4748	15.266	7.1	0.34	HDPE	20.96	20.9	225
705	p4159	n4748	15.266	n4749	15.25	4.7	0.34	HDPE	20.9	20.77	225
706	p4160	n4749	15.25	n4750	15.198	15.3	0.34	HDPE	20.77	20.34	225
707	p4161	n4750	15.198	n1642	15.148	14.7	0.34	HDPE	20.34	19.68	225
708	p4162	n1640	13.944	n4751	13.16	15.7	5	HDPE	15.47	14.35	225
709	p4163	n4751	12.783	n4752	12.07	14.3	5	HDPE	14.35	13.26	225
710	p4164	n4752	11.847	n1639	11.41	8.7	5	HDPE	13.26	12.6	225
711	p4165	n1636	9.18	n4753	9.32	8.1	1.733	HDPE	10.37	10.51	225
712	p4167	n1633	8.961	n1632	8.947	4.3	0.34	HDPE	10.57	10.39	225
713	p4168	n1631	8.51	n4754	8.29	6.3	3.512	HDPE	9.7	9.48	225
714	p4169	n1630	8.19	n4754	8.29	6	1.661	HDPE	9.38	9.48	225
715 716	p4172	n1622	7.926	n1628	8.028	3.5	0.34	HDPE	10.85	10.37	225
717	p4174	n1618	7.706	n4756	7.718	1.9	0.34	HDPE	9.73	9.78	225 225
717	p4175	n4757	3.65	n4758	3.644	9.7	0.34	HDPE HDPE	4.84	4.89 5.12	225
	p4177	n4758		n1614			0.34				
719 720	p4179	n1574	10.81	n4760	10.55	23.4	1.113 0.932	HDPE	11.74	11.74	225
720	p4181	n4760	10.55	n4762	10.49	6.4		HDPE	11.74	11.68	225
721	p4182	n4762	10.49	n4763	10.06	30 10.7	1.433	HDPE	11.68	11.25	225
723	p4183 p4184	n4763 n1573	10.06 9.9	n4764 n4764	9.95 9.95	5.8	1.023 0.866	HDPE HDPE	11.25	11.14 11.14	225 225
724			6.44				2.805	HDPE			225
725	p4187 p4189	n1562 n1579	4.139	n1561 n1578	6.17 4.669	9.6	1.767	HDPE	7.63 5.35	7.36 5.88	250
726	p4189 p4191	n1579 n1643	4.139	n1578 n1586	3.509	29.9	1.811	HDPE	5.33	5.88	230
727	p4191 p4193	n1643 n1586	3.509	n1586	3.518	29.9	0.34	HDPE	5.24	5.07	250
17.1			3.509	n1585 n4767		8.1	0.34	HDPE	4.87	4.78	280
728	p4194	n1587	1 2/10//	n/1//6//	3.462	V 1					

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled) (m)	Slope (Calculate d) (%)	Material	Elevation Ground (Start) (m)	Elevation Ground (Stop) (m)	Diameter (mm)
730	p4196	n1589	3.415	n4768	3.364	16.4	0.313	HDPE	4.82	4.66	280
731	p4197	n1590	3.321	n4768	3.364	13.6	0.313	HDPE	4.57	4.66	280
732	p4198	n1555	6.43	n1553	6.69	10.6	2.46	HDPE	7.62	7.88	225
733	p4199	n1555	6.43	n4769	6.66	10.5	2.186	HDPE	7.62	7.85	225
734	p4200	n4769	6.66	n1552	7.374	14.3	5	HDPE	7.85	8.92	225
735	p4201	n1554	7.96	n4770	8.748	15.8	5	HDPE	9.15	10.19	225
736	p4202	n4771	9.31	n4770	9	10.3	2.998	HDPE	10.5	10.19	225
737	p4207	n4772	8.511	n4774	8.564	15.5	0.34	HDPE	10.3	10.29	225
738	p4208	n4774	8.564	n458	8.613	14.5	0.34	HDPE	10.29	10.32	225
739	p4211	n459	8.715	n4776	8.758	12.6	0.34	HDPE	10.29	10.46	225
740	p4213	n4776	8.758	n547	8.85	27	0.34	HDPE	10.46	10.59	225
741 742	p4217 p4226	n449 n436	9.609 9.915	n4771 n4780	9.31 9.813	20.4 30	1.467 0.34	HDPE HDPE	10.81	10.5	225 225
742	p4220 p4227	n4780	9.913	n448	9.711	30	0.34	HDPE	11.42	10.91	225
744	p4227	n1600	2.286	n4783	2.317	10	0.34	HDPE	3.61	3.77	280
745	p4229	n4783	2.317	n1599	2.317	20	0.313	HDPE	3.77	3.69	280
746	p4230	n1607	1.379	n4784	1.37	3.7	0.249	HDPE	3.77	3.09	315
747	p4231 p4232	n4784	1.37	n4785	1.36	3.9	0.249	HDPE	3.09	3.1	315
748	p4232	n4785	1.36	n4786	1.319	16.5	0.249	HDPE	3.1	3.09	315
749	p4234	n4786	1.319	n4787	1.309	3.9	0.249	HDPE	3.09	2.88	315
750	p4235	n4788	1.301	n4787	1.309	3.4	0.249	HDPE	2.84	2.88	315
751	p4236	n1608	1.2	n4789	1.252	20.8	0.249	HDPE	2.71	2.8	315
752	p4237	CW-1	1.089	n1610	1.102	5.5	0.249	HDPE	2.85	2.87	315
753	p4238	n388	4.01	n4791	4.812	16	5	HDPE	5.2	6.2	225
754	p4239	n4791	5.01	n387	5.51	13.9	3.592	HDPE	6.2	6.7	225
755	p4241	n372	11.72	n371	12.13	14.8	2.774	HDPE	12.91	13.32	225
756	p4388	n549	9.054	n550	9.156	30	0.34	HDPE	11.55	12.39	225
757	p4435	n654	25.96	n4886	26.21	8.4	2.988	HDPE	27.15	27.4	225
758	p4436	n3	26.91	n4887	26.64	7.9	3.422	HDPE	28.1	27.83	225
759	p4438	n4887	26.64	n4886	26.21	9.9	4.361	HDPE	27.83	27.4	225
760	p4439	n3	26.91	n4888	27.32	13.1	3.139	HDPE	28.1	28.51	225
761	p4440	n4888	27.32	n4889	28.1	25.8	3.027	HDPE	28.51	29.29	225
762	p4441	n4889	28.1	n741	28.41	12	2.585	HDPE	29.29	29.6	225
763	p4470	n4912	18.16	n4913	18.119	12	0.34	HDPE	19.35	19.4	225
764	p4471	n770	18.065	n4913	18.119	16	0.34	HDPE	19.58	19.4	225
765	p4472	n768	17.927	n769	17.963	10.7	0.34	HDPE	20.76	20.6	225
766 767	p4474 p4475	n649 n4914	21.99	n4914 n4915	21.77 20.95	6.7 24.9	3.31	HDPE HDPE	23.18	22.96 22.14	225 225
768	p4473	n4914 n655	20.69	n4915	20.95	11	2.355	HDPE	21.88	22.14	225
769	p4476	n794	21.45	n4915	21.66	15	1.402	HDPE	22.64	22.14	225
770	p4574	n4976	21.43	n796	21.85	4.8	3.941	HDPE	22.85	23.04	225
771	p4576	n798	22.441	n799	22.518	22.9	0.34	HDPE	24.39	24.86	225
772	p4580	n4978	22.623	n4979	22.71	25.6	0.34	HDPE	24.12	23.9	225
773	p4581	n4979	22.71	n810	22.75	4.4	0.91	HDPE	23.9	23.94	225
774	p4592	n821	24.972	n4986	24.816	25.7	0.606	HDPE	26.45	26.03	225
775	p4593	n4986	24.816	n822	24.68	2.7	5	HDPE	26.03	25.87	225
776	p4594	n822	24.68	n4987	24.57	2.5	4.338	HDPE	25.87	25.76	225
777	p4595	n4987	24.57	n4988	24.41	10.6	1.505	HDPE	25.76	25.6	225
778	p4596	n4990	23.9	n4988	24.41	18.7	2.724	HDPE	25.09	25.6	225
779	p4598	n825	23.82	n4990	23.9	6.4	1.244	HDPE	25.01	25.09	225
780	p4600	n667	22.23	n830	22.988	30	2.528	HDPE	23.42	24.23	225
781	p4602	n834	24.86	n835	25.71	30	2.834	HDPE	26.05	26.9	225
782	p4626	n857	30.28	n860	30.7	15.5	2.713	HDPE	31.47	31.89	225
783	p4629	n861	30.81	n862	31.29	30	1.6	HDPE	32	32.48	225
784	p4663	n872	34.26	n875	35.47	30	4.036	HDPE	35.45	36.66	225
785	p4665	n878	38.82	n883	40.42	33	4.85	HDPE	40.01	41.61	225
786	p5686	n1625	15.82	n1626	17.316	29.9	5	HDPE	17.01	19.14	225
787	p5691	n4788	1.301	n4789	1.252	19.7	0.249	HDPE	2.84	2.8	315
793	CO-2	n1585	3.518	n1583	3.574	16.3	0.34	HDPE	5	5.04	250
805	CO-4	n659	17.68	LS 1	17.596	24.5	0.34	HDPE	21.76	21.76	225
329	p49	n55	16.94	n54	17.03	17.4	0.515	HDPE	18.13	18.22	225
	p50	n56	10.806	n57	10.76	13.5	0.34	HDPE	13.67	13.09	225
330 331	p51	n57	10.76	n58	10.658	30	0.34	HDPE	13.09	11.91	225

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled) (m)	Slope (Calculate d) (%)	Material	Elevation Ground	Elevation Ground (Stop) (m)	Diameter (mm)
333	p53	n59	8.789	n60	7.14	29.9	5.516	HDPE	10.77	8.33	225
334	p54	n60	7.14	n62	5.09	36.1	5.672	HDPE	8.33	6.84	225
335	p56	n62	5.09	n63	5.033	27.5	0.21	HDPE	6.84	6.35	355
336	p57	n63	5.033	n64	4.671	30	1.208	HDPE	6.35	5.97	355
337	p58	n64	4.671	n65	4.421	30	0.834	HDPE	5.97	5.72	355
338	p59	n65	4.421	n66	3.721	30	2.334	HDPE	5.72	5.02	355
339	p60	n66	3.721	n67	3.181	30	1.8	HDPE	5.02	4.48	355
340	p61	n67	3.181	n68	3.011	16.9	1.006	HDPE	4.48	4.31	355
341	p62	n68	3.011	n69	2.993	8.1	0.215	HDPE	4.31	4.4	355
342	p63	n69	2.993	n71	2.891	35	0.293	HDPE	4.4	4.19	355
343	p64	n71	2.891	n72	2.421	30	1.567	HDPE	4.19	3.72	355
344 345	p75 p76	n85 n84	10.445 10.475	n84 n86	10.475 10.577	9.1	0.34	HDPE HDPE	14.58 14.24	14.24	225 225
346	p77	n86	10.473	n88	10.577	30.3	0.34	HDPE	13.11	11.87	225
347	p1123	n1439	23.49	n1440	22.4	30.3	3.636	HDPE	24.68	23.59	225
348	p1123	n1441	23.48	n1442	22.34	30	3.803	HDPE	24.67	23.53	225
349	p1125	n1440	22.4	n1443	21.29	30	3.702	HDPE	23.59	22.48	225
350	p1125	n1442	22.34	n1444	21.41	30	3.101	HDPE	23.53	22.46	225
351	p1127	n1443	21.29	n1445	20.46	30	2.768	HDPE	22.48	21.65	225
352	p1128	n1444	21.41	n1446	20.56	30	2.834	HDPE	22.6	21.75	225
353	p1129	n1446	20.56	n1447	19.97	30	1.967	HDPE	21.75	21.16	225
354	p1130	n1448	19.87	n1449	19.518	30	1.173	HDPE	21.06	20.79	225
355	p1131	n1447	19.97	n1450	19.493	30	1.591	HDPE	21.16	20.96	225
356	p1132	n1449	19.518	n1451	19.62	30	0.34	HDPE	20.79	20.81	225
357	p1133	n1450	19.493	n1452	19.627	30	0.448	HDPE	20.96	20.93	225
358	p1134	n1452	19.627	n1454	19.68	15.6	0.34	HDPE	20.93	20.87	225
359	p1135	n1454	19.68	n1455	20.036	30	1.186	HDPE	20.87	22.19	225
360	p1136	n1456	20.138	n1457	20.24	30	0.34	HDPE	22.8	21.87	225
361	p1155	n1457	20.24	n1485	20.3	17.7	0.34	HDPE	21.87	21.54	225
362	p1156	n4653	20.34	n1487	21.01	27.6	2.428	HDPE	21.53	22.2	225
363	p1157	n1488	21.09	n1489	21.249	30	0.531	HDPE	22.28	23.21	225
364 365	p1158 p1162	n1489 n1490	21.249	n1490 n1495	21.351	6.2	0.34	HDPE HDPE	23.21 24.13	24.13	225 225
366	p1162 p1163	n1495	21.373	n1496	21.453	23.6	0.34	HDPE	24.13	27.42	225
367	p1163	n1496	21.453	n1497	21.555	30	0.34	HDPE	27.42	26.82	225
368	p1165	n1497	21.555	n1498	21.613	17.1	0.34	HDPE	26.82	25.43	225
369	p1166	n1498	21.613	n1499	21.656	12.9	0.34	HDPE	25.43	24.76	225
370	p1167	n1499	21.656	n1500	21.758	30	0.34	HDPE	24.76	24.1	225
371	p1168	n1500	21.758	n1501	21.86	30	0.34	HDPE	24.1	23.05	225
372	p1169	n1501	21.86	n1502	22.4	30	1.801	HDPE	23.05	23.59	225
373	p1170	n1503	28.49	n1504	30.398	19.1	10	HDPE	29.68	32.77	225
374	p1172	n1505	32.19	n1506	32.127	18.7	0.34	HDPE	33.38	33.46	225
375	p1173	n1506	32.127	n1507	31.74	11.3	3.434	HDPE	33.46	32.93	225
376	p1174	n1507	31.74	n1508	30.29	23.2	6.263	HDPE	32.93	31.48	225
377	p1175	n1508	30.29	n1509	32.277	19.9	10	HDPE	31.48	33.53	225
378	p1176	n1509	32.34	n1510	33.336	10	10	HDPE	33.53	34.6	225
379	p1177	n1510	33.41	n1511	36.393	29.8	10	HDPE	34.6	37.76	225
380 381	p1178 p1285	n1511 n4742	36.393 24.035	n1512 n1667	37.875 20.87	29.9 31.7	4.95	HDPE HDPE	37.76 25.61	39.45 22.06	225 225
381	p1283	n4/42 n1663	17.754	n1664	19.324	31.7	5.24	HDPE	19.02	20.59	315
383	p1287	n1664	19.324	n1665	20.645	30	4.408	HDPE	20.59	22.17	315
384	p1288	n1665	20.645	n1666	20.72	30	0.249	HDPE	22.17	22.17	315
385	p1299	n1680	25.49	n1681	24.03	30	4.873	HDPE	26.68	25.22	225
386	p1300	n1681	24.03	n1682	21.08	29.8	9.886	HDPE	25.22	22.27	225
387	p1301	n1682	20.001	n54	17.03	29.7	10	HDPE	22.27	18.22	225
388	p1317	n1702	17.4	n1703	17.28	30	0.4	HDPE	18.59	18.47	225
389	p1318	n1703	17.28	n1704	17.178	30	0.34	HDPE	18.47	18.37	225
390	p1319	n1704	17.178	n1661	16.415	32.6	2.343	HDPE	18.37	18.27	225
392	p1322	n1708	16.634	n1709	16.736	30	0.34	HDPE	18.47	18.57	225
393	p1323	n1710	16.838	n55	16.94	30	0.34	HDPE	18.28	18.13	225
394	p1341	n1730	31.03	n1731	30.85	30	0.6	HDPE	32.22	32.04	225
395	p1342	n4686	29.85	n1733	27.46	31.7	7.532	HDPE	31.04	28.65	225
396	p1343 p1344	n1733 n1734	27.46	n1734	24.56	29.9	9.712	HDPE	28.65	25.75	225
397			24.56	n1735	22.14	29.9	8.094	HDPE	25.75	23.33	225

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled) (m)	Slope (Calculate d) (%)	Material	Elevation Ground	Elevation Ground (Stop) (m)	Diameter (mm)
398	p1345	n1735	22.14	n1736	20.86	23.8	5.385	HDPE	23.33	22.05	225
399	p1346	n1451	19.62	n1737	19.85	30	0.767	HDPE	20.81	21.04	225
400	p1347	n1737	19.85	n1738	20.31	30	1.533	HDPE	21.04	21.5	225
401	p1348	n1739	19.95	n1856	20.29	30.6	1.113	HDPE	21.14	21.48	225
403	p1350	n1743	20.71	n1744	20.989	21.3	1.309	HDPE	21.9	22.5	225
405	p1352	n1742	21.68	n1746	22.97	30	4.304	HDPE	22.87	24.16	225
406	p1353	n1745	22.52	n1747	23.074	30	1.847	HDPE	23.71	24.9	225
407	p1354	n1746	22.97	n1748	23.431	30	1.535	HDPE	24.16	25.22	225
408	p1355	n1749	23.472	n1750	23.533	17.9	0.34	HDPE	25.55	26.15	225
409	p1356	n1751	23.176	n1752	23.271	27.9	0.34	HDPE	26.05	27.45	225
410	p1357	n1753	23.567	n1754	23.634	20	0.34	HDPE	26.71	27.31	225
411	p1358	n1752	23.271	n1755	23.344	21.7	0.34	HDPE	27.45	27.43	225
412	p1359	n1754	23.634	n1756	23.736	30	0.34	HDPE	27.31	27.11	225
413	p1360	n1755	23.344	n1757	23.446	30	0.34	HDPE	27.43	26.83	225
414	p1361	n1756	23.736	n1758	23.838	30	0.34	HDPE	27.11	26.43	225
415	p1362	n1757	23.446	n1759	23.548	30	0.34	HDPE	26.83	26.05	225
416	p1363	n1758	23.838	n1760	23.94	30	0.34	HDPE	26.43	25.13	225
417	p1364	n1759	23.548	n1761	23.65	30	0.34	HDPE	26.05	24.84	225
420	p1367	n19	22.77	n1764	22.25	30	1.734	HDPE	23.96	23.44	225
421	p1368	n1763	22.81	n1765	22.31	30	1.667	HDPE	24	23.5	225
422	p1369	n1764	22.25	n1766	22.05	30	0.667	HDPE	23.44	23.24	225
423	p1370	n1765	22.31	n1767	21.95	30	1.2	HDPE	23.5	23.14	225
424	p1371	n1766	22.05	n1768	21.89	30	0.533	HDPE	23.24	23.08	225
425	p1372	n1767	21.95	n1769	21.75	30	0.667	HDPE	23.14	22.94	225
426	p1373	n1768	21.89	n1770	21.7	30	0.633	HDPE	23.08	22.89	225
427	p1374	n1769	21.75	n1771	21.59	30	0.533	HDPE	22.94	22.78	225
428	p1375	n1770	21.7	n1772	21.598	30	0.34	HDPE	22.89	22.82	225
429	p1376	n1771	21.59	n1773	21.38	30	0.7	HDPE	22.78	22.57	225
430	p1377	n1772	21.598	n1774	21.496	33.6	0.34	HDPE	22.82	22.81	225 225
431	p1378	n1773 n1776	21.38	n4616 n2072	21.266	33.6	0.34	HDPE	22.57	22.68	225
433	p1379 p1380	n1778	20.914	n1779	20.812	30	0.34	HDPE HDPE	25.40	24.25 25.35	225
434	p1380	n1782	20.598	n1783	20.812	30	0.34	HDPE	24.12	22.81	225
435	p1382	n1782	20.398	n1784	20.497	30	1.323	HDPE	22.81	21.29	225
436	p1383	n1784	20.497	n1784	18.63	30	4.907	HDPE	21.29	19.82	225
437	p1385	n1785	18.63	n1786	17.35	22.5	5.689	HDPE	19.82	18.54	225
438	p1386	n1786	17.35	n1787	15.61	30	5.81	HDPE	18.54	16.8	225
439	p1387	n1787	15.61	n1788	14.02	29.9	5.307	HDPE	16.8	15.21	225
440	p1388	n1789	13.53	n1790	12.9	30	2.101	HDPE	14.72	14.09	225
441	p1389	n1790	12.9	n1791	12.31	30	1.967	HDPE	14.09	13.5	225
442	p1390	n1791	12.31	n1792	11.47	30	2.801	HDPE	13.5	12.66	225
443	p1391	n1792	11.47	n88	10.68	30	2.634	HDPE	12.66	11.87	225
444	p1392	n1793	13.114	n1794	11.234	29.9	6.279	HDPE	14.38	12.5	315
445	p1393	n1795	10.774	n1796	8.984	22.4	7.988	HDPE	12.04	10.25	315
446	p1394	n1796	8.984	n1797	6.624	29.9	7.89	HDPE	10.25	7.89	315
447	p1395	n1797	6.624	n1798	5.314	30	4.372	HDPE	7.89	6.58	315
448	p1396	n1798	5.314	n1799	5.24	30	0.249	HDPE	6.58	6.52	315
449	p1397	n1799	5.24	n1800	5.165	30	0.249	HDPE	6.52	6.52	315
450	p1398	n1800	5.165	n62	5.09	30	0.249	HDPE	6.52	6.84	315
451	p1404	n59	8.789	n1807	8.885	28.2	0.34	HDPE	10.77	10.7	225
452	p1405	n1808	8.902	n1809	8.992	26.5	0.34	HDPE	10.57	10.35	225
453	p1406	n1810	9.77	n76	10.217	17.7	2.527	HDPE	10.96	11.52	225
454	p1407	n76	10.217	n1811	10.241	7.1	0.34	HDPE	11.52	11.84	225
455	p1408	n1812	10.343	n1813	10.422	23.3	0.34	HDPE	13.52	14.35	225
456	p1409	n85	13.39	n1814	14.34	23.4	4.053	HDPE	14.58	15.53	225
457	p1410	n1814	14.34	n1815	14.97	16.8	3.741	HDPE	15.53	16.16	225
458	p1411	n1816	15.04	n1817	15.16	6.8	1.777	HDPE	16.23	16.35	225
459	p1412	n1818	15.38	n1819	15.85	25	1.878	HDPE	16.57	17.04	225
460	p1414	n56	10.806	n1821	13.415	29.3	8.905	HDPE	13.67	15.3	225
461	p1415	n1821	13.415	n1823	13.457	12.5	0.34	HDPE	15.3	16.22	225
462	p1416	n1823	13.457	n1820	13.529	21	0.34	HDPE	16.22	17.25	225
463	p1418	n1820	13.529	n1825	13.631	30	0.34	HDPE	17.25	17.62	225
464	p1419	n1825	13.631	n1826	13.733	30	0.34	HDPE	17.62	17.43	225
465	p1420	n1826	13.733	n1827	13.818	25	0.34	HDPE	17.43	17.89	225

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled) (m)	Slope (Calculate d) (%)	Material	Elevation Ground (Start) (m)	Elevation Ground (Stop) (m)	Diameter (mm)
466	p1421	n1828	14.19	n1829	14.107	24.4	0.34	HDPE	15.38	16.12	225
467	p1422	n1829	14.107	n1830	14.005	30	0.34	HDPE	16.12	17.03	225
468	p1423	n1831	13.903	n1827	13.818	25.2	0.34	HDPE	17.55	17.89	225
469	p1424	n1832	16.75	n1833	16.3	30	1.5	HDPE	17.94	17.49	225
470	p1425	n1833	16.3	n1834	15.83	30	1.567	HDPE	17.49	17.02	225
471	p1426	n1834	15.83	n1835	14.556	30	4.248	HDPE	17.02	16.45	225
472	p1427	n1836	14	n1837	12.72	25.5	5.016	HDPE	15.19	13.91	225
473	p1428	n1837	12.72	n1838	11.81	30	3.034	HDPE	13.91	13	225
474	p1429	n1838	11.81	n1839	10.89	30	3.068	HDPE	13	12.08	225
475	p1430	n1840	10.47	n1841	10.421	14.6	0.34	HDPE	11.66	11.73	225
476 478	p1431 p1433	n56 n1841	10.806	n1842 n1843	7.68	9.8	0.34 9.184	HDPE HDPE	13.67	13.16 8.87	225 225
479	p1433	n1843	7.68	n1844	7.44	12.6	1.905	HDPE	8.87	8.63	225
480	p1434	n1844	7.44	n1845	6.98	17.4	2.645	HDPE	8.63	8.17	225
481	p1436	n1845	6.98	n1846	6.878	30	0.34	HDPE	8.17	8.15	225
482	p1437	n1846	6.878	n1848	7.91	29.9	3.447	HDPE	8.15	9.1	225
483	p1438	n1848	7.91	n1849	9.88	29.9	6.582	HDPE	9.1	11.07	225
484	p1439	n1849	9.88	n1850	10.94	24.7	4.286	HDPE	11.07	12.13	225
485	p1440	n1851	11.04	n1852	11.98	13.3	7.057	HDPE	12.23	13.17	225
486	p1441	n1852	11.98	n1854	12.67	14.3	4.815	HDPE	13.17	13.86	225
487	p1442	n1854	12.67	n1855	13.73	30	3.536	HDPE	13.86	14.92	225
488	p1443	n1855	13.73	n49	14.95	27.6	4.422	HDPE	14.92	16.14	225
489	p1444	n1856	20.29	n1857	20.89	21.9	2.74	HDPE	21.48	22.08	225
490	p1445	n1857	20.89	n1858	22.52	30	5.441	HDPE	22.08	23.71	225
491	p1446	n1744	20.989	n1860	21.05	18	0.34	HDPE	22.5	22.24	225
492	p1447	n1861	21.53	n1862	23	30	4.907	HDPE	22.72	24.19	225
493	p1448	n1858	22.52	n1863	23.97	30	4.84	HDPE	23.71	25.16	225
494	p1449	n1862	23	n1864	24.51	30	5.04	HDPE	24.19	25.7	225
495	p1450	n1865	24.74	n1866	26.03	30	4.304	HDPE	25.93	27.22	225
496	p1451	n1866	26.03	n1867	27.15	30	3.736	HDPE	27.22	28.34	225
497 498	p1452	n1867	27.15 28.05	n1868	28.05 28.74	30	3.001	HDPE	28.34 29.24	29.24 29.93	225 225
498	p1453 p1454	n1868 n1869	28.74	n1869 n1870	28.74	30	2.301 0.6	HDPE HDPE	29.24	30.36	225
500	p1454	n1870	28.92	n1873	29.036	34.1	0.34	HDPE	30.36	30.62	225
501	p1456	n1508	30.29	n1872	29.34	16.6	5.733	HDPE	31.48	30.53	225
502	p1457	n1873	29.036	n1874	29.138	30	0.34	HDPE	30.62	30.6	225
503	p1458	n1874	29.138	n1875	29.24	30	0.34	HDPE	30.6	30.43	225
504	p1484	n1505	32.19	n1906	34.939	27.5	10	HDPE	33.38	36.72	225
505	p1485	n1906	35.53	n1907	35.58	6	0.829	HDPE	36.72	36.77	225
506	p1486	n1907	35.58	n1908	35.943	23.4	1.549	HDPE	36.77	37.37	225
507	p1487	n1908	35.943	n4644	36.06	34.6	0.34	HDPE	37.37	37.25	225
508	p1488	n1910	36.72	n1911	37.399	8.4	8.089	HDPE	37.91	38.6	225
509	p1489	n1911	37.399	n1912	37.49	26.9	0.34	HDPE	38.6	38.68	225
510	p1513	n1942	41.87	n1943	41.79	23.5	0.34	HDPE	43.06	43.04	225
511	p1514	n1944	41.63	n1945	41.7	17.6	0.397	HDPE	42.82	42.89	225
512	p1515	n1944	41.63	n1946	41.56	20.5	0.34	HDPE	42.82	42.89	225
513	p1516	n1947	41.528	n1948	41.27	30	0.86	HDPE	42.81	42.46	225
514	p1517	n1949	40.54	n1948	41.27	30	2.434	HDPE	41.73	42.46	225
515 516	p1518	n1752	26.26	n1950	29.03	29.9	9.274	HDPE	27.45	30.22	225
517	p1519 p1520	n1950 n1951	29.03 32.48	n1951 n1952	32.01 35.08	29.8	8.701	HDPE HDPE	30.22	33.67 36.27	225 225
518	p1520	n1951	35.08	n1953	37.16	27.6	7.539	HDPE	36.27	38.35	225
519	p1521	n1954	39.15	n1955	40.15	30	3.336	HDPE	40.34	41.34	225
520	p1522	n1955	40.15	n1949	40.13	16.5	2.362	HDPE	41.34	41.73	225
521	p1524	n1956	40.576	n1957	40.678	30	0.34	HDPE	41.81	41.88	225
522	p1525	n1957	40.678	n1958	40.78	30	0.34	HDPE	41.88	41.97	225
523	p1526	n1958	40.78	n1959	41.06	30	0.933	HDPE	41.97	42.25	225
524	p1527	n1959	41.06	n1960	41.34	30	0.933	HDPE	42.25	42.53	225
525	p1570	n1755	26.24	n2018	27.13	20.2	4.399	HDPE	27.43	28.32	225
526	p1571	n2018	27.13	n2019	29.31	29.9	7.286	HDPE	28.32	30.5	225
527	p1572	n2020	31.01	n2021	32.12	24.3	4.564	HDPE	32.2	33.31	225
528	p1573	n2022	32.45	n2023	34.5	29.9	6.852	HDPE	33.64	35.69	225
529	p1574	n2023	34.5	n2024	36.53	29.9	6.782	HDPE	35.69	37.72	225
530	p1575	n2024	36.53	n2025	37.83	30	4.338	HDPE	37.72	39.02	225

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled)	Slope (Calculate	Material	Elevation Ground	Elevation Ground	Diameter (mm)
531	-1607	n2072	21.016	2072	23.009	(m) 30	d) (%)	HDPE	(Start) (m)	(Stop) (m) 24.21	225
531	p1607 p1608	n2072 n2073	21.016	n2073 n2074	23.009	18.2	0.34	HDPE	24.25	24.21	225
533	p1609	n2075	23.39	n2074	24.5	30	3.702	HDPE	24.21	25.69	225
534	p1610	n2076	24.5	n2078	25.86	33.5	4.065	HDPE	25.69	27.05	225
535	p1618	n1781	23.158	n2085	23.19	9.5	0.34	HDPE	24.59	24.38	225
536	p1619	n2085	23.19	n2086	23.53	25.5	1.333	HDPE	24.38	24.72	225
537	p1620	n2086	23.53	n2088	24.7	29.7	3.943	HDPE	24.72	25.89	225
538	p1621	n2088	24.7	n2090	25.3	34.8	1.725	HDPE	25.89	26.49	225
539	p1622	n2090	25.3	n2091	26.31	30	3.37	HDPE	26.49	27.5	225
540	p3301	n4335	14.76	n4336	14.658	30	0.34	HDPE	15.95	16.08	225
541	p3848	n1789	13.53	n4603	13.64	7.6	1.438	HDPE	14.72	14.83	225
542	p3850	n4603	13.64	n4604	13.85	4.2	5.03	HDPE	14.83	15.04	225
543	p3852	n4604	13.85	n1788	14.02	3.4	5.031	HDPE	15.04	15.21	225
544	p3874	n1782	20.598	n1781	20.643	13.2	0.34	HDPE	24.12	24.59	225
545	p3882	n2075	23.39	n2074	23.07	11.6	2.747	HDPE	24.58	24.26	225
546	p3884	n1781	20.643	n4614	20.766	36.2	0.34	HDPE	24.59	25.48	225
547	p3885	n4614	20.766	n1779	20.812	13.5	0.34	HDPE	25.48	25.35	225
548	p3886	n1778	20.914	n2072	21.016	30	0.34	HDPE	25.02	24.25	225
549	p3888	n1776	21.131	n4615	21.233	30	0.34	HDPE	23.46	22.91	225
550	p3889	n4615	21.233	n4616	21.266	9.8	0.34	HDPE	22.91	22.68	225
551	p3891	n4615	21.233	n1774	21.496	14.4	1.835	HDPE	22.91	22.81	225
552	p3892	n19	22.77	n1762	22.91	10.6	1.316	HDPE	23.96	24.1	225
553	p3903	n2021	32.12	n4623	32.25	5.6	2.3	HDPE	33.31	33.44	225
554	p3904	n4623	32.25	n2022	32.45	4.5	4.473	HDPE	33.44	33.64	225
555	p3909	n2025	37.83	n4626	38.02	4.9	3.852	HDPE	39.02	39.21	225
556	p3910	n4626	38.02	n4627	39	18.9	5.196	HDPE	39.21	40.19	225
557	p3911	n4627	39	n2026	39.55	6.1	8.942	HDPE	40.19	40.74	225
558	p3912	n1949	40.54	n1956	40.576	7.8	0.461	HDPE	41.73	41.81	225
559	p3913	n1947	41.528	n1946	41.56	9.5	0.34	HDPE	42.81	42.89	225
560	p3914	n1945	41.7	n1943	41.79	12.4	0.728	HDPE	42.89	43.04	225
561	p3915	n1942	41.87	n4628	41.934	7.1	0.905	HDPE	43.06	43.15	225
562	p3916	n4628	41.934	n4629	41.97	10.6	0.34	HDPE	43.15	43.16	225
563	p3917	n4629	41.97	n1941	42.08	18.8	0.584	HDPE	43.16	43.27	225
564	p3940	n1910	36.72	n4643	36.26	8.3	5.535	HDPE	37.91	37.45	225
565	p3941	n4643	36.26	n4644	36.06	8.7	2.303	HDPE	37.45	37.25	225
566	p3943	n1503	27.887	n4645	27.08	8.1	10	HDPE	29.68	28.27	225
567	p3945	n4645	26.02	n4647	25.07	9.5	10	HDPE	28.27	26.26	225
568	p3946	n4647	24.382	n4648	23.59	7.9	10	HDPE	26.26	24.78	225
569	p3947	n4648	23.445	n4649	22.73	7.2	10	HDPE	24.78	23.92	225
570	p3948	n4649	22.73	n1502	22.4	7.5	4.392	HDPE	23.92	23.59	225
571	p3949	n1873	29.036	n1872	29.34	4.1	7.348	HDPE	30.62	30.53	225
572	p3951	n1512	37.875	n4650	37.97	28	0.34	HDPE	39.45	39.16	225
573	p3956	n1488	21.09	n1487	21.01	8.2	0.974	HDPE	22.28	22.2	225
574	p3957	n1485	20.3	n4653	20.34	11.9	0.34	HDPE	21.54	21.53	225
575	p3959	n1954	39.15	n4654	38.78	7.5	4.91	HDPE	40.34	39.97	225
576	p3960	n4654	38.78	n4655	38.09	12.1	5.684	HDPE	39.97	39.28	225
577	p3961	n4655	38.09	n4656	37.33	10.3	7.407	HDPE	39.28	38.52	225
578	p3962	n1953	37.16	n4656	37.33	2.3	7.309	HDPE	38.35	38.52	225
579	p3963	n2020	31.01	n4657	30.55	10.1	4.536	HDPE	32.2	31.74	225
580	p3964	n4657	30.55	n2019	29.31	19.8	6.259	HDPE	31.74	30.5	225
581	p3965	n1753	23.567	n1750	23.533	10	0.34	HDPE	26.71	26.15	225
582	p3966	n1749	23.472	n1748	23.431	12.1	0.34	HDPE	25.55	25.22	225
583	p3967	n1751	23.176	n4658	23.138	11.2	0.34	HDPE	26.05	25.62	225
584	p3968	n4658	23.138	n1747	23.074	18.8	0.34	HDPE	25.62	24.9	225
585	p3971	n1860	21.05	n1861	21.53	11.9	4.044	HDPE	22.24	22.72	225
586	p3973	n1863	23.97	n1865	24.74	17.6	4.377	HDPE	25.16	25.93	225
587	p3974	n1813	10.422	n85	10.445	6.6	0.34	HDPE	14.35	14.58	225
588	p3975	n1815	14.97	n1816	15.04	6.4	1.095	HDPE	16.16	16.23	225
589	p3976	n1817	15.16	n1818	15.38	5	4.429	HDPE	16.35	16.57	225
590	p3978	n1830	14.005	n1831	13.903	30	0.34	HDPE	17.03	17.55	225
591	p3980	n4336	14.658	n1835	14.556	30	0.34	HDPE	16.08	16.45	225
592	p3983	n1836	14	n1835	14.556	11.6	4.801	HDPE	15.19	16.45	225
593	p3986	n1840	10.47	n1839	10.89	15.4	2.729	HDPE	11.66	12.08	225
594	p3989	n1807	8.885	n1808	8.902	5.1	0.34	HDPE	10.7	10.57	225

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled) (m)	Slope (Calculate d) (%)	Material	Elevation Ground (Start) (m)	Elevation Ground (Stop) (m)	Diameter (mm)
595	p3990	n1809	8.992	n4663	9.046	15.8	0.34	HDPE	10.35	10.26	225
596	p3991	n4663	9.046	n4664	9.068	6.4	0.34	HDPE	10.26	10.29	225
597	p3992	n4664	9.068	n4665	9.08	3.7	0.34	HDPE	10.29	10.27	225
598	p3993	n4665	9.08	n4666	9.6	7.6	6.835	HDPE	10.27	10.79	225
599	p3994	n4666	9.6	n1810	9.77	2.3	7.253	HDPE	10.79	10.96	225
600	p3995	n1811	10.241	n4667	10.305	19	0.34	HDPE	11.84	12.82	225
601	p3996	n4667	10.305	n4668	10.334	8.5	0.34	HDPE	12.82	13.35	225
602	p3997	n4668	10.334	n1812	10.343	2.5	0.34	HDPE	13.35	13.52	225
603	p4000	CW-2	2.191	n72	2.421	12.2	1.885	HDPE	3.49	3.72	355
604	p4003	n1795	10.774	n1794	11.234	7.5	6.133	HDPE	12.04	12.5	315
605	p4004	n1793	13.114	n4672	14.554	30	4.805	HDPE	14.38	15.82	315
606	p4005	n4672	14.554	n1661	16.415	33.3	5.58	HDPE	15.82	18.27	315
607	p4011	n1663	17.754	n1661	16.415	18.9	7.077	HDPE	19.02	18.27	315
608	p4012	n1661	16.415	n4677	16.533	34.7	0.34	HDPE	18.27	18.22	225
609	p4013	n1709	16.736	n1710	16.838	30	0.34	HDPE	18.57	18.28	225
610	p4023	n1850	10.94	n1851	11.04	7.4	1.344	HDPE	12.13	12.23	225
611	p4037	n1731	30.85	n4685	30.55	13.2	2.273	HDPE	32.04	31.74	225
612	p4038	n4685	30.55	n4686	29.85	15	4.679	HDPE	31.74	31.04	225
613	p4040	n1736	20.86	n1741	20.82	6.2	0.645	HDPE	22.05	22.01	225
614	p4041	n1741	20.82	n1738	20.31	17.3	2.951	HDPE	22.01	21.5	225
615	p4042	n1743	20.71	n1856	20.29	18.6	2.26	HDPE	21.9	21.48	225
616 617	p4046	n1739	19.95 20.036	n1452	19.627	30 14.2	1.077	HDPE	21.14	20.93	225 225
617	p4048 p4049	n1455 n4688	20.036	n4688 n1456	20.084	14.2	0.34	HDPE HDPE	22.19	22.71	225
619	p4049 p4073				20.138	30				21.65	225
620	p4073	n1448 n1441	19.87 23.48	n1445 n4703	24.42	21.5	1.967 4.38	HDPE HDPE	21.06	25.61	225
621	p4074 p4075	n1441	23.49	n4703	24.42	21.2	3.957	HDPE	24.67	25.52	225
622	p4073	n1658	24.75	n4742	24.035	9.3	7.676	HDPE	25.94	25.61	225
623	p4143	n1666	20.72	n4743	20.735	6.3	0.249	HDPE	22.6	22.62	315
624	p4145	n4743	20.735	n4744	20.783	19.1	0.249	HDPE	22.62	22.26	315
625	p4147	n4744	20.783	n1667	20.794	4.6	0.249	HDPE	22.26	22.06	315
629	CO-2	n1708	16.634	n4677	16.533	29.9	0.34	HDPE	18.47	18.22	225
637	CO-6	n1450	19.493	LS 3	19.451	12.2	0.34	HDPE	20.96	20.79	225
640	CO-8	n1745	22.52	LS 4	22.444	22.4	0.34	HDPE	23.71	23.71	225
641	CO-10	n1449	19.518	n1450	19.493	7.5	0.34	HDPE	20.79	20.96	225
642	CO-12	n1742	21.68	n1741	20.82	30	2.87	HDPE	22.87	22.01	225
658	CO-14	n1846	6.878	LS 2	6.834	13	0.34	HDPE	8.15	8.1	225
660	p1432(1)	n1842	10.839	MH-5	10.914	22.1	0.34	HDPE	13.16	12.104	225
376	p1640	n2114	24.75	n2115	24.245	11.7	4.321	HDPE	25.94	25.77	225
377	p1641	n2116	23.217	n2117	21.72	29.9	5	HDPE	24.81	22.91	225
378	p1642	n2118	18.134	n2119	16.64	29.9	5	HDPE	20.51	17.83	225
379	p1643	n2119	16.448	n2120	14.95	29.9	5	HDPE	17.83	16.14	225
380	p1644	n1785	18.63	n2122	17.64	34.8	3.302	HDPE	19.82	18.83	225
381	p1645	n2122	17.64	n2123	17.04	30	2.001	HDPE	18.83	18.23	225
382	p1646	n2123	17.04	n2124	16.68	30	1.2	HDPE	18.23	17.87	225
383	p1647	n2125	16.14	n2126	15.57	30	1.901	HDPE	17.33	16.76	225
384	p1648	n2126	15.57	n2120	14.95	30	2.067	HDPE	16.76	16.14	225
385	p1649	n2120	14.95	n2127	14.43	23.2	2.238	HDPE	16.14	15.62	225
386	p1650	n2127	14.43	n2128	13.97	19.2	2.397	HDPE	15.62	15.16	225
387	p1651	n2128	13.97	n2130	13.27	33.9	2.066	HDPE	15.16	14.46	225
388	p1652	n2131	12.6	n2132	11.75	19.5	4.359	HDPE	13.79	12.94	225
389	p1653	n2133	11.43	n2134	10.22	30	4.037	HDPE	12.62	11.41	225
390	p1654	n4604	13.85	n2136	12.86	29.9	3.533	HDPE	15.04	14.05	225
391	p1655	n2136	12.86	n2137	12.24	30	2.067	HDPE	14.05	13.43	225
392	p1656	n2137	12.24	n2138	11.66	30	1.934	HDPE	13.43	12.85	225
393	p1657	n2138	11.66	n2139	11.14	30	1.733	HDPE	12.85	12.33	225
394	p1658	n2139	11.14	n2134	10.22	29.3	3.139	HDPE	12.33	11.41	225
395 396	p1668	n2150	9.88 9.61	n2151	9.61	30	0.9	HDPE	11.07	10.8	225
396	p1669 p1670	n2151 n2152	9.61	n2152 n2153	9.43 9.328	30	0.6	HDPE HDPE	10.8	10.62	225 225
397	p1670	n2152 n2153	9.43	n2153 n2161	9.328	30	0.34	HDPE	10.62	10.53	225
	p16/6	n2133 n2175	10.73	n2161 n2176	11.46	30	2.435	HDPE	11.92	12.65	225
200		HZI/J	10./3	1121/0	11.40	30	2.433	UDLE	11.92	12.03	
399 400	p1690	n2176	11.46	n2177	12.34	30	2.934	HDPE	12.65	13.53	225

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled) (m)	Slope (Calculate d) (%)	Material	Elevation Ground	Elevation Ground (Stop) (m)	Diameter (mm)
402	p1692	n2178	13.25	n2179	13.693	30	1.477	HDPE	14.44	15.37	225
403	p1693	n2179	13.693	n2180	13.795	30	0.34	HDPE	15.37	15.7	225
404	p1694	n2180	13.795	n2181	13.892	28.4	0.34	HDPE	15.7	15.43	225
405	p1695	n2182	13.925	n2183	13.954	8.4	0.34	HDPE	15.46	15.44	225
406	p1696	n2183	13.954	n2184	13.999	13.5	0.34	HDPE	15.44	15.41	225
407	p1697	n2184	13.999	n2186	14.12	35.6	0.34	HDPE	15.41	15.31	225
408	p1710	n2175	10.73	n2200	11.38	31.3	2.078	HDPE	11.92	12.57	225
409	p1711	n2200	11.38	n2201	12.49	30	3.702	HDPE	12.57	13.68	225
410	p1712	n2202	13.7	n2203	14.98	30	4.271	HDPE	14.89	16.17	225
411	p1713	n2204	13.49	n2205	14.44	23.6	4.022	HDPE	14.68	15.63	225
412	p1714	n2205	14.44	n2206	15.124	13.7	5	HDPE	15.63	16.97	225
413	p1716	n2206	15.124	n2208	15.698	16.9	3.39	HDPE	16.97	17.08	225
414	p1717	n2208	15.698	n2209	15.8	30	0.34	HDPE	17.08	16.99	225
415	p1718	n2210	16.669	n2211	16.567	30	0.34	HDPE	18.11	18.44	225
416	p1719	n2212	17.07	n2213	17.276	30	0.687	HDPE	18.26	18.57	225
417	p1720	n2211	16.567	n2214	16.465	30	0.34	HDPE	18.44	18.63	225
418	p1721	n2214	16.465	n2215	16.363	30	0.34	HDPE	18.63	18.72	225
419	p1722	n2216	17.378	n2217	17.48	30	0.34	HDPE	18.63	18.67	225
420	p1723	n2215	16.363	n2218	16.261	30	0.34	HDPE	18.72	18.94	225
421	p1724	n2217	17.48	n2219	17.726	30	0.82	HDPE	18.67	18.99	225
422	p1725	n2218	16.261	n2220	16.159	30	0.34	HDPE	18.94	19.24	225
423	p1726	n2219	17.726	n2221	17.828	30	0.34	HDPE	18.99	19.25	225
424	p1727	n2220	16.159	n2222	16.057	30	0.34	HDPE	19.24	19.05	225
425	p1728	n2221	17.828	n2223	17.93	30	0.34	HDPE	19.25	19.12	225
426	p1729	n2224	19.81	n2225	21.307	29.9	5	HDPE	21	22.94	225
427	p1730	n2225	21.75	n2226	23.246	29.9	5	HDPE	22.94	25.3	225
428	p1731	n2226	24.11	n2227	25.606	29.9	5	HDPE	25.3	27.55	225
429	p1732	n2228	27.53	n2229	28.194	13.3	5	HDPE	28.72	29.92	225
430	p1733	n2229	28.73	n2230	29.621	19	4.702	HDPE	29.92	31.31	225
431	p1734	n4547	29.658	n2232	29.76	30.1	0.34	HDPE	31.14	30.95	225
432	p1735	n2232	29.76	n2233	31.257	29.9	5	HDPE	30.95	32.77	225
433	p1736	n2234	31.867	n2235	31.968	30	0.34	HDPE	33.92	34.68	225
434	p1738	n2238	27.852	n2239	26.36	29.8	5	HDPE	30.63	27.55	225
435	p1739	n2239	25.024	n2240	23.53	29.9	5	HDPE	27.55	24.72	225
436	p1740	n2186	14.12	n2241	14.9	30	2.601	HDPE	15.31	16.09	225
437	p1741	n2241	14.9	n2242	16.397	29.9	5	HDPE	16.09	17.78	225
438	p1742	n2242	16.59	n2243	18.085	29.9	5	HDPE	17.78	20.16	225
439	p1743	n2243	18.97	n2244	20.464	29.9	5	HDPE	20.16	22.81	225
440	p1744	n2244	21.62	n2245	22.113	9.9	5	HDPE	22.81	23.74	225
441	p1745	n2240	23.055	n2245	22.55	10.1	5	HDPE	24.72	23.74	225
442	p1746	n2245	22.55	n2246	24.038	29.8	5	HDPE	23.74	27.46	225
443	p1747	n2246	26.27	n2247	27.099	16.6	5	HDPE	27.46	29.76	225
444	p1748	n4549	29.8	n2249	31.171	27.4	5	HDPE	30.99	33.09	225
445	p1755	n2258	15.956	n2259	15.854	30	0.34	HDPE	18.42	17.68	225
446	p1756	n2260	17.83	n2261	17.33	21.3	2.35	HDPE	19.02	18.52	225
447	p1757	n2261	17.33	n2262	16.59	30	2.467	HDPE	18.52	17.78	225
448	p1758	n2259	15.854	n2263	15.52	30	1.112	HDPE	17.68	16.71	225
449	p1759	n2262	16.59	n2264	15.65	30	3.134	HDPE	17.78	16.84	225
450	p1760	n2263	15.52	n2265	14.26	30	4.204	HDPE	16.71	15.45	225
451	p1761	n2265	14.26	n2266	13.02	30	4.137	HDPE	15.45	14.21	225
452	p1762	n2267	14.25	n2268	13.042	30	4.032	HDPE	15.44	14.25	225
453	p1763	n2268	13.042	n2270	13.13	26.1	0.34	HDPE	14.25	14.32	225
454	p1764	n2270	13.13	n2271	13.87	30	2.467	HDPE	14.32	15.06	225
455	p1765	n2271	13.87	n2272	14.28	28	1.466	HDPE	15.06	15.47	225
456	p1766	n2273	14.38	n2274	14.95	24.1	2.363	HDPE	15.57	16.14	225
457	p1767	n2274	14.95	n2275	16.448	30	5	HDPE	16.14	17.7	225
458	p1768	n2275	16.51	n2276	18.001	29.8	5	HDPE	17.7	21.01	225
459	p1769	n2276	19.82	n2277	21.307	29.7	5	HDPE	21.01	25.04	225
460	p1770	n2277	23.85	n2278	24.421	11.4	5	HDPE	25.04	26.62	225
461 462	p1773	n2282	30.996	n2283	29.64	27.1	5	HDPE	33.82	30.83	225
/1 fo 1	p1774	n2283	28.675	n2284	27.18	29.9	5 4.204	HDPE	30.83	28.37	225
	1					211	1 /1 20/1	HDPE	1 10 17	1 27 11	1115
463 464	p1775 p1776	n2284 n2285	27.18 25.92	n2285 n2286	25.92 25.35	30	1.901	HDPE	28.37	27.11	225 225

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled) (m)	Slope (Calculate	Material	Elevation Ground (Start) (m)	Elevation Ground (Stop) (m)	Diameter (mm)
466	p1778	n2288	25.037	n2289	23.54	29.9	d) (%) 5	HDPE	26.32	24.73	225
467	p1779	n2289	21.838	n2290	20.81	20.5	5	HDPE	24.73	22	225
468	p1780	n2291	21.31	n2292	21.259	15	0.34	HDPE	22.5	22.69	225
469	p1781	n2292	21.259	n2293	20.049	29.7	4.077	HDPE	22.69	21.59	225
470	p1782	n2293	20.049	n2294	19.51	10.8	5	HDPE	21.59	20.7	225
471	p1783	n2294	19.478	n2295	18.52	19.2	5	HDPE	20.7	19.71	225
472	p1784	n2295	18.52	n2296	17.63	30	2.969	HDPE	19.71	18.82	225
473	p1785	n2296	17.63	n2298	16.58	29.8	3.521	HDPE	18.82	17.77	225
474	p1786	n2298	16.067	n2299	14.57	29.9	5	HDPE	17.77	15.76	225
475	p1787	n2299	14.57	n2302	14.92	15.1	2.319	HDPE	15.76	16.11	225
476	p1789	n2302	14.92	n2303	16.416	29.9	5	HDPE	16.11	18.11	225
477	p1790	n2303	16.416	n2305	17.16	16.7	4.453	HDPE	18.11	18.35	225
478	p1791	n2305	17.16	n2306	17.813	13.1	5	HDPE	18.35	19.76	225
479	p1792	n2306	18.57	n2307	20.067	29.9	5	HDPE	19.76	21.62	225
480	p1835	n2266	13.02	n2366	11.93	30	3.636	HDPE	14.21	13.12	225
481	p1836	n2268	13.042	n2367	11.93	30	3.707	HDPE	14.25	13.12	225
482	p1837	n2366	11.93	n2368	10.94	30	3.302	HDPE	13.12	12.13	225
483	p1838	n2367	11.93	n2369	10.93	30	3.336	HDPE	13.12	12.12	225
484	p1839	n2368	10.94	n2370	10.17	30	2.568	HDPE	12.13	11.36	225
485	p1840	n2369	10.93	n2371	10.18	30	2.501	HDPE	12.12	11.37	225
486	p1841	n2370	10.17	n2372	9.73	30	1.467	HDPE	11.36	10.92	225
487	p1842	n2371	10.18	n2373	9.68	30	1.667	HDPE	11.37	10.87	225
488	p1843	n2372	9.73	n2374	9.37	30	1.2	HDPE	10.92	10.56	225
489	p1844	n2373	9.68	n2375	9.44	30	0.8	HDPE	10.87	10.63	225
490	p1845	n2375	9.44	n2376	9.31	30	0.433	HDPE	10.63	10.5	225
491	p1846	n2377	9.17	n2378	9.068	30	0.34	HDPE	10.36	10.51	225
492	p1847	n2376	9.31	n2379	9.208	30	0.34	HDPE	10.5	10.53	225
493	p1848	n2378	9.068	n2380	8.68	30	1.294	HDPE	10.51	9.87	225
494	p1849	n2379	9.208	n2381	8.72	30	1.627	HDPE	10.53	9.91	225
495	p1850	n2382	8.21	n2384	8.65	11.9	3.713	HDPE	9.4	9.84	225
496	p1851	n2384	8.65	n2385	10.068	28.4	5	HDPE	9.84	12.46	225
497	p1852	n2384	8.65	n2386	9.69	30	3.469	HDPE	9.84	10.88	225
498	p1853	n2386	9.69	n2388	10.41	29.8	2.418	HDPE	10.88	11.6	225
499	p1854	n2388	10.41	n2389	10.85	32.2	1.366	HDPE	11.6	12.04	225
500	p1855	n2389	10.85	n2390	12.344	29.9	5	HDPE	12.04	14.35	225
501	p1856	n2390	12.344	n4605	13.43	30.8	3.526	HDPE	14.35	14.62	225
502	p1857	n2389	10.85	n2393	11.008	34.8	0.454	HDPE	12.04	12.2	225
503 504	p1858 p1859	n2393 n2394	11.008	n2394 n2396	11.11 11.6	9.8	0.34	HDPE HDPE	12.2	12.3	225 225
505	-		12.14			30				14.76	
506	p1860 p1861	n2396 n2397	13.57	n2397 n2398	13.57 14.29	30	4.773 2.401	HDPE HDPE	13.33 14.76	15.48	225 225
507	p1862	n2398	14.29	n2399	14.29	30	2.134	HDPE	15.48	16.12	225
508	p1862	n2399	14.29	n2400	15.81	30	2.134	HDPE	16.12	17	225
509	p1863	n2400	15.81	n2400	15.81	9.6	1.349	HDPE	17	17.13	225
510	p1865	n2400	15.81	n2402	16.21	14.9	1.816	HDPE	17.13	17.13	225
511	p1865	n2404	16.23	n2405	16.64	18.3	2.234	HDPE	17.13	17.83	225
512	p1867	n2404	17.221	n2405	16.64	11.6	5	HDPE	18.63	17.83	225
513	p1868	n2407	18.81	n2290	19.54	14.6	5	HDPE	20	22	225
514	p1869	n2394	11.11	n2409	11.57	24.8	1.856	HDPE	12.3	12.76	225
515	p1870	n2409	11.57	n2410	11.75	30	0.6	HDPE	12.76	12.76	225
516	p1872	n2410	11.75	n4532	13.278	30.5	5	HDPE	12.94	15.33	225
517	p1873	n2410	11.75	n2413	12	29.6	0.845	HDPE	12.94	13.19	225
518	p1874	n2414	12.85	n2415	13.92	24	4.458	HDPE	14.04	15.11	225
519	p1875	n2416	14.27	n2418	14.748	9.6	5	HDPE	15.46	15.94	225
520	p1876	n2418	14.75	n2419	15.77	20.4	5	HDPE	15.94	17.07	225
521	p1877	n2419	15.77	n2420	16.71	30	3.137	HDPE	17.07	17.9	225
522	p1878	n2421	14.87	n2422	15.09	13.1	1.687	HDPE	16.06	16.28	225
523	p1879	n2423	15.3	n2424	15.694	30	1.314	HDPE	16.49	16.93	225
524	p1880	n2424	15.694	n2425	15.726	9.4	0.34	HDPE	16.93	17.26	225
525	p1881	n2426	16.817	n2427	17.55	30	2.446	HDPE	18.37	18.74	225
526	p1882	n2428	15.761	n2429	15.848	25.6	0.34	HDPE	17.55	17.69	225
527	p1883	n2429	15.848	n2430	15.95	30	0.34	HDPE	17.69	17.14	225
529	p1888	n2436	17.83	n2437	18.33	30	1.667	HDPE	19.02	19.52	225
530	p1889	n2437	18.33	n2438	18.91	30	1.934	HDPE	19.52	20.1	225

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled)	Slope (Calculate	Material	Elevation Ground	Elevation Ground	Diameter (mm)
531	p1890	2420	18.91	n2440	19.84	(m) 30.5	d) (%)	HDPE	(Start) (m)	1/ /	225
532	p1890 p2238	n2438 n3103	23.73	n2910	24.28	28.6	3.051 1.922	HDPE	20.1	21.03	225
533	p2303	n2990	7.73	n2991	7.22	20.6	2.471	HDPE	8.92	8.41	225
534	p2304	n2991	7.73	n2992	6.298	30	3.076	HDPE	8.41	7.61	225
535	p2305	n2992	6.298	n2993	4.8	30	5	HDPE	7.61	5.99	225
536	p2306	n2993	4.8	n2994	3.78	30	3.402	HDPE	5.99	4.97	225
537	p2308	n2996	3.51	n2997	3.973	30	1.543	HDPE	4.7	5.17	225
538	p2309	n2997	3.973	n2998	4.47	26.3	1.889	HDPE	5.17	5.66	225
539	p2310	n2998	4.47	n3000	5.21	33.7	2.198	HDPE	5.66	6.4	225
540	p2311	n3000	5.21	n3001	5.86	30	2.167	HDPE	6.4	7.05	225
541	p2312	n3001	5.86	n3002	6.8	30	3.135	HDPE	7.05	7.99	225
542	p2313	n3002	6.8	n3003	8.298	30	5	HDPE	7.99	9.56	225
543	p2314	n3003	8.37	n3004	9.867	29.9	5	HDPE	9.56	11.53	225
544	p2315	n3004	10.34	n3005	11.837	29.9	5	HDPE	11.53	13.58	225
545	p2316	n3005	12.39	n3006	13.887	29.9	5	HDPE	13.58	15.65	225
546	p2317	n3006	14.46	n3007	15.044	11.7	5	HDPE	15.65	16.47	225
547	p2318	n3007	15.28	n3008	16.342	21.2	5	HDPE	16.47	17.93	225
548	p2319	n3009	17.67	n3010	19.167	29.9	5	HDPE	18.86	20.71	225
549	p2320	n3011	11.5	n3012	11.19	30	1.033	HDPE	12.69	12.38	225
550 551	p2321	n3012	11.19 10.49	n3013 n3014	10.49 9.89	30	2.334	HDPE HDPE	12.38	11.68	225 225
	p2322	n3013									
552 553	p2323 p2324	n3014 n3016	9.89 9.41	n3016 n3017	9.41 9.01	30	1.601	HDPE HDPE	11.08	10.6	225 225
554	p2324 p2325	n3017	9.41	n3017	8.11	30	3.001	HDPE	10.0	9.3	225
555	p2323	n3017	8.11	n3019	7.11	30	3.336	HDPE	9.3	8.3	225
556	p2320 p2327	n3019	7.11	n3020	6.67	28.1	1.565	HDPE	8.3	7.86	225
557	p2329	n3022	6.307	n3023	6.07	30	0.789	HDPE	7.53	7.26	225
558	p2335	n3032	11.67	n3034	10.578	23.6	4.629	HDPE	12.86	11.78	225
559	p2336	n3034	10.578	n3036	8.92	33.2	5	HDPE	11.78	10.11	225
560	p2339	n3036	8.92	n3039	9.18	30	0.868	HDPE	10.11	10.37	225
561	p2340	n3039	9.18	n3040	9.39	30	0.7	HDPE	10.37	10.58	225
562	p2341	n3040	9.39	n3041	9.79	30	1.333	HDPE	10.58	10.98	225
563	p2342	n3041	9.79	n3042	10.62	30	2.769	HDPE	10.98	11.81	225
564	p2343	n2997	3.973	n3044	4.038	19.2	0.34	HDPE	5.17	5.27	225
565	p2345	n3044	4.038	n3047	4.14	30	0.34	HDPE	5.27	5.33	225
566	p2347	n3047	4.14	n3049	4.248	30	0.36	HDPE	5.33	5.48	225
567	p2349	n3051	4.292	n4504	4.371	23.4	0.34	HDPE	5.54	5.73	225
568	p2353	n3057	4.53	n3058	4.85	30	1.067	HDPE	5.72	6.04	225
569	p2355	n3058	4.85	n3060	5.12	17.1	1.575	HDPE	6.04	6.31	225
570	p2356	n3061	5.28	n3063	5.92	18	3.558	HDPE	6.47	7.11	225
571	p2358	n3063	5.92	n3023	6.07	18.6	0.806	HDPE	7.11	7.26	225
572	p2359	n3023	6.07	n3065	6.88	30	2.701	HDPE	7.26	8.07	225
573	p2360	n3065	6.88	n3066	7.15	30	0.9	HDPE	8.07	8.34	225
574 575	p2361 p2362	n3067 n3068	7.35 7.4	n3068 n3069	7.4	30	1.148 0.933	HDPE HDPE	8.54 8.59	8.59 8.87	225 225
576	p2362 p2363	n3070	8.167	n3069	8.29	11.3	1.096	HDPE	9.4	9.48	225
577	p2363 p2364	n3070	8.29	n3071	8.71	30	1.096	HDPE	9.48	9.48	225
578	p2365	n3072	8.71	n3036	8.92	14.9	1.409	HDPE	9.9	10.11	225
579	p2367	n3034	10.578	n3076	11.926	29.8	4.521	HDPE	11.78	13.17	225
580	p2368	n3076	11.926	n3077	12.028	30	0.34	HDPE	13.17	14.1	225
581	p2369	n3078	12.13	n3079	12.232	30	0.34	HDPE	13.98	13.46	225
582	p2370	n3079	12.232	n3080	12.306	21.8	0.34	HDPE	13.46	13.57	225
583	p2372	n3080	12.306	n3083	12.63	27.8	1.166	HDPE	13.57	13.82	225
584	p2373	n3083	12.63	n3084	13.06	30	1.433	HDPE	13.82	14.25	225
585	p2374	n3084	13.06	n3085	14.556	29.9	5	HDPE	14.25	16.06	225
586	p2375	n3086	12.48	n3087	13.26	30	2.601	HDPE	13.67	14.45	225
587	p2376	n3088	13.52	n3089	14.679	23.2	5	HDPE	14.71	16.17	225
588	p2377	n3089	14.98	n3090	16.476	29.9	5	HDPE	16.17	18.52	225
589	p2379	n3091	19.97	n3092	20.83	30	2.868	HDPE	21.16	22.02	225
590	p2380	n3092	20.83	n3094	22.25	29.8	4.767	HDPE	22.02	23.44	225
591	p2381	n3094	22.25	n3095	23.27	20.9	4.887	HDPE	23.44	24.46	225
592	p2382	n3094	22.25	n3097	23.254	29.4	3.408	HDPE	23.44	25.01	225
593	p2383	n3097	23.254	n3098	23.356	30	0.34	HDPE	25.01	25.58	225
594	p2384	n3098	23.356	n3099	23.404	14.1	0.34	HDPE	25.58	25.71	225

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled)	Slope (Calculate	Material	Elevation Ground	Elevation Ground	Diamete (mm)
505	2205	2100	` / ` /	2101		(m)	d) (%)	HDDE	(Start) (m)	1/ /	` ′
595 596	p2385	n3100	23.424 23.526	n3101	23.526 23.628	30	0.34	HDPE	25.65 25.38	25.38	225 225
597	p2386 p2387	n3101 n3102	23.628	n3102 n3103	23.73	30	0.34	HDPE HDPE	25.26	25.26 24.92	225
598	p2387 p2388	n3099	23.404	n3104	24.62	30	4.057	HDPE	25.71	25.81	225
599	p2394	n3008	16.74	n3111	18.236	29.9	5	HDPE	17.93	19.93	225
600	p2395	n3111	18.236	n3111	18.303	8.5	0.799	HDPE	19.93	20.58	225
601	p2396	n3111	19.39	n3112	20.44	32.7	3.209	HDPE	20.58	21.63	225
602	p2397	n3112	18.303	n3114	18.405	30	0.34	HDPE	20.58	19.94	225
603	p2398	n3114	18.405	n3115	18.507	30	0.34	HDPE	19.94	19.79	225
604	p2399	n3063	5.92	n3116	6.21	30	0.967	HDPE	7.11	7.4	225
605	p2400	n3116	6.21	n3117	6.44	7.7	2.972	HDPE	7.4	7.63	225
606	p2401	n3118	6.49	n3120	7.25	23.5	3.237	HDPE	7.68	8.44	225
607	p2402	n3120	7.25	n3121	7.563	6.3	5	HDPE	8.44	8.87	225
608	p2403	n3121	7.563	n3122	8.48	19.9	4.598	HDPE	8.87	9.67	225
609	p2404	n3122	8.48	n3123	9.64	30	3.869	HDPE	9.67	10.83	225
611	p2406	n3125	11.2	n3126	12.68	29.6	5	HDPE	12.39	15.24	225
612	p2407	n3126	14.05	n3127	15.545	29.9	5	HDPE	15.24	17.83	225
613	p2409	n3115	18.507	n3128	18.56	15.6	0.34	HDPE	19.79	19.75	225
614	p2414	n3128	18.56	n3134	18.7	30	0.467	HDPE	19.75	19.89	225
615	p2415	n3134	18.7	n3135	18.91	30	0.7	HDPE	19.89	20.1	225
616	p2416	n3135	18.91	n3136	19.03	30	0.398	HDPE	20.1	20.38	225
617	p2419	n3136	19.03	n3139	19.13	29.6	0.34	HDPE	20.38	20.32	225
618	p2420	n3139	19.13	n3140	19.41	30	0.933	HDPE	20.32	20.6	225
619	p2421	n3140	19.41	n3141	19.63	30	0.733	HDPE	20.6	20.82	225
620	p2422	n3141	19.63	n3142	19.79	30	0.533	HDPE	20.82	20.98	225
621	p2423	n3142	19.79	n3143	19.953	30	0.541	HDPE	20.98	21.17	225
622	p3499	n3009	17.408	n3008	16.74	13.4	5	HDPE	18.86	17.93	225
623	p3503	n3091	19.97	n3143	19.953	5.2	0.34	HDPE	21.16	21.17	225
624	p3504	n3087	13.26	n3088	13.52	6.8	3.838	HDPE	14.45	14.71	225
625	p3507	n3080	12.306	n4435	12.33	7.1	0.34	HDPE	13.57	13.52	225
626	p3508	n4435	12.33	n3086	12.48	30	0.5	HDPE	13.52	13.67	225
627	p3509	n3099	23.404	n3100	23.424	6.1	0.34	HDPE	25.71	25.65	225
629	p3633	n2406	17.44	n4493	17.854	8.3	5	HDPE	18.63	19.32	225
630	p3634	n2407	18.477	n4493	18.13	6.9	5	HDPE	20	19.32	225
631	p3635	n3042	10.62	n4494	11.025	8.1	5	HDPE	11.81	12.65	225
632	p3636	n4494	11.46	n4496	11.787	6.5	5	HDPE	12.65	13.45	225
633	p3640	n3070	8.167	n4498	8.04	2.5	5	HDPE	9.4	9.23	225
634	p3642	n4498	8.04	n4499	8.026	4.3	0.34	HDPE	9.23	9.24	225
635	p3643	n4499	8.026	n3069	7.68	11.8	2.918	HDPE	9.24	8.87	225
636	p3646	n3077	12.028	n4500	12.056	8.2	0.34	HDPE	14.1	14.27	225
637	p3647	n4500	12.056	n4501	12.077	6.1	0.34	HDPE	14.27	14.26	225
638	p3648	n4501	12.077	n4502	12.098	6.3	0.34	HDPE	14.26	14.18	225
639	p3649	n4502	12.098	n3078	12.13	9.4	0.34	HDPE	14.18	13.98	225
640	p3653	n3049	4.248	n3051	4.292	12.7	0.34	HDPE	5.48	5.54	225
641	p3657	n4504	4.371	n4506	4.43	17.4	0.34	HDPE	5.73	5.62	225
642	p3659	n4506	4.43	n3057	4.53	6.4	1.554	HDPE	5.62	5.72	225
643	p3662	n3060	5.12	n3061	5.28	27.8	0.576	HDPE	6.31	6.47	225
644	p3665	n3117	6.44	n3118	6.49	2.5	1.987	HDPE	7.63	7.68	225
645	p3667	n3066	7.15	n4509	7.31	21	0.763	HDPE	8.34	8.5	225
646	p3668	n3067	7.35	n4509	7.31	4.7	0.858	HDPE	8.54	8.5	225
647	p3669	n4510	3.314	n2994	3.78	29.7	1.551	HDPE	4.58	4.97	225
648	p3670	n3022	6.307	n4511	6.34	9.8	0.34	HDPE	7.53	7.53	225
649	p3671	n4511	6.34	n4512	6.46	10.3	1.158	HDPE	7.53	7.65	225
650	p3672	n4512	6.46	n4513	6.62	6.2	2.581	HDPE	7.65	7.81	225
651	p3673	n4513	6.62	n3020	6.67	5.5	0.909	HDPE	7.81	7.86	225
652	p3675	n3032	11.67	n4515	12.16	12.3	3.99	HDPE	12.86	13.35	225
653	p3676	n4515	12.16	n3030	13.164	20.1	5	HDPE	13.35	14.4	225
654	p3678	n3028	14.743	n3030	13.21	30.7	5	HDPE	16.33	14.4	225
655	p3680	n4517	15.96	n4518	16.89	30.2	3.079	HDPE	17.15	18.08	225
656	p3682	n4519	15.66	n3028	15.14	15.3	3.388	HDPE	16.85	16.33	225
657	p3685	n2425	15.726	n4522	15.746	5.9	0.34	HDPE	17.26	17.41	225
658	p3686	n4522	15.746	n2428	15.761	4.4	0.34	HDPE	17.41	17.55	225
659	p3687	n4522	16.22	n2426	16.817	11.9	5	HDPE	17.41	18.37	225
660	p3692	n2423	15.3	n4527	15.15	10.4	1.446	HDPE	16.49	16.34	225

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled) (m)	Slope (Calculate d) (%)	Material	Elevation Ground (Start) (m)	Elevation Ground (Stop) (m)	Diameter (mm)
661	p3693	n2422	15.09	n4527	15.15	6.6	0.912	HDPE	16.28	16.34	225
662	p3694	n2421	14.87	n4528	14.44	25.5	1.686	HDPE	16.06	15.63	225
663	p3695	n4528	14.44	n2416	14.27	4.5	3.789	HDPE	15.63	15.46	225
664	p3697	n2415	13.92	n2416	14.204	5.7	5	HDPE	15.11	15.46	225
665	p3699	n2420	16.71	n4530	16.82	11.6	0.946	HDPE	17.9	18.01	225
666	p3700	n2414	12.85	n4531	12.23	17.9	3.473	HDPE	14.04	13.42	225
667	p3701	n2413	12	n4531	12.23	12.1	1.896	HDPE	13.19	13.42	225
668	p3710	n2382	8.21	n2990	7.73	29.9	1.604	HDPE	9.4	8.92	225
669 670	p3712	n2990	7.73	n4534 n4534	7.91 7.91	4.8 16	3.764	HDPE	8.92	9.1 9.1	225 225
671	p3713 p3714	n4535 n4536	8.32 8.47	n4534	7.91	16.1	2.567 3.478	HDPE HDPE	9.51 9.66	9.1	225
672	p3714 p3715	n2381	8.72	n4536	8.47	10.1	2.358	HDPE	9.91	9.66	225
673	p3716	n2380	8.68	n4535	8.32	14	2.568	HDPE	9.87	9.51	225
674	p3717	n2374	9.37	n2377	9.17	30	0.667	HDPE	10.56	10.36	225
675	p3719	n2404	16.23	n2403	16.21	5.4	0.37	HDPE	17.42	17.4	225
676	p3723	n2272	14.28	n2273	14.38	2	4.941	HDPE	15.47	15.57	225
677	p3725	n2264	15.65	n2267	14.25	30	4.671	HDPE	16.84	15.44	225
678	p3726	n2287	25.26	n4539	25.19	14.3	0.491	HDPE	26.45	26.38	225
679	p3727	n4539	25.19	n2288	25.037	5.7	2.703	HDPE	26.38	26.32	225
680	p3730	n2222	16.057	n2258	15.956	30	0.34	HDPE	19.05	18.42	225
682	p3733	n2260	17.83	n2224	19.478	33	5	HDPE	19.02	21	225
683	p3734	n2227	26.36	n4542	26.713	7.1	5	HDPE	27.55	28.11	225
684	p3735	n4542	26.92	n2228	27.399	9.6	5	HDPE	28.11	28.72	225
686	p3738	n4544	26.161	n4545	25.81	7	5	HDPE	27.51	27	225
687 688	p3739 p3740	n4545 n2230	25.585 29.621	n2278	25.43 29.643	3.1 6.6	0.34	HDPE HDPE	27 31.31	26.62 31.36	225 225
689	p3740 p3741	n2230 n4547	29.621	n4546 n4546	29.643	4.3	0.34	HDPE	31.31	31.36	225
690	p3741 p3742	n2233	31.58	n2234	31.867	10.1	2.831	HDPE	32.77	33.92	225
691	p3745	n2235	31.968	n2236	32.07	30	0.34	HDPE	34.68	33.26	225
692	p3746	n2238	29.44	n2237	29.959	10.4	5	HDPE	30.63	31.91	225
693	p3747	n2247	28.57	n4549	28.968	8	5	HDPE	29.76	30.99	225
694	p3750	n2249	31.9	n4551	31.958	10.5	0.552	HDPE	33.09	33.2	225
695	p3751	n4551	31.958	n4552	31.98	6.5	0.34	HDPE	33.2	33.17	225
696	p3807	n2115	24.245	n2116	23.62	12.5	5	HDPE	25.77	24.81	225
697	p3808	n2117	21.371	n4582	20.42	19	5	HDPE	22.91	21.61	225
698	p3809	n4582	19.864	n2118	19.32	10.9	5	HDPE	21.61	20.51	225
699	p3810	n2216	17.378	n4583	17.33	14.3	0.34	HDPE	18.63	18.65	225
700	p3811	n4583	17.33	n2213	17.276	15.7	0.34	HDPE	18.65	18.57	225
701	p3812	n2212	17.07	n4584	16.81	17.3	1.499	HDPE	18.26	18	225
702	p3813	n2210	16.669	n4585	16.72	15	0.34	HDPE	18.11	17.91	225
703 704	p3815 p3816	n4586 n4586	16.45 16.45	n4584 n2207	16.81 15.344	12.6 23.9	2.848 4.631	HDPE HDPE	17.64 17.64	18	225 225
704	p3810 p3817	n2207	15.344	n2203	14.98	7.3	5	HDPE	16.75	16.73	225
706	p3818	n2204	13.49	n2202	13.344	6.4	2.298	HDPE	14.68	14.89	225
707	p3819	n2202	13.344	n2201	12.49	17.1	5	HDPE	14.89	13.68	225
708	p3823	n2175	10.73	n4590	10.41	20.9	1.533	HDPE	11.92	11.6	225
709	p3825	n4590	10.41	n4591	10.14	26.4	1.022	HDPE	11.6	11.33	225
710	p3826	n4591	10.14	n4593	9.84	29.9	1.002	HDPE	11.33	11.03	225
711	p3828	n4593	9.84	n2161	9.55	30	0.967	HDPE	11.03	10.74	225
712	p3830	n2181	13.892	n2182	13.925	9.7	0.34	HDPE	15.43	15.46	225
713	p3840	n2150	9.88	n2134	10.22	13.8	2.473	HDPE	11.07	11.41	225
714	p3841	n2133	11.43	n2132	11.75	10.5	3.053	HDPE	12.62	12.94	225
715	p3842	n2131	12.6	n2130	13.27	30	2.234	HDPE	13.79	14.46	225
716	p3844	n2125	16.14	n2124	16.68	30	1.8	HDPE	17.33	17.87	225
717	p5688	n4518	16.89	n2436	17.83	29.9	3.145	HDPE	18.08	19.02	225
719	CO-2	n2996	3.51	n4510	3.314	30.3	0.647	HDPE	4.7	4.58	225
723 726	CO-4 CO-6	n4510 n4517	3.314 15.96	CW -3 n3028	3.258 14.743	22.6 29.7	0.249 4.096	HDPE HDPE	4.58 17.15	4.58 16.33	315 225
726	CO-8	n4517 n3125	11.152	n3028 n3123	9.64	30.2	4.096	HDPE	12.39	10.83	225
731	CO-8	n2299	14.57	LS 6	14.509	17.9	0.34	HDPE	15.76	15.76	225
738	CO-10	n2153	9.328	LS 5	9.257	20.9	0.34	HDPE	10.53	10.53	225
172	p1528	n1960	41.264	n1961	40.934	30	1.1	HDPE	42.53	42.2	315
173	p1529	n1961	40.934	n1962	38.654	29.9	7.625	HDPE	42.2	39.92	315
174	p1533	n1962	38.654	n1967	36.874	22.3	7.993	HDPE	39.92	38.14	315

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled) (m)	Slope (Calculate d) (%)	Material	Elevation Ground (Start) (m)	Elevation Ground (Stop) (m)	Diameter (mm)
175	p1534	n1967	36.874	n4573	38.08	27.6	4.371	HDPE	38.14	39.27	225
176	p1536	n1967	36.874	n1971	34.384	29.9	8.328	HDPE	38.14	35.65	315
177	p1537	n1971	34.384	n1972	31.486	29.9	9.707	HDPE	35.65	32.77	315
178	p1538	n1972	31.486	n1973	30.564	9.2	10	HDPE	32.77	31.83	315
179	p1543	n1973	30.564	n1981	27.674	29.9	9.678	HDPE	31.83	28.94	315
180	p1544	n1981	27.674	n1982	26.824	30	2.834	HDPE	28.94	28.09	315
181	p1545	n1982	26.824	n1983	26.354	30	1.567	HDPE	28.09	27.62	315
182	p1546	n1983	26.354	n1984	24.944	30	4.706	HDPE	27.62	26.21	315
183	p1547	n1984	24.944	n1985	23.244	30	5.676	HDPE	26.21	24.51	315
184	p1548	n1985	23.244	n1986	22.014	30	4.104	HDPE	24.51	23.28	315
185 186	p1549 p1550	n1986 n1987	22.014	n1987 n1988	21.374 19.979	13.4 15.6	4.769 8.948	HDPE HDPE	23.28	22.64	315 315
187	p1550	n1988	19.979	n1990	16.904	30.8	10	HDPE	21.37	18.17	315
188	p1552	n1990	16.904	n1991	14.094	29.9	9.407	HDPE	18.17	15.36	315
189	p1553	n1991	14.094	n4569	11.204	31.3	9.221	HDPE	15.36	12.47	315
190	p1554	n1993	7.574	n1994	4.594	29.8	10	HDPE	9.29	5.86	315
191	p1555	n1994	4.255	n1995	1.274	29.8	10	HDPE	5.86	2.54	315
192	p1556	n1995	1.274	n1998	0.584	29.8	2.313	HDPE	2.54	1.92	315
193	p1557	n1998	0.584	n1999	0.484	30	0.333	HDPE	1.92	1.82	400
194	p1558	n1999	0.484	n2000	0.422	30	0.207	HDPE	1.82	2.01	400
195	p1559	n2001	0.38	n2002	0.36	9.8	0.209	HDPE	2.2	2.01	400
196	p1560	n2002	0.36	n2003	0.297	30	0.209	HDPE	2.01	1.95	400
197	p1561	n2004	0.234	n2005	0.171	30	0.211	HDPE	1.67	1.6	400
198	p1562	n4564	0.107	n2007	0.043	30	0.213	HDPE	1.69	1.61	400
199	p1563	n2007	0.043	n2008	-0.02	30	0.213	HDPE	1.61	1.66	400
200	p1564	n2008	-0.02	n2009	-0.084	30	0.213	HDPE	1.66	1.72	400
201	p1565 p1566	n2009 n2010	-0.084 -0.149	n2010 n2011	-0.149 -0.199	23.6	0.214	HDPE HDPE	1.72	1.79	400
202	p1567	n2010	-0.149	n2011	-0.199	25.2	0.213	HDPE	1.79	1.87	400
204	p1568	n4561	-0.223	n2015	-0.329	29	0.12	HDPE	2.04	1.4	560
205	p1569	n2015	-0.329	STP-2	-0.371	35.1	0.12	HDPE	1.4	1.15	560
206	p1813	n2338	21.87	n2339	22.06	4.8	3.984	HDPE	23.06	23.25	225
207	p1814	n2339	22.06	n2340	22.63	15.7	3.64	HDPE	23.25	23.82	225
208	p1815	n2340	22.63	n4478	23.56	30.2	3.077	HDPE	23.82	24.75	225
209	p1816	n2342	24	n2343	23.9	23.5	0.426	HDPE	25.19	25.09	225
210	p1817	n2343	23.9	n2344	22.98	30	3.069	HDPE	25.09	24.17	225
211	p1818	n2344	22.98	n2345	22.05	30	3.102	HDPE	24.17	23.24	225
212	p1819	n2345	22.05	n2346	20.607	20.8	6.925	HDPE	23.24	21.85	225
213	p1820	n2346	20.607	n2347	19.74	8.7	10	HDPE	21.85	20.93	225
214	p1821	n2348	18.671	n2349	16.01	26.6	10	HDPE	20.57	17.2	225
215	p1822	n2349	15.261	n2350	13.61	16.5	10	HDPE	17.2	14.8	225
216 217	p1823	n2351	9.408	n2352	6.45	29.6	10	HDPE	12.65	7.64	225
217	p1824 p1825	n2352 n2353	5.423 2.45	n2353 n2354	2.45 1.82	29.7 6.8	9.326	HDPE HDPE	7.64	3.64	225 225
219	p1825	n2354	1.82	n2355	1.5	10.2	3.134	HDPE	3.04	2.69	225
220	p1828	n4557	1.084	n2358	1.3	16	0.527	HDPE	2.3	2.19	225
221	p1829	n2358	1	n2359	0.92	4.7	1.694	HDPE	2.19	2.11	225
222	p1830	n4561	0.723	n2361	0.744	7.4	0.289	HDPE	2.04	2.01	315
223	p1831	n2361	0.744	n2362	0.814	6.4	1.089	HDPE	2.01	2.08	315
224	p1832	n2362	0.814	n2363	0.97	30	0.519	HDPE	2.08	2.54	315
225	p1833	n2363	0.97	n2364	1.048	30	0.26	HDPE	2.54	2.44	315
226	p1834	n2364	1.048	n2491	1.139	35	0.259	HDPE	2.44	2.47	315
227	p1891	n2441	20.707	n2442	17.73	29.8	10	HDPE	22.6	18.92	225
228	p1892	n2442	17.641	n2443	18.18	30	1.797	HDPE	18.92	19.37	225
229	p1893	n2443	18.18	n2444	18.99	24.2	3.348	HDPE	19.37	20.18	225
230	p1894	n2442	17.641	n2445	14.86	27.8	10	HDPE	18.92	16.05	225
231	p1895	n2445	14.715	n2446	15.6	30	2.951	HDPE	16.05	16.79	225
232	p1896	n2446	15.6 16.21	n4476	16.2	35.2	1.701	HDPE	16.79	17.41	225
234	p1897	n2448 n2445	14.715	n2449 n2450	16.38 13.49	10.7	1.587	HDPE HDPE	17.4 16.05	17.57 14.68	225 225
234	p1898	n2445 n2450	12.584	n2450 n2451	12.686	30	0.34	HDPE	14.68	14.68	225
236	p1900	n2451	12.584	n2452	12.78	27.7	0.34	HDPE	14.14	13.97	225
237	p1900	n2450	12.584	n2453	12.78	30	1.214	HDPE	14.68	13.41	225
238	p1902	n2453	12.22	n2454	11.7	30	1.733	HDPE	13.41	12.89	225

ID	Label	Start Node	Invert (Start) (m)	Stop Node	Invert (Stop) (m)	Length (Scaled)	Slope (Calculate	Material	Elevation Ground	Elevation Ground	Diameter (mm)
239	1002	n2454	11.7	n2455		(m) 11.2	d) (%) 4.21	HDPE	(Start) (m)	(Stop) (m) 12.47	225
240	p1903 p1904	n2454 n2456	11.7	n2455 n2457	11.228 13.504	29.9	6.988	HDPE	12.89 12.65	14.74	280
241	p1904 p1905	n2457	13.504	n2458	16.334	29.9	9.474	HDPE	14.74	17.57	280
242	p1903	n2458	16.334	n2459	18.444	29.9	7.052	HDPE	17.57	19.68	280
243	p1900 p1907	n2459	18.444	n2460	19.784	28.2	4.76	HDPE	19.68	21.02	280
244	p1908	n2461	19.97	n2462	20.73	25.5	2.983	HDPE	21.16	21.92	225
245	p1909	n2463	20.73	n2464	20.33	28.5	1.403	HDPE	21.92	21.52	225
246	p1910	n2464	20.33	n2465	19.93	30	1.333	HDPE	21.52	21.12	225
247	p1911	n2465	19.93	n2467	19.863	19.6	0.34	HDPE	21.12	21.18	225
248	p1912	n2467	19.863	n2468	19.776	25.7	0.34	HDPE	21.18	21.46	225
249	p1913	n2469	19.75	n2470	19.674	22.2	0.34	HDPE	21.55	22.29	225
250	p1914	n2470	19.674	n2471	19.592	24.1	0.34	HDPE	22.29	23.36	225
251	p1916	n2473	19.516	n2474	19.471	13.3	0.34	HDPE	23.52	22.37	225
252	p1918	n2476	19.423	n2477	19.06	15.8	2.299	HDPE	20.99	20.25	225
253	p1919	n2477	19.06	n2478	18.39	30	2.234	HDPE	20.25	19.58	225
254	p1920	n2478	18.39	n2479	16.941	19.7	7.357	HDPE	19.58	18.31	225
255	p1921	n2480	15.83	n2481	14.24	30	5.307	HDPE	17.02	15.43	225
256	p1922	n2482	13.78	n2483	13.06	18.7	3.854	HDPE	14.97	14.25	225
257	p1923	n2483	13.06	n2484	10.166	29.9	9.672	HDPE	14.25	12.16	225
258	p1924	n2484	10.166	n2485	7.19	29.8	10	HDPE	12.16	8.38	225
259	p1925	n2485	6.508	n2486	3.53	29.8	10	HDPE	8.38	4.72	225
260	p1926	n2486	3.53	n2487	2.074	19.3	7.524	HDPE	4.72	3.34	225
261	p1927	n2488	5.899	n2489	2.94	29.6	10	HDPE	8.78	4.13	225
262	p1928	n2489	2.94	n2490	1.6	29.9	4.476	HDPE	4.13	2.79	225
263	p1929	n2491	1.139	n2492	1.184	17.8	0.255	HDPE	2.47	2.45	315
264	p1930	n2492	1.184	n2493	1.334	30	0.5	HDPE	2.45	2.6	315
265	p1931	n2493	1.334	n2495	1.704	31	1.195	HDPE	2.6	2.97	315
266	p1932	n2495	1.704	n2487	2.074	29	1.274	HDPE	2.97	3.34	315
267	p1934	n2487	2.074	n2497	2.444	33.7	1.096	HDPE	3.34	3.71	315
268	p1935	n2498	2.614	n4471	3.745	19.7	5.743	HDPE	3.88	5.16	315
269	p1936	n2500	5.82	n2501	4.744	15.9	6.763	HDPE	7.01	6.1	225
270	p1937	n2501	4.744	n2503	3.97	7.7	10	HDPE	6.1	5.16	225
271	p1938	n2504	3.764	n2505	4.324	30	1.866	HDPE	5.03	5.56	280
272	p1939	n2505	4.324	n2507	4.624	13.3	2.249	HDPE	5.56	5.86	280
273	p1940	n2507	4.624	n2508	5.404	13.3	5.873	HDPE	5.86	6.64	280
274	p1941	n2508	5.404	n2510	6.224	26.6	3.08	HDPE	6.64	7.46	280
275	p1942	n2510	6.224	n2511	6.504	5.8	4.805	HDPE	7.46	7.74	280
276	p1943	n2512	6.724	n2513	7.644	20	4.602	HDPE	7.96	8.88	280
277	p1944	n2514	8.854	n2455	11.228	23.7	10	HDPE	10.09	12.47	280
278	p3560	n2468	19.776	n2469	19.75	7.8	0.34	HDPE	21.46	21.55	225
279	p3561	n2471	19.592	n2473	19.516	22.4	0.34	HDPE	23.36	23.52	225
280	p3562	n2474	19.471	n2476	19.423	13.9	0.34	HDPE	22.37	20.99	225
281	p3563	n2479	16.941	n4461	16.51	4.3	10	HDPE	18.31	17.7	225
282	p3564	n4461	16.416	n2480	15.83	5.9	10	HDPE	17.7	17.02	225
283	p3565	n2481	14.24	n4463	13.97	6.3	4.293	HDPE	15.43	15.16	225
284	p3567	n4463	13.97	n2482	13.78	4.9	3.852	HDPE	15.16	14.97	225
285	p3572	n2440	19.794	n2460	19.784	1.8	0.551	HDPE	21.03	21.02	280
286	p3573	n2440	19.794	n2461	19.97	4.5	3.918	HDPE	21.03	21.16	225
287	p3574	n2456	11.414	n2455	11.228	16.5	1.125	HDPE	12.65	12.47	280
288	p3576	n2514	8.854	n4467	8.744	1.8	5.949	HDPE	10.09	9.98	280
289	p3578	n4467	8.744	n4469	7.764	10.1	9.684	HDPE	9.98	9	280
290	p3579	n4469	7.764	n2513	7.644	1.8	6.572	HDPE	9	8.88	280
291	p3580	n2512	6.724	n2511	6.504	2.2	9.87	HDPE	7.96	7.74	280
292	p3583	n2504	3.764	n4471	3.745	7.7	0.249	HDPE	5.03	5.16	315
293	p3586	n4471	3.745	n2503	3.97	2.4	9.155	HDPE	5.16	5.16	225
294	p3588	n2498	2.614	n4472	2.494	5.9	2.017	HDPE	3.88	3.76	315
295	p3589	n4472	2.494	n2497	2.444	4.2	1.192	HDPE	3.76	3.71	315
296	p3592	n2491	1.139	n2490	1.6	6.8	6.794	HDPE	2.47	2.79	225
297	p3595	n2355	1.5	n2363	0.97	12.9	4.11	HDPE	2.69	2.54	225
298	p3596	n2350	12.774	n2351	11.46	13.1	10	HDPE	14.8	12.65	225
299	p3598	n2347	19.736	n2348	19.38	3.6	10	HDPE	20.93	20.57	225
300	p3599	n2448	16.21	n4476	16.2	3.1	0.34	HDPE	17.4	17.41	225
301	p3602	n2338	21.87	n2441	21.41	5.6	8.244	HDPE	23.06	22.6	225
302	p3759	n4557	1.084	n4558	1.1	4.7	0.34	HDPE	2.3	2.29	225

ID	Label	Start Node	Invert	Stop Node	Invert	Length (Scaled)	Slope (Calculate	Material	Elevation Ground	Elevation Ground	Diameter
	24001		(Start) (m)	Stop 1 to de	(Stop) (m)	(m)	d) (%)	1114101141			(mm)
303	p3761	n2359	0.92	n4560	0.824	28.2	0.34	HDPE	2.11	2.02	225
304	p3762	n4560	0.824	n2361	0.744	11.3	0.71	HDPE	2.02	2.01	225
305	p3766	n4561	-0.294	n2013	-0.278	7.6	0.217	HDPE	2.04	1.87	400
306	p3769	n2012	-0.223	n2011	-0.199	11.1	0.215	HDPE	1.77	1.81	400
307	p3771	n4564	0.107	n2005	0.171	30	0.212	HDPE	1.69	1.6	400
308	p3772	n2004	0.234	n4565	0.247	6.1	0.21	HDPE	1.67	1.79	400
309	p3773	n4565	0.247	n2003	0.297	23.9	0.21	HDPE	1.79	1.95	400
310	p3774	n2001	0.38	n4566	0.399	8.8	0.208	HDPE	2.2	2.36	400
311	p3776	n4566	0.399	n2000	0.422	11.3	0.208	HDPE	2.36	2.01	400
312	p3779	n1993	8.024	n4569	10.859	28.4	10	HDPE	9.29	12.47	315

APPENDIX : VI - FLEX TABLE - MANHOLES

SEWE	RAGE NE		ESIGN KA					IANHOLE	TABLE
22111							Hydraulic	Hydraulic	
		Elevation	Elevation	Elevation	Flow	Flow	Grade	Grade	Depth
ID	Label	(Ground)	(Rim) (m)	(Invert)	(Total In)	(Total	Line (Out)	Line (In)	(Structure)
		(m)	(Ithii) (iii)	(m)	(L/s)	Out) (L/s)	(m)	(m)	(m)
30	n3	28.1	28.1	26.91	1.001	1.078	26.938	26.938	1.19
31	n21	26.63	26.63	25.44	0	0.077	25.448	25.448	1.19
32	n22	25.8	25.8	24.61	0.077	0.154	24.621	24.621	1.19
33	n23	24.77	24.77	23.58	0.077	0.231	23.593	23.593	1.19
34	n24	23.64	23.64	22.45	0.231	0.308	22.465	22.465	1.19
35	n25	22.42	22.42	21.23	0.308	0.385	21.247	21.247	1.19
36	n26	21.16	21.16	19.97	0.385	0.462	19.988	19.988	1.19
37	n27	20.62	20.62	19.43	0.462	0.539	19.45	19.45	1.19
38	n28	20.85	20.85	19.66	0	0.077	19.668	19.668	1.19
39	n29	20.66	20.66	19.47	0.077	0.154	19.481	19.481	1.19
40	n30	19.82	19.82	18.63	0.154	0.231	18.643	18.643	1.19
41	n31	18.71	18.71	17.52	0.231	0.308	17.535	17.535	1.19
42	n32	17.82	17.82	16.391	1.232	1.309	16.421	16.421	1.43
43	n33	19.93	19.93	18.74	0.539	0.616	18.761	18.761	1.19
44	n34	19.37	19.37	18.18	0.616	0.693	18.202	18.202	1.19
45	n35	18.8	18.8	17.61	0.693	0.77	17.633	17.633	1.19
46	n36	18.21	18.21	17.02	0.77	0.847	17.044	17.044	1.19
47	n37	17.5	17.5	16.31	0.847	0.924	16.336	16.336	1.19
48	n38	16.78	16.78	15.59	0.924	1.001	15.617	15.617	1.19
49	n39	15.97	15.97	14.78	1.001	1.078	14.808	14.808	1.19
50	n41	15.64	15.64	14.45	1.078	1.155	14.481	14.481	1.19
51	n42	15.51	15.51	14.32	1.155	1.232	14.35	14.35	1.19
52	n43	15.29	15.29	14.1	1.232	1.309	14.13	14.13	1.19
53	n44	14.85	14.85	13.66	1.309	1.386	13.691	13.691	1.19
54	n45	14.31	14.31	13.12	1.386	1.463	13.152	13.152	1.19
55	n46	13.74	13.74	12.55	1.925	2.002	12.588	12.588	1.19
56	n47	14.25	14.25	13.06	0.385	0.462	13.078	13.078	1.19
57	n48	15.28	15.28	14.09	0.308	0.385	14.107	14.107	1.19
58	n49	16.14	16.14	14.95	0.231	0.308	14.965	14.965	1.19
59	n51	17.09	17.09	15.9	0.154	0.231	15.913	15.913	1.19
60	n52	17.88	17.88	16.69	0.077	0.154	16.701	16.701	1.19
61	n53	18.46	18.46	17.27	0	0.077	17.278	17.278	1.19
62	n284	15.45	15.45	14.26	0	0.077	14.269	14.269	1.19
63	n285	15.83	15.83	14.158	0.077	0.154	14.171	14.171	1.67
64	n286	15.68	15.68	14.056	0.154	0.231	14.071	14.071	1.62
65	n288	15.26	15.26	13.939	0.231	0.308	13.954	13.954	1.32
66	n369	15.01	15.01	13.82	0.308	0.385	13.837	13.837	1.19
67	n370	14.2	14.2	13.01	0.385	0.462	13.028	13.028	1.19
68	n371	13.32	13.32	12.13	0.462	0.539	12.15	12.15	1.19
69	n372	12.91	12.91	11.72	0.539	0.616	11.741	11.741	1.19
70	n382	11.75	11.75	8.866	1.386	1.463	8.898	8.898	2.88
71	n384	9.41	9.41	8.22	1.463	1.54	8.253	8.253	1.19
72	n385	8.33	8.33	7.14	1.54	1.617	7.174	7.174	1.19
73	n386	7.48	7.48	6.29	1.617	1.694	6.325	6.325	1.19
74	n387	6.7	6.7	5.51	1.694	1.771	5.546	5.546	1.19
75	n388	5.2	5.2	3.828	1.848	1.925	3.864	3.864	1.37
76	n389	3.52	3.52	2.33	1.925	2.002	2.368	2.368	1.19
77	n390	3.23	3.23	2.04	2.002	2.079	2.084	2.084	1.19
78	n391	3.26	3.26	1.938	2.079	2.156	1.983	1.983	1.32
79	n392	3.52	3.52	1.836	2.156	2.233	1.881	1.881	1.68

		Elevation		Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
		(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
0.0	202	2.25	2.25	` ´	2 222	, , , , , ,	(m)	(m)	, í
80	n393	3.35	3.35	1.734	2.233	2.31	1.799	1.799	1.62
81 82	n415 n416	11.16 10.66	11.16 10.66	8.968 9.07	0.693 0.616	0.77 0.693	8.995 9.096	8.995	2.19 1.59
83	n410	10.66	10.66	9.07	0.539	0.693	9.096	9.096 9.196	1.28
84	n417	10.43	10.43	9.172	0.339	0.539	9.196	9.196	1.28
85	n419	10.62	10.62	9.376	0.385	0.462	9.397	9.397	1.24
86	n420	10.68	10.68	9.478	0.308	0.385	9.497	9.497	1.2
87	n422	10.77	10.77	9.58	0.231	0.308	9.598	9.598	1.19
88	n425	11.09	11.09	9.9	0.154	0.231	9.913	9.913	1.19
89	n426	11.37	11.37	10.118	0.077	0.154	10.129	10.129	1.25
90	n429	11.41	11.41	10.22	0	0.077	10.229	10.229	1.19
91	n430	11.34	11.34	10.15	0	0.077	10.159	10.159	1.19
92	n433	11.35	11.35	10.095	0.077	0.154	10.108	10.108	1.25
93	n434	11.47	11.47	10.017	0.154	0.231	10.032	10.032	1.45
94	n436	11.42	11.42	9.915	0.231	0.308	9.933	9.933	1.5
95	n448	10.91	10.91	9.711	0.385	0.462	9.732	9.732	1.2
96	n449	10.81	10.81	9.609	0.462	0.539	9.629	9.629	1.2
97	n458	10.32	10.32	8.613	12.782	12.859	8.732	8.732	1.71
98	n459	10.29	10.29	8.715	12.705	12.782	8.833	8.833	1.57
99	n547	10.59	10.59	8.85	12.551	12.628	8.967	8.967	1.74
100	n548	10.85	10.85	8.952	12.474	12.551	9.069	9.069	1.9
101	n549	11.55	11.55	9.054	12.397	12.474	9.17	9.17	2.5
102	n550	12.39	12.39	9.156	12.32	12.397	9.272	9.272	3.23
103	n551	13.18	13.18	9.258	12.243	12.32	9.373	9.373	3.92
104	n552	13.93	13.93	9.36	12.166	12.243	9.475	9.475	4.57
105	n553	14.09	14.09	9.462	12.089	12.166	9.576	9.576	4.63
106	n563	13.63	13.63	9.512	12.012	12.089	9.626	9.626	4.12
107	n564	13.29	13.29	9.562	11.935	12.012	9.675	9.675	3.73
108	n565	13.04	13.04	9.592	11.858	11.935	9.705	9.705	3.45
109	n566	12.8	12.8	11.52	10.318	10.395	11.623	11.623	1.28
110 111	n567 n568	12.79 13.12	12.79 13.12	11.6	10.241 10.164	10.318	11.703 12.017	11.703 12.017	1.19 1.19
112	n569	13.12	13.12	11.93 12.238	10.164	10.241 10.164	12.017	12.017	1.19
113	n570	13.49	13.49	12.236	10.087	10.104	12.323	12.323	1.19
113	n570	14.05	14.05	12.86	9.933	10.087	12.442	12.442	1.19
115	n572	14.62	14.62	13.43	9.856	9.933	13.516	13.516	1.19
116	n573	15.37	15.37	14.18	9.779	9.856	14.266	14.266	1.19
117	n574	16.32	16.32	15.081	9.702	9.779	15.166	15.166	1.24
118	n575	16.94	16.94	15.157	9.625	9.702	15.256	15.256	1.78
119	n649	23.18	23.18	21.99	1.617	1.694	22.025	22.025	1.19
120	n650	24.04	24.04	22.85	1.54	1.617	22.884	22.884	1.19
121	n651	24.88	24.88	23.69	1.463	1.54	23.723	23.723	1.19
122	n652	25.7	25.7	24.51	1.386	1.463	24.542	24.542	1.19
123	n653	26.33	26.33	25.14	1.309	1.386	25.171	25.171	1.19
124	n654	27.15	27.15	25.96	1.232	1.309	25.99	25.99	1.19
125	n655	21.88	21.88	17.861	2.464	2.541	17.909	17.909	4.02
126	n656	21.77	21.77	17.782	2.541	2.618	17.831	17.831	3.99
127	n659	21.76	21.76	17.68	6.93	7.007	17.762	17.762	4.08
128	n661	21.98	21.98	20.79	4.235	4.312	20.846	20.846	1.19
129	n662	22.24	22.24	21.05	4.158	4.235	21.105	21.105	1.19
130	n665	22.75	22.75	21.56	2.772	2.849	21.605	21.605	1.19
131	n667	23.42	23.42	22.23	2.695	2.772	22.274	22.274	1.19
132	n731	29.66	29.66	28.47	7.238	7.315	28.543	28.543	1.19

		Elevation		Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
		(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
133	n741	29.6	29.6	28.41	0.77	0.847	(m) 28.434	(m) 28.434	1.19
134	n741	31.29	31.29	29.907	0.77	0.308	29.922	29.922	1.19
135	n743	34.19	34.19	31.593	0.231	0.231	31.605	31.605	2.6
136	n744	37.71	37.71	34.231	0.134	0.251	34.241	34.241	3.48
137	n746	40.11	40.11	37.631	0.077	0.134	37.638	37.638	2.48
138	n747	30.34	30.34	29.15	0.385	0.462	29.168	29.168	1.19
139	n748	31.27	31.27	30.08	0.308	0.385	30.097	30.097	1.19
140	n749	31.76	31.76	30.57	0.231	0.308	30.585	30.585	1.19
141	n750	31.83	31.83	30.64	0.154	0.231	30.655	30.655	1.19
142	n751	32.19	32.19	31	0.077	0.154	31.011	31.011	1.19
143	n752	32.28	32.28	31.09	0	0.077	31.098	31.098	1.19
144	n754	30.86	30.86	29.67	7.084	7.161	29.742	29.742	1.19
145	n755	30.24	30.24	29.05	7.161	7.238	29.123	29.123	1.19
146	n756	28.74	28.74	27.365	7.315	7.392	27.438	27.438	1.38
147	n757	28.02	28.02	26.508	7.392	7.469	26.582	26.582	1.51
148	n758	24.88	24.88	23.568	7.546	7.623	23.643	23.643	1.31
149	n759	23.26	23.26	22.07	7.623	7.7	22.145	22.145	1.19
150	n760	22.23	22.23	21.04	7.7	7.777	21.116	21.116	1.19
151	n761	21.17	21.17	19.948	7.777	7.854	20.024	20.024	1.22
152	n762	19.64	19.64	18.308	7.854	7.931	18.384	18.384	1.33
153	n763	18	18	15.726	9.163	9.24	15.823	15.823	2.27
154	n764	17.77	17.77	15.663	9.24	9.317	15.76	15.76	2.11
155	n765	17.09	17.09	15.587	9.317	9.394	15.67	15.67	1.5
156	n766	16.48	16.48	15.29	9.394	9.471	15.374	15.374	1.19
157	n767	16.45	16.45	15.224	9.548	9.625	15.323	15.323	1.23
158	n768	20.76	20.76	17.927	0.539	0.616	17.951	17.951	2.83
159	n769	20.6	20.6	17.963	0.462	0.539	17.986	17.986	2.64
160	n770	19.58	19.58	18.065	0.385	0.462	18.086	18.086	1.51
161	n772	20.83	20.83	19.64	0.154	0.231	19.653	19.653	1.19
162	n773	22.59	22.59	21.137	0.077	0.154	21.147	21.147	1.45
163	n792	22.44	22.44	21.246	1.232	1.309	21.276	21.276	1.19
164	n793	22.67	22.67	21.348	1.155	1.232	21.382	21.382	1.32
165	n794	22.64	22.64	21.45	1.078	1.155	21.483	21.483 21.877	1.19
166 167	n796 n797	23.04	23.04 23.52	21.85	0.924 0.847	1.001 0.924	21.877 22.356	22.356	1.19 1.19
168	n798	24.39	24.39	22.441	0.847	0.924	22.468	22.468	1.19
169	n799	24.86	24.86	22.518	0.693	0.77	22.545	22.545	2.34
170	n800	25.43	25.43	24.067	0.385	0.462	24.085	24.085	1.36
171	n801	27.16	27.16	25.738	0.308	0.385	25.754	25.754	1.42
172	n802	28.4	28.4	27.21	0.231	0.308	27.225	27.225	1.19
173	n803	28.69	28.69	27.5	0.154	0.231	27.513	27.513	1.19
174	n804	29.6	29.6	28.41	0.077	0.154	28.421	28.421	1.19
175	n805	30.28	30.28	29.09	0	0.077	29.098	29.098	1.19
176	n810	23.94	23.94	22.75	0	0.077	22.758	22.758	1.19
177	n819	26.34	26.34	25.15	0	0.077	25.159	25.159	1.19
178	n820	26.54	26.54	25.048	0.077	0.154	25.061	25.061	1.49
179	n821	26.45	26.45	24.972	0.154	0.231	24.985	24.985	1.48
180	n822	25.87	25.87	24.68	0.308	0.385	24.697	24.697	1.19
181	n825	25.01	25.01	23.82	0.616	0.693	23.842	23.842	1.19
182	n827	24.63	24.63	23.44	0.693	0.77	23.463	23.463	1.19
183	n828	24.25	24.25	23.06	0.77	0.847	23.088	23.088	1.19
184	n829	24.46	24.46	23.011	2.541	2.618	23.06	23.06	1.45
185	n830	24.23	24.23	22.988	2.618	2.695	23.032	23.032	1.24

		Elevation		Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
ID IID	Label	(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
		` ′		` ′	` ′	, , , , , ,	(m)	(m)	, í
186	n831	25.1	25.1	23.91	1.617	1.694	23.945	23.945	1.19
187	n834	26.05	26.05	24.86	1.54	1.617	24.894	24.894	1.19
188	n835	26.9	26.9	25.71	1.463	1.54	25.743	25.743	1.19
189	n836	27.57	27.57	26.38	1.386	1.463	26.412	26.412	1.19
190	n840	27.96	27.96	26.77	1.309	1.386	26.801	26.801	1.19 1.19
191 192	n842 n844	28.27 29.49	28.27 29.49	27.08	1.232 1.155	1.309 1.232	27.11 28.33	27.11 28.33	1.19
192	n847	30.84	30.84	29.65	1.078	1.155	29.679	29.679	1.19
193	n857	31.47	31.47	30.28	1.001	1.078	30.308	30.308	1.19
195	n860	31.89	31.89	30.7	0.924	1.001	30.727	30.727	1.19
196	n861	32	32	30.81	0.847	0.924	30.836	30.836	1.19
197	n862	32.48	32.48	31.29	0.77	0.847	31.314	31.314	1.19
198	n863	33.01	33.01	31.82	0.693	0.77	31.843	31.843	1.19
199	n866	33.6	33.6	32.41	0.616	0.693	32.432	32.432	1.19
200	n868	34.13	34.13	32.94	0.539	0.616	32.961	32.961	1.19
201	n870	34.61	34.61	33.42	0.462	0.539	33.44	33.44	1.19
202	n872	35.45	35.45	34.26	0.385	0.462	34.278	34.278	1.19
203	n875	36.66	36.66	35.47	0.308	0.385	35.487	35.487	1.19
204	n876	38.49	38.49	36.92	0.231	0.308	36.934	36.934	1.57
205	n878	40.01	40.01	38.82	0.154	0.231	38.833	38.833	1.19
206	n883	41.61	41.61	40.42	0.077	0.154	40.431	40.431	1.19
207	n884	42.9	42.9	41.71	0	0.077	41.718	41.718	1.19
208	n1515	17.37	17.37	15.828	1.155	1.232	15.862	15.862	1.54
209	n1516	17.12	17.12	15.93	1.078	1.155	15.963	15.963	1.19
210	n1517	17.23	17.23	16.04	1.001	1.078	16.071	16.071	1.19
211	n1518	17.48	17.48	16.29	0.924	1.001	16.317	16.317	1.19
212	n1519	17.62	17.62	16.43	0.77	0.847	16.454	16.454	1.19
213	n1522	17.73	17.73	16.54	0.693	0.77	16.563	16.563	1.19
214 215	n1523 n1524	18.82 19.96	18.82 19.96	17.63 18.77	0.385	0.462 0.385	17.648 18.787	17.648 18.787	1.19 1.19
216	n1525	20.8	20.8	19.61	0.308	0.308	19.625	19.625	1.19
217	n1528	21.27	21.27	19.877	0.231	0.231	19.023	19.023	1.19
218	n1529	25.13	25.13	21.527	0.134	0.251	21.538	21.538	3.6
219	n1531	12.74	12.74	9.617	1.386	1.463	9.706	9.706	3.12
220	n1532	12.21	12.21	9.694	1.309	1.386	9.73	9.73	2.52
221	n1533	12.19	12.19	9.713	1.232	1.309	9.748	9.748	2.48
222	n1534	11.25	11.25	9.796	1.155	1.232	9.83	9.83	1.45
223	n1535	11.14	11.14	9.841	1.078	1.155	9.873	9.873	1.3
224	n1536	11.14	11.14	9.898	1.001	1.078	9.93	9.93	1.24
225	n1537	11.19	11.19	10	0.924	1.001	10.031	10.031	1.19
226	n1538	11.58	11.58	10.39	0.847	0.924	10.416	10.416	1.19
227	n1539	11.97	11.97	10.78	0.77	0.847	10.804	10.804	1.19
228	n1540	12.75	12.75	11.56	0.693	0.77	11.583	11.583	1.19
229	n1541	13.07	13.07	11.88	0.616	0.693	11.902	11.902	1.19
230	n1543	14.06	14.06	12.87	0.539	0.616	12.891	12.891	1.19
231	n1544	15.21	15.21	14.02	0.462	0.539	14.04	14.04	1.19
232	n1545	16.01	16.01	14.705	0.385	0.462	14.723	14.723	1.3
233	n1546	17.21	17.21 18.6	15.632	0.308	0.385	15.648	15.648	1.58
234	n1547 n1550	18.6 23.34	23.34	17.142 21.856	0.154 0.693	0.231	17.155 21.879	17.155 21.879	1.46 1.48
236	n1552	8.92	8.92	7.374	13.013	13.09	7.473	7.473	1.48
237	n1553	7.88	7.88	6.69	0.77	0.847	6.714	6.714	1.19
238	n1554	9.15	9.15	7.66	0.693	0.77	7.683	7.683	1.19
230	111007	7.13	7.13	7.00	0.073	5.77	7.003	7.003	1.77

		Elevation		Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
12	2	(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
	4.5.5	` ′	- co	` ´	` ′	, ` ` ´	(m)	(m)	` ´
239	n1555	7.62	7.62	6.43	14.014	14.091	6.533	6.533	1.19
240	n1556	6.31	6.31	5.12	14.091	14.168	5.247	5.247	1.19
241	n1557	6.3	6.3	5.018	14.168	14.245	5.146	5.146	1.28
242	n1558 n1559	6.31	6.31 6.58	4.916 4.814	14.245 19.25	14.322 19.327	5.044 4.942	5.044 4.942	1.39 1.77
243	n1561	7.36	7.36	6.17	4.851	4.928	6.23	6.23	1.77
245	n1562	7.63	7.63	6.44	4.774	4.851	6.499	6.499	1.19
246	n1563	8.43	8.43	7.24	4.697	4.774	7.299	7.299	1.19
247	n1566	9.47	9.47	8.28	4.62	4.697	8.338	8.338	1.19
248	n1568	10.11	10.11	8.92	4.543	4.62	8.978	8.978	1.19
249	n1570	10.82	10.82	9.63	4.466	4.543	9.687	9.687	1.19
250	n1573	11.09	11.09	9.9	4.389	4.466	9.957	9.957	1.19
251	n1574	12	12	10.81	4.004	4.081	10.864	10.864	1.19
252	n1575	12.36	12.36	11.17	3.927	4.004	11.224	11.224	1.19
253	n1576	12.8	12.8	11.61	3.85	3.927	11.663	11.663	1.19
254	n1577	13.28	13.28	11.952	3.773	3.85	12.004	12.004	1.33
255	n1578	5.88	5.88	4.669	19.327	19.404	4.787	4.787	1.21
256	n1579	5.35	5.35	4.139	19.404	19.481	4.257	4.257	1.21
257	n1580	5.03	5.03	3.819	19.481	19.558	3.946	3.946	1.21
258	n1581	4.9	4.9	3.689	19.558	19.635	3.835	3.835	1.21
259	n1583	5.04	5.04	3.574	19.635	19.712	3.719	3.719	1.47
261	n1585	5	5	3.518	19.712	19.789	3.661	3.661	1.48
262	n1586	5.07	5.07	3.509	20.405	20.482	3.649	3.649	1.56
263	n1587	4.87	4.87	3.487	20.482	20.559	3.628	3.628	1.38
264	n1588	4.79	4.79	3.446	20.636	20.713	3.588	3.588	1.34
265	n1589	4.82	4.82	3.415	20.713	20.79	3.557	3.557	1.4
266	n1590	4.57	4.57	3.321 3.214	20.867	20.944	3.457 3.335	3.457	1.25 1.24
267 268	n1591 n1592	4.45 4.29	4.45 4.29	3.054	20.944 21.021	21.021 21.098	3.333	3.335 3.19	1.24
269	n1593	4.29	4.29	2.944	21.021	21.175	3.063	3.063	1.24
270	n1594	4.01	4.01	2.774	21.175	21.173	2.918	2.918	1.24
271	n1595	4.36	4.36	2.716	21.252	21.329	2.86	2.86	1.64
272	n1596	4.16	4.16	2.68	21.329	21.406	2.824	2.824	1.48
273	n1597	3.84	3.84	2.586	21.406	21.483	2.723	2.723	1.25
274	n1598	3.71	3.71	2.474	21.483	21.56	2.619	2.619	1.24
275	n1599	3.69	3.69	2.38	21.56	21.637	2.525	2.525	1.31
276	n1600	3.61	3.61	2.286	21.714	21.791	2.407	2.407	1.32
277	n1602	3.29	3.29	1.625	28.028	28.105	1.795	1.795	1.67
278	n1604	3.25	3.25	1.55	28.105	28.182	1.721	1.721	1.7
279	n1605	3.33	3.33	1.475	28.182	28.259	1.647	1.647	1.85
280	n1606	3.23	3.23	1.401	28.259	28.336	1.573	1.573	1.83
281	n1607	3.2	3.2	1.379	28.336	28.413	1.551	1.551	1.82
282	n1608	2.71	2.71	1.2	28.875	28.952	1.374	1.374	1.51
283	n1609	2.8	2.8	1.177	28.952	29.029	1.35	1.35	1.62
284	n1610	2.87	2.87	1.102	29.029	29.106	1.263	1.263	1.77
285	n1611	3.42	3.42	2.23	3.85	3.927	2.283	2.283	1.19
286	n1612	4.21	4.21	3.02	3.773	3.85	3.073	3.073	1.19
287 288	n1613 n1614	6.61 5.12	6.61 5.12	3.422 3.611	3.696 0.154	3.773 0.231	3.473 3.626	3.473 3.626	3.19 1.51
289	n1614	5.76	5.76	3.523	0.134	0.231	3.541	3.541	2.24
290	n1617	8.61	8.61	6.917	3.311	3.388	6.966	6.966	1.69
291	n1618	9.73	9.73	7.706	3.234	3.311	7.755	7.755	2.02
292	n1620	10.73	10.73	7.824	3.08	3.157	7.877	7.877	2.91
	111020	10.73	10.75	7.027	3.00	5.157	7.077	7.077	2.71

		Elevation	T1	Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
		(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
202	1.622	10.05	10.05	7.026	2.002	2.00	(m)	(m)	2.02
293 294	n1622	10.85 12.57	10.85	7.926	3.003	3.08 0.385	7.979 11.174	7.979 11.174	2.92 1.41
294	n1623 n1624	14.63	12.57 14.63	11.158 12.877	0.308	0.383	12.891	12.891	1.41
296	n1625	17.01	17.01	14.935	0.231	0.308	14.948	14.948	2.07
297	n1626	19.14	19.14	17.316	0.134	0.231	17.327	17.327	1.82
298	n1627	20.04	20.04	18.467	0.077	0.077	18.474	18.474	1.57
299	n1628	10.37	10.37	8.028	2.541	2.618	8.077	8.077	2.34
300	n1629	9.77	9.77	8.13	2.464	2.541	8.178	8.178	1.64
301	n1630	9.38	9.38	8.19	2.387	2.464	8.238	8.238	1.19
302	n1631	9.7	9.7	8.51	2.233	2.31	8.551	8.551	1.19
303	n1632	10.39	10.39	8.947	2.156	2.233	8.986	8.986	1.44
304	n1633	10.57	10.57	8.961	2.079	2.156	9.006	9.006	1.61
305	n1634	10.74	10.74	9.006	2.002	2.079	9.049	9.049	1.73
306	n1635	10.4	10.4	9.108	1.925	2.002	9.151	9.151	1.29
307	n1636	10.37	10.37	9.18	1.848	1.925	9.222	9.222	1.19
308	n1638	11.44	11.44	10.25	1.694	1.771	10.286	10.286	1.19
309	n1639	12.6	12.6	11.311	1.617	1.694	11.345	11.345	1.29
310	n1640	15.47	15.47	13.944	1.386	1.463	13.976	13.976	1.53
311	n1641	17.76	17.76	15.046	1.309	1.386	15.077	15.077	2.71
312	n1642	19.68	19.68	15.148	1.232	1.309	15.182	15.182	4.53
313	n1643	5.24	5.24	4.05	0.539	0.616	4.071	4.071	1.19
314	n1644	5.45	5.45	4.26	0.462	0.539	4.28	4.28	1.19
315	n1645	6.48	6.48	5.29	0.385	0.462	5.308	5.308	1.19
316	n1646	9.46	9.46	6.783	0.308	0.385	6.799	6.799	2.68
317	n1647	12.23	12.23	9.764	0.231	0.308	9.778	9.778	2.47
318	n1648	13.7	13.7	12.51	0.154	0.231	12.523	12.523	1.19
319	n1649	15.26	15.26	14.008	0.077	0.154	14.019	14.019	1.25
320	n1650	16.32	16.32	14.763	0	0.077	14.771	14.771	1.56
321	n1668	21.08	21.08	15.303	0.847	0.924	15.332	15.332	5.78
322	n1669	18.8	18.8	15.405	0.77	0.847	15.433	15.433	3.4
323	n1671	17.53	17.53	15.506	0.693	0.77	15.533	15.533	2.02
324 325	n1672 n1673	16.96 16.9	16.96 16.9	15.608 15.71	0.616	0.693	15.634	15.634	1.35
325	n1675	18.49	18.49	16.746	0.339	0.616	15.734 16.766	15.734 16.766	1.19 1.74
327	n1676	20.78	20.78	18.151	0.462	0.339	18.169	18.169	2.63
328	n1677	22.49	22.49	20.226	0.308	0.385	20.243	20.243	2.03
329	n1678	24.71	24.71	23.12	0.154	0.231	23.132	23.132	1.59
330	n1679	25.73	25.73	24.315	0.077	0.154	24.326	24.326	1.41
331	n1680	26.68	26.68	25.49	0.077	0.077	25.498	25.498	1.19
332	n1711	13.41	13.41	11.979	3.696	3.773	12.038	12.038	1.43
333	n1713	13.27	13.27	12.08	1.617	1.694	12.12	12.12	1.19
334	n1714	13.51	13.51	12.32	1.54	1.617	12.354	12.354	1.19
335	n1715	13.87	13.87	12.68	1.463	1.54	12.713	12.713	1.19
336	n1716	14.71	14.71	13.52	1.386	1.463	13.552	13.552	1.19
337	n1717	16.19	16.19	15	1.309	1.386	15.031	15.031	1.19
338	n1719	20.13	20.13	18.126	0.847	0.924	18.151	18.151	2
339	n1720	22.27	22.27	20.436	0.77	0.847	20.46	20.46	1.83
340	n1721	24.04	24.04	22.658	0.616	0.693	22.68	22.68	1.38
341	n1722	25.57	25.57	24.348	0.539	0.616	24.369	24.369	1.22
342	n1723	26.52	26.52	25.33	0.462	0.539	25.35	25.35	1.19
343	n1724	27.35	27.35	26.16	0.385	0.462	26.178	26.178	1.19
344	n1725	28.52	28.52	27.11	0.308	0.385	27.127	27.127	1.41
345	n1727	29.3	29.3	27.914	0.231	0.308	27.928	27.928	1.39

		Elevation		Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
		(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
215	1-00	` ′	21.11		· · ·	, ` ` · ·	(m)	(m)	, í
346	n1728	31.11	31.11	29.608	0.154	0.231	29.62	29.62	1.5
347	n1729	31.64	31.64	30.361	0.077	0.154	30.371	30.371	1.28
348	n1730	32.22	32.22	31.03	0	0.077	31.038	31.038	1.19
349	n4684	29.06	29.06	25.814	0	0.077	25.822	25.822	3.25
350	n4706	26.57	26.57	24.617	7.469	7.546	24.691	24.691	1.95
351	n4720	31.58	31.58	30.39	0	7.084	30.462	30.462	1.19
352	n4726	18.41	18.41	17.22	0.462	0.539	17.24	17.24	1.19
353	n4727	18.28	18.28	17.09	0.539	0.616	17.111	17.111	1.19
354	n4728	17.84	17.84	16.65	0.616	0.693	16.672	16.672	1.19
355	n4729	17.58	17.58	16.39	0.847	0.924	16.416	16.416	1.19
356	n4733	16.43	16.43	15.24	9.471	9.548	15.339	15.339	1.19
357	n4734	20.7	20.7	19.022	0	0.077	19.03	19.03	1.68
358	n4735	19.88	19.88	18.103	0.077	0.154	18.114	18.114	1.78
359	n4736	17.95	17.95	16.561	0.231	0.308	16.576	16.576	1.39
360	n4746	24.1	24.1	21.785	0.231	0.308	21.8	21.8	2.31
361	n4747	20.96	20.96	15.29	0.924	1.001	15.32	15.32	5.67
362	n4748	20.9	20.9	15.266	1.001	1.078	15.297	15.297	5.63
363	n4749	20.77	20.77	15.25	1.078	1.155	15.282	15.282	5.52
364	n4750	20.34	20.34	15.198	1.155	1.232	15.231	15.231	5.14
365	n4751	14.35	14.35	12.783	1.463	1.54	12.816	12.816	1.57
366	n4752	13.26	13.26	11.847	1.54	1.617	11.881	11.881	1.41
367	n4753	10.51	10.51	9.32	1.771	1.848	9.356	9.356	1.19
368	n4754	9.48	9.48	8.29	2.31	2.387	8.331	8.331	1.19
369	n4756	9.78	9.78	7.718	3.157	3.234	7.773	7.773	2.06
370	n4757	4.84	4.84	3.65	0	0.077	3.659	3.659	1.19
371	n4758	4.89	4.89	3.644	0.077	0.154	3.656	3.656	1.25
372	n4760	11.74	11.74	10.55	4.081	4.158	10.605	10.605	1.19
373	n4762	11.68	11.68	10.49	4.158	4.235	10.545	10.545	1.19
374	n4763	11.25	11.25	10.06	4.235	4.312	10.116	10.116	1.19
375	n4764	11.14	11.14	9.95	4.312	4.389	10.006	10.006	1.19
376	n4767	4.78	4.78	3.462	20.559	20.636	3.603	3.603	1.32
377	n4768	4.66	4.66	3.364	20.79	20.867	3.505	3.505	1.3
378	n4769	7.85	7.85	6.66	13.09	13.167	6.76	6.76	1.19
379	n4770	10.19	10.19	8.748	0.616	0.693	8.77	8.77	1.44
380	n4771	10.5	10.5	9.31	0.539	0.616	9.331	9.331	1.19
381	n4772 n4774	10.3	10.3 10.29	8.511 8.564	12.936 12.859	13.013 12.936	8.61 8.683	8.61	1.79 1.73
383	n4774 n4776	10.29	10.29	8.758	12.839	12.936	8.876	8.683 8.876	1.73
384	n4778	11.12	11.12	9.813	0.308	0.385	9.833	9.833	1.31
385	n4780 n4783	3.77	3.77	2.317	21.637	21.714	2.46	2.46	1.45
386	n4783 n4784	3.09	3.09	1.37	28.413	28.49	1.542	1.542	1.43
387	n4785	3.09	3.09	1.36	28.49	28.567	1.533	1.533	1.74
388	n4786	3.09	3.09	1.319	28.567	28.644	1.492	1.492	1.74
389	n4787	2.88	2.88	1.319	28.644	28.721	1.492	1.492	1.77
390	n4788	2.84	2.84	1.301	28.721	28.721	1.474	1.474	1.54
391	n4789	2.8	2.8	1.252	28.721	28.875	1.426	1.426	1.55
393	n4791	6.2	6.2	4.812	1.771	1.848	4.848	4.848	1.39
393	n4886	27.4	27.4	26.21	1.155	1.232	26.24	26.24	1.19
395	n4887	27.83	27.83	26.64	1.078	1.155	26.669	26.669	1.19
396	n4888	28.51	28.51	27.32	0.924	1.001	27.347	27.347	1.19
397	n4889	29.29	29.29	28.1	0.847	0.924	28.126	28.126	1.19
398	n4911	24.67	24.67	22.959	0.847	0.924	22.966	22.966	1.71
399	n4912	19.35	19.35	18.16	0.231	0.308	18.178	18.178	1.19
377	117712	17.55	17.33	10.10	0.231	0.500	10.1/0	10.1/0	1.17

		Elevation	Elevation	Elevation	Flow	Flow	Hydraulic Grade	Hydraulic Grade	Depth
ID	Label	(Ground)	(Rim) (m)	(Invert)	(Total In)	(Total	Line (Out)	Line (In)	(Structure)
		(m)	()	(m)	(L/s)	Out) (L/s)	(m)	(m)	(m)
400	n4913	19.4	19.4	18.119	0.308	0.385	18.139	18.139	1.28
401	n4914	22.96	22.96	21.77	1.694	1.771	21.806	21.806	1.19
402	n4915	22.14	22.14	20.95	1.771	1.848	20.986	20.986	1.19
403	n4976	22.85	22.85	21.66	1.001	1.078	21.688	21.688	1.19
404	n4978	24.12	24.12	22.623	0.154	0.231	22.638	22.638	1.5
405	n4979	23.9	23.9	22.71	0.077	0.154	22.723	22.723	1.19
406	n4986	26.03	26.03	24.816	0.231	0.308	24.83	24.83	1.21
407	n4987	25.76	25.76	24.57	0.385	0.462	24.588	24.588	1.19
408	n4988	25.6	25.6	24.41	0.462	0.539	24.43	24.43	1.19
409	n4990	25.09	25.09	23.9	0.539	0.616	23.921	23.921	1.19
30	n19	23.96	23.96	22.77	0.077	0.154	22.781	22.781	1.19
31	n49	16.14	16.14	14.95	0	0.077	14.958	14.958	1.19
32	n54	18.22	18.22	17.03	0.231	0.308	17.046	17.046	1.19
33	n55	18.13	18.13	16.94	0.308	0.385	16.959	16.959	1.19
34	n56 n57	13.67 13.09	13.67 13.09	10.806 10.76	2.772 2.849	2.849 2.926	10.857 10.811	10.857 10.811	2.86 2.33
36	n57	11.91	11.91	10.76	2.849	3.003	10.811	10.811	1.25
37	n59	10.77	10.77	8.789	8.316	8.393	8.867	8.867	1.23
38	n60	8.33	8.33	7.14	8.393	8.47	7.219	7.219	1.19
39	n62	6.84	6.84	5.09	39.963	40.04	5.293	5.293	1.75
40	n63	6.35	6.35	5.033	40.04	40.117	5.187	5.187	1.32
41	n64	5.97	5.97	4.671	40.117	40.194	4.825	4.825	1.3
42	n65	5.72	5.72	4.421	40.194	40.271	4.575	4.575	1.3
43	n66	5.02	5.02	3.721	40.271	40.348	3.875	3.875	1.3
44	n67	4.48	4.48	3.181	40.348	40.425	3.335	3.335	1.3
45	n68	4.31	4.31	3.011	40.425	40.502	3.207	3.207	1.3
46	n69	4.4	4.4	2.993	40.502	40.579	3.181	3.181	1.41
47	n71	4.19	4.19	2.891	40.579	40.656	3.046	3.046	1.3
48	n72	3.72	3.72	2.421	40.656	40.733	2.576	2.576	1.3
49	n76	11.52	11.52	10.217	4.62	4.697	10.275	10.275	1.3
50	n84	14.24	14.24	10.475	3.619	3.696	10.534	10.534	3.76
51	n85	14.58	14.58	10.445	4.158	4.235	10.507	10.507	4.14
52	n86	13.11	13.11	10.577	3.542	3.619	10.635	10.635	2.53
53	n88	11.87	11.87	10.68	3.465	3.542	10.737	10.737	1.19
54 55	n1439 n1440	24.68	24.68 23.59	23.49	0.077 0.154	0.154	23.501	23.501	1.19 1.19
56	n1440 n1441	24.67	24.67	23.48	0.134	0.231	22.413 23.491	22.413 23.491	1.19
57	n1441	23.53	23.53	22.34	0.077	0.134	22.353	22.353	1.19
58	n1443	22.48	22.48	21.29	0.134	0.308	21.305	21.305	1.19
59	n1444	22.6	22.6	21.41	0.231	0.308	21.425	21.425	1.19
60	n1445	21.65	21.65	20.46	0.308	0.385	20.477	20.477	1.19
61	n1446	21.75	21.75	20.56	0.308	0.385	20.577	20.577	1.19
62	n1447	21.16	21.16	19.97	0.385	0.462	19.988	19.988	1.19
63	n1448	21.06	21.06	19.87	0.385	0.462	19.888	19.888	1.19
64	n1449	20.79	20.79	19.518	2.156	2.233	19.581	19.581	1.27
65	n1450	20.96	20.96	19.493	7.623	7.7	19.58	19.58	1.47
66	n1451	20.81	20.81	19.62	1.617	1.694	19.66	19.66	1.19
67	n1452	20.93	20.93	19.627	4.851	4.928	19.69	19.69	1.3
68	n1454	20.87	20.87	19.68	1.848	1.925	19.722	19.722	1.19
69	n1455	22.19	22.19	20.036	1.771	1.848	20.072	20.072	2.15
70	n1456	22.8	22.8	20.138	1.617	1.694	20.177	20.177	2.66
71	n1457	21.87	21.87	20.24	1.54	1.617	20.278	20.278	1.63
72	n1485	21.54	21.54	20.3	1.463	1.54	20.337	20.337	1.24

		Elevation		Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
		(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
72	1.407	` ′	22.2		` ′	, , , , , ,	(m)	(m)	` ´
73	n1487	22.2	22.2	21.01	1.309	1.386	21.041	21.041	1.19
74 75	n1488	22.28	22.28	21.09	1.232	1.309	21.12	21.12	1.19
76	n1489 n1490	23.21 24.13	23.21 24.13	21.249 21.351	1.155 1.078	1.232 1.155	21.28 21.384	21.28 21.384	1.96 2.78
77	n1490	24.13	24.13	21.373	1.078	1.133	21.384	21.384	3.5
78	n1495	27.42	27.42	21.453	0.924	1.001	21.483	21.404	5.97
79	n1497	26.82	26.82	21.555	0.924	0.924	21.584	21.584	5.27
80	n1498	25.43	25.43	21.613	0.77	0.847	21.641	21.641	3.82
81	n1499	24.76	24.76	21.656	0.693	0.77	21.683	21.683	3.1
82	n1500	24.1	24.1	21.758	0.616	0.693	21.784	21.784	2.34
83	n1501	23.05	23.05	21.86	0.539	0.616	21.884	21.884	1.19
84	n1502	23.59	23.59	22.4	0.462	0.539	22.42	22.42	1.19
85	n1503	29.68	29.68	27.887	0.077	0.154	27.897	27.897	1.79
86	n1504	32.77	32.77	30.398	0	0.077	30.406	30.406	2.37
87	n1505	33.38	33.38	32.19	0.616	0.693	32.216	32.216	1.19
88	n1506	33.46	33.46	32.127	0.693	0.77	32.15	32.15	1.33
89	n1507	32.93	32.93	31.74	0.77	0.847	31.764	31.764	1.19
90	n1508	31.48	31.48	30.29	1.232	1.309	30.32	30.32	1.19
91	n1509	33.53	33.53	32.277	0.308	0.385	32.294	32.294	1.25
92	n1510	34.6	34.6	33.336	0.231	0.308	33.351	33.351	1.26
93	n1511	37.76	37.76	36.393	0.154	0.231	36.406	36.406	1.37
94	n1512	39.45	39.45	37.875	0.077	0.154	37.886	37.886	1.57
95	n1658	25.94	25.94	24.75	0	0.077	24.758	24.758	1.19
96	n1661	18.27	18.27	16.415	30.723	30.8	16.554	16.554	1.86
97	n1663	19.02	19.02	17.754	29.722	29.799	17.892	17.892	1.27
98	n1664	20.59	20.59	19.324	29.645	29.722	19.461	19.461	1.27
99	n1665	22.17	22.17	20.645	29.568	29.645	20.782	20.782	1.52
100	n1666	22.6	22.6	20.72	29.491	29.568	20.895	20.895	1.88
101	n1667	22.06	22.06	20.794	0.154	29.337	20.97	20.97	1.27
102	n1680	26.68	26.68	25.49	0	0.077	25.498	25.498	1.19
103	n1681 n1682	25.22 22.27	25.22 22.27	24.03 20.001	0.077 0.154	0.154 0.231	24.041 20.014	24.041 20.014	1.19 2.27
104	n1702	18.59	18.59	17.4	0.134	0.231	17.409	17.409	1.19
105	n1702	18.47	18.47	17.28	0.077	0.077	17.409	17.409	1.19
107	n1703	18.37	18.37	17.178	0.077	0.134	17.191	17.191	1.19
107	n1704	18.47	18.47	16.634	0.134	0.616	16.658	16.658	1.19
110	n1709	18.57	18.57	16.736	0.462	0.539	16.759	16.759	1.83
111	n1710	18.28	18.28	16.838	0.385	0.462	16.859	16.859	1.44
112	n1730	32.22	32.22	31.03	0	0.077	31.038	31.038	1.19
113	n1731	32.04	32.04	30.85	0.077	0.154	30.861	30.861	1.19
114	n1733	28.65	28.65	27.46	0.308	0.385	27.477	27.477	1.19
115	n1734	25.75	25.75	24.56	0.385	0.462	24.578	24.578	1.19
116	n1735	23.33	23.33	22.14	0.462	0.539	22.16	22.16	1.19
117	n1736	22.05	22.05	20.86	0.539	0.616	20.881	20.881	1.19
118	n1737	21.04	21.04	19.85	1.54	1.617	19.884	19.884	1.19
119	n1738	21.5	21.5	20.31	1.463	1.54	20.343	20.343	1.19
120	n1739	21.14	21.14	19.95	2.849	2.926	19.996	19.996	1.19
121	n1741	22.01	22.01	20.82	1.386	1.463	20.852	20.852	1.19
122	n1742	22.87	22.87	21.68	0.693	0.77	21.703	21.703	1.19
123	n1743	21.9	21.9	20.71	0.385	0.462	20.728	20.728	1.19
124	n1744	22.5	22.5	20.989	0.308	0.385	21.006	21.006	1.51
125	n1745	23.71	23.71	22.52	3.542	11.319	22.629	22.629	1.19
126	n1746	24.16	24.16	22.97	0.616	0.693	22.992	22.992	1.19

		Elevation		Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
		(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
107	1747	24.0	24.0	` ´	2.465	, , , , , ,	(m)	(m)	` ´
127	n1747	24.9	24.9	23.074	3.465	3.542	23.124	23.124	1.83
128 129	n1748 n1749	25.22	25.22	23.431	0.539	0.616	23.451	23.451	1.79
130	n1749 n1750	25.55 26.15	25.55 26.15	23.472 23.533	0.462 0.385	0.539 0.462	23.494 23.553	23.494 23.553	2.08
131	n1750	26.13	26.13	23.176	3.311	3.388	23.232	23.232	2.87
132	n1751	27.45	27.45	23.271	3.234	3.311	23.326	23.326	4.18
133	n1753	26.71	26.71	23.567	0.308	0.385	23.586	23.586	3.14
134	n1754	27.31	27.31	23.634	0.231	0.308	23.652	23.652	3.68
135	n1755	27.43	27.43	23.344	1.232	1.309	23.379	23.379	4.09
136	n1756	27.11	27.11	23.736	0.154	0.231	23.751	23.751	3.37
137	n1757	26.83	26.83	23.446	0.154	0.231	23.461	23.461	3.38
138	n1758	26.43	26.43	23.838	0.077	0.154	23.851	23.851	2.59
139	n1759	26.05	26.05	23.548	0.077	0.154	23.561	23.561	2.5
140	n1760	25.13	25.13	23.94	0	0.077	23.949	23.949	1.19
141	n1761	24.84	24.84	23.65	0	0.077	23.659	23.659	1.19
142	n1762	24.1	24.1	22.91	0	0.077	22.918	22.918	1.19
143	n1763	24	24	22.81	0	0.077	22.818	22.818	1.19
144	n1764	23.44	23.44	22.25	0.154	0.231	22.263	22.263	1.19
145	n1765	23.5	23.5	22.31	0.077	0.154	22.321	22.321	1.19
146	n1766	23.24	23.24	22.05	0.231	0.308	22.066	22.066	1.19
147	n1767	23.14	23.14	21.95	0.154	0.231	21.963	21.963	1.19
148	n1768	23.08	23.08	21.89	0.308	0.385	21.907	21.907	1.19
149 150	n1769	22.94	22.94	21.75	0.231	0.308	21.766	21.766	1.19
150	n1770 n1771	22.89 22.78	22.89 22.78	21.7	0.385	0.462 0.385	21.721 21.607	21.721 21.607	1.19 1.19
151	n1772	22.78	22.78	21.598	0.308	0.539	21.621	21.621	1.19
153	n1773	22.57	22.57	21.38	0.385	0.462	21.401	21.401	1.19
154	n1774	22.81	22.81	21.496	0.539	0.616	21.517	21.517	1.31
155	n1776	23.46	23.46	21.131	1.232	1.309	21.165	21.165	2.33
156	n1778	25.02	25.02	20.914	1.771	1.848	20.955	20.955	4.11
157	n1779	25.35	25.35	20.812	1.848	1.925	20.854	20.854	4.54
158	n1781	24.59	24.59	20.643	2.387	2.464	20.691	20.691	3.95
159	n1782	24.12	24.12	20.598	2.464	2.541	20.647	20.647	3.52
160	n1783	22.81	22.81	20.497	2.541	2.618	20.54	20.54	2.31
161	n1784	21.29	21.29	20.1	2.618	2.695	20.144	20.144	1.19
162	n1785	19.82	19.82	18.63	2.695	2.772	18.674	18.674	1.19
163	n1786	18.54	18.54	17.35	2.772	2.849	17.395	17.395	1.19
164	n1787	16.8	16.8	15.61	2.849	2.926	15.656	15.656	1.19
165	n1788	15.21	15.21	14.02	2.926	3.003	14.066	14.066	1.19
166	n1789	14.72	14.72	13.53	3.157	3.234	13.578	13.578	1.19
167 168	n1790	14.09 13.5	14.09 13.5	12.9 12.31	3.234	3.311	12.949	12.949	1.19 1.19
169	n1791 n1792	12.66	12.66	12.31	3.311	3.388	12.359 11.52	12.359 11.52	1.19
170	n1792 n1793	14.38	14.38	13.114	30.877	30.954	13.254	13.254	1.19
171	n1793	12.5	12.5	11.234	30.877	31.031	11.375	11.375	1.27
172	n1795	12.04	12.04	10.774	31.031	31.108	10.915	10.915	1.27
173	n1796	10.25	10.25	8.984	31.108	31.185	9.125	9.125	1.27
174	n1797	7.89	7.89	6.624	31.185	31.262	6.765	6.765	1.27
175	n1798	6.58	6.58	5.314	31.262	31.339	5.499	5.499	1.27
176	n1799	6.52	6.52	5.24	31.339	31.416	5.426	5.426	1.28
177	n1800	6.52	6.52	5.165	31.416	31.493	5.355	5.355	1.35
178	n1807	10.7	10.7	8.885	5.236	5.313	8.956	8.956	1.81
179	n1808	10.57	10.57	8.902	5.159	5.236	8.972	8.972	1.67

		Elevation		Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
	Laoci	(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
		, í		` ´		1 1 1	(m)	(m)	` ´
180	n1809	10.35	10.35	8.992	5.082	5.159	9.062	9.062	1.36
181	n1810	10.96	10.96	9.77	4.697	4.774	9.829	9.829	1.19
182	n1811	11.84	11.84	10.241	4.543	4.62	10.306	10.306	1.6
183	n1812	13.52	13.52	10.343	4.312	4.389	10.407	10.407	3.18
184	n1813	14.35	14.35	10.422	4.235	4.312	10.485	10.485	3.93
185 186	n1814 n1815	15.53 16.16	15.53	14.34	0.385	0.462 0.385	14.358	14.358	1.19 1.19
187	n1816	16.16	16.16 16.23	14.97 15.04	0.308	0.308	14.987 15.055	14.987 15.055	1.19
188	n1817	16.25	16.25	15.16	0.231	0.308	15.033	15.173	1.19
189	n1818	16.57	16.57	15.38	0.134	0.231	15.173	15.173	1.19
190	n1819	17.04	17.04	15.85	0.077	0.134	15.858	15.858	1.19
191	n1820	17.25	17.25	13.529	0.539	0.616	13.553	13.553	3.72
192	n1821	15.3	15.3	13.415	0.693	0.77	13.438	13.438	1.89
193	n1823	16.22	16.22	13.457	0.616	0.693	13.483	13.483	2.76
194	n1825	17.62	17.62	13.631	0.462	0.539	13.653	13.653	3.99
195	n1826	17.43	17.43	13.733	0.385	0.462	13.754	13.754	3.7
196	n1827	17.89	17.89	13.818	0.308	0.385	13.837	13.837	4.07
197	n1828	15.38	15.38	14.19	0	0.077	14.199	14.199	1.19
198	n1829	16.12	16.12	14.107	0.077	0.154	14.12	14.12	2.01
199	n1830	17.03	17.03	14.005	0.154	0.231	14.02	14.02	3.02
200	n1831	17.55	17.55	13.903	0.231	0.308	13.921	13.921	3.65
201	n1832	17.94	17.94	16.75	0	0.077	16.758	16.758	1.19
202	n1833	17.49	17.49	16.3	0.077	0.154	16.311	16.311	1.19
203	n1834	17.02	17.02	15.83	0.154	0.231	15.843	15.843	1.19
204	n1835	16.45	16.45	14.556	0.385	0.462	14.574	14.574	1.89
205	n1836	15.19	15.19	14	0.462	0.539	14.02	14.02	1.19
206	n1837	13.91	13.91	12.72	0.539	0.616	12.741	12.741	1.19
207	n1838	13	13	11.81	0.616	0.693	11.832	11.832	1.19
208	n1839	12.08	12.08	10.89	0.693	0.77	10.913	10.913	1.19
209	n1840	11.66	11.66	10.47	0.77	0.847	10.498	10.498	1.19
210	n1841	11.73	11.73	10.421	0.847	0.924	10.446	10.446	1.31
211	n1842	13.16	13.16	10.839	1.925	2.002	10.882	10.882	2.32
212	n1843	8.87	8.87	7.68	0.924	1.001	7.707	7.707	1.19
213	n1844	8.63	8.63	7.44	1.001	1.078	7.468	7.468	1.19
214	n1845	8.17	8.17	6.98	1.078	1.155	7.013	7.013	1.19
215	n1846	8.15	8.15	6.878	1.771	1.848	6.919	6.919	1.27
216	n1848	9.1	9.1	7.91	0.539	0.616	7.931	7.931	1.19
217	n1849	11.07	11.07	9.88	0.462	0.539	9.9	9.9	1.19
218	n1850	12.13	12.13	10.94	0.385	0.462	10.958	10.958	1.19
219	n1851	12.23	12.23	11.04	0.308	0.385	11.057	11.057	1.19
220	n1852 n1854	13.17 13.86	13.17 13.86	11.98 12.67	0.231 0.154	0.308	11.995 12.683	11.995 12.683	1.19 1.19
222	n1854	14.92	14.92	13.73	0.134	0.231	13.741	13.741	1.19
223	n1856	21.48	21.48	20.29	2.772	2.849	20.335	20.335	1.19
224	n1857	22.08	22.08	20.29	2.772	2.849	20.333	20.333	1.19
225	n1858	23.71	23.71	22.52	2.255	2.233	22.56	22.56	1.19
226	n1860	22.24	22.24	21.05	0.231	0.308	21.068	21.068	1.19
227	n1861	22.72	22.72	21.53	0.231	0.231	21.543	21.543	1.19
228	n1862	24.19	24.19	23	0.134	0.251	23.011	23.011	1.19
229	n1863	25.16	25.16	23.97	2.079	2.156	24.009	24.009	1.19
230	n1864	25.7	25.7	24.51	0	0.077	24.518	24.518	1.19
231	n1865	25.93	25.93	24.74	2.002	2.079	24.778	24.778	1.19
232	n1866	27.22	27.22	26.03	1.925	2.002	26.068	26.068	1.19

		Elevation	TIL .	Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
		(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
233	n1867	28.34	28.34	27.15	1.848	1.925	(m) 27.187	(m) 27.187	1.19
234	n1868	29.24	29.24	28.05	1.771	1.923	28.086	28.086	1.19
235	n1869	29.24	29.24	28.74	1.694	1.771	28.776	28.776	1.19
236	n1870	30.36	30.36	28.92	1.617	1.694	28.955	28.955	1.19
237	n1872	30.53	30.53	29.34	1.309	1.386	29.371	29.371	1.19
238	n1873	30.62	30.62	29.036	1.54	1.617	29.075	29.075	1.58
239	n1874	30.6	30.6	29.138	0.077	0.154	29.151	29.151	1.46
240	n1875	30.43	30.43	29.24	0	0.077	29.249	29.249	1.19
241	n1906	36.72	36.72	34.939	0.539	0.616	34.96	34.96	1.78
242	n1907	36.77	36.77	35.58	0.462	0.539	35.6	35.6	1.19
243	n1908	37.37	37.37	35.943	0.385	0.462	35.961	35.961	1.43
244	n1910	37.91	37.91	36.72	0.154	0.231	36.733	36.733	1.19
245	n1911	38.6	38.6	37.399	0.077	0.154	37.409	37.409	1.2
246	n1912	38.68	38.68	37.49	0	0.077	37.499	37.499	1.19
247	n1941	43.27	43.27	42.08	0	0.077	42.088	42.088	1.19
248	n1942	43.06	43.06	41.87	0.231	0.308	41.888	41.888	1.19
249	n1943	43.04	43.04	41.79	0.308	0.385	41.807	41.807	1.25
250	n1944	42.82	42.82	41.63	0.462	0.539	41.653	41.653	1.19
251	n1945	42.89	42.89	41.7	0.385	0.462	41.72	41.72	1.19
252	n1946	42.89	42.89	41.56	0.539	0.616	41.585	41.585	1.33
253	n1947	42.81	42.81	41.528	0.616	0.693	41.55	41.55	1.28
254	n1948	42.46	42.46	41.27	0.693	0.77	41.293	41.293	1.19
255	n1949	41.73	41.73	40.54	1.155	1.232	40.57	40.57	1.19
256	n1950	30.22	30.22	29.03	1.848	1.925	29.067	29.067	1.19
257	n1951	33.67	33.67	32.01	1.771	1.848	32.046	32.046	1.66
258	n1952	36.27	36.27	35.08	1.694	1.771	35.116	35.116	1.19
259	n1953	38.35	38.35	37.16	1.617	1.694	37.195	37.195	1.19
260	n1954	40.34	40.34	39.15	1.309	1.386	39.181 40.18	39.181	1.19
261 262	n1955 n1956	41.34	41.34	40.15 40.576	1.232 0.308	1.309	40.18	40.18 40.594	1.19 1.23
263	n1956 n1957	41.88	41.88	40.576	0.308	0.385	40.594	40.594	1.23
264	n1957	41.88	41.88	40.078	0.231	0.308	40.795	40.795	1.19
265	n1959	42.25	42.25	41.06	0.134	0.251	41.071	41.071	1.19
266	n1960	42.53	42.53	41.34	0.077	0.077	41.348	41.348	1.19
267	n2018	28.32	28.32	27.13	0.924	1.001	27.157	27.157	1.19
268	n2019	30.5	30.5	29.31	0.847	0.924	29.336	29.336	1.19
269	n2020	32.2	32.2	31.01	0.693	0.77	31.033	31.033	1.19
270	n2021	33.31	33.31	32.12	0.616	0.693	32.142	32.142	1.19
271	n2022	33.64	33.64	32.45	0.462	0.539	32.47	32.47	1.19
272	n2023	35.69	35.69	34.5	0.385	0.462	34.518	34.518	1.19
273	n2024	37.72	37.72	36.53	0.308	0.385	36.547	36.547	1.19
274	n2025	39.02	39.02	37.83	0.231	0.308	37.845	37.845	1.19
275	n2026	40.74	40.74	39.55	0	0.077	39.558	39.558	1.19
276	n2072	24.25	24.25	21.016	1.694	1.771	21.056	21.056	3.23
277	n2073	24.21	24.21	23.009	0.308	0.385	23.025	23.025	1.2
278	n2074	24.26	24.26	23.07	0.231	0.308	23.088	23.088	1.19
279	n2075	24.58	24.58	23.39	0.154	0.231	23.403	23.403	1.19
280	n2076	25.69	25.69	24.5	0.077	0.154	24.511	24.511	1.19
281	n2078	27.05	27.05	25.86	0	0.077	25.868	25.868	1.19
282	n2085	24.38	24.38	23.19	0.308	0.385	23.209	23.209	1.19
283	n2086	24.72	24.72	23.53	0.231	0.308	23.545	23.545	1.19
284	n2088	25.89	25.89	24.7	0.154	0.231	24.713	24.713	1.19
285	n2090	26.49	26.49	25.3	0.077	0.154	25.311	25.311	1.19

		Elevation	E1	Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation (Rim) (m)	(Invert)	(Total In)	(Total	Grade Line (Out)	Grade Line (In)	(Structure)
		(m)	(Kiiii) (iii)	(m)	(L/s)	Out) (L/s)	(m)	(m)	(m)
286	n2091	27.5	27.5	26.31	0	0.077	26.318	26.318	1.19
287	n4335	15.95	15.95	14.76	0	0.077	14.769	14.769	1.19
288	n4336	16.08	16.08	14.658	0.077	0.154	14.671	14.671	1.42
289	n4603	14.83	14.83	13.64	3.08	3.157	13.688	13.688	1.19
290	n4604	15.04	15.04	13.85	3.003	3.08	13.897	13.897	1.19
291	n4614	25.48	25.48	20.766	1.925	2.002	20.809	20.809	4.71
292	n4615	22.91	22.91	21.233	1.155	1.232	21.266	21.266	1.68
293	n4616	22.68	22.68	21.266	0.462	0.539	21.289	21.289	1.41
294	n4623	33.44	33.44	32.25	0.539	0.616	32.271	32.271	1.19
295	n4626	39.21	39.21	38.02	0.154	0.231	38.033	38.033	1.19
296	n4627	40.19	40.19	39	0.077	0.154	39.011	39.011	1.19
297	n4628	43.15	43.15	41.934	0.154	0.231	41.947	41.947	1.22
298	n4629	43.16	43.16	41.97	0.077	0.154	41.983	41.983	1.19
299	n4643	37.45	37.45	36.26	0.231	0.308	36.275	36.275	1.19
300	n4644	37.25	37.25	36.06	0.308	0.385	36.079	36.079	1.19
301	n4645	28.27	28.27	26.02	0.154	0.231	26.033	26.033	2.25
302	n4647	26.26	26.26	24.382	0.231	0.308	24.396	24.396	1.88
303	n4648	24.78	24.78	23.445	0.308	0.385	23.461	23.461	1.34
304	n4649	23.92	23.92	22.73	0.385	0.462	22.748	22.748	1.19
305	n4650	39.16	39.16	37.97	0	0.077	37.979	37.979	1.19
306	n4653	21.53	21.53	20.34	1.386	1.463	20.377	20.377	1.19
307	n4654	39.97	39.97	38.78	1.386	1.463	38.812	38.812	1.19
308	n4655	39.28	39.28	38.09	1.463	1.54	38.123	38.123	1.19
309	n4656 n4657	38.52 31.74	38.52 31.74	37.33 30.55	1.54 0.77	1.617 0.847	37.364 30.574	37.364 30.574	1.19 1.19
310	n4658	25.62	25.62	23.138	3.388	3.465	23.194	23.194	2.48
312	n4663	10.26	10.26	9.046	5.005	5.082	9.115	9.115	1.21
313	n4664	10.29	10.29	9.068	4.928	5.005	9.113	9.115	1.22
314	n4665	10.27	10.27	9.08	4.851	4.928	9.148	9.148	1.19
315	n4666	10.79	10.79	9.6	4.774	4.851	9.659	9.659	1.19
316	n4667	12.82	12.82	10.305	4.466	4.543	10.37	10.37	2.51
317	n4668	13.35	13.35	10.334	4.389	4.466	10.398	10.398	3.02
319	n4672	15.82	15.82	14.554	30.8	30.877	14.694	14.694	1.27
320	n4677	18.22	18.22	16.533	0.616	0.693	16.561	16.561	1.69
321	n4685	31.74	31.74	30.55	0.154	0.231	30.563	30.563	1.19
322	n4686	31.04	31.04	29.85	0.231	0.308	29.865	29.865	1.19
323	n4688	22.71	22.71	20.084	1.694	1.771	20.124	20.124	2.63
324	n4703	25.61	25.61	24.42	0	0.077	24.428	24.428	1.19
325	n4704	25.52	25.52	24.33	0	0.077	24.338	24.338	1.19
326	n4742	25.61	25.61	24.035	0.077	0.154	24.046	24.046	1.57
327	n4743	22.62	22.62	20.735	29.414	29.491	20.911	20.911	1.88
328	n4744	22.26	22.26	20.783	29.337	29.414	20.959	20.959	1.48
659	MH-5	12.104	12.104	10.914	0	1.925	10.956	10.956	1.19
30	n1785	19.82	19.82	18.63	0	0.077	18.638	18.638	1.19
31	n2114	25.94	25.94	24.75	0	0.077	24.758	24.758	1.19
32	n2115	25.77	25.77	24.245	0.077	0.154	24.255	24.255	1.53
33	n2116	24.81	24.81	23.217	0.154	0.231	23.23	23.23	1.59
34	n2117	22.91	22.91	21.371	0.231	0.308	21.386	21.386	1.54
36	n2118 n2119	20.51 17.83	20.51 17.83	18.134 16.448	0.385 0.462	0.462	18.152 16.467	18.152 16.467	2.38 1.38
37	n2119 n2120	16.14	16.14	14.95	1.001	1.078	14.978	14.978	1.19
38	n2120	18.83	18.83	17.64	0.077	0.154	17.651	17.651	1.19
39	n2123	18.23	18.23	17.04	0.077	0.134	17.051	17.051	1.19
39	11/1/23	16.23	10.23	17.04	0.134	0.231	17.033	17.033	1.19

		E1 4'		E1 4'	E1	E1	Hydraulic	Hydraulic	D 4
ID	Label	Elevation (Ground)	Elevation	Elevation	Flow (Total In)	Flow	Grade	Grade	Depth
עו	Label	(Ground)	(Rim) (m)	(Invert) (m)	(L/s)	(Total Out) (L/s)	Line (Out)	Line (In)	(Structure) (m)
		(111)		(111)	(L/3)	Out) (L/s)	(m)	(m)	(111)
40	n2124	17.87	17.87	16.68	0.231	0.308	16.695	16.695	1.19
41	n2125	17.33	17.33	16.14	0.308	0.385	16.157	16.157	1.19
42	n2126	16.76	16.76	15.57	0.385	0.462	15.588	15.588	1.19
43	n2127	15.62	15.62	14.43	1.078	1.155	14.459	14.459	1.19
44	n2128	15.16	15.16	13.97	1.155	1.232	14	14	1.19
45	n2130	14.46	14.46	13.27	1.232	1.309	13.3	13.3	1.19
46	n2131	13.79	13.79	12.6	1.309	1.386	12.631	12.631	1.19
47	n2132	12.94	12.94	11.75	1.386	1.463	11.782	11.782	1.19
48	n2133 n2134	12.62 11.41	12.62 11.41	11.43 10.22	1.463 1.925	1.54 2.002	11.463 10.258	11.463 10.258	1.19 1.19
50	n2134	14.05	14.05	12.86	0.077	0.154	12.871	12.871	1.19
51	n2137	13.43	13.43	12.24	0.077	0.134	12.253	12.253	1.19
52	n2138	12.85	12.85	11.66	0.134	0.231	11.675	11.675	1.19
53	n2139	12.33	12.33	11.14	0.308	0.385	11.073	11.073	1.19
54	n2150	11.07	11.07	9.88	2.002	2.079	9.918	9.918	1.19
55	n2151	10.8	10.8	9.61	2.079	2.156	9.649	9.649	1.19
56	n2152	10.62	10.62	9.43	2.156	2.233	9.475	9.475	1.19
57	n2153	10.53	10.53	9.328	6.083	6.16	9.405	9.405	1.2
58	n2161	10.74	10.74	9.55	3.773	3.85	9.603	9.603	1.19
59	n2175	11.92	11.92	10.73	3.465	3.542	10.78	10.78	1.19
60	n2176	12.65	12.65	11.46	1.848	1.925	11.497	11.497	1.19
61	n2177	13.53	13.53	12.34	1.771	1.848	12.376	12.376	1.19
62	n2178	14.44	14.44	13.25	1.694	1.771	13.286	13.286	1.19
63	n2179	15.37	15.37	13.693	1.617	1.694	13.728	13.728	1.68
64	n2180	15.7	15.7	13.795	1.54	1.617	13.834	13.834	1.9
65	n2181	15.43	15.43	13.892	1.463	1.54	13.929	13.929	1.54
66	n2182	15.46	15.46	13.925	1.386	1.463	13.962	13.962	1.54
67	n2183	15.44	15.44	13.954	1.309	1.386	13.989	13.989	1.49
68	n2184	15.41	15.41	13.999	1.232	1.309	14.034	14.034	1.41
69	n2186	15.31	15.31	14.12	1.155	1.232	14.154	14.154	1.19
70	n2200	12.57	12.57	11.38	1.463	1.54	11.413	11.413	1.19
71	n2201	13.68	13.68	12.49	1.386	1.463	12.522	12.522	1.19
72	n2202	14.89	14.89	13.344	1.309	1.386	13.375	13.375	1.55
73	n2203	16.17	16.17	14.98	0.847	0.924	15.006	15.006	1.19
74	n2204	14.68	14.68	13.49	0.308	0.385	13.507	13.507	1.19
75	n2205	15.63	15.63	14.44	0.231	0.308	14.455	14.455	1.19
76 77	n2206 n2207	16.97 16.75	16.97 16.75	15.124 15.344	0.154 0.77	0.231 0.847	15.137 15.369	15.137 15.369	1.85 1.41
78	n2208	17.08	17.08	15.698	0.77	0.847	15.709	15.709	1.41
79	n2209	16.99	16.99	15.8	0.077	0.134	15.809	15.709	1.19
80	n2210	18.11	18.11	16.669	6.237	6.314	16.747	16.747	1.19
81	n2211	18.44	18.44	16.567	6.314	6.391	16.646	16.646	1.87
82	n2211	18.26	18.26	17.07	0.539	0.616	17.091	17.091	1.19
83	n2213	18.57	18.57	17.276	0.462	0.539	17.296	17.296	1.29
84	n2214	18.63	18.63	16.465	6.391	6.468	16.544	16.544	2.16
85	n2215	18.72	18.72	16.363	6.468	6.545	16.443	16.443	2.36
86	n2216	18.63	18.63	17.378	0.308	0.385	17.397	17.397	1.25
87	n2217	18.67	18.67	17.48	0.231	0.308	17.498	17.498	1.19
88	n2218	18.94	18.94	16.261	6.545	6.622	16.341	16.341	2.68
89	n2219	18.99	18.99	17.726	0.154	0.231	17.739	17.739	1.26
90	n2220	19.24	19.24	16.159	6.622	6.699	16.24	16.24	3.08
91	n2221	19.25	19.25	17.828	0.077	0.154	17.841	17.841	1.42
92	n2222	19.05	19.05	16.057	6.699	6.776	16.138	16.138	2.99

		Elevation	T1 .1	Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
		(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
93	n2223	19.12	19.12	17.93	0	0.077	(m) 17.939	(m) 17.939	1.19
93	n2224	21	21	19.478	1.078	1.155	19.507	19.507	1.19
95	n2225	22.94	22.94	21.307	1.001	1.078	21.335	21.335	1.63
96	n2226	25.3	25.3	23.246	0.924	1.001	23.272	23.272	2.05
97	n2227	27.55	27.55	25.606	0.847	0.924	25.631	25.631	1.94
98	n2228	28.72	28.72	27.399	0.693	0.77	27.422	27.422	1.32
99	n2229	29.92	29.92	28.194	0.616	0.693	28.216	28.216	1.73
100	n2230	31.31	31.31	29.621	0.539	0.616	29.642	29.642	1.69
101	n2232	30.95	30.95	29.76	0.308	0.385	29.779	29.779	1.19
102	n2233	32.77	32.77	31.257	0.231	0.308	31.271	31.271	1.51
103	n2234	33.92	33.92	31.867	0.154	0.231	31.879	31.879	2.05
104	n2235	34.68	34.68	31.968	0.077	0.154	31.981	31.981	2.71
105	n2236	33.26	33.26	32.07	0	0.077	32.079	32.079	1.19
106	n2237	31.91	31.91	29.959	0	0.077	29.966	29.966	1.95
107	n2238	30.63	30.63	27.852	0.077	0.154	27.863	27.863	2.78
108	n2239	27.55	27.55	25.024	0.154	0.231	25.036	25.036	2.53
109	n2240	24.72	24.72	23.055	0.231	0.308	23.07	23.07	1.66
110	n2241	16.09	16.09	14.9	1.078	1.155	14.929	14.929	1.19
111	n2242	17.78	17.78	16.397	1.001	1.078	16.424	16.424	1.38
112	n2243	20.16	20.16	18.085	0.924	1.001	18.112	18.112	2.07
113 114	n2244 n2245	22.81	22.81 23.74	20.464 22.113	0.847 0.77	0.924 0.847	20.49	20.49	2.35 1.63
115	n2245	27.46	27.46	24.038	0.77	0.847	24.056	24.056	3.42
116	n2247	29.76	29.76	27.099	0.308	0.462	27.115	27.115	2.66
117	n2249	33.09	33.09	31.171	0.308	0.231	31.184	31.184	1.92
118	n2258	18.42	18.42	15.956	6.776	6.853	16.037	16.037	2.46
119	n2259	17.68	17.68	15.854	6.853	6.93	15.924	15.924	1.83
120	n2260	19.02	19.02	17.83	1.155	1.232	17.86	17.86	1.19
121	n2261	18.52	18.52	17.33	1.232	1.309	17.36	17.36	1.19
122	n2262	17.78	17.78	16.59	1.309	1.386	16.621	16.621	1.19
123	n2263	16.71	16.71	15.52	6.93	7.007	15.592	15.592	1.19
124	n2264	16.84	16.84	15.65	1.386	1.463	15.682	15.682	1.19
125	n2265	15.45	15.45	14.26	7.007	7.084	14.332	14.332	1.19
126	n2266	14.21	14.21	13.02	7.084	7.161	13.092	13.092	1.19
127	n2267	15.44	15.44	14.25	1.463	1.54	14.283	14.283	1.19
128	n2268	14.25	14.25	13.042	2.387	2.464	13.083	13.083	1.21
129	n2270	14.32	14.32	13.13	0.77	0.847	13.158	13.158	1.19
130	n2271	15.06	15.06	13.87	0.693	0.77	13.893	13.893	1.19
131	n2272	15.47	15.47	14.28	0.616	0.693	14.302	14.302	1.19
132	n2273	15.57	15.57	14.38	0.539	0.616	14.401	14.401	1.19 1.19
133 134	n2274 n2275	16.14 17.7	16.14 17.7	14.95 16.448	0.462 0.385	0.539 0.462	14.97 16.466	14.97 16.466	1.19
135	n2276	21.01	21.01	18.001	0.308	0.385	18.017	18.017	3.01
136	n2277	25.04	25.04	21.307	0.308	0.308	21.321	21.321	3.73
137	n2278	26.62	26.62	24.421	0.231	0.231	24.434	24.434	2.2
138	n2282	33.82	33.82	30.996	0.134	0.077	31.003	31.003	2.82
139	n2283	30.83	30.83	28.675	0.077	0.154	28.685	28.685	2.16
140	n2284	28.37	28.37	27.18	0.154	0.231	27.193	27.193	1.19
141	n2285	27.11	27.11	25.92	0.231	0.308	25.935	25.935	1.19
142	n2286	26.54	26.54	25.35	0.308	0.385	25.367	25.367	1.19
143	n2287	26.45	26.45	25.26	0.385	0.462	25.279	25.279	1.19
144	n2288	26.32	26.32	25.037	0.539	0.616	25.058	25.058	1.28
145	n2289	24.73	24.73	21.838	0.616	0.693	21.86	21.86	2.89

		Elevation		Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
		(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
1.46	2200	22	22	` ´	0.602	, ` ` · ·	(m)	(m)	` ′
146	n2290	22	22	19.54	0.693	1.771	19.575	19.575	2.46
147	n2291 n2292	22.5 22.69	22.5 22.69	21.31	0.077	0.077 0.154	21.319	21.319	1.19
148	n2292 n2293	22.69	21.59	20.049	0.077	0.134	20.061	20.061	1.43
150	n2294	20.7	20.7	19.478	0.134	0.231	19.493	19.493	1.22
151	n2295	19.71	19.71	18.52	0.308	0.385	18.537	18.537	1.19
152	n2296	18.82	18.82	17.63	0.385	0.462	17.648	17.648	1.19
153	n2298	17.77	17.77	16.067	0.462	0.539	16.086	16.086	1.7
154	n2299	15.76	15.76	14.57	0.924	1.001	14.601	14.601	1.19
155	n2302	16.11	16.11	14.92	0.308	0.385	14.937	14.937	1.19
156	n2303	18.11	18.11	16.416	0.231	0.308	16.43	16.43	1.69
157	n2305	18.35	18.35	17.16	0.154	0.231	17.173	17.173	1.19
158	n2306	19.76	19.76	17.813	0.077	0.154	17.824	17.824	1.95
159	n2307	21.62	21.62	20.067	0	0.077	20.074	20.074	1.55
160	n2366	13.12	13.12	11.93	7.161	7.238	12.003	12.003	1.19
161	n2367	13.12	13.12	11.93	2.464	2.541	11.973	11.973	1.19
162	n2368	12.13	12.13	10.94	7.238	7.315	11.013	11.013	1.19
163	n2369	12.12	12.12	10.93	2.541	2.618	10.973	10.973	1.19
164	n2370	11.36	11.36	10.17	7.315	7.392	10.244	10.244	1.19
165	n2371	11.37	11.37	10.18	2.618	2.695	10.224	10.224	1.19
166	n2372	10.92	10.92	9.73	7.392	7.469	9.804	9.804	1.19
167	n2373	10.87	10.87	9.68	2.695	2.772	9.724	9.724	1.19
168	n2374	10.56	10.56	9.37	7.469	7.546	9.444	9.444	1.19
169	n2375	10.63	10.63	9.44	2.772	2.849	9.488	9.488	1.19
170	n2376	10.5	10.5	9.31	2.849	2.926	9.362	9.362	1.19
171	n2377	10.36	10.36	9.17	7.546	7.623 7.7	9.256	9.256	1.19
172 173	n2378 n2379	10.51	10.51 10.53	9.068 9.208	7.623 2.926	3.003	9.143 9.254	9.143 9.254	1.44
174	n2380	9.87	9.87	8.68	7.7	7.777	8.756	8.756	1.19
175	n2381	9.91	9.91	8.72	3.003	3.08	8.767	8.767	1.19
176	n2382	9.4	9.4	8.21	5.313	5.39	8.273	8.273	1.19
177	n2384	9.84	9.84	8.65	5.236	5.313	8.712	8.712	1.19
178	n2385	12.46	12.46	10.068	0	0.077	10.075	10.075	2.39
179	n2386	10.88	10.88	9.69	5.082	5.159	9.751	9.751	1.19
180	n2388	11.6	11.6	10.41	5.005	5.082	10.471	10.471	1.19
181	n2389	12.04	12.04	10.85	4.928	5.005	10.91	10.91	1.19
182	n2390	14.35	14.35	12.344	0.077	0.154	12.354	12.354	2.01
183	n2393	12.2	12.2	11.008	4.697	4.774	11.07	11.07	1.19
184	n2394	12.3	12.3	11.11	4.62	4.697	11.176	11.176	1.19
185	n2396	13.33	13.33	11.6	2.618	2.695	11.644	11.644	1.73
186	n2397	14.76	14.76	13.57	2.541	2.618	13.613	13.613	1.19
187	n2398	15.48	15.48	14.29	2.464	2.541	14.333	14.333	1.19
188	n2399	16.12	16.12	14.93	2.387	2.464	14.972	14.972	1.19
189	n2400	17	17	15.81	2.31	2.387	15.851	15.851	1.19
190	n2402	17.13	17.13	15.94	2.233	2.31	15.981	15.981	1.19
191	n2403	17.4	17.4	16.21	2.156	2.233	16.25	16.25	1.19
192	n2404	17.42	17.42 17.83	16.23	2.079	2.156	16.274	16.274	1.19
193 194	n2405 n2406	17.83 18.63	18.63	16.64 17.221	2.002 1.925	2.079 2.002	16.678 17.259	16.678 17.259	1.19 1.41
194	n2400	20	20	18.477	1.923	1.848	18.513	18.513	1.41
196	n2407	12.76	12.76	11.57	1.848	1.925	11.607	11.607	1.19
197	n2410	12.70	12.70	11.75	1.771	1.848	11.786	11.786	1.19
198	n2413	13.19	13.19	12	1.617	1.694	12.035	12.035	1.19
1/5		1 10.17	13.17		1.01/	1.071	12.033	12.000	1.17

		Elevation		Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
		(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
100	2414	` ′	1404	` ′	1.462	, , , , , ,	(m)	(m)	` ´
199	n2414	14.04	14.04	12.85	1.463	1.54	12.883	12.883	1.19
200	n2415	15.11	15.11	13.92	1.386	1.463	13.952	13.952	1.19
201	n2416 n2418	15.46 15.94	15.46 15.94	14.204 14.748	1.309 0.231	1.386 0.308	14.235 14.762	14.235 14.762	1.26 1.19
202	n2418	17.07	17.07	15.77	0.231	0.308	15.782	15.782	1.19
203	n2420	17.07	17.07	16.71	0.134	0.231	16.721	16.721	1.19
205	n2421	16.06	16.06	14.87	0.847	0.134	14.896	14.896	1.19
206	n2422	16.28	16.28	15.09	0.77	0.847	15.114	15.114	1.19
207	n2423	16.49	16.49	15.3	0.616	0.693	15.322	15.322	1.19
208	n2424	16.93	16.93	15.694	0.539	0.616	15.715	15.715	1.24
209	n2425	17.26	17.26	15.726	0.462	0.539	15.749	15.749	1.53
210	n2426	18.37	18.37	16.817	0.077	0.154	16.827	16.827	1.55
211	n2427	18.74	18.74	17.55	0	0.077	17.558	17.558	1.19
212	n2428	17.55	17.55	15.761	0.154	0.231	15.776	15.776	1.79
213	n2429	17.69	17.69	15.848	0.077	0.154	15.861	15.861	1.84
214	n2430	17.14	17.14	15.95	0	0.077	15.959	15.959	1.19
216	n2436	19.02	19.02	17.83	0.231	0.308	17.845	17.845	1.19
217	n2437	19.52	19.52	18.33	0.154	0.231	18.343	18.343	1.19
218	n2438	20.1	20.1	18.91	0.077	0.154	18.921	18.921	1.19
219	n2440	21.03	21.03	19.84	0	0.077	19.848	19.848	1.19
220	n2910	25.47	25.47	24.28	0	0.077	24.288	24.288	1.19
221	n2990	8.92	8.92	7.73	16.478	16.555	7.842	7.842	1.19
222	n2991	8.41	8.41	7.22	16.555	16.632	7.332	7.332	1.19
223	n2992	7.61	7.61	6.298	16.632	16.709	6.41	6.41	1.31
224	n2993	5.99	5.99	4.8	16.709	16.786	4.913	4.913	1.19
225	n2994	4.97	4.97	3.78	16.786	16.863	3.893	3.893	1.19
227	n2996	4.7	4.7	3.51	9.394	9.471	3.594	3.594	1.19
228	n2997	5.17	5.17	3.973	9.317	9.394	4.056	4.056	1.2
229	n2998	5.66	5.66	4.47	2.926	3.003	4.516	4.516	1.19
230	n3000	6.4	6.4	5.21	2.849	2.926	5.256	5.256	1.19
231	n3001 n3002	7.05 7.99	7.05 7.99	5.86	2.772 2.695	2.849 2.772	5.905 6.844	5.905 6.844	1.19 1.19
233	n3002	9.56	9.56	8.298	2.618	2.695	8.342	8.342	1.19
234	n3004	11.53	11.53	9.867	2.541	2.618	9.91	9.91	1.66
235	n3005	13.58	13.58	11.837	2.464	2.541	11.879	11.879	1.74
236	n3006	15.65	15.65	13.887	2.387	2.464	13.928	13.928	1.76
237	n3007	16.47	16.47	15.044	2.31	2.387	15.085	15.085	1.43
238	n3008	17.93	17.93	16.342	2.233	2.31	16.382	16.382	1.59
239	n3009	18.86	18.86	17.408	0.077	0.154	17.419	17.419	1.45
240	n3010	20.71	20.71	19.167	0	0.077	19.175	19.175	1.54
241	n3011	12.69	12.69	11.5	0	0.077	11.508	11.508	1.19
242	n3012	12.38	12.38	11.19	0.077	0.154	11.201	11.201	1.19
243	n3013	11.68	11.68	10.49	0.154	0.231	10.503	10.503	1.19
244	n3014	11.08	11.08	9.89	0.231	0.308	9.905	9.905	1.19
245	n3016	10.6	10.6	9.41	0.308	0.385	9.427	9.427	1.19
246	n3017	10.2	10.2	9.01	0.385	0.462	9.028	9.028	1.19
247	n3018	9.3	9.3	8.11	0.462	0.539	8.13	8.13	1.19
248	n3019	8.3	8.3	7.11	0.539	0.616	7.131	7.131	1.19
249	n3020	7.86	7.86	6.67	0.616	0.693	6.692	6.692	1.19
250	n3022	7.53	7.53	6.307	0.924	1.001	6.333	6.333	1.22
251	n3023	7.26	7.26	6.07	4.62	4.697	6.128	6.128	1.19
252	n3028	16.33	16.33	14.743	0.539	0.616	14.764	14.764	1.59
253	n3030	14.4	14.4	13.164	0.616	0.693	13.186	13.186	1.24

		Elevation		Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
		(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
254	2022	` ′	12.06	, í	0.77	, ` ` · ·	(m)	(m)	` ´
254	n3032	12.86	12.86	11.67	0.77	0.847	11.694	11.694	1.19
255	n3034	11.78	11.78	10.578	2.156	2.233	10.618	10.618	1.2
256 257	n3036 n3039	10.11	10.11 10.37	8.92 9.18	2.695 0.385	2.772	8.964 9.198	8.964 9.198	1.19 1.19
258	n3040	10.57	10.57	9.18	0.308	0.462 0.385	9.198	9.198	1.19
259	n3040	10.38	10.38	9.39	0.308	0.308	9.407	9.407	1.19
260	n3041	11.81	11.81	10.62	0.251	0.231	10.633	10.633	1.19
261	n3044	5.27	5.27	4.038	6.237	6.314	4.116	4.116	1.23
262	n3047	5.33	5.33	4.14	6.16	6.237	4.217	4.217	1.19
263	n3049	5.48	5.48	4.248	6.083	6.16	4.324	4.324	1.23
264	n3051	5.54	5.54	4.292	6.006	6.083	4.367	4.367	1.25
265	n3057	5.72	5.72	4.53	5.775	5.852	4.595	4.595	1.19
266	n3058	6.04	6.04	4.85	5.698	5.775	4.915	4.915	1.19
267	n3060	6.31	6.31	5.12	5.621	5.698	5.184	5.184	1.19
268	n3061	6.47	6.47	5.28	5.544	5.621	5.344	5.344	1.19
269	n3063	7.11	7.11	5.92	5.467	5.544	5.983	5.983	1.19
270	n3065	8.07	8.07	6.88	3.542	3.619	6.931	6.931	1.19
271	n3066	8.34	8.34	7.15	3.465	3.542	7.2	7.2	1.19
272	n3067	8.54	8.54	7.35	3.311	3.388	7.399	7.399	1.19
273	n3068	8.59	8.59	7.4	3.234	3.311	7.449	7.449	1.19
274	n3069	8.87	8.87	7.68	3.157	3.234	7.728	7.728	1.19
275	n3070	9.4	9.4	8.167	2.926	3.003	8.213	8.213	1.23
276	n3071	9.48	9.48	8.29	2.849	2.926	8.336	8.336	1.19
277	n3072	9.9	9.9	8.71	2.772	2.849	8.755	8.755	1.19
278	n3076	13.17	13.17	11.926	1.232	1.309	11.957	11.957	1.24
279	n3077	14.1	14.1	12.028	1.155	1.232	12.062	12.062	2.07
280	n3078	13.98	13.98	12.13	0.847	0.924	12.16	12.16	1.85
281	n3079	13.46	13.46	12.232	0.77	0.847	12.26	12.26	1.23
282 283	n3080 n3083	13.57 13.82	13.57 13.82	12.306 12.63	0.693 0.154	0.77	12.333 12.643	12.333 12.643	1.26 1.19
284	n3084	14.25	14.25	13.06	0.134	0.231	13.071	13.071	1.19
285	n3085	16.06	16.06	14.556	0.077	0.134	14.564	14.564	1.19
286	n3086	13.67	13.67	12.48	0.308	0.385	12.498	12.498	1.19
287	n3087	14.45	14.45	13.26	0.231	0.308	13.275	13.275	1.19
288	n3088	14.71	14.71	13.52	0.154	0.231	13.533	13.533	1.19
289	n3089	16.17	16.17	14.679	0.077	0.154	14.689	14.689	1.49
290	n3090	18.52	18.52	16.476	0	0.077	16.483	16.483	2.04
291	n3091	21.16	21.16	19.97	0.924	1.001	20.001	20.001	1.19
292	n3092	22.02	22.02	20.83	0.847	0.924	20.856	20.856	1.19
293	n3094	23.44	23.44	22.25	0.77	0.847	22.274	22.274	1.19
294	n3095	24.46	24.46	23.27	0	0.077	23.278	23.278	1.19
295	n3097	25.01	25.01	23.254	0.616	0.693	23.276	23.276	1.76
296	n3098	25.58	25.58	23.356	0.539	0.616	23.38	23.38	2.22
297	n3099	25.71	25.71	23.404	0.462	0.539	23.426	23.426	2.31
298	n3100	25.65	25.65	23.424	0.308	0.385	23.443	23.443	2.23
299	n3101	25.38	25.38	23.526	0.231	0.308	23.544	23.544	1.85
300	n3102	25.26	25.26	23.628	0.154	0.231	23.643	23.643	1.63
301	n3103	24.92	24.92	23.73	0.077	0.154	23.743	23.743	1.19
302	n3104	25.81	25.81	24.62	0	0.077	24.628	24.628	1.19
303	n3111	19.93	19.93	18.236	2.002	2.079	18.274	18.274	1.69
304	n3112	20.58	20.58	18.303	1.925	2.002	18.341	18.341	2.28
305	n3113	21.63	21.63	20.44	0	0.077	20.448	20.448	1.19
306	n3114	19.94	19.94	18.405	1.771	1.848	18.446	18.446	1.53

		Elevation		Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
110	Lucci	(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
		` ′		` ′	` ′	, , , , , ,	(m)	(m)	, í
307	n3115	19.79	19.79	18.507	1.694	1.771	18.548	18.548	1.28
308	n3116	7.4	7.4	6.21	0.693	0.77	6.233	6.233	1.19
309	n3117	7.63	7.63	6.44	0.616	0.693	6.462	6.462	1.19
310	n3118	7.68	7.68	6.49	0.539	0.616	6.511	6.511	1.19
311	n3120	8.44 8.87	8.44	7.25	0.462	0.539	7.27	7.27	1.19
	n3121	9.67	8.87 9.67	7.563 8.48	0.385	0.462 0.385	7.581 8.497	7.581	1.31 1.19
313	n3122 n3123	10.83	10.83	9.64	0.308	0.383	9.655	8.497 9.655	1.19
314	n3125	12.39	12.39	11.152	0.231	0.308	11.164	11.164	1.19
317	n3126	15.24	15.24	12.68	0.134	0.231	12.69	12.69	2.56
318	n3120	17.83	17.83	15.545	0.077	0.134	15.552	15.552	2.29
319	n3127	19.75	19.75	18.56	1.617	1.694	18.6	18.6	1.19
320	n3134	19.89	19.89	18.7	1.54	1.617	18.736	18.736	1.19
321	n3135	20.1	20.1	18.91	1.463	1.54	18.943	18.943	1.19
322	n3136	20.38	20.38	19.03	1.386	1.463	19.065	19.065	1.35
323	n3139	20.32	20.32	19.13	1.309	1.386	19.166	19.166	1.19
324	n3140	20.6	20.6	19.41	1.232	1.309	19.44	19.44	1.19
325	n3141	20.82	20.82	19.63	1.155	1.232	19.66	19.66	1.19
326	n3142	20.98	20.98	19.79	1.078	1.155	19.819	19.819	1.19
327	n3143	21.17	21.17	19.953	1.001	1.078	19.981	19.981	1.22
328	n4435	13.52	13.52	12.33	0.385	0.462	12.351	12.351	1.19
329	n4493	19.32	19.32	17.854	1.848	1.925	17.891	17.891	1.47
330	n4494	12.65	12.65	11.025	0.077	0.154	11.036	11.036	1.62
331	n4496	13.45	13.45	11.787	0	0.077	11.795	11.795	1.66
332	n4498	9.23	9.23	8.04	3.003	3.08	8.093	8.093	1.19
333	n4499	9.24	9.24	8.026	3.08	3.157	8.073	8.073	1.21
334	n4500	14.27	14.27	12.056	1.078	1.155	12.089	12.089	2.21
335	n4501	14.26	14.26	12.077	1.001	1.078	12.108	12.108	2.18
336	n4502	14.18	14.18	12.098	0.924	1.001	12.129	12.129	2.08
337	n4504	5.73	5.73	4.371	5.929	6.006	4.446	4.446	1.36
338	n4506	5.62	5.62	4.43	5.852	5.929	4.505	4.505	1.19
339	n4509	8.5	8.5	7.31	3.388	3.465	7.36	7.36	1.19
340	n4510	4.58	4.58	3.314	26.334	26.411	3.476	3.476	1.27
341	n4511	7.53	7.53	6.34	0.847	0.924	6.37	6.37	1.19
342	n4512	7.65	7.65	6.46	0.77	0.847	6.484	6.484	1.19
343 344	n4513 n4515	7.81 13.35	7.81 13.35	6.62 12.16	0.693	0.77 0.77	6.643 12.183	6.643	1.19 1.19
345	n4517	17.15	17.15	15.96	0.893	0.77	15.978	15.978	1.19
346	n4517	18.08	18.08	16.89	0.308	0.385	16.907	16.907	1.19
347	n4519	16.85	16.85	15.66	0.308	0.383	15.668	15.668	1.19
348	n4522	17.41	17.41	15.746	0.385	0.462	15.767	15.767	1.66
349	n4527	16.34	16.34	15.15	0.693	0.77	15.173	15.173	1.19
350	n4528	15.63	15.63	14.44	0.924	1.001	14.467	14.467	1.19
351	n4530	18.01	18.01	16.82	0	0.077	16.828	16.828	1.19
352	n4531	13.42	13.42	12.23	1.54	1.617	12.264	12.264	1.19
353	n4532	15.33	15.33	13.278	0	0.077	13.285	13.285	2.05
354	n4534	9.1	9.1	7.91	11.011	11.088	8.001	8.001	1.19
355	n4535	9.51	9.51	8.32	7.777	7.854	8.396	8.396	1.19
356	n4536	9.66	9.66	8.47	3.08	3.157	8.518	8.518	1.19
357	n4539	26.38	26.38	25.19	0.462	0.539	25.21	25.21	1.19
358	n4542	28.11	28.11	26.713	0.77	0.847	26.737	26.737	1.4
359	n4544	27.51	27.51	26.161	0	0.077	26.168	26.168	1.35
360	n4545	27	27	25.585	0.077	0.154	25.595	25.595	1.42

		Elevation		Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
12	20001	(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
2.1	1-1-	` ′	24.25	` ´	` ′	, ` ` · ·	(m)	(m)	` ′
361	n4546	31.36	31.36	29.643	0.462	0.539	29.666	29.666	1.72
362	n4547	31.14	31.14	29.658	0.385	0.462	29.679	29.679	1.48
363	n4549	30.99	30.99	28.968	0.231	0.308	28.983	28.983	2.02
364 365	n4551 n4552	33.2 33.17	33.2 33.17	31.958 31.98	0.077	0.154 0.077	31.969 31.989	31.969 31.989	1.24 1.19
366	n4582	21.61	21.61	19.864	0.308	0.385	19.881	19.881	1.75
367	n4583	18.65	18.65	17.33	0.385	0.363	17.351	17.351	1.73
368	n4584	18	18	16.81	0.616	0.693	16.832	16.832	1.19
369	n4585	17.91	17.91	16.72	0	6.237	16.797	16.797	1.19
370	n4586	17.64	17.64	16.45	0.693	0.77	16.473	16.473	1.19
371	n4590	11.6	11.6	10.41	3.542	3.619	10.461	10.461	1.19
372	n4591	11.33	11.33	10.14	3.619	3.696	10.192	10.192	1.19
373	n4593	11.03	11.03	9.84	3.696	3.773	9.892	9.892	1.19
374	n4604	15.04	15.04	13.85	0	0.077	13.858	13.858	1.19
375	n4605	14.62	14.62	13.43	0	0.077	13.438	13.438	1.19
30	n1960	42.53	42.53	41.264	0	52.129	41.448	41.448	1.27
31	n1961	42.2	42.2	40.934	52.129	52.206	41.118	41.118	1.27
32	n1962	39.92	39.92	38.654	52.206	52.283	38.838	38.838	1.27
33	n1967	38.14	38.14	36.874	52.36	52.437	37.058	37.058	1.27
34	n1971	35.65	35.65	34.384	52.437	52.514	34.569	34.569	1.27
35	n1972	32.77	32.77	31.486	52.514	52.591	31.67	31.67	1.28
36	n1973	31.83	31.83	30.564	52.591	52.668	30.749	30.749	1.27
37	n1981	28.94	28.94	27.674	52.668	52.745	27.859	27.859	1.27
38	n1982	28.09	28.09	26.824	52.745	52.822	27.009	27.009	1.27
39 40	n1983 n1984	27.62 26.21	27.62 26.21	26.354 24.944	52.822 52.899	52.899 52.976	26.539 25.129	26.539 25.129	1.27 1.27
41	n1985	24.51	24.51	23.244	52.976	53.053	23.129	23.129	1.27
42	n1986	23.28	23.28	22.014	53.053	53.033	22.2	22.2	1.27
43	n1987	22.64	22.64	21.374	53.13	53.207	21.56	21.56	1.27
44	n1988	21.37	21.37	19.979	53.207	53.284	20.165	20.165	1.39
45	n1990	18.17	18.17	16.904	53.284	53.361	17.09	17.09	1.27
46	n1991	15.36	15.36	14.094	53.361	53.438	14.28	14.28	1.27
47	n1993	9.29	9.29	7.574	53.515	53.592	7.76	7.76	1.72
48	n1994	5.86	5.86	4.255	53.592	53.669	4.442	4.442	1.6
49	n1995	2.54	2.54	1.274	53.669	53.746	1.461	1.461	1.27
50	n1998	1.92	1.92	0.621	53.746	53.823	0.801	0.801	1.3
51	n1999	1.82	1.82	0.442	53.823	53.9	0.679	0.679	1.38
52	n2000	2.01	2.01	0.397	53.9	53.977	0.635	0.635	1.61
53	n2001	2.2	2.2	0.367	54.054	54.131	0.605	0.605	1.83
54	n2002	2.01	2.01	0.352	54.131	54.208	0.591	0.591	1.66
55	n2003	1.95	1.95	0.307	54.208	54.285	0.546	0.546	1.64
56	n2004	1.67	1.67	0.263	54.362	54.439	0.501	0.501	1.41
57 58	n2005 n2007	1.6 1.61	1.6 1.61	0.218 0.128	54.439 54.593	54.516 54.67	0.457 0.368	0.457 0.368	1.38 1.48
59	n2007 n2008	1.66	1.66	0.128	54.67	54.747	0.368	0.308	1.48
60	n2009	1.72	1.72	0.038	54.747	54.824	0.323	0.323	1.68
61	n2010	1.72	1.72	-0.007	54.824	54.901	0.242	0.242	1.8
62	n2010	1.81	1.81	-0.043	54.901	54.978	0.212	0.212	1.85
63	n2012	1.77	1.77	-0.059	54.978	55.055	0.199	0.199	1.83
64	n2013	1.87	1.87	-0.097	55.055	55.132	0.171	0.171	1.97
65	n2015	1.4	1.4	-0.143	89.243	89.32	0.061	0.061	1.54
67	n2338	23.06	23.06	21.87	0.231	0.308	21.885	21.885	1.19
68	n2339	23.25	23.25	22.06	0.154	0.231	22.073	22.073	1.19

		Elevation		Elevation	Flow	Flow	Hydraulic	Hydraulic	Depth
ID	Label	(Ground)	Elevation	(Invert)	(Total In)	(Total	Grade	Grade	(Structure)
	20001	(m)	(Rim) (m)	(m)	(L/s)	Out) (L/s)	Line (Out)	Line (In)	(m)
- 60	22.10	` ′	22.02		` ′	, , , , , ,	(m)	(m)	` ´
69	n2340	23.82	23.82	22.63	0.077	0.154	22.641	22.641	1.19
70	n2342	25.19	25.19	24	0	0.077	24.009	24.009	1.19
71	n2343	25.09	25.09	23.9	0.077	0.154	23.911	23.911	1.19
72 73	n2344	24.17	24.17	22.98	0.154	0.231	22.993	22.993	1.19 1.19
74	n2345 n2346	23.24	23.24 21.85	22.05 20.607	0.231	0.308 0.385	22.065 20.623	22.065 20.623	1.19
75	n2346	20.93	20.93	19.736	0.308	0.383	19.754	19.754	1.19
76	n2348	20.57	20.57	18.671	0.363	0.539	18.691	18.691	1.19
77	n2349	17.2	17.2	15.261	0.539	0.616	15.282	15.282	1.94
78	n2350	14.8	14.8	12.774	0.616	0.693	12.796	12.796	2.03
79	n2351	12.65	12.65	9.408	0.693	0.77	9.431	9.431	3.24
80	n2352	7.64	7.64	5.423	0.77	0.847	5.447	5.447	2.22
81	n2353	3.64	3.64	2.45	0.847	0.924	2.476	2.476	1.19
82	n2354	3.01	3.01	1.82	0.924	1.001	1.847	1.847	1.19
83	n2355	2.69	2.69	1.5	1.001	1.078	1.528	1.528	1.19
84	n2358	2.19	2.19	1	0.154	0.231	1.013	1.013	1.19
85	n2359	2.11	2.11	0.92	0.231	0.308	0.938	0.938	1.19
86	n2361	2.01	2.01	0.711	33.957	34.034	0.882	0.882	1.3
87	n2362	2.08	2.08	0.781	33.495	33.572	0.921	0.921	1.3
88	n2363	2.54	2.54	0.977	33.418	33.495	1.118	1.118	1.56
89	n2364	2.44	2.44	1.04	32.263	32.34	1.218	1.218	1.4
90	n2440	21.03	21.03	19.84	0.154	26.642	19.983	19.983	1.19
91	n2441	22.6	22.6	20.707	0.308	0.385	20.724	20.724	1.89
92	n2442	18.92	18.92	17.641	0.539	0.616	17.662	17.662	1.28
93	n2443	19.37	19.37	18.18	0.077	0.154	18.191	18.191	1.19
94	n2444	20.18	20.18	18.99	0	0.077	18.998	18.998	1.19
95	n2445	16.05	16.05	14.715	0.924	1.001	14.742	14.742	1.33
96	n2446	16.79	16.79	15.6	0.231	0.308	15.615	15.615	1.19
97	n2448	17.4	17.4	16.21	0.077	0.154	16.223	16.223	1.19
98	n2449	17.57	17.57	16.38	0	0.077	16.388	16.388	1.19
99	n2450	14.68	14.68	12.584	1.155	1.232	12.613	12.613	2.1
100	n2451	14.14	14.14	12.686	0.077	0.154	12.698	12.698	1.45
101	n2452	13.97	13.97	12.78	0	0.077	12.789	12.789	1.19
102	n2453	13.41	13.41	12.22	1.232	1.309	12.25	12.25	1.19
103	n2454	12.89	12.89	11.7	1.309	1.386	11.731	11.731	1.19
104 105	n2455 n2456	12.47 12.65	12.47 12.65	11.274 11.46	28.413 26.95	28.49 27.027	11.422 11.604	11.422 11.604	1.2 1.19
105	n2436 n2457	14.74	14.74	13.55	26.93	26.95	13.694	13.694	1.19
100	n2457	17.57	17.57	16.38	26.796	26.93	16.524	16.524	1.19
107	n2459	19.68	19.68	18.49	26.790	26.796	18.633	18.633	1.19
109	n2460	21.02	21.02	19.821	26.642	26.719	19.963	19.963	1.19
110	n2461	21.16	21.16	19.97	0.077	0.154	19.983	19.983	1.19
111	n2462	21.92	21.92	20.73	0	0.077	20.738	20.738	1.19
112	n2463	21.92	21.92	20.73	0	0.077	20.738	20.738	1.19
113	n2464	21.52	21.52	20.33	0.077	0.154	20.341	20.341	1.19
114	n2465	21.12	21.12	19.93	0.154	0.231	19.945	19.945	1.19
115	n2467	21.18	21.18	19.863	0.231	0.308	19.881	19.881	1.32
116	n2468	21.46	21.46	19.776	0.308	0.385	19.795	19.795	1.68
117	n2469	21.55	21.55	19.75	0.385	0.462	19.771	19.771	1.8
118	n2470	22.29	22.29	19.674	0.462	0.539	19.697	19.697	2.62
119	n2471	23.36	23.36	19.592	0.539	0.616	19.616	19.616	3.77
120	n2473	23.52	23.52	19.516	0.616	0.693	19.541	19.541	4
121	n2474	22.37	22.37	19.471	0.693	0.77	19.497	19.497	2.9

		DI C		El d	El	FI	Hydraulic	Hydraulic	D 4
ID	T .1 .1	Elevation	Elevation	Elevation	Flow	Flow	Grade	Grade	Depth
ID	Label	(Ground)	(Rim) (m)	(Invert)	(Total In)	(Total	Line (Out)	Line (In)	(Structure)
		(m)		(m)	(L/s)	Out) (L/s)	(m)	(m)	(m)
122	n2476	20.99	20.99	19.423	0.77	0.847	19.448	19.448	1.57
123	n2477	20.25	20.25	19.06	0.847	0.924	19.086	19.086	1.19
124	n2478	19.58	19.58	18.39	0.924	1.001	18.417	18.417	1.19
125	n2479	18.31	18.31	16.941	1.001	1.078	16.968	16.968	1.37
126	n2480	17.02	17.02	15.83	1.155	1.232	15.86	15.86	1.19
127	n2481	15.43	15.43	14.24	1.232	1.309	14.27	14.27	1.19
128	n2482	14.97	14.97	13.78	1.386	1.463	13.812	13.812	1.19
129	n2483	14.25	14.25	13.06	1.463	1.54	13.093	13.093	1.19
130	n2484	12.16	12.16	10.166	1.54	1.617	10.2	10.2	1.99
131	n2485	8.38	8.38	6.508	1.617	1.694	6.543	6.543	1.87
132	n2486	4.72	4.72	3.53	1.694	1.771	3.566	3.566	1.19
133	n2487	3.34	3.34	2.074	31.647	31.724	2.216	2.216	1.27
134	n2488	8.78	8.78	5.899	0	0.077	5.907	5.907	2.88
135	n2489	4.13	4.13	2.94	0.077	0.154	2.951	2.951	1.19
136	n2490	2.79	2.79	1.6	0.154	0.231	1.613	1.613	1.19
137	n2491	2.47	2.47	1.113	32.186	32.263	1.294	1.294	1.36
138	n2492	2.45	2.45	1.151	31.878	31.955	1.33	1.33	1.3
139	n2493	2.6	2.6	1.334	31.801	31.878	1.476	1.476	1.27
140	n2495	2.97	2.97	1.704	31.724	31.801	1.846	1.846	1.27
141	n2497	3.71	3.71	2.444	29.799	29.876	2.582	2.582	1.27
142	n2498	3.88	3.88	2.614	29.645	29.722	2.751	2.751	1.27
143	n2500	7.01	7.01	5.82	0	0.077	5.828	5.828	1.19
144	n2501	6.1	6.1	4.744	0.077	0.154	4.755	4.755	1.36
145	n2503	5.16	5.16	3.97	0.154	0.231	3.983	3.983	1.19
146	n2504	5.03	5.03	3.764	29.26	29.337	3.929	3.929	1.27
147	n2505	5.56	5.56	4.37	29.183	29.26	4.52	4.52	1.19
148	n2507	5.86	5.86	4.67	29.106	29.183	4.819	4.819	1.19
149	n2508	6.64	6.64	5.45	29.029	29.106	5.599	5.599	1.19
150	n2510	7.46	7.46	6.27	28.952	29.029	6.419	6.419	1.19
151	n2511	7.74	7.74	6.55	28.875	28.952	6.699	6.699	1.19
152	n2512	7.96	7.96	6.77	28.798	28.875	6.919	6.919	1.19
153	n2513	8.88	8.88	7.69	28.721	28.798	7.838	7.838	1.19
154	n2514	10.09	10.09	8.9	28.49	28.567	9.048	9.048	1.19
155	n4461	17.7	17.7	16.416	1.078	1.155	16.444	16.444	1.28
156	n4463	15.16	15.16	13.97	1.309	1.386	14.001	14.001	1.19
157	n4467	9.98	9.98	8.79	28.567	28.644	8.938	8.938	1.19
158	n4469	9	9	7.81	28.644	28.721	7.958	7.958	1.19
159	n4471	5.16	5.16	3.745	29.568	29.645	3.882	3.882	1.41
160	n4472	3.76	3.76	2.494	29.722	29.799	2.632	2.632	1.27
161	n4476	17.41	17.41	16.2	0.154	0.231	16.212	16.212	1.21
162	n4478	24.75	24.75	23.56	0	0.077	23.568	23.568	1.19
163	n4557	2.3	2.3	1.084	0.077	0.154	1.096	1.096	1.22
164	n4558	2.29	2.29	1.1	0	0.077	1.109	1.109	1.19
165	n4560	2.02	2.02	0.824	0.308	0.385	0.882	0.882	1.2
166	n4561	2.04	2.04	-0.108	89.166	89.243	0.163	0.163	2.15
167	n4564	1.69	1.69	0.173	54.516	54.593	0.412	0.412	1.52
168	n4565	1.79	1.79	0.272	54.285	54.362	0.511	0.511	1.52
169	n4566	2.36	2.36	0.38	53.977	54.054	0.618	0.618	1.98
170	n4569	12.47	12.47	10.859	53.438	53.515	11.045	11.045	1.61
171	n4573	39.27	39.27	38.08	0	0.077	38.088	38.088	1.19

APPENDIX- VII-POWER CALCULATION

Sl no.	Name	Pumpset Capacity in HP	Pumpset Capacity in KW	No of Pumpset	No of Stand by	Working Time	Power Consumpti on/ day	Power Consumpti on/ year	Power cost @Rs7/unit	Remarks
					STP					
1	Raw Sewage Pump	30	22.38	2	1	24	537.12	196048.8	1372341.6	
2	Septage pump	1.5	1.119	2	1	24	26.856	9802.44	68617.08	
3	Air Blower	48	35.808	4	1	24	2578.176	941034.24	6587239.68	
4	Sludge Transfer to Thickner Pump	2	1.492	2	1	24	35.808	13069.92	91489.44	
5	Sludge Transfer to Centrifuge Pump	1	0.746	2	1	24	17.904	6534.96	45744.72	
6	Clarified water to ASF/PSF Pump	20	14.92	3	1	24	716.16	261398.4	1829788.8	
7	Mixer	3	2.238	2	1	24	53.712	19604.88	137234.16	
8	Clarifier to Sludge Sump Pump	2	1.492	2	1	24	35.808	13069.92	91489.44	
9	Centrate Sump to EQ Tank	2	1.492	2	1	24	35.808	13069.92	91489.44	
10	High Pressure Jet Pump	1	0.746	1	0	1	0.746	272.29	1906.03	
11	STP Ligting		20			24	480	175200	1226400	
				I	NET WOR	K				
1	LS1	3	2.238	2	1	24	53.712	19604.88	137234.16	
2	LS-A	15	11.19	2	1	24	268.56	98024.4	686170.8	
3	LS2	0.5	0.373	2	1	24	8.952	3267.48	22872.36	
4	LS3	2	1.492	2	1	24	35.808	13069.92	91489.44	
5	LS4	6	4.476	2	1	24	107.424	39209.76	274468.32	
6	LS-B	37	27.602	2	1	24	662.448	241793.52	1692554.64	
7	LS5	2	1.492	2	1	24	35.808	13069.92	91489.44	
8	LS6	0.5	0.373	2	1	24	8.952	3267.48	22872.36	

SI no.	Name	Pumpset Capacity in HP	Pumpset Capacity in KW	No of Pumpset	No of Stand by	Working Time	Power Consumpti on/ day	Power Consumpti on/ year	Power cost @Rs7/unit	Remarks
9	LS-C	12	8.952	2	1	24	214.848	78419.52	548936.64	
1 10	Ligting-Well and Lifting stations		9			24	216	78840	551880	
								2062472.65	14437308.55	

PRICE EST NO:

General Abstract

SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY(PHASE-2) - CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK

(Dsor year: 2018)

SI No	Heading Description		Amount		
1	Network Estimate Including O&M (Estimate No.:2022/2038)	629759560.00			
2	4MLD STP Estimate Including O&m(Estimate No.:2022/2197)	362572289.00			
3	4 MLD STP Electro Mechanical Estimate(Estimate No.2022/2235)		73285253.00		
		Total	1065617102.00		
	Con C	Centage @	0.0%		
	Centaç	ge Amount	0.00		
	Provision for GST payments	s (in %) @	0.0%		
	Amount reserved for GST	payments	0.00		
	Total d	& Centage	1065617102.00		
	Lumpsum fo	or round off	0.00		
	GRAND 1	TOTAL Rs	1065617102.00		
	Kerala Water Authori	Rounded Gra	and Total Rs 1,06,56,17,102		
	Rupees One Hundred Six Crore Fifty Six Lakh Seventeer	n Thousand C	One Hundred and Two Only		
	PRIC	E			

General Abstract

SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY(PHASE-2) - CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK -STP DESIGN

(Dsor year: 2018)

SI No	Heading Description		Amount		
1	RAW SEWAGE RECEIVING CHAMBER CUM WELL		1952608.93		
2	SEPTAGE TANK		1020823.21		
3	INLET CHEMBER/SCREEN CHANEL/GRIT CHEMBER/PARSHALLFLUME		3791860.59		
4	EQUALISATION TANK		6530115.52		
5	MBBR 1 & 2		11768516.73		
6	SECONDARY CLARIFIER		4595615.60		
7	SLUDGE SUMP	No.	307473.43		
8	SLUDGE THICKNER		1244270.67		
9	THICKENED SLUDGE SUMP	A 1	663367.94		
10	FILTER FEED TANK	130	928561.45		
11	TREATED WATER TANK		1949079.11		
12	Centrate Sump		658423.19		
13	Administrative/Laboratory/Chemical House / Control Room Building		5098073.01		
14	Security Cabina Water Author	tv	297948.09		
15	Air Blower Building		2616139.55		
16	Chlorination Building	<u>Hi</u>	2010961.80		
17	Transformer Building		3152274.57		
18	Centrifuge Building		3117537.57		
19	PSF/ACF Foundation	730840.44			
20	Sludge Shed		644439.80		
21	STP Land Development & Development & Roads		18843801.83		
22	Storm Water Drains		1407474.00		
23	Compound wall and Gate		2555888.58		
24	Operation and Maintenance cost for STP and Allied works - 1st year		6686478.06		
25	84249623.56				
26	Landscaping and Greenbelt Formation arround the STP compound		1000000.00		
27	Electricity charges for 4 MLD STP for 10 Year		115437403.90		
		Total	283259601.12		
	С	entage @	10.0%		
	Centag	je Amount	28325960.11		

Provision for GST payments (in %) @	18.0%
Amount reserved for GST payments	50986728.20
Total & Centage	362572289.44
Lumpsum for round off	0.00
GRAND TOTAL Rs	362572289.44
Rounde	d Grand Total Rs 36,25,72,289

Rupees Thirty Six Crore Twenty Five Lakh Seventy Two Thousand Two Hundred and Eighty Nine Only



Detailed Estimate

SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY(PHASE-2) - CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK -STP DESIGN

(Dsor year: 2018)

SI No	Description	No	L	В	D	CF	Quantity	Remark
	1RAW SEWAGE	RECEIVING	G CHAMBE	R CUM WE	LL (Cos	t Index:33.	05 %)	
1	2.1.1 Earth work in surface e sqm on plan including levelled and neatly dre	disposal of	excavated	3000	•	_		
		1	7.000	7.000	2		49.000	
		FL	1 1/2	SALT	То	tal Quantity	49.000 sqn	n
		12		T DICE	otal Deduct	ed Quantity	0.000 sqm	
		104			Net To	tal Quantity	49.000 sqm	1
			S	ay 49.000 s	qm @ Rs 10	06.91 / sqm	Rs 52	38.59
	Earthwork open well ex	•	,				•	
	banking. NEW DATA					1		
		3.14	3.500	3.500	1.500		57.698	
	NEW DATA	3.14	3.500	3.500		tal Quantity		
	NEW DATA	3.14	3.500				57.698 cun	
	NEW DATA	3.14	3.500		To otal Deduct	ed Quantity	57.698 cun	1
	NEW DATA	3.14		Т	To otal Deduct	ed Quantity tal Quantity	57.698 cum 0.000 cum 57.698 cum	1
3	NEW DATA	xcavation (a	S bove water)	T ay 57.698 c for wells of	Total Deduct Net To cum @ Rs 4	ed Quantity tal Quantity 43.26 / cum	57.698 cum 0.000 cum 57.698 cum Rs 255	n 5 75.22 all kinds o
3	NEW DATA For Collection well 100.3.7.2 Earthwork open well example to soil and conveying and neat banking.	xcavation (a	S bove water)	T ay 57.698 c for wells of	Total Deduct Net To cum @ Rs 4	ed Quantity tal Quantity 43.26 / cum	57.698 cum 0.000 cum 57.698 cum Rs 255	n 575.22 all kinds o
3	NEW DATA For Collection well 100.3.7.2 Earthwork open well exsoil and conveying and neat banking. NEW DATA	xcavation (a depositing t	S bove water) the spoil with	ay 57.698 of for wells of hin initial lea	Total Deduct Net To cum @ Rs 4 dia. above ad of 50m ar 1.500	ed Quantity tal Quantity 43.26 / cum	57.698 cum 0.000 cum 57.698 cum Rs 255 pto 9.0 m in .50m to 3.0	n 575.22 all kinds om includin
3	NEW DATA For Collection well 100.3.7.2 Earthwork open well exsoil and conveying and neat banking. NEW DATA	xcavation (a depositing t	S bove water) the spoil with	ay 57.698 of for wells of hin initial lea	Total Deduct Net To cum @ Rs 4 dia. above ad of 50m ar 1.500	ed Quantity tal Quantity 43.26 / cum 6.0m and und lift from 1	57.698 cum 57.698 cum 77.698 cum 78.255 70.000 m in 70.50m to 3.0 70.698 70.698 cum	n 575.22 all kinds om includin

			S	Say 57.698 c	cum @ Rs 4	87.56 / cum	Rs 28	131.24
4	100.3.7.13 Earthwork open well ekinds of soil and converse including neat banking NEW DATA	eying and de		•			•	
	For Collection well	3.14	3.500	3.500	1.500		57.698	
					То	tal Quantity	57.698 cur	n
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	57.698 cum	1
			S	Say 57.698 c	cum @ Rs 6	38.31 / cum	Rs 368	329.21
	ordinary rock in ordinate from 4.5m to 6.0 m inconstruction.	cluding nea	banking.	54		oil within init		60m and li
	For collection well	3.14	3.500	3.500	1.000		38.465	
	1				10%	tal Quantity		n
			1	1 11 10 1	otal Deduct			
		<u>Ker</u>			im @ Rs 17		38.465 cum	
6	5.7 Reinforced cement colland reinforcement, with		in well - ste	eining exclud	ding the cos	at of centering	ng, shutterin	
	mm nominal size)	1			and (∠one -	iii) . 5 grad	ed stone ag	-
	mm nominal size) For steining up to Top	3.14	5.300	0.300	5.000	m) . 3 grad	ed stone ag	-
	,	3.14	5.300		5.000	tal Quantity	24.963	gregate 2
	,	3.14	5.300	0.300	5.000	tal Quantity	24.963 24.963 cur	gregate 2
	,	3.14	5.300	0.300	5.000 To otal Deduct	tal Quantity	24.963 24.963 cur	n
	,	3.14		0.300	5.000 To otal Deduct	tal Quantity ed Quantity tal Quantity	24.963 24.963 cur 0.000 cum 24.963 cum	n
7	,	n position ce	Sa ement concr	0.300 T ny 24.963 cu	5.000 To Total Deduct Net To Im @ Rs 83	tal Quantity ed Quantity tal Quantity 97.45 / cum excluding th	24.963 24.963 cur 0.000 cum 24.963 cum Rs 209	n 625.54
7	For steining up to Top 4.1.8 Providing and laying ir shuttering - All work u	n position ce	Sa ement concr	0.300 T ny 24.963 cu	5.000 To Total Deduct Net To Im @ Rs 83	tal Quantity ed Quantity tal Quantity 97.45 / cum excluding th	24.963 24.963 cur 0.000 cum 24.963 cum Rs 209	n 625.54
7	For steining up to Top 4.1.8 Providing and laying ir shuttering - All work u nominal size)	n position ce p to plinth l	Sa ement concr evel:1:4:8 (0.300 To ay 24.963 curvete of specific cement:	5.000 To otal Deduct Net To our @ Rs 83 fied grade 64 coarse sa 0.200	tal Quantity ed Quantity tal Quantity 97.45 / cum excluding th	24.963 24.963 cur 0.000 cum 24.963 cur Rs 209 e cost of ce ed stone ag 5.652	n 625.54 Intering an gregate 4

					Net To	tal Quantity	5.652 cum	
			S	Say 5.652 cu	ım @ Rs 66	87.23 / cum	Rs 37	796.22
ring	ing, fin	shing and	specified gra reinforceme o mm nomina	ent - All worl			•	
		3.14	2.650	2.650	0.300		6.616	
	·				To	otal Quantity	6.616 cum	
				7	Total Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	6.616 cum	
			S	ay 6.616 cu	ım @ Rs 89	14.95 / cum	Rs 58	981.31
eco	coned		0.10 m 0.05	35-57		en as 0.10 i		han 0.05
		3.14	2.650	2.650	0.300		6.616	
		3.14 Kera	5.300 ala Wat	er Auth	1.000 1011ty _		4.993	
						otal Quantity	11.609 cur	n ———
						ted Quantity		า
			S	Say 11 609 d		17.85 / cum		655.32
			ork includinç evelHot roll		•	, bending, p	placing in p	osition a
		1	24.963			120.0	2995.560	
		1	6.616			120.0	793.920	
		1	6.788			120.0	814.561	
						otal Quantity	4604.041 l	
				7		ted Quantity		
						otal Quantity		
			Say 4604.0)41 kilogram	n @ Rs 96.4	6 / kilogram	Rs 444	105.79
								s, having slope up to 15 ses and spiral stair cases

	Cover slab	3.14	2.500	2.500	0.300		5.888	
	Beam	2	5.000	0.300	0.300		0.900	
					To	tal Quantity	6.788 cum	
				7	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	6.788 cum	
			Sa	y 6.788 cur	n @ Rs 112	77.58 / cum	Rs 76	552.21
12	od341049/2021_2022 Centering and shuttering circular works	ng includir	ng strutting	propping e	tc and remo	oval of form	etc. Well S	Steining
	steining up to Top - Outer	3.14	5.600		5.000		87.920	
	steining up to Top - Inner	3.14	5.000	5/1	4.700		73.790	
		12	11318		To	tal Quantity	161.710 sc	ηm
					Total Daduat	مط (۲۰۰۰ میلاند)	0.000.00	
				m ()	otal Deduct	ed Quantity	0.000 Sqm	
		Ker	ala Wat	ıy 161.710 s	Net To	tal Quantity 94.01 / sqm	161.710 sq	m 544.36
13	5.9.5 Centering and shuttering girders bressumers and		g strutting, e	y 161.710 s	Net To	tal Quantity 94.01 / sqm	161.710 sq Rs 47	544.36
13	Centering and shuttering		g strutting, e	y 161.710 s	Net To	tal Quantity 94.01 / sqm	161.710 sq Rs 47	544.36
13	Centering and shuttering girders bressumers and	l cantileve	g strutting, e	y 161.710 s or Authorite.	Net To	tal Quantity 94.01 / sqm	161.710 sq Rs 475 , beams, pli	544.36 inth bea
13	Centering and shuttering girders bressumers and	l cantileve	g strutting, e	y 161.710 setc. and rem	Net To	tal Quantity 94.01 / sqm n for:Lintels	161.710 sq Rs 475 , beams, pli 9.000 9.000 sqm	544.36 inth bea
13	Centering and shuttering girders bressumers and	l cantileve	g strutting, e	y 161.710 setc. and rem	Net To	tal Quantity 94.01 / sqm n for:Lintels tal Quantity	161.710 sq Rs 475 , beams, pli 9.000 9.000 sqm	544.36 inth bea
13	Centering and shuttering girders bressumers and	l cantileve	g strutting, e	y 161.710 setc. and rem	Net To	tal Quantity 94.01 / sqm n for:Lintels tal Quantity ed Quantity	161.710 sq Rs 475 , beams, pli 9.000 9.000 sqm 0.000 sqm 9.000 sqm	544.36 inth bea
	Centering and shuttering girders bressumers and	cantileve 2	g strutting, ers 5.000	9 161.710 setc. and rem 0.900	Net To	tal Quantity 94.01 / sqm for:Lintels tal Quantity ed Quantity tal Quantity 37.64 / sqm	161.710 sq Rs 475 , beams, pli 9.000 9.000 sqm 0.000 sqm 9.000 sqm Rs 57	738.76
13	Centering and shuttering girders bressumers and for beam 5.9.3 Centering and shuttering and shu	cantileve 2	g strutting, ers 5.000	9 161.710 setc. and rem 0.900	Net To	tal Quantity 94.01 / sqm for:Lintels tal Quantity ed Quantity tal Quantity 37.64 / sqm	161.710 sq Rs 475 , beams, pli 9.000 9.000 sqm 0.000 sqm 9.000 sqm Rs 57	738.76
	Centering and shuttering girders bressumers and for beam 5.9.3 Centering and shutterilandings, balconies and slab for working plat form over the well and	ng includi d access	g strutting, ers 5.000 ng strutting platform	9 161.710 setc. and rem 0.900	Net To	tal Quantity 94.01 / sqm for:Lintels tal Quantity ed Quantity tal Quantity 37.64 / sqm	161.710 sq Rs 475 , beams, pli 9.000 9.000 sqm 0.000 sqm Rs 57	544.36 Inth bea
	Centering and shuttering girders bressumers and for beam 5.9.3 Centering and shutterilandings, balconies and slab for working plat form over the well and beam	ng includi d access	g strutting, ers 5.000 ng strutting platform 2.500	y 161.710 s etc. and rem 0.900 Say 9.000 s , etc. and i	Net To	tal Quantity 94.01 / sqm for:Lintels tal Quantity ed Quantity tal Quantity 37.64 / sqm	161.710 sq Rs 475 , beams, pli 9.000 9.000 sqm 0.000 sqm Rs 57 spended flo	738.76

					Net To	tal Quantity	16.625 sqn	n
			S	Say 16.625 s	sqm @ Rs 8	00.50 / sqm	Rs 13	308.31
15	19.16 Providing orange color 12 mm dia steeel bar all minimum length 26 having 2 mm tread or projections on tail leng chemical resistance to be visible even after f 1cement: 3 coarse sa	conforming to 33 mm and w a top surface gth on 138 mi est as per spe ixing includin	o IS:1786, hidth as 165 by ribbing om as per state ecifications ag fixing in n	naving minim mm with mi or chequering andard drawing and having manholes wi	num cross s nimum 112 ng besides r ing and suit manufactur th 30x20x1	ection as 23 mm space to necessary and able to with ses permaner	mm x 25 m between production adequate stand the beautificant t concrete beautificant	nm and over otruded leg e anchorin end test an tion mark to lock 1:3:6
	steps	1	4*14				56.000	
					otal Deduct	ted Quantity	0.000 No	
		6	1	Sav. E C 00	11 14 1	otal Quantity 534.79 / No		948.24
	Providing and fixing d		The Table 1		A 72 C 1		•	
	made with 40 mm dial system with M.S. tube working platform etc. and removing it there with the building etc. features for the work elevational area of the once irrespective of dialogs.	M.S. tube 1. es, M.S. tube and maintair after. The so wherever requested according to the scaffolding turation of scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding	5 m centre challies, M. ning it in a scaffolding sy uired for insmplete as partials be maffolding. N	to centre, ho S. clamps a erviceable of vistem shall be spection of per direction easured for ote:- This ite	prizontal & vand M.S. state condition for perstiffened work at request and appropriate to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used to be used t	vertical tubes aricase system the required with bracing uired location roval of Engurpose. The	s joining with min the scool duration ags, runners, on with essenting payment w	n cup & localifolding for as approve connection ential safeth that ge. The will be made
	made with 40 mm dia system with M.S. tube working platform etc. and removing it there with the building etc features for the work elevational area of the	M.S. tube 1. es, M.S. tube and maintair after. 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	made with 40 mm dial system with M.S. tube working platform etc. and removing it there with the building etc. features for the work elevational area of the once irrespective of dialogs.	M.S. tube 1. es, M.S. tube and maintair after. The so wherever requested according to the scaffolding turation of scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding the scaffolding	5 m centre challies, M. ning it in a scaffolding sy uired for insmplete as partials be maffolding. N	to centre, ho S. clamps a erviceable of vistem shall be spection of per direction easured for ote:- This ite	condition for the stiffened work at request and appropriate to be used to be done.	vertical tubes aricase system the required with bracing uired location roval of Engurpose. The	s joining with m in the sc d duration ags, runners, on with essenting payment watenance wo	affolding for as approve connection ential safet tharge. The will be maderk judicially
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17	made with 40 mm dial system with M.S. tube working platform etc. and removing it there with the building etc. features for the work elevational area of the once irrespective of dialection necessary deduction. 13.7.1 12 mm cement plaste. Bottom of well	M.S. tube 1. es, M.S. tube and maintair after. The so wherever requested are scaffolding tration of scaffor scaffolding 1/2 r finished with 3.14	5 m centre challies, M. ning it in a seaffolding sy uired for insemplete as particular shall be maffolding. 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The sed for maint stal Quantity stal Quantity otal Quantity	s joining with min the scid duration ags, runners, on with essentiate spineer- in Compayment was tenance wo 31.401 square and 31.401 square Rs 93 square 19.625	n cup & localifolding for sapprove connection ential safe charge. 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	beam	2	5.000	0.900			9.000	
					То	tal Quantity	142.294 sc	ım
				Т	otal Deduct	ed Quantity	0.000 sqm	-
					Net To	tal Quantity	142.294 sq	m
			Sa	ıy 142.294 s	sqm @ Rs 3	93.69 / sqm	Rs 56	019.72
18	13.52.2 Finishing with Epoxy manufacturer's specific concrete work			,				•
	Bottom of well	3.14	2.500	2.500			19.625	
	inside of steining	3.14	5.000	65	5.000		78.500	
			JAN		То	tal Quantity	98.125 sqr	n
		-	EZ N	M Ei	otal Deduct	ed Quantity	0.000 sqm	
		618	N. B	SAN	Net To	tal Quantity	98.125 sqn	1
		B	S	Say 98.125 s	sqm @ Rs 2	18.73 / sqm	Rs 21	462.88
19	od341050/2021_2022 Conveying disposing th	e excess ea	arth and deb	ries etc.by l	orry up to 5ŀ	Km s		
		3.14	2.500	2.500	5.000		98.125	
		3.14-1	126.100 at	er1,400th	5.000		134.078	
					То	tal Quantity	232.203 cı	ım
				7	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	232.203 cu	m
			Sa	ıy 232.203 c	cum @ Rs 1:	38.64 / cum	Rs 32	192.62
20	100.7.1 Bailing out water with 5 and taking back of er complete. NEW DATA (Prepared	ngine and p	oump, cost	of fuel lubi	ricating oil a			
		1	5*0.746	30.000	4.000		447.600	
					То	tal Quantity	447.600 K	wh
				Т	otal Deduct	ed Quantity	0.000 Kwh	
					Net To	tal Quantity	447.600 Kv	vh
			S	ay 447.600	Kwh @ Rs	36.26 / Kwh	Rs 16	229.98
21	100.7.2 Bailing out water with errection, dismantling a	•			•	•	-	

		1	10*0.746	30.000	4.000		895.200	
					To	otal Quantity	895.200 k	(wh
				Т	otal Deduc	ted Quantity	0.000 Kwh	l
					Net To	otal Quantity	895.200 K	wh
			S	ay 895.200	Kwh @ Rs	18.09 / Kwh	Rs 16	6194.17
22	100.98.1008						1	
	Engaging Coolie						,	
		1	50.000				50.000	
					To	otal Quantity	50.000 Da	ay
					otal Deduc	ted Quantity	0.000 Day	
			23 6	8 27	Net To	otal Quantity	50.000 Da	у
		61	9	Sav 50.000 I	Dav @ Rs 8	362.30 / Day	Rs 43	3115.00
	Excavating trenched dressing of sides, rather returning the solution deposited layer by rather than 150 m.	imming of bo oil as required amming, wate	ttoms, depth d, in layers n	up to 1.5 m ot exceedin d disposing	n, including g 20 cm in of surplus	getting out to	the excava	ted soil, lidatinge
	dressing of sides, ra then returning the so deposited layer by ra	of DSR)	ttoms, depth d, in layers n ering, etc. an cala Wat	up to 1.5 m ot exceedin d disposing er Auth	n, including g 20 cm in of surplus	getting out to	the excava ding conso soil as direc	ted soil, lidatinge
	dressing of sides, ra then returning the so deposited layer by ra lead of 50 m: All kinds of soil	amming of bootil as required amming, water	ttoms, depth d, in layers n ering, etc. an	up to 1.5 m ot exceedin d disposing	n, including g 20 cm in of surplus nority	getting out to depth, inclue excavated s	the excava ding conso soil as direct	ted soil, lidatinge ted, with
	dressing of sides, ra then returning the so deposited layer by ra lead of 50 m: All kinds of soil	of DSR)	ttoms, depth d, in layers n ering, etc. an cala Wat	up to 1.5 m ot exceedin d disposing er Auth	n, including g 20 cm in of surplus nority	getting out to depth, incluexcavated so	the excava ding conso soil as direct 32.401	ted soil, lidatinge ted, with
	dressing of sides, ra then returning the so deposited layer by ra lead of 50 m: All kinds of soil	of DSR)	ttoms, depth d, in layers n ering, etc. an cala Wat	up to 1.5 m ot exceedin d disposing er Auth	n, including g 20 cm in of surplus nority 1.500 To otal Deduc	getting out to depth, incluexcavated some otal Quantity ted Quantity	32.401 cu	ted soil, lidatinge ted, with
	dressing of sides, ra then returning the so deposited layer by ra lead of 50 m: All kinds of soil	of DSR)	ttoms, depth d, in layers n ering, etc. an cala Wat	up to 1.5 m ot exceeding d disposing er Auth	n, including g 20 cm in of surplus nority 1.500 Total Deduc	getting out to depth, incluexcavated so	32.401 cu	ted soil, ilidatinge ted, with
24	dressing of sides, ra then returning the so deposited layer by ra lead of 50 m: All kinds of soil	of DSR) 1 s of required amming of booil, and then ting each dedirected, with	ttoms, depth d, in layers nering, etc. and wat wat 7.200 d width for pottoms, depth returning the eposited layers	up to 1.5 m ot exceeding disposing er Authors 3.000	n, including g 20 cm in of surplus 1.500 Total Deduction Rs 5 s, etc including the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum and the sum a	getting out to depth, inclusexcavated so the excavated so	32.401 cu 32.401 cu 32.401 cu Rs 17	ted soil, sildatinge ted, with

				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	32.401 cum	1
			S	Say 32.401 c	um @ Rs 6	49.48 / cum	Rs 210	043.80
25	100.6.1 Providing steel sheet s 6.00m using 6 mm M.S driving down vertically equipments and access 0.5 M above ground leveither side at intervals maintaining the shoring restacking for reuse incomes	S. sheet 0.5 y on either sories to a novel suitably not exceeding till the polluding all land	50 M wide s side one af naximum de braced by h ing 1.50M ai vipes are lai	tiffen on ed ter another pth of 0.50 I orizontal wa nd horizonta id and work	ges with 50 in lines and below the alling pieces al screw jacks are comp	mm x 50m ad levels with bottom of th at 75 x 150 at type struts boleted, disn	m x 6 mm M th suitable ne proposed mm x 8 mn at 1.50M in nantling, cle	M.S. angles pile driving excavation angles or attervals and earling and
		1	7.2*2+3*2		3.000	0.5	30.600	
		7	43 6	8 2	То	tal Quantity	30.600 sqr	n
		FL:	The state of	STA ZIT	otal Deduct	ed Quantity	0.000 sqm	
		1 /2-	Dis		Net To	tal Quantity	30.600 sqm	ı
				av 30 600 s	qm @ Rs 7	35 10 / sam	Dc 22	494.06
26	4.1.5	and the same			Sp.			
26	4.1.5 Providing and laying in shuttering - All work up nominal size)	•	ement concr	ete of speci cement : 3 c	fied grade e oarse sand 0.200	excluding the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control	e cost of ce stone aggree 2.838 2.838 cum	ntering and
26	Providing and laying in shuttering - All work up	to plinth lev	ement concr vel:1:3:6/(1 (ete of speci cement : 3 c	fied grade e oarse sand 0.200 To Total Deduct	excluding the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control	e cost of ce stone aggree 2.838 2.838 cum 0.000 cum	ntering and
26	Providing and laying in shuttering - All work up	to plinth lev	ement concr vel:1:3:6/(1 (ete of speci cement : 3 c 2.150	fied grade e oarse sand 0.200 To Total Deduct	excluding the : 6 graded stal Quantity ed Quantity	2.838 2.838 cum 0.000 cum 2.838 cum	ntering and
27	Providing and laying in shuttering - All work up nominal size) 5.37.1 Providing and laying in using cement content at transported to site of was per mix design of s from transit mixer to sit including cost of admix concrete, improve work -charge. Note:- Cemer	a position reas per approvork in transpecified grave of laying, attures in rectability without content	ement concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concreve:1:3:6 (1 concreve:1	ete of speci cement : 3 c 2.150 T Say 2.838 cu M-25 grade in mix, manuall leads, had proced ceme the cost of ce proportions strength and in this item is	fied grade e oarse sand 0.200 To Total Deduct Net To m @ Rs 72: concrete for factured in aving continuation concrete entering, shu as per IS: 9 d durability is @330 kg/o	tal Quantity ed Quantity tal Quantity tal Quantity 29.54 / cum r reinforced fully autom uous agitate work includ attering finis 103 to acce as per direct	2.838 2.838 cum 0.000 cum 2.838 cum Rs 209 cement conatic batching d mixer, maining pumpinhing and reigherate/ retartion of the E	ntering and gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr
	Providing and laying in shuttering - All work up nominal size) 5.37.1 Providing and laying in using cement content at transported to site of was per mix design of sign from transit mixer to sit including cost of admix concrete, improve work -charge. 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per direct	2.838 2.838 cum 0.000 cum 2.838 cum Rs 209 cement conatic batchined mixer, maining pumpinhing and reiplerate/ retartion of the Es /less ceme	ntering and gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm gate 20 mm 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	Providing and laying in shuttering - All work up nominal size) 5.37.1 Providing and laying in using cement content at transported to site of was per mix design of s from transit mixer to sit including cost of admix concrete, improve work -charge. Note:- Cemer	a position reas per approvork in transpecified grave of laying, attures in rectability without content	ement concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concrevel:1:3:6 (1 concreve:1:3:6 (1 concreve:1	ete of speci cement : 3 c 2.150 T Say 2.838 cu M-25 grade in mix, manuall leads, had proced ceme the cost of ce proportions strength and in this item is	fied grade e oarse sand 0.200 To Total Deduct Net To m @ Rs 72: concrete for factured in aving continuation concrete entering, shu as per IS: 9 d durability is @330 kg/o	tal Quantity ed Quantity tal Quantity tal Quantity 29.54 / cum r reinforced fully autom uous agitate work includ attering finis 103 to acce as per direct	2.838 2.838 cum 0.000 cum 2.838 cum Rs 209 cement conatic batching d mixer, maining pumpinhing and reigherate/ retartion of the E	ntering and gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr gate 20 mr

			1		1			
		2	1.250	0.250	3.000		1.875	
	inner wall	1	3.700	0.250	3.000		2.776	
	Baffle wall	2*2	0.500	0.250	2.300		1.150	
	Landing slab	1	1.750	1.200	0.120		0.252	
		·			To	tal Quantity	18.608 cur	n
				٦	Γotal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	18.608 cum	1
			Sa	ıy 18.608 cı	um @ Rs 97	00.81 / cum	Rs 180	512.67
28	4.12 Extra for providing a cement as per man	_		ı material ir	n cement co	ncrete work	in doses b	y weight
	Total Qty of CC	1	18.608		0	330.0	6140.640	
			43 6	9 5	To	tal Quantity	6140.640 k	ιg
		61	N. C	57/0	Γotal Deduct	ed Quantity	0.000 kg	
		1 12	TIME		Net To	tal Quantity	6140.640 k	g
		104	Ka	Say 6140	0.640 kg @ l	Rs 1.33 / kg	Rs 81	67.05
	Steel reinforcement binding all complete @120kg/m3					• .		
		P	R		To	tal Quantity	2232.960 k	ilogram
					Total Deduct	ed Quantity	0.000 kilogi	am
					Net To	tal Quantity	2232.960 k	ilogram
			Say 2232.9	60 kilogran	n @ Rs 96.4	6 / kilogram	Rs 215	391.32
30	5.9.1						•	
	Centering and shutte columns, etc for ma	-	strutting, et	c. and remo	oval of form	for:Foundat	ions, footing	s, bases
	_	-	strutting, et	c. and remo	0.200	for:Foundat	ions, footing	s, bases
	columns, etc for ma	ss concrete		c. and remo		for:Foundat		s, bases
	columns, etc for ma	ss concrete 2	6.600	c. and remo	0.200	for:Foundat	2.640	s, bases
	columns, etc for ma	ss concrete 2 2	6.600 2.150	c. and remo	0.200	for:Foundat	2.640 0.860	s, bases
	Base PCC Base slab	ss concrete 2 2 2	6.600 2.150 6.200	c. and remo	0.200 0.200 0.300	for:Foundat	2.640 0.860 3.720	s, bases
	Base PCC Base slab	ss concrete 2 2 2 2 2	6.600 2.150 6.200 1.750	c. and remo	0.200 0.200 0.300 0.300	for:Foundat	2.640 0.860 3.720 1.050	s, bases
	Base PCC Base slab Well base	2 2 2 2 3.14	6.600 2.150 6.200 1.750 6.000	c. and remo	0.200 0.200 0.300 0.300 0.200 0.300	for:Foundat	2.640 0.860 3.720 1.050 3.769	

					Net To	tal Quantity	17.315 sqm	1
			S	Say 17.315	sqm @ Rs 3	29.03 / sqm	Rs 56	97.15
31	5.9.2 Centering and shutte attached pilasters, b	=	-			for:Walls (a	ny thicknes	s) includir
	side wall	2	14.900		3.000		89.400	
	innerwall	2	3.200		3.000		19.201	
	Baffle wall	4*2	0.500		2.300		9.200	
		4	0.500	0.250			0.500	
	Landing slab	2	1.200	0.500			1.200	
			100	12:	То	tal Quantity	119.501 sc	ηm
			1		Total Deduct	ed Quantity	0.000 sqm	
			43 8	B 2	Net To	tal Quantity	119.501 sq	m
		61	Sa	y 119.501	sqm @ Rs 7	03.77 / sqm	Rs 84	101.22
32	13.1.1 12 mm cement plaste	er of mix:1:4	(1 cement : 4	fine sand)		Ŀ		
	side wall	2	14.900		3.000		89.400	
	innerwall	2	3.200	1 300	3.000		19.201	
	Baffle wall	4* <u>2</u> e1	ala _{0.500} at	er Autl	1012.300		9.200	
		4	0.500	0.250	T	7	0.500	
	Bottom	1	5.700	1.250			7.125	
	Landing slab	2	1.200	0.500			1.200	
					To	tal Quantity	126.626 sc	m
				-	Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	126.626 sq	m
			Sa	y 126.626	sqm @ Rs 3	08.21 / sqm	Rs 39	027.40
33	13.82.2 Wall painting with acgrams/ litre, of approachieve even shade	ved brand an	d manufactu	•	_	•	•	
	side wall - outer	1	15.900		0.600		9.540	
	Well outer	3.14	5.600		0.600		10.551	
					To	tal Quantity	20.091 sqr	n
					Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	20.091 sqm	 1

			S	Say 20.091 s	qm @ Rs 12	23.40 / sqm	Rs 24	79.23
34	Providing and applying RCC structures like ret & water treatment plan partsintegral crystalling slurry: 1 part water) for help of synthetic fiber li.e by reducing permeat 1048 and resistant to 1 of self-healing of crace specification and the differ 10 years against ar	caining walls t, tunnels/s e slurry: 2 p or horizontal brush. The r ability of con 6 bar hydros ks up to a v irection of th	of the base ubway and parts water) surfaces ar materialshal crete by mo static presso width of 0.5 ne engineer	ement, water bridge deck for vertical ad applying II meet the rore than 90 ure on negation. The in-charge. T	tanks, roof etc., prepar surfaces and thesame from equirements % compare tive side. The workshall be the product	slabs, podiumed by mixing and 3:1 (3 pm negative as as specified with continue crystallines carried operformance	ums, reservi g in the ratio partsintegral (internal) si ed in ACI-21 rol concrete eslurry shall ut all comp e shall carry	or, sewage o of 5 : 2 (5 I crystalline ide with the I2-3R-2010 as perDIN be capable lete as per
	side wall	2	5.700		3.000		34.200	
		2	1.250		3.000		7.500	
	innerwall	2	3.200	K W	3.000		19.201	
	Baffle wall	4*2	0.500	733/A	2.300		9.200	
		155			То	tal Quantity	70.101 sqr	n
		48(6)			otal Deduct	ed Quantity	0.000 sqm	
				HELPE/	Net To	tal Quantity	70.101 sqm	ı
		Kera	ala Wa	Say 70.101 s	qm @ Rs 5	59.61 / sqm	Rs 392	229.22
35	22.23.2 Providing and applying	integral cry			hilic in natur	1	_	mant to the
	RCC structures like ref & water treatment plan partsintegral crystalline slurry: 1 part water) for help of synthetic fiber l i.e by reducingpermea 1048 and resistant to 1 of self-healing of crace specification and the d	t, tunnels/ see slurry: 2 per horizontal brush. The rability of confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the confection of the co	ubway and parts water) surfaces ar materialshal crete by mostatic pressured to 0.5 me engineer	bridge deck for vertical nd applying Il meet the r ore than 90 ure on nega 50mm. The in-charge. T	etc., prepar surfaces and thesame from equirements compare tive side. The workshall be the product	red by mixing a 1 (3 pm negative as specific d with contral corried operformance	g in the rational grants integral (internal) sided in ACI-21 column concrete aslurry shall ut all compessible shall carry	or, sewage o of 5 : 2 (5 I crystalline ide with the I2-3R-2010 as perDIN be capable lete as per
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SI No	Description	No	L	В	D	CF	Quantity	Remark	
		2SEPTAG	E TANK	(Cost Inde	x:33.05 %)				
1	2.6.1 Earth work in excava (exceeding 30 cm in dearth, lead up to 50 m soil	lepth, 1.5 m	in width as	well as 10	sqm on pla	n) including	disposal of	excavate	
		1	7.400	4.400	2.000		65.121		
		l			То	tal Quantity	65.121 cur	n	
				Т	otal Deduct	ed Quantity	0.000 cum		
					Net To	tal Quantity	65.121 cum	1	
			S	ay 65.121 c	cum @ Rs 2	10.02 / cum	Rs 130	676.71	
	Providing and laying in shuttering - All work up nominal size)				<i>-1</i> 47			-	
		101	71.00	11100	1-277	tal Ouantity			
	Total Quantity 6.512 cum Total Deducted Quantity 0.000 cum								
		Vor	ala Wat	1 100					
		Non			ım @ Rs 72			078.76	
3	5.37.1 Providing and laying in using cement content transported to site of was per mix design of s from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer per design mix is paya	as per apport work in trans pecified grate of laying, ctures in rec kability without nt content c	roved designate it mixer for a lade for reinforce excluding the commended pout impairing onsidered in	n mix, manuall leads, had broad ceme e cost of ce broportions strength an this item is	ufactured in aving contine ont concrete entering, she as per IS: 9 ad durability is @330 kg/o	fully autom uous agitate work includ uttering finis 1103 to acce as per direct cum. Excess	atic batching ad mixer, ma ling pumpin hing and rei elerate/ retar tion of the E	g plant a anufactur g of R.M nforcement d setting ngineer	
	bottom	1	7.200	4.200	0.300	ii ievei	0.072		
	side upto GL	1	6.3*2+3.3* 2	0.300	1.500		9.073 8.640		
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		1			To	tal Quantity	17.713 cur	n	
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				Т	otal Deduct	ed Quantity			

1	5 27 2							
4	5.37.2 Providing and laying using cement conter transported to site of as per mix design of from transit mixer to including cost of adm concrete, improve we charge. Note:- Cemper design mix is page.	nt as per appr work in trans specified gra site of laying, nixtures in recorkability withou	roved designate in mixer for a cade for reinforce excluding the commended out impairing onsidered in	n mix, manuall leads, had breed ceme e cost of ceproportions strength and this item is	refactured in aving continuent concrete entering, shu as per IS: 9 d durability 6 @ 330 kg/c	fully autom- uous agitate work includ uttering finis 103 to acce as per direc cum. Excess	atic batchined mixer, maling pumpinhing and relelerate/ retaition of the Earless ceme	g plant and anufactured g of R.M.C nforcement d setting of ngineer - in the transfer to as
	slab	1	6.600	3.600	0.1500		3.564	
	side upto slab	1	6.3*2+3.3* 2	0.300	1.500		8.640	
			JAN		То	tal Quantity	12.204 cur	n
			62 N	W 25 1	otal Deduct	ed Quantity	0.000 cum	
		610	K Z	SA	Net To	tal Quantity	12.204 cum	1
			Say	12.204 cun	n @ Rs 113	21.96 / cum	Rs 138	173.20
5	5.34.1 Extra for providing ri						•	
5		able/ recovera	ble separate	ely.Providin ed in M-30 i er Auth	g M-30 grad s @ 340 kg Ority	de concrete /cum). tal Quantity	34.234 34.234 cur	M-25 grade
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	Extra for providing ricontent used is paya BMC/RMC. (Note:- 0	able/ recovera	able separate nt considere 34.234	ely.Providin ed in M-30 i er Auth	g M-30 grad s @ 340 kg Ority To otal Deduct Net To cum @ Rs	de concrete /cum). tal Quantity ed Quantity tal Quantity 80.56 / cum	34.234 34.234 cur 0.000 cum 34.234 cur Rs 27	M-25 grade n
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	Extra for providing ricontent used is paya BMC/RMC. (Note:- 0	able/ recoverance demand content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content conte	ater proofing ecification .	ely.Providing ed in M-30 is er Auth Say 34.234 material in 330.000	g M-30 grad s @ 340 kg OTITY To Total Deduct Net To cum @ Rs a cement co To Total Deduct Net To	tal Quantity tal Quantity tal Quantity tal Quantity 80.56 / cum ncrete work tal Quantity	34.234 34.234 cur 0.000 cum 34.234 cur Rs 27 in doses b 11297.221 11297.221 0.000 kg	m T57.89 y weight of
	Extra for providing ricontent used is paya BMC/RMC. (Note:- 0	able/ recoverancement conte	ater proofing ecification . 34.234	ely.Providing and in M-30 in Providing and in M-30 in Providing and in M-30 in Providing and in M-30.000	g M-30 grads @ 340 kg Ority To Otal Deduct Net To Cum @ Rs a Cement co To Total Deduct Net To 7.221 kg @ F	tal Quantity tal Quantity tal Quantity 80.56 / cum ncrete work tal Quantity ed Quantity tal Quantity ed Quantity tal Quantity	34.234 34.234 cur 0.000 cum 34.234 cur Rs 27 in doses b 11297.221 11297.221 0.000 kg	m T57.89 y weight of kg
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	side upto slab	1	6.3*2+3.3*	0.300	1.500		8.640	
					To	otal Quantity	12.204 cur	n
				7	Total Deduct	ted Quantity	0.000 cum	
					Net To	otal Quantity	12.204 cum	1
			Sa	y 12.204 cu	ım @ Rs 19	65.60 / cum	Rs 23	988.18
8	5.22.6 Steel reinforcemen binding all complet		_	•	-			
	@120 kg/m3	1	34.234	120.000			4108.080	
			100	65	To	otal Quantity	4108.080 I	kilogram
			JAN.		Total Deduct	ted Quantity	0.000 kilog	ram
		-	£ 2 11		Net To	otal Quantity	4108.080 k	ilogram
		61	Say 4108.0	80 kilogram	n @ Rs 96.4	6 / kilogram	Rs 396	265.40
	Centering and shutt columns, etc for ma			c. and remo	oval of form	for:Foundat	ions, footing	ıs, bases
		1 Ker	7.4*2+4.4*	0.300	ority -		7.080	
		IXCI	ara wat	CI Auu	To To	otal Quantity	7.080 sqm	
			R	1		ted Quantity		
					Net To	otal Quantity	7.080 sqm	
			;	Say 7.080 s	sqm @ Rs 3	29.03 / sqm	Rs 23	29.53
10	5.9.2 Centering and shutt attached pilasters, b		•			for:Walls (a	ny thicknes	s) includ
	Inside	1	2*6+2*3	3.000			54.000	
	Out side	1	2*6.6+2*3. 6	3.000			61.200	
					To	otal Quantity	115.200 so	ηm
				٦	Total Deduct	ted Quantity	0.000 sqm	
					Net To	otal Quantity	115.200 sq	m
			Sa	y 115.200 s	sqm @ Rs 7	03.77 / sqm	Rs 81	074.30
11	5.9.3 Centering and shu landings, balconies	•	•	etc. and ı	removal of	form for:Su	spended flo	oors, roc

	slab	1	6.000	3.000			18.000	
					То	tal Quantity	18.000 sqr	m
				7	Fotal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	18.000 sqn	า
			S	ay 18.000 s	sqm @ Rs 8	00.50 / sqm	Rs 14	409.00
12	13.7.1 12 mm cement plas	ter finished witl	h a floating c	oat of neat	cement of m	nix:1:3 (1 ce	ement : 3 fin	e sand)
	Inside	1	2*6+2*3	3.000			54.000	
	Out side	1	2*6.6+2*3. 6	1.500			30.600	
	slab	1	6.600	3.600			23.760	
		1	1		То	tal Quantity	108.360 sc	mp
		1	E3 1	6 21	Γotal Deduct	ed Quantity	0.000 sgm	
		613	18	51/1	7 1 1	·	108.360 sq	m
		11/6	80	v 109 260 c	sqm @ Rs 3			660.25
			aing appropr	riate priming	g coat, prepa	ration of su	rface, etc. c	omplete.
	concrete work	Ker	aing appropr ala Wat i	riate priming er Auth	g coat, prepa	aration of su	rface, etc. c	omplete.
	concrete work Inside	Kera 1	ala Wat 2*6+2*3	er Auth	coat, prepa	aration of su	face, etc. c	omplete.
		Kera 1	ala Wat	er Auth	ocat, prepa	aration of su		omplete.
	Inside	Kera 1	2*6+2*3.	er Auth	ocoat, preparent	aration of su	54.000	omplete.
	Inside Out side	Kera 1 1	2*6+2*3 2*6.6+2*3.	3.000 1.500	TE	aration of su	54.000 30.600 23.760	
	Inside Out side	Kera 1 1	2*6+2*3 2*6.6+2*3.	3.000 1.500 3.600	TE	tal Quantity	54.000 30.600 23.760 108.360 so	
	Inside Out side	Kera 1 1	2*6+2*3 2*6.6+2*3.	3.000 1.500 3.600	To Total Deduct	tal Quantity	54.000 30.600 23.760 108.360 so	qm
	Inside Out side	Kera 1 1	2*6+2*3 2*6.6+2*3. 6 6.600	3.000 1.500 3.600	To Total Deduct	tal Quantity ed Quantity tal Quantity	54.000 30.600 23.760 108.360 sq 0.000 sqm 108.360 sq	qm
14	Inside Out side	Kera 1 1	2*6+2*3 2*6.6+2*3. 6 6.600	3.000 1.500 3.600	To Total Deduct	tal Quantity ed Quantity tal Quantity	54.000 30.600 23.760 108.360 sq 0.000 sqm 108.360 sq	qm m
14	Inside Out side slab 22.23.1 Providing and apply	1 1 1	2*6+2*3 2*6.6+2*3. 6 6.600	3.000 1.500 3.600 y 108.360 s	To Total Deduct Net To sqm @ Rs 2	tal Quantity ed Quantity tal Quantity 18.73 / sqm	54.000 30.600 23.760 108.360 sq 0.000 sqm 108.360 sq Rs 23	m 701.58
14	Inside Out side slab 22.23.1 Providing and apply RCC structures like	1 1 1 ring integral cry	2*6+2*3. 2*6.6+2*3. 6 6.600 Sa vistalline slurres of the base	3.000 1.500 3.600 3.600 y 108.360 s	To Total Deduct Net To sqm @ Rs 2	tal Quantity ed Quantity tal Quantity 18.73 / sqm e forwaterp slabs, podi	54.000 30.600 23.760 108.360 sq 0.000 sqm 108.360 sq Rs 23	m 701.58 ment to to to your sewara
14	Inside Out side slab 22.23.1 Providing and apply RCC structures like & water treatment p	ring integral crysteretaining walls blant, tunnels/s	2*6+2*3. 2*6.6+2*3. 6 6.600 Sa vistalline slurres of the base subway and leading to the subway	3.000 1.500 3.600 y 108.360 s y of hydrop ment, water bridge deck	To Total Deduct Net To sqm @ Rs 2 chilic in nature tanks, roof a etc., prepar	tal Quantity ed Quantity tal Quantity 18.73 / sqm e forwaterp slabs, podited by mixin	54.000 30.600 23.760 108.360 sq 0.000 sqm 108.360 sq Rs 23 roofing treat	m 701.58 ment to ior, sewa o of 5:2
14	Inside Out side slab 22.23.1 Providing and apply RCC structures like & water treatment p partsintegral crysta	ring integral cry retaining walls plant, tunnels/s lline slurry: 2	2*6+2*3. 2*6.6+2*3. 6 6.600 Sa vistalline slurres of the base subway and liparts water)	3.000 1.500 3.600 3.600 y 108.360 s y of hydrop ment,water oridge deck for vertical	To Total Deduct Net To sqm @ Rs 2 chilic in natur r tanks, roof a etc., prepail	tal Quantity ed Quantity tal Quantity 18.73 / sqm e forwaterp slabs, podiced by mixing and 3:1 (3 p	54.000 30.600 23.760 108.360 sq 0.000 sqm 108.360 sq Rs 23 roofing treatums, reserving in the rationartsintegral	m 701.58 ment to ior, sewa o of 5 : 2
14	Inside Out side slab 22.23.1 Providing and apply RCC structures like & water treatment p partsintegral crysta slurry: 1 part water	ring integral cry retaining walls plant, tunnels/ s Illine slurry: 2	2*6+2*3 2*6.6+2*3. 6 6.600 Sa vstalline slurr is of the base subway and l parts water) I surfaces ar	y 108.360 s y of hydropement,water bridge deck for vertical and applying	To Total Deduct Net To sqm @ Rs 2 chilic in nature tanks, roof a etc., prepail surfaces at thesame from	tal Quantity ed Quantity tal Quantity 18.73 / sqm e forwaterp slabs, podic ed by mixin nd 3 : 1 (3 pm negative	54.000 30.600 23.760 108.360 sq 0.000 sqm 108.360 sq Rs 23 roofing treatums, reserving in the rational parts integral (internal) s	m 701.58 ment to ior, sewa o of 5 : 2 I crystall ide with
14	Inside Out side slab 22.23.1 Providing and apply RCC structures like & water treatment p partsintegral crysta	ring integral cry retaining walls plant, tunnels/ s Illine slurry: 2 r) for horizontal per brush. The	2*6+2*3 2*6.6+2*3. 6 6.600 Sa vistalline slurres of the base subway and leparts water) I surfaces ar materialshal	y 108.360 s y of hydrop ement, water bridge deck for vertical ad applying I meet the i	To Total Deduct Net To sqm @ Rs 2 chilic in natur r tanks, roof c etc., prepail surfaces a thesame fro requirement	tal Quantity ed Quantity tal Quantity 18.73 / sqm e forwaterp slabs, podic red by mixin nd 3:1 (3 p om negative s as specific	54.000 30.600 23.760 108.360 sq 0.000 sqm 108.360 sq Rs 23 roofing treatums, reserving in the rational partsintegral (internal) seed in ACI-22	m 701.58 ment to ior, sewa o of 5 : 2 I crystall ide with 12-3R-20

1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable of self-healing of cracks up to a width of 0.50mm. The workshall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee

	for 10 years against ar	yleakage.Fo	or vertical su	urface two co	oats @0.70	kg per sqm		
		2	6+3	3.000			54.000	
					To	tal Quantity	54.000 sqr	n
				Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	54.000 sqm	1
			5	Say 54.000 s	qm @ Rs 5	59.61 / sqm	Rs 30	218.94
	Providing and applying RCC structures like re & water treatment plar partsintegral crystallin slurry: 1 part water) for help of synthetic fiber i.e by reducing permeat 1048 and resistant to 10 of self-healing of crack specification and the control of the 10 years are interested.	taining walls at, tunnels/ s e slurry: 2 or horizontal brush. The ability of cor l 6 bar hydro cks up to a lirection of t	s of the base subway and parts water surfaces a materialshancrete by m estatic press width of 0.9	ement, water bridge deck of for vertical applying the meet the rore than 90 ure on negation. The rin-charge. To	tanks, roof etc., prepa surfaces a thesame fro requirement % compare tive side. The workshall to the product	slabs, podiored by mixing and 3:1 (3 points as specified with continue crystalline carried of performance.	ums, reserving in the rational state of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the co	or, sewago of 5 : 2 (I crystallinite with the I2-3R-201 as perDI be capabole of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of the Ister of th
	for 10 years against a	nyleakage.F	6.000	3.000	ne coat @1.	10 kg per so	am. 18.000	
			PACKET IN	WI 01 32 2	To	tal Quantity		n
		Ker	ala Wai	er Auti		ted Quantity		
					Net To	tal Quantity	18.000 sqm	1
		PI		Say 18.000 s	qm @ Rs 4	31.28 / sqm	Rs 77	63.04
16	100.36.1 Filling water with 5000 the reservoir site and p	oumping the	water into				,	• ,
	engine pump set, hire "(Ref. No. 000, Technic		-	nd other ap	ŭ		ū	
			-	3.000	ŭ		ū	
		cal Circular)			gliences and		ter etc. com	plete.
		cal Circular)		3.000	3.000	d cost of wa	54.000 Kild	plete.
		cal Circular)		3.000	3.000 To	d cost of wa	54.000 54.000 Kilo 0.000 Kilo I	plete.
		cal Circular)	6.000	3.000	3.000 To otal Deduct	otal Quantity sted Quantity otal Quantity	54.000 54.000 Kilo I 54.000 Kilo I	plete.

1	2.6.1 Earth work in excavat (exceeding 30 cm in de earth, lead up to 50 m a soil	pth, 1.5 r	n in width as	well as 10	sqm on plan) including	disposal o	f excavated		
	Reciving chamber footing	4	1.600	1.600	1.500		15.361			
	Reciving and Distribution chamber footing	6	1.900	1.900	1.500		32.491			
	Grit chamber Footing	6	2.200	2.200	1.500		43.561			
	Parshalflume and Distribution chamber	6	1.900	1.900	1.500		32.491			
	Staircase column footing	3	1.600	1.600	1.500		11.521			
		FL	MAG	53/1	Tota	al Quantity	135.425 cı	um		
		12			Total Deducte	d Quantity	0.000 cum			
	Net Total Quantity 135.425 cum									
	Say 135.425 cum @ Rs 210.02 / cum Rs 28441.96									
			Sa	ay 135.425 (cum @ RS 21	0.02 / Culli	K5 20	441.90		
2	4.1.5 Providing and laying in shuttering - All work up nominal size)	-	ement concr	ete of spec	ified grade ex	cluding th	e cost of ce	ntering and		
2	Providing and laying in shuttering - All work up	-	ement concr	ete of spec	ified grade ex	cluding th	e cost of ce	ntering and		
2	Providing and laying in shuttering - All work up nominal size) Reciving chamber	to plinth le	ement concrevel:1:3:6 (1	ete of spec	ified grade excoarse sand :	cluding th	e cost of ce	ntering and		
2	Providing and laying in shuttering - All work up nominal size) Reciving chamber footing Reciving and Distribution chamber	to plinth le	ement concr evel:1:3:6 (1 o	ete of spec cement : 3 d	ified grade excoarse sand :	cluding th	e cost of cestone aggre	ntering and		
2	Providing and laying in shuttering - All work up nominal size) Reciving chamber footing Reciving and Distribution chamber footing	4	ement concrevel:1:3:6 (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ete of spec cement : 3 o 1.600	oarse sand :	cluding th	e cost of cestone aggree 2.049	ntering and		
2	Providing and laying in shuttering - All work up nominal size) Reciving chamber footing Reciving and Distribution chamber footing Grit chamber Footing Parshalflume and	4 6 6	ement concrevel:1:3:6 (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.600 1.900 2.200	0.200	cluding th	e cost of cestone aggree 2.049 4.332 5.809	ntering and		
2	Providing and laying in shuttering - All work up nominal size) Reciving chamber footing Reciving and Distribution chamber footing Grit chamber Footing Parshalflume and Distribution chamber Staircase column	4 6 6 6	1.600 1.900 2.200	1.600 1.900 2.200	0.200 0.200 0.200 0.200	cluding th	e cost of cestone aggree 2.049 4.332 5.809 4.332	ntering and gate 20 mm		
2	Providing and laying in shuttering - All work up nominal size) Reciving chamber footing Reciving and Distribution chamber footing Grit chamber Footing Parshalflume and Distribution chamber Staircase column	4 6 6 6	1.600 1.900 2.200	1.600 1.900 1.600	0.200 0.200 0.200 0.200	ccluding the 6 graded s	2.049 4.332 5.809 4.332 1.537	ntering and gate 20 mm		
2	Providing and laying in shuttering - All work up nominal size) Reciving chamber footing Reciving and Distribution chamber footing Grit chamber Footing Parshalflume and Distribution chamber Staircase column	4 6 6 6	1.600 1.900 2.200	1.600 1.900 1.600	0.200 0.200 0.200 0.200 Total Deducte	ccluding the 6 graded sellowed and Quantity do Quantity	2.049 4.332 5.809 4.332 1.537	ntering and gate 20 mm		
2	Providing and laying in shuttering - All work up nominal size) Reciving chamber footing Reciving and Distribution chamber footing Grit chamber Footing Parshalflume and Distribution chamber Staircase column	4 6 6 6	ement concrevel:1:3:6 (1 1.600 1.900 1.600 1.600	1.600 1.900 2.200 1.600	0.200 0.200 0.200 0.200 Total Deducte	al Quantity d Quantity al Quantity	2.049 4.332 5.809 4.332 1.537 18.059 cui 0.000 cum 18.059 cui	ntering and gate 20 mm		

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in

′ '	,	, ,	3	,			3
-charge. Note:- Cemen	nt content co	onsidered ir	this item is	s @330 kg/d	cum. Excess	s /less ceme	ent used as
per design mix is paya	ble/recovera	able separa	tely.All wior	rk upto plint	h level		
Reciving n chamber							

por accign mix to paya	,			it alpto piiitii	O T O T
Reciving n chamber footing Size 1.2x1.2x0.9 m	4	1.200	1.200	0.150	0.864
	4	0.700	0.700	0.750	1.470
Reciving and Distribution chamber footing Size 1.5x1.5x0.9m	6	1.500	1.500	0.150	2.025
	6	0.900	0.900	0.750	3.646
Grit chamber Footing Size1.8x1.8x0.9m	6	1.800	1.800	0.150	2.916
	6	1.100	1.100	0.750	5.446
Parshalflume and Distribution chamber footing Size 1.5 x 1.5 x 0.9 m	Kera D6	ala Wat	er Auth	0.150	0.203
	6	0.900	0.900	0.750	3.646
Staircase column footing Size 1.2x1.2x0.9 m	3	1.200	1.200	0.150	0.648
	3	0.700	0.700	0.750	1.103
Pedastral column- Reciving chamber	4	0.250	0.400	0.400	0.161
Pedastral column- Reciving and Distribution chamber	6	0.250	0.450	0.400	0.270
Pedastral column- staircase	3	0.200	0.400	0.400	0.097
Pedastral column- Gritchamber	6	0.250	0.500	0.400	0.301

	Pedastral column- Parshalflume and Distribution chamber	6	0.250	0.450	0.400		0.270	
					To	tal Quantity	23.066 cur	n
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	23.066 cum	า
			Sa	y 23.066 cu	ım @ Rs 97	00.81 / cum	Rs 223	758.88
4	5.37.2 Providing and laying in using cement content a transported to site of w as per mix design of sign from transit mixer to sit including cost of admix concrete, improve work -charge. Note:- Cemen per design mix is paya	as per applor ork in transpecified grae of laying, tures in recability without toontent content roved designate it mixer for a cade for reinforce excluding the commended out impairing onsidered in	n mix, manuall leads, had broked ceme ne cost of cemproportions strength and this item is	ufactured in aving contin nt concrete entering, she as per IS: 9 ad durability s @330 kg/o	fully autom uous agitate work includuttering finis 103 to acceas per directum. Excess	atic batching mixer, mading pumping hing and reighterate/ retartion of the Earless cemes	g plant a anufactu g of R.M nforcem d setting ingineer ent used	
	Plinth level beam	//1	117.750	0.250	0.450	ł.	13.247	
	Reciving chamber column 250x400	4	0.250	0.400	2.550		1.020	
	Reciving and Distribution chamber column 250x450	Ker	alaat	er _{0.450} th	3.000		2.026	
	Grit chamber Column250x500	6	0.250	0.500	2.200		1.651	
	Parshalflume and Distribution chamber column250x450	6	0.250	0.450	3.000		2.026	
	Staircase column 200x400	1	0.200	0.400	1.500		0.121	
	Staircase column 200x400	1	0.200	0.400	3.000		0.241	
	Staircase column 200x400	1	0.200	0.400	5.000		0.401	
	Reciving chamber base slab	1	2.250	1.000	0.200		0.450	
	Reciving chamber side wall	1	2.750	0.250	2.200		1.513	
		2	1.000	0.250	2.200		1.100	

		1	2.750	0.250	1.000		0.688	
	Coarse and fine screen chamber base slab	2	10.000	1.000	0.200		4.000	
	Coarse and fine screen chamber side wall	3	10.000	0.250	1.000		7.500	
	Grit chamber base slab -side portion	2	7.730		0.200		3.093	
	Grit chamber base slab -Centre portion	2	10.890		0.200		4.357	
	Grit Chamber sidewall	2	7.350	0.250	2.500		9.188	
		3	3.300	0.250	2.500		6.188	
	parshelfume and distribution chamber base slab	1	5.750	2.500	0.200		2.875	
	parshelfume and distribution chamber side wall	2	5.750	0.250	1.000	Ž.	2.875	
	Allround verandha slab	1 Kera	61.120 ala Wat	1.000 er Auth	0.150 OTITY		9.168	
	verandha beam	15	1.000	0.250	0.400	7	1.500	
	Staircase -steps	18	1.000	0.300	0.150	1	0.810	
	Staircase -landing	1	1.000	1.000	0.150		0.150	
		1	1.700	1.000	0.150		0.255	
					То	tal Quantity	76.443 cur	n
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	76.443 cum	1
			Say	76.443 cun	n @ Rs 113	21.96 / cum	Rs 865	484.59
5	4.12 Extra for providing and cement as per manufa	_	-	g material in	cement co	ncrete work	in doses b	y weight of
	Reciving chamber base slab	1	2.250	1.000	0.200	330.0	148.500	
	Reciving chamber side wall	1	2.750	0.250	2.200	330.0	499.126	
		2	1.000	0.250	2.200	330.0	363.001	

			1		1		1	
		1	2.750	0.250	1.000	330.0	226.875	
	Coarse and fine screen chamber base slab	2	10.000	1.000	0.200	330.0	1320.000	
	Coarse and fine screen chamber side wall	3	10.000	0.250	1.000	330.0	2475.000	
	Grit chamber base slab -side portion	2	7.730		0.200	330.0	1020.361	
	Grit chamber base slab -Centre portion	2	10.890		0.200	330.0	1437.481	
	Grit Chamber sidewall	2	7.350	0.250	2.500	330.0	3031.875	
		3	3.300	0.250	2.500	330.0	2041.875	
	parshelfume and distribution chamber base slab	1	5.750	2.500	0.200	330.0	948.750	
	parshelfume and distribution chamber side wall	2	5.750	0.250	1.000	330.0	948.750	
	Allround verandha slab	1 Ker	61.120 ala Wat	1.000 er Auth	0.150 IOTILY	330.0	3025.440	
					То	tal Quantity	17487.034	kg
				7	Total Deduct	ed Quantity	0.000 kg	
					Net To	tal Quantity	17487.034	kg
				Say 17487	7.034 kg @ I	Rs 1.33 / kg	Rs 232	257.76
6	5.22.6 Steel reinforcement for binding all complete up			-				
	From item no 3 @120 kg/m3	1			23.066	120.0	2767.920	
	From item no 4 @120 kg/m3	1			76.503	120.0	9180.360	
					То	tal Quantity	11948.280	kilogram
				7	otal Deduct	ed Quantity	0.000 kilogi	am
					Net To	tal Quantity	11948.280	kilogram
			Say 11948.2	280 kilogram	n @ Rs 96.4	6 / kilogram	Rs 115	2531.09
7	od341035/2021_2022 Extra for providing sulph	nate resista	ant cement fo	or the struct	ures above p	olinth level.		

	Reciving chamber base slab	1	2.250	1.000	0.200		0.450	
	Reciving chamber side wall	1	2.750	0.250	2.200		1.513	
		2	1.000	0.250	2.200		1.100	
		1	2.750	0.250	1.000		0.688	
	Coarse and fine screen chamber base slab	2	10.000	1.000	0.200		4.000	
	Coarse and fine screen chamber side wall	3	10.000	0.250	1.000		7.500	
	Grit chamber base slab -side portion	2	7.730		0.200		3.093	
	Grit chamber base slab -Centre portion	2	10.890	30/4	0.200		4.357	
	Grit Chamber sidewall	2	7.350	0.250	2.500	L	9.188	
	16	3	3.300	0.250	2.500		6.188	
	parshelfume and distribution chamber base slab	Ker	ala ^{5.750} at	er 2.500 er Auth	0.200 OTILY		2.875	
	parshelfume and distribution chamber side wall	2	5.750	0.250	1.000		2.875	
	Allround verandha	1	61.120	1.000	0.150		9.168	
					To	tal Quantity	52.995 cur	n
				Т	Total Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	52.995 cum	1
			Sa	ıy 52.995 cu	ım @ Rs 19	65.60 / cum	Rs 104	166.97
8	5.9.1 Centering and shuttering columns, etc for mass columns.		strutting, et	c. and remo	oval of form	for:Foundat	ions, footing	ıs, bases of
	Reciving n chamber footing Size 1.2x1.2x0.9 m	4	4.800		0.150		2.880	

	Reciving and Distribution chamber footing Size 1.5x1.5x0.9 m	6	6.000		0.150		5.400	
	Grit chamber Footing Size1.8x1.8x0.9m	6	7.200		0.150		6.480	
	Parshalflume and Distribution chamber footing Size 1.5 x 1.5 x 0.9 m	6	6.000		0.150		5.400	
	Staircase column footing Size 1.2x1.2x0.9 m	3	4.800	-SI	0.150		2.160	
	Pedastral column- Reciving chamber	4	1.300		0.400		2.080	
	Pedastral column- Reciving and Distribution chamber	6	1.400		0.400		3.360	
	Pedastral column- staircase	3	1.200		0.400		1.440	
	Pedastral column- Gritchamber	Kera	ala Wat	er Auth	0.400 OTILY		3.601	
	Pedastral column- Parshalflume and Distribution chamber	P ₆]	1.400		0.400	3	3.360	
	Total Quantity						36.161 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						36.161 sqm	
	Say 36.161 sqm @ Rs 329.03 / sqm							
9	5.9.2 Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) includi attached pilasters, butteresses, plinth and string courses etc.							
	Reciving chamber side wall	2	2.750		2.200		12.101	
		4	1.000		2.200		8.800	
		2	2.750		1.000		5.500	
	Coarse and fine screen chamber side wall	6	10.000		1.000		60.000	

	Grit Chamber sidewall	2	7.350		2.500		36.750	
		2	6.850		2.500		34.250	
		3	3.300		2.500		24.750	
		3	3.600		2.500		27.000	
	parshelfume and distribution chamber side wall	4	5.750		1.000		23.000	
		2	2.500		1.000		5.000	
					Tota	l Quantity	237.151 sc	mp
				Т	otal Deducted	d Quantity	0.000 sqm	
			B	B.	Net Tota	l Quantity	237.151 sq	m
			Sa	ay 237.151 s	qm @ Rs 703	3.77 / sqm	Rs 166	899.76
	Centering and shuttering landings, balconies and	_		, etc. and r	emoval of fo	rm for:Su	spended flo	oors, ro
	Reciving chamber base slab	1	2.250	1.000		no.	2.250	
	Coarse and fine screen chamber base slab	2 Kei	10.000 rala Wat	1.000 er Auth	ority		20.000	
	Grit chamber base slab -side portion	2	7.730		TH	I	15.460	
	Grit chamber base slab -Centre portion	2	10.890				21.780	
	parshelfume and distribution chamber base slab	1	5.750	2.500			14.375	
					Tota	l Quantity	73.865 sqr	n
				Т	otal Deducted	d Quantity	0.000 sqm	
					Net Tota	l Quantity	73.865 sqm	า
			S	Say 73.865 s	qm @ Rs 800).50 / sqm	Rs 59	128.93
11	5.9.5 Centering and shuttering girders bressumers and	_	•	etc. and rem	noval of form	for:Lintels	, beams, pl	inth bea
	Allround verandha	1	61.120	1.150			70.288	

	verandha beam	15	1.000	0.250+0.4 *2			15.750	
	Staircase -steps	18	1.000	0.300*2+0 .15*2			16.200	
	Staircase -landing	1	1.000	1.000			1.000	
		1	1.700	1.000			1.700	
					Tota	I Quantity	104.938 sc	m
				Т	otal Deducted	d Quantity	0.000 sqm	
					Net Tota	I Quantity	104.938 sq	m
			Sa	ay 104.938 s	qm @ Rs 637	'.64 / sqm	Rs 66	912.67
12	5.9.6 Centering and shutter Abutments, Posts and		ding strutting	g, etc. and	removal of fo	orm for:C	olumns, Pil	lars, Pi
	Plinth level beam	1	117.750	0.250+0.4 5*2	211		135.413	
	Reciving chamber column 250x400	4	0.250*2+0 .4*2		2.550	200	13.260	
	Reciving and Distribution chamber column 250x450	6 Kei	0.250*2+0 .45*2	1.35%	3.000		25.200	
	Grit chamber Column250x500	6	0.250*2+0 .5*2		2.200	l	19.800	
	Parshalflume and Distribution chamber column250x450	6	0.250*2+0 .45*2		3.000	1	25.200	
	Staircase column 200x400	1	0.2*2+0.4 82		1.500		1.323	
	Staircase column 200x400	1	0.200*2+0 .4*2		3.000		3.601	
	Staircase column 200x400	1	0.200*2+0 .4*2		5.750		6.901	
					Tota	I Quantity	230.698 sc	m
				Т	otal Deducted	<u> </u>		
			Sa	ay 230.698 s	Net Tota qm @ Rs 847		230.698 sq Rs 195	m 5 507.33
13	13.7.1 12 mm cement plaster f	inished w		•				

Plinth level beam	1	117.750	1.400		164.850
Reciving chambe column 250x400	r 4	1.300		2.550	13.260
Reciving and Distribution chambe column 250x450		1.400		3.000	25.200
Grit chambe Column250x500	- 6	1.500		2.200	19.800
Parshalflume and Distribution chambe column250x450		1.400		3.000	25.200
Staircase column 200x400	1	1.200	A	1.500	1.800
Staircase column 200x400	1	1.200		3.000	3.600
Staircase column 200x400	1	1.200		5.000	6.000
Reciving chambe base slab- top and bottom		2.250	1.000		4.500
Reciving chambe side wall- inside and out side	17010	ala Wat 2.750	er Auth	ority 2.200	12.101
	4	1.000		2.200	8.800
	2	2.750		1.000	5.500
Coarse and fine screen chamber base slab-top and bottom		10.000	1.000		40.000
Coarse and fine screen chamber side wall		10.000		1.000	60.000
Grit chamber base slab -side portion -top and bottom		7.730			30.920
Grit chamber base slab -Centre portion top and botom		10.890			43.560

	Grit Chamber							
	sidewall-inside and out side	4	7.350		2.500		73.500	
		6	3.300		2.500		49.500	
	parshelfume and distribution chamber base slab-top and bottom	2	5.750	2.500			28.750	
	parshelfume and distribution chamber side wall-inside and out side	4	5.750		1.000		23.000	
	Allround verandha slab-top and bottom	2	61.120	1.000	0.150		18.336	
	verandha -edge	1	61.200	0.150	3		9.180	
	verandha beam	15	1.000	1.050	1 4 1		15.750	
	Staircase -steps	18	1.000	0.900	I G	ķ	16.200	
	Staircase -waist slab bottom	1	15.000	1.000		and the second	15.000	
	Staircase -landing -top only	1 Kera	1.000 ala Wat	1.000 er Auth	ority		1.000	
		1	1.700	1.000			1.700	
					То	tal Quantity	717.007 sc	mp
				7	Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	717.007 sq	m
			Sa	y 717.007 s	sqm @ Rs 3	93.69 / sqm	Rs 282	278.49
14	13.52.2 Finishing with Epoxy manufacturer's specifications concrete work							
	Qty same as item no-	1	717.007				717.007	
					То	tal Quantity	717.007 so	m
				٦	Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	717.007 sq	m
			Sa	y 717.007 s	sqm @ Rs 2	18.73 / sqm	Rs 156	830.94
15	22.23.1 Providing and applying	integral cry	stalline slurr	y of hydrop	hilic in natur	e forwaterp	roofing treat	ment to the

RCC structures like retaining walls of the basement,water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 partsintegral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 partsintegral crystalline slurry : 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the help of synthetic fiber brush. The materialshall meet the requirements as specified in ACI-212-3R-2010 i.e by reducingpermeability of concrete by more than 90% compared with control concrete as perDIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable of self-healing of cracks up to a width of 0.50mm. The workshall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee for 10 years against anyleakage.For vertical surface two coats @0.70 kg per sqm

Reciving chamber side wall- inside and out side	2	2.750		2.200		12.101	
	4	1.000		2.200		8.800	
	2	2.750		1.000		5.500	
Coarse and fine screen chamber side wall		10.000	521	1.000		60.000	
Grit Chamber sidewall-inside and out side	4	7.350		2.500	ملا	73.500	
	6 ers	3.300	er Author	2.500		49.500	
parshelfume and distribution chamber side wall-inside and out side		5.750		1.000		23.000	
				To	tal Quantity	232.401 so	ım

16 22.23.2

Providing and applying integral crystalline slurry of hydrophilic in nature forwaterproofing treatment to the RCC structures like retaining walls of the basement,water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5:2 (5 partsintegral crystalline slurry: 2 parts water) for vertical surfaces and 3:1 (3 partsintegral crystalline slurry: 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the help of synthetic fiber brush. The materialshall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as perDIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable of self-healing of cracks up to a width of 0.50mm. The workshall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee

Total Deducted Quantity 0.000 sqm

Say 232.401 sqm @ Rs 559.61 / sqm

Net Total Quantity 232.401 sqm

Rs 130053.92

	1	16.200	16.200	0.500		131.220			
ding 30 cm in dead up to 50 m	epth, 1.5 m	n in width as	well as 10	sqm on pla	n) including	disposal of	excavated		
vork in excava	ition by me	echanical m	eans (Hvdi	aulic exca	vator)/manı	ual means	over areas		
4E	EQUALISA	TION TANK	(Cost Ir	ndex:33.05 ^c	%)				
Description	No	L	В	D	CF	Quantity	Remark		
			Say 700.0	00 kg @ Rs	186.34 / kg	Rs 130	438.00		
					tal Quantity				
				otal Deduct			•		
	'	. 30.300	<u> </u>	To	tal Quantity	700.000 kg	1		
d verandha	1	700.000	1,1012			700.000			
50.10.1 Steel work in built up G I 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									
	Ker	ala W s a	ay 147.730 s	qm @ Rs 4:			712.99		
	100		HI OF DE	A75	tal Quantity		m		
Total Quanti									
elfume and ution chamber slab-top and	2	5.750	2.500		tol Quantity	28.750			
namber base entre portion - I botom	4	10.890	a L			43.560			
namber base de portion -top ttom		7.730				30.920			
e and fine chamber base and bottom		10.000	1.000			40.000			
ng chamber slab- top and		2.250	1.000			4.500			
ng cha	mber	mber	mber	mber	mber	mber			

	T.1.0		404.000							
		131.220 cum								
	Total Deducted Qu									
	Net Total Q	uantity	131.220 cum							
	Say 131.220 cum @ Rs 210.02	2 / cum	Rs 27558.82							
2	4.1.5 Providing and laying in position cement concrete of specified grade exclude shuttering - All work up to plinth level:1:3:6 (1 cement : 3 coarse sand : 6 grade nominal size)	-	_							
	1 16.200 16.200 0.200		52.488							
	Total Q	uantity	52.488 cum							
	Total Deducted Qu	uantity	0.000 cum							
	Net Total Qu	52.488 cum								
	Say 52.488 cum @ Rs 7229.54	Rs 379464.10								
	using cement content as per approved design mix, manufactured in fully transported to site of work in transit mixer for all leads, having continuous as per mix design of specified grade for reinforced cement concrete work from transit mixer to site of laying, excluding the cost of centering, shutterir including cost of admixtures in recommended proportions as per IS: 9103 to concrete, improve workability without impairing strength and durability as per-charge. Note:- Cement content considered in this item is @330 kg/cum. per design mix is payable/recoverable separately.All wiork upto plinth level.	agitate c includ ng finisl to acce er direct Excess	d mixer, manufactured ing pumping of R.M.C. hing and reinforcement lerate/ retard setting of tion of the Engineer - in							
	Total Q	uantity	77.763 cum							
		Total Deducted Quantity 0.000 cum								
	Say 77.763 cum @ Rs 9700.81 / cum Say 77.763 cum @ Rs 9700.81 / cum Rs 754364.09 5.37.2 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete wor using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.0 from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting concrete, improve workability without impairing strength and durability as per direction of the Engineer - incharge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as									

	c/c	1	4.000*14.	4.500	0.300		80.460	
	Baffle wall	1	14.600	4.000	0.100		5.840	
	Walkway	1	64.800	1.000	0.100		6.480	
	cantilever beams	8	1.000	0.250	0.250		0.500	
	Stair-step	29	1.000	0.50*0.30* 0.15			0.653	
	Stair - Landing	11	1.000	1.000	0.120		1.320	
	Stair- Waist	11	6.300	1.000	0.120		8.316	
	Walkway to MBBR	11	2.000	1.200	0.120		3.168	
			100	Be	То	tal Quantity	106.737 сเ	ım
		0.000 cum						
		/ 106.737 cum						
		21.96 / cum	Rs 1208472.04					
	Qty Vide Item No:3 Qty Vide Item No:4	Ker 1	77,630 106,740		,	tal Quantity		um
					Net To	tal Quantity	184.370 cu	m
			5	Say 184.370	cum @ Rs	80.56 / cum	Rs 14	852.85
6	4.12 Extra for providing ar cement as per manuf	_		g material in	cement co	ncrete work	in doses b	y weight o
	Qty Vide Item No:3	1	77.630	330.000			25617.900	
	Qty Vide Item No:4	1	106.740	330.000			35224.200	
					То	tal Quantity	60842.100	kg
				Т	otal Deduct	ed Quantity	0.000 kg	
					Net To	tal Quantity	60842.100	kg
				Say 60842	100 kg @ I	Rs 1.33 / kg	Rs 809	919.99
7	od341035/2021_2022 Extra for providing sul	phate resista	int cement fo	or the structu	ıres above բ	olinth level.		

	Qty Vide Item No:3	1	77.630				77.630			
	Qty Vide Item No:4	1	106.740				106.740			
					То	tal Quantity	184.370 cเ	ım		
				Т	otal Deduct	ed Quantity	0.000 cum			
					Net To	tal Quantity	184.370 cu	m		
			Say	184.370 cu	m @ Rs 19	65.60 / cum	Rs 362	397.67		
8	5.22.6 Steel reinforcement for binding all complete up		-		•	• .				
	Qty Vide Item No:3@120 kg/m3	1	77.630	120.000			9315.600			
	Qty Vide Item No:4@120 kg/m3	1	106.740	120.000			12808.800			
		1	37.2	8.7	11 /A: 1		22124.400			
	Total Deducted Quantity 0.000 kilogram									
	-	(1)	lka:		A 200		22124.400			
			Say 22124.4	00 kilogram	@ Rs 96.4	6 / kilogram	Rs 213	4119.62		
9	od341038/2021_2022 Extra for providing epoxy	v coating f	or reinforcen	nent bars.	• ,					
	Qty Vide Item No:3@120 kg/m3	Ker D ¹	77.630	120.000	ority 1		9315.600			
	Qty Vide Item No:4@120 kg/m3	1	106.740	120.000			12808.800			
					То	tal Quantity	22124.400	kg		
				Т	otal Deduct	ed Quantity	0.000 kg			
					Net To	tal Quantity	22124.400	kg		
				Say 22124	.400 kg @ I	Rs 2.32 / kg	Rs 51	328.61		
10	5.9.1 Centering and shuttering columns, etc for mass c		g strutting, et	c. and remo	oval of form	for:Foundat	ions, footing	ıs, bases		
		1	64.400	0.300			19.320			
					То	tal Quantity	19.320 sqr	n		
				Т	otal Deduct	ed Quantity	0.000 sqm			
					Net To	tal Quantity	19.320 sqm	1		
			S	ay 19.320 s	qm @ Rs 3	29.03 / sqm	Rs 63	56.86		
11	5.9.2									

	Centering and shutteri attached pilasters, but	•	-			tor:vvalis (a	iny thickness	s) includ					
	Inside	4	14.600	4.500			262.800						
	Outside	4	15.200	4.500			273.600						
	Baffle	2	14.600	4.000			116.800						
					То	tal Quantity	653.200 sc	ım					
				Т	otal Deduct	ed Quantity	0.000 sqm						
					Net To	tal Quantity	653.200 sq	m					
			Sa	ay 653.200 s	qm @ Rs 7	03.77 / sqm	Rs 459	702.56					
12	5.9.3 Centering and shutte landings, balconies a	form for:Su	spended flo	ors, ro									
	Walkway	1	64.800	1.000			64.800						
	Stair- Landing	1	1.000	1.000			1.000						
	Stair- Waist	1	6.300	1.000	T-S.		6.300						
	Stair- Step	29	1.000	0.150	والمواول	l.	4.350						
	Walkway to MBBR	1	2.000	1.200	Sp.		2.400						
	Total Quantity 78.85 Kerala Water Aut Total Deducted Quantity 0.000												
		Ker	ara wat	er Auth	otal Deduct	ed Quantity	0.000 sqm						
			R	+	Net To	tal Quantity	78.850 sqm	1					
			5	Say 78.850 s	qm @ Rs 8	00.50 / sqm	Rs 63′	119.42					
13	5.9.5 Centering and shutter girders bressumers ar	•	•	etc. and rem	noval of form	n for:Lintels	, beams, pli	nth bea					
		8	1.000	0.750			6.000						
					То	tal Quantity	6.000 sqm						
		otal Deduct	0.000 sqm										
					Net Total Quantity 6.000 sqm								
					Net To	tal Quantity	6.000 sqm						
				Say 6.000 s				25.84					
14	13.7.1 12 mm cement plaster	finished wit	h a floating o	Say 6.000 s	qm @ Rs 6	37.64 / sqm	Rs 38						
14		finished wit	h a floating o	Say 6.000 s	qm @ Rs 6	37.64 / sqm	Rs 38						
14	12 mm cement plaster			Say 6.000 s	qm @ Rs 6	37.64 / sqm	Rs 38						
14	12 mm cement plaster Qty vide Item No:10	1	1.000	Say 6.000 s coat of neat	qm @ Rs 6	37.64 / sqm	Rs 38						

					То	tal Quantity	757.370 sc	ım			
				Т	otal Deduct	ed Quantity	0.000 sqm				
					Net To	tal Quantity	757.370 sq	m			
			Sa	ay 757.370 s	qm @ Rs 39	93.69 / sqm	Rs 298	169.00			
15	13.52.2 Finishing with Epoxy manufacturer's specific concrete work	-						-			
	Tank	1	60.800	4.500			273.600				
	Walkway	1	64.800	1.000			64.800				
	Beams	8	1.000	0.750			6.000				
			JAN		То	tal Quantity	344.400 sc	lm			
		Total Deducted Quantit									
		/ 344.400 sqm									
		B	Sa	ay 344.400 s	qm @ Rs 2	18.73 / sqm	Rs 753	330.61			
	partsintegral crystalline slurry: 1 part water) fo help of synthetic fiber to i.e by reducingpermea 1048 and resistant to 1 of self-healing of crac specification and the differ 10 years against an	r horizontal orush. The bility of cor 6 bar hydro ks up to a irection of the	surfaces armaterialshal ncrete by mostatic pressound the of 0.5 width of 0.5 the engineer	nd applying Il meet the rore than 90 ure on nega 50mm. The in-charge. T	thesame from equirements compare tive side. The workshall be the product	om negative is as specific did with control of the crystalline carried of the car	(internal) si ed in ACI-21 ol concrete eslurry shall ut all comp e shall carry	de with the 2-3R-2010 as perDIN be capable lete as per			
	Tank	4	14.600	4.500			262.800				
	Baffle	2	14.600	4.000			116.800				
					То	tal Quantity	379.600 sc	ım			
				Т	otal Deduct	ed Quantity	0.000 sqm				
	Net Total Quantity 379.600 sqm										
			Sa	ay 379.600 s	qm @ Rs 5	59.61 / sqm	Rs 212	427.96			
17	Say 379.600 sqm @ Rs 559.61 / sqm Rs 212427. 22.23.2 Providing and applying integral crystalline slurry of hydrophilic in nature forwaterproofing treatment RCC structures like retaining walls of the basement,water tanks, roof slabs, podiums, reservior, s & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of spartsintegral crystalline slurry: 2 parts water) for vertical surfaces and 3:1 (3 partsintegral crystalline)										

	slurry: 1 part water) for help of synthetic fiber in i.e by reducing permeat 1048 and resistant to 1 of self-healing of crace specification and the differ 10 years against an	orush. The bility of cor 6 bar hydro ks up to a tirection of the	materialshal ncrete by mo static presso width of 0.5 ne engineeri	I meet the rore than 90 ure on negaromm. The n-charge. T	equirement % compare tive side. Th workshall b he product	s as specified with continue crystalline carried operformance	ed in ACI-21 rol concrete eslurry shall out all comp e shall carry	2-3R-2010 as perDIN be capable lete as per			
		1	14.600	14.600			213.160				
					То	tal Quantity	213.160 sc	ηm			
	Total Deducted Quantity 0.000 sqm										
	Net Total Quantity 213.160 sqm Say 213.160 sqm @ Rs 431.28 / sqm Rs 91931.										
	Filling water with 5000 the reservoir site and pengine pump set, hire "(Ref. No. 000, Technic	oumping the for tanker l	water into to	he reservoii	r of height n	ot less than	3 m using	5 HP diesel			
		1	14.600	14.600	4.500	lu.	959.220				
		TUE			То	tal Quantity	959.220 Ki	lo litre			
			Marie				0.000 Kilo I				
		Kera	ala Wat	er Auth	OTINE To	tal Quantity	959.220 Kil	o litre			
		$D \square$	Say 959.2	20 Kilo litre	@ Rs 182.7	'9 / Kilo litre	Rs 175	335.82			
19	50.10.1 Steel work in built up Good cutting, hoisting, fixing in and bolted with special	n position a	nd applying	a priming co	•		•	•			
		1	700.000				700.000				
					То	tal Quantity	700.000 kg	J			
				Т	otal Deduct	ed Quantity	0.000 kg				
					Net To	tal Quantity	700.000 kg				
				Say 700.00	00 kg @ Rs	186.34 / kg	Rs 130	438.00			
SI No	Description	No	L	В	D	CF	Quantity	Remark			
1	2.6.1 Earth work in excava (exceeding 30 cm in d earth, lead up to 50 m soil	tion by me	in width as	eans (Hydr well as 10	sqm on pla	vator)/manun) including	disposal of	excavated			

		1	32.300	16.800	0.550		298.452	
					To	otal Quantity	298.452 c	um
				7	otal Deduc	ted Quantity	0.000 cum	
					Net To	otal Quantity	298.452 cu	ım
			Sa	ıy 298.452 d	cum @ Rs 2	210.02 / cum	Rs 62	680.89
2	4.1.5 Providing and laying i shuttering - All work u nominal size)	-		•	•	•		•
		1	32.300	16.800	0.200		108.528	
			100	65	To	otal Quantity	108.528 c	um
			JAB		otal Deduc	ted Quantity	0.000 cum	
			6 2 W		Net To	otal Quantity	108.528 cu	ım
			Say	108.528 cu	ım @ Rs 72	229.54 / cum	Rs 78	4607.52
	Providing and laying in using cement content transported to site of as per mix design of site.	t as per app work in trans	roved design sit mixer for	n mix, manu all leads, ha	ufactured in aving contin	fully autom uous agitate	atic batchir ed mixer, m	ig plant an anufacture
	using cement content	t as per app work in trans specified gra lite of laying, ixtures in rec rkability without ent content of	roved design sit mixer for ade for reinfor excluding the commended out impairing considered in	n mix, manuall leads, had broced ceme ne cost of coproportions strength are this item is	ufactured in aving continuit concrete entering, she as per IS: 9 ad durability is @330 kg/	fully automations agitate work include the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work incl	atic batchired mixer, muding pumpireshing and reletate/ reta	ng plant an anufacture of R.M.C inforcemer of setting congineer - i
	using cement content transported to site of as per mix design of from transit mixer to s including cost of admi concrete, improve wor -charge. Note:- Ceme	t as per app work in trans specified gra lite of laying, ixtures in rec rkability without ent content of	roved design sit mixer for ade for reinfor excluding the commended out impairing considered in	n mix, manuall leads, had broced ceme ne cost of coproportions strength are this item is	ufactured in aving continuit concrete entering, she as per IS: 9 ad durability is @330 kg/	fully automations agitate work include the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work incl	atic batchired mixer, muding pumpireshing and reletate/ reta	ng plant an anufacture ng of R.M.0 inforcement rd setting of Engineer - i
	using cement content transported to site of as per mix design of from transit mixer to s including cost of admi concrete, improve wor -charge. Note:- Ceme	t as per app work in trans specified gra site of laying, extures in rec rkability without ent content of rable/recover	roved designate mixer for eade for reinforce excluding the commended out impairing considered in rable separa	n mix, manuall leads, had broced ceme ne cost of corproportions strength are this item is tely. All wice	ufactured in aving continuit concrete entering, should be as per IS: 9 and durability as @330 kg/rk upto plint 0.350	fully automations agitate work include the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work incl	atic batchired mixer, miding pumpir shing and relerate/ retaction of the Es /less cem	ng plant an anufacture ag of R.M.0 inforcement of setting of Engineer - in ent used a
	using cement content transported to site of as per mix design of from transit mixer to s including cost of admi concrete, improve wor -charge. Note:- Ceme	t as per app work in trans specified gra site of laying, extures in rec rkability without ent content of rable/recover	roved designate mixer for eade for reinforce excluding the commended out impairing considered in rable separa	n mix, manuall leads, had broced ceme ne cost of corproportions strength are this item is tely. All wice 16.700	ufactured in aving continuit concrete entering, should durability as @330 kg/rk upto plint 0.350	fully automations agitate work include the work include the work include the work include the work included as per direct cum. Excess the level	atic batchired mixer, miding pumpir shing and replemented retains of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East of the East	ng plant an anufacture ag of R.M.0 inforcement of setting of Engineer - in ent used a
	using cement content transported to site of as per mix design of from transit mixer to s including cost of admi concrete, improve wor -charge. Note:- Ceme	t as per app work in trans specified gra site of laying, extures in rec rkability without ent content of rable/recover	roved designate mixer for eade for reinforce excluding the commended out impairing considered in rable separa	n mix, manuall leads, had broced ceme ne cost of corproportions strength are this item is tely. All wice 16.700	ufactured in aving continuit concrete entering, should be as per IS: 9 and durability as @330 kg/rk upto plint	fully automated awork included work included the work included the work included the work included as per direct cum. Excess the level to be a superficient of the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work included the work includ	atic batchired mixer, miding pumpir shing and resterate/ retaction of the Es /less cem 188.209 188.209 c 0.000 cum	anufacture anufacture ag of R.M.0 inforcement rd setting of Engineer - ent used a
	using cement content transported to site of as per mix design of from transit mixer to s including cost of admi concrete, improve wor -charge. Note:- Ceme	t as per app work in trans specified gra site of laying, extures in rec rkability without ent content of rable/recover	roved designate mixer for eade for reinforce excluding the commended out impairing considered in rable separated 32.200	n mix, manuall leads, had proced ceme ne cost of comproportions strength are this item is tely. All wice 16.700	ufactured in aving continuit concrete entering, should durability as @330 kg/rk upto plint 0.350 Total Deduction Net Total	fully automated awork included work included work included with the work included awork included as per direct cum. Excess the level work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work included with the work	atic batchired mixer, miding pumpir shing and resterate/ retaction of the Es /less cem 188.209 188.209 cum 188.209 cum	anufacture anufacture ag of R.M. inforcement rd setting Engineer - ent used a

				1				1
	Long Wall	2	31.300	4.500	0.300		84.510	
	Short Wall	3	15.200	4.500	0.300		61.560	
	Walkway	1	98.200	1.000	0.100		9.820	
	Cantilever beams	10	1.000	0.250	0.250		0.625	
					То	tal Quantity	156.515 cเ	ım
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	156.515 cu	m
			Say ²	156.515 cun	n @ Rs 113	21.96 / cum	Rs 177	2056.57
5	5.34.1 Extra for providing rich content used is payabl BMC/RMC. (Note:- Ce	e/ recovera	ble separat	ely.Providin	g M-30 grad	de concrete	•	
	Qty vide item 3	1	188.029	B 25			188.029	
	Qty vide item 4	1	156.515	SA/X			156.515	
		N. Burn	MAN		То	tal Quantity	344.544 cเ	ım
		104		T	otal Deduct	ed Quantity	0.000 cum	
		TOP			Net To	tal Quantity	344.544 cu	m
				•	cum @ Rs	80.56 / cum	Rs 27	756.46
6	4.12 Extra for providing and cement as per manufa	d mixing wa	1 11 7			ncrete work	in doses b	y weight of
	Qty vide item 3	1	188.029		330.000	_	62049.570	
	Qty vide item 4	1	156.515		330.000		51649.950	
					То	tal Quantity	113699.52	0 kg
				Т	otal Deduct	ed Quantity	0.000 kg	
					Net To	tal Quantity	113699.520) kg
				Say 113699).520 kg @ I	Rs 1.33 / kg	Rs 151	220.36
7	od341035/2021_2022 Extra for providing sulp	hate resista	nt cement fo	or the structu	ures above p	olinth level.		
	Qty vide item 3	1	188.029				188.029	
	Qty vide item 4	1	156.515				156.515	
					То	tal Quantity	344.544 cu	ım
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	344.544 cu	m
			Say	344.544 cu	ım @ Rs 19	65.60 / cum	Rs 677	235.69

8	5.22.6 Steel reinforcement binding all complete			-	-	• .	• .		
	@120kg/m3	1	344.540	120.000			41344.800		
	3		1		То	tal Quantity	41344.800	kilograr	
				Т	otal Deduct	ed Quantity	0.000 kilog	ram	
					Net To	tal Quantity	41344.800	kilogram	
	Say 41344.800 kilogram @ Rs 96.46 / kilogram Rs 3988119.4								
9	od341038/2021_202 Extra for providing e		or reinforcen	nent bars.					
	@120kg/m3	1	344.540	120.000			41344.800		
			JAN	160 m	To	tal Quantity	41344.800	kg	
		-	6.2 h	W. St. H	otal Deduct	ed Quantity	0.000 kg		
		619	X 2	55. N	Net To	tal Quantity	41344.800	kg	
		1 Ru	L KY	Say 41344	.800 kg @ I	Rs 2.32 / kg	Rs 95	919.94	
	Centering and shutte columns, etc for mas	ss concrete		HI OF BE	W.	for:Foundat		ıs, base	
		Ker	32.2*2+16 112.7*2	er0,350th	ority		34.231		
					То	tal Quantity	34.231 sqr	n	
				I	otal Deduct	ed Quantity	0.000 sqm		
					Net To	tal Quantity	34.231 sqm	1	
			S	Say 34.231 s	qm @ Rs 3	29.03 / sqm	Rs 11	263.03	
11	5.9.2 Centering and shutto attached pilasters, b	-				for:Walls (a	ny thicknes	s) includ	
	Inside	2*4	15.200	4.500			547.200		
	Outside	1	94.200	4.500			423.901		
					То	tal Quantity	971.101 sc	ηm	
				Т	otal Deduct	ed Quantity	0.000 sqm		
					Net To	tal Quantity	971.101 sq	m	
			Sa	y 971.101 s	qm @ Rs 7	03.77 / sqm	Rs 683	431.75	
12	5.9.3 Centering and shut landings, balconies	•	•	, etc. and r	emoval of	form for:Su	spended flo	oors, ro	

	Walkway	1	98.200				98.200	
					To	tal Quantity	98.200 sqr	n
				-	Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	98.200 sqn	1
			S	ay 98.200 :	sqm @ Rs 8	00.50 / sqm	Rs 78	609.10
13	5.9.5 Centering and shutte girders bressumers	•	•	tc. and rer	noval of forr	n for:Lintels	, beams, pl	inth bea
	Cantilever beam	10	1.000	0.750			7.500	
					To	otal Quantity	7.500 sqm	
			Ba	B.	Total Deduct	ted Quantity	0.000 sqm	
					Net To	tal Quantity	7.500 sqm	
			336	Say 7.500	sqm @ Rs 6	37.64 / sqm	Rs 47	82.30
14	13.7.1 12 mm cement plaste	er finished wit	h a floating c	oat of neat	cement of n	nix:1:3 (1 ce	ement : 3 fin	e sand)
	Item No:10	1	34.210			1	34.210	
	Item No:11	1	971.101				971.101	
	Item No:12	1	98.200	1 300			98.200	
	Item No:13	Ker	al _{7.500} at	er Autl	nority		7.500	
		D	D		To	otal Quantity	1111.011	sqm
					Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	1111.011 s	qm
			Say	1111.011	sqm @ Rs 3	93.69 / sqm	Rs 437	393.92
15	13.52.2 Finishing with Epo manufacturer's speci concrete work			•				
	Tank	1	94.200	4.500			423.901	
	Walkway	1	98.200	1.000			98.200	
	Beams	3	1.000	0.250			0.750	
					Total Deduct	etal Quantity		mp
						<u>~</u>		m
	Net Total Quantity 522.851 sqm Say 522.851 sqm @ Rs 218.73 / sqm							
			Ja	, 022.001	-4 © 1/3 Z	. J., J , Jqiii	1.3 11-	355.20

Providing and applying integral crystalline slurry of hydrophilic in nature forwaterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5:2 (5 partsintegral crystalline slurry: 2 parts water) for vertical surfaces and 3:1 (3 partsintegral crystalline slurry: 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the help of synthetic fiber brush. The materialshall meet the requirements as specified in ACI-212-3R-2010 i.e by reducingpermeability of concrete by more than 90% compared with control concrete as perDIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable of self-healing of cracks up to a width of 0.50mm. The workshall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee for 10 years against anyleakage. For vertical surface two coats @0.70 kg per sqm 8 15.200 4.500 547.200 547.200 sqm Total Quantity Total Deducted Quantity 0.000 sqm Net Total Quantity 547.200 sqm Say 547.200 sqm @ Rs 559.61 / sqm Rs 306218.59 17 22.23.2 Providing and applying integral crystalline slurry of hydrophilic in nature forwaterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5:2 (5 partsintegral crystalline slurry: 2 parts water) for vertical surfaces and 3:1 (3 partsintegral crystalline slurry: 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the help of synthetic fiber brush. The materialshall meet the requirements as specified in ACI-212-3R-2010 i.e by reducingpermeability of concrete by more than 90% compared with control concrete as perDIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable of self-healing of cracks up to a width of 0.50mm. The workshall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee for 10 years against anyleakage. For horizontal surface one coat @1.10 kg per sqm. 2 15.200 15.200 462.080 Total Quantity 462.080 sqm Total Deducted Quantity 0.000 sqm Net Total Quantity 462.080 sqm Say 462.080 sqm @ Rs 431.28 / sqm Rs 199285.86 18 100.36.1 Filling water with 5000 litre tankers fited in lorry and conveying water from a distance of 5 km (average) to the reservoir site and pumping the water into the reservoir of height not less than 3 m using 5 HP diesel engine pump set, hire for tanker lorry, tools and other appliences and cost of water etc. complete. "(Ref. No. 000, Technical Circular)" 2 15.200 15.200 4.500 2079.361 **Total Quantity** 2079.361 Kilo litre

					Total Deduc	ted Quantity	0 000 Kilo	litre
						otal Quantity		
			Sav 2079	361 Kilo litre		79 / Kilo litre		0086.40
19	50.10.1 Steel work in built up of cutting, hoisting, fixing and bolted with special	in position a	(round, squ and applying	are or recta	ngular hollo	w tubes etc.) trusses etc	c., including
		1	900.000				900.000	
					To	otal Quantity	900.000 kg	9
					Total Deduc	ted Quantity	0.000 kg	
			100	-65	Net To	otal Quantity	900.000 kg	
			M	Say 900.0	000 kg @ Rs	186.34 / kg	Rs 167	706.00
SI No	Description	No	(1)	В	D	CF	Quantity	Remark
	6S	ECONDAR'	Y CLARIFIE	R (Cost	Index:33.0	5 %)		
	soil	Ker	3.14/4	16.3*16.3	Total Deduc	otal Quantity ted Quantity otal Quantity	0.000 cum	
			S	ay 166.854	cum @ Rs 2	210.02 / cum	Rs 35	042.68
2	4.1.5 Providing and laying in shuttering - All work up nominal size)	•		-	coarse sand	•		_
		<u> </u>	3.14/4	10.3 10.3				
						otal Quantity		П
						ted Quantity		
			9	av //1 71/ c		otal Quantity 229.54 / cum		1573.03
3	5.37.1 Providing and laying in using cement content transported to site of v	as per app	eady mixed roved desig	M-25 grade In mix, man	concrete fo	or reinforced fully autom	cement cor	ncrete work g plant and

	as per mix design of s from transit mixer to sit including cost of admix concrete, improve work -charge. Note:- Cemer	e of laying, tures in rec ability without of content co	excluding the commended but impairing considered in	ne cost of ce proportions strength an this item is	entering, shu as per IS: 9 d durability s @330 kg/d	uttering finis 103 to acce as per direc cum. Excess	hing and rei elerate/ retar tion of the E	nforcement d setting of ngineer - in
	per design mix is paya	1	3.14/4	16.3*16.3	0.300	1.15	71.956	
		<u>'</u>	0.14/4	10.0 10.0		tal Quantity	71.956 cur	n
				Т	otal Deduct			•
							71.956 cum	1
			Sa	y 71.956 cu	m @ Rs 970	00.81 / cum	Rs 698	031.48
	Providing and laying in using cement content a transported to site of was per mix design of s from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer per design mix is paya	as per apprork in trans becified grade of laying, tures in recability without ability without	oved designate in the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the	n mix, manual leads, had orced ceme ne cost of cemproportions astrength and this item is	factured in aving continuent concrete entering, shu as per IS: 9 d durability a @330 kg/c	fully automations agitate work include attering finis 103 to access per directum. Excess	atic batchined mixer, maling pumpinhing and releterate/ retaition of the Earless ceme	g plant and anufactured g of R.M.C. nforcement d setting of ngineer - in ent used as
	Wall	3.14er	116.000at	ero.300th	013.300		49.738	
	chamber	3.14	15.200	0.500	0.100	7.	2.387	
		3.14	14.700	0.300	0.100	1	1.385	
	Walkway	3.14	16.700	1.000	0.100		5.244	
	Cantilever beam	8	1.000	0.250	0.250		0.500	
					То	tal Quantity	59.254 cur	n
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	59.254 cum	1
			Say	59.254 cun	n @ Rs 113	21.96 / cum	Rs 670	871.42
5	5.34.1 Extra for providing rich content used is payabl BMC/RMC. (Note:- Ce	e/ recovera	ble separat	ely.Providin	g M-30 grad	de concrete	•	
	Qty Vide Item No:3	1	71.956				71.956	
	Qty Vide Item No:4	1	59.254				59.254	
					То	tal Quantity	131.210 cu	ım
				Т	otal Deduct	ed Quantity	0.000 cum	
						_		

					Net To	tal Quantity	131.210 cu	m
			S	Say 131.210	cum @ Rs	80.56 / cum	Rs 10	570.28
6	4.12 Extra for providing and cement as per manufa	•		g material in	cement co	ncrete work	in doses b	y weight of
	Qty Vide Item No:3	1	71.956		330.000		23745.480	
	Qty Vide Item No:4	1	59.254		330.000		19553.820	
					То	tal Quantity	43299.300	kg
				Т	otal Deduct	ed Quantity	0.000 kg	
					Net To	tal Quantity	43299.300	kg
			100	Say 43299	.300 kg @ I	Rs 1.33 / kg	Rs 57	588.07
7	od341035/2021_2022 Extra for providing sulpl	nate resista	ant cement fo	or the structu	ıres above p	plinth level.		
	Qty Vide Item No:3	1	71.956	5. N	7 1 1		71.956	
	Qty Vide Item No:4	1	59.254		1-8		59.254	
		(6)	L/a		То	tal Quantity	131.210 сเ	ım
		TO THE		T	otal Deduct	ed Quantity	0.000 cum	
			A Comment	the state of	Net To	tal Quantity	131.210 cu	m
		Ker	ala Wsat	4131.210 cu	m @ Rs 19	65.60 / cum	Rs 257	906.38
8	5.22.6 Steel reinforcement fo binding all complete u			-	7			
	Qty Vide Item No:3@120kg/m3	1	71.956	120.000			8634.721	
	Qty Vide Item No:4@120kg/m3	1	59.254	120.000			7110.480	
					То	tal Quantity	15745.201	kilogram
				Т	otal Deduct	ed Quantity	0.000 kilogi	am
					Net To	tal Quantity	15745.201	kilogram
			Say 15745.2	201 kilogram	@ Rs 96.4	6 / kilogram	Rs 1518	3782.09
9	od341038/2021_2022 Extra for providing epox	xy coating f	or reinforcen	nent bars.				
	Qty Vide Item No:3@120kg/m3	1	71.956	120.000			8634.721	
	Qty Vide Item No:4@120kg/m3	1	59.254	120.000			7110.480	

					_			
						tal Quantity		kg
				7		ed Quantity		
					Net To	tal Quantity	15745.201	kg
				Say 15745	5.201 kg @ l	Rs 2.32 / kg	Rs 36	528.87
10	5.9.1 Centering and shutteri columns, etc for mass	-	strutting, et	c. and remo	oval of form	for:Foundat	ions, footing	js, bases
		3.14	16.300	0.200			10.237	
					To	tal Quantity	10.237 sqr	n
				7	otal Deduct	ed Quantity	0.000 sqm	
			B	B.	Net To	tal Quantity	10.237 sqm	1
			S	Sav 10.237 s	sam @ Rs 3	29.03 / sqm	Rs 33	68.28
	Centering and shutteri attached pilasters, but	teresses, pl	inth and strir		etc.	for:Walls (a		s) includi
	Wall Inside&outside	3.14*2	16.000		3.300	نيا	331.584	
		3.14*4	14.700		0.300		55.390	
		3.14*4	14.700	11 9 P.E./		tal Quantity		m
			14.700 ala Wat	er Autl	То	tal Quantity ed Quantity	386.974 sc	l qm
			PA SE	er Auti	To	ed Quantity	386.974 sc	•
			ala Wat		Total Deduct	ed Quantity	386.974 sq 0.000 sqm 386.974 sq	•
12	5.9.3 Centering and shutte landings, balconies a	Kera P	ala Wat	y 386.974 s	Total Deduct Net To	ed Quantity stal Quantity 03.77 / sqm	386.974 sq 0.000 sqm 386.974 sq Rs 272	m 2340.69
12	Centering and shutte	Kera P	ala Wat	y 386.974 s	Total Deduct Net To	ed Quantity stal Quantity 03.77 / sqm	386.974 sq 0.000 sqm 386.974 sq Rs 272	m 2340.69
12	Centering and shutte landings, balconies a	Kera Paring includiand access	ala Wat Sa ng strutting platform	y 386.974 s	Total Deduct Net To	ed Quantity stal Quantity 03.77 / sqm	386.974 sq 0.000 sqm 386.974 sq Rs 272	m 2340.69
12	Centering and shutte landings, balconies a chamber	Kera Pring includi and access 3.14	sala Wat Sa ng strutting platform 15.200	y 386.974 s , etc. and r 0.500	Total Deduct Net To eqm @ Rs 7	ed Quantity stal Quantity 03.77 / sqm	386.974 sq 0.000 sqm 386.974 sq Rs 272 spended flo 23.864 52.438	m 2340.69 Dors, roo
12	Centering and shutte landings, balconies a chamber	Kera Pring includi and access 3.14	sala Wat Sa ng strutting platform 15.200	y 386.974 s , etc. and r 0.500 1.000	Total Deduct Net To eqm @ Rs 7	ed Quantity otal Quantity 03.77 / sqm form for:Su	386.974 sq 0.000 sqm 386.974 sq Rs 272 spended flo 23.864 52.438 76.302 sqr	m 2340.69 Dors, roo
12	Centering and shutte landings, balconies a chamber	Kera Pring includi and access 3.14	sala Wat Sa ng strutting platform 15.200	y 386.974 s , etc. and r 0.500 1.000	Total Deduct Net Total Query (Control Control	ed Quantity otal Quantity form for:Su otal Quantity	386.974 sq 0.000 sqm 386.974 sq Rs 272 spended flo 23.864 52.438 76.302 sqr	m 2340.69 Dors, roo
12	Centering and shutte landings, balconies a chamber	Kera Pring includi and access 3.14	sala Wat Sa ng strutting platform 15.200 16.700	y 386.974 s , etc. and r 0.500 1.000	Total Deduct Net Total Query agm @ Rs 7 removal of Total Deduct Net To	ed Quantity otal Quantity form for:Su otal Quantity	386.974 sq 0.000 sqm 386.974 sq Rs 272 spended flot 23.864 52.438 76.302 sqr 0.000 sqm 76.302 sqr	m 2340.69 Dors, roo
12	Centering and shutte landings, balconies a chamber	ering including and access 3.14 3.14	sala Wat Sa ng strutting platform 15.200 16.700 Sala Sala Sala Sala Sala Sala Sala Sal	y 386.974 s , etc. and r 0.500 1.000	Total Deduct Net Total Question Total Deduct Net Total Deduct Net Total Question Sigm @ Rs 8	ed Quantity otal Quantity otal Quantity tal Quantity ed Quantity otal Quantity otal Quantity	386.974 sq 0.000 sqm 386.974 sq Rs 272 spended flo 23.864 52.438 76.302 sqr 0.000 sqm 76.302 sqr Rs 610	m 2340.69 Dors, roo
	Centering and shutter landings, balconies at chamber Walkway 5.9.5 Centering and shutter	ering including and access 3.14 3.14	sala Wat Sa ng strutting platform 15.200 16.700 Sala Sala Sala Sala Sala Sala Sala Sal	y 386.974 s , etc. and r 0.500 1.000	Total Deduct Net Total Question Total Deduct Net Total Deduct Net Total Question Sigm @ Rs 8	ed Quantity otal Quantity otal Quantity tal Quantity ed Quantity otal Quantity otal Quantity	386.974 sq 0.000 sqm 386.974 sq Rs 272 spended flo 23.864 52.438 76.302 sqr 0.000 sqm 76.302 sqr Rs 610	m 2340.69 Dors, roo m

				_				
					Total Deduct	<u>-</u>		
						tal Quantity	-	
				Say 6.000 s	sqm @ Rs 6	37.64 / sqm	Rs 38	325.84
14	13.7.1 12 mm cement plaster	finished wit	th a floating o	coat of neat	cement of m	ix:1:3 (1 ce	ement : 3 fine	e sand)
	Qty Vide Item No:10	1	10.237				10.237	
	Qty Vide Item No:11	1	386.974				386.974	
	Qty Vide Item No:12	1	76.302				76.302	
	Qty Vide Item No:13	1	6.000				6.000	
			4.55		То	tal Quantity	479.513 sc	mp
				r Ass	Total Deduct	ed Quantity	0.000 sqm	
			1		Net To	tal Quantity	479.513 sq	m
		_	Sa	ay 479.513 s	sqm @ Rs 39	93.69 / sqm	Rs 188	3779.47
	Finishing with Epox manufacturer's specific concrete work							•
	manufacturer's specific concrete work Outer wall Walkway	1 Ker	3.140	16.000			165.792 52.438	•
	manufacturer's specific concrete work Outer wall	cations inclu	3.140	riate priming	3.300 1.000	ration of su	165.792 52.438 6.000	omplete.O
	manufacturer's specific concrete work Outer wall Walkway	1 Ker	3.140	16.000 16.700 0.750	3.300 1.000	tal Quantity	165.792 52.438 6.000 224.230 sc	omplete.O
	manufacturer's specific concrete work Outer wall Walkway	1 Ker	3.140	16.000 16.700 0.750	3.300 1.000 To	tal Quantity	165.792 52.438 6.000 224.230 sc 0.000 sqm	omplete.O
	manufacturer's specific concrete work Outer wall Walkway	1 Ker	3.140 3.140 1.000	16.000 16.700 0.750	3.300 Total Deduct	tal Quantity ed Quantity tal Quantity	165.792 52.438 6.000 224.230 sq 0.000 sqm 224.230 sq	qm
16	manufacturer's specific concrete work Outer wall Walkway	1 Ker	3.140 3.140 1.000	16.000 16.700 0.750	3.300 1.000 To	tal Quantity ed Quantity tal Quantity	165.792 52.438 6.000 224.230 sq 0.000 sqm 224.230 sq	omplete.O
16	manufacturer's specific concrete work Outer wall Walkway Beams	g integral crystaining wall ht, tunnels/sor horizontal brush. The ability of contacts about the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the	3.140 1.000 Sa ystalline slures of the base subway and parts water all surfaces are materialshall increte by mostatic pression width of 0.5 the engineer	16.000 16.700 0.750 0.750 ay 224.230 s ry of hydrop ement, water bridge deck of for vertical and applying II meet the re ore than 90 ure on negal 50mm. The in-charge. 1	3.300 Total Deduct Net To aqm @ Rs 2 hillic in natur tanks, roof etc., prepai surfaces ai thesame fro requirement workshall b he product	tal Quantity ed Quantity tal Quantity tal Quantity 18.73 / sqm e forwaterp slabs, podic red by mixin nd 3 : 1 (3 p m negative s as specific d with contri le crystalline re carried o performance	165.792 52.438 6.000 224.230 sq 0.000 sqm 224.230 sq Rs 49 roofing treatums, reserving in the rational seed in ACI-2 rol concrete estury shall ut all comple shall carry	m 045.83 ment to the for, sewage of 5 : 2 (I crystalline ide with the first per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete as per DII be capable lete

					To	tal Quantity	222.519 so	nm
					Total Deduct			4111
				<u>'</u>		etal Quantity		
			Co	. 222 540 -				<u> </u>
47	00.00.0		Sa	y 222.519 S	sqm @ Rs 5	59.61 / Sqm	KS 122	1523.86
17	Providing and applying RCC structures like retal water treatment plant partsintegral crystalline slurry: 1 part water) for help of synthetic fiber beine by reducing permea 1048 and resistant to 10 of self-healing of crack specification and the differ 10 years against an	aining walls t, tunnels/s s slurry: 2 p r horizontal brush. The p bility of cor 6 bar hydro ks up to a rection of th	s of the base subway and be parts water) surfaces and materialshal nerete by mo- static pressu- width of 0.5 ne engineeri	ment, water or idge deck for vertical dapplying meet the rore than 90 are on negaround. The n-charge. The	tanks, roof etc., prepar surfaces a thesame fro requirement % compare tive side. The workshall be the product	slabs, podiored by mixing and 3:1 (3 points as specified with continue crystalline carried of performance	ums, reserving in the rationartsintegral (internal) seed in ACI-2 rol concrete eslurry shall out all compers shall carry	ior, sewage o of 5 : 2 (! I crystalline ide with the 12-3R-2010 e as perDIN be capable blete as pe
		3.14	15.700	3.300	10		162.684	
		155			То	tal Quantity	162.684 s	qm
		466			Total Deduct	ed Quantity	0.000 sqm	
			PERM	THE PER	Net To	tal Quantity	162.684 sq	ım
		Kera	ala W.Sa	y 162.684 s	sqm @ Rs 4	31.28 / sqm	Rs 70	162.36
18	100.36.1 Filling water with 5000 I the reservoir site and p engine pump set , hire "(Ref. No. 000, Technic	umping the for tanker lo	water into to	ne reservoi	r of height n	ot less than	3 m using	5 HP diese
		3.14/4	15.700	15.700	3.500		677.232	
					То	tal Quantity	677.232 K	ilo litre
				7	Total Deduct	ed Quantity	0.000 Kilo	litre
					Net To	tal Quantity	677.232 Ki	lo litre
			Say 677.2	32 Kilo litre	@ Rs 182.7	79 / Kilo litre	Rs 123	3791.24
19	50.10.1 Steel work in built up G cutting, hoisting,fixing in and bolted with special	n position a	nd applying	a priming c	•			
		1	600.000				600.000	
			-		То	tal Quantity	600.000 kg	g
				7	Total Deduct	ed Quantity	0.000 kg	

					Net T	otal Quantity	600.000 kg	
				Say 600.0	00 kg @ R	s 186.34 / kg	Rs 111	804.00
SI No	Description	No	L	В	D	CF	Quantity	Remark
		7SLUDGE	SUMP	(Cost Inde	x:33.05 %)			
1	2.6.1 Earth work in exca (exceeding 30 cm i earth, lead up to 50 soil	n depth, 1.5 m	in width as	s well as 10	sqm on pla	an) including	disposal of	f excavat
		1	1.800	1.800	0.400	3.14	4.070	
		<u> </u>			Т	otal Quantity	4.070 cum	
			10	120	Total Deduc	ted Quantity	0.000 cum	
			J/N			otal Quantity		
		7	536	Say 4 070 (210.02 / cum		54.78
	Providing and laying shuttering - All work nominal size)	-						_
					C/4.03			
		3.14	1.800	1.800	0.100		1.018	
						otal Quantity		
				ter Auth	nority ^T	otal Quantity	1.018 cum	
				ter Auth	TOTITY T		1.018 cum 0.000 cum	
			ala Wat	ter Auth	Tority T Fotal Deduc	eted Quantity	1.018 cum 0.000 cum 1.018 cum	859.67
3	5.22.6 Steel reinforcemen binding all complet @120kg/m3	Kera Plant for R.C.C wo	ala War	Say 1.018 cu	Net Tum @ Rs 72	eted Quantity otal Quantity 229.54 / cum g, bending, ped bars of g	1.018 cum 0.000 cum 1.018 cum Rs 73 colacing in prade Fe-500 1132.680	osition a
3	Steel reinforcemen binding all complet	t for R.C.C wo	ala Wat	Say 1.018 cu ag straighter b - Mechani 120.000	Fotal Deduction Net Tum @ Rs 72	otal Quantity 229.54 / cum g, bending, ped bars of g otal Quantity	1.018 cum 0.000 cum 1.018 cum Rs 73 clacing in p rade Fe-500 1132.680	osition a OD or m
3	Steel reinforcemen binding all complet	t for R.C.C wo	ala Wat	Say 1.018 cu ag straighter b - Mechani 120.000	Fotal Deduction Net Tum @ Rs 72 ning, cutting cally Treat	eted Quantity otal Quantity 229.54 / cum g, bending, ped bars of g otal Quantity eted Quantity	1.018 cum 0.000 cum 1.018 cum Rs 73 clacing in p rade Fe-500 1132.680 1132.680 0.000 kilog	osition a DD or mo kilogram
3	Steel reinforcemen binding all complet	t for R.C.C wo	ork including evelThermore 9.439	Say 1.018 cu	Total Deduction Net Tum @ Rs 72 ning, cutting cally Treated Total Deduction Net T	otal Quantity 229.54 / cum g, bending, ped bars of g otal Quantity otal Quantity otal Quantity	1.018 cum 0.000 cum 1.018 cum Rs 73 clacing in p rade Fe-500 1132.680 l 0.000 kilog 1132.680 k	osition a DD or mo
3	Steel reinforcemen binding all complet	richer mixes at	ork including evelThermore 9.439 Say 1132.	Say 1.018 cu ag straighter b - Mechani 120.000 680 kilogram vels. Note:-	Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction ® Rs 96.4	eted Quantity otal Quantity 229.54 / cum g, bending, ped bars of g otal Quantity eted Quantity otal Quantity otal Quantity otal Quantity at 6 / kilogram as cement over	1.018 cum 0.000 cum 1.018 cum Rs 73 clacing in p rade Fe-500 1132.680 0.000 kilog 1132.680 k Rs 109	osition a DD or me kilogram ram ilogram 258.31
	Steel reinforcemen binding all complet @120kg/m3 5.34.1 Extra for providing content used is pay	richer mixes at	ork including evelThermore 9.439 Say 1132.	Say 1.018 cu ag straighter b - Mechani 120.000 680 kilogram vels. Note:-	Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction ® Rs 96.4	eted Quantity otal Quantity 229.54 / cum g, bending, ped bars of g otal Quantity eted Quantity otal Quantity otal Quantity otal Quantity at 6 / kilogram as cement over	1.018 cum 0.000 cum 1.018 cum Rs 73 clacing in p rade Fe-500 1132.680 0.000 kilog 1132.680 k Rs 109	osition a DD or mo kilogram ram ilogram 258.31

						- 10 - 10	0.000	
				<u> </u>	otal Deducto	tal Quantity		
				Say 9.439	cum @ Rs 8		Rs 70	60.41
5	5.37.1 Providing and laying i using cement content transported to site of as per mix design of site from transit mixer to sincluding cost of admiconcrete, improve wor-charge. Note:- Cemeper design mix is pay	as per appr work in trans specified gra ite of laying, xtures in rec kability witho	roved designation in the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of	n mix, manuall leads, had orced ceme ne cost of cemproportions attended at this item is	Ifactured in aving continuent concrete entering, shuras per IS: 9 ad durability as @330 kg/c	fully automations agitate work include attering finis 103 to access per directum. Excess	atic batching ad mixer, ma ling pumpin hing and rei elerate/ retar tion of the E	g plant and anufactured g of R.M.C. nforcement d setting of ngineer - in
		3.14	1.700	1.700	0.300		2.723	
			3.3.4	\$ 100 mg	To	tal Quantity	2.723 cum	
		(4)			otal Deduct	ed Quantity	0.000 cum	
		16			Net To	tal Quantity	2.723 cum	
		1	S	Say 2.723 cu	m @ Rs 970	00.81 / cum	Rs 26	415.31
	Providing and laying i using cement content transported to site of as per mix design of a from transit mixer to sincluding cost of admiconcrete, improve wor-charge. Note:- Cemeper design mix is pay	as per appr work in trans specified gra ite of laying, xtures in rec kability without ent content co	oved designation in the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of t	m mix, manual leads, had orced ceme ne cost of ce proportions strength and this item is	Ifactured in aving continuate concrete entering, shu as per IS: 9 d durability as @330 kg/d	fully automations agitate work include attering finis 103 to access per directum. Excess	atic batching ding pumping and reighterate/ retartion of the Est/less cemes	g plant and anufactured g of R.M.C. nforcement d setting of ngineer - in ent used as
		3.14	2.500	0.300	2.350		5.535	
	COVER SLAB	3.14	1.400	1.400	0.200		1.231	
	Manhole	1	0.500	0.500	0.200		-0.050	
					То	tal Quantity	6.766 cum	
				Т	otal Deduct	ed Quantity	-0.050 cum	
					Net To	tal Quantity	6.716 cum	
			_			_		
	4.40		Sa	ay 6.716 cun	n @ Rs 1132	21.96 / cum		038.28
7	4.12 Extra for providing an cement as per manuf	_	iter proofing	•			Rs 76	038.28

					То	tal Quantity	3114.870	kg
				Т	otal Deduct	ed Quantity	0.000 kg	
					Net To	tal Quantity	3114.870 k	g
				Say 3114	.870 kg @ I	Rs 1.33 / kg	Rs 41	42.78
8	od341038/2021_202 Extra for providing e		or reinforcem	nent bars.				
	@120kg/m3	1	9.439	120.000			1132.680	
					То	tal Quantity	1132.680 I	кg
				Т	otal Deduct	ed Quantity	0.000 kg	
			# 35		Net To	tal Quantity	1132.680 k	g
			160	Say 1132	2.680 kg @ I	Rs 2.32 / kg	Rs 26	27.82
9	od341035/2021_202 Extra for providing s		ant cement fo	or the structu	ures above p	olinth level.		
		1	9.439	201	1 4 1		9.439	
		1 150	1153%		То	tal Quantity	9.439 cum	
		# /Y/	15/10		ALD. L	مط ()،،مصانات،	0.000 cum	
				3233274	otal Deduct	ed Quantity	o.ooo cum	
		166						
		Kar		ay 9.439 cu	Net To	tal Quantity 65.60 / cum	9.439 cum	553.30
10	5.9.1 Centering and shutt		ala Wat	ay 9.439 cu er Auth	Net Tom @ Rs 19	tal Quantity 65.60 / cum	9.439 cum Rs 18	
10	Centering and shutt	tering including	ala Wat	ay 9.439 cu er Auth	Net Tom @ Rs 19	tal Quantity 65.60 / cum	9.439 cum Rs 18	
10	Centering and shutt columns, etc for ma	tering including	ala Wat	ay 9.439 cu er Auth	Net Tome @ Rs 19 Ority oval of form 0.300	tal Quantity 65.60 / cum	9.439 cum Rs 18 ions, footing 3.203	gs, bases o
10	Centering and shutt columns, etc for ma	tering including	ala Wat	ay 9.439 cu er Auth c. and remo	Net To m @ Rs 19 oval of form 0.300	tal Quantity 65.60 / cum for:Foundat	9.439 cum Rs 18: ions, footing 3.203 3.203 sqm	gs, bases o
10	Centering and shutt columns, etc for ma	tering including	ala Wat	ay 9.439 cu er Auth c. and remo	Net To m @ Rs 19 oval of form 0.300 To	tal Quantity 65.60 / cum for:Foundat tal Quantity	9.439 cum Rs 18 ions, footing 3.203 3.203 sqm 0.000 sqm	gs, bases o
10	Centering and shutt columns, etc for ma	tering including	strutting, et	ay 9.439 cuer Auth	Net To	tal Quantity 65.60 / cum for:Foundat tal Quantity ed Quantity	9.439 cum Rs 18 ions, footing 3.203 3.203 sqm 0.000 sqm 3.203 sqm	gs, bases o
10	Centering and shutt columns, etc for ma	tering including	g strutting, et 3.140*3.4	ay 9.439 cuer Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authoriz	Net To	tal Quantity 65.60 / cum for:Foundat tal Quantity ed Quantity tal Quantity 29.03 / sqm	9.439 cum Rs 18 ions, footing 3.203 3.203 sqm 0.000 sqm 3.203 sqm Rs 10	gs, bases o
	Centering and shutt columns, etc for ma FOOTING 5.9.2 Centering and shutt	tering including	g strutting, et 3.140*3.4	ay 9.439 cuer Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authoriz	Net To	tal Quantity 65.60 / cum for:Foundat tal Quantity ed Quantity tal Quantity 29.03 / sqm	9.439 cum Rs 18 ions, footing 3.203 3.203 sqm 0.000 sqm 3.203 sqm Rs 10	gs, bases o
	Centering and shutt columns, etc for ma FOOTING 5.9.2 Centering and shutt attached pilasters, b	tering including	g strutting, et 3.140*3.4 g strutting, et linth and strir	ay 9.439 cuer Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authoriz	Net To	tal Quantity 65.60 / cum for:Foundat tal Quantity ed Quantity tal Quantity 29.03 / sqm	9.439 cum Rs 18 ions, footing 3.203 3.203 sqm 0.000 sqm 3.203 sqm Rs 10	gs, bases o
	Centering and shutt columns, etc for ma FOOTING 5.9.2 Centering and shutt attached pilasters, to the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short i	tering including ass concrete 1 tering including butteresses, p	g strutting, et 3.140*3.4 g strutting, et linth and strir 3.14*2.2	ay 9.439 cuer Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authorized Authoriz	Net Tom (a) Rs 19 (b) Oval of form (c) Oval Deduct (c) Net Tom (c) Oval of form tal Quantity 65.60 / cum for:Foundat tal Quantity ed Quantity tal Quantity 29.03 / sqm	9.439 cum Rs 18 ions, footing 3.203 3.203 sqm 0.000 sqm 3.203 sqm Rs 10 any thicknes 16.234 20.662	ps, bases of	
	Centering and shutt columns, etc for ma FOOTING 5.9.2 Centering and shutt attached pilasters, to the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short i	tering including ass concrete 1 tering including butteresses, p	g strutting, et 3.140*3.4 g strutting, et linth and strir 3.14*2.2	ay 9.439 cuer Author. c. and remo	Net Tom (a) Rs 19 (b) O'All Ofform (c) O'All Deduct (c) Net Tom (c) O'All Deduct (c) Net Tom (c) O'All Deduct (c) Net Tom (c) O'All Deduct (c) O'A	tal Quantity 65.60 / cum for:Foundat tal Quantity ed Quantity tal Quantity 29.03 / sqm for:Walls (a	9.439 cum Rs 18 ions, footing 3.203 3.203 sqm 0.000 sqm 3.203 sqm Rs 10 any thicknes 16.234 20.662 36.896 sqr	ps, bases of
	Centering and shutt columns, etc for ma FOOTING 5.9.2 Centering and shutt attached pilasters, to the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short in the short i	tering including ass concrete 1 tering including butteresses, p	g strutting, et 3.140*3.4 g strutting, et linth and strir 3.14*2.2	ay 9.439 cuer Author. c. and remo	Net Tom m @ Rs 19 Oval of form 0.300 Tom Total Deduct Net Tom qm @ Rs 3 Oval of form etc. 2.350 Tom Total Deduct	tal Quantity 65.60 / cum for:Foundat tal Quantity ed Quantity 29.03 / sqm for:Walls (a	9.439 cum Rs 18 ions, footing 3.203 3.203 sqm 0.000 sqm 3.203 sqm Rs 10 any thicknes 16.234 20.662 36.896 sqr	ps, bases of

	5.9.3 Centering and sh landings, balconic	•	-	, etc. and	removal of	form for:Su	spended fl	oors, ro
	Cover slab	3.14/4	2.200	2.200			3.800	
			•		T	otal Quantity	3.800 sqm	1
				-	Total Deduc	ted Quantity	0.000 sqm	
					Net To	otal Quantity	3.800 sqm	
				Say 3.800	sqm @ Rs 8	300.50 / sqm	Rs 30)41.90
13	13.7.1 12 mm cement pla	ster finished wit	h a floating c	oat of neat	cement of r	mix:1:3 (1 ce	ement : 3 fin	e sand)
	OUT SIDE	1	3.14*2.8	655	2.350		20.662	
	INSIDE	1	3.14*2.2		2.350		16.234	
		-	6 2 W	11 94	Т	otal Quantity	36.896 sqi	m
		65	X 2	5. 7	Total Deduc	ted Quantity	0.000 sqm	
				73KA	4-3	otal Quantity	•	n
		The Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Co	11 147		1 10	18	-	
14	13.52.2 Finishing with E manufacturer's spe		o or more	coats) at	all location		d and appl	
14	Finishing with E	ecifications inclu	o or more	coats) at riate primin er Aut	all location	ns prepared	d and appl	ied as
14	Finishing with E manufacturer's spe		o or more	coats) at	all location	ns prepared	d and appl rface, etc. c	ied as omplete
14	Finishing with E manufacturer's spe	ecifications inclu	o or more	coats) at riate primin er Aut	all location g coat, prep 101117	ns prepared aration of su otal Quantity	d and appl rface, etc. c 20.662	ied as omplete
14	Finishing with E manufacturer's spe	ecifications inclu	o or more	coats) at riate primin er Aut	all location g coat, prep 101111 Total Deduc	ns prepared aration of su otal Quantity ted Quantity	20.662 20.662 squ	ied as omplete m
14	Finishing with E manufacturer's spe	ecifications inclu	o or more ading appropriate wat	coats) at riate primin er Auti	all location g coat, prep OTITY To Total Deduction	ns prepared aration of su otal Quantity ted Quantity otal Quantity	20.662 20.662 sqn 20.662 sqn 20.662 sqn	ied as omplete m
14	Finishing with E manufacturer's spe	ecifications inclu	o or more ading appropriate wat	coats) at riate primin er Auti	all location g coat, prep OTITY To Total Deduction	ns prepared aration of su otal Quantity ted Quantity	20.662 20.662 sqn 20.662 sqn 20.662 sqn	ied as omplete m
	Finishing with E manufacturer's speconcrete work	lying integral cryste retaining walls plant, tunnels/salline slurry: 2 er) for horizontaliber brush. The rmeability of cost to 16 bar hydrocracks up to a she direction of the critical cracks.	2.800 2.800 Systalline slurres of the base subway and parts water) I surfaces are materialshall ncrete by mostatic pressured width of 0.5 the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static pressured with the engineeric static static pressured with the engineeric static pressured with the engineeric static static pressured with the engineeric static pressured with the engineeric static	coats) at riate priming 2.350 2.350 Say 20.662 stry of hydropement, water bridge decknown applying and applying applying the core than 90 ture on negation. The in-charge.	all location g coat, preportive and Deduction Net To sqm @ Rs 2 whilic in natural ranks, rook etc., prepare thesame for requirement and compare the square side. The workshall the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production of the production 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							1	
					То	tal Quantity	16.234 sqr	n
				Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	16.234 sqn	1
			S	Say 16.234 s	qm @ Rs 5	59.61 / sqm	Rs 90	84.71
16	22.23.2 Providing and applying RCC structures like ref & water treatment plan partsintegral crystalling slurry: 1 part water) for help of synthetic fiber i.e by reducing permeating and resistant to 1 of self-healing of crac specification and the desired in the specification and the desired in the specification and the desired in the specification and the desired in the specification and the desired in the specification and the desired in the specification and the desired in the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the specification and the s	taining walls t, tunnels/ s e slurry: 2 or horizontal brush. The ability of cor 6 bar hydro	s of the base ubway and parts water) surfaces ar materialsha acrete by m static press width of 0.5	ement, water bridge deck for vertical applying II meet the rore than 90 the on negation. The	tanks, roof etc., prepar surfaces and thesame from equirement % compare tive side. The workshall be	slabs, podiumed by mixing a 1 (3 pm negative as specific divith contract crystalline are carried o	ums, reserving in the rationartsintegra (internal) seed in ACI-2 rol concrete eslurry shall out all comp	ior, sewage o of 5 : 2 (5 I crystalline ide with the I2-3R-2010 as perDIN be capable lete as per
	for 10 years against ar		Aug. 17 (CD)	Name of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party of the Party	A		-	guarantee
	ioi io youro agamera.	3.14/4	2.200	2.200	lo cour o n	ro ng por o	3.800	
		16	1343		To	tal Quantity		
					otal Deduct	-		
				HI OLDEY	10%	tal Quantity		
		Kar	ala Wat	Sav 3.800 s	qm @ Rs 4			38.86
17	100.36.1 Filling water with 5000 the reservoir site and pengine pump set, hire "(Ref. No. 000, Technic	oumping the for tanker l	water into	the reservoi	r of height n	ot less than	3 m using	5 HP diesel
		3.14/4	2.200	2.200	2.350		8.929	
					То	tal Quantity	8.929 Kilo	litre
				Т	otal Deduct	ed Quantity	0.000 Kilo I	itre
					Net To	tal Quantity	8.929 Kilo I	itre
			Say 8.9	29 Kilo litre	@ Rs 182.7	9 / Kilo litre	Rs 16	32.13
SI No	Description	No	L	В	D	CF	Quantity	Remark
	8	SLUDGE T	HICKNER	(Cost Inc	dex:33.05 %	b)		
1	2.6.1 Earth work in excava (exceeding 30 cm in dearth, lead up to 50 m soil	epth, 1.5 m	in width as	well as 10	sqm on pla	n) including	disposal of	excavated
		1	3.14/4	6.8*6.8	0.500		18.150	

	1							
					То	tal Quantity	18.150 cur	n
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	18.150 cum	1
			S	Say 18.150 c	um @ Rs 2	10.02 / cum	Rs 38	11.86
2	4.1.5 Providing and laying in shuttering - All work up nominal size)	•		•	•	_		_
		1	3.14/4	6.8*6.8	0.100		3.630	
					To	tal Quantity	3.630 cum	
				705 T		ed Quantity		
			JAN	1/40		tal Quantity		
			ç	Say 3.630 cu				243.23
3	5.37.1 Providing and laying in using cement content a transported to site of w as per mix design of sprom transit mixer to site including cost of admix concrete, improve work -charge. Note:- Cemen per design mix is paya	as per appropriate as per appropriate as pecified grage of laying, tures in recombility without content oved design it mixer for de for reinf excluding the ommended out impairing onsidered in	n mix, manual leads, had orced ceme ne cost of cemproportions a strength and this item is ately. All wion 6.8*6.8	restance in a ving contine on concrete entering, she as per IS: 9 d durability \$ @ 330 kg/c k upto plint 0.300	fully automations agitate work include uttering finised 103 to access per directum. Excess	atic batching d mixer, maing pumping and reilerate/ retartion of the Es /less cemes 12.523 12.523 cur 0.000 cum	g plant and anufactured g of R.M.C. nforcement d setting of ngineer - in ent used as	
			Sa	ay 12.523 cu				483.24
4	5.37.2 Providing and laying in using cement content a transported to site of w as per mix design of sp from transit mixer to site including cost of admixing concrete, improve work -charge. Note:- Cemen per design mix is payal	as per appropriate as per appropriate as pecified grage of laying, tures in recapility without content	ady mixed I oved design it mixer for de for reinfole excluding the ommended out impairing	M-25 grade n mix, manu all leads, ha orced ceme ne cost of ce proportions g strength an	concrete four factured in a ving continuity concrete entering, shu as per IS: 9 d durability	r reinforced fully automa uous agitate work includ uttering finis 1103 to acce as per direc	cement con atic batching d mixer, ma ing pumping hing and rei lerate/ retar	acrete work, g plant and anufactured g of R.M.C. inforcement d setting of ngineer - in
	per design mix is paya	ble/recover	able separa	ately.All wor	k above plir	th level upt	o floor V lev	

	chamber	3.14	5.700	0.500	0.100		0.895	
		3.14	5.200	0.300	0.100		0.490	
	Walkway	3.14	7.800	1.000	0.100		2.450	
	Cantilever beam	4	1.000	0.250	0.250		0.250	
	Step	19	0.50*.3*.1 5	1.000			0.428	
	Step Waist	1	5.600	1.000	0.120		0.672	
					То	tal Quantity	22.636 cur	n
				Т	otal Deduct	ed Quantity	0.000 cum	
			4.50		Net To	tal Quantity	22.636 cum	า
			Say	22.636 cun	n @ Rs 1132	21.96 / cum	Rs 256	283.89
	Extra for providing rich content used is payabl BMC/RMC. (Note:- Ce	e/ recovera ment conte	ble separatent nt considere	ely.Providin	g M-30 grad	de concrete	instead of I	
	Qty Vide Item No: 3	(/ /51) 13/230	12.523			-	12.523	
	Qty Vide Item No: 4	1	22.636		A STATE OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PAR		22.636	
			VACCO	The state of	10	tal Quantity	35.159 cur	n
		***	1 777	A				
		Ker	ala Wate	er Auth	otal Deduct			
		Kera D	D		Net To	tal Quantity	35.159 cum	
		Ker	D			tal Quantity		
6	4.12 Extra for providing and cement as per manufa	I mixing wa	ater proofing	Say 35.159	Net To	tal Quantity 80.56 / cum	35.159 cum Rs 28	32.41
6	Extra for providing and	I mixing wa	ater proofing	Say 35.159	Net To	tal Quantity 80.56 / cum	35.159 cum Rs 28	32.41
6	Extra for providing and cement as per manufa	I mixing wa	ater proofing ecification.	Say 35.159	Net To	tal Quantity 80.56 / cum	35.159 cum Rs 28	32.41
6	Extra for providing and cement as per manufa Qty Vide Item No: 3	d mixing was	ater proofing ecification .	Say 35.159	Net To cum @ Rs 8 cement co 330.000 330.000	tal Quantity 80.56 / cum	35.159 cum Rs 28 in doses b 4132.590	y weight o
6	Extra for providing and cement as per manufa Qty Vide Item No: 3	d mixing was	ater proofing ecification .	Say 35.159 material in	Net To cum @ Rs 8 cement co 330.000 330.000	tal Quantity 80.56 / cum ncrete work	35.159 cum Rs 28 in doses b 4132.590 7469.880 11602.470	y weight of
6	Extra for providing and cement as per manufa Qty Vide Item No: 3	d mixing was	ater proofing ecification .	Say 35.159 material in	Net To cum @ Rs 8 cement co 330.000 To otal Deduct	tal Quantity 80.56 / cum ncrete work tal Quantity	35.159 cum Rs 28 in doses b 4132.590 7469.880 11602.470	y weight of
6	Extra for providing and cement as per manufa Qty Vide Item No: 3	d mixing was	ater proofing ecification .	Say 35.159 material in	Net To cum @ Rs 8 cement co 330.000 To otal Deduct	tal Quantity 80.56 / cum ncrete work tal Quantity ed Quantity tal Quantity	35.159 cum Rs 28 in doses b 4132.590 7469.880 11602.470 0.000 kg 11602.470	y weight of
7	Extra for providing and cement as per manufa Qty Vide Item No: 3	d mixing wa cturer's spi 1	ater proofing ecification . 12.523 22.636	Say 35.159 material in	Net To cum @ Rs 8 cement co 330.000 To otal Deduct Net To	tal Quantity 80.56 / cum ncrete work tal Quantity ed Quantity tal Quantity Rs 1.33 / kg	35.159 cum Rs 28 in doses b 4132.590 7469.880 11602.470 0.000 kg 11602.470	y weight of
	Extra for providing and cement as per manufa Qty Vide Item No: 3 Qty Vide Item No: 4 od341035/2021_2022	d mixing wa cturer's spi 1	ater proofing ecification . 12.523 22.636	Say 35.159 material in	Net To cum @ Rs 8 cement co 330.000 To otal Deduct Net To	tal Quantity 80.56 / cum ncrete work tal Quantity ed Quantity tal Quantity Rs 1.33 / kg	35.159 cum Rs 28 in doses b 4132.590 7469.880 11602.470 0.000 kg 11602.470	y weight of kg
	Extra for providing and cement as per manufa Qty Vide Item No: 3 Qty Vide Item No: 4 od341035/2021_2022 Extra for providing sulp	d mixing wa cturer's spending 1	ater proofing ecification . 12.523 22.636	Say 35.159 material in	Net To cum @ Rs 8 cement co 330.000 To otal Deduct Net To	tal Quantity 80.56 / cum ncrete work tal Quantity ed Quantity tal Quantity Rs 1.33 / kg	35.159 cum Rs 28 in doses b 4132.590 7469.880 11602.470 0.000 kg 11602.470 Rs 154	y weight of kg

				Т	Total Dedu	cted Quantity	0.000 cum	
					Net 7	otal Quantity	35.159 cum	1
			Sa	ay 35.159 cu	ım @ Rs 1	965.60 / cum	Rs 69	108.53
8	5.22.6 Steel reinforcement fo binding all complete u			-	•			
	Qty Vide Item No: 3@120km/m3	1	12.523	120.000			1502.760	
	Qty Vide Item No: 4@120km/m3	1	22.636	120.000			2716.320	
					7	otal Quantity	4219.080 l	kilogram
			160	ZÓÀ\ T	Total Dedu	cted Quantity	0.000 kilog	ram
			6.17		Net 7	otal Quantity	4219.080 k	ilogram
		10	Say 4219.0	080 kilogram	n @ Rs 96.	.46 / kilogram	Rs 406	972.46
9	od341038/2021_2022 Extra for providing epox	xy coating for	or reinforcer	nent bars.	1A	1	T	
	Qty Vide Item No: 3@120km/m3	1	12.523	120.000			1502.760	
	Qty Vide Item No: 4@120km/m3	Kera	ala Wat	120.000 er Auth	ority		2716.320	
					7	otal Quantity	4219.080 F	кg
				7	Total Dedu	cted Quantity	0.000 kg	
					Net 7	otal Quantity	4219.080 k	g
				Say 4219	9.080 kg @	Rs 2.32 / kg	Rs 97	88.27
10	5.9.1 Centering and shuttering columns, etc for mass of	-	strutting, e	tc. and remo	oval of form	n for:Foundat	ions, footing	ıs, bases
		3.14	6.800	0.100			2.136	
					7	otal Quantity	2.136 sqm	
				7	Total Dedu	cted Quantity	0.000 sqm	
					Net 7	otal Quantity	2.136 sqm	
				Say 2.136 s	sqm @ Rs	329.03 / sqm	Rs 7	02.81
11	5.9.2 Centering and shuttering attached pilasters, butto	-	_			m for:Walls (a	any thicknes	s) includi
					CiO.			

		3.14*4	5.200		0.300		19.594	
					1	tal Quantity		ım m
					Fotal Deduct			<u> </u>
					Net To	tal Quantity	135.932 sq	m
			Sa	y 135.932 s	sqm @ Rs 7	03.77 / sqm	Rs 95	664.86
12	5.9.3 Centering and shutter landings, balconies and	•	-	etc. and	removal of	form for:Su	spended flo	oors, ro
	chamber	3.14	5.700	0.500			8.949	
	Walkway	3.14	7.800	1.000			24.492	
	Stair -step	19	0.150	1.000			2.850	
	Stair Waist	1	5.600	1.000	0		5.600	
			43 6	6	To	tal Quantity	41.891 sqr	n
		PL"	11/1/2	57/0	Γotal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	41.891 sqm	1
		38 000	A CARLOTTE			,		
13	5.9.5 Centering and shutteri	_	g strutting, e	tc. and ren	sqm @ Rs 8	00.50 / sqm		533.75 inth bea
13		_	g strutting, e	tc. and ren	noval of form	00.50 / sqm	3.000	nth bea
13	Centering and shutteri	d cantileve	g strutting, e	tc. and ren	noval of form	n for:Lintels	3.000 3.000 sqm	nth bea
13	Centering and shutteri	d cantileve	g strutting, e	tc. and ren	noval of form	n for:Lintels	3.000 3.000 sqm 0.000 sqm	nth bea
13	Centering and shutteri	d cantileve	g strutting, e	tc. and ren	noval of form	n for:Lintels tal Quantity ed Quantity tal Quantity	3.000 3.000 sqm 0.000 sqm 3.000 sqm	nth bea
13	Centering and shutteri	d cantileve	g strutting, e	tc. and rener Auth	noval of form To Total Deduct Net To sqm @ Rs 6	n for:Lintels tal Quantity ed Quantity tal Quantity 37.64 / sqm	3.000 3.000 sqm 0.000 sqm 3.000 sqm Rs 19	112.92
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	Centering and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressumers and shuttering girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders bressed girders girder girder	finished with	g strutting, e rs a Wat 1.000 h a floating c 2.136 135.932 41.891	tc. and rener Auth	roval of form To Total Deduct Net To sqm @ Rs 6	n for:Lintels tal Quantity ed Quantity tal Quantity 37.64 / sqm	3.000 3.000 sqm 0.000 sqm 3.000 sqm Rs 19 ement : 3 fine 2.136 135.932 41.891 3.000	o12.92 e sand)
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15	13.52.2 Finishing with Epomanufacturer's specificoncrete work			•				•
	Outer wall	1	3.140	6.800	2.850		60.854	
	Walkway	1	3.140	7.800	1.000		24.492	
	Beams	4	1.000	0.750			3.000	
					Tota	al Quantity	88.346 sqn	า
				7	Total Deducte	d Quantity	0.000 sqm	
					Net Tota	al Quantity	88.346 sqm	ı
			S	Say 88.346 s	sqm @ Rs 21	8.73 / sqm	Rs 193	323.92
	help of synthetic fibe i.e by reducingperme 1048 and resistant to of self-healing of cra specification and the for 10 years against a	eability of co 16 bar hydro acks up to a direction of	ncrete by mostatic press width of 0.5 the engineer	ore than 90 ure on nega 50mm. The in-charge. T urface two 2.850	% compared tive side. The workshall be The product p coats @0.70 Total	with contrele crystalline e carried of erformance kg per squal Quantity	rol concrete eslurry shall ut all comple shall carry n 55.484 sqn	as perDIN be capable lete as per guarantee
				Sav 55 484 s	sqm @ Rs 55		•	
17	22.23.2 Providing and applyin RCC structures like r & water treatment pla partsintegral crystalli slurry: 1 part water) help of synthetic fibe i.e by reducingpermed 1048 and resistant to of self-healing of craspecification and the	etaining wall ant, tunnels/ ne slurry: 2 for horizonta r brush. The eability of co 16 bar hydro acks up to a	ystalline slur s of the base subway and parts water; al surfaces and materialsha ancrete by matestatic press	ry of hydrop ement,water bridge deck of for vertical and applying Il meet the rore than 90 ure on nega	hilic in nature ranks, roof seetc., prepared surfaces and thesame from thesame from the compared tive side. The	e forwaterproblems for the following for the following for the following for the following for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for the format for t	roofing treations, reserving in the rational partsintegral (internal) sired in ACI-21 rol concrete eslurry shall	ment to the or, sewage of 5 : 2 (5 crystalline de with the 2-3R-2010 as perDIN be capable

		3.14/4	6.200	6.200		1.15	34.702	
					To	otal Quantity	34.702 sq	m
				7	Total Deduc	ed Quantity	0.000 sqm	
					Net To	tal Quantity	34.702 sqn	n
			S	ay 34.702 s	sqm @ Rs 4	31.28 / sqm	Rs 14	966.28
18	100.36.1 Filling water with 500 the reservoir site and engine pump set, hir "(Ref. No. 000, Techr	I pumping the re for tanker I	e water into t orry, tools a	he reservoi	r of height r	ot less than	3 m using	5 HP diese
		3.14/4	6.200*6.2		3.000		90.527	
			160	166	To	tal Quantity	90.527 Kil	o litre
			Z./1		Total Deduc	ed Quantity	0.000 Kilo	litre
			37.3	K X	Net To	tal Quantity	90.527 Kild	litre
		1 1	Say 90.5	27 Kilo litre	@ Rs 182.7	79 / Kilo litre	Rs 16	547.43
	Otoor Work in Bank ap	O i tabalai (rouria, oquo	ile oi lectai	ngular hollo	w tubes etc.,	, 1143363 61	c., incluaing
	cutting, hoisting,fixing and bolted with speci	g in position a	and applying ashers etc. co	a priming complete	ority Total Deduc	oved steel protection of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the c	250.000 250.000 kg	ling welding
	cutting, hoisting,fixing	g in position a	and applying ashers etc. co	a priming complete er Auth	ority To Total Deduction	oved steel protection of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the c	250.000 250.000 kg 0.000 kg 250.000 kg	ling welding
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SI No	cutting, hoisting,fixing and bolted with speci	g in position a ial shaped wa	and applying ashers etc. co	a priming complete er Auth Say 250.0	Total Deduction Net Total Ookg @ Rs	oved steel protect Quantity otal Quantity otal Quantity 186.34 / kg	250.000 250.000 kg 0.000 kg 250.000 kg Rs 46	g 585.00
SI No	cutting, hoisting,fixing and bolted with speci	No HICKENED S vation by me depth, 1.5 m	L LUDGE SUM echanical man in width as	a priming complete er Auth Say 250.0 B MP (Cost eans (Hydr well as 10	Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total	oved steel protection of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control	250.000 kg 0.000 kg 250.000 kg Rs 46 Quantity Jal means disposal o	585.00 Remark over areas
	Description 2.6.1 Earth work in excave (exceeding 30 cm in earth, lead up to 50 respectively)	No HICKENED S vation by me depth, 1.5 m	L LUDGE SUM echanical man in width as	a priming complete er Auth Say 250.0 B MP (Cost eans (Hydr well as 10	Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total	oved steel protection of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control	250.000 kg 0.000 kg 250.000 kg Rs 46 Quantity Jal means disposal o	585.00 Remark over areas
	Description 2.6.1 Earth work in excave (exceeding 30 cm in earth, lead up to 50 respectively)	No HICKENED S vation by me depth, 1.5 mm and lift up to	L LUDGE SUM echanical man in width as to 1.5 m, dis	a priming complete er Auth Say 250.0 B MP (Cos eans (Hyde) well as 10 posed earth	Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total	oved steel protection of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control	250.000 kg 0.000 kg 250.000 kg Rs 46 Quantity Jal means disposal o	585.00 Remark over areas f excavated. All kinds o
	Description 2.6.1 Earth work in excave (exceeding 30 cm in earth, lead up to 50 respectively)	No HICKENED S vation by me depth, 1.5 mm and lift up to	L LUDGE SUM echanical man in width as to 1.5 m, dis	a priming complete er Auth Say 250.0 B MP (Cos eans (Hyd) well as 10 posed earth	Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total	oved steel protect of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of	250.000 kg 0.000 kg 250.000 kg 250.000 kg Rs 46 Quantity ual means disposal o atly dressed 11.446 11.446 cut	585.00 Remark over areas f excavated. All kinds o
	Description 2.6.1 Earth work in excave (exceeding 30 cm in earth, lead up to 50 respectively)	No HICKENED S vation by me depth, 1.5 mm and lift up to	L LUDGE SUM echanical man in width as to 1.5 m, dis	a priming complete er Auth Say 250.0 B MP (Cos eans (Hyd) well as 10 posed earth	Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Net Total Net Total Deduction Net Total Deduction Net Total Deduction Net Total Net Total Net Total Net Total Net Total Deduction Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total Net Total	oved steel protect of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of	250.000 kg 0.000 kg 250.000 kg 250.000 kg Rs 46 Quantity ual means disposal o atly dressed 11.446 11.446 cui 0.000 cum	585.00 Remark over areas f excavated .All kinds o

	4.1.5 Providing and laying in shuttering - All work up nominal size)	•		-	_	•		_
		3.14/4	5.400	5.400	0.200		4.579	
					То	tal Quantity	4.579 cum	
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	4.579 cum	
			S	ay 4.579 cu	m @ Rs 72	29.54 / cum	Rs 33	104.06
	using cement content a transported to site of w as per mix design of si from transit mixer to sit including cost of admix concrete, improve work -charge. Note:- Cemer per design mix is paya	vork in trans pecified gra e of laying, tures in rece cability witho	it mixer for a de for reinfor excluding the ommended ut impairing onsidered in	all leads, had broked ceme ne cost of cemproportions strength and this item is	eving continent concrete entering, she as per IS: 9 d durability 6 @ 330 kg/d	work include the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of transfer of the transfer of the transfer of the transfer of the transfer of the transfer of transfer of the transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of transfer of t	ed mixer, ma ling pumpin hing and rei elerate/ retar tion of the E	anufacture g of R.M.C nforcemer d setting on
		3.14/4	5.400	5.400	0.300		6.868	
		17	1 337	A 41	· To	tal Quantity	6.868 cum	
		Kera	aia wat	er Auth	otal Deduct	ed Quantity	0.000 cum	
		D			Net To	tal Quantity	6.868 cum	
			S	ay 6.868 cu	m @ Rs 97	00.81 / cum	Rs 660	625.16
4	5.37.2 Providing and laying in	•	•	•			cement cor	crete work
•	using cement content a transported to site of we as per mix design of si from transit mixer to sit including cost of admix concrete, improve work -charge. Note:- Cement	pecified gra te of laying, tures in reco tability witho nt content co	de for reinfo excluding the ommended ut impairing onsidered in	all leads, had broked ceme ne cost of cemproportions strength and this item is	eving continent concrete entering, she as per IS: 9 d durability 6 @ 330 kg/d	work include attering finised to access per direction.	ed mixer, ma ling pumpin hing and rei elerate/ retar tion of the E s /less ceme	anufactured g of R.M.C nforcement d setting of ngineer - it ent used a
	transported to site of was per mix design of sign from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer per design mix is payar	pecified gra e of laying, tures in reco ability without content co ble/recovers	de for reinfo excluding the ommended ut impairing onsidered in able separa	all leads, had proced ceme ne cost of cemproportions strength and this item is tely. All work	nt concrete entering, shu as per IS: 9 d durability 6 @ 330 kg/c above plin	work include attering finised to access per direction.	ed mixer, ma ling pumpin- hing and rei elerate/ retar tion of the E s /less ceme o floor V lev	anufactured g of R.M.C nforcement d setting of ngineer - it ent used a
	transported to site of was per mix design of signs from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer per design mix is payar Cover slab	pecified grade of laying, tures in recordability without content could ble/recovers 3.14/4	de for reinfo excluding the ommended ut impairing onsidered in able separa 4.600	all leads, had proced ceme ne cost of cemproportions strength and this item is tely. All work	entering, shu as per IS: 9 d durability a @330 kg/o c above plir	work include attering finised to access per direction.	ed mixer, ma ling pumpin- hing and rei elerate/ retar tion of the E s /less ceme o floor V lev	anufacture g of R.M.C nforcemer d setting c ngineer - i
	transported to site of was per mix design of signs from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer per design mix is payar Cover slab	pecified grade of laying, tures in reconstability without content could ble/recovers 3.14/4 3.14	de for reinfo excluding the ommended ut impairing onsidered in able separa 4.600 4.300	all leads, had proced ceme ne cost of cemproportions strength and this item is tely. All work 4.600	aving continent concrete entering, shu as per IS: 9 d durability 6 @330 kg/6 above plir 0.120	work include attering finised to access per direction.	ling pumpinhing and reiblerate/ retartion of the Es/less cemes of floor V leven 1.994	anufacture g of R.M.C nforcement d setting c ngineer - i
	transported to site of was per mix design of signs from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer per design mix is payar Cover slab	pecified grade of laying, tures in recordability without content could ble/recovers 3.14/4	de for reinfo excluding the ommended ut impairing onsidered in able separa 4.600	all leads, had proced ceme ne cost of cemproportions strength and this item is tely. All work	aving continent concrete entering, shu as per IS: 9 d durability 6 @ 330 kg/c above plir 0.120	work include attering finised to access per direction.	ed mixer, ma ling pumpin hing and rei elerate/ retar tion of the E s /less ceme o floor V lev 1.994 10.127 -0.030	anufacture g of R.M.0 nforcement d setting of ngineer - it ent used a vel

					Net To	tal Quantity	12.091 cum)
			Say	12.091 cun	n @ Rs 113	21.96 / cum	Rs 136	893.82
5	5.34.1 Extra for providing rich content used is payab BMC/RMC. (Note:- Ce	le/ recovera	able separate	ely.Providin	g M-30 gra	de concrete	•	
		1	18.959				18.959	
						etal Quantity		n
					Net To	tal Quantity	18.959 cum)
			-0	Say 18.959	cum @ Rs	80.56 / cum	Rs 15	27.34
6	4.12 Extra for providing an cement as per manufa			material in	cement co	ncrete work	in doses b	y weight
		1	18.959	20/2	330.000		6256.470	
		1 A	11318		To	tal Quantity	6256.470 k	кg
					otal Deduct	ed Quantity	0.000 kg	
				HI OLDE	Net To	tal Quantity	6256.470 k	g
		Ker	ala Wat	Say 6256	6.470 kg @ I	Rs 1.33 / kg	Rs 83	21.11
7	od341035/2021_2022 Extra for providing sulp	hate resista	ant cement fo	or the structu	ures above p	olinth level.		
		1	18.959				18.959	
					То	tal Quantity	18.959 cur	n
				Т	otal Deduct	ad 0autitu	0.000 aum	
					Olai Doddol	ed Quantity	0.000 cum	
							18.959 cum	1
			Sa		Net To		18.959 cum	
8	5.22.6 Steel reinforcement for binding all complete upon the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the complete of the c		ork including	y 18.959 cu g straighten	Net To	otal Quantity 65.60 / cum	18.959 cum Rs 372	265.81 osition a
8	Steel reinforcement for		ork including	y 18.959 cu g straighten	Net To	otal Quantity 65.60 / cum	18.959 cum Rs 372	265.81 osition a
8	Steel reinforcement for binding all complete u	upto plinth	ork including evelThermo	y 18.959 cu g straighten - Mechanio	Net To Im @ Rs 19 Iing, cutting cally Treate	otal Quantity 65.60 / cum	18.959 cum Rs 372 placing in perade Fe-500 2275.080	osition a
8	Steel reinforcement for binding all complete u	upto plinth	ork including evelThermo	y 18.959 cu g straighten - Mechanio 120.000	Net To Im @ Rs 19 Iing, cutting cally Treate	otal Quantity 65.60 / cum bending, ped bars of general Quantity	18.959 cum Rs 372 placing in perade Fe-500 2275.080	osition a
8	Steel reinforcement for binding all complete u	upto plinth	ork including evelThermo	y 18.959 cu g straighten - Mechanio 120.000	Net To im @ Rs 19 ing, cutting cally Treate To	otal Quantity 65.60 / cum be defined by the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the definition of the def	18.959 cum Rs 372 placing in perade Fe-500 2275.080	osition a DD or mo

	@120kg/m3	1	8.844	120.000			1061.280	
					To	tal Quantity	1061.280 l	кg
				Т	otal Deduct	ed Quantity	0.000 kg	
					Net To	tal Quantity	1061.280 k	g
				Say 1061	.280 kg @	Rs 2.32 / kg	Rs 24	62.17
10	5.9.1 Centering and shutte columns, etc for mas		strutting, e	tc. and remo	oval of form	for:Foundat	ions, footing	gs, bases
		3.14	5.400		0.200		3.392	
					To	tal Quantity	3.392 sqm	
			100	T ////	otal Deduct	ted Quantity	0.000 sqm	
					Net To	tal Quantity	3.392 sqm	
		-	45 6	Say 3.392 s	qm @ Rs 3	29.03 / sqm	Rs 11	16.07
	Centering and shutte attached pilasters, bu	utteresses, pli	inth and stri		etc.	for:Walls (a	-	s) includ
		2*3.14	4.300		2.500		67.510	
	Base Slab side	13.14	5.200	330	0.300		20.499	
		Kera	ala Wat	ter Auth	ority To	tal Quantity	88.009 sqr	n
		DI		T	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	88.009 sqm	า
		r J	5	Say 88.009 s				938.09
12	5.9.3 Centering and shuttlandings, balconies	=	ng strutting	·	sqm @ Rs 7	03.77 / sqm	Rs 61	938.09
12	Centering and shutt	=	ng strutting	·	sqm @ Rs 7	03.77 / sqm	Rs 61	938.09
12	Centering and shutt	and access	ng strutting platform	g, etc. and r	sqm @ Rs 7	03.77 / sqm	Rs 61	938.09
12	Centering and shutt landings, balconies	and access 3.14/4	ng strutting platform 4.000	g, etc. and r	eqm @ Rs 7	03.77 / sqm	Rs 619 spended flo 12.560 -0.250	938.09 Dors, roo
12	Centering and shutt landings, balconies	and access 3.14/4	ng strutting platform 4.000	4.000 0.500	eqm @ Rs 7	03.77 / sqm form for:Su	Rs 61: spended flo 12.560 -0.250 12.560 sqr	938.09 pors, roo
12	Centering and shutt landings, balconies	and access 3.14/4	ng strutting platform 4.000	4.000 0.500	eqm @ Rs 7	03.77 / sqm form for:Su otal Quantity	Rs 61: spended flo 12.560 -0.250 12.560 sqr -0.250 sqm	938.09 Dors, roo
12	Centering and shutt landings, balconies	and access 3.14/4	ng strutting platform 4.000 0.500	4.000 0.500	emoval of To Total Deduct	form for:Su tal Quantity ded Quantity otal Quantity	Rs 61: spended flo 12.560 -0.250 12.560 sqr -0.250 sqm 12.310 sqr	938.09 Dors, roo
12	Centering and shutt landings, balconies	3.14/4 1	ng strutting platform 4.000 0.500	4.000 0.500	eqm @ Rs 7 removal of Total Deduct Net Total and Rs 8	form for:Su otal Quantity ted Quantity otal Quantity otal Quantity	Rs 619 spended flo 12.560 -0.250 12.560 sqrr -0.250 sqrm 12.310 sqrr	938.09 Dors, roc
	Centering and shutt landings, balconies Manhole 13.7.1	3.14/4 1	ng strutting platform 4.000 0.500	4.000 0.500	eqm @ Rs 7 removal of Total Deduct Net Total and Rs 8	form for:Su otal Quantity ted Quantity otal Quantity otal Quantity	Rs 619 spended flo 12.560 -0.250 12.560 sqrr -0.250 sqrm 12.310 sqrr	938.09 Dors, roo

	Qty Vide Item No:12	1	12.310				12.310	
	Base top	3.14	2.000	2.000			12.560	
	2400 (0)	0	2.000	2.000	To	tal Quantity	116.271 so	ım
				Т	otal Deduct			1
				·		tal Quantity		m
			Sa	ay 116.271 s	qm @ Rs 39	-		774.73
14	13.52.2 Finishing with Epoxy manufacturer's specific concrete work	•		,				•
		3.14	4.600	65	2.500		36.110	
			JAN	1997	То	tal Quantity	36.110 sqr	n
		-	E. L. W.	M SE J	otal Deduct	ed Quantity	0.000 sqm	
		613	K Z	5. N	Net To	tal Quantity	36.110 sqm	1
		12	S	Say 36.110 s	qm @ Rs 2	18.73 / sqm	Rs 78	98.34
	& water treatment plans partsintegral crystalline slurry: 1 part water) for help of synthetic fiber to i.e by reducing permeat 1048 and resistant to 1 of self-healing of crac specification and the differ 10 years against an	e slurry 2 r horizontal orush. The bility of cor 6 bar hydro ks up to a irection of t	parts water) surfaces and materialshate of the static pressured width of 0.5 the engineer	for vertical and applying ll meet the roore than 90 ure on nega 50mm. The in-charge. T	surfaces and thesame from the compare tive side. The workshall be the product	and 3:1 (3 parm negative is as specified with contract crystalline in carried of performance in the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of the carried of	partsintegra (internal) si ed in ACI-21 rol concrete eslurry shall ut all comp e shall carry	de with the 2-3R-2010 as perDIN be capable lete as per
		3.14	4.000		2.500		31.401	
					То	tal Quantity	31.401 sqr	n
				Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	31.401 sqm	1
			S	Say 31.401 s	Net To qm @ Rs 5		31.401 sqm Rs 17 9	

	1048 and resistant to 1 of self-healing of crac specification and the d for 10 years against ar	ks up to a rirection of the	width of 0.5 ne engineeri	0mm. The n-charge. T	workshall before the product	e carried o	ut all comp e shall carry	lete as p
		3.14/4	4.000	4.000			12.560	
					То	tal Quantity	12.560 sqr	n
				Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	12.560 sqm	1
			S	ay 12.560 s	qm @ Rs 4	31.28 / sqm	Rs 54	16.88
	Filling water with 5000 the reservoir site and pengine pump set, hire "(Ref. No. 000, Technic	oumping the for tanker lo	water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water into the water	he reservoi	r of height n	ot less than	3 m using	5 HP dies
		3.14/4	4.000	4.000	2.500		31.401	
		165			То	tal Quantity	31.401 Kild	litre
		1445			otal Deduct	ed Quantity	0.000 Kilo I	itre
			FREE	10.227	Net To	tal Quantity	31.401 Kilo	litre
		Ker	Say 31.4	01 Kilo litre	@ Rs 182.7	9 / Kilo litre	Rs 57	39.79
SI No	Description	No	L	В	D	CF	Quantity	Remark
	1	OFILTER FE	ED TANK	(Cost In	dex:33.05 %	6)		
	2.6.1 Earth work in excava	ition by me		` -		•		over are
1	(exceeding 30 cm in dearth, lead up to 50 m soil	•				,	•	excavat
1	(exceeding 30 cm in dearth, lead up to 50 m	•				,	•	excavat
1	(exceeding 30 cm in dearth, lead up to 50 m	and lift up t	o 1.5 m, disp	posed earth	0.500	,	tly dressed.	excavat
1	(exceeding 30 cm in dearth, lead up to 50 m	and lift up t	o 1.5 m, disp	6.300	0.500	led and nea	19.845 19.845 cur	excavat
1	(exceeding 30 cm in dearth, lead up to 50 m	and lift up t	o 1.5 m, disp	6.300	0.500 To otal Deduct	led and nea	19.845 19.845 cur	excavat All kinds
1	(exceeding 30 cm in dearth, lead up to 50 m	and lift up t	6.300	6.300	0.500 To otal Deduct	tal Quantity ed Quantity tal Quantity	19.845 19.845 cur 0.000 cum 19.845 cur	excavat All kinds
2	(exceeding 30 cm in dearth, lead up to 50 m	and lift up t	6.300	6.300 Tay 19.845 cete of species	0.500 To otal Deduct Net To otal @ Rs 2	tal Quantity ed Quantity tal Quantity 10.02 / cum	19.845 19.845 cur 0.000 cum 19.845 cur Rs 41	excava All kinds n 67.85

					То	tal Quantity	7.938 cum	
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	7.938 cum	
			S	Say 7.938 cu	m @ Rs 72	29.54 / cum	Rs 57	388.09
3	5.37.1 Providing and laying in using cement content transported to site of was per mix design of s from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer per design mix is payar	as per appr york in trans pecified gra te of laying, tures in rec sability without ont content content content content	roved designation in the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of	n mix, manual leads, had orced ceme ne cost of cemproportions attended at this item is	factured in aving continuent concrete entering, shu as per IS: 9 d durability 6 @ 330 kg/d	fully autom- uous agitate work includ uttering finis 1103 to acce as per direc cum. Excess	atic batchined mixer, maling pumpinhing and reielerate/ retaition of the E	g plant and anufactured g of R.M.C nforcemen d setting on ngineer - ir
		1	6.100	6.100	0.300		11.163	
		FL	The state of	53/1	То	tal Quantity	11.163 cur	n
		12	T POW	T	otal Deduct	ed Quantity	0.000 cum	
		104	L.C		Net To	tal Quantity	11.163 cum	1
		73	Sa	ay 11.163 cu	m @ Rs 970	00.81 / cum	Rs 108	290.14
4	5.37.2 Providing and laying in using cement content transported to site of was per mix design of s from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer per design mix is payar	as per appr york in trans pecified gra- te of laying, tures in rec- tability without at content content content	oved designate mixer for ade for reinforce excluding the commended out impairing considered in	n mix, manuall leads, had orced ceme ne cost of cemproportions attended at this item is	factured in aving continuent concrete entering, shu as per IS: 9 d durability is @330 kg/d	fully automous agitate work include uttering finis 1103 to access per directum. Excess	atic batchined mixer, mading pumpinehing and releterate/ retaition of the Earless cemes	g plant and anufactured g of R.M.C nforcement d setting on the ngineer - in the ngineer as
	Long Wall	2	5.500	0.250	2.850		7.838	
	Short Wall	2	5.000	0.250	2.850		7.125	
					То	tal Quantity	14.963 cur	n
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	14.963 cum	ı
			Say	/ 14.963 cun	n @ Rs 113	21.96 / cum	Rs 169	410.49
5	5.34.1 Extra for providing rich content used is payable BMC/RMC. (Note:- Ce	le/ recovera	ble separat	ely.Providin	g M-30 grad	de concrete	•	

			1			1	ı	1
		1	26.126				26.126	
					To	tal Quantity	26.126 cu	m
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	26.126 cun	า
			S	Say 26.126	cum @ Rs	80.56 / cum	Rs 21	04.71
6	4.12 Extra for providing cement as per ma	_		material in	cement co	ncrete work	in doses b	y weight
		1	26.126		330.000		8621.580	
					To	tal Quantity	8621.580	kg
			100	Т /	otal Deduct	ed Quantity	0.000 kg	
			1/10	M.	Net To	tal Quantity	8621.580 k	g
				Say 8621	.580 kg @	Rs 1.33 / kg	Rs 11	466.70
7	od341035/2021_20 Extra for providing		ant cement for	r the structu	ıres above _l	olinth level.		
		1	26.126		المناوية	L	26.126	
		TE			To	tal Quantity	26.126 cu	m
		P	A Committee	HARLES AND T	otal Deduct	ed Quantity	0.000 cum	
		Ker	ala Wate	er Auth	Orinet To	tal Quantity	26.126 cun	า
		D			_	65.60 / cum		353.27
8	5.22.6 Steel reinforceme binding all comple		ū	ū	J. J		• .	
	@120kg/m3	1	26.126	120.000			3135.121	
		1			To	tal Quantity	3135.121	kilogram
				Т	otal Deduct	ed Quantity	0.000 kilog	ram
					Net To	tal Quantity	3135.121 k	ilogram
			Say 3135.12	21 kilogram	@ Rs 96.4	6 / kilogram	Rs 302	2413.77
9	od341038/2021_20 Extra for providing		or reinforcem	ent bars.				
	@120kg/m3	1	26.126	120.000			3135.121	
		'		-	To	tal Quantity	3135.121	kg
				Т		ed Quantity		
						tal Quantity		g
				Say 2125		Rs 2.32 / kg		273.48

10	5.9.1 Centering and she columns, etc for n		g strutting, et	c. and remo	oval of form	for:Foundat	ions, footing	ıs, base
	PCC	4	6.300	0.200			5.040	
	Base	4	6.100	0.300			7.320	
					То	tal Quantity	12.360 sqr	n
				-	Γotal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	12.360 sqm	1
			S	ay 12.360 s	sqm @ Rs 3	29.03 / sqm	Rs 40	66.81
11	5.9.2 Centering and she attached pilasters	•	1777			for:Walls (a	ny thicknes	s) includ
	c/c	4*2	5.250	2.850	-		119.700	
			T. 3		То	tal Quantity	119.700 sc	ηm
		(k)			Γotal Deduct	ed Quantity	0.000 sqm	
		155			Net To	tal Quantity	119.700 sq	m
			Sa	y 119.700 s	sqm @ Rs 7	03.77 / sqm	Rs 842	241.27
	12 mm cement place/c Bottom	aster finished wit 4*2	5.250 5.000	2.850 5.000	iority	tal Quantity	119.700 25.000 144.700 so	
				-	Fotal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	144.700 sq	m
			Sa	y 144.700 s	sqm @ Rs 3	93.69 / sqm	Rs 569	966.94
13	13.52.2 Finishing with E manufacturer's sp concrete work			•				
		4	5.500	2.850			62.700	
					То	tal Quantity	62.700 sqr	n
				-	Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	62.700 sqm	1

RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5:2 (5 partsintegral crystalline slurry: 2 parts water) for vertical surfaces and 3:1 (3 partsintegral crystalline slurry: 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the help of synthetic fiber brush. The materialshall meet the requirements as specified in ACI-212-3R-2010 i.e by reducingpermeability of concrete by more than 90% compared with control concrete as perDIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable of self-healing of cracks up to a width of 0.50mm. The workshall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee for 10 years against anyleakage. For vertical surface two coats @0.70 kg per sqm 4 5.000 2.850 57.000 Total Quantity 57.000 sqm Total Deducted Quantity 0.000 sqm Net Total Quantity 57.000 sqm Say 57.000 sqm @ Rs 559.61 / sqm Rs 31897.77 15 22.23.2 Providing and applying integral crystalline slurry of hydrophilic in nature forwaterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5:2 (5 partsintegral crystalline slurry: 2 parts water) for vertical surfaces and 3:1 (3 partsintegral crystalline slurry: 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the help of synthetic fiber brush. The materialshall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as perDIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable of self-healing of cracks up to a width of 0.50mm. The workshall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee for 10 years against anyleakage. For horizontal surface one coat @1.10 kg per sqm. 1 5.000 5.000 25.000 Total Quantity 25.000 sqm Total Deducted Quantity 0.000 sqm Net Total Quantity 25.000 sqm Say 25.000 sqm @ Rs 431.28 / sqm Rs 10782.00 16 100.36.1 Filling water with 5000 litre tankers fited in lorry and conveying water from a distance of 5 km (average) to the reservoir site and pumping the water into the reservoir of height not less than 3 m using 5 HP diesel engine pump set, hire for tanker lorry, tools and other appliences and cost of water etc. complete. "(Ref. No. 000, Technical Circular)" 5.000 1 5.000 2.850 71.250 Total Quantity 71.250 Kilo litre Total Deducted Quantity 0.000 Kilo litre

					Net To	otal Quantity	71.250 Kilo	litre
			Say 71.2	50 Kilo litre	@ Rs 182.	79 / Kilo litre	Rs 13	023.79
SI No	Description	No	L	В	D	CF	Quantity	Remark
	1	11TREATED V	VATER TAN	K (Cost	t Index:33.0	5 %)		
1	2.6.1 Earth work in exca (exceeding 30 cm in earth, lead up to 50 soil	n depth, 1.5 n	n in width as	well as 10	sqm on pla	n) including	disposal of	f excavat
		1	11.200	7.400	0.500		41.440	
			•		To	otal Quantity	41.440 cur	n
			100	B.	Total Deduc	ted Quantity	0.000 cum	
			-/N			otal Quantity		<u> </u>
			9	av 41 440 i		10.02 / cum		703.23
2	4.1.5	6.1	3	ay +1.440	Cuili & INS Z	. 10.02 / Culli	1/2 0/	00.20
		1	11.200	7.400	0.200		16.576	
		Ker	10.0	1 17		tal Quantity		n
			100	er Autl	nority To	tal Quantity	16.576 cur	n
			100	er Autl	nority To		16.576 cur 0.000 cum	
3	5.37.1		rala Wat	er Autl	Total Deduc	ted Quantity	16.576 cur 0.000 cum 16.576 cum	
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Note:- Cer	g in position reent as per apport work in transfer of specified grans with the state of laying mixtures in recoverkability with ment content of ayable/recover	sala Water Sala Water Sala Water Sala Water Sala Water Sala Water Sala Sala Sala Sala Sala Sala Sala Sal	y 16.576 cm M-25 grade of mix, man all leads, had broked ceme of cost of corproportions strength and this item in tely.All wice 7.200	Total Deduction Net Total Deduction Rs 72 concrete for ufactured in aving continuent concrete entering, she is as per IS: 9 and durability is @330 kg/ork upto pline 0.300 Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deduction Net Total Deducti	otal Quantity otal Quantity otal Quantity otal Quantity or reinforced fully autom uous agitate work include uttering finis otal 3 to acce as per direct cum. Excess th level	16.576 cur 0.000 cum 16.576 cum Rs 119 cement cor atic batchin ed mixer, ma ling pumpin hing and rei elerate/ retar tion of the Es /less ceme 23.760 23.760 cur 0.000 cum 23.760 cum	n passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes and passes an

4	5.37.2 Providing and layir using cement cont transported to site as per mix design from transit mixer tincluding cost of acconcrete, improve vecharge. Note:- Ceper design mix is p	ent as per app of work in trans of specified gra o site of laying, dmixtures in rec workability withous ment content of	roved designate mixer for a cade for reinforce excluding the commended cout impairing considered in	n mix, manuall leads, had broked cemente cost of corproportions strength are this item is	ufactured in aving continent concrete entering, she as per IS: 9 and durability s @330 kg/6	fully automations agitate work include uttering finish 103 to access per direction. Excess full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full automatic full	atic batching d mixer, maing pumping hing and reitlerate/ retartion of the E	g plant and anufactured g of R.M.C. nforcement d setting of ngineer - in ent used as
	Long Wall	2	10.400	0.300	3.350		20.904	
	Short Wall	2	6.000	0.300	3.350		12.060	
			Bo	B.	To	tal Quantity	32.964 cur	n
			1		Γotal Deduct	ed Quantity	0.000 cum	
			43 6	6 5	Net To	tal Quantity	32.964 cum	1
		61	Say	32.964 cur	m @ Rs 113	21.96 / cum	Rs 373	217.09
5	5.34.1 Extra for providing content used is pa BMC/RMC. (Note:-	yable/ recovera	able separate	ely.Providin	ng M-30 gra	de concrete	•	
		IXCI		CI 7 IGG	To	tal Quantity	56.724 cur	n
		P	R		Total Deduct	ed Quantity	0.000 cum	
		T			Net To	tal Quantity	56.724 cum	1
				Say 56.724	cum @ Rs	80.56 / cum	Rs 45	69.69
6	4.12 Extra for providing cement as per ma	· ·		material ir	n cement co	ncrete work	in doses b	y weight of
		1	56.724		330.000		18718.920	
					Тс	tal Quantity	18718.920	kg
					Total Deduct	ed Quantity	0.000 kg	
					Net To	tal Quantity	18718.920	kg
				Say 18718	3.920 kg @	Rs 1.33 / kg	Rs 248	396.16
7	od341035/2021_20 Extra for providing		ant cement fo	or the struct	ures above ı	olinth level.		
		1	56.724				56.724	
		1	1		To	tal Quantity	56.724 cur	n

				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	56.724 cum	1
			Sa	y 56.724 cu	m @ Rs 19	65.60 / cum	Rs 111	496.69
8	5.22.6 Steel reinforcement f binding all complete		_	_		• .		
	@120kg/m3	1	56.724	120.000			6806.880	
					То	tal Quantity	6806.880 k	kilogram
				Т	otal Deduct	ed Quantity	0.000 kilogi	am
					Net To	tal Quantity	6806.880 k	ilogram
			Say 6806.8	80 kilogram	@ Rs 96.4	6 / kilogram	Rs 656	591.64
9	od341038/2021_2022 Extra for providing epo		or reinforcem	nent bars.	-			
	@120kg/m3	1	56.724	120.000	7 1 1		6806.880	
		18	LANG.		То	tal Quantity	6806.880 k	кg
		101	Wai) () ()	otal Deduct	ed Quantity	0.000 kg	
		TO SEE			Net To	tal Quantity	6806.880 k	g
			Variation of the same		5.880 kg @ F	Rs 2.32 / kg	Rs 15	791.96
10	5.9.1 Centering and shutter columns, etc for mass	ing including	ala Wate strutting, et			for:Foundat	ions, footing	s, bases of
	Long Wall	2	11.000	0.300			6.600	
	Short Wall	2	7.200	0.300			4.320	
					То	tal Quantity	10.920 sqr	n
				Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	10.920 sqm	1
			S	ay 10.920 s	qm @ Rs 3	29.03 / sqm	Rs 35	93.01
11	5.9.2 Centering and shutter attached pilasters, but	-	_			for:Walls (a	iny thicknes	s) including
	Inside Wall	1	2*9.8+2*6		3.350		105.861	
	Outside Wall	1	2*10.4+2* 6.6		3.350		113.900	
					То	tal Quantity	219.761 sc	ım
				T	otal Deduct	ed Quantity	0.000 sqm	

					Net Tota	al Quantity	219.761 sq	m
			Sa	y 219.761 s	sqm @ Rs 70	3.77 / sqm	Rs 154	661.20
12	13.7.1 12 mm cement plass	ter finished w	vith a floating c	oat of neat	cement of mi	x:1:3 (1 ce	ment : 3 fin	e sand)
	Long Wall	2	11.000	0.300			6.600	
	Short Wall	2	7.200	0.300			4.320	
	Offset top	1	35.400	0.350			12.390	
	Inside Wall	1	2*9.8+2*6		3.350		105.861	
	Outside Wall	1	2*10.4+2* 6.6		3.350		113.900	
	Wall top	1	34.000	B.	0.300		10.200	
			-/Ni		Tota	al Quantity	253.271 so	qm
			7.3 B	8 54	Γotal Deducte	d Quantity	0.000 sqm	
		61	74.02	51/1	Net Tota	al Quantity	253.271 sq	m
		11/5-	Sa	v 253.271 s	sqm @ Rs 39	3.69 / sam	Rs 99	710.26
13	13.52.2 Finishing with Epomanufacturer's spectoncrete work		luding appropr rala Wat i					
13	Finishing with Epo				g coat, prepar		rface, etc. c	
13	Finishing with Epo		luding appropr rala Wat i		g coat, prepar	ation of su	fface, etc. c	omplete
13	Finishing with Epo		luding appropr	er Auth	g coat, prepar	ation of sur	113.900 so	omplete
13	Finishing with Epo		luding appropr	er Auth	3.350 Total Deducte	ation of sur	113.900 113.900 sqm	omplete pm
13	Finishing with Epo		rala Wat 2*10.4+2* 6.6	er Auth	3.350 Total Deducte Net Total	al Quantity al Quantity al Quantity	113.900 113.900 sq 0.000 sqm 113.900 sq	omplete qm m
	Finishing with Epo manufacturer's spec concrete work		rala Wat 2*10.4+2* 6.6	er Auth	3.350 Total Deducte	al Quantity al Quantity al Quantity	113.900 113.900 sq 0.000 sqm 113.900 sq	omplete qm
14	Finishing with Epo	ing integral of retaining was lant, tunnels, lline slurry: 2) for horizont er brush. The neability of content of the bar hydracks up to 2	Sacrystalline slurralls of the base of subway and be called a surfaces and ematerials hall oncrete by more than the contract of the surfaces and the contract of the surfaces and the materials hall oncrete by more than the contract of the surfaces and the contract of the surfaces and the contract of the surfaces and the contract of the surfaces and the contract of the surfaces and the surfaces and the surfaces and the surfaces and the surfaces and the surfaces and the surfaces are surfaces.	by 113.900 so by of hydropement, water bridge deck for vertical and applying I meet the pore than 90 ture on negation. The	3.350 Total Deducte Net Total Seqm @ Rs 21 whilic in nature or tanks, roof set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be set can be	al Quantity d Quantity al Quantity al Quantity 8.73 / sqm forwaterpressabs, podiced by mixin d 3 : 1 (3 pm negative as specified with contrel crystalline e carried o	113.900 sq 113.900 sq 0.000 sqm 113.900 sq Rs 24 roofing treatums, reserving in the rational second contraction and contractions and contractions are second contractions and contractions and contractions are second contractions and contractions are second contractions and contractions are second contractions are	m 913.35 ment to ior, sewa o of 5 : 2 I crystall ide with 12-3R-20 a as per[be capa allete as
	Finishing with Epomanufacturer's spectoncrete work 22.23.1 Providing and apply RCC structures like & water treatment partsintegral crystal slurry: 1 part water help of synthetic fibile by reducingperm 1048 and resistant to fiself-healing of concerns.	ing integral of retaining was lant, tunnels, lline slurry:) for horizont er brush. The neability of compact to 16 bar hydracks up to be direction of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the compact of the c	2*10.4+2* 2*10.4+2* 6.6 Sacrystalline slurr alls of the base of subway and be calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and calculated and ca	y 113.900 s Ty of hydrop ment, water bridge deck for vertical and applying I meet the brie than 90 ure on negation. The in-charge. The	Total Deducte Net Total Sqm @ Rs 21 Chillic in nature or tanks, roof states, roof states, roof states, roof states, roof states, roof states, requirements of compared ative side. The workshall be the product p	al Quantity d Quantity al Quantity 8.73 / sqm e forwaterpressabs, podiced by mixin d 3 : 1 (3 pm negative as specified with contrel crystalline e carried operformance	113.900 sq 113.900 sq 0.000 sqm 113.900 sq Rs 24 roofing treat ums, reserv g in the ration partsintegral (internal) solid in ACI-2-101 concrete esturry shall ut all comples shall carry	m 913.35 ment to ior, sew o of 5 : 2 I crystal ide with 12-3R-20 as perl be capa

					То	tal Quantity	105.861 sc	mp
				7	Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	105.861 sq	m
			Sa	ny 105.861 s	sqm @ Rs 5	59.61 / sqm	Rs 59	240.87
15	22.23.2 Providing and applying RCC structures like real water treatment plant partsintegral crystalling slurry: 1 part water) for help of synthetic fiber i.e by reducing permeal 1048 and resistant to 1 of self-healing of crack specification and the desire RCC structures.	taining walls t, tunnels/ s e slurry : 2 or horizontal brush. The i ability of cor 6 bar hydro	of the base ubway and parts water) surfaces ar materialsha acrete by m static press width of 0.5	ement, water bridge deck for vertical applying II meet the roore than 90 ture on negation. The	r tanks, roof a etc., prepaid surfaces and thesame from the transfer to the transfer to the transfer to the transfer to the transfer to the transfer to the transfer to the transfer transfer to the transfer transfer to the transfer transfer to the transfer transfer transfer to the transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer transfer t	slabs, podioned by mixing and 3:1 (3 per megative as as specified with contract contract are carried of the car	ums, reserving in the rationartsintegral (internal) seed in ACI-2 rol concrete esturry shall out all comp	ior, sewage o of 5 : 2 (5 I crystalline ide with the I2-3R-2010 as perDIN be capable lete as per
	for 10 years against ar		Aug. 17 (CD)	Name of the Party			-	/ guarantee
	Tor Years against ar	1	9.800	6.000	le coat @ 1.	TO KG PET SC	58.801	
		10	0.000	0.000	To	tal Quantity		n
					Fotal Deduct	-		··
				me 22/	100	tal Quantity		<u> </u>
		Ker	ala Wa s	Sav 58 801 s	sqm @ Rs 4			<u>.</u> 359.70
16	100.36.1 Filling water with 5000 the reservoir site and rengine pump set, hire "(Ref. No. 000, Technic	oumping the for tanker l	water into	the reservoi	r of height n	ot less than	3 m using	5 HP diesel
		1	9.800	6.000	3.350		196.981	
					То	tal Quantity	196.981 K	ilo litre
				7	Total Deduct	ed Quantity	0.000 Kilo I	itre
					Net To	tal Quantity	196.981 Kil	o litre
			Say 196.9	81 Kilo litre	@ Rs 182.7	9 / Kilo litre	Rs 36	006.16
SI No	Description	No	L	В	D	CF	Quantity	Remark
		12Centrat	e Sump	(Cost Inde	x:33.05 %)			
1	2.6.1 Earth work in excava (exceeding 30 cm in dearth, lead up to 50 m soil	epth, 1.5 m	in width as	well as 10	sqm on pla	n) including	disposal of	excavated
		3.14/4	5.400	5.400	0.500		11.446	

					То	tal Quantity	11.446 cur	m
				7	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	11.446 cun	า
			S	ay 11.446 c	cum @ Rs 2	10.02 / cum	Rs 24	103.89
2	4.1.5 Providing and laying in shuttering - All work up nominal size)	•		•	•	_		_
		3.14/4	5.400	5.400	0.200		4.579	
					To	tal Quantity	4.579 cum	
				V6. T	otal Deduct			
			180	1/401		tal Quantity		
				20v 4 570 cu	ım @ Rs 72			104.06
3	5.37.1	1	77 9	ay 4.019 CC	III & NO 12	20.04 / Culli	1.5 33	107.00
	using cement content transported to site of w							• .
	as per mix design of s from transit mixer to sit including cost of admix concrete, improve work -charge. Note:- Cemer per design mix is paya	pecified gra te of laying, ctures in rec cability without ont content co	de for reinforce excluding the commended out impairing possidered in	orced ceme ne cost of ce proportions strength an this item is	nt concrete entering, sho as per IS: 9 ad durability s @330 kg/o	work includantering finis 103 to access per directum. Excess	ling pumpin hing and re elerate/ retaition of the E	g of R.M.C. inforcement rd setting of ingineer - in
	from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer	pecified gra te of laying, ctures in rec cability without ont content co	de for reinforce excluding the commended out impairing possidered in	orced ceme ne cost of ce proportions strength an this item is	nt concrete entering, sho as per IS: 9 ad durability s @330 kg/o	work includantering finis 103 to access per directum. Excess	ling pumpin hing and re elerate/ retaition of the E	g of R.M.C. inforcement rd setting of ingineer - in
	from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer	pecified gra te of laying, ctures in rec cability without to content could be able/recover	de for reinfo excluding the ommended out impairing onsidered in able separa	orced ceme ne cost of ce proportions strength an this item is tely.All wion	nt concrete entering, sho as per IS: 9 ad durability s @330 kg/o k upto plint 0.300	work includantering finis 103 to access per directum. Excess	ling pumpin hing and re elerate/ reta- tion of the E s /less ceme 6.868	g of R.M.C. inforcement rd setting of ingineer - in ent used as
	from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer	pecified gra te of laying, ctures in rec cability without to content could be able/recover	de for reinfo excluding the ommended out impairing onsidered in able separa	proportions strength an this item is tely.All wion	nt concrete entering, sho as per IS: 9 ad durability s @330 kg/o k upto plint 0.300	work includantering finis 103 to access per direction. Excess helevel	ling pumpin hing and re elerate/ reta- tion of the E s /less ceme 6.868	g of R.M.C. inforcement rd setting of ingineer - in ent used as
	from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer	pecified gra te of laying, ctures in rec cability without to content could be able/recover	de for reinfo excluding the ommended out impairing onsidered in able separa	proportions strength an this item is tely.All wion	as per IS: 9 ad durability s @ 330 kg/d k upto plint 0.300 To	work include uttering finis 103 to access as per direction. Excess to level tal Quantity ed Quantity	ling pumpin hing and re- elerate/ retal tion of the E s /less ceme 6.868 6.868 cum 0.000 cum	g of R.M.C. inforcement rd setting of ingineer - in ent used as
	from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer	pecified gra te of laying, ctures in rec cability without to content could be able/recover	de for reinfo excluding the ommended out impairing onsidered in able separa 5.400	proced ceme ne cost of ce proportions strength an this item is tely.All wion 5.400	nt concrete entering, she as per IS: 9 ad durability s @ 330 kg/d k upto plint 0.300 To Total Deduct Net To	work includent work includent work includent work includent with the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of t	ling pumpin hing and re- elerate/ retal tion of the E s /less ceme 6.868 6.868 cum 0.000 cum 6.868 cum	g of R.M.C. inforcement rd setting of Engineer - in ent used as
4	from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer	pecified grate of laying, stures in reconstruction to content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content	de for reinfe excluding the ommended out impairing possidered in able separated 5.400.	proportions strength are this item is tely.All wion 5.400 The say 6.868 cu M-25 grade on mix, manuall leads, had proced ceme the cost of ce proportions strength are this item is	nt concrete entering, she as per IS: 9 ad durability s @ 330 kg/d k upto plint O.300	work includent work includents as per direct cum. Excess the level tal Quantity and Quantity are reinforced fully automous agitates work includents as per direct cum. Excess cum. Excess as per direct cum. Excess as per direct cum. Excess as per direct cum. Excess as per direct cum. Excess as per direct cum. Excess as per direct cum. Excess as per direct cum. Excess as per direct cum. Excess as per direct cum. Excess as per direct cum. Excess as per direct cum.	ling pumpin hing and replerate/ retaintion of the Est /less ceme 6.868 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.868 cum 6.8688 cum	g of R.M.C. inforcement rd setting of Engineer - in ent used as 625.16 Acrete work g plant and anufactured g of R.M.C. inforcement rd setting of Engineer - in ent used as

	Side wall	3.14	4.300	0.300	2.500		10.127	
	Manhole	1	0.500	0.500	0.120		-0.030	
					To	otal Quantity	12.121 cui	m
				Т	otal Deduc	ted Quantity	-0.030 cum	1
					Net To	otal Quantity	12.091 cun	n
			Say	12.091 cun	n @ Rs 113	21.96 / cum	Rs 136	6893.82
5	5.34.1 Extra for providing content used is pa BMC/RMC. (Note:-	yable/ recovera	able separat	ely.Providin	g M-30 gra	de concrete	•	
		1	18.959	6			18.959	
			JAN		To	otal Quantity	18.959 cu	m
		· ·	62 h	W. S. H	otal Deduc	ted Quantity	0.000 cum	
		619	X B	5 1	Net To	otal Quantity	18.959 cun	n
				Say 18.959	cum @ Rs	80.56 / cum	Rs 15	527.34
6	4.12 Extra for providing cement as per ma	The second second		material in	330.000	oncrete work	6256.470	y weigh
6	Extra for providing	The second second	ecification .	er Auth	330.000 Total Deduc	otal Quantity	6256.470 6256.470 0.000 kg	kg
6	Extra for providing	The second second	ecification .	er Auth	330.000 Triv To Total Deduc	otal Quantity ted Quantity otal Quantity	6256.470 6256.470 0.000 kg 6256.470 k	kg
7	Extra for providing	nufacturer's sp	18.959	er Auth	330.000 Total Deductory Net Total State of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the cont	otal Quantity ted Quantity otal Quantity Rs 1.33 / kg	6256.470 6256.470 0.000 kg 6256.470 k	kg
	Extra for providing cement as per ma	nufacturer's sp	18.959	er Auth	330.000 Total Deductory Net Total State of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the cont	otal Quantity ted Quantity otal Quantity Rs 1.33 / kg	6256.470 6256.470 0.000 kg 6256.470 k	kg
	Extra for providing cement as per ma	nufacturer's sp Ker D 022 sulphate resista	18.959	er Auth	330.000 Total Deductory Net Total State of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the cont	otal Quantity ted Quantity otal Quantity Rs 1.33 / kg	6256.470 6256.470 0.000 kg 6256.470 k Rs 83	kg sg 321.11
	Extra for providing cement as per ma	nufacturer's sp Ker D 022 sulphate resista	18.959	Say 6256	330.000 Total Deduct Net Total 3470 kg @	otal Quantity ted Quantity otal Quantity Rs 1.33 / kg	6256.470 6256.470 0.000 kg 6256.470 k Rs 83 18.959	kg sg 321.11
	Extra for providing cement as per ma	nufacturer's sp Ker D 022 sulphate resista	18.959	Say 6256	330.000 Total Deduct Net Total .470 kg @ ures above Total Deduct Total Deduct	otal Quantity ted Quantity otal Quantity Rs 1.33 / kg plinth level.	6256.470 6256.470 0.000 kg 6256.470 k Rs 83 18.959 18.959 cui 0.000 cum	kg 8g 321.11 m
	Extra for providing cement as per ma	nufacturer's sp Ker D 022 sulphate resista	ant cement for 18.959	Say 6256	330.000 Total Deduct Net Total Salva (Control Deduction Net Total	otal Quantity ted Quantity otal Quantity Rs 1.33 / kg plinth level. otal Quantity ted Quantity	6256.470 6256.470 0.000 kg 6256.470 k Rs 83 18.959 18.959 cur 0.000 cum	kg sg 321.11
	Extra for providing cement as per ma	nufacturer's sp 1 1 1 1 1 1 1 1 1 1 1 1 1	ant cement for 18.959 Sacork including	Say 6256 or the structu	330.000 Total Deduct Net Total Salva (Section 1988) Total Deduct Total Deduct Net Total Deduct Net Total Deduct Met Total Deduct Total Deduct Net Total Deduct Total Deduct Total Deduct Net Total Deduct Net Total Deduct Total Deduct Net Total Deduct Net Total Deduct Total Deduct Net Total Deduct Total Deduct Net Total Deduct Net Total Deduct Net Total Deduct Total Deduct Net Total Deduct Net Total Deduct Total	pital Quantity ted Quantity ted Quantity Rs 1.33 / kg plinth level. pital Quantity ted Quantity ted Quantity ted Quantity ted Quantity ted Quantity ted Output ted Quantity ted Quantity ted Quantity ted Quantity ted Quantity ted Quantity	6256.470 6256.470 0.000 kg 6256.470 k Rs 83 18.959 18.959 cur 0.000 cum 18.959 cur Rs 37	kg 89 821.11 m 265.81
7	extra for providing cement as per ma od341035/2021_20 Extra for providing 5.22.6 Steel reinforcement	nufacturer's sp 1 1 1 1 1 1 1 1 1 1 1 1 1	ant cement for 18.959 Sacork including	Say 6256 or the structu	330.000 Total Deduct Net Total Salva (Section 1988) Total Deduct Total Deduct Net Total Deduct Net Total Deduct Met Total Deduct Total Deduct Net Total Deduct Total Deduct Total Deduct Net Total Deduct Net Total Deduct Total Deduct Net Total Deduct Net Total Deduct Total Deduct Net Total Deduct Total Deduct Net Total Deduct Net Total Deduct Net Total Deduct Total Deduct Net Total Deduct Net Total Deduct Total	pital Quantity ted Quantity ted Quantity Rs 1.33 / kg plinth level. pital Quantity ted Quantity ted Quantity ted Quantity ted Quantity ted Quantity ted Output ted Quantity ted Quantity ted Quantity ted Quantity ted Quantity ted Quantity	6256.470 6256.470 0.000 kg 6256.470 k Rs 83 18.959 18.959 cur 0.000 cum 18.959 cur Rs 37	kg 89 821.11 m 265.81

				Т	otal Deduct	ed Quantity	0.000 kilogi	ram
					Net To	tal Quantity	2275.080 k	ilogram
			Say 2275.0)80 kilogram	n @ Rs 96.4	6 / kilogram	Rs 219	454.22
9	od341038/2021_202 Extra for providing e		or reinforcen	nent bars.				
	@120kg/m3	1	8.844	120.000			1061.280	
		1	1	1	To	tal Quantity	1061.280 k	кg
				Т	otal Deduct	ted Quantity	0.000 kg	
					Net To	tal Quantity	1061.280 k	g
			20.55	Say 1061	.280 kg @	Rs 2.32 / kg	Rs 24	62.17
10	5.9.1 Centering and shutte columns, etc for mas		strutting, et	c. and remo	oval of form	for:Foundat	ions, footing	gs, bases o
		12	1		4_ 3	tal Quantity		
		1/51			3 10	ted Quantity	-	
		400			Charles -	otal Quantity		
			1	Say 3.392 s				16.07
		TZ a.u.		•	-		110 11	10.07
11	5.9.2 Centering and shutt attached pilasters, b	ering including	ala Wat strutting, e	er Auth	Ority Oval of form	·	I	
11	Centering and shutte	ering including	ala Wat strutting, e	er Auth	Ority Oval of form	·	I	
11	Centering and shutte	ering including outteresses, pli	ala Wat strutting, e nth and stri	er Auth	oval of form	·	ny thicknes	
11	Centering and shutte attached pilasters, b	ering including putteresses, pli 2*3.14	ala Wat strutting, e nth and stri	er Auth	oval of formetc. 2.500 0.300	·	67.510 20.499	s) includin
11	Centering and shutte attached pilasters, b	ering including putteresses, pli 2*3.14	ala Wat strutting, e nth and stri	er Auth	oval of formetc. 2.500 0.300	for:Walls (a	67.510 20.499 88.009 sqr	s) includino
11	Centering and shutte attached pilasters, b	ering including putteresses, pli 2*3.14	ala Wat strutting, e nth and stri	er Auth	oval of formetc. 2.500 0.300 To	for:Walls (a	67.510 20.499 88.009 sqr 0.000 sqm	s) including
11	Centering and shutte attached pilasters, b	ering including putteresses, pli 2*3.14	strutting, enth and strict 4.300 - 5.200	er Auth	oval of formetc. 2.500 0.300 Total Deduct	for:Walls (a	67.510 20.499 88.009 sqr 0.000 sqm 88.009 sqm	s) including
11	Centering and shutte attached pilasters, b	ering including butteresses, pli 2*3.14 13.14	strutting, e nth and stri 4.300 5.200	er Authoric, and remong courses of a series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series	oval of formetc. 2.500 0.300 Total Deductor Net Total Capping Rs 7	for:Walls (a potal Quantity ared Quantity otal Quantity 03.77 / sqm	67.510 20.499 88.009 sqr 0.000 sqm 88.009 sqm Rs 619	s) including
	Centering and shutte attached pilasters, but Base Slab side 5.9.3 Centering and shutters attached pilasters, but but but but but but but but but but	ering including butteresses, pli 2*3.14 13.14	strutting, e nth and stri 4.300 5.200	er Authoric, and remong courses of a series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series	oval of formetc. 2.500 0.300 Total Deductor Net Total Capping Rs 7	for:Walls (a potal Quantity ared Quantity otal Quantity 03.77 / sqm	67.510 20.499 88.009 sqr 0.000 sqm 88.009 sqm Rs 619	s) including
	Centering and shutte attached pilasters, but Base Slab side 5.9.3 Centering and shutters attached pilasters, but but but but but but but but but but	ering including putteresses, pli 2*3.14 13.14 ttering including putteresses, pli 2*3.14 and access	strutting, e nth and stri 4.300 5.200 Some strutting platform	er Authoric, and remong courses	oval of formetc. 2.500 0.300 Total Deductor Net Total Capping Rs 7	for:Walls (a potal Quantity ared Quantity otal Quantity 03.77 / sqm	67.510 20.499 88.009 sqr 0.000 sqm 88.009 sqr Rs 619	s) including
	Centering and shutte attached pilasters, but Base Slab side 5.9.3 Centering and shutters and shutters and shutters and shutters and shutters and shutters and shutters are shown as the same shadow as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same s	ering including putteresses, pli 2*3.14 13.14 ttering including putteresses, pli 2*3.14 3.14	strutting, e nth and stri 4.300 5.200 Some strutting platform 4.000	ay 88.009 s	oval of formetc. 2.500 0.300 Total Deduct Net Total Capin @ Rs 7	for:Walls (a potal Quantity ared Quantity otal Quantity 03.77 / sqm	67.510 20.499 88.009 sqr 0.000 sqm 88.009 sqr Rs 619 spended flo	s) including
	Centering and shutte attached pilasters, but Base Slab side 5.9.3 Centering and shutters and shutters and shutters and shutters and shutters and shutters and shutters are shown as the same shadow as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same shown as the same s	ering including putteresses, pli 2*3.14 13.14 ttering including putteresses, pli 2*3.14 3.14	strutting, e nth and stri 4.300 5.200 Some strutting platform 4.000	ay 88.009 s , etc. and r 4.000 0.500	oval of formetc. 2.500 0.300 Total Deduct Net Total Common Res 7 removal of	for:Walls (a duantity ted Quantity otal Quantity 03.77 / sqm	67.510 20.499 88.009 sqr 0.000 sqm 88.009 sqr Rs 619 spended flo 12.560 -0.250	s) including

			S	Say 12.310 s	qm @ Rs 8	00.50 / sqm	Rs 98	354.16
13	13.7.1							
	12 mm cement plaster	finished with	n a floating o	coat of neat	cement of n	nix:1:3 (1 c∈	ement : 3 fin	e sand)
	Qty Vide Item No:10	1	3.392				3.392	
	Qty Vide Item No:11	1	88.009				88.009	
	Qty Vide Item No:12	1	12.310				12.310	
					To	otal Quantity	103.711 so	qm
				Т	otal Deduct	ted Quantity	0.000 sqm	
					Net To	otal Quantity	103.711 sq	m
			Sa	y 103.711 s	qm @ Rs 3	93.69 / sqm	Rs 40	829.98
	manufacturer's specific concrete work	3.14	4.600	nate priming	2.500	aration of su	36.110	ompiete.
		451			To	otal Quantity	36.110 sqr	m
	1	400	8,000	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	otal Deduct	ted Quantity	0.000 sqm	
				HS-P27	Net To	otal Quantity	36.110 sqn	า
		Kera	ala Wa	Say 36.110 s	qm @ Rs 2	18.73 / sqm	Rs 78	398.34
	Providing and applying RCC structures like refaction & water treatment plant partsintegral crystalling slurry: 1 part water) for help of synthetic fiber i.e by reducing permeat 1048 and resistant to 1 of self-healing of crack specification and the differ 10 years against ar	taining walls tt, tunnels/ s e slurry: 2 or horizontal brush. The ability of cor 6 bar hydro ks up to a lirection of the	s of the base subway and parts water) surfaces and materialshat ncrete by multiplesses width of 0.5 the engineer	ement, water bridge deck for vertical ad applying II meet the rore than 90 ure on negation. The in-charge. T	etanks, roof etc., prepa surfaces a thesame fro equirement % compare tive side. The workshall be the product	slabs, poding red by mixing and 3:1 (3 per megative as as specified with continue crystalline carried of performance	ums, reserving in the rationartsintegral (internal) seed in ACI-2 rol concrete eslurry shall out all compersions.	ior, sewa o of 5 : 2 I crystalli ide with t 12-3R-20 e as perD be capal
	ioi io years against ar			unace two t		kg per sqr		
		3.14	4.000		2.500	atal Ougatit	31.401	<u> </u>
				-		otal Quantity		11
				I		ted Quantity otal Quantity		
					ivei i C	nai Quantity	joi.40 i sqn	2
			.c	Sav 31.401 s		59.61 / sqm	Rs 17	n 572.31

RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5:2 (5 partsintegral crystalline slurry: 2 parts water) for vertical surfaces and 3:1 (3 partsintegral crystalline slurry: 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the help of synthetic fiber brush. The materialshall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as perDIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable of self-healing of cracks up to a width of 0.50mm. The workshall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee for 10 years against anyleakage. For horizontal surface one coat @1.10 kg per sqm. 3.14/4 4.000 4.000 12.560 Total Quantity 12.560 sqm Total Deducted Quantity 0.000 sqm Net Total Quantity 12.560 sqm Say 12.560 sqm @ Rs 431.28 / sqm Rs 5416.88 17 100.36.1 Filling water with 5000 litre tankers fited in lorry and conveying water from a distance of 5 km (average) to the reservoir site and pumping the water into the reservoir of height not less than 3 m using 5 HP diesel engine pump set, hire for tanker lorry, tools and other appliences and cost of water etc. complete. "(Ref. No. 000, Technical Circular)" 3.14/4 4.000 4.000 2.500 31.401 Water Total Quantity 31.401 Kilo litre Total Deducted Quantity 0.000 Kilo litre Net Total Quantity 31.401 Kilo litre Say 31.401 Kilo litre @ Rs 182.79 / Kilo litre Rs 5739.79 В CF Quantity SI No Description No Remark 13Administrative/Laboratory/Chemical House / Control Room Building (Cost Index:33.05 %) 1 2.8.1 Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.All kinds of soil FOR FOOTING 16 1.500 1.500 1.500 54.000 2.000 0.200 FOR STEP 1 2.000 0.800 0.675 FOR RAMP 3.000 1.500 0.150 Total Quantity 55.475 cum Total Deducted Quantity 0.000 cum Net Total Quantity 55.475 cum

			S	Say 55.475 d	cum @ Rs 2	91.38 / cum	Rs 16	164.31	
2	4.1.3 Providing and layin shuttering - All work nominal size)	• .		-	_	_		_	
	FOR RAMP	1	3.000	1.500	0.150		0.675		
					То	tal Quantity	0.675 cum		
				٦	Total Deduct	ed Quantity	0.000 cum		
					Net To	tal Quantity	0.675 cum		
			S	Say 0.675 cu	ım @ Rs 78	41.17 / cum	Rs 52	92.79	
3	4.1.8 Providing and laying in position cement concrete of specified grade excluding the cost of centering shuttering - All work up to plinth level:1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate nominal size)								
	FOR FOOTING	16	1.500	1.500	0.100		3.600		
	FOR STEP	1	2.000	2.000	0.100		0.400		
	FOR RAMP	1	3.000	1.500	0.150	Lan	0.675		
		TUE			То	tal Quantity	4.675 cum		
				A	Total Deduct	ed Quantity	0.000 cum		
		Kera	ala Wat	er Auth	Net To	tal Quantity	4.675 cum		
		D	9	ay 4.675 cu	ım @ Rs 66	87.23 / cum	Rs 31	262.80	
4	50.2.25.1 Filling with contract not exceeding 20 cm and lift up to	m in depth, cor 1.5 m as per di	nsolidating e rection of si	each deposi te Engineei	ted layer by r-in-charge		nd watering	-	
	Office Room	1	7.000	5.000	0.500		17.500		
	stair	1	7.000	3.000	0.500		10.500		
	chemical room	1	6.000	4.000	0.500		12.000		
	visitors room	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4.000	4.000	0.500		8.000		
	Ramp	1*0.50	2.000	1.500	0.600	4-1 O +it .	0.900	_	
						tal Quantity		TI	
					Total Deduct			`	
					Net 10	nai Quarinty	48.900 cun	ı	
			c	av 48 000 d	cum @ Rs 5	15 97 / cum	Re 25	230.93	

using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately. All wiork upto plinth level F O R FIRST 16 1.400 1.400 0.250 7.840 FOOTING FOR SECOND 16 0.167 3.920 0.350 3.666 FOOTING COLUMN UP TO 16 0.400 0.200 0.800 1.025 PLINTH BEAM PLINTH BEAMS 3 11.100 0.200 0.450 2.998 4 10.400 0.200 0.450 3.744 1 3.200 0.200 0.450 0.289 FLOOR SLAB 1 11.300 10.600 0.100 11.979 Total Quantity 31.541 cum Total Deducted Quantity 0.000 cum Kerala Water Authority Total Quantity 31.541 cum Say 31.541 cum @ Rs 9700.81 / cum Rs 305973.25 6 5.37.2 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work above plinth level upto floor V level Column Above Plinth 16 0.400 0.200 3.250 4.161 SUN SHADE DOOR 2 2.000 1.200 0.080 0.384 7 SUN SHADE W3 1.900 0.600 0.080 0.639 SUN SHADE RS 1 3.400 1.200 0.080 0.327 SUN SHADE V 1 1.000 0.600 0.080 0.048 **LINTELS** 3 11.100 0.200 0.150 1.000

,,	3	10.400	0.200	0.150		0.936	
,,	1	3.200	0.200	0.150		0.097	
BEAMS	6	3.100	0.200	0.450		1.675	
,,	2	4.000	0.200	0.450		0.721	
,,	2	3.200	0.200	0.450		0.577	
,,	2	4.200	0.200	0.450		0.757	
,,	4	5.500	0.200	0.450		1.981	
,,	4	1.700	0.200	0.450		0.613	
,,	4	4.200	0.200	0.450		1.513	
STAIR CASE WAIS	ST 2	3.700	1.500	0.125		1.388	
LANDING	1	3.000	1.500	0.125		0.563	
STEPS	22*.50	1.500	0.300	0.150		0.743	
ROOF SLAB	1	11.300	10.600	0.125		14.973	
First Floor - COLUM UP TO ROOF SLAB	16	0.400	0.200	3.250	Ĺ	4.161	
LINTELS	2	11.100	0.200	0.150		0.666	
,,	4	10.400	0.200	0.150		1.248	
,,	Kera	1.700	er Autr 0.200	0.150		0.052	
SUN SHADE	8	2.000	0.600	0.080		0.768	
,,	1 1	1.000	0.600	0.080		0.048	
Beams	6	3.100	0.200	0.450		1.675	
,,	2	4.000	0.200	0.450		0.721	
,,	2	3.200	0.200	0.450		0.577	
,,	2	4.200	0.200	0.450		0.757	
,,	4	5.500	0.200	0.450		1.981	
,,	4	1.700	0.200	0.450		0.613	
,,	4	4.200	0.200	0.450		1.513	
Roof slab	1	11.900	11.200	0.125		16.660	
Column	16	0.200	0.400	0.600		-0.768	
OPENING	1	1.500	0.200	0.150		-0.045	
				To	otal Quantity	64.536 cum	
					ted Quantity		

					Net To	tal Quantity	63.723 cum	l
			Say	63.723 cum	n @ Rs 113	21.96 / cum	Rs 721	469.26
7	5.22.6 Steel reinforcement fo binding all complete up					• .		
	@ 100 Kg/ Cum of CC - Footing	1	31.541			100.0	3154.100	
	@ 100 Kg/ Cum of CC	1	63.723			100.0	6372.300	
					То	tal Quantity	9526.400 k	ilogram
				Т	otal Deduct	ed Quantity	0.000 kilogi	am
			100	S.	Net To	tal Quantity	9526.400 k	logram
			Say 9526.4	00 kilogram	@ Rs 96.4	6 / kilogram	Rs 918	916.54
	including cutting chase, the chase with matching	g concrete	L 174 W. S				the clamps	
	Fixing on ceiling	6	AC	355377			6.000	
					То	tal Quantity	6.000 No	
		Vor	olo Wot		otal Deduct	ed Quantity	0.000 No	
		Ker	ara wai	er Auth	Net To	tal Quantity	6.000 No	
				Say 6.00	0 No @ Rs	491.02 / No	Rs 29	46.12
9	5.9.1 Centering and shuttering columns, etc for mass of	_	strutting, et	c. and remo	oval of form	for:Foundat	ions, footing	s, bases o
	FOR FIRST FOOTING	16*4	1.400		0.250		22.400	
					То	tal Quantity	22.400 sqr	n
				Т	otal Deduct	ed Quantity	0.000 sqm	
				Т			0.000 sqm 22.400 sqm	<u> </u>
			S	T say 22.400 s	Net To	tal Quantity	22.400 sqm	
10	5.9.3 Centering and shutter landings, balconies ar	_	ng strutting	ay 22.400 s	Net To qm @ Rs 3	tal Quantity 29.03 / sqm	22.400 sqm	70.27
10	Centering and shutter	_	ng strutting	ay 22.400 s	Net To qm @ Rs 3	tal Quantity 29.03 / sqm	22.400 sqm	70.27
10	Centering and shutter landings, balconies ar	nd access	ng strutting platform	ay 22.400 s , etc. and r	Net To qm @ Rs 3	tal Quantity 29.03 / sqm	22.400 sqm Rs 73 spended flo	70.27

	Slab Edge	1	46.200		0.125		5.775	
					То	tal Quantity	264.310 sc	mp
				٦	Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	264.310 sq	m
			Sa	y 264.310 s	sqm @ Rs 8	00.50 / sqm	Rs 211	580.16
11	5.9.5 Centering and shuttering girders bressumers and	•	•	etc. and ren	noval of forr	n for:Lintels	, beams, pl	inth bea
	SUN SHADE DOOR	2	2.000	1.200			4.800	
	SUN SHADE W3	7	1.900	0.600			7.980	
	SUN SHADE RS	1	3.400	1.200			4.080	
	SUN SHADE V	1	1.000	0.600	3		0.600	
	Shade side	24	0.600	6 4	0.100		1.440	
	LINTELS	3*2	11.100	SN / I	0.150		9.990	
	,,	3*2	10.400		0.150	4	9.360	
	,,	1*2	3.200	35.37	0.150	last.	0.960	
	Op. Bottom	1	0.600	0.200	Star-		0.120	
		7	1.500	0.200	• ,		2.101	
		Kera 1	11a W at 3.000	er Autr 0.200	lority		0.601	
	BEAMS	6	3.100		1.100		20.461	
	,,	2	4.000		1.100		8.800	
	,,	2	3.200		1.100		7.041	
	,,	2	4.200		1.100		9.241	
	,,	4	5.500		1.100		24.201	
	,,	4	1.700		1.100		7.480	
	,,	4	4.200		1.100		18.481	
	STAIR CASE WAIST SLAB	2	3.700	1.500			11.101	
	Side	2	3.700		0.125		0.925	
	LANDING	1	3.000	1.500			4.500	
	Side	1	6.000		0.150		0.900	
	STEPS	22	1.500		0.150		4.950	
	Side	44*0.50	0.300	0.150			0.990	
	LINTELS	2*2	11.100		0.150		6.660	

	,,	4*2	10.400		0.150		12.480	
	,,	1*2	1.700		0.150		0.510	
	SUN SHADE	8	2.000	0.600			9.600	
	,,	1	1.000	0.600			0.600	
	Edge	8*2	1.500		0.100		2.401	
		1*2	0.600		0.100		0.120	
	Beams	6	3.100		1.100		20.461	
	11	2	4.000		1.100		8.800	
	"	2	3.200		1.100		7.041	
	,,	2	4.200	65	1.100		9.241	
	,,	4	5.500		1.100		24.201	
	,,	4	1.700		1.100		7.480	
	,,	4	4.200	S. 7	1.100		18.481	
	PLINTH BEAMS	3*2	11.100		0.450		29.970	
	,,	4*2	10.400		0.450	L	37.441	
	,,	1*2	3.200		0.450		2.881	
				H 91 P 24	То	tal Quantity	359.471 so	mp
		Ker	ala Wat	er Autl	Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	359.471 sq	m
			Sa	y 359.471 s	sqm @ Rs 6	37.64 / sqm	Rs 229	213.09
12	5.9.6 Centering and shutteri Abutments, Posts and COLUMN UP TO PLINTH BEAM	_	ling strutting	, etc. and	removal of	form for:C	olumns, Pil	lars, P
	GF Column	16	1.200		3.250		62.400	
	FF Columns	16	1.200	3.250			62.400	
					То	tal Quantity	140.160 so	m
				7	Fotal Deduct			
						<u>-</u>	140.160 sq	m
			Sa	y 140.160 s	sqm @ Rs 8			3779.99
13	50.6.7.2 Laterate masonry with mortar 1:6 for super strucharges etc.	•	essed latera	te stone of	size 40x20	x15cm or r	nearest size	in cen

	GF Walls	3	11.100	0.200	3.200	21.313		
	,,	3	10.400	0.200	3.200	19.969		
	,,	1	3.200	0.200	3.200	2.049		
	FF - Walls	2	11.100	0.200	3.200	14.209		
	,,	4	10.400	0.200	3.200	26.625		
	,,	1	7.000	0.200	3.200	4.480		
	Parapet	1	45.400	0.200	0.600	5.448		
	Doors	1	1.200	0.200	2.100	-0.504		
	,,	4	1.000	0.200	2.100	-1.680		
	,,	2	0.800	0.200	2.100	-0.672		
	W	15	1.500	0.200	1.500	-6.750		
	V	2	0.600	0.200	0.500	-0.120		
	Rolling Shutter	1	2.000	0.200	2.400	-0.960		
	Column	2*16	0.200	0.400	3.200	-8.192		
		Total Quant						
		Total Deducted Quantit						
			100	HS PZ/	Net Total	Quantity 75.215 cum		
		Kera	ala Ws	y 75.215 cu	im @ Rs 7872.	98 / cum Rs 592166.19		
14	13.1.1 12 mm cement plaster of	of mix:1:4 (1 cement : 4	I fine sand)	F			
	Building Outside-Long Wall	2	11.300		3.900	88.140		
	-	2	11.300 10.600		3.900	88.140 82.680		
	Wall							
	Wall Short Wall Building inside-Long	2	10.600		3.900	82.680		
	Wall Short Wall Building inside-Long Wall	2	10.600		3.900	82.680 143.880		
	Wall Short Wall Building inside-Long Wall Short Wall	2 4 4	10.600 10.900 10.000		3.900 3.300 3.300	82.680 143.880 132.000		
	Wall Short Wall Building inside-Long Wall Short Wall Toilet out side	2 4 4 2	10.600 10.900 10.000 1.600		3.900 3.300 3.300 3.300	82.680 143.880 132.000 10.560		
	Wall Short Wall Building inside-Long Wall Short Wall Toilet out side Toilet in side	2 4 4 2 2	10.600 10.900 10.000 1.600 1.500		3.900 3.300 3.300 3.300 3.300	82.680 143.880 132.000 10.560 9.900		
	Wall Short Wall Building inside-Long Wall Short Wall Toilet out side Toilet in side Sun shade	2 4 4 2 2 7	10.600 10.900 10.000 1.600 1.500 2.100		3.900 3.300 3.300 3.300 3.300 0.700	82.680 143.880 132.000 10.560 9.900 10.290		
	Wall Short Wall Building inside-Long Wall Short Wall Toilet out side Toilet in side Sun shade ,,	2 4 4 2 2 7 2	10.600 10.900 10.000 1.600 1.500 2.100 2.200		3.900 3.300 3.300 3.300 3.300 0.700 1.300	82.680 143.880 132.000 10.560 9.900 10.290 5.721		
	Wall Short Wall Building inside-Long Wall Short Wall Toilet out side Toilet in side Sun shade ,,	2 4 4 2 2 7 2	10.600 10.900 10.000 1.600 1.500 2.100 2.200 1.200		3.900 3.300 3.300 3.300 3.300 0.700 1.300 0.700	82.680 143.880 132.000 10.560 9.900 10.290 5.721 0.840		

	FF - Outside wall	2	11.300	3.300	74.580						
	,,	2	10.600	3.300	69.960						
	FF - inside	2	10.700	3.300	70.620						
	,,	4	10.000	3.300	132.000						
	,,	1	5.700	3.300	18.810						
	,,	1	7.000	3.300	23.100						
	Toilet inside	2	1.500	3.300	9.900						
	Parapet wall	1	45.400	1.400	63.560						
	Door	1	1.200	2.100	-2.520						
	,,	4	1.000	2.100	-8.400						
	,,	8	0.800	2.100	-13.440						
	Window	15	1.500	1.500	-33.750						
	ventilator	2	0.600	0.500	-0.600						
	Rs	1*2	2.000	2.400	-9.600						
		1/SE		Total Quan	tity 949.781 sqm						
	Total Deducted Quantity -68.310 sqm										
	Net Total Quantity 881.471 sqm										
		Kera	ala Wsayı	381.471 sqm @ Rs 308.21 / s	qm Rs 271678.18						
15	13.16.1 Rs 27 1076.10										
	6 mm cement plaster of	f mix:1:3 (1	cement : 3 fine	e sand)							
	GF- slab-Bottom	1	10.700	10.000	107.000						
	Beam Bottom	1	82.800	0.850	70.380						
	Sun shad Door	2	0.000	1.200							
			2.000	1.200	4.800						
	,, W	7	1.900	0.600	7.980						
	,, W	7	1.900	0.600	7.980						
	,, W ,, V	7	1.900	0.600	7.980 0.540						
	,, W ,, V Sun shad edge	7 1 1	1.900 0.900 30.200	0.600 0.600 0.100	7.980 0.540 3.020						
	,, W ,, V Sun shad edge Stair Waist Slab	7 1 1 2	1.900 0.900 30.200 3.700	0.600 0.600 0.100 1.700	7.980 0.540 3.020 12.580						
	"W "V Sun shad edge Stair Waist Slab Landing	7 1 1 2 1	1.900 0.900 30.200 3.700 3.000	0.600 0.600 0.100 1.700 1.500	7.980 0.540 3.020 12.580 4.500						
	"W "V Sun shad edge Stair Waist Slab Landing FF - Roof slab-Bottom	7 1 1 2 1	1.900 0.900 30.200 3.700 3.000 10.700	0.600 0.600 0.100 1.700 1.500 10.000	7.980 0.540 3.020 12.580 4.500 107.000						
	"W "V Sun shad edge Stair Waist Slab Landing FF - Roof slab-Bottom Beam Bottom	7 1 1 2 1 1	1.900 0.900 30.200 3.700 3.000 10.700 82.800	0.600 0.600 0.100 1.700 1.500 10.000 0.850	7.980 0.540 3.020 12.580 4.500 107.000 70.380						

	13.7.1 12 mm cement plaster Roof top	finished wit		ıy 410.971 s	Total Deduct Net To sqm @ Rs 20	ed Quantity	410.971 sq	m
	12 mm cement plaster			ıy 410.971 s	Net To	tal Quantity	410.971 sq	
	12 mm cement plaster			•	sqm @ Rs 20			
	12 mm cement plaster			•	•	62.57 / sqm	Rs 107	908.66
	12 mm cement plaster		h a floating c	oat of neat				
	Roof top	1		- 3. 5. 11041	cement of m	nix:1:3 (1 ce	ment : 3 fine	e sand)
-			11.900	11.200			133.280	
					То	tal Quantity	133.280 sc	ηm
			e 55		Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	133.280 sq	m
			Sa	y 133.280 s	sqm @ Rs 3	93.69 / sqm	Rs 524	471.00
(Office room Skirting-office room	1 Ker	7.000	7.000 0.100	lority		49.000 2.651	
(1.22	7.000	7.000	.Size of Tile	600 x 600 i	49.000	
,	Vistors room Skirting-	D ₁	4.000 14.200	4.000 0.100	TE		16.000 1.420	
	Chemical Room	1 -	6.000	4.000			24.000	
	Skirting-	1	20.000	0.100			2.000	
	Stair Case Room	1	3.000	7.000			21.000	
	Step	22	1.500	0.450			14.851	
!	Landing	1	3.000	1.500			4.500	
	Controll Room	1	7.000	5.000			35.000	
	Laboratary Room	1	10.200	4.000			40.800	
	Laboratary Nooni			4 500			10.500	
	Passage	1	7.000	1.500	1	<u> </u>	10.000	
	·	1	7.000	1.500	To	tal Quantity		ηm
	·	1	7.000		To Total Deduct	-	221.722 sc	ηm
	·	1	7.000		Total Deduct	ed Quantity	221.722 sc	

	Grey, Fume Red B		0 mm thick	cement mo	rtar 1:4 (1 C	ement : 4 C					
	Passage	1	1.500	1.500			2.250				
	"	1	3.000	1.500			4.500				
					To	tal Quantity	6.750 sqm				
				Т	otal Deduct	ed Quantity	0.000 sqm				
					Net To	tal Quantity	6.750 sqm				
	Say 6.750 sqm @ Rs 1070.59 / sqm Rs 7226.48										
	manufacturer), of Is White, Ivory, Grey Coarse sand), incl	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer), of 1st quality conforming to 1S: 15622, of approved make, in all colours, shades, excell White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick bed of cement mortar 1:4 (1 cement: Coarse sand), including pointing the joints with white cement and matching pigments etc., complete									
	Wall Tile	1	6.000	2.100	1		12.601				
	,,	1	9.000	2.100	1 30	T.	18.901				
	Door	2	0.800	2.100			-3.360				
			The same			tal Quantity	-				
		Ker	ala Wat	er Auth	otal Deduct						
		1101					28.142 sqm				
		$-\mathcal{V}$	Sa	ay 28.142 so	ım @ Rs 115	51.22 / sqm	Rs 323	397.63			
20	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlock together through their entire length and jointed together at the end by end locks, mounted on speci designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with per and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long was springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - par and M.S. top cover of required thickness for rolling shutters.80x1.25 mm M.S. laths with 1.25 mm the										
20	together through the designed pipe shaft and pull operation springs manufacture.	neir entire leng t with brackets, complete, inc red from high t	side guides luding the c ensile steel	ed together and arrange ost of provi	at the end be ments for ind ding and fix quate streng	y end locks nside and ou king necess oth conform	, mounted outside locking ary 27.5 cm ing to IS: 44	on speci g with p n long v 154 - pa			
2 0	together through the designed pipe shaft and pull operation springs manufactuland M.S. top cover	neir entire leng t with brackets, complete, inc red from high t	side guides luding the c ensile steel	ed together and arrange ost of provi	at the end be ments for ind ding and fix quate streng	y end locks nside and ou king necess oth conform	, mounted outside locking ary 27.5 cm ing to IS: 44	on speci g with p n long v 154 - pa			
20	together through the designed pipe shaft and pull operation springs manufacturand M.S. top covertop cover	neir entire leng t with brackets, complete, inc red from high t	side guides luding the c ensile steel ckness for r	and arrange ost of provi wire of ade	at the end bements for inding and fix quate strengers.80x1.25	y end locks nside and ou king necess gth conform mm M.S. la	, mounted cutside locking ary 27.5 cm ing to IS: 44 ths with 1.2	on speci g with p n long v 154 - pa 5 mm tl			
20	together through the designed pipe shaft and pull operation springs manufacturand M.S. top covertop cover	neir entire leng t with brackets, complete, inc red from high t	side guides luding the c ensile steel ckness for r	and arrange ost of provi wire of adec colling shutter	at the end bements for inding and fix quate strengers.80x1.25	y end locks uside and out ing necess th conform mm M.S. la	, mounted cutside locking 27.5 cm ing to IS: 44ths with 1.2	on speci g with p n long v 154 - pa 5 mm tl			
20	together through the designed pipe shaft and pull operation springs manufacturand M.S. top covertop cover	neir entire leng t with brackets, complete, inc red from high t	side guides luding the c ensile steel ckness for r	and arrange ost of provi wire of adec colling shutter	at the end bements for inding and fix quate strengers.80x1.25	y end locks uside and out ing necess th conform mm M.S. la	, mounted cutside locking 27.5 cm ing to IS: 44ths with 1.2 4.800 4.800 sqm 0.000 sqm	on speci g with p n long v 154 - pa 5 mm tl			
20	together through the designed pipe shaft and pull operation springs manufacturand M.S. top covertop cover	neir entire leng t with brackets, complete, inc red from high t	side guides luding the d ensile steel ckness for r	and arrange ost of provi wire of adec colling shutte 2.400	at the end bements for inding and fix quate strengers.80x1.25	y end locks uside and out ing necess th conform mm M.S. la tal Quantity ed Quantity tal Quantity	, mounted cutside locking 27.5 cm ing to IS: 44ths with 1.2 4.800 4.800 sqm 4.800 sqm	on spec g with p n long v 154 - pa 5 mm t			
21	together through the designed pipe shaft and pull operation springs manufacturand M.S. top covertop cover	neir entire leng t with brackets, complete, inc red from high t r of required th	side guides luding the d ensile steel ickness for r 2.000	and arranger ost of provisions of aderolling shutter 2.400	at the end between the end between the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end o	y end locks uside and out ing necess th conform mm M.S. la tal Quantity ed Quantity tal Quantity	, mounted cutside locking 27.5 cm ing to IS: 44ths with 1.2 4.800 4.800 sqm 4.800 sqm	on speci g with p n long v 154 - pa 5 mm tl			

				Tota	al Quantity	1.000 Nos	
			7	Total Deducte	d Quantity	0.000 Nos	
				Net Tota	al Quantity	1.000 Nos	
			Say 1.000	Nos @ Rs 48	4.97 / Nos	Rs 48	4.97
22	10.3 Providing and fixing in with flat iron diagonals steel pulleys, complete priming coat of approv	20x5 mm s with bolts	size, with top and botto , nuts,locking arrange	om rail of T-ire	on 40x40x	6 mm, with	40 mm
		1	1.500	2.100		3.151	
			0.00	Tota	al Quantity	3.151 sqm	
			/AGEAL	Total Deducte	d Quantity	0.000 sqm	
				Net Tota	al Quantity	3.151 sqm	
		1	Say 3.151 sqr	m @ Rs 10014	4.74 / sqm	Rs 315	56.45
23	13.43.1 Applying one coat of surface:Water thinnab			of approved I	brand and	d manufactu 88.140	re on v
	Wall		And a second			00.140	
	Short Wall	kera	llao.600ater Auth	013.900		82.680	
	Building inside-Long Wall	4	10.900	3.300		143.880	
					//		
	Short Wall	4	10.000	3.300		132.000	
	Short Wall Toilet out side	2	10.000	3.300 3.300		132.000 10.560	
	Toilet out side	2	1.600	3.300		10.560	
	Toilet out side Toilet in side	2	1.600	3.300		10.560	
	Toilet out side Toilet in side Sun shade	2 2 7	1.600 1.500 2.100	3.300 3.300 0.700		10.560 9.900 10.290	
	Toilet out side Toilet in side Sun shade	2 2 7 2	1.600 1.500 2.100 2.200	3.300 3.300 0.700 1.300		10.560 9.900 10.290 5.721	
	Toilet out side Toilet in side Sun shade ""	2 2 7 2 1	1.600 1.500 2.100 2.200 1.200	3.300 3.300 0.700 1.300 0.700		10.560 9.900 10.290 5.721 0.840	
	Toilet out side Toilet in side Sun shade "" Step top	2 2 7 2 1	1.600 1.500 2.100 2.200 1.200 1.500	3.300 3.300 0.700 1.300 0.700 1.500		10.560 9.900 10.290 5.721 0.840 2.250	
	Toilet out side Toilet in side Sun shade "" Step top ", Side	2 7 2 1 1	1.600 1.500 2.100 2.200 1.200 1.500 0.900	3.300 3.300 0.700 1.300 0.700 1.500 0.300		10.560 9.900 10.290 5.721 0.840 2.250 0.540	
	Toilet out side Toilet in side Sun shade " " Step top ,, Side Ramp	2 7 2 1 1 2 2*0.50	1.600 1.500 2.100 2.200 1.200 1.500 0.900 0.300	3.300 3.300 0.700 1.300 0.700 1.500 0.300 1.500		10.560 9.900 10.290 5.721 0.840 2.250 0.540 0.450	
	Toilet out side Toilet in side Sun shade " " Step top ,, Side Ramp FF - Outside wall	2 7 2 1 1 2 2*0.50 2	1.600 1.500 2.100 2.200 1.200 1.500 0.900 0.300 11.300	3.300 3.300 0.700 1.300 0.700 1.500 0.300 1.500 3.300		10.560 9.900 10.290 5.721 0.840 2.250 0.540 0.450 74.580	

	,,	1	5.700		3.300		18.810	
	11	1	7.000		3.300		23.100	
	Toilet inside	2	1.500		3.300		9.900	
	Parapet wall	1	45.400		1.400		63.560	
	Door	1	1.200		2.100		-2.520	
	11	4	1.000		2.100		-8.400	
	,,	8	0.800		2.100		-13.440	
	Window	15	1.500		1.500		-33.750	
	ventilator	2	0.600		0.500		-0.600	
	Rs	1*2	2.000	/// ·	2.400		-9.600	
	GF- slab-Bottom	1	10.700		10.000		107.000	
	Beam Bottom	1	82.800		0.850		70.380	
	Sun shad Door	2	2.000	S. 7	1.200		4.800	
	,, W	7	1.900		0.600		7.980	
	,, V	1	0.900		0.600	1	0.540	
	Sun shad edge	1	30.200		0.100		3.020	
	Stair Waist Slab	2	3.700	HIST PART	1.700		12.580	
	Landing	Kera	13.000at	er Auth	011.500		4.500	
	FF - Roof slab-Bottom	1	10.700		10.000	7	107.000	
	Beam Bottom	1	82.800		0.850	1	70.380	
	Shade , W	8	1.900		0.600		9.120	
	,, V	1	0.900		0.600		0.540	
	Roof Slab Edge	1	33.700		0.300		10.111	
	Shade Edge	1	30.200		0.100		3.020	
					To	tal Quantity	1360.752 s	sqm
				Т	otal Deduct	ed Quantity	-68.310 sqr	m
					Net To	tal Quantity	1292.442 s	qm
			Sa	y 1292.442	sqm @ Rs	69.32 / sqm	Rs 89	592.08
24	13.60.1 Wall painting with acryli		paint of app	proved bran	d and manu	ıfacture to gi	ive an even	shade:Two
	Building Outside-Long Wall	2	11.300		3.900		88.140	
	Short Wall	2	10.600		3.900		82.680	

Building inside-Long Wall	4	10.900	3.300	143.880
Short Wall	4	10.000	3.300	132.000
Toilet out side	2	1.600	3.300	10.560
Toilet in side	2	1.500	3.300	9.900
Sun shade	7	2.100	0.700	10.290
,,	2	2.200	1.300	5.721
,,	1	1.200	0.700	0.840
Step top	1	1.500	1.500	2.250
,, Side	2	0.900	0.300	0.540
Ramp	2*0.50	0.300	1.500	0.450
FF - Outside wall	2	11.300	3.300	74.580
,,	2	10.600	3.300	69.960
FF - inside	2	10.700	3.300	70.620
,,	4	10.000	3.300	132.000
,,	1	5.700	3.300	18.810
,,	1	7.000	3.300	23.100
Toilet inside	2 er	1a1.500 ater A	3.300	9.900
Parapet wall	1	45.400	1.400	63.560
Door	1	1.200	2.100	-2.520
,,	4	1.000	2.100	-8.400
,,	8	0.800	2.100	-13.440
Window	15	1.500	1.500	-33.750
ventilator	2	0.600	0.500	-0.600
Rs	1*2	2.000	2.400	-9.600
GF- slab-Bottom	1	10.700	10.000	107.000
Beam Bottom	1	82.800	0.850	70.380
Sun shad Door	2	2.000	1.200	4.800
,, W	7	1.900	0.600	7.980
,, V	1	0.900	0.600	0.540
Sun shad edge	1	30.200	0.100	3.020
 Stair Waist Slab	2	3.700	1.700	12.580
 Landing	1	3.000	1.500	4.500

	FF Doof alah Dattam	4	40.700		40.000		407.000	
	FF - Roof slab-Bottom	1	10.700		10.000		107.000	
	Beam Bottom	1	82.800		0.850		70.380	
	Shade , W	8	1.900		0.600		9.120	
	,, V	1	0.900		0.600		0.540	
	Roof Slab Edge	1	33.700		0.300		10.111	
	Shade Edge	1	30.200		0.100		3.020	
					To	tal Quantity	1360.752 s	sqm
				7	otal Deducte	ed Quantity	-68.310 sqr	n
					Net To	tal Quantity	1292.442 s	qm
			Say	1292.442 s	sqm @ Rs 14	18.55 / sqm	Rs 191	992.26
	more coats on new wo Widow grill	rk 15	1.500	1.500			33.750	
	Widow grill	15	1.500	1.500	1 1 1		33.750	
	Ventilator	2	0.600	0.500	13	1	0.600	
	Rolling shutter	1	2.000	2.400		2.5	12.000	
	CG	1	1.500	2.100			3.151	
		V	ala Wat	A neth	To	tal Quantity	49.501 sqr	n
		Kera	ara wat	er Auti	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	49.501 sqm	1
			s	ay 49.501 s	qm @ Rs 14	40.37 / sqm	Rs 69	48.46
26	21.1.1.1							
	Providing and fixing alustandard tubular section 733 and IS: 1285, fixin gaps at junctions, i.e. Aluminium sections si required including cleat screws, all complete a paneling and dash fast transparent or dued to	ns/ appropri g with dash at top, bo nall be smo angle, Alur s per archit eners to be	ate Z section fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the 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					Total Deduct	ed Quantity	0.000 kg	
						<u>-</u>	174.315 kg	
				Say 174.3	15 kg @ Rs			360.31
27	21.1.2.1 For shutters of doors, provision for fixing of required (Fittings sharequired shade according)	fittings whe	rever requir or separately	red includin y)Anodised	g the cost of aluminium	of EPDM rul (anodised	bber/ neopr transparent	ene gask
	For window Shutter	15*3	0.470	1.440		3.0	91.368	
	Ventilator	2	0.570	0.470		3.0	1.608	
	Doors	1	1.060	1.960		4.5	9.350	
	,,	4	0.860	1.960			6.743	
			C./1		То	tal Quantity	109.069 kç	9
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28	21.3.1 Providing and fixing glands rubber / neoprene gas in -Charge. (Cost of a	ket etc. com	plete as per	, window, ve	ctural drawin	tters and pa	artitions etc.	f Enginee
28	Providing and fixing glarubber / neoprene gas in -Charge. (Cost of a mm thickness	ket etc. com aluminium si	plete as per nap beading	, window, vo	entilator shu	tters and pa gs and the item):With f	artitions etc. directions o loat glass p	with EPD
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28	Providing and fixing glarubber / neoprene gas in -Charge. (Cost of a mm thickness For window Shutter Ventilator Doors	15*3 2 1*2 4*2 1.S. Grills of ng priming c	0.460 0.560 0.980 0.780 Say	, window, vo the architect shall be particularly 1.430 0.460 0.900 0.900	To Total Deduct Met To Res of winder	tters and parties and the sitem):With for the sitem):With for the sitem):With for the sitem):With for the sitem):With for the sitem):With for the sitem):With for the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in the sitem in	88.804 1.546 7.938 5.617 103.905 sq 103.905 sq Rs 119	with EPE f Enginee anes of 4 mm
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				-	Total Deducte	ed Quantity	0 000 kg	
							687.000 kg	
				Sav 687.0	000 kg @ Rs			609.65
30	10.28 Providing and fixing including welding, grissame with necessary accessories & stainles floor or the side of we payment purpose or accessories such as	nding, buffing y stainless s ss steel dash raist slab with nly weight o	g, polishing steel nuts a fasteners, s h suitable a of stainless	and making nd bolts constainless stainless stainless stainless stainless stainless steel mer	g curvature (omplete, i/c eel bolts etc. nt as per app	(wherever r fixing the , of require proval of E	equired) an railing with d size on th ngineer-in-c	d fitting the necessary e top of the charge, (for
	Stair hand rail	1	22.000	0.800		14.0	246.401	
	Ramp Hand rail	2	3.000	0.800		14.0	67.201	
			61		Tot	tal Quantity	313.602 kg	3
		6.4	31 3	K X	Total Deducte	ed Quantity	0.000 kg	
		1 12	1	763/A	Net To	tal Quantity	313.602 kg	
		1.55		Say 313.6	602 kg @ Rs	664.65 / kg	Rs 208	435.57
	to be jointed with galv hinge side vertical of t mm) wall thickness ar specification and dire	the frames re nd 3 nos. sta	inforced by inless steel	galvanized hinges fixe	M.S. tube of d to the fram	size 19 x 1 e complete	9 mm and 1 as per mar	mm (± 0.1
	Toilet door frame	2	5.000				10.000	
					Tot	tal Quantity	10.000 me	tre
				-	Total Deducte	ed Quantity	0.000 metre	Э
					Net To	tal Quantity	10.000 met	re
			Say	10.000 met	tre @ Rs 256	3.05 / metre	Rs 25	60.50
32	9.118.3 Providing and fixing to Multi chamber extrude average wall thickness vertical edges to ensumm and 1.0 mm (± 0. be filled with High Dean end -cap of the streinforcements as personness and provided the streinforcements as personness and end streinforcements as personness and end streinforcements as personness as pers	ed PVC sections of 1 mm (± ure the overall 1 mm) is insensity Polyure size 25 mm	on of the size 0.3 mm). Peall thickness erted along the other foams x 11 mm. E	e of 762 mi VC foam er of 25 mm. the hinge si . The Top & Door shutte	m x 25 mm ond cap of size An M.S. tub ide of the doo Bottom edger shall be r	or less as pereing 23x10 mm be having door. Core of ges of the seeinforced versions	er requirement of area provious dimensions 1 the door shouther are continuity with special	ent with and ded on both 9 mm x 19 utter should overed with I polymeric

	Toilet door Shutter	2	0.750		2.000		3.000	
					To	otal Quantity	3.000 sqm	1
				Т	otal Deduc	ted Quantity	0.000 sqm	
					Net To	otal Quantity	3.000 sqm	
			S	Say 3.000 sq	m @ Rs 29	82.65 / sqm	Rs 89	947.95
33	17.2.1 Providing and fixing w and lid, 10 litre low le device (handle lever), making good the walls and lid	evel white P conforming t	.V.C. flushii to IS : 7231,	ng cistern, i with all fittin	ncluding floor	ush pipe, wi ures complet	th manuall te, including	cutting
	For Toilet	2	//60	1661			2.000	
			Z. II		To	otal Quantity	2.000 No	
		1	32.3	R XI	otal Deduc	ted Quantity	0.000 No	
					Net To	otal Quantity	2.000 No	
						-		
34	17.7.2 Providing and fixing wa of standard pattern, i wherever require:Whit	including pa	ainting of fit	ets, 15 mm	C.P. brass brackets, c	utting and n	2 mm C.P. naking goo	d the w
34	Providing and fixing wa of standard pattern, i	including pa	ainting of fit	ets, 15 mm	C.P. brass brackets, c	pillar taps, 3 utting and r	2 mm C.P. naking goo	brass wa
34	Providing and fixing was of standard pattern, is wherever require: White pillar tap	including pa e Vitreous (ainting of fit	ets, 15 mm	C.P. brass brackets, c	pillar taps, 3 utting and r	2 mm C.P. naking goo ngle 15 mm	brass wa
34	Providing and fixing was of standard pattern, is wherever require: White pillar tap	including page Vitreous C	ainting of fit	ets, 15 mm	C.P. brass prackets, c 630 x 450 r	pillar taps, 3 utting and r	2 mm C.P. naking goo ngle 15 mm 2.000 1.000	brass wa
34	Providing and fixing was of standard pattern, is wherever require: White pillar tap	including page Vitreous C	ainting of fit	tets, 15 mm ttings and b basin size (C.P. brass prackets, cr 630 x 450 n	pillar taps, 3 utting and n nm with a si	2 mm C.P. naking goo ngle 15 mm 2.000 1.000 3.000 No	brass wa
34	Providing and fixing was of standard pattern, is wherever require: White pillar tap	including page Vitreous C	ainting of fit	tets, 15 mm ttings and b basin size (C.P. brass brackets, co 630 x 450 m	pillar taps, 3 utting and n nm with a si	2 mm C.P. naking goo ngle 15 mm 2.000 1.000 3.000 No 0.000 No	brass wa
34	Providing and fixing was of standard pattern, is wherever require: White pillar tap	including page Vitreous C	ainting of fit	tets, 15 mm ttings and b basin size (C.P. brass prackets, cr 630 x 450 m To Total Deduction	pillar taps, 3 utting and r nm with a si otal Quantity ted Quantity	2 mm C.P. naking goo ngle 15 mm 2.000 1.000 3.000 No 0.000 No	brass wa
34	Providing and fixing was of standard pattern, is wherever require: White pillar tap For toilet Out side 18.9.2 Providing and fixing C water supply including with one step CPVC signard standard pattern.	the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the 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	Providing and fixing was of standard pattern, is wherever require: White pillar tap For toilet Out side 18.9.2 Providing and fixing C water supply including	the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the 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	Providing and fixing was of standard pattern, is wherever require: White pillar tap For toilet Out side 18.9.2 Providing and fixing C water supply including with one step CPVC signard standard pattern.	hlorinated Pall CPVC policent ceme	Polyvinyl Chlolain & brassent, trenchin	Say 3.000 oride (CPVC) threaded fing, refilling	C.P. brass brackets, considered to the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constan	pillar taps, 3 utting and rom with a sincted Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal Quantity otal	2 mm C.P. naking goo ngle 15 mm 2.000 1.000 3.000 No 0.000 No Rs 99 I stability for nting of pip plete as per	brass wa d the wa n C.P. brass 533.49 r hot & c es & fittin direction
	Providing and fixing was of standard pattern, is wherever require: White pillar tap For toilet Out side 18.9.2 Providing and fixing C water supply including with one step CPVC signard standard pattern.	hlorinated Pall CPVC policent ceme	Polyvinyl Chlolain & brassent, trenchin	Say 3.000 oride (CPVC) threaded fing a refilling a minal outer	C.P. brass prackets, considering the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following control of the following	pillar taps, 3 utting and n nm with a si otal Quantity ted Quantity atal Quantity atal Quantity otal Quantity total Quantity includes joi	2 mm C.P. naking goo ngle 15 mm 2.000 1.000 3.000 No 0.000 No Rs 99 I stability for nting of pip plete as per 45.000 45.000 me	brass was d the war C.P. brass was a C.P. brass was a construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction
	Providing and fixing was of standard pattern, is wherever require: White pillar tap For toilet Out side 18.9.2 Providing and fixing C water supply including with one step CPVC signard standard pattern.	hlorinated Pall CPVC policent ceme	Polyvinyl Chlolain & brassent, trenchin	Say 3.000 oride (CPVC) threaded fing a refilling a minal outer	C.P. brass brackets, considered to the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constan	pillar taps, 3 utting and n nm with a si otal Quantity ted Quantity atal Quantity strong therma includes joi joints comp	2 mm C.P. naking goo ngle 15 mm 2.000 1.000 3.000 No 0.000 No Rs 99 I stability for nting of pip plete as per 45.000 45.000 metro 0.000 metro	brass wad the work of C.P. br

			Say	45.000 met	re @ Rs 293	3.04 / metre	Rs 13	186.80
36	18.9.3 Providing and fixing Chwater supply including with one step CPVC so Engineer- in-Charge.	all CPVC polvent ceme	lain & brass ent, trenchin	threaded fig , refilling	ttings. This & testing of	includes joi	nting of pipe	es & fittings
		1	25.000				25.000	
		I		I	To	tal Quantity	25.000 me	tre
				Т	otal Deduct	ed Quantity	0.000 metro	9
					Net To	tal Quantity	25.000 met	re
			Say	25.000 met	re @ Rs 37	7.26 / metre	Rs 94	31.50
	Providing and fixing Ch water supply including with one step CPVC so Engineer- in-Charge. E	all CPVC polvent ceme	lain & brass ent, trenchin	threaded fig , refilling	ttings. This & testing of	includes joi	nting of pipe	es & fitting
		1 (1)	50.000		3 30	1	50.000	
		444			То	tal Quantity	50.000 me	tre
				T	otal Deduct	ed Quantity	0.000 metro	Э
		Kera	ala Wat	er Auth	Net To	tal Quantity	50.000 met	re
				50.000 met	J	7.85 / metre	Rs 23	892.50
38	18.19.1.2 Providing and fixing g boreVertical	un metal n	on-return v	alve of app	roved quali	ty (screwed	d end):25 m	nm nomina
		1					1.000	
					То	tal Quantity	1.000 No	
				Т	otal Deduct	ed Quantity	0.000 No	
					Net To	tal Quantity	1.000 No	
				Say 1.00	0 No @ Rs	582.69 / No	Rs 5	82.69
39	18.49.1 Providing and fixing C.I	P brass bib	cock of appr	oved quality	v conforming	to IS: 8931	.15 mm non	ninal bore
		2					2.000	
					То	tal Quantity	2.000 No	
				Т	otal Deduct	ed Quantity	0.000 No	
					Net To	tal Quantity	2.000 No	
				Say 2.00	0 No @ Rs	483.90 / No	Rs 9	67.80

	18.58.2.1							
	Providing and fixing lid150 mm nominal s					•	•	able circ
		2					2.000	
					To	tal Quantity	2.000 No	I.
				Т		ed Quantity		
					Net To	tal Quantity	2.000 No	
				Say 2.00	0 No @ Rs	195.18 / No	Rs 3	90.36
41	17.31 Providing and fixing with 6 mm thick hard			•		`		
		2	160				2.000	
			C. 11		To	tal Quantity	2.000 No	
			37.9	R XI	otal Deduct	ed Quantity	0.000 No	
		11		101/A	Net To	tal Quantity	2.000 No	
				Say 2.000	No @ Rs 1	482.11 / No	Rs 29	64.22
42	18.48 Providing and placing with cover and suita	able locking ar	rangement	and making	necessary	_		
42	Providing and placir with cover and suita pipes but without fit	able locking ar	rangement base suppo	and making	necessary	_	let, outlet a	
42	Providing and placir with cover and suita	able locking ar	rangement	and making	necessary	holes for in	1000.000	nd over
42	Providing and placir with cover and suita pipes but without fit	able locking ar	rangement base suppo	and making	necessary nority	_	1000.000 I	nd over
42	Providing and placir with cover and suita pipes but without fit	able locking ar	rangement base suppo	and making	necessary nority To	holes for in	1000.000 1000.000 I 0.000 Litre	nd over
42	Providing and placir with cover and suita pipes but without fit	able locking ar	rangement base suppo 1000.000	and making	necessary Ority To Otal Deduct	tal Quantity ed Quantity tal Quantity	1000.000 1000.000 I 0.000 Litre 1000.000 L	nd over
42 SI No	Providing and placir with cover and suita pipes but without fit	able locking ar	rangement base suppo 1000.000	and making refor/tank.h	necessary Ority To Otal Deduct	tal Quantity ed Quantity tal Quantity	1000.000 1000.000 I 0.000 Litre 1000.000 L	Litre
	Providing and placin with cover and suita pipes but without fit at roof	able locking artings and the	rangement base suppo 1000.000 Sa	and making rt for tank.	necessary Ority To Total Deduct Net To Litre @ Rs	tal Quantity ed Quantity tal Quantity 10.18 / Litre	1000.000 I 1000.000 I 0.000 Litre 1000.000 L	Litre
	Providing and placin with cover and suita pipes but without fit at roof	No 14Securit vation by med (not exceedings, lift up to 1.5)	Sa L y Cabin chanical me g 1.5 m in w 5 m, includir	y 1000.000 B (Cost Indexidth or 10 sing getting or	necessary Ority To Total Deduct Net To Litre @ Rs D x:33.05 %) ulic excava sqm on plar ut the exca	tal Quantity ed Quantity tal Quantity 10.18 / Litre CF tor) /manua	1000.000 I 1000.000 I 0.000 Litre 1000.000 L Rs 10 Quantity	Litre 180.00 Rema
SI No	Providing and placin with cover and suita pipes but without fit at roof Description 2.8.1 Earth work in excaptrenches or drains (ramming of bottoms)	No 14Securit vation by med (not exceedings, lift up to 1.5)	Sa L y Cabin chanical me g 1.5 m in w 5 m, includir	y 1000.000 B (Cost Indexidth or 10 sing getting or	necessary Ority To Total Deduct Net To Litre @ Rs D x:33.05 %) ulic excava sqm on plar ut the exca	tal Quantity ed Quantity tal Quantity 10.18 / Litre CF tor) /manua	1000.000 I 1000.000 I 0.000 Litre 1000.000 L Rs 10 Quantity	Litre 180.00 Rema
SI No	Providing and placin with cover and suita pipes but without fit at roof Description 2.8.1 Earth work in excaptrenches or drains (ramming of bottoms excavated soil as description)	No 14Securit vation by med (not exceedings, lift up to 1.5)	Sa L y Cabin chanical me g 1.5 m in w 5 m, includir a lead of 5	y 1000.000 B (Cost Indexidth or 10 song getting of m.All kindexide)	necessary Ority To Total Deduct Net To Litre @ Rs D x:33.05 %) ulic excava sqm on plar ut the exca ds of soil	tal Quantity ed Quantity tal Quantity 10.18 / Litre CF tor) /manua	1000.000 I 1000.000 I 0.000 Litre 1000.000 L Rs 10 Quantity	Litre 180.00 Rema
SI No	Providing and placin with cover and suita pipes but without fit at roof Description 2.8.1 Earth work in excavatrenches or drains (ramming of bottoms excavated soil as description)	No 14Securit vation by med (not exceedings, lift up to 1.5)	Sa L y Cabin chanical me g 1.5 m in w 5 m, includir a lead of 5	y 1000.000 B (Cost Indexidth or 10 sing getting of m.All kindon)	necessary Ority To Total Deduct Net To Litre @ Rs D x:33.05 %) ulic excava sqm on plar ut the exca ds of soil 0.700	tal Quantity ed Quantity tal Quantity 10.18 / Litre CF tor) /manua	1000.000 I 1000.000 I 0.000 Litre 1000.000 L Rs 10 Quantity Il means in dressing ound disposa	Litre 180.00 Rema

				Т	otal Deduct	ed Quantity	0 000 cum	
				·		tal Quantity		
				Say 4.354 c	cum @ Rs 2			268.67
2	4.1.8 Providing and layir shuttering - All wo nominal size)	• .		•	•	-		•
	Foundation	2	3.150	0.600	0.100		0.378	
	,,	2	1.950	0.600	0.100		0.234	
	Step	1	1.000	0.700	0.100		0.070	
	Floor	1	2.500	2.500	0.080		0.500	
			JAN.		To	tal Quantity	1.182 cum	
		1	E. L. W	M E J	otal Deduct	ed Quantity	0.000 cum	
		619	X Z	15 M	Net To	tal Quantity	1.182 cum	
3	7.1.1 Random rubble m concrete 1:6:12 (1	The same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the sa	rd stone in	foundation		ncluding le	velling up w	
3	Random rubble m	cement : 6 coar	rd stone in	foundation 2 graded sto	and plinth i	ncluding le	velling up w	vith cement
3	Random rubble m concrete 1:6:12 (1 level with:Cement Foundation	cement : 6 coar mortar 1:6 (1 ce	rd stone in se sand : 12 ment : 6 coa	foundation 2 graded sto arse sand)	and plinth in aggrega	ncluding le	velling up wording size)	vith cement
3	Random rubble m concrete 1:6:12 (1 level with:Cement Foundation	cement : 6 coar mortar 1:6 (1 ce	rd stone in se sand : 12 ment : 6 coa 3.150	foundation 2 graded sto arse sand) 0.600	and plinth ine aggrega	ncluding le	velling up wording size) 2.268 1.404	vith cement
3	Random rubble m concrete 1:6:12 (1 level with:Cement Foundation Step	cement : 6 coar mortar 1:6 (1 ce 2 2	rd stone in rse sand : 12 ment : 6 coa 3.150 1.950 3.000	foundation 2 graded sto arse sand) 0.600 0.450	and plinth in aggrega 0.600 0.600 0.450 0.450	ncluding le	2.268 1.404 0.608 0.426	vith cement up to plinth
3	Random rubble m concrete 1:6:12 (1 level with:Cement Foundation Step	cement : 6 coar mortar 1:6 (1 ce 2 2	rd stone in rse sand : 12 ment : 6 coa 3.150 1.950 3.000	foundation 2 graded sto arse sand) 0.600 0.450	and plinth in aggrega 0.600 0.600 0.450 0.450	ncluding le te 20 mm no tal Quantity	2.268 1.404 0.608 0.426 4.706 cum	vith cement up to plinth
3	Random rubble m concrete 1:6:12 (1 level with:Cement Foundation Step	cement : 6 coar mortar 1:6 (1 ce 2 2	rd stone in rse sand : 12 ment : 6 coa 3.150 1.950 3.000	foundation 2 graded sto arse sand) 0.600 0.450	and plinth in aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the	ncluding le te 20 mm no tal Quantity	2.268 1.404 0.608 0.426 4.706 cum	vith cement up to plinth
3	Random rubble m concrete 1:6:12 (1 level with:Cement Foundation Step	cement : 6 coar mortar 1:6 (1 ce 2 2	rd stone in rse sand : 12 ment : 6 coa 3.150 1.950 3.000 2.100	foundation 2 graded sto arse sand) 0.600 0.450 0.450	and plinth in aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the	ncluding lete 20 mm notate 20 m	2.268 1.404 0.608 0.426 4.706 cum 4.706 cum	vith cement up to plinth
3	Random rubble m concrete 1:6:12 (1 level with:Cement Foundation Step	cement : 6 coar mortar 1:6 (1 ce 2 1 1 1	rd stone in rse sand : 12 ment : 6 coa 3.150 1.950 3.000 2.100	foundation 2 graded sto arse sand) 0.600 0.600 0.450 0.450	and plinth in the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of	tal Quantity ed Quantity tal Quantity tal Quantity tal Quantity	2.268 1.404 0.608 0.426 4.706 cum 4.706 cum Rs 33	vith cement up to plinth
	Random rubble m concrete 1:6:12 (1 level with:Cement Foundation "Step Floor 50.6.7.2 Laterate masonry mortar 1:6 for supe	cement : 6 coar mortar 1:6 (1 ce 2 1 1 1	rd stone in rse sand : 12 ment : 6 coa 3.150 1.950 3.000 2.100	foundation 2 graded sto arse sand) 0.600 0.600 0.450 0.450	and plinth in the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of	tal Quantity ed Quantity tal Quantity tal Quantity tal Quantity	2.268 1.404 0.608 0.426 4.706 cum 4.706 cum Rs 33	vith cement up to plinth
	Random rubble m concrete 1:6:12 (1 level with:Cement Foundation Step Floor 50.6.7.2 Laterate masonry mortar 1:6 for super charges etc.	cement : 6 coarmortar 1:6 (1 ce	rd stone in se sand : 12 ment : 6 coa 3.150 1.950 3.000 2.100	foundation 2 graded sto arse sand) 0.600 0.600 0.450 0.450	and plinth in the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of	tal Quantity ed Quantity tal Quantity tal Quantity tal Quantity	2.268 1.404 0.608 0.426 4.706 cum 0.000 cum 4.706 cum Rs 33	vith cement up to plinth
	Random rubble m concrete 1:6:12 (1 level with:Cement Foundation Step Floor 50.6.7.2 Laterate masonry mortar 1:6 for super charges etc. Wall	cement : 6 coarmortar 1:6 (1 ce	rd stone in se sand : 12 ment : 6 coa 3.150 1.950 3.000 2.100	foundation 2 graded sto arse sand) 0.600 0.600 0.450 0.450	and plinth in aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the aggregation of the	tal Quantity ed Quantity tal Quantity tal Quantity tal Quantity	2.268 1.404 0.608 0.426 4.706 cum 0.000 cum 4.706 cum Rs 33	vith cement up to plinth

	Door	1	1.000	0.200	2.100		-0.420	
	Window	2	1.500	0.200	1.500		-0.900	
					То	tal Quantity	7.106 cum	
				Т	otal Deduct	ed Quantity	-1.320 cum	
					Net To	tal Quantity	5.786 cum	
			S	ay 5.786 cu	m @ Rs 78	72.98 / cum	Rs 45	553.06
	Providing and laying in using cement content transported to site of vas per mix design of sfrom transit mixer to si including cost of admix concrete, improve work-charge. Note:- Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer of Cementer	as per appr vork in trans pecified gra te of laying, ctures in rec cability without ont content co	oved designate in mixer for a lade for reinfolder excluding the commended pout impairing considered in	n mix, manuall leads, had breed ceme ne cost of ceproportions strength and this item is	factured in aving continuing concrete entering, shu as per IS: 9 d durability 6 @ 330 kg/d	fully automations agitate work include uttering finised 103 to access per directions.	atic batching of mixer, ma ling pumping hing and rei elerate/ retar tion of the E	g plant an inufacture g of R.M.0 nforcement d setting on ngineer - i
	Plinth Belt	4	2.750	0.250	0.150		0.413	
		101	Ka		То	tal Quantity	0.413 cum	
		10		7	otal Deduct	ed Quantity	0.000 cum	
			Verge	A March		tal Quantity		
		Kera	ala Wat	er Auth ay 0.413 cu	ority	00.81 / cum		06.43
6	5.37.2 Providing and laying in using cement content transported to site of vas per mix design of sfrom transit mixer to si including cost of admix concrete, improve work-charge. Note:- Cementer design mix is paya	as per appr vork in trans pecified gra te of laying, ctures in rec cability without ont content co	oved designate in mixer for a lade for reinfolder excluding the commended pout impairing considered in	n mix, manuall leads, had breed ceme ne cost of ceproportions strength and this item is	factured in aving continuent concrete entering, shu as per IS: 9 d durability 6 @ 330 kg/c	fully automations agitate work include uttering finised 103 to access per directions. Excess the full was per directions.	atic batching of mixer, ma ling pumping hing and rei elerate/ retar tion of the E	g plant and inufactured g of R.M.C inforcement d setting of ingineer - in ent used a
	Lintel	4	2.700	0.200	0.150		0.324	<u> </u>
	Shade	1	2.900	0.600	0.100		0.175	
	,,	2	1.900	0.600	0.100		0.228	
		1	3.500	3.500	0.120		1.470	
	Root slad							
	Roof slab				То	tal Quantity	2.197 cum	
	Roof slab			T		tal Quantity		

			Say	/ 2.197 cun	n @ Rs 113	21.96 / cum	Rs 248	374.35		
7	5.22.6 Steel reinforcement fo binding all complete u		ū	•	J. J					
	@80 Kg/ 1Cum of CC	1	2.197+.41			80.0	208.800			
					To	tal Quantity	208.800 kil	ogram		
				T	Total Deduct	ed Quantity	0.000 kilogr	am		
		Net Total Quantity 208.800 ki						ogram		
	Say 208.800 kilogram @ Rs 96.46 / kilogram Rs 20140.85									
8	5.9.3 Centering and shutter landings, balconies ar			etc. and r	removal of	form for:Su	spended flo	oors, root		
	Lintel	4	2.500		0.150		1.500			
	,,	4	2.900	20/4	0.150		1.740			
	Bottom	1	1.000	0.200	1 20	1	0.200			
	Bottom	2	1.500	0.200			0.601			
	p-Beam	4	2.500		0.150		1.500			
	"	Ker	3.000 ala Wate	er Auth	0.150 1011U		1.800			
	Shade	2	2.100	0.600	T	7	2.520			
	,,	1	3.100	0.600	,	1	1.860			
	Side	6	0.600	0.100			0.360			
							12.081 sqn	n		
				1		ted Quantity				
			•	40.004			12.081 sqm			
9	5.9.5 Centering and shuttering girders bressumers and	•	g strutting, et	•	•	00.50 / sqm	l			
	Slab Bott.	1	2.500	2.500			6.250			
	Proj.	4	3.200	0.300			3.840			
	Edge	4	3.500	0.120			1.680			
					To	tal Quantity	11.770 sqn	n		
				Т	Total Deduct	ed Quantity	0.000 sqm			

			S	Say 11.770 s	sqm @ Rs 637	7.64 / sqm	Rs 75	505.02
10	13.1.1 12 mm cement plas	ster of mix:1:4 (1 cement : 4	4 fine sand)				
	inside wall	4	2.500		3.000		30.000	
	out side	4	2.900		3.000		34.800	
	Basement	4	3.000		0.600		7.200	
	parapet	4	3.300		0.850		11.220	
	Door	1	1.000	2.100			-2.100	
	Window	2	1.500	1.500			-4.500	
			2.55		Tota	al Quantity	83.220 sq	m
			160	T /	otal Deducte	d Quantity	-6.600 sqm	1
			1.0		Net Tota	al Quantity	76.620 sqn	n
			8	Say 76.620 s	sqm @ Rs 308	8.21 / sqm	Rs 23	615.05
11	13.7.1 12 mm cement plas	ster finished wit	th a floating o	coat of neat	cement of mix	κ:1:3 (1 ce	ement : 3 fin	e sand)
	Roof top	3.1	3.100	35.7		land.	9.611	
				1110	Tota	al Quantity	9.611 sqm	1
		17	1 337	I I	otal Deducte	d Quantity	0.000 sqm	
		Ker	ala wat	er Auth	Net Tota	al Quantity	9.611 sqm	
		D	D	Say 9.611 s	sqm @ Rs 390	3.69 / sqm	Rs 37	783.75
12	13.16.1 6 mm cement plaste	er of mix:1:3 (1 cement : 3	fine sand)		1		
	Slab bott.	1	2.500	2.500			6.250	
	,, proj.	4	3.200	0.300			3.840	
	Slab edge	4	3.500	0.120			1.680	
	Shade	2*2	1.900	0.600			4.560	
	,,	2	3.000	0.600			3.600	
	Shade edge	6	0.600	0.100			0.360	
					Tota	al Quantity	20.290 sq	m
				Т	otal Deducte		-	
							20.290 sqn	n
			S	Say 20.290 s	qm @ Rs 262			327.55
	<u> </u>					•	1	

	shades, laid on 20	on less than 0.0 mm thick ceme		_				
	with white cement	and matching p	oigments etc	., complete	Size of Tile	600 x 600	mm.	I
	Floor	1	2.500	2.500			6.250	
	Skirting	1	10.000	0.100			1.000	
	Step	1	1.000	0.600			0.600	
	,, side	2	0.600	0.200			0.240	
	"	2	0.300	0.200			0.120	
	Rise	1	1.000	0.600			0.600	
					То	tal Quantity	8.810 sqm	
			100	T Be	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	8.810 sqm	
			S	ay 8.810 sc	ım @ Rs 17:	33.18 / sqm	Rs 152	269.32
	standard tubular se 733 and IS: 1285, gaps at junctions, Aluminium section required including of screws, all comple	fixing with dash i.e. at top, bo ns shall be sm cleat angle, Alu	h fasteners of ottom and si ooth, rust fr minnium sna	of required of des with release, straigh up beading f	dia and size equired EPI t, mitred an or glazing /p	, including r DM rubber/ Id jointed m paneling, C.F	necessary fi neoprene nechanically P. brass/ sta	illing u gaske y whe iinless
	733 and IS: 1285, gaps at junctions, Aluminium section required including cascrews, all comple paneling and dash transparent or dyear	fixing with dash i.e. at top, bo his shall be sm cleat angle, Alu hite as per arch fasteners to b d to required sh	h fasteners of ottom and si ooth, rust fr minnium sna itectural dra e paid for se nade accordi	of required of des with reduce, straigh up beading for wings and the parately):Forng to IS: 1	dia and size equired EPI t, mitred an or glazing /p the direction or fixed port	, including r DM rubber/ ad jointed me paneling, C.F as of Engine ionAnodise um anodic c	necessary finecessary finechanically P. brass/ states der-in-charged aluminium oating of gra	illing u gaske y whe ninless ge.(Gla
	733 and IS: 1285, gaps at junctions, Aluminium section required including cascrews, all comple paneling and dash transparent or dyean	fixing with dash i.e. at top, bo his shall be sm cleat angle, Alu hite as per arch fasteners to be d to required sh	h fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fasteners of the fast	of required of des with refee, straigh up beading f wings and reparately):Fing to IS: 1	dia and size equired EPI t, mitred an or glazing /pthe direction or fixed port	, including r DM rubber/ ad jointed m caneling, C.F as of Engine cionAnodise um anodic c 4.5	necessary fineoprene mechanically P. brass/ stateer-in-charg d aluminium oating of gra 9.451	Illing u gaske y whe iinless ge.(Gla
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				-	Total Deduc	ted Quantity	0.000 sam	
						otal Quantity		
				Sav 6.847 so		54.61 / sqm		05.61
16	9.48.2 Providing and fixin round bars etc. incl frames with rawl plu	uding priming o	f required pa	attern in fra	mes of wind	dows etc. wit	th M.S. flats,	•
	Window grill	2	1.500	1.500		20.0	90.000	
					To	otal Quantity	90.000 kg	
				7	Total Deduc	ted Quantity	0.000 kg	
			-0	65.	Net To	otal Quantity	90.000 kg	
			JAN	Say 90.0		s 211.95 / kg		75.50
17	13.43.1 Applying one coarsurface:Water thir		t primer	ent primer o	LA	d brand and		re on w
	inside wall	4	2.500		3.000	1	30.000	
	out side	4	2.900		3.000		34.800	
	Basement	4	3.000	HEPE/	0.600		7.200	
		4	3.300	4 3 3	0.850		11.220	
	parapet	Ker	ala Wat	er Auth	10111V		111220	
	Slab bott.	Ker	ala W at 2.500	er Auth 2.500	iority		6.250	
		Ker 1 1 4	'ala Wat	2.500 0.300	tority	1		
	Slab bott.		2.500		Tority		6.250	
	Slab bott.	4	2.500 3.200	0.300	T		6.250 3.840	
	Slab bott. ,, proj. Slab edge	4	2.500 3.200 3.500	0.300	T E		6.250 3.840 1.680	
	Slab bott. ,, proj. Slab edge Shade	4 2*2	2.500 3.200 3.500 1.900	0.300 0.120 0.600	T I		6.250 3.840 1.680 4.560	
	Slab bott. ,, proj. Slab edge Shade	4 4 2*2 2	2.500 3.200 3.500 1.900 3.000	0.300 0.120 0.600 0.600	Tority T	otal Quantity	6.250 3.840 1.680 4.560 3.600 0.360	m
	Slab bott. ,, proj. Slab edge Shade	4 4 2*2 2	2.500 3.200 3.500 1.900 3.000	0.300 0.120 0.600 0.600 0.100	To	otal Quantity	6.250 3.840 1.680 4.560 3.600 0.360 103.510 sq	m
	Slab bott. ,, proj. Slab edge Shade	4 4 2*2 2	2.500 3.200 3.500 1.900 3.000	0.300 0.120 0.600 0.600 0.100	Total Deduc	ted Quantity	6.250 3.840 1.680 4.560 3.600 0.360 103.510 sq	
	Slab bott. ,, proj. Slab edge Shade	4 4 2*2 2	2.500 3.200 3.500 1.900 3.000 0.600	0.300 0.120 0.600 0.600 0.100	To Total Deduc	ted Quantity	6.250 3.840 1.680 4.560 3.600 0.360 103.510 sq 103.510 sqr	n
18	Slab bott. ,, proj. Slab edge Shade	4 2*2 2 6	2.500 3.200 3.500 1.900 3.000 0.600	0.300 0.120 0.600 0.600 0.100 Say 103.510	Total Deduc Net To sqm @ Rs	ted Quantity otal Quantity 69.32 / sqm	6.250 3.840 1.680 4.560 3.600 0.360 103.510 sq 0.000 sqm 103.510 sqr	m 75.31 ess than
18	Slab bott. " proj. Slab edge Shade " Shade edge 13.82.2 Wall painting with a grams/ litre, of appi	4 2*2 2 6	2.500 3.200 3.500 1.900 3.000 0.600	0.300 0.120 0.600 0.600 0.100 Say 103.510	Total Deduc Net To sqm @ Rs	ted Quantity otal Quantity 69.32 / sqm	6.250 3.840 1.680 4.560 3.600 0.360 103.510 sq 0.000 sqm 103.510 sqr	m 75.31 ess than

	Basement	4	3.000		0.600		7.200	
	parapet	4	3.300		0.850		11.220	
	Slab bott.	1	2.500	2.500			6.250	
	,, proj.	4	3.200	0.300			3.840	
	Slab edge	4	3.500	0.120			1.680	
	Shade	2*2	1.900	0.600			4.560	
	,,	2	3.000	0.600			3.600	
	Shade edge	6	0.600	0.100			0.360	
					Total	Quantity	103.510 sc	mp
			-	655	Total Deducted	Quantity	0.000 sqm	
			JAN		Net Total	Quantity	103.510 sq	m
			Sa	ıy 103.510 s	sqm @ Rs 123.	40 / sqm	Rs 12	773.13
	even shade:Two or approved brand and	d manufacture			er coat of suita	ble shade		ary pain
	Window grill	2	1.500	1.500			4.500	
			JAN TO	HE SEA		- 1	4.500 sqm	
		Ker	ala Wat	er Autl	Total Deducted	Quantity	0.000 sqm	
		DI					4.500 sqm	
				0 4 500	sqm @ Rs 204.	63 / sam	Rs 9	20 84
				Say 4.500 s	sqiii @ 13 204.	00,04		20.07
20	17.7.2 Providing and fixing of standard patter wherever require:W	n, including pa	ith C.I. brack ainting of fit	ets, 15 mm tings and t	C.P. brass pilla	ar taps, 32	naking goo	orass wa
20	Providing and fixing of standard pattern wherever require:W	n, including pa	ith C.I. brack ainting of fit	ets, 15 mm tings and t	C.P. brass pilla	ar taps, 32	naking goo	orass wa
20	Providing and fixing of standard patters wherever require:W pillar tap	n, including particles (ith C.I. brack ainting of fit	ets, 15 mm tings and t	C.P. brass pilla brackets, cuttii 630 x 450 mm	ar taps, 32	naking goo ngle 15 mm	orass wa
20	Providing and fixing of standard patters wherever require:W pillar tap	n, including particles (ith C.I. brack ainting of fit	ets, 15 mm tings and t basin size	C.P. brass pilla brackets, cuttii 630 x 450 mm	ar taps, 32 and m with a sir	naking goo ngle 15 mm 1.000 1.000 No	orass wa
20	Providing and fixing of standard patters wherever require:W pillar tap	n, including particles (ith C.I. brack ainting of fit	ets, 15 mm tings and t basin size	C.P. brass pilla brackets, cuttii 630 x 450 mm Total	ar taps, 32 and m with a sir Quantity	1.000 1.000 No	orass wa
20	Providing and fixing of standard patters wherever require:W pillar tap	n, including particles (ith C.I. brack ainting of fit	ets, 15 mm tings and t basin size	C.P. brass pilla brackets, cuttin 630 x 450 mm Total	ar taps, 32 and m with a sir Quantity Quantity Quantity	1.000 1.000 No 0.000 No	orass wa

		1	25.000				25.000	
					То	tal Quantity	25.000 me	tre
				7	otal Deduct	ed Quantity	0.000 metr	е
					Net To	tal Quantity	25.000 met	re
			Say	25.000 met	re @ Rs 293	3.04 / metre	Rs 73	326.00
Pr wa wi	8.9.3 roviding and fixing Cheater supply including with one step CPVC songineer- in-Charge. E	all CPVC polvent ceme	lain & brass ent, trenchin	s threaded fing, refilling	ittings. This & testing of	includes joi	nting of pipe	es & fitting
		1	25.000	-674			25.000	
			1/40	E091/	То	tal Quantity	25.000 me	tre
_		-			otal Deduct	ed Quantity	0.000 metr	е
		6	¥ 2	\$\ A	Net To	tal Quantity	25.000 met	re
		1 12	Say	25.000 met	re @ Rs 37	7.26 / metre	Rs 94	31.50
Pr wa	8.9.4 roviding and fixing Ch rater supply including rith one step CPVC so	all CPVC p	lain & brass	s threaded f	ittings. This	includes joi	nting of pipe	es & fitting
Pr wa wi	roviding and fixing Ch rater supply including	all CPVC polvent ceme	lain & brass ent, trenchin	s threaded fing, refilling	ittings. This & testing of	includes joi	nting of pipe	es & fitting
Pr wa wi	roviding and fixing Cheater supply including with one step CPVC so	all CPVC polvent ceme external wor	lain & brass ent, trenchin rk32 mm no	s threaded fing, refilling	ttings. This & testing of dia pipes	includes joi	nting of pipelete as per	es & fitting direction o
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Pr wa wi	roviding and fixing Cheater supply including with one step CPVC so	all CPVC polvent ceme external wor	lain & brass ent, trenchin rk32 mm no	s threaded fing, refilling ominal outer	ttings. This & testing of dia pipes To otal Deduct	includes joi joints comp	25.000 metro	es & fitting direction of tre
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	Earth work in excava trenches or drains (no	-				•				
	ramming of bottoms,		•			,	_			
	excavated soil as dire	ected, within	n a lead of 5	0 m.All kin	ds of soil	Т		Г		
	Column	12	1.900	1.900	1.500		64.981			
		4	1.600	1.600	1.500		15.361			
	Ramp	1	2.500	2.000	0.150		0.750			
					To	tal Quantity	81.092 cur	n		
				٦	Total Deduct	ed Quantity	0.000 cum			
					Net To	tal Quantity	81.092 cum	1		
	Say 81.092 cum @ Rs 291.38 / cum Rs 23628.59									
	Providing and laying i shuttering - All work u nominal size)					_		_		
	Footing	12	1.900	1.900	0.100	1	4.332			
	,,	4	1.600	1.600	0.100		1.025			
	Ramp	1	2.500	2.000	0.150		0.750			
		Ker	ala Wat	er Auth	nority To	tal Quantity	6.107 cum			
		\mathbf{D}	D		Total Deduct	ed Quantity	0.000 cum			
					Net To	otal Quantity	6.107 cum			
			5	Say 6.107 cu	ım @ Rs 72	29.54 / cum	Rs 44	150.80		
3	5.9.1 Centering and shutter columns, etc for mass	-	g strutting, et	c. and remo	oval of form	for:Foundat	ions, footing	ıs, base		
	Footing - at corner	4*4	1.400		0.150		3.360			
	,, at intermediate	8*4	1.700		0.150		8.160			
	,, inside	4*4	1.700		0.150		4.080			
					To	otal Quantity	15.600 sqr	n		
				٦	Total Deduct	ed Quantity	0.000 sqm			
					Net To	tal Quantity	15.600 sqm	1		
			S	Say 15.600 s	sqm @ Rs 3	29.03 / sqm	Rs 51	32.87		
	Say 15.600 sqm @ Rs 329.03 / sqm Rs 5132.87 5.9.3 Centering and shuttering including strutting, etc. and removal of form for:Suspended floors, roofs									

	Roof slab	1	11.000	9.000			99.000	
	Edge	1	40.000		0.120		4.800	
					To	tal Quantity	103.800 sc	ηm
				Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	103.800 sq	m
			Sa	y 103.800 s	qm @ Rs 8	00.50 / sqm	Rs 83	091.90
5	5.9.5 Centering and shutteri girders bressumers an	_	•	etc. and rem	noval of forr	m for:Lintels	, beams, pl	inth bea
	Plinth beam - inside	1	35.800		0.500		17.900	
	,, outside	1	37.800	12.	0.500		18.900	
	Beam side	4*2	8.200		0.500		32.800	
	,, Bottom	4	8.200	0.200			6.560	
	Beam side	4*2	10.200	53/1	0.500		40.800	
	,, side	4	10.200	0.200	10	ķ	8.160	
	Lintel	2	18.000	35.7	0.200		7.200	
	,,	2	18.800		0.200		7.521	
	Shade	1	36.330	0.600	*		21.798	
	,,	Ker	3.670	0.750	lority		2.753	
	Shade side	8	0.600	0.100		1	0.480	
	Ramp	1 2	5.000	2.000			10.000	
	,,	2	2.000	0.200			0.800	
	,,	1	5.000	0.200			1.000	
					To	tal Quantity	176.672 so	m
				Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	176.672 sq	m
			Sa	ay 176.672 s	qm @ Rs 6	37.64 / sqm	Rs 112	653.13
6	5.9.6 Centering and shutte Abutments, Posts an	•	ding strutting	g, etc. and	removal of	form for:C	olumns, Pil	lars, Pi
	Column Pedestal	16	1.400		0.500		11.200	
	column	16	1.400	5.200			116.480	
		1	1	l .	1	1		l
					To	tal Quantity	127.680 sc	m

					Net Tota	al Quantity	127.680 sq	m
			Sa	y 127.680 s	qm @ Rs 84	7.46 / sqm	Rs 108	3203.69
7	5.37.1 Providing and laying in using cement content transported to site of was per mix design of s from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer per design mix is payar	as per approver in transpecified grade of laying, tures in rectability without content	roved designate it mixer for a lade for reinforce excluding the commended put impairing considered in	n mix, manuall leads, had broked ceme ne cost of ceproportions strength and this item is	ufactured in faving continuent concrete ventering, shut as per IS: 91 ad durability as @330 kg/cu	ully automations agitate work include tering finish 03 to access per directum. Excess	atic batchined mixer, mading pumpine hing and released to the lerate/ retails to not the E	g plant and anufactured g of R.M.C inforcement d setting congressions.
	Column footing	4	1.400	1.400	0.150		1.176	
	" Sloped Portion	4	1.400	1.400	0.75/3		1.960	
	Column footing	8	1.700	1.700	0.150		3.468	
	,, Sloped Portion	8	1.700	1.700	0.75/3		5.780	
	Column footing	4	1.700	1.700	0.150		1.734	
	,, Sloped Portion	4	1.700	1.700	0.75/3		2.890	
	Column Pedestal	16	0.500	0.200	0.500		0.800	
	Plinth beam	1_	37.800	0.200	0.500		3.780	
	Grade slab	Kera	ala W at 10.400	er Auth 8.400	0.200		17.473	
					Tota	al Quantity	39.061 cur	m
					otal Deducte	d Quantity	0.000 cum	
					Net Tota	al Quantity	39.061 cun	n
			Sa	y 39.061 cu	ım @ Rs 970	0.81 / cum	Rs 378	3923.34
8	5.37.2 Providing and laying in using cement content transported to site of was per mix design of s from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer	as per approver in transpecified grade of laying, tures in rectability without content c	roved designate it mixer for a lade for reinforce excluding the commended put impairing considered in	n mix, manuall leads, had broked ceme ne cost of ceproportions strength and this item is	ufactured in faving continuent concrete ventering, shut as per IS: 91 ad durability as @330 kg/cu	ully automated automated work include the tering finish to access per directum. Excess	atic batchined mixer, mading pumpine hing and replemental tion of the Earless cemental tion of the Earl	g plant and anufacture g of R.M.0 inforcement of setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the setting of the se
	per design mix is paya			-		n level upt		vel
	Lintel	1	37.600	0.200	0.200		1.505	
	Shade	1	3.670	0.750	0.100		0.276	
	Shade	1	36.330	0.600	0.100		2.180	

			1							
	Ramp	1	5.000	2.000	0.200		2.000			
	Column	16	0.200	0.500	5.200		8.320			
	Beam	4	8.200	0.200	0.500		3.280			
	,,	4	10.200	0.200	0.500		4.080			
	Slab	1	11.000	9.000	0.120		11.880			
					To	tal Quantity	33.521 cur	n		
				Т	otal Deduct	ed Quantity	0.000 cum			
					Net To	tal Quantity	33.521 cum	1		
	Say 33.521 cum @ Rs 11321.96 / cum Rs 379523.42									
9	5.22.6 Steel reinforcement for binding all complete up		evelThermo			0.				
	@ 100 Kg / 1 Cum of CC	1	39.061+33	SX		100.0	7258.100			
		Bu	LVIII.		To	tal Quantity	7258.100 k	kilogram		
		101	L/ai	T	otal Deduct	ed Quantity	0.000 kilogi	am		
		TUE!			Net To	tal Quantity	7258.100 k	ilogram		
					@ Rs 96.4	6 / kilogram	Rs 700	116.33		
10	50.2.26.1 Filling with contractor of consolidating each dependence of site Engineers	wn earth (osited laye	r by ramming	ck) in open	areas in lay		_	-		
	Basement Filling	1	10.000							
				8.000	0.500		40.000			
			10.000	8.000		tal Quantity		n		
			.0.000				40.000 cur	n		
					To otal Deduct	ed Quantity	40.000 cur			
				Т	To otal Deduct	ed Quantity tal Quantity	40.000 cur 0.000 cum 40.000 cum			
11	50.6.7.2 Laterate masonry with mortar 1:6 for super strucharges etc.	-	S essed latera	Tay 40.000 co	To otal Deducto Net To um @ Rs 28 size 40x20	ed Quantity tal Quantity 39.98 / cum	40.000 cum 0.000 cum 40.000 cum Rs 11:	599.20 in cemen		
11	Laterate masonry with mortar 1:6 for super stru	-	S essed latera	Tay 40.000 co	To otal Deducto Net To um @ Rs 28 size 40x20	ed Quantity tal Quantity 39.98 / cum	40.000 cum 0.000 cum 40.000 cum Rs 11:	599.20 in cemen		
11	Laterate masonry with mortar 1:6 for super strucharges etc.	ucture abov	Sessed latera ve plinth leve	ay 40.000 cote stone of all up to floor	To fotal Deducto Net To um @ Rs 28 size 40x20 two level in	ed Quantity tal Quantity 39.98 / cum	40.000 cum 0.000 cum 40.000 cum Rs 119 nearest size cost of mater	599.20 in cemer		
11	Laterate masonry with mortar 1:6 for super strucharges etc.	ucture abov	sessed latera ve plinth leve	Tay 40.000 cote stone of up to floor 0.200	To otal Deductor Net To um @ Rs 28 size 40x20 two level in	ed Quantity tal Quantity 39.98 / cum	40.000 cum 0.000 cum 40.000 cum Rs 119 nearest size cost of mater 14.418	599.20 in cemer		
11	Laterate masonry with mortar 1:6 for super strucharges etc. wall	acture abov	essed latera ve plinth leve 2.670 2.330	ay 40.000 content stone of up to floor 0.200 0.200	To otal Deductor Net To um @ Rs 28 size 40x20 two level in 4.500 4.500	ed Quantity tal Quantity 39.98 / cum	40.000 cum 0.000 cum 40.000 cum Rs 119 nearest size cost of mater 14.418 12.582	599.20 in cemen		

				-	Fatal Dadwat	O tit	5.040	
					Total Deduct			
			S.a.	21 000 o			21.090 cum Rs 166	
12	13.1.1 12 mm cement plas	ster of mix:1:4 (um @ Rs 78	72.96 / Cum	KS 100	041.15
	Outside	2	10.400		5.200		108.161	
	,,	2	8.400		5.200		87.361	
	Inside	1	36.000		5.200		187.201	
	Column	4	1.400		5.200		29.120	
	Opening side	1	6.800		0.230		1.564	
	Parapet	1	39.600	1/4	0.850		33.661	
	Shade Top	1	36.330		0.600		21.798	
	,,	1	3.670	K N	0.750		2.753	
	Window	11	1.500	73/4	1.500		-24.750	
	Rs	1*2	2.000		2.400	L	-9.600	
		486			То	tal Quantity	471.619 sq	lm
			74 (1)	HE PAR	Γotal Deduct	ed Quantity	-34.350 sqr	n
		Ker	ala Wat	er Auth	noriNet To	tal Quantity	437.269 sqı	m
			Sa	y 437.269 s	sqm @ Rs 3	08.21 / sqm	Rs 134	770.68
13	13.16.1 6 mm cement plast	er of mix:1:3 (1 cement : 3	fine sand)		1		
	Ceiling	1	10.000	8.000			80.000	
	Beam side	2*2	10.000		0.500		20.000	
	,,	2*2	8.000		0.500		16.000	
	Shade Bott.	1	36.330		0.600		21.798	
	,,	1	3.670		0.750		2.753	
	Slab Proj.	2	8.400	0.300			5.040	
	,,	2	11.000	0.300			6.600	
	Edge	1	40.000	0.120			4.800	
					То	tal Quantity	156.991 sq	ım
				٦	Γotal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	156.991 sqı	m
			Sa	v 156 001 d	sqm @ Rs 2	62 57 / sam	Rs 412	221 13

14	13.43.1 Applying one coat of surface:Water thinnal			ent primer	of approved	brand and	l manufactu	ure on wall
	Outside	2	10.400		5.200		108.161	
	,,	2	8.400		5.200		87.361	
	Inside	1	36.000		5.200		187.201	
	Column	4	1.400		5.200		29.120	
	Opening side	1	6.800		0.230		1.564	
	Parapet	1	39.600		0.850		33.661	
	Shade Top	1	36.330		0.600		21.798	
	11	1	3.670	B.	0.750		2.753	
	Window	11	1.500		1.500		-24.750	
	Rs	1*2	2.000	0 4	2.400		-9.600	
	Ceiling	1	10.000	8.000	1 4 3		80.000	
	Beam side	2*2	10.000		0.500	}	20.000	
	17	2*2	8.000	Jan Y	0.500	lan.	16.000	
	Shade Bott.	1	36.330		0.600		21.798	
	,,	1	3.670	A 1141	0.750		2.753	
	Slab Proj.	Ker 2	8.400	0.300	lority		5.040	
	,,	2	11.000	0.300		<u> </u>	6.600	
	Edge	1	40.000	0.120			4.800	
					Tot	tal Quantity	628.610 sc	m
				-	Total Deducte	ed Quantity	-34.350 sqr	n
					Net To	tal Quantity	594.260 sq	m
			S	Say 594.260	sqm @ Rs 6	69.32 / sqm	Rs 41	194.10
15	13.82.2 Wall painting with acry grams/ litre, of approve achieve even shade an	d brand an	d manufactu	•	•	•	•	
	Outside	2	10.400		5.200		108.161	
	,,	2	8.400		5.200		87.361	
	Inside	1	36.000		5.200		187.201	
	Column	4	1.400		5.200		29.120	
	Opening side	1	6.800		0.230		1.564	

	Parapet	1	39.600		0.850		33.661	
	Shade Top	1	36.330		0.600		21.798	
	,,	1	3.670		0.750		2.753	
	Window	11	1.500		1.500		-24.750	
	Rs	1*2	2.000		2.400		-9.600	
	Ceiling	1	10.000	8.000			80.000	
	Beam side	2*2	10.000		0.500		20.000	
	,,	2*2	8.000		0.500		16.000	
	Shade Bott.	1	36.330		0.600		21.798	
	,,	1	3.670	Z.	0.750		2.753	
	Slab Proj.	2	8.400	0.300			5.040	
	,,	2	11.000	0.300	-		6.600	
	Edge	1	40.000	0.120	711		4.800	
		1/2	41	734A	Tot	tal Quantity	628.610 sc	qm
		181			Total Deducte	ed Quantity	-34.350 sq	m
		4300			Net Tot	tal Quantity	594.260 sq	m
			Sa	y 594.260 s	sam @ Rs 12	23 40 / sam	Rs 73	224 CO
_		17				-0.10704	11373	331.08
16	11.41.2 Providing and layir with water absorption shades, laid on 20 with white cement	ng vitrified floor on less than 0. mm thick cem	rala Wat tiles in diffe 08% and con ent mortar 1	er Auth rent sizes (forming to I :4(1 cemen	ority thickness to S : 15622, of t : 4 coarse s	be specifie approved r sand), inclu	d by the ma make, in all ding groutir	anufacturer) colours and
16	Providing and layir with water absorption shades, laid on 20	ng vitrified floor on less than 0. mm thick cem	rala Wat tiles in diffe 08% and con ent mortar 1	er Auth rent sizes (forming to I :4(1 cemen	ority thickness to S : 15622, of t : 4 coarse s	be specifie approved r sand), inclu	d by the ma make, in all ding groutir	anufacturer) colours and
16	Providing and layir with water absorption shades, laid on 20 with white cement	ng vitrified floor on less than 0. mm thick cem and matching	rala Wat tiles in diffe 08% and con ent mortar 1: pigments etc	er Authrent sizes (forming to I	ority thickness to S : 15622, of t : 4 coarse s	be specifie approved r sand), inclu	d by the ma make, in all ding groutir mm.	anufacturer) colours and
16	Providing and layir with water absorpti shades, laid on 20 with white cement Floor finishing	ng vitrified floor on less than 0. mm thick cem and matching	rala Wat tiles in diffe 08% and con ent mortar 1: pigments etc 10.000	er Authorent sizes (forming to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International to International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International International	thickness to S: 15622, of t: 4 coarse s	be specifie approved r sand), inclu	d by the mamake, in all ding groutinmm. 80.000 3.600	anufacturer) colours and ng the joints
16	Providing and layir with water absorpti shades, laid on 20 with white cement Floor finishing	ng vitrified floor on less than 0. mm thick cem and matching	rala Wat tiles in diffe 08% and con ent mortar 1: pigments etc 10.000	rent sizes (forming to I 4(1 cemen ., complete 8.000 0.100	thickness to S: 15622, of t: 4 coarse s	be specifie (approved r sand), inclu 600 x 600 r	d by the mamake, in all ding groutinmm. 80.000 3.600 83.600 sqr	anufacturer) colours and ng the joints
16	Providing and layir with water absorpti shades, laid on 20 with white cement Floor finishing	ng vitrified floor on less than 0. mm thick cem and matching	rala Wat tiles in diffe 08% and con ent mortar 1: pigments etc 10.000	rent sizes (forming to I 4(1 cemen ., complete 8.000 0.100	thickness to S: 15622, of t: 4 coarse s Size of Tile	be specifie (approved resand), inclued 600 x 600 restal Quantity	d by the mamake, in all ding groutinmm. 80.000 3.600 83.600 sqr	anufacturer) colours and ng the joints m
16	Providing and layir with water absorpti shades, laid on 20 with white cement Floor finishing	ng vitrified floor on less than 0. mm thick cem and matching	rala Wat tiles in diffe 08% and con ent mortar 1: pigments etc 10.000 36.000	er Authrent sizes (forming to I	thickness to S: 15622, of t: 4 coarse s Size of Tile	be specified approved research, included and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second se	d by the mamake, in all ding groutinmm. 80.000 3.600 83.600 sqn 0.000 sqm	anufacturer) colours and ng the joints m
16	Providing and layir with water absorpti shades, laid on 20 with white cement Floor finishing	ng vitrified floor on less than 0. mm thick cem and matching 1 1 g 1 mm thick M mm M.S. gusse	rala Water tiles in difference of the content mortar 1: pigments etc. 10.000 36.000 Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Sal	er Authrent sizes (forming to I 4(1 cemen ., complete 8.000 0.100	thickness to S: 15622, of t: 4 coarse s Size of Tile Total Deducte Net Total Rs 173 Prs, with fram and corners	be specifie (approved resand), included 000 x 600 resambled Quantity and Quantity and Quantity and Quantity and Quantity and Quantity are and diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm	d by the mamake, in all ding grouting mm. 80.000 3.600 83.600 sqn 83.600 sqn Rs 144 conal braces in pulley, 46	m 1893.85 of 40x40x6
	Providing and layir with water absorption shades, laid on 20 with white cement Floor finishing Skirting 10.4 Providing and fixing mm angle iron, 3 rangle and T-iron groundstands.	ng vitrified floor on less than 0. mm thick cem and matching 1 1 g 1 mm thick M mm M.S. gusse	rala Water tiles in difference of the content mortar 1: pigments etc. 10.000 36.000 Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Salas Sal	er Authrent sizes (forming to I 4(1 cemen ., complete 8.000 0.100	thickness to S: 15622, of t: 4 coarse s Size of Tile Total Deducte Net Total Rs 173 Prs, with fram and corners	be specifie (approved resand), included 000 x 600 resambled Quantity and Quantity and Quantity and Quantity and Quantity and Quantity are and diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm diagons, 25 mm	d by the mamake, in all ding grouting mm. 80.000 3.600 83.600 sqn 83.600 sqn Rs 144 conal braces in pulley, 46	m 1893.85 of 40x40x6 0x40x6 mm

				т	otal Deduct	ed Quantity	0 000 sam	
				ı			24.750 sqm	
			Sa	y 24.750 sq				708.25
18	10.6.1 Supplying and fixing retogether through their designed pipe shaft with and pull operation corsprings manufactured and M.S. top cover of top cover	entire lengtl h brackets, mplete, incli from high te	ers of appro h and jointe side guides uding the ce ensile steel	ved make, d together a and arrange ost of provi	made of red at the end b ements for ind ding and fix quate streng	quired size y end locks nside and out king necess gth conform	M.S. laths, , mounted outside locking ary 27.5 cn ing to IS: 44	on specially g with push n long wire 154 - part 1
	Front Op.	1	2.000		2.400		4.800	
	Troncop.	'	2.000			tal Quantity		
			Z. []			ed Quantity	-	
		1	37.3	8 W	A	tal Quantity		
		16	S	Say 4.800 sq	14 /4 1			322.69
19	13.61.1 Painting with synthetic more coats on new wo	1.7425-00	nt of approv	ved brand a	nd manufac	ture to give	an even sh	ade:Two or
	Windows	11 Kera	1.500	er Auth	1.500	2.0	49.500	
	Rs	1	2.000	CI 7 Idti	2.400	2.5	12.000	
				(_	То	tal Quantity	61.500 sqr	n
					otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	61.500 sqm	1
				Say 61.500 s	qm @ Rs 1	40.37 / sqm	Rs 86	32.76
SI No	Description	No	_ L	В	D	CF	Quantity	Remark
1	2.8.1 Earth work in excavat trenches or drains (no ramming of bottoms, I excavated soil as dire	t exceeding	hanical mea j 1.5 m in w m, includin	ans (Hydra ridth or 10 s	sqm on plar ut the exca	tor) /manua	dressing o	f sides and
	Column Footing	10	1.700	1.700	1.500		43.350	
	Ramp	1	3.000	3.000	0.150		1.350	
	Neutralization pit	1	3.100	3.100	1.800		17.298	
				_		tal Quantity		n
				T	otal Deduct	ed Quantity	0.000 cum	

			S	av 61.998 d	cum @ Rs 2	91.38 / cum	Rs 18	064.98
2	4.1.5 Providing and laying shuttering - All work nominal size)	•	ement concr	ete of speci	ified grade e	excluding the	e cost of ce	ntering
	Column Footing	10	1.700	1.700	0.100		2.890	
	Ramp	1	3.000	3.000	0.150		1.350	
	Neutralization pit	1	3.100	3.100	0.100		0.962	
	Flooring	1	10.000	8.000	0.100		8.000	
			100	60	To	otal Quantity	13.202 cur	m
			JAN		Total Deduct	ted Quantity	0.000 cum	
			6.2 W		Net To	otal Quantity	13.202 cun	า
			Sa	y 13.202 cu	ım @ Rs 72	29.54 / cum	Rs 95	444.39
	columns, etc for mas	s concrete				5		
	columns, etc for mas	s concrete 10*4	1.500	1.500	0.200	10.0	18.000	
		1.72	1.500	er Auth	To	otal Quantity	18.000 sqr	m
		1.72	10年	er Auth	Tonity Total Deduct	otal Quantity ted Quantity otal Quantity	18.000 sqr 0.000 sqm	
		1.72	ala Wat	er Auth	To Total Deduct	ed Quantity	18.000 sqr 0.000 sqm 18.000 sqn	
4		10*4 Ker	ala Wat	er Auth	To Total Deduct Net To sqm @ Rs 3	ted Quantity otal Quantity 29.03 / sqm	18.000 sqm 0.000 sqm 18.000 sqn Rs 59	n 022.54
4	Footing 5.9.3 Centering and shut	10*4 Ker	ala Wat	er Auth	To Total Deduct Net To sqm @ Rs 3	ted Quantity otal Quantity 29.03 / sqm	18.000 sqm 0.000 sqm 18.000 sqn Rs 59	n 022.54
4	5.9.3 Centering and shuttlandings, balconies	tering including and access	ala Wat	er Auth	To Total Deduct Net To sqm @ Rs 3	ted Quantity otal Quantity 29.03 / sqm	18.000 sqn 0.000 sqm 18.000 sqn Rs 59 spended flo	n 022.54
4	5.9.3 Centering and shuttlandings, balconies Shade	tering including and access	ing strutting platform 36.330	er Auth	To Total Deduct Net To sqm @ Rs 3	ted Quantity otal Quantity 29.03 / sqm	18.000 sqm 0.000 sqm 18.000 sqn Rs 59 spended flo	n 022.54
4	5.9.3 Centering and shuttlandings, balconies Shade	tering including and access	ing strutting platform 36.330 3.670	er Auth Say 18.000 s , etc. and r 0.600 0.750	To Total Deduct Net To sqm @ Rs 3	ted Quantity otal Quantity 29.03 / sqm	18.000 sqn 0.000 sqn 18.000 sqn Rs 59 spended flo 21.798 2.753	n 022.54
4	5.9.3 Centering and shuttlandings, balconies Shade ,,, Slab	tering including and access 1 1 1 1	ala Wat ing strutting platform 36.330 3.670 11.000	er Auth Say 18.000 s , etc. and r 0.600 0.750	To not ty Total Deduct Net Total Deduct Re 3 removal of 0.120	ted Quantity otal Quantity 29.03 / sqm	18.000 sqn 0.000 sqn 18.000 sqn Rs 59 spended flo 21.798 2.753 99.000	n 922.54 pors, ro
4	5.9.3 Centering and shuttlandings, balconies Shade ,,, Slab	tering including and access 1 1 1 1	ala Wat ing strutting platform 36.330 3.670 11.000	er Auth ay 18.000 s , etc. and i 0.600 0.750 9.000	To not ity Total Deduct Net Total Rs 3 removal of 0.120	ted Quantity otal Quantity 29.03 / sqm form for:Su	18.000 sqn 0.000 sqm 18.000 sqn Rs 59 spended flo 21.798 2.753 99.000 4.800 128.351 sc	n 922.54 pors, ro
4	5.9.3 Centering and shuttlandings, balconies Shade ,,, Slab	tering including and access 1 1 1 1	ala Wat ing strutting platform 36.330 3.670 11.000	er Auth ay 18.000 s , etc. and i 0.600 0.750 9.000	Total Deduct Net Total Deduct Removal of 0.120 Total Deduct	ted Quantity otal Quantity 29.03 / sqm form for:Su	18.000 sqn 0.000 sqm 18.000 sqn Rs 59 spended flo 21.798 2.753 99.000 4.800 128.351 sc 0.000 sqm	n DOZZ.54 DOORS, FO

	Plinth beam- outer	1	37.600		0.450		16.920	
	,,	1	36.000		0.450		16.200	
	Ramp	2*0.5	3.000		0.450		1.350	
	Lintel	6*2	3.000		0.150		5.400	
	,,	4*2	3.450		0.150		4.140	
	Beam	6*2	3.000		0.300		10.800	
	,,	4*2	3.450		0.300		8.280	
	,,	2*2	8.000		0.600		19.200	
	,,	6*2	3.000		0.300		10.800	
	Tunner support	2*2	1.500	.00.	0.450		2.700	
	,,	2*2	5.000		0.450		9.000	
		-	E. L. W		То	tal Quantity	104.790 sc	mp
		613	N. B.	S //i	otal Deduct	ed Quantity	0.000 sqm	
		1 130	TANK		Net To	tal Quantity	104.790 sq	m
		101	Sa	y 104.790 s	qm @ Rs 6	37.64 / sqm	Rs 66	818.30
6	5.9.6 Centering and shutte Abutments, Posts an	d Struts	ala Wat		ority	form for:Co		lars, Piers
	Column Pedestal	10	1.400		0.700		9.800	
	Column above Plinth Neutralization pit outer	10	1.400 2.900		5.000 1.700		70.000 19.720	
	,, inner	4	2.500		1.500		15.000	
	,,	•	2.000			tal Quantity		ım
				Т	otal Deduct	<u> </u>		1
						tal Quantity		m
			Sa	ny 114.520 s	sqm @ Rs 8			051.12
7	50.2.26.1 Filling with contractor consolidating each del direction of site Engine	posited laye	excluding ro	ck) in open	areas in lay	ers not exc	eeding 20 c	m in depth
	Basement inside	1	10.000	8.000	0.400		32.000	
	Pit	1	2.900	2.900	0.400		-3.364	
		1	•	1	То	tal Quantity	32.000 cur	n
				Т	otal Deduct			

					Net To	tal Quantity	28.636 cum	1
			S	Say 28.636 c	um @ Rs 2	89.98 / cum	Rs 83	03.87
8	5.37.1 Providing and laying in using cement content transported to site of was per mix design of s from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer per design mix is payar	as per approverse in transpecified grade of laying, attures in reconstitution of the content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content content c	roved designate it mixer for a lade for reinforce excluding the commended out impairing onsidered in	n mix, manuall leads, had broked ceme ne cost of cemproportions strength and this item is	afactured in aving contine on concrete entering, she as per IS: 9 d durability 6 @330 kg/d	fully automations agitate work include uttering finised 103 to access per directions.	atic batching mixer, mading pumping hing and reighter telegrate in the Ethical control of the Ethical control of the Ethical control of the Ethical control co	g plant and anufactured g of R.M.C nforcement d setting or ngineer - ir
	Footing	10	1.500	1.500	0.200		4.500	
	,,, Sloped portion	10/3	1.500	1.500	0.500		3.750	
	Column Pedestal	10	0.200	0.500	0.700		0.700	
	Plinth beam	2	10.400	0.200	0.450		1.872	
	,,	2	8.000	0.200	0.450	4	1.441	
	Ramp	1/2	3.000	2.000	0.450	land.	1.350	
	Naturalization pit	1	2.900	2.900	0.200		1.683	
	,, wall	4	2.700	0.200	1.500		3.240	
		Ken	ara wat	er Auth	Ority To	tal Quantity	18.536 cur	n
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	18.536 cum	1
			Sa	ıy 18.536 cu	m @ Rs 97	00.81 / cum	Rs 179	814.21
9	5.37.2 Providing and laying ir using cement content transported to site of was per mix design of s from transit mixer to sit including cost of admix concrete, improve work-charge. Note:- Cemer per design mix is payar	as per approverse in trans pecified grate of laying, attures in reckability without content c	roved designate it mixer for a lade for reinforce excluding the commended out impairing considered in	n mix, manuall leads, had broked ceme ne cost of cemproportions strength and this item is	afactured in aving contine on concrete entering, she as per IS: 9 d durability 6 @330 kg/d	fully automouous agitate work include uttering finise 103 to access per directum. Excess	atic batching ding pumpinhing and reighterate/ retartion of the Est/less cemes	g plant and anufactured g of R.M.C inforcement of setting or ngineer - ir ent used as
		10	0.200	0.500	4.900	iai iovei upt	4.900	01
	Column above plinth Lintel	6	3.000	0.500	0.150		0.540	
	LITTE							
	Oh a da	4	3.450	0.200	0.150		0.415	
	Shade	1	36.330	0.600	0.100		2.180	

						1		
	,,	1	3.670	0.750	0.100		0.276	
	Beam	6	3.000	0.200	0.300		1.080	
	,,	4	3.450	0.200	0.300		0.829	
	,,	2	8.000	0.200	0.600		1.920	
	,,	6	3.000	0.200	0.300		1.080	
	Slab	1	11.000	9.000	0.120		11.880	
	Tunner support	2	1.500	0.300	0.450		0.405	
	,,	2	5.000	0.300	0.450		1.350	
					То	tal Quantity	26.855 cur	n
			-0	725. T	otal Deduct	ed Quantity	0.000 cum	
		tal Quantity	26.855 cum	1				
			Say	26.855 cun	n @ Rs 113	21.96 / cum	Rs 304	051.24
	Steel reinforcement fo binding all complete u		evelThermo			• .		
	@100 Kg 1Cum of CC	1	26.855+18			100.0	4539.100	
			Ver Back	4 450		tal Quantity		
		TZ	- 1 - XX7 - 4					
		Ker	ala Wat	er Auth	otal Deduct	ed Quantity	0.000 kilog	ram
		Ker	ala Wat	er Auth	_	ed Quantity		
	50672	Ker	\mathbf{R}		Net To		4539.100 k	
11	50.6.7.2 Laterate masonry with mortar 1:6 for super str charges etc.	neatly dre	Say 4539.1	00 kilogram	Net To @ Rs 96.4 size 40x20	otal Quantity 6 / kilogram 0x15cm or r	4539.100 k Rs 437 nearest size	ilogram 7841.59
11	Laterate masonry with mortar 1:6 for super str charges etc.	n neatly dre	Say 4539.1 essed latera ve plinth leve	00 kilogram	Net To Rs 96.4 size 40x20 two level in	otal Quantity 6 / kilogram 0x15cm or r	4539.100 k Rs 437 nearest size cost of mate	ilogram 7841.59
11	Laterate masonry with mortar 1:6 for super str charges etc.	n neatly dre ucture above	Say 4539.1 essed latera ve plinth leve	00 kilogram te stone of el up to floor 0.200	Net To Rs 96.4 size 40x20 two level in	otal Quantity 6 / kilogram 0x15cm or r	Rs 437 nearest size cost of mate	ilogram 7841.59
11	Laterate masonry with mortar 1:6 for super str charges etc. wall	n neatly dreucture above	Say 4539.1 essed latera ve plinth leve 3.000 3.450	00 kilogram te stone of el up to floor 0.200 0.200	Net To Rs 96.4 size 40x20 two level in 4.500 4.500	otal Quantity 6 / kilogram 0x15cm or r	4539.100 k Rs 437 nearest size tost of mate 16.201 12.421	ilogram 7841.59
11	Laterate masonry with mortar 1:6 for super str charges etc. wall Ramp side	n neatly dreucture above	Say 4539.1 essed latera ve plinth leve 3.000 3.450 3.000	00 kilogram te stone of el up to floor 0.200 0.200 0.200	Net To Rs 96.4 size 40x20 two level in 4.500 4.500 0.450	otal Quantity 6 / kilogram 0x15cm or r	4539.100 k Rs 437 nearest size cost of mate 16.201 12.421 0.271	ilogram 7841.59
11	Laterate masonry with mortar 1:6 for super str charges etc. wall Ramp side Parapet	n neatly dreucture above 6 4 2*1/2 1	Say 4539.1 essed latera ve plinth leve 3.000 3.450 3.000 39.200	00 kilogram te stone of el up to floor 0.200 0.200 0.200 0.200	Net To Rs 96.4 size 40x20 two level in 4.500 4.500 0.450 0.300	otal Quantity 6 / kilogram 0x15cm or r	4539.100 k Rs 437 nearest size cost of mate 16.201 12.421 0.271 2.353	ilogram 7841.59
11	Laterate masonry with mortar 1:6 for super str charges etc. wall Ramp side Parapet Window	n neatly dreucture above 6 4 2*1/2 1 3	Say 4539.1 essed latera ve plinth leve 3.000 3.450 3.000 39.200 1.500	00 kilogram te stone of el up to floor 0.200 0.200 0.200 0.200 0.200	Net To Rs 96.4 size 40x20 two level in 4.500 4.500 0.450 0.300 1.500	otal Quantity 6 / kilogram 0x15cm or r	4539.100 k Rs 437 nearest size tost of mate 16.201 12.421 0.271 2.353 -1.350	ilogram 7841.59
11	Laterate masonry with mortar 1:6 for super str charges etc. wall Ramp side Parapet Window Opening	6 4 2*1/2 1 3 4	3.000 3.450 3.000 3.450 3.000 2.000	00 kilogram te stone of el up to floor 0.200 0.200 0.200 0.200 0.200 0.200	Net To Rs 96.4 size 40x20 two level in 4.500 4.500 0.450 0.300 1.500 2.100	otal Quantity 6 / kilogram 0x15cm or r	4539.100 k Rs 437 nearest size cost of mate 16.201 12.421 0.271 2.353 -1.350 -3.360	ilogram 7841.59
111	Laterate masonry with mortar 1:6 for super str charges etc. wall Ramp side Parapet Window Opening Door	6 4 2*1/2 1 3 4	3.000 3.450 3.000 3.450 3.000 1.500 2.000 1.000	00 kilogram te stone of el up to floor 0.200 0.200 0.200 0.200 0.200 0.200 0.200	Net To Rs 96.4 size 40x20 two level in 4.500 4.500 0.450 0.300 1.500 2.100 2.400 3.000	otal Quantity 6 / kilogram 0x15cm or r	4539.100 k Rs 437 nearest size tost of mate 841.59 e in cem	

					Net Tota	al Quantity	24.256 cum	ı
			Sa	ay 24.256 cu	m @ Rs 787	2.98 / cum	Rs 190	967.00
12	13.1.1 12 mm cement plas	ster of mix:1:4 (1 cement : 4	1 fine sand)				
	Outer wall	1	37.600		5.000		188.000	
	inner wall	1	36.000		5.000		180.000	
	pit inside	1	2.500	2.500			6.250	
	,,	4	2.500	1.500			15.000	
	Tunnr Stand	2	1.500	1.200			3.600	
	,,	2	5.000	1.200			12.000	
	side	2*4	0.300	0.450			1.080	
	Parapet	1	39.200	0.850			33.320	
	Shade top	1	36.330	0.600	1 0		21.798	
	,,	1	3.670	0.750	431		2.753	
	Edge	8	0.600	0.100	3 58		0.480	
	Window	3	1.500		1.500		-6.750	
	Door	1	1.000	TO PE	2.400		-2.400	
	Rs	1*2 _{e1}	3.000	er Auth	3.000		-18.000	
	Ор	4*2	2.000		2.100		-33.600	
		P	R		Tota	al Quantity	464.281 sc	ηm
				Т	otal Deducte	d Quantity	-60.750 sqr	n
					Net Tota	al Quantity	403.531 sq	m
			Sa	ay 403.531 s	qm @ Rs 30	8.21 / sqm	Rs 124	372.29
13	13.16.1 6 mm cement plast	er of mix:1:3 (1	1 cement : 3	fine sand)				
	Shade	1	36.330	0.600			21.798	
	,,	1	3.670	0.750			2.753	
	Ceiling	1	10.000	8.000			80.000	
	Beam	2*2	8.000	0.600			19.200	
	,,	2*2	10.000	0.300			12.000	
	Slab Proj.	1	38.800	0.300			11.640	
	Slab Edge	1	40.000	0.120			4.800	
_					Tota	al Quantity	152.191 sc	m

				-	Total Deduc	ted Quantity	0.000 sqm	
					Net To	otal Quantity	152.191 sq	m
			Sa	y 152.191	sqm @ Rs 2	262.57 / sqm	Rs 399	960.79
14	11.41.2 Providing and layir with water absorpti shades, laid on 20 with white cement	on less than 0.0 mm thick ceme	8% and conent mortar 1:	forming to 3:4(1 cemen	IS : 15622, o t : 4 coarse	of approved sand), inclu	make, in all o	colours ar
	Flor finishing	1	10.000	8.000			80.000	
	Skirting	1	36.000	0.100			3.600	
					To	otal Quantity	83.600 sqr	n
			/file	1/61	Total Deduc	ted Quantity	0.000 sqm	
			C. 1		Net To	otal Quantity	83.600 sqm	1
			Sa	y 83.600 s	qm @ Rs 17	'33.18 / sqm	Rs 144	893.85
15	13.43.1 Applying one coa surface:Water thin			nt primer	of approved	d brand and	d manufactu	ure on wa
	Outer wall	1	37.600		5.000		188.000	
	inner wall	1	36.000		5.000		180.000	
	pit inside	Kera	112 _{2.500} at	er _{2.500} tr	ority		6.250	
	,,	4	2.500	1.500			15.000	
	Tunnr Stand	2	1.500	1.200			3.600	
	,,							
	,,	2	5.000	1.200			12.000	
	side	2*4	5.000 0.300	1.200 0.450			12.000	
	side	2*4	0.300	0.450			1.080	
	side Parapet	2*4	0.300 39.200	0.450 0.850			1.080	
	side Parapet Shade top	2*4 1 1	0.300 39.200 36.330	0.450 0.850 0.600			1.080 33.320 21.798	
	side Parapet Shade top	2*4 1 1	0.300 39.200 36.330 3.670	0.450 0.850 0.600 0.750	1.500		1.080 33.320 21.798 2.753	
	side Parapet Shade top ,, Edge	2*4 1 1 1 1 8	0.300 39.200 36.330 3.670 0.600	0.450 0.850 0.600 0.750	1.500		1.080 33.320 21.798 2.753 0.480	
	side Parapet Shade top ,, Edge Window	2*4 1 1 1 8 3	0.300 39.200 36.330 3.670 0.600 1.500	0.450 0.850 0.600 0.750			1.080 33.320 21.798 2.753 0.480 -6.750	
	side Parapet Shade top ,, Edge Window Door	2*4 1 1 1 8 3	0.300 39.200 36.330 3.670 0.600 1.500	0.450 0.850 0.600 0.750	2.400		1.080 33.320 21.798 2.753 0.480 -6.750 -2.400	
	side Parapet Shade top ,, Edge Window Door Rs	2*4 1 1 1 8 3 1 1*2	0.300 39.200 36.330 3.670 0.600 1.500 1.000 3.000	0.450 0.850 0.600 0.750	2.400		1.080 33.320 21.798 2.753 0.480 -6.750 -2.400 -18.000	
	side Parapet Shade top ,, Edge Window Door Rs Op	2*4 1 1 1 8 3 1 1*2 4*2	0.300 39.200 36.330 3.670 0.600 1.500 1.000 3.000 2.000	0.450 0.850 0.600 0.750 0.100	2.400		1.080 33.320 21.798 2.753 0.480 -6.750 -2.400 -18.000	

	Beam	2*2	8.000	0.600			19.200	
	,,	2*2	10.000	0.300			12.000	
	Slab Proj.	1	38.800	0.300			11.640	
	Slab Edge	1	40.000	0.120			4.800	
		·			To	otal Quantity	616.472 sc	mp
				-	Total Deduc	ted Quantity	-60.750 sqı	m
					Net To	otal Quantity	555.722 sq	m
			S	Say 555.722	sqm @ Rs	69.32 / sqm	Rs 38	522.65
16	13.82.2 Wall painting with acrylic emulsion paint, having VOC (Volatile Organic Compound) content less than grams/ litre, of approved brand and manufacture including applying additional coats wherever required achieve even shade and colour.Two coats							
	Outer wall	1	37.600		5.000		188.000	
	inner wall	1	36.000	SAA	5.000		180.000	
	pit inside	1	2.500	2.500	179		6.250	
	,,	4	2.500	1.500	الرازيات		15.000	
	Tunnr Stand	2	1.500	1.200	100		3.600	
	,,	2	5.000	1.200			12.000	
	side	2*4er	ala _{0.300} at	er _{0.450} th	ority		1.080	
	Parapet	1	39.200	0.850		7	33.320	
	Shade top	1	36.330	0.600			21.798	
	,,	1	3.670	0.750			2.753	
	Edge	8	0.600	0.100			0.480	
	Window	3	1.500		1.500		-6.750	
	Door	1	1.000		2.400		-2.400	
	Rs	1*2	3.000		3.000		-18.000	
	Ор	4*2	2.000		2.100		-33.600	
	Shade	1	36.330	0.600			21.798	
	,,	1	3.670	0.750			2.753	
	Ceiling	1	10.000	8.000			80.000	
	Beam	2*2	8.000	0.600			19.200	
	,,	2*2	10.000	0.300			12.000	
	Slab Proj.	1	38.800	0.300			11.640	

					To	tal Quantity	616.472 sc	m
				т		ed Quantity		•
						tal Quantity		
				, FFF 700 o				
47	10.1		Say	y 555.722 S	qiii @ KS i	23.40 / sqm	KS 00	576.09
17	10.4 Providing and fixir mm angle iron, 3 angle and T-iron gesteel primer.	mm M.S. gusse	t plates at th	ne junction	and corner	s, 25 mm d	ia pulley, 40	0x40x6 m
	Window	3	1.500		1.500		6.750	
					To	tal Quantity	6.750 sqm	
			/6E	т //	otal Deduct	ed Quantity	0.000 sqm	
			< .) W		Net To	tal Quantity	6.750 sqm	
			Sa	ay 6.750 sq	m @ Rs 57	65.99 / sqm	Rs 38	920.43
	Providing and fixing gusset plates at the coat of approved	ne junctions and	corners, all	necessary	fittings com	plete, includ	ding applyin	
	Door	1	1.000	2.400			2.400	
		Ker	ala Wate	er Auth	ority To	tal Quantity	2.400 sqm	
				T	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	2.400 sqm	
			Q,	0.400			Do 12	
				ay 2.400 sq	m @ Rs 51	14.64 / sqm	K5 12	275.14
19	10.6.1 Supplying and fix together through to designed pipe shat and pull operation springs manufacturand M.S. top cover	heir entire lengt ft with brackets, n complete, incl ured from high to	ers of approvents of and jointed side guides a uding the coensile steel v	ved make, d together a and arrange ost of provi	made of reat the end be ments for inding and fixed	quired size by end locks nside and ou king necess gth conform	M.S. laths, , mounted outside locking eary 27.5 cr ing to IS: 4	interlock on specia g with pu n long w 154 - par
19	Supplying and fix together through to designed pipe shat and pull operation springs manufacture and M.S. top coversity.	heir entire lengt ft with brackets, n complete, incl ured from high to	ers of approvents of and jointed side guides a uding the coensile steel v	ved make, d together a and arrange ost of provi	made of reat the end be ments for inding and fixed	quired size by end locks nside and ou king necess gth conform	M.S. laths, , mounted outside locking eary 27.5 cr ing to IS: 4	interlock on specia g with pu n long w 154 - par
19	Supplying and fix together through to designed pipe shat and pull operation springs manufacturand M.S. top cover	heir entire lengt ft with brackets, n complete, incl ured from high to er of required thi	ers of approvent and jointed side guides a uding the coensile steel work ckness for ro	ved make, d together a and arrange ost of provi	made of reat the end between the for it ding and fix quate strengers.80x1.25	quired size by end locks nside and ou king necess gth conform	M.S. laths, mounted outside locking 27.5 cring to IS: 44ths with 1.2	interlock on specia g with pu n long w 154 - par 25 mm th
19	Supplying and fix together through to designed pipe shat and pull operation springs manufacturand M.S. top cover	heir entire lengt ft with brackets, n complete, incl ured from high to er of required thi	ers of approvent and jointed side guides a uding the coensile steel work ckness for ro	ved make, d together a and arrange ost of provi- vire of adec olling shutte	made of reat the end between the for indicate strengers.80x1.25	quired size by end locks nside and ou xing necess gth conform mm M.S. la	M.S. laths, mounted cutside locking 27.5 cring to IS: 44ths with 1.2	interlock on specia g with pu n long w 154 - par 25 mm th
19	Supplying and fix together through to designed pipe shat and pull operation springs manufacturand M.S. top cover	heir entire lengt ft with brackets, n complete, incl ured from high to er of required thi	ers of approvent and jointed side guides a uding the coensile steel work ckness for ro	ved make, d together a and arrange ost of provi- vire of adec olling shutte	made of reat the end between the for in ding and fix quate strengers.80x1.25 3.000 Total Deduct	quired size by end locks hside and out king necess gth conform mm M.S. la	M.S. laths, mounted outside locking ary 27.5 cring to IS: 44ths with 1.2	interlock on specia g with pu n long w 454 - par 25 mm thi
19	Supplying and fix together through to designed pipe shat and pull operation springs manufacturand M.S. top cover	heir entire lengt ft with brackets, n complete, incl ured from high to er of required thi	ers of approvents of and jointed side guides a uding the coensile steel veckness for road.	ved make, d together a and arrange est of provi- vire of adece elling shutte	made of reat the end bements for inding and fix quate strengers.80x1.25 3.000 Total Deductors.	quired size by end locks hside and out king necess gth conform mm M.S. la bital Quantity and Quantity	M.S. laths, mounted cutside locking 27.5 cring to IS: 44ths with 1.2 9.000 9.000 sqm 0.000 sqm	interlock on specia g with pu n long wi 154 - pari

	Door	1	1.000		2.400	2.25	5.400	
	Window	3	1.500		1.500	2.0	13.500	
	Rs	1	3.000		3.000	2.5	22.500	
					To	tal Quantity	41.400 sqn	n
				٦	Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	41.400 sqm	
	Say 41.400 sqm @ Rs 140.37 / sqm Rs 58							11.32
SI No	Description	No	L	В	D	CF	Quantity	Remai
	1	7Transform	er Building	(Cost li	ndex:33.05 °	%)		
	trenches or drains (no ramming of bottoms, excavated soil as directly as the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second se	lift up to 1.5	5 m, including a lead of 5	g getting o 0 m.All kin	out the excar ds of soil		nd disposal	
	Column Footing	15	1.900	1.900	1.500		81.225	
	Ramp	3	3.000	2.000	0.150		2.700	
	Cable Trench	1	20.000	1.000	0.850		17.000	
		Ker	ara wat	el Auu	nority To	tal Quantity	100.925 cu	ım
					Total Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	100.925 cu	m
			Sa	y 100.925 d	cum @ Rs 29	91.38 / cum	Rs 294	107.53
2	4.1.8 Providing and laying is shuttering - All work in nominal size)	up to plinth	ement concr evel:1:4:8 (ete of spec	ified grade e 4 coarse sa	excluding th	e cost of celed stone ag	ntering
2	Providing and laying is shuttering - All work in nominal size) Column Footing	up to plinth l	ement concretevel:1:4:8 (ete of spec I cement :	ified grade e 4 coarse sa 0.100	excluding th	e cost of celed stone ag	ntering
2	Providing and laying is shuttering - All work in nominal size) Column Footing Ramp	15	1.900 3.000	ete of spec I cement : 1.900 2.000	ified grade e 4 coarse sa 0.100 0.100	excluding th	e cost of celed stone ag 5.415 1.801	ntering
2	Providing and laying is shuttering - All work in nominal size) Column Footing	up to plinth l	ement concretevel:1:4:8 (ete of spec I cement :	0.100 0.100	excluding th nd : 8 grad	5.415 1.801 2.000	ntering
2	Providing and laying is shuttering - All work in nominal size) Column Footing Ramp	15	1.900 3.000	ete of spec I cement : 1.900 2.000 1.000	o.100 0.100 0.100 To	excluding th nd : 8 grad tal Quantity	5.415 1.801 2.000 9.216 cum	ntering
2	Providing and laying is shuttering - All work in nominal size) Column Footing Ramp	15	1.900 3.000	ete of spec I cement : 1.900 2.000 1.000	o.100 0.100 0.100 Total Deducte	excluding th nd : 8 grad tal Quantity	5.415 1.801 2.000 9.216 cum	ntering

 Column Footing	15	1.700	1.700	0.250		10.838	
Trapezoidal Portion	15/3	1.700	1.700	0.500		7.225	
Column pedestal	15	0.200	0.500	1.100		1.651	
Plinth Beam	2	3.700	0.200	0.450		0.667	
,,	3	4.900	0.200	0.450		1.324	
,,	3*4	3.150	0.200	0.450		3.402	
Ramp Top	3	3.000	3.000	0.100		2.700	
		a 50		To	otal Quantity	27.807 cur	m
		160	1635	Total Deduc	ted Quantity	0.000 cum	
		1.0	AL ST	Net To	otal Quantity	27.807 cum	า
	-	Sa	ay 27.807 cu	um @ Rs 89	14.95 / cum	Rs 247	7898.0
Providing and laying in concrete for reinforce including pumping of and reinforcement, incretard setting of concrete Engineer-in-charge. No coment used as part of the coment used as part of the coment used as part of the coment used as part of the coment used as part of the coment used as part of the coment used as part of the coment used as part of the coment used as part of the coment used as part of the coment used as part of the coment used as part of the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete the concrete	ed cement of concrete to cluding adm ete, improve ote:- Ceme	concrete wo site of laying nixtures in r workability nt content o	ork, using of g but excluded ecommend without imple considered	cement conding the costed proportion airing streng in this item	tent as per st of centerir ons as per I gth and dura is @ 330 k	approved on approved on approved on approved on approved on approved approved approved approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on app	designag, finitaceles directions
concrete for reinforce including pumping of cand reinforcement, incretard setting of concre	ed cement of concrete to cluding adm ete, improve ote:- Ceme	concrete wo site of laying nixtures in r workability nt content o	ork, using of g but excluded ecommend without imple considered	cement conding the costed proportion airing streng in this item	tent as per st of centerir ons as per I gth and dura is @ 330 k	approved on approved on approved on approved on approved on approved approved approved approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on app	designag, finitaceles directions
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concrete for reinforce including pumping of cand reinforcement, incretard setting of concretengineer-in-charge.Not cement used as per difloor V level Column Above plinth Lintel Shade Girder Beam Corbell	ed cement of concrete to cluding admete, improve ote:- Cemer esign mix is 15 2 12 1 2 1 2 2*5	concrete wo site of laying nixtures in reworkability not content of payable of 0.200 8.600 3.150 14.800 10.100 14.800 0.200	ork, using of g but exclude ecommend without impronsidered recoverable 0.500 0.200 0.600 0.600 0.750 0.300 0.400	cement conding the costed proportion airing streng in this item le separate 5.000 0.200 0.200 0.100 0.100 0.100 0.300 0.450	tent as per st of centerir ons as per I gth and dura is @ 330 k	approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approved on approv	desigr ng, fini accelo direct ess o

			Say	37.869 cun	n @ Rs 108	58.34 / cum	Rs 411	194.48
5	5.9.1 Centering and shut columns, etc for ma	-	g strutting, et	c. and remo	oval of form	for:Foundat	ions, footing	ıs, base
	Footing Side	15*4	1.700		0.250		25.500	
	Ramb side	3*2	3.000	0.100			1.801	
					To	tal Quantity	27.301 sqr	n
				Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	27.301 sqm	1
			S	ay 27.301 s	qm @ Rs 3	29.03 / sqm	Rs 89	82.85
6	5.9.3 Centering and shulandings, balconie	_		, etc. and r	removal of	form for:Su	spended flo	oors, ro
	Shade	1	14.800	0.600	7 1 1		8.880	
	,,	2	10.100	0.600	1-2		12.120	
	,,	1	14.800	0.750	البلغاب	L.	11.101	
	Edge	1	36.200	0.100			3.621	
	,,	1	16.000	0.100			1.600	
	Roof Slab	Ker	ala.150at	er4.000th	ority		50.400	
	,,	4	3.150	5.500	7 [7	69.300	
	Slab Pro.	1	48.600	0.300			14.580	
	Slab edge	1	49.800	0.120			5.976	
					To	tal Quantity	177.578 so	m
				Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	177.578 sq	m
			Sa	y 177.578 s	qm @ Rs 8	00.50 / sqm	Rs 142	151.19
7	5.9.5 Centering and shu girders bressumers	•	-	etc. and rem	noval of forr	n for:Lintels	s, beams, pl	inth bea
	lintel	12*2	3.150	0.200			15.121	
	"	2*2	8.600	0.200			6.880	
	Girder beam	2*1	13.200	0.900			23.760	
	Roof Beem	12*2	3.150	0.300			22.680	
	,,	2*2	8.600	0.500			17.200	

	Plinth beam	12*2	3.150	0.450			34.020	
	,,	2*2	3.700	0.450			6.660	
	,,	3*2	4.900	0.450			13.230	
					То	tal Quantity	139.551 sc	ηm
				Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	139.551 sq	m
			Sa	y 139.551 s	qm @ Rs 6	37.64 / sqm	Rs 88	983.30
8	5.9.6 Centering and shutt Abutments, Posts a	-	ing strutting	, etc. and	removal of	form for:C	olumns, Pil	lars, Piers
	Column Pedestal	15	1.400	1.100			23.100	
	,,Colun	15	1.400	5.000	3		105.000	
	Corbel	10	0.400	1.100			4.400	
	,,	10	0.200	0.450	1 4 1		0.901	
		12			То	tal Quantity	133.401 so	ηm
		10h	Ka		otal Deduct	ed Quantity	0.000 sqm	
			理》是是		Net To	tal Quantity	133.401 sq	m
		17			qm @ Rs 8	47.46 / sqm	Rs 113	052.01
9	5.22.6 Steel reinforcement binding all complete		ork including	, ,	ing, cutting	9 .	• .	
	@ 100Kg of Steel pe		27.807+37 .869	Wedname	Sany Treate	100.0	6567.600	or more
		·			То	tal Quantity	6567.600 I	kilogram
				Т	otal Deduct	ed Quantity	0.000 kilog	am
					Net To	tal Quantity	6567.600 k	ilogram
			Say 6567.6	00 kilogram	@ Rs 96.4	6 / kilogram	Rs 633	510.70
10	50.6.7.2 Laterate masonry windown mortar 1:6 for super such arges etc.	•						
	Wall	12	3.150	0.200	4.700		35.532	
	,,	2	3.700	0.200	4.500		6.661	
			4.000				40.000	
	,,	3	4.900	0.200	4.500		13.230	

	ramp side	6*1/2	3.000	0.200	0.400		0.721	
	parapet	1	49.000	0.200	0.400		3.921	
	Window	9	1.500	0.200	1.500		-4.050	
	Rs	2	3.000	0.200	3.000		-3.600	
	,,	1	3.000	0.200	2.400		-1.440	
	Ор	2	1.500	0.200	2.400		-1.440	
	,,	1	4.900	0.200	1.500		-1.470	
					То	tal Quantity	66.065 cur	n
				Т	otal Deduct	ed Quantity	-12.000 cur	n
			-0	65	Net To	tal Quantity	54.065 cum	ı
			Sa	y 54.065 cu	ım @ Rs 78	72.98 / cum	Rs 425	652.66
11	13.1.1 12 mm cement pla	ster of mix:1:4 (1 cement : 4	I fine sand)	700			
	Inside	2	13.200	5.000	44		132.000	
	,,	2	4.000	5.000	3 58	8	40.000	
	"	4	6.500	5.000			130.000	
		4	5.500	5.000	0.0		110.000	
	Column	Kers	1.0.800 at	5.000	ority		28.000	
	Cable trench	2	20.000	0.750			30.000	
	,,	4	0.600	0.750	\ -	*	1.800	
	,, Тор	2	42.400	0.230			19.504	
	Out side	2	13.600	5.450			148.240	
	,,	2	10.100	5.450			110.090	
	Ramp side	6*1/2	3.000	0.450			4.051	
	parapet	1	49.000	1.000			49.000	
	Window	9	1.500	1.500			-20.250	
	Rs	2*2	3.000	3.000			-36.000	
	,,	1*2	3.000	2.400			-14.399	
	Ope	2*2	1.500	2.400			-14.399	
	,,	1	4.900	1.500			-7.350	
	Ventilator	14	0.900	0.600			-7.560	
					То	tal Quantity	802.685 sc	ηm
				Т	otal Deduct	ed Quantity	-99.958 sqr	n

					Net Total Quanti	ty 702.727 sq	lm
			Sa	ıy 702.727 s	sqm @ Rs 308.21 / sq	m Rs 216	5587.49
12	13.7.1 12 mm cement plaster	finished with	h a floating o	coat of neat	cement of mix:1:3 (1	cement : 3 fin	e sand)
	roof top	1	13.800	10.300		142.141	
	Shade top	1	14.800	0.600		8.880	
	,,	1	14.800	0.750		11.101	
	,	2	10.100	0.600		12.120	
	Ramp top	3	3.000	3.000		27.000	
			e 35		Total Quanti	ty 201.242 so	qm
			160	185	Fotal Deducted Quanti	0.000 sqm	
			-:11		Net Total Quanti	ty 201.242 sq	ım
			Sa	y 201.242 s	sqm @ Rs 393.69 / sq	m Rs 79	226.96
13	13.16.1 6 mm cement plaster of	of mix:1:3 (1	cement : 3	fine sand)			
	Roof Bottom	1	13.200	4.000		52.800	
	,,	2	6.500	5.500		71.500	
	Beam	3*2	3.700	0.500		11.101	
	"	3*2	ala Wat 4.900	0.500	lority	14.701	
	Shade Bott.	D 1	14.800	0.600		8.880	
	,,	1 1	14.800	0.750		11.101	
	37	2	10.100	0.600		12.120	
					Total Quanti	ty 182.203 so	qm
				7	Γotal Deducted Quanti	ty 0.000 sqm	
					Net Total Quanti	ty 182.203 sq	ım
			Sa	ıy 182.203 s	sqm @ Rs 262.57 / sq	m Rs 47	841.04
14	11.41.2 Providing and laying v with water absorption I shades, laid on 20 mm with white cement and	ess than 0.0 n thick ceme	98% and conent mortar 1:	forming to I	S : 15622, of approved t : 4 coarse sand), inc	d make, in all luding groutir	colours
	Floor	1	13.200	4.000		52.800	
	Skirting	1	34.400	0.100		3.440	
	Flor	2	5.500	6.500		71.500	
	Skirting	2	24.000	0.100		4.801	

	Cable Trench	1	20.000	0.600			-12.000	
					То	tal Quantity	132.541 sc	mp
				Т	otal Deduct	ed Quantity	-12.000 sqr	m
					Net To	tal Quantity	120.541 sq	m
			Say	120.541 sq	ım @ Rs 17:	33.18 / sqm	Rs 208	919.25
15	10.6.1 Supplying and fixing rotogether through their designed pipe shaft with and pull operation consprings manufactured and M.S. top cover of top cover	entire lengt h brackets, nplete, incl from high te	h and jointe side guides uding the c ensile steel	d together a and arrange ost of provi wire of ade	at the end be ments for ind ding and fix quate streng	y end locks nside and ou king necess oth conform	, mounted outside locking ary 27.5 cring to IS: 44	on specia g with pus n long wi 154 - part
	Rolling shutter	2	3.000	3.000	-		18.000	
	,,	1	3.000	2.400	7 13		7.200	
		6 8 -	17/10	N/A	То	tal Quantity	25.200 sqr	n
		155			otal Deduct	ed Quantity	0.000 sqm	
		400			ACCESS.	tal Quantity		1
			Sa	y 25.200 sq	m @ Rs 340	<u>-</u>		
16	9.48.1 Providing and fixing Maround bars etc. including	S. Grills of		ittern in fran	nes of wind	1		•
	Window grill	9	1.500	1.500		16.0	324.000	
	Ventilator	14	0.900	0.600		16.0	120.961	
					То	tal Quantity	444.961 kg)
				Т	otal Deduct	ed Quantity	0.000 kg	
					Net To	tal Quantity	444.961 kg	
				Say 444.9	61 kg @ Rs			956.40
17	21.1.1.1 Providing and fixing alustandard tubular section 733 and IS: 1285, fixin gaps at junctions, i.e. Aluminium sections strequired including cleat	ns/ approprig with dash at top, bo nall be smo	iate Z section fasteners of tom and since the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh, rust from the footh	, windows, was and other of required of the with received the services.	ventilators a er sections o dia and size equired EPI t, mitred an	nd partitions f approved i , including i DM rubber/ nd jointed m	s with extructions with extructions with extractions with the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the cont	ming to IS Iling up th gasket ef y wherev

screws, all complete as per architectural drawings and the directions of Engineer-in-charge.(Glazing, paneling and dash fasteners to be paid for separately):For fixed portionAnodised aluminium (anodised

	Window	9	1.500	1.500		4.5	91.125	
	Ventilator	14	0.900	0.600		4.5	34.020	
					To	tal Quantity	125.145 kg]
					Total Deduct	ed Quantity	0.000 kg	
					Net To	tal Quantity	125.145 kg	
				Say 125.1	45 kg @ Rs	489.69 / kg	Rs 612	282.26
18	21.3.1 Providing and fixi rubber / neoprene in -Charge. (Cos mm thickness	e gasket etc. com	plete as per	the archite	ctural drawir	igs and the	directions of	Engine
	Window	9*2	0.720	1.420	-		18.404	
	Venti	14	0.820	0.520	7 13		5.970	
		12	L KYLE		То	tal Quantity	24.374 sqr	n
		451			Total Deduct	ed Quantity	0.000 sqm	
		4300	<u> </u>		Net To	tal Quantity	24.374 sqm)
			Sa	y 24.374 so	qm @ Rs 11	54.61 / sqm	Rs 28	142.46
19	13.43.1 Applying one co surface:Water th	at of water thin		er Auth	ority of approved	brand and	l manufactu	ire on
	Inside	2	13.200	5.000			132.000	
	,,	2	4 000	F 000				
		2	4.000	5.000			40.000	
	,,	4	6.500	5.000			40.000 130.000	
		4	6.500	5.000			130.000	
	,,	4	6.500 5.500	5.000 5.000			130.000	
	., Column	4 4 7	6.500 5.500 0.800	5.000 5.000 5.000			130.000 110.000 28.000	
	Column	4 4 7 2	6.500 5.500 0.800 42.400	5.000 5.000 5.000 0.230			130.000 110.000 28.000 19.504	
	Column ,, Top Out side	4 4 7 2 2	6.500 5.500 0.800 42.400 13.600	5.000 5.000 5.000 0.230 5.450			130.000 110.000 28.000 19.504 148.240	
	Column ,, Top Out side	4 4 7 2 2 2	6.500 5.500 0.800 42.400 13.600 10.100	5.000 5.000 5.000 0.230 5.450 5.450			130.000 110.000 28.000 19.504 148.240 110.090	
	Column ,, Top Out side ,, Ramp side	4 4 7 2 2 2 2 6*1/2	6.500 5.500 0.800 42.400 13.600 10.100 3.000	5.000 5.000 5.000 0.230 5.450 5.450 0.450			130.000 110.000 28.000 19.504 148.240 110.090 4.051	
	Column ,, Top Out side ,, Ramp side parapet	4 4 7 2 2 2 6*1/2	6.500 5.500 0.800 42.400 13.600 10.100 3.000 49.000	5.000 5.000 5.000 0.230 5.450 5.450 0.450 1.000			130.000 110.000 28.000 19.504 148.240 110.090 4.051 49.000	
	Column ,, Top Out side ,, Ramp side parapet Window	4 4 7 2 2 2 2 6*1/2 1 9	6.500 5.500 0.800 42.400 13.600 10.100 3.000 49.000 1.500	5.000 5.000 5.000 0.230 5.450 5.450 0.450 1.000			130.000 110.000 28.000 19.504 148.240 110.090 4.051 49.000 -20.250	

	,,	1	4.900	1.500			-7.350	
	Ventilator	14	0.900	0.600			-7.560	
	Roof Bottom	1	13.200	4.000			52.800	
	,,	2	6.500	5.500			71.500	
	Beam	3*2	3.700	0.500			11.101	
	,,	3*2	4.900	0.500			14.701	
	Shade Bott.	1	14.800	0.600			8.880	
	,,	1	14.800	0.750			11.101	
	,,	2	10.100	0.600			12.120	
					Tot	al Quantity	953.088 sc	m
			JAN	т / (otal Deducte	ed Quantity	-99.958 sqr	m
			611	I Sel	Net Tot	al Quantity	853.130 sq	m
		1	S	ay 853.130	sqm @ Rs 6	69.32 / sqm	Rs 59 ⁻	138.97
	more coats on new Window	work 9	1.500	1.500			20.250	
	vviridow	9	1.500	1.500			20.250	
	Vent	14	0.900	0.600			7 561	
	Vent.	14 Ker	0.900 ala Wat	0.600 er Auth	ority	2.5	7.561 45.000	
	Rs	Ker 2	ala Wat 3.000	er Auth 3.000	ority	2.5	45.000	
		Ker	ala Wat	er Auth	1	2.5	45.000 18.000	m
	Rs	Ker 2	ala Wat 3.000	3.000 2.400	Tot	2.5 al Quantity	45.000 18.000 90.811 sqr	m
	Rs	Ker 2	ala Wat 3.000	3.000 2.400	Total Deducte	2.5 cal Quantity ed Quantity	45.000 18.000 90.811 sqr 0.000 sqm	
	Rs	Ker 2	3.000 3.000	3.000 2.400	Total Deducte	2.5 cal Quantity ed Quantity cal Quantity	45.000 18.000 90.811 sqr 0.000 sqm 90.811 sqm	n
21	Rs	acrylic emulsion oved brand an	3.000 3.000 Son paint, havind manufacture	3.000 2.400 T say 90.811 s	Total Deducte Net Tot qm @ Rs 14 atile Organic	2.5 cal Quantity ed Quantity cal Quantity 40.37 / sqm	45.000 18.000 90.811 sqr 0.000 sqm 90.811 sqr Rs 12	7 47.14 ess than s
21	13.82.2 Wall painting with a grams/ litre, of appr	acrylic emulsion oved brand an	3.000 3.000 Son paint, havind manufacture	3.000 2.400 T say 90.811 s	Total Deducte Net Tot qm @ Rs 14 atile Organic	2.5 cal Quantity ed Quantity cal Quantity 40.37 / sqm	45.000 18.000 90.811 sqr 0.000 sqm 90.811 sqr Rs 12	7 47.14 ess than s
21	13.82.2 Wall painting with a grams/ litre, of appr achieve even shade	acrylic emulsion oved brand and colour.Tv	3.000 3.000 Some paint, havind manufacture wo coats	3.000 2.400 T say 90.811 s	Total Deducte Net Tot qm @ Rs 14 atile Organic	2.5 cal Quantity ed Quantity cal Quantity 40.37 / sqm	45.000 18.000 90.811 sqr 0.000 sqm 90.811 sqr Rs 12	7 47.14 ess than a
21	13.82.2 Wall painting with a grams/ litre, of appr achieve even shade	acrylic emulsion oved brand and colour.Tv	3.000 3.000 3.000 Some paint, havind manufacturity coats 13.200	3.000 2.400 T say 90.811 s ag VOC (Volume including) 5.000	Total Deducte Net Tot qm @ Rs 14 atile Organic	2.5 cal Quantity ed Quantity cal Quantity 40.37 / sqm	45.000 18.000 90.811 sqr 0.000 sqm 90.811 sqr Rs 12	7 47.14 ess than a
21	Rs 13.82.2 Wall painting with a grams/ litre, of appr achieve even shade Inside	acrylic emulsion oved brand and colour.Tv	3.000 3.000 3.000 Some paint, havind manufacturity coats 13.200 4.000	3.000 2.400 T say 90.811 s ng VOC (Vol re including 5.000 5.000	Total Deducte Net Tot qm @ Rs 14 atile Organic	2.5 cal Quantity ed Quantity cal Quantity 40.37 / sqm	45.000 18.000 90.811 sqr 0.000 sqm 90.811 sqr Rs 12 d) content les wherever 132.000 40.000	7 47.14 ess than a
21	Rs 13.82.2 Wall painting with a grams/ litre, of appr achieve even shade Inside	acrylic emulsion oved brand and colour.Tv	3.000 3.000 3.000 Some paint, havind manufacturity coats 13.200 4.000 6.500	3.000 2.400 T say 90.811 s ng VOC (Vol re including 5.000 5.000	Total Deducte Net Tot qm @ Rs 14 atile Organic	2.5 cal Quantity ed Quantity cal Quantity 40.37 / sqm	45.000 18.000 90.811 sqr 0.000 sqm 90.811 sqr Rs 12 d) content les wherever 132.000 40.000 130.000	7 47.14 ess than s

	Ramp	1	3.000	3.000	0.150		1.350	
	Footing	10	2.000	2.000	1.600		64.000	
1	2.8.1 Earth work in excavate trenches or drains (no ramming of bottoms, I excavated soil as dire	t exceeding	g 1.5 m in w 5 m, includin	idth or 10 s	sqm on plar out the exca	n), including	dressing o	f sides and
	1	8Centrifug	e Building	(Cost In	dex:33.05 %	6)		
SI No	Description	No	Sa	y 853.130 s _B	sqm @ Rs 1	23.40 / sqm _{CF}	Rs 105 Quantity	276.24 Remark
				070.100		tal Quantity		
		D-1	D - 1		otal Deduct	ed Quantity	-99.958 sqr	n
		Kera	ala Wat	er Auth	nority To	tal Quantity	953.088 so	mp
	,,	2	10.100	0.600			12.120	
	,,	1	14.800	0.750	75-		11.101	
	Shade Bott.	1	14.800	0.600		£,	8.880	
	11	3*2	4.900	0.500	1-21		14.701	
	Beam	3*2	3.700	0.500	7 1		11.101	
	33	2	6.500	5.500			71.500	
	Roof Bottom	1	13.200	4.000			52.800	
	Ventilator	14	0.900	0.600			-7.560	
	Оре	1	4.900	1.500			-7.350	
	Ope	1*2 2*2	3.000 1.500	2.400			-14.399 -14.399	
	Rs	2*2	3.000	3.000			-36.000	
	Window	9	1.500	1.500			-20.250	
	parapet	1	49.000	1.000			49.000	
	Ramp side	6*1/2	3.000	0.450			4.051	
	33	2	10.100	5.450			110.090	
	Out side	2	13.600	5.450			148.240	

	4.1.8 Providing and laying shuttering - All wor nominal size)	• •		•	•	_		•	
	Footing	10	2.000	2.000	0.100		4.000		
	Plinth Bottom	9	3.130	0.350	0.100		0.986		
	,,	4	2.800	0.350	0.100		0.392		
	"	4	2.980	0.350	0.100		0.418		
	Floor PCC	6	3.130	3.330	0.100		6.254		
	Ramp	1	3.000	3.000	0.100		0.900		
			100	60	То	tal Quantity	12.950 cur	n	
			JAN.	10 L	Total Deduct	ed Quantity	0.000 cum		
			£ 2 h	M E	Net To	tal Quantity	12.950 cum	ı	
		619	Sa	ay 12.950 cu	ım @ Rs 66	87.23 / cum	Rs 86	599.63	
	Plinth inside Ramp	6 1/2 er	3.130 ala _{3.000} at	3.330 er _{3.000} th	0.350		21.889 1.350		
	Ramp	1/2 er	a12 _{3.000} a1	er _{3.000} th	0.300		1.350		
		\mathcal{L}	R		То	tal Quantity	23.239 cur	n	
				I	Total Deduct	ed Quantity	0.000 cum		
					Net To	tal Quantity	23.239 cum	1	
	Say 23.239 cum @ Rs 253.73 / cum							Rs 5896.43	
4	5.1.3 Providing and layin centering, shuttering sand: 4 graded sto	g, finishing and	d reinforcem	ent - All woi			•	the cos	
4	Providing and layin centering, shuttering	g, finishing and	d reinforcem	ent - All woi			•	the cos	
4	Providing and layin centering, shuttering sand : 4 graded sto	g, finishing and ne aggregate 2	d reinforcem 20 mm nomi	ent - All wor nal size)	o.100		4 (1 cemen	the cos	
4	Providing and layin centering, shuttering sand : 4 graded sto	g, finishing and ne aggregate 2	d reinforcem 20 mm nomi	ent - All wor nal size) 3.000	o.100	th level:1:2:	0.900 0.900 cum	the cos	
4	Providing and layin centering, shuttering sand : 4 graded sto	g, finishing and ne aggregate 2	d reinforcem 20 mm nomi	ent - All wor nal size) 3.000	0.100 Total Deduct	th level:1:2:	0.900 0.900 cum	the cos	
4	Providing and layin centering, shuttering sand : 4 graded sto	g, finishing and ne aggregate 2	d reinforcem 20 mm nomi 3.000	ent - All wor nal size) 3.000	0.100 Total Deduct	tal Quantity ed Quantity tal Quantity	0.900 0.900 cum 0.000 cum 0.900 cum	the cos	

transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately. All wiork upto plinth level Column Footing 10 1.800 1.800 0.200 6.481 10/3 1.800 1.800 0.700 7.560 Grade slab 6 3.130 3.330 0.120 7.505 Column pedestal 10 0.250 0.400 0.600 0.600 9 3.130 0.250 0.450 3.170 Plinth beam 4 2.800 0.250 0.450 1.260 4 3.980 0.250 0.450 1.791 Total Quantity 28.367 cum Total Deducted Quantity 0.000 cum Net Total Quantity 28.367 cum Say 28.367 cum @ Rs 9700.81 / cum Rs 275182.88 6 50.5.33.2 Providing and laying in position machine batched and machine mixed design mix M-20 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge.Note:- Cement content considered in this item is @ 330 kg/cum. Excess or less cement used as per design mix is payable or recoverable separately. All work above plinth level upto floor V level GF Column 10 0.250 0.600 4.000 6.000 9 0.250 0.350 "Beam Bi 3.130 2.465 4 2.800 0.250 0.350 0.980 2 6.200 0.250 0.550 1.706 **GF Slab** 1 10.800 7.800 0.120 10.109 FF Column 4.000 10 0.250 0.600 6.000 Beam 9 3.130 0.250 0.350 2.465 4 2.800 0.250 0.350 0.980 4 2.980 0.250 0.550 1.639 FF Slab 1 11.000 8.000 0.120 10.560

	Lintel	1	3.330	0.200	0.400		0.267	
	Shade	1	3.500	0.750	0.100		0.263	
	Stair Opening	1	2.000	3.330	0.120		-0.799	
					To	tal Quantity	43.434 cur	n
				7	otal Deduct	ed Quantity	-0.799 cum	
					Net To	tal Quantity	42.635 cum	1
			Say	42.635 cur	n @ Rs 108	58.34 / cum	Rs 462	945.33
7	5.9.1 Centering and shutte columns, etc for mas		g strutting, et	c. and remo	oval of form	for:Foundat	ions, footing	ıs, base
	Column Footing	10*4	1.800	1.800	0.200		25.921	
		-	1/100		To	tal Quantity	25.921 sqr	n
		-	23 1	8 24	otal Deduct	ted Quantity	0.000 sqm	
		61	N 1/2	51/1	77 1 1	tal Quantity		1
		1 /5-	S	av 25 921 s	1700	29.03 / sqm		28.79
8	5.9.3 Centering and shut landings, balconies	and access	platform	HEPZ/		form for:Su		oors, ro
8	Centering and shut		platform	etc. and i	removal of	form for:Su	spended flo	oors, ro
8	Centering and shut landings, balconies	and access	platform	HEPZ/		form for:Su		oors, ro
8	Centering and shut landings, balconies	and access	platform	er3,330†}		form for:Su	62.538	oors, ro
8	Centering and shut landings, balconies Floor slab Op Side	and access	platform 1 3.130 at 8.660	0.120		form for:Su	62.538	oors, ro
8	Centering and shut landings, balconies Floor slab Op Side FF Slab	and access	platform 3.130 at 8.660 3.130	0.120 3.330		form for:Su	62.538 1.040 62.538	oors, ro
8	Centering and shut landings, balconies Floor slab Op Side FF Slab Proj	and access	8.660 3.130 11.000	0.120 3.330 0.300		form for:Su	62.538 1.040 62.538 6.600	oors, ro
8	Centering and shut landings, balconies Floor slab Op Side FF Slab Proj	and access	8.660 3.130 11.000 7.400	0.120 3.330 0.300 0.300		form for:Su	62.538 1.040 62.538 6.600 4.440	oors, ro
8	Centering and shut landings, balconies Floor slab Op Side FF Slab Proj ,, Proj. GF	and access	8.660 3.130 11.000 7.400 10.800	0.120 3.330 0.300 0.300 0.200		form for:Su	62.538 1.040 62.538 6.600 4.440 4.320	oors, ro
8	Centering and shut landings, balconies Floor slab Op Side FF Slab Proj "Proj. GF	6 er 1 6 2 2 2 2 2 2	8.660 3.130 11.000 7.400 10.800 7.400	0.120 3.330 0.300 0.300 0.200 0.200		form for:Su	62.538 1.040 62.538 6.600 4.440 4.320 2.961	oors, ro
8	Centering and shut landings, balconies Floor slab Op Side FF Slab Proj ,, Proj. GF ,, Slab edge	and access 6 er 1 6 2 2 2 2 1	9 3.130 1.000 7.400 10.800 7.400 37.200	0.120 3.330 0.300 0.300 0.200 0.200 0.120		form for:Su	62.538 1.040 62.538 6.600 4.440 4.320 2.961 4.464	oors, ro
8	Centering and shut landings, balconies Floor slab Op Side FF Slab Proj ,, Proj. GF ,, Slab edge	and access 6 er 1 6 2 2 2 2 1 1 1	9 3.130 1.000 7.400 10.800 7.400 37.200 38.000	0.120 3.330 0.300 0.300 0.200 0.200 0.120 0.120		form for:Su	62.538 1.040 62.538 6.600 4.440 4.320 2.961 4.464 4.560	oors, ro
8	Centering and shut landings, balconies Floor slab Op Side FF Slab Proj ,, Proj. GF ,, Slab edge ,, Shade	and access 6 er 1 6 2 2 2 2 1 1 1 1	9 3.130 1.000 7.400 10.800 7.400 37.200 38.000 3.500	0.120 3.330 0.300 0.300 0.200 0.200 0.120 0.120 0.750	ority	form for:Su	62.538 1.040 62.538 6.600 4.440 4.320 2.961 4.464 4.560 2.625 0.151	
8	Centering and shut landings, balconies Floor slab Op Side FF Slab Proj ,, Proj. GF ,, Slab edge ,, Shade	and access 6 er 1 6 2 2 2 2 1 1 1 1	9 3.130 1.000 7.400 10.800 7.400 37.200 38.000 3.500	0.120 3.330 0.300 0.300 0.200 0.200 0.120 0.120 0.750 0.100	ority		62.538 1.040 62.538 6.600 4.440 4.320 2.961 4.464 4.560 2.625 0.151 156.237 so	
8	Centering and shut landings, balconies Floor slab Op Side FF Slab Proj ,, Proj. GF ,, Slab edge ,, Shade	and access 6 er 1 6 2 2 2 2 1 1 1 1	9 3.130 1.000 7.400 10.800 7.400 37.200 38.000 3.500	0.120 3.330 0.300 0.300 0.200 0.200 0.120 0.120 0.750 0.100	To Total Deduct	otal Quantity	62.538 1.040 62.538 6.600 4.440 4.320 2.961 4.464 4.560 2.625 0.151 156.237 sc 0.000 sqm	ηm
8	Centering and shut landings, balconies Floor slab Op Side FF Slab Proj ,, Proj. GF ,, Slab edge ,, Shade	and access 6 er 1 6 2 2 2 2 1 1 1 1	platform 8.660 3.130 11.000 7.400 10.800 7.400 37.200 38.000 3.500 0.750	0.120 3.330 0.300 0.300 0.200 0.200 0.120 0.120 0.750 0.100	To Total Deduct	ed Quantity	62.538 1.040 62.538 6.600 4.440 4.320 2.961 4.464 4.560 2.625 0.151 156.237 sq 0.000 sqm 156.237 sq	ηm

	Plinth Beam	9*2	3.130	0.450			25.353	
	,,	4*2	2.800	0.450			10.080	
	11	4*2	2.980	0.450			10.728	
	Lintel	1*2	3.330	0.400			2.664	
	Op Bottom	1	3.330	0.200			0.666	
	Beam GF & FF	18*2	3.130	0.350			39.438	
	,,	8*2	2.800	0.350			15.680	
	,,	4*2	6.200	0.550			27.281	
			160	1685	To	tal Quantity	131.890 so	ηm
			1.0		Total Deduc	ted Quantity	0.000 sqm	
			C 3	& W	Net To	tal Quantity	131.890 sq	m
		16	Sa	y 131.890 s	sqm @ Rs 6	37.64 / sqm	Rs 84	098.34
	Column Pedestal	10 Kei	1.700	er Auth	0.850		14.450	
	GF Column	10 16.e1		er Auth			68.000	
	FF Column	10	1.700		4.000	7	68.000	
						4		
					To	tal Quantity	150.450 so	ım
		Ρ.		_		etal Quantity	150.450 sc 0.000 sqm	ım
					Total Deduc		0.000 sqm	•
			Sa		Total Deduc	ed Quantity	0.000 sqm	m
11	5.22.6 Steel reinforcement binding all complete		ork including	y 150.450 s g straighter	Total Deduc Net To sqm @ Rs 8	ted Quantity otal Quantity 47.46 / sqm	0.000 sqm 150.450 sq Rs 127	m 500.36
11	Steel reinforcement		ork including	y 150.450 s g straighter	Total Deduc Net To sqm @ Rs 8	ted Quantity otal Quantity 47.46 / sqm	0.000 sqm 150.450 sq Rs 127	m 500.36
11	Steel reinforcement to binding all complete	upto plinth	ork including levelThermo 28.37+42.	y 150.450 s g straighter	Net To Sqm @ Rs 8 ning, cutting cally Treate	ted Quantity otal Quantity 47.46 / sqm n, bending, ped bars of gr	0.000 sqm 150.450 sq Rs 127 blacing in p	m 500.36 osition DD or r
11	Steel reinforcement to binding all complete	upto plinth	ork including levelThermo 28.37+42.	y 150.450 s g straighter - Mechani	Net To Sqm @ Rs 8 ning, cutting cally Treate	ted Quantity otal Quantity 47.46 / sqm otal, bending, ped bars of gr	0.000 sqm 150.450 sq Rs 127 placing in p rade Fe-500 8512.800 R	m 500.36 osition DD or r
11	Steel reinforcement to binding all complete	upto plinth	ork including levelThermo 28.37+42.	y 150.450 s g straighter - Mechani	Net To Sqm @ Rs 8 ning, cutting cally Treate To Total Deduc	ted Quantity otal Quantity 47.46 / sqm otal bars of great data data data data data data data d	0.000 sqm 150.450 sq Rs 127 placing in place Fe-500 8512.800 l 0.000 kilogi	m 2500.36 cosition DD or r cilograr

	charges etc.	_	0.466	0.000	0.050		44.40=	
	Wall	5	3.130	0.200	3.650		11.425	
	,,	4	2.800	0.200	3.650		8.176	
	Over RS	1	3.130	0.200	0.350		0.220	
	FF wall	6	3.130	0.200	3.650		13.710	
	,,	4	2.800	0.200	3.650		8.176	
					To	otal Quantity	41.707 cur	n
				٦	Total Deduc	ted Quantity	0.000 cum	
					Net To	otal Quantity	41.707 cum	1
			Sa	y 41.707 cu	um @ Rs 78	372.98 / cum	Rs 328	358.38
13	13.1.1							
	12 mm cement plast	er of mix:1:4	(1 cement : 4	fine sand)	2		Ι	
	inside	2	7.000	21/4	4.000		56.000	
	,,	2	10.000	of hi	4.000	1	80.000	
	column	2*4	0.350	ジョング	4.000		11.200	
	FF inside	2	7.000		4.000		56.000	
	,,	2	10.000	or Auth	4.000		80.000	
	Column	2*4	0.350	CI Auu	4.000		11.200	
	Out side wall	1	35.600		8.450	1	300.820	
	parapt	1 2	37.200		1.000		37.200	
	Rolling Shutter	1*2	3.000	3.000			-18.000	
					To	otal Quantity	632.420 sc	ηm
				٦	Γotal Deduc	ted Quantity	-18.000 sqr	n
					Net To	otal Quantity	614.420 sq	m
			Sa	y 614.420 s	sqm @ Rs 3	308.21 / sqm	Rs 189	370.39
14	13.7.1 12 mm cement plast	er finished wi	th a floating c	oat of neat	cement of n	nix:1:3 (1 ce	ement : 3 fine	e sand)
	Roof top	1	10.600	7.600			80.560	
	Shade toop	1	3.500	0.750			2.625	
	Ramp	1	3.000	3.000			9.000	
	-	1		1	To	tal Quantity		n
						ted Quantity	-	

			S	ay 92.185 s	qm @ Rs 39	3.69 / sqm	Rs 36	292.31
15	13.16.1							
	6 mm cement plaster	of mix:1:3 (1	cement:31	fine sand)				
	Slab Bott	2	10.000	7.000			140.000	
	Beam	4*2	6.200	0.550			27.281	
	,,	2*2	9.400	0.350			13.160	
	Proj GF	1	36.400	0.550			20.020	
	,, FF	1	36.800	0.450			16.560	
	Shade	1	3.500	0.750			2.625	
	Ramp side	2*1/2	3.000	0.450			1.350	
			160	1635	Tot	al Quantity	220.996 sc	mp
				1	otal Deducte	ed Quantity	0.000 sqm	
			C47 9	# SI	Net Tot	al Quantity	220.996 sq	m
		11	Sa	y 220.996 s	qm @ Rs 26	2.57 / sqm	Rs 58	026.92
16	11.41.2 Providing and laying with water absorption shades, laid on 20 m with white cement an	less than 0.0 nm thick ceme	08% and con ent mortar 1:	forming to I	S : 15622, of : : 4 coarse s	approved rand), inclu	make, in all ding groutir	colours a
16	Providing and laying with water absorption shades, laid on 20 m	less than 0.0 nm thick ceme	08% and con ent mortar 1:	forming to I	S : 15622, of : : 4 coarse s	approved rand), inclu	make, in all ding groutir	colours a
16	Providing and laying with water absorption shades, laid on 20 m with white cement an	n less than 0.0 nm thick cemend matching p	08% and conent mortar 1: pigments etc	forming to I 4(1 cement ., complete 7.000	S : 15622, of : : 4 coarse s	approved rand), inclu	make, in all ding groutinmm.	colours a
16	Providing and laying with water absorption shades, laid on 20 m with white cement an GF & FF Floor Skirting	n less than 0.0 nm thick cemend matching p	08% and conent mortar 1: pigments etc 10.000	forming to I 4(1 cement ., complete 7.000 0.100	S: 15622, of :: 4 coarse s :Size of Tile	approved rand), inclu	make, in all ding groutinmm. 140.000 6.801 -6.260	colours a
16	Providing and laying with water absorption shades, laid on 20 m with white cement an GF & FF Floor Skirting	n less than 0.0 nm thick cemend matching p	08% and conent mortar 1: pigments etc 10.000	forming to I 4(1 cement ., complete 7.000 0.100 2.000	S: 15622, of :: 4 coarse s :Size of Tile	approved read approved read (approved make, in all ding groutinmm. 140.000 6.801 -6.260 146.801 so	colours and the joir	
16	Providing and laying with water absorption shades, laid on 20 m with white cement an GF & FF Floor Skirting	n less than 0.0 nm thick cemend matching p	08% and conent mortar 1: pigments etc 10.000	forming to I 4(1 cement ., complete 7.000 0.100 2.000	S: 15622, of :: 4 coarse s Size of Tile Total Total Deducte	approved read approved read (approved make, in all ding groutinmm. 140.000 6.801 -6.260 146.801 so	colours and the join	
16	Providing and laying with water absorption shades, laid on 20 m with white cement an GF & FF Floor Skirting	n less than 0.0 nm thick cemend matching p	208% and concent mortar 1: Digments etc 10.000 34.000 3.130	forming to II 4(1 cement ., complete 7.000 0.100 2.000	S: 15622, of :: 4 coarse s Size of Tile Total Total Deducte	approved read and), inclued and Quantity al Quantity al Quantity	make, in all ding grouting mm. 140.000 6.801 -6.260 146.801 sc -6.260 sqm 140.541 sq	colours and the join
17	Providing and laying with water absorption shades, laid on 20 m with white cement and GF & FF Floor Skirting Stair Portion 10.6.2 Supplying and fixing together through their designed pipe shaft wand pull operation cosprings manufacture and M.S. top cover of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades of the shades 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	Providing and laying with water absorption shades, laid on 20 m with white cement and GF & FF Floor Skirting Stair Portion 10.6.2 Supplying and fixing together through their designed pipe shaft wand pull operation cosprings manufactured	rolling shutt ir entire length with brackets, omplete, incide from high t	one on ent mortar 1: bigments etc. 10.000 34.000 3.130 Say ers of approach and jointe side guides luding the censile steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel steel 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				7	Total Deduct	ed Quantity	0.000 sam	
				<u> </u>		tal Quantity		
			S	Say 9.000 so	qm @ Rs 32:	38.30 / sqm	Rs 29	144.70
18	10.25.1 Item Shifted to Sub up sections/framed approved steel prin cases, including us	d work, includi mer using stru	ng cutting, h ctural steel	noisting, fix etc. as requ	ing in positio uired.In strir	on and applagers, tread	lying a prim	ing coat o
	Stair	2	2.500	0.900		30.0	135.000	
	Landing	1	2.000	1.000		30.0	60.000	
	Hand rail	1	9.000	Color.	0.900	15.0	121.500	
	,,	1	5.500	160	0.900	15.0	74.250	
			J</td <td></td> <td>То</td> <td>tal Quantity</td> <td>390.750 kg</td> <td>]</td>		То	tal Quantity	390.750 kg]
			37.9	E X	Fotal Deduct	ed Quantity	0.000 kg	
		1 1		73/A	Net To	tal Quantity	390.750 kg	
				Say 390.7	50 kg @ Rs	108.17 / kg	Rs 422	267.43
19	13.43.1							
19	13.43.1 Applying one coat surface:Water thin inside			ent primer o	of approved	brand and	I manufactu 56.000	ire on wa
19	Applying one coat surface:Water thin	nable cement	primer	er Auth		brand and		ure on wa
19	Applying one coat surface:Water thin	nnable cement	primer ala _{7.000} at	er Auth	4.000	brand and	56.000	ure on wa
19	Applying one coat surface:Water thin inside	nnable cement	primer 7.000 10.000	er Auth	4.000	brand and	56.000 80.000	ure on wa
19	Applying one coat surface:Water thin inside	nnable cement	7.000 10.000 0.350	er Auth	4.000 4.000 4.000	brand and	56.000 80.000 11.200	ure on wa
19	Applying one coat surface:Water thin inside ,,, column FF inside	nnable cement 2 2 2 2*4 2	7.000 10.000 0.350 7.000	er Auth	4.000 4.000 4.000 4.000	brand and	56.000 80.000 11.200 56.000	ure on wa
19	Applying one coat surface:Water thin inside ,, column FF inside ,,	2 2*4 2	7.000 10.000 0.350 7.000 10.000	er Auth	4.000 4.000 4.000 4.000 4.000	brand and	56.000 80.000 11.200 56.000 80.000	ure on wa
19	Applying one coat surface:Water thin inside ,,, column FF inside ,, Column	2 2*4 2 2 2*4	7.000 10.000 0.350 7.000 10.000 0.350	er Auth	4.000 4.000 4.000 4.000 4.000	brand and	56.000 80.000 11.200 56.000 80.000 11.200	ure on wa
19	Applying one coat surface:Water thin inside ,,, column FF inside ,, Column Out side wall	2 2*4 2 2*4 1	7.000 10.000 0.350 7.000 10.000 0.350 35.600	er Auth	4.000 4.000 4.000 4.000 4.000 4.000 8.450	brand and	56.000 80.000 11.200 56.000 80.000 11.200 300.820	are on wa
19	Applying one coat surface:Water thin inside ,,, column FF inside ,, Column Out side wall parapt	2 2 2*4 1 1 1	7.000 10.000 0.350 7.000 10.000 0.350 35.600 37.200	er Auth	4.000 4.000 4.000 4.000 4.000 4.000 8.450	brand and	56.000 80.000 11.200 56.000 80.000 11.200 300.820 37.200	are on wa
19	Applying one coat surface:Water thin inside ,,, column FF inside ,, Column Out side wall parapt Rolling Shutter	2 2 2*4 1 1 1*2	7.000 10.000 0.350 7.000 10.000 0.350 35.600 37.200 3.000	er Auth	4.000 4.000 4.000 4.000 4.000 4.000 8.450	brand and	56.000 80.000 11.200 56.000 80.000 11.200 300.820 37.200 -18.000	are on wa
19	Applying one coat surface:Water thin inside "column FF inside "Column Out side wall parapt Rolling Shutter Slab Bott	2 2 2*4 1 1 1 1*2 2	7.000 10.000 0.350 7.000 10.000 0.350 35.600 37.200 3.000 10.000	3.000 7.000	4.000 4.000 4.000 4.000 4.000 4.000 8.450	brand and	56.000 80.000 11.200 56.000 80.000 11.200 300.820 37.200 -18.000 140.000	are on wa
19	Applying one coat surface:Water thin inside "column FF inside "Column Out side wall parapt Rolling Shutter Slab Bott Beam	2 2 2*4 1 1 1*2 2 4*2	7.000 10.000 0.350 7.000 10.000 0.350 35.600 37.200 3.000 10.000 6.200	3.000 7.000 0.550	4.000 4.000 4.000 4.000 4.000 4.000 8.450	brand and	56.000 80.000 11.200 56.000 80.000 11.200 300.820 37.200 -18.000 140.000 27.281	are on wa
19	Applying one coat surface:Water thin inside "column FF inside "Column Out side wall parapt Rolling Shutter Slab Bott Beam "	2 2 2*4 2 2 2*4 1 1 1*2 2 4*2 2*2	7.000 10.000 0.350 7.000 10.000 0.350 35.600 37.200 3.000 10.000 6.200 9.400	3.000 7.000 0.550 0.350	4.000 4.000 4.000 4.000 4.000 4.000 8.450	brand and	56.000 80.000 11.200 56.000 80.000 11.200 300.820 37.200 -18.000 140.000 27.281 13.160	are on wa
19	Applying one coat surface:Water thin inside "column FF inside "Column Out side wall parapt Rolling Shutter Slab Bott Beam "Proj GF	2 2*4 2 2*4 1 1 1*2 2 4*2 2*2 1	7.000 10.000 0.350 7.000 10.000 0.350 35.600 37.200 3.000 10.000 6.200 9.400 36.400	3.000 7.000 0.550 0.350	4.000 4.000 4.000 4.000 4.000 4.000 8.450	brand and	56.000 80.000 11.200 56.000 80.000 11.200 300.820 37.200 -18.000 140.000 27.281 13.160 20.020	are on wa

					Tota	l Quantity	853.416 sq	m
				-	Total Deducted			
					Net Tota	l Quantity	835.416 sqr	m
			S	ay 835.416	sqm @ Rs 69	9.32 / sqm	Rs 579	911.04
20	13.61.1 Painting with synthemore coats on new	•	aint of approv	ved brand a	and manufactu	ire to give	an even sha	ade:Two or
	Rolling Shutter	1	3.000	3.000		2.5	22.500	
	Stair	2	2.500	0.900			4.500	
	Landing	1	2.000	1.000			2.000	
	Hand rail	1	14.500	0.900			13.050	
					Tota	l Quantity	42.050 sqn	n
			23 1	6 2	Total Deducted	d Quantity	0.000 sqm	
		FL.	TY II	27/1	Net Tota	l Quantity	42.050 sqm	l
		1 1/2-	S	ay 42.050 s	sqm @ Rs 140).37 / sqm	Rs 59	02.56
	achieve even shade	K O1						
	inside	2	7.000 _	er Auth	4.000		56.000	
	inside	2		er Auth	-/		56.000 80.000	
	inside ,,, column		7.000 10.000 0.350	er Auth	4.000	1		
	"	2	10.000	er Auth	4.000	1	80.000	
	column	2*4	10.000	er Auth	4.000 4.000 4.000	1	80.000	
	column FF inside	2 2*4 2	10.000 0.350 7.000	er Auth	4.000 4.000 4.000 4.000	1	80.000 11.200 56.000	
	column FF inside	2 2*4 2 2	10.000 0.350 7.000 10.000	er Auth	4.000 4.000 4.000 4.000 4.000	/	80.000 11.200 56.000 80.000	
	column FF inside Column	2 2*4 2 2 2*4	10.000 0.350 7.000 10.000 0.350	er Auth	4.000 4.000 4.000 4.000 4.000		80.000 11.200 56.000 80.000 11.200	
	column FF inside Column Out side wall	2 2*4 2 2 2*4 1	10.000 0.350 7.000 10.000 0.350 35.600	3.000	4.000 4.000 4.000 4.000 4.000 4.000 8.450		80.000 11.200 56.000 80.000 11.200 300.820	
	column FF inside Column Out side wall parapt	2 2 2 2 2*4 1	10.000 0.350 7.000 10.000 0.350 35.600 37.200		4.000 4.000 4.000 4.000 4.000 4.000 8.450		80.000 11.200 56.000 80.000 11.200 300.820 37.200	
	column FF inside Column Out side wall parapt Rolling Shutter	2 2 2 2*4 1 1 1*2	10.000 0.350 7.000 10.000 0.350 35.600 37.200 3.000	3.000	4.000 4.000 4.000 4.000 4.000 4.000 8.450		80.000 11.200 56.000 80.000 11.200 300.820 37.200 -18.000	
	column FF inside Column Out side wall parapt Rolling Shutter Slab Bott	2 2 2 2*4 1 1 1*2 2	10.000 0.350 7.000 10.000 0.350 35.600 37.200 3.000 10.000	3.000	4.000 4.000 4.000 4.000 4.000 4.000 8.450		80.000 11.200 56.000 80.000 11.200 300.820 37.200 -18.000 140.000	
	column FF inside Column Out side wall parapt Rolling Shutter Slab Bott Beam	2 2 2 2*4 1 1 1*2 2 4*2	10.000 0.350 7.000 10.000 0.350 35.600 37.200 3.000 10.000 6.200	3.000 7.000 0.550	4.000 4.000 4.000 4.000 4.000 4.000 8.450		80.000 11.200 56.000 80.000 11.200 300.820 37.200 -18.000 140.000 27.281	
	column FF inside Column Out side wall parapt Rolling Shutter Slab Bott Beam ""	2 2*4 2 2*4 1 1 1*2 2 4*2 2*2	10.000 0.350 7.000 10.000 0.350 35.600 37.200 3.000 10.000 6.200 9.400	3.000 7.000 0.550 0.350	4.000 4.000 4.000 4.000 4.000 4.000 8.450		80.000 11.200 56.000 80.000 11.200 300.820 37.200 -18.000 140.000 27.281 13.160	

	Ramp side	2*1/2	3.000	0.450			1.350	
					To	otal Quantity	853.416 sc	mp
				Т	otal Deduc	ted Quantity	-18.000 sqr	n
					Net To	otal Quantity	835.416 sq	m
			Sa	y 835.416 s	qm @ Rs 1	23.40 / sqm	Rs 103	090.33
SI No	Description	No	L	В	D	CF	Quantity	Remark
		19PSF/ACF F	Foundation	(Cost In	dex:33.05	%)		
1	2.6.1 Earth work in exc (exceeding 30 cm earth, lead up to 50 soil	in depth, 1.5 m	n in width as	well as 10	sqm on pla	ın) including	disposal of	excavat
		1	16.200	8.200	0.300		39.852	
			267 9		To	otal Quantity	39.852 cur	n
		11		$\frac{1}{2}$	otal Deduc	ted Quantity	0.000 cum	
		12			Net To	otal Quantity	39.852 cum	า
2	4.1.6 Providing and layin shuttering - All work	T.	ement concr	ete of speci	fied grade	-	e cost of ce	•
2	Providing and layin	T.	ement concr	ete of speci	fied grade	excluding th	e cost of ce	ntering a
2	Providing and layin shuttering - All work	c up to plinth lev	ement concrevel:1:3:6 (21)	ete of speci	fied grade coarse sand	excluding the	e cost of ce stone aggree 19.926	ntering a
2	Providing and layin shuttering - All work	c up to plinth lev	ement concrevel:1:3:6 (21	ete of speci cement : 3 c	fied grade coarse sand 0.150	excluding the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control	e cost of ce stone aggree 19.926 19.926 cur	ntering a
2	Providing and layin shuttering - All work	c up to plinth lev	ement concrevel:1:3:6 (21	ete of speci cement : 3 c	fied grade coarse sand 0.150 To Total Deduction	excluding the	e cost of ce stone aggree 19.926 19.926 cur 0.000 cum	ntering a gate 40 r
2	Providing and layin shuttering - All work	c up to plinth lev	ement concrevel:1:3:6 (31 d	ete of speci cement : 3 c 8.200	fied grade coarse sand 0.150 Total Deduction	excluding the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control	19.926 cum	ntering a gate 40 r
3	5.37.1 Providing and laying using cement context transported to site of as per mix design of from transit mixer to including cost of ad concrete, improve we-charge. Note:- Cei	ag in position reent as per approf work in transformation of specified graph of site of laying, almixtures in recovery workability without ment content ement concrevel:1:3:6 (11 of 16.200) Sale ady mixed Maroved designate for reinforce excluding the commended put impairing considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in 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	5.37.1 Providing and laying shuttering - All work nominal size) 5.37.1 Providing and laying using cement context transported to site of as per mix design of from transit mixer to including cost of ad concrete, improve v	ag in position reent as per approf work in transformation of specified graph of site of laying, almixtures in recovery workability without ment content ement concrevel:1:3:6 (11 of 16.200) Sale ady mixed Maroved designate for reinforce excluding the commended put impairing considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the considered in the 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					Fotal Deduct	ted Quantity	0 000 cum	
				<u>'</u>		otal Quantity		<u> </u>
			Sa	v 38.400 cu		00.81 / cum		
4	5.9.1 Centering and shuttericolumns, etc for mass	_		•				
		1	48.000		0.300		14.400	
					To	tal Quantity	14.400 sqr	n
				7	Total Deduct	ted Quantity	0.000 sqm	
					Net To	tal Quantity	14.400 sqm	1
			S	ay 14.400 s	sqm @ Rs 3	29.03 / sqm	Rs 47	38.03
5	5.22.6 Steel reinforcement for binding all complete u		Aug. / CO.		0		• .	
		11/55	16		To	otal Quantity	1536.000 k	kilogram
		486			Fotal Deduct	ed Quantity	0.000 kilogı	ram
			PERM	HE PEN	Net To	tal Quantity	1536.000 k	ilogram
		Ker	Say 1536.0	00 kilogram	n @ Rs 96.4	6 / kilogram	Rs 148	162.56
6	13.7.1 12 mm cement plaster	finished wit	n a floating c	oat of neat	cement of n	nix:1:3 (1 ce	ment : 3 fine	e sand)
	-	1	16.000	8.000			128.000	
		1	48.000		0.300		14.400	
					To	otal Quantity	142.400 sc	mp
				٦	Total Deduct	ted Quantity	0.000 sqm	
					Net To	tal Quantity	142.400 sq	m
					1	93.69 / sqm		061.46
SI No	Description	No No	L Charl (B	D D	CF	Quantity	Remark
1	2.8.1 Earth work in excava trenches or drains (no ramming of bottoms,	ot exceeding lift up to 1.5	chanical mea g 1.5 m in w 5 m, includin	idth or 10 s	ulic excava sqm on plar out the exca	n), including	dressing of	f sides and
	excavated soil as dire	ected, withir	i a lead of 5	O III.AII KIII	us or son			
	excavated soil as dire	ected, within 4	1.700	1.700	1.600		18.496	

					otal Boadot		0.000 cum	
					Net To	tal Quantity	18.496 cun	1
			5	Say 18.496 d	cum @ Rs 2	91.38 / cum	Rs 53	89.36
2	4.1.8 Providing and laying shuttering - All work nominal size)	•		•	ū	J		•
	Column Footing	4	1.700	1.700	0.100		1.156	
	Floor PCC	1	5.000	5.000	0.100		2.500	
	Plinth Bottom	2	5.000	0.350	0.100		0.351	
		2	4.600	0.350	0.100		0.322	
			M		То	tal Quantity	4.329 cum	
		-	£ 1 1	M E	Total Deduct	ed Quantity	0.000 cum	
		619	W. B	S A	Net To	tal Quantity	4.329 cum	
				Sav 4 329 cu	ım @ Rs 66	87.23 / cum	Rs 28	949.02
3	2.25 Filling available exca not exceeding 20 cm 50 m and lift up to 1.9	in depth, co	(excluding ronsolidating e	ock) in trendeach deposi	ches, plinth, ted layer by	sides of for	nd watering	
3	Filling available excanot exceeding 20 cm	in depth, co	(excluding ronsolidating e	ock) in trendeach deposi	ches, plinth, ted layer by 0.350	sides of for ramming a	nd watering	, lead ı
3	Filling available exca not exceeding 20 cm 50 m and lift up to 1.5	in depth, co	(excluding ronsolidating e	each deposi	ches, plinth, ted layer by 0.350	sides of for ramming a tal Quantity	8.750 cum	, lead ı
3	Filling available exca not exceeding 20 cm 50 m and lift up to 1.5	in depth, co	(excluding ronsolidating e	each deposi	ches, plinth, ted layer by 0.350 Total Deduct	sides of for ramming a tal Quantity ed Quantity	8.750 cum	, lead ı
3	Filling available exca not exceeding 20 cm 50 m and lift up to 1.5	in depth, co	(excluding ronsolidating each	each deposi	ches, plinth, ted layer by 0.350 Total Deduct	sides of for ramming a tal Quantity ed Quantity tal Quantity	8.750 8.750 cum 0.000 cum 8.750 cum	, lead ı
4	Filling available exca not exceeding 20 cm 50 m and lift up to 1.5	th neatly dre	(excluding rensolidating each state)	Say 8.750 counter stone of	ches, plinth, ted layer by 0.350 To Total Deduct Net To cum @ Rs 2	sides of for ramming a tal Quantity ed Quantity tal Quantity 53.73 / cum	8.750 cum 0.000 cum 8.750 cum Rs 22	220.14
	Filling available excanot exceeding 20 cm 50 m and lift up to 1.8 Plinth inside filling 50.6.7.1 Laterate masonry wi	th neatly dre	(excluding rensolidating each state)	Say 8.750 counter stone of	ches, plinth, ted layer by 0.350 To Total Deduct Net To cum @ Rs 2	sides of for ramming a tal Quantity ed Quantity tal Quantity 53.73 / cum	8.750 cum 0.000 cum 8.750 cum Rs 22	220.14
	Filling available excarnot exceeding 20 cm 50 m and lift up to 1.5 Plinth inside filling 50.6.7.1 Laterate masonry wire mortar 1:6 for foundations.	th neatly dreation and ba	essed latera	Say 8.750 of the stone of luding all co	ted layer by 0.350 To Total Deduct Net To cum @ Rs 2	sides of for ramming a tal Quantity ed Quantity tal Quantity 53.73 / cum	8.750 cum 0.000 cum 8.750 cum Rs 22	220.14
	Filling available excarnot exceeding 20 cm 50 m and lift up to 1.5 Plinth inside filling 50.6.7.1 Laterate masonry wire mortar 1:6 for foundations.	th neatly dreation and ba	essed lateralsement inc	Say 8.750 contests stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of lu	ted layer by 0.350 To Total Deduct Net To cum @ Rs 2 size 40x20 ost of mate 4.300	sides of for ramming a tal Quantity ed Quantity tal Quantity 53.73 / cum	8.750 8.750 cum 0.000 cum 8.750 cum Rs 22	220.14
	Filling available excarnot exceeding 20 cm 50 m and lift up to 1.5 Plinth inside filling 50.6.7.1 Laterate masonry wire mortar 1:6 for foundation outer wall	th neatly dreation and ba	essed lateralsement inc 5.000 4.600	Say 8.750 contests stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of lu	ches, plinth, ted layer by 0.350 To Total Deduct Net To cum @ Rs 200 ost of mate 4.300 4.300 3.000	sides of for ramming a tal Quantity ed Quantity tal Quantity 53.73 / cum	8.750 8.750 cum 0.000 cum 8.750 cum Rs 22 nearest size r charges e 8.600 7.912 -1.440	220.14 e in cer
	Filling available excarnot exceeding 20 cm 50 m and lift up to 1.5 Plinth inside filling 50.6.7.1 Laterate masonry wire mortar 1:6 for foundation outer wall	th neatly dreation and ba	essed lateralsement inc 5.000 4.600	Say 8.750 contests stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of lu	ches, plinth, ted layer by 0.350 To Total Deduct Net To cum @ Rs 200 ost of mate 4.300 4.300 3.000	sides of for ramming a tal Quantity ed Quantity tal Quantity 53.73 / cum x15cm or rals, labout tal Quantity	8.750 8.750 cum 0.000 cum 8.750 cum Rs 22 nearest size r charges e 8.600 7.912 -1.440 16.512 cur	e in certc.
	Filling available excarnot exceeding 20 cm 50 m and lift up to 1.5 Plinth inside filling 50.6.7.1 Laterate masonry wire mortar 1:6 for foundation outer wall	th neatly dreation and ba	essed lateralsement inc 5.000 4.600	Say 8.750 contests stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of luding all contests on the stone of lu	ches, plinth, ted layer by 0.350 To Total Deduct Net To cum @ Rs 2.25 size 40x20 ost of mate 4.300 4.300 Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct Total Deduct To	sides of for ramming a tal Quantity ed Quantity 53.73 / cum x15cm or rails, labout tal Quantity ed Quantity ed Quantity ed Quantity	8.750 8.750 cum 0.000 cum 8.750 cum Rs 22 nearest size r charges e 8.600 7.912 -1.440 16.512 cur	e in certc.

	concrete for reinforce including pumping of cand reinforcement, incretard setting of concreting including pumping of concreting setting concrete to soluding admete, improve ote:- Cemer	site of laying nixtures in r workability nt content o	g but excluded by the commender without imparts on sidered in the considered in the	ding the cos ed proportion airing streng n this item	t of centering to the constant as per I on the constant the constant the constant and the constant the constant and the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are constant as the constant are	ng, shutterin S: 9103 to bility as per g/cum. Exce	g, finishing accelerate, direction of ess or less	
				Column				
	Column	4	0.200	0.400	4.500		1.441	
				Lintel				
	over wall	2	4.600	0.200	0.200		0.368	
		1	5.000	0.200	0.200		0.200	
		1	5.000	0.200	0.300		0.300	
		-	E. S. W	shade				
		61	5.400	0.600	0.100		0.325	
		1 13-	TANK!	Tie beam	18	Ų.		
		2	5.000	0.200	0.200	L	0.400	
		2	4.600	0.200	0.200		0.368	
			A STATE OF	A STATE OF	То	tal Quantity	3.402 cum	
		Kera	ala Wat	er Auth	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	3.402 cum	
			Sa	ny 3.402 cum		1		940.07
6	5.37.1 Providing and laying in using cement content transported to site of was per mix design of s from transit mixer to sitincluding cost of admix	as per appr ork in trans pecified gra te of laying, tures in rec	roved design bit mixer for ade for reinfort excluding the commended	n mix, manuall leads, ha orced cemene cost of ceproportions	ufactured in aving continu nt concrete entering, shu as per IS: 9	fully automous agitate work include the transfer work include the transfer finis acceptance of the transfer acceptance and the transfer acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance acceptance accepta	atic batching od mixer, ma ling pumping hing and rein elerate/ retar	g plant and inufactured g of R.M.C. inforcement d setting of
	concrete, improve work -charge. Note:- Cemer per design mix is paya	nt content co	onsidered ir	this item is	@330 kg/d		s /less ceme	_
	-charge. Note:- Cemer	nt content co	onsidered ir able separa	this item is	s @330 kg/d		s /less ceme	_
	-charge. Note:- Cemer	nt content co	onsidered ir able separa	n this item is	s @330 kg/d		1.350	_
	-charge. Note:- Cemer per design mix is paya	nt content couble/recover	onsidered ir able separa Col	n this item is stely.All wior umn footing	s @330 kg/o			_
	-charge. Note:- Cemer per design mix is paya Column Footing	nt content couble/recover	considered ir able separa Col 1.500 1.500	this item is tely.All wior umn footing.			1.350	_

				Plinth beam	1			
	PB1	2	5.000	0.200	0.450		0.900	
	PB2	2	4.600	0.200	0.450		0.828	
					То	tal Quantity	4.417 cum	
				٦	Γotal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	4.417 cum	
			S	ay 4.417 cı	ım @ Rs 97	00.81 / cum	Rs 42	848.48
7	5.22.6 Steel reinforcement for binding all complete up		-		-	• .		
	@100 Kg / Cum of Concrete Qty , ie	1	3.402+4.4 17	A	100.000		781.900	
		-	£ 2 1	W 35.7	То	tal Quantity	781.900 ki	logram
		6	X 2	S. 14	Γotal Deduct	ed Quantity	0.000 kilog	ram
		B	4 NW		Net To	tal Quantity	781.900 kil	ogram
		M.	Say 781.9	00 kilogram	n @ Rs 96.4	6 / kilogram	Rs 75	422.07
	Centering and shuttering columns, etc for mass c		ala Wat	er Auth	0.150	tal Quantity	3.600 3.600 sqm	
					Fotal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	3.600 sqm	
				Say 3.600 s	sqm @ Rs 3	29.03 / sqm	Rs 11	84.51
9	5.9.6 Centering and shutteri Abutments, Posts and	•	ing strutting	, etc. and	removal of	form for:C	olumns, Pil	lars, Pie
		4	1.200		4.500		21.600	
					То	tal Quantity	21.600 sqr	n
				7	Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	21.600 sqm	1
			S	ay 21.600 s	sqm @ Rs 8	47.46 / sqm	Rs 18	305.14
10	5.9.5 Centering and shutteringirders bressumers and	-	•	etc. and ren	noval of form	n for:Lintels	, beams, pl	nth bear

				Lintel				
	over wall	2*2	4.600		0.200		3.680	
		1*2	5.000		0.200		2.000	
		1*2	5.000		0.300		3.000	
	Bottom	1	2.400	0.200			0.480	
	shade	1	5.600	0.600			3.360	
	Tie beam	2*2	5.000		0.200		4.000	
		2*2	4.600		0.200		3.680	
				Plinth beam	ו			
	PB1	2*2	5.000	//S	0.450		9.000	
	PB2	2*2	4.600	1/42	0.450		8.280	
					То	tal Quantity	37.480 sqr	n
			X 2	K. A	Γotal Deduct	ed Quantity	0.000 sqm	
		16	4100		Net To	tal Quantity	37.480 sqm	1
			5	Say 37.480 s	sqm @ Rs 6	37.64 / sqm	Rs 238	398.75
11	12.1.1 Providing corrugate hooks, bolts and nu filled with white lea	ts 8 mm diam d, including a	eter with bit coat of ap	umen and C proved stee	3.I. limpet w I primer an	ashers or w d two coats	ith G.I. limp	et wash ed paint
11	Providing corrugate hooks, bolts and nu filled with white lea overlapping of sheet cost of purlins, rafte	ts 8 mm diam d, including a ts complete (u ers and trusse	eter with bit coat of ap up to any pito and includ	umen and C proved stee ch in horizon ling cutting	G.I. limpet w el primer an ntal / vertical	ashers or w d two coats or curved s	ith G.I. limp of approve urfaces), ex	et wash ed paint cluding
11	Providing corrugate hooks, bolts and nu filled with white lea overlapping of sheet cost of purlins, rafte thick with zinc coati	ts 8 mm diam d, including a ts complete (u ers and trusse ng not less th	eter with bit coat of ap up to any pito and includ an 275 gm/r	umen and C proved stee ch in horizon ling cutting m2	G.I. limpet w el primer an ntal / vertical	ashers or w d two coats or curved s	ith G.I. limp s of approve surfaces), ex ever require	et wash ed paint cluding
11	Providing corrugate hooks, bolts and nu filled with white lea overlapping of sheet cost of purlins, rafte	ts 8 mm diam d, including a ts complete (u ers and trusse	eter with bit coat of ap up to any pito and includ	umen and C proved stee ch in horizon ling cutting	G.I. limpet well primer an ntal / vertical to size and s	ashers or w d two coats or curved s shape wher	ith G.I. limp s of approve surfaces), ex ever require 52.800	et wash ed paint ccluding ed.1.00 i
11	Providing corrugate hooks, bolts and nu filled with white lea overlapping of sheet cost of purlins, rafte thick with zinc coati	ts 8 mm diam d, including a ts complete (u ers and trusse ng not less th	eter with bit coat of ap up to any pito and includ an 275 gm/r	umen and C proved stee ch in horizon ling cutting m2 6.600	G.I. limpet well primer an antal / vertical to size and a	ashers or w d two coats or curved s shape where tal Quantity	ith G.I. limps of approve surfaces), exever require 52.800	et wash ed paint ccluding ed.1.00 i
11	Providing corrugate hooks, bolts and nu filled with white lea overlapping of sheet cost of purlins, rafte thick with zinc coati	ts 8 mm diam d, including a ts complete (u ers and trusse ng not less th	eter with bit coat of ap up to any pito and includ an 275 gm/r	umen and C proved stee ch in horizon ling cutting m2 6.600	G.I. limpet well primer an Intal / vertical to size and to Total Deduct	ashers or w d two coats or curved s shape where tal Quantity ed Quantity	ith G.I. limps of approve surfaces), exever require 52.800 52.800 sqr 0.000 sqm	et wash ed paint ccluding ed.1.00 i
11	Providing corrugate hooks, bolts and nu filled with white lea overlapping of sheet cost of purlins, rafte thick with zinc coati	ts 8 mm diam d, including a ts complete (u ers and trusse ng not less th	eter with bit coat of ap up to any pite and includ an 275 gm/r 4.000	umen and C proved stee ch in horizon ing cutting m2 6.600	G.I. limpet well primer an intal / vertical to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size an	ashers or w d two coats or curved s shape where tal Quantity ed Quantity	ith G.I. limps of approve surfaces), exever require 52.800 sqr 0.000 sqm 52.800 sqm	et washed paint coluding ed.1.00 i
	Providing corrugate hooks, bolts and nu filled with white lea overlapping of sheet cost of purlins, rafte thick with zinc coati	ts 8 mm diam d, including a ts complete (u ers and trusse ng not less th	eter with bit coat of ap up to any pite and includ an 275 gm/r 4.000	umen and C proved stee ch in horizon ing cutting m2 6.600	G.I. limpet well primer an Intal / vertical to size and to Total Deduct	ashers or w d two coats or curved s shape where tal Quantity ed Quantity	ith G.I. limps of approve surfaces), exever require 52.800 sqr 0.000 sqm 52.800 sqm	et washed paint coluding ed.1.00 i
11	Providing corrugate hooks, bolts and nu filled with white lea overlapping of sheet cost of purlins, rafte thick with zinc coati	ts 8 mm diam d, including a ts complete (ters and trusseing not less the	eter with bit coat of ap up to any pitos and includan 275 gm/r 4.000	umen and C proved stee ch in horizon ing cutting m2 6.600	G.I. limpet well primer an intal / vertical to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size an	ashers or w d two coats or curved s shape where tal Quantity ed Quantity	ith G.I. limps of approve surfaces), exever require 52.800 sqr 0.000 sqm 52.800 sqm	et washed paint coluding ed.1.00 i
	Providing corrugate hooks, bolts and nu filled with white lea overlapping of sheet cost of purlins, rafte thick with zinc coati Roofing	ts 8 mm diam d, including a ts complete (ters and trusseing not less the	eter with bit coat of ap up to any pitos and includan 275 gm/r 4.000	umen and C proved stee ch in horizon ing cutting m2 6.600	G.I. limpet well primer an intal / vertical to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size an	ashers or w d two coats or curved s shape where tal Quantity ed Quantity	ith G.I. limps of approve surfaces), exever require 52.800 sqr 0.000 sqm 52.800 sqm	et washed paint coluding ed.1.00 i
	Providing corrugate hooks, bolts and nu filled with white lea overlapping of sheet cost of purlins, rafte thick with zinc coati Roofing 13.1.1 12 mm cement plast	ts 8 mm diam d, including a ts complete (ters and trusseing not less the 2	eter with bit coat of ap up to any pites and include an 275 gm/r 4.000	umen and C proved stee ch in horizon ing cutting m2 6.600	G.I. limpet well primer an intal / vertical to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size an	ashers or w d two coats or curved s shape where tal Quantity ed Quantity	ith G.I. limp s of approve surfaces), exever require 52.800 52.800 sqr 0.000 sqm 52.800 sqm Rs 752	et washed paint coluding ed.1.00 i
	Providing corrugate hooks, bolts and nu filled with white lea overlapping of sheet cost of purlins, rafte thick with zinc coati Roofing 13.1.1 12 mm cement plast inside wall	ts 8 mm diam d, including a ts complete (ters and trusseing not less the 2 ter of mix:1:4 (eter with bit coat of ap up to any pites and include an 275 gm/r 4.000	umen and C proved stee ch in horizon ing cutting m2 6.600	G.I. limpet well primer an intal / vertical to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size an	ashers or w d two coats or curved s shape where tal Quantity ed Quantity	ith G.I. limps of approve surfaces), exever require 52.800 52.800 sqm 0.000 sqm Rs 752 90.000	et washed paint coluding ed.1.00 i
	Providing corrugate hooks, bolts and nu filled with white lea overlapping of sheet cost of purlins, rafte thick with zinc coati Roofing 13.1.1 12 mm cement plast inside wall	ts 8 mm diam d, including a ts complete (ters and trusseing not less the 2 ter of mix:1:4 (4 4	eter with bit coat of apup to any pites and include an 275 gm/r 4.000 Sa 1 cement: 4 5.000 5.400	umen and C proved steech in horizon ing cutting m2 6.600 4 fine sand) 4.500 4.900	G.I. limpet well primer an intal / vertical to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size an	ashers or w d two coats or curved s shape where tal Quantity ed Quantity	52.800 sqm 52.800 sqm 752.800 sqm 752.800 sqm 752.800 sqm 752.800 sqm 752.800 sqm 852.801 sqm 852.802 sqm 1052.803 sqm	et washed paint coluding ed.1.00 i
	Providing corrugate hooks, bolts and nu filled with white lea overlapping of sheet cost of purlins, rafte thick with zinc coati Roofing 13.1.1 12 mm cement plast inside wall outside wall basement	ts 8 mm diam d, including a ts complete (ters and trusseing not less the 2 er of mix:1:4 (4 4 4	eter with bit coat of apup to any pites and include an 275 gm/r 4.000 Sa 1 cement: 4 5.000 5.400	umen and C proved stee ch in horizon ing cutting m2 6.600 4 fine sand) 4.500 4.900 0.300	G.I. limpet well primer an intal / vertical to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size and to size an	ashers or w d two coats or curved s shape where tal Quantity ed Quantity	52.800 sqm 52.800 sqm 752.800 sqm 752.800 sqm 752.800 sqm 752.800 sqm 752.800 sqm 852.800 sqm 852.800 sqm 652.800 sqm	et washed paint coluding ed.1.00 i

					Total Daduct	ad Ouantitu	14 200 ogr	<u> </u>
				<u>'</u>	Total Deduct			
				100 000 a		<u>-</u>	192.082 sq	
13	13.9.2 Cement plaster 1:3 (1 cement plaster	cement :		•	sqm @ Rs 30	•		201.59 ent.20 mm
	·	1	5.000	5.000			25.000	
					То	tal Quantity	25.000 sqr	n
				Т	Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	25.000 sqm	1
			/98	Say 25.000 s	sqm @ Rs 5	32.13 / sqm	Rs 13	303.25
14	Structural steel work ricutting, hoisting, fixing For truss - 75x75mm			The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s				_
	IS angle	4*0	F 400	86°,2445. J		0.70	202.000	
	Horizontal Tie, Brazing 45x45 mm	4*2	5.400		76	6.78	292.896	
	MS Angle	4*2	2.000	A HOUSE		3.95	63.200	
		4*4era	ala _{1.000} at	er Auth	ority	3.95	63.200	
	vertical	4*1	2.000			3.95	31.600	
	Purlin 50x50 mm MS Tub 16g	2*5	6.500			4.42	287.300	
					То	tal Quantity	944.308 kg	J
				Т	Total Deduct	ed Quantity	0.000 kg	
					Net To	tal Quantity	944.308 kg	
				Say 944.3	08 kg @ Rs	117.55 / kg	Rs 111	003.41
15	13.43.1 Applying one coat of surface:Water thinnab			ent primer o	of approved	brand and	I manufactu	ure on wal
	inside wall	4	5.000	4.500			90.000	
	outside wall	4	5.400	4.900			105.841	
	basement	4	5.400	0.300			6.480	
	Tie beam top	4	5.200	0.200			4.160	
	Rolling shutter	2	2.400	3.000			-14.399	
					То	tal Quantity	206.481 sc	Įm

3.82.2 'all painting with actains / litre, of approchieve even shade side wall	oved brand and	paint, havir I manufactu	•		otal Quantity 69.32 / sqm	192.082 sqr Rs 13 3	
all painting with actains and litre, of approchieve even shade side wall	oved brand and and colour.Tw	paint, havir I manufactu	•	sqm @ Rs	69.32 / sqm	Rs 133	315.12
all painting with actains and litre, of approchieve even shade side wall	oved brand and and colour.Tw	I manufactu	na VOC (Va				
	4		•	_	•	•	
ıtside wall		5.000	4.500			90.000	
	4	5.400	4.900			105.841	
asement	4	5.400	0.300			6.480	
e beam top	4	5.200	0.200			4.160	
olling shutter	2	2.400	3.000			-14.399	
	1	3 6	8 2	To	tal Quantity	206.481 sq	m
	613	Y M	200	Total Deduct	ed Quantity	-14.399 sqn	n
	1 15-00			Net To	tal Quantity	192.082 sqr	n
	104	Sa	y 192.082	sqm @ Rs 1	23.40 / sqm	Rs 237	02.92
anufacturers spec	ifications:Paint pplied @ 0.90	ing Steel wo	ork with De	luxe Multi Si	urface Paint	to give an e	ven shade
olling Shutter	1	2.400	3.000		0.5		
					2.5	18.000	
uss work	4 *1/2	5.400	2.000		0.5	18.000	
russ work urline	4 *1/2 2*5	5.400 5.800	2.000 0.200				
				To		10.800	1
			0.200	Total Deduct	0.5 etal Quantity	10.800 11.600 40.400 sqm 0.000 sqm	
		5.800	0.200	Total Deduct	0.5 otal Quantity ted Quantity otal Quantity	10.800 11.600 40.400 sqm 0.000 sqm 40.400 sqm	
		5.800	0.200	Total Deduct	0.5 otal Quantity ted Quantity otal Quantity	10.800 11.600 40.400 sqm 0.000 sqm	
3 1 2	olling shutter 3.48.3 nishing with Deluganufacturers spector work coat a sproved brand and	olling shutter 2 3.48.3 nishing with Deluxe Multi surfacturers specifications:Paint vo or more coat applied @ 0.90 proved brand and manufacture	Sanishing with Deluxe Multi surface paint sanufacturers specifications:Painting Steel wo or more coat applied @ 0.90 ltr/10 sqm opproved brand and manufacture	Say 192.082 solutions with Deluxe Multi surface paint system for anufacturers specifications: Painting Steel work with Deluxe or more coat applied @ 0.90 ltr/10 sqm over an uncorproved brand and manufacture	Total Deduct Net Total Say 192.082 sqm @ Rs 1 3.48.3 nishing with Deluxe Multi surface paint system for interiors and anufacturers specifications: Painting Steel work with Deluxe Multi Surface or more coat applied @ 0.90 ltr/10 sqm over an under coat of paproved brand and manufacture	Total Quantity Total Deducted Quantity Net Total Quantity Say 192.082 sqm @ Rs 123.40 / sqm 3.48.3 nishing with Deluxe Multi surface paint system for interiors and exteriors anufacturers specifications: Painting Steel work with Deluxe Multi Surface Paint wo or more coat applied @ 0.90 ltr/10 sqm over an under coat of primer applied	Total Quantity 206.481 sq Total Deducted Quantity -14.399 sqn Net Total Quantity 192.082 sqn Say 192.082 sqm @ Rs 123.40 / sqm Rs 237 8.48.3 nishing with Deluxe Multi surface paint system for interiors and exteriors using print anufacturers specifications; Painting Steel work with Deluxe Multi Surface Paint to give an expoor more coat applied @ 0.90 ltr/10 sqm over an under coat of primer applied @ 0.80 ltr

	"Road side Protection wall foundation	1	150.000	0.950	0.700		99.750	
	,,	1	150.000	1.400	0.700		147.000	
					То	tal Quantity	246.750 cเ	ım
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	246.750 cu	m
			Sa	y 246.750 c	um @ Rs 2	91.38 / cum	Rs 718	398.02
2	4.1.8 Providing and laying in shuttering - All work up nominal size)	-		•	_	_		_
	Road side Protection wall foundation	1	150.000	0.750	0.100		11.250	
	,,	1	150.000	1.200	0.100		18.000	
		11	Def	23/2	То	tal Quantity	29.250 cur	n
		1 B	DE	CAL T	otal Deduct	ed Quantity	0.000 cum	
		1,646	L 233		Net To	tal Quantity	29.250 cum	1
			Sa	y 29.250 cu	m @ Rs 66	87.23 / cum	Rs 195	601.48
3	7.1.1 Random rubble mason concrete 1:6:12 (1 cemellevel with:Cement mortal	ent : 6 coa	rse sand : 12	graded sto				
	Road side Protection wall foundation	1	150.000	0.750	0.600		67.500	
	,,	1	150.000	1.000	0.600			
					0.000		90.000	
						tal Quantity	90.000 157.500 cu	ım
				Т	То	tal Quantity ed Quantity	157.500 cเ	ım
				Т	To otal Deduct	ed Quantity	157.500 cเ	
					To otal Deduct Net To	ed Quantity	157.500 cu 0.000 cum 157.500 cu	
4	7.2.1 Random rubble mason including leveling up wit 20 mm nominal size) a sand)	h cement	Say rd stone in s concrete 1:6:	157.500 cu uperstructu 12 (1 cemer	Total Deduct Net To m @ Rs 70 re above plant: 6 coarse	ed Quantity tal Quantity 69.81 / cum linth level a	157.500 cu 0.000 cum 157.500 cu Rs 111:	m 3495.08 r five leve e aggregate

				1				
		1	150.000	(1.00+0.50)/2	1.500		168.750	
					То	tal Quantity	262.500 cı	ım
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	262.500 cu	m
			Say	262.500 cu	m @ Rs 872	21.89 / cum	Rs 228	9496.13
5	5.1.2 Providing and laying in centering, shuttering, find sand :3 graded stone as	nishing and	reinforceme	ent - All work			•	
	RR Top Belt	2	150.000	0.500	0.100		15.000	
			160		То	tal Quantity	15.000 cur	n
			Z./1	1	otal Deduct	ed Quantity	0.000 cum	
		1	37.9	R X	Net To	tal Quantity	15.000 cum	า
		1 k	Sa	ny 15.000 cu	m @ Rs 89	14.95 / cum	Rs 133	724.25
6	5.9.5 Centering and shutteri		200 March 1994	etc. and rem	oval of forn	n for:Lintels	, beams, pl	inth beams,
	RR Top Belt	2*2 Ker	150.000 ala Wat	or Auth	0.100		60.000	
		KCI	ara wat	CI Auti	То	tal Quantity	60.000 sqr	n
		\mathcal{P}	R	Т Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	60.000 sqn	1
			S	Say 60.000 s	qm @ Rs 6	37.64 / sqm	Rs 38	258.40
7	5.22.6 Steel reinforcement for binding all complete u		· · · · · · · · · · · · · · · · · · ·				• .	
	@60Kg/1Cum of CC	1	15.000			60.0	900.000	
					То	tal Quantity	900.000 ki	logram
				Т	otal Deduct	ed Quantity	0.000 kilog	ram
					Net To	tal Quantity	900.000 kil	ogram
			Say 900.0	000 kilogram	@ Rs 96.4	6 / kilogram	Rs 86	814.00
8	2.32 Clearing grass and red cleared.	moval of th	e rubbish up	o to a distar	nce of 50 m	outside the	e periphery	of the area
	STP Site area	1	100.000	80.000			8000.000	
					То	tal Quantity	8000.000 \$	sqm
	'							

						ed Quantity		
					Net To	tal Quantity	8000.000 s	qm
			S	ay 8000.00	0 sqm @ Rs	37.38 / sqm	Rs 590	040.00
9	2.33.3 Felling trees of the girth branches, removing the material.Beyond 120 of	ne roots a	and stacking	of service	able materi	•	-	
	STP Site	12					12.000	
					To	tal Quantity	12.000 No	
				7	Total Deduct	ed Quantity	0.000 No	
			- 60	65	Net To	tal Quantity	12.000 No	
			JAN	Say 12.000	No @ Rs 9	079.27 / No	Rs 108	951.24
	Engineer-in-charge.		150.000	5.000	1.0000		750.000	
	,, Road Formation	1	150.000	5.000	1.0000		750.000	
	STP Site filling	1	100.000	80.000	2.000		16000.000	
		Ker	ala Wat	er Auth		tal Quantity ed Quantity		cum
			D 1				16750.000	cum
			Say 1	16750.000 d	cum @ Rs 3	77.07 / cum	Rs 631	5922.50
11	100.41.39 Supply ,stacking,spreacarriage, loading ,unlo	•		•	•	the trench	of pipe line	, includ
	Preparation of new road Base	1	150.000	5.000	0.300		225.000	
	STP Site	1	100.000	80.000	0.200		1600.000	
					To	tal Quantity	1825.000 d	cum
				7	Total Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	1825.000 c	um
			Say	1825.000 d	 cum @ Rs 5	43.16 / cum	Rs 991	267.00
12	od341039/2021_2022 Construction of granula with dr>a br>motor granula				-	•		•

							1	
	Preparation of new approach road Base	1	150.000	3.500	0.300		157.500	
	Internal Roads	1	200.000	3.500	0.200		140.000	
	STP Site	1	100.000	80.000	0.200		1600.000	
					То	tal Quantity	1897.500 d	cum
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	1897.500 c	um
			Say 1	897.500 cu	ım @ Rs 372	29.38 / cum	Rs 707	6498.55
13	od341041/2021_2022 Providing and applyi granular br>Base includes using br>mechanical materials	ding cleari				` '		
	Formation of Approach Road	1	150.000	3.200			480.000	
	Internal Roads	1	200.000	3.200	441		640.000	
		1A			То	tal Quantity	1120.000 s	sqm
				360 V 1	otal Deduct	ed Quantity	0.000 sqm	
		1439		100	Net To	tal Quantity	1120.000 s	qm
		Ker	ala Wat	y 1120.000	sqm @ Rs	59.03 / sqm	Rs 66	113.60
14	od341042/2021_2022 Providing and applying at broom Formation of Approach Road				` '		•	
	Internal Roads	1	200.000	3.200			640.000	
	,				То	tal Quantity	1120.000 s	sqm
				Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	1120.000 s	qm
			Sa	y 1120.000	sqm @ Rs	10.41 / sqm	Rs 110	659.20
15	od341043/2021_2022 Providing, laying and romm departmental agg grade bitumen to reexisting surface 	regates pequired lin	premixed with ne, grade and	th 12.96 kg	g of bitume a previously	n per 10 s prepared b	qm using p base, after p	enetratio priming th

grades, followed by a seal coat of < br > 0.09 cum of 6 mm departmental aggregates premixed with 8.64 kg

of bitumen per 10 sqm.By Manual
Means.

	Formation of Approach Road	1	150.000	3.200			480.000	
	Internal Roads	1	200.000	3.200			640.000	
					То	tal Quantity	1120.000 s	sqm
				Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	1120.000 s	qm
			Say	1120.000 s	qm @ Rs 1	76.52 / sqm	Rs 197	702.40
16	od341046/2021_2022 Seal Coat - Manual Movoids in a bituminou B and Formation of	is surface er Technica	laid to the sp	ecified leve on Clause 5	ls, grade <br< th=""><th>>and cross</th><th>fall using Ty ans:-Case -</th><th>/ре А, Туре</th></br<>	>and cross	fall using Ty ans:-Case -	/ре А, Туре
	Approach Road	1	150.000	3.200			480.000	
	Internal Roads	1	200.000	3.200	1 0		640.000	
		C.L.		73. J.A	То	tal Quantity	1120.000 s	sqm
		LAS		NAS J	otal Deduct	ed Quantity	0.000 sqm	
	50				Net To	tal Quantity	1120.000 s	qm
			Sa	y 1120.000	sqm @ Rs	78.00 / sqm	Rs 87	360.00
SI No	Description		ala Wat	er Auth	. p	CF	Rs 873	Remark
Si No	·	on by me exceeding tup to 1.	ater Drains chanical mea	(Cost Incompans (Hydra idth or 10 s	dex:33.05 % ulic excava sqm on plar ut the exca	CF (6) (tor) /manua (n), including	Quantity al means in dressing o	Remark foundation f sides and
	2.8.1 Earth work in excavati trenches or drains (not ramming of bottoms, life	on by me exceeding tup to 1.	ater Drains chanical mea	(Cost Incompans (Hydra idth or 10 s	dex:33.05 % ulic excava sqm on plar ut the exca	CF (6) (tor) /manua (n), including	Quantity al means in dressing o	Remark foundation f sides and
	2.8.1 Earth work in excavati trenches or drains (not ramming of bottoms, life excavated soil as directions).	on by me exceeding the up to 1.	ater Drains chanical mea g 1.5 m in w 5 m, includin n a lead of 5	(Cost Incompans (Hydra idth or 10 s g getting o 0 m.All kind	dex:33.05 % ulic excava sqm on plar ut the exca ds of soil 0.800	CF (6) (tor) /manua (n), including	Quantity If means in dressing ound disposa	Remark foundation f sides and I of surplus
	2.8.1 Earth work in excavati trenches or drains (not ramming of bottoms, life excavated soil as directions).	on by me exceeding the up to 1.	ater Drains chanical mea g 1.5 m in w 5 m, includin n a lead of 5	(Cost Incompans (Hydra idth or 10 s g getting of m.All kind 0.800	dex:33.05 % ulic excava sqm on plar ut the exca ds of soil 0.800	cf tor) /manua n), including vated soil a	Quantity If means in dressing ound disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the disposated the	Remark foundation f sides and I of surplus
	2.8.1 Earth work in excavati trenches or drains (not ramming of bottoms, life excavated soil as directions).	on by me exceeding the up to 1.	ater Drains chanical mea g 1.5 m in w 5 m, includin n a lead of 5	(Cost Incompans (Hydra idth or 10 s g getting of m.All kind 0.800	dex:33.05 % ulic excava sqm on plar ut the exca ds of soil 0.800 To Total Deduct	cf tor) /manua n), including vated soil a	Quantity al means in dressing ound disposate 192.000 192.000 cum	foundation f sides and I of surplus
	2.8.1 Earth work in excavati trenches or drains (not ramming of bottoms, life excavated soil as directions).	on by me exceeding the up to 1.	ater Drains chanical mea g 1.5 m in w 5 m, includin n a lead of 5 300.000	(Cost Incompans (Hydra idth or 10 stag getting of 0 m.All kind 0.800	dex:33.05 % ulic excava sqm on plar ut the exca ds of soil 0.800 To Total Deduct Net To	cf tor) /manua n), including vated soil a stal Quantity ed Quantity	Quantity al means in dressing ound disposate 192.000 192.000 cum 192.000 cum	foundation f sides and I of surplus
	2.8.1 Earth work in excavati trenches or drains (not ramming of bottoms, life excavated soil as directions).	on by me exceeding the up to 1. Sted, within the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of t	ater Drains chanical mea g 1.5 m in w 5 m, includin n a lead of 5 300.000	(Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost	dex:33.05 % ulic excava sqm on plar ut the exca ds of soil 0.800 To Total Deduct Net To sum @ Rs 2	tor) /manua tor) /manua n), including vated soil a stal Quantity ed Quantity etal Quantity 91.38 / cum	Quantity al means in dressing ound disposa 192.000 cum 192.000 cum 192.000 cum Rs 559	foundation f sides and l of surplus um
1	2.8.1 Earth work in excavati trenches or drains (not ramming of bottoms, life excavated soil as direct For Drain 4.1.8 Providing and laying in shuttering - All work up	on by me exceeding the up to 1. Sted, within the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of the position of t	ater Drains chanical mea g 1.5 m in w 5 m, includin n a lead of 5 300.000	(Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost Inc. (Cost	dex:33.05 % ulic excava sqm on plar ut the exca ds of soil 0.800 To total Deduct Net To tum @ Rs 2	tor) /manua tor) /manua n), including vated soil a stal Quantity ed Quantity etal Quantity 91.38 / cum	Quantity al means in dressing ound disposa 192.000 cum 192.000 cum 192.000 cum Rs 559	foundation f sides and l of surplus um 944.96

				٦	Total Deduct	ed Quantity	0.000 cum	
							24.000 cum	1
			Sa	y 24.000 cu	ım @ Rs 66	<u> </u>		493.52
3	4.1.3 Providing and laying in shuttering - All work up nominal size)	-		•	_	•		_
	Drain Bottom	1	300.000	0.800	0.100		24.000	
	Side wall	2	300.000	0.200	0.600		72.000	
					То	tal Quantity	96.000 cur	n
			m.	65	Total Deduct	ed Quantity	0.000 cum	
			JAN.		Net To	tal Quantity	96.000 cun	1
			Sa	y 96.000 cu	ım @ Rs 78	41.17 / cum	Rs 752	752.32
1	502							
4	5.9.2 Centering and shutterin attached pilasters, butte					for:Walls (a	any thicknes	s) includin
4	Centering and shutterin					for:Walls (a	360.000	s) including
4	Centering and shutterin attached pilasters, butte	eresses, pl	inth and strin	g courses	etc.	for:Walls (a	360.000	
4	Centering and shutterin attached pilasters, butte	eresses, pl	inth and strin	0.600	etc.	otal Quantity	360.000 360.000 so	
4	Centering and shutterin attached pilasters, butte	eresses, pl	inth and strin	0.600	etc. To Total Deduct	tal Quantity	360.000 360.000 so	цm
4	Centering and shutterin attached pilasters, butte	eresses, pl	300.000	0.600	etc. To Total Deduct	etal Quantity ed Quantity tal Quantity	360.000 sq 0.000 sqm 360.000 sq	цm
5	Centering and shutterin attached pilasters, butte	1*2	300.000 ala Wat	0.600 er Auth y 360.000 s	etc. To Total Deduct Net To	etal Quantity ed Quantity tal Quantity	360.000 sq 0.000 sqm 360.000 sq	m m
	Centering and shuttering attached pilasters, butter Drain inside	1*2	300.000 ala Wat	0.600 er Auth y 360.000 s	etc. To Total Deduct Net To	etal Quantity ed Quantity tal Quantity	360.000 sq 0.000 sqm 360.000 sq	m m
	Centering and shuttering attached pilasters, butted Drain inside 13.1.1 12 mm cement plaster of Drain Bottom and Wall	1*2 Kera	ala Wate Sa 1 cement : 4	o.600 er Auth y 360.000 s fine sand)	etc. To Total Deduct Net To	etal Quantity ed Quantity tal Quantity	360.000 360.000 sqm 360.000 sq Rs 253	m m
	Centering and shuttering attached pilasters, butter Drain inside 13.1.1 12 mm cement plaster of Drain Bottom and Wall Top	1*2 Kera of mix:1:4 (ala Wate Sa 1 cement : 4	y 360.000 s fine sand)	Total Deduction Net To	etal Quantity ed Quantity tal Quantity	360.000 360.000 sqm 360.000 sq Rs 253 240.000	qm m :357.20
	Centering and shuttering attached pilasters, butter Drain inside 13.1.1 12 mm cement plaster of Drain Bottom and Wall Top	1*2 Kera of mix:1:4 (ala Wate Sa 1 cement : 4	9 360.000 s fine sand) 0.800	Total Deduction Net To	ed Quantity stal Quantity stal Quantity 03.77 / sqm	360.000 sqm 360.000 sqm 360.000 sq Rs 253 240.000 360.000 sq	qm m :357.20
	Centering and shuttering attached pilasters, butter Drain inside 13.1.1 12 mm cement plaster of Drain Bottom and Wall Top	1*2 Kera of mix:1:4 (ala Wate Sa 1 cement : 4	9 360.000 s fine sand) 0.800	etc. To Total Deduct Net To sqm @ Rs 7	etal Quantity tal Quantity tal Quantity 03.77 / sqm	360.000 sqm 360.000 sqm 360.000 sq Rs 253 240.000 360.000 sq	դm m :357.20
	Centering and shuttering attached pilasters, butter Drain inside 13.1.1 12 mm cement plaster of Drain Bottom and Wall Top	1*2 Kera of mix:1:4 (300.000 ala Wata Sa 1 cement : 4 300.000	9 360.000 s fine sand) 0.800	etc. To Total Deduct Net To sqm @ Rs 7	etal Quantity tal Quantity tal Quantity 03.77 / sqm etal Quantity tal Quantity	360.000 sqm 360.000 sqm 360.000 sq Rs 253 240.000 360.000 sq 600.000 sq 600.000 sqm	դm m :357.20

1	2.8.1 Earth work in excavation trenches or drains (not ramming of bottoms, lift excavated soil as directions).	exceedin t up to 1.	ng 1.5 m in w 5 m, includin	idth or 10 g getting o	sqm on plar out the exca	n), including	dressing o	f sides an
	Compound wall foundation	1	354.000	0.500	0.450		79.650	
	Gate Piller footing	3	1.000	1.000	0.750		2.250	
					To	tal Quantity	81.900 cur	n
				-	Total Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	81.900 cum	1
			S	ay 81.900 (cum @ Rs 2	91.38 / cum	Rs 23	864.02
	Providing and laying in shuttering - All work up nominal size)			•	A	_		-
	Compound wall foundation	1	354.000	0.500	0.100	L	17.700	
	Gate piller	3	1.000	1.000	0.100		0.301	
		V.	eala Wat	A	To	tal Quantity	18.001 cur	n
		Kei	ala wat	el Auu	Total Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	18.001 cum	1
			Sa	y 18.001 cı	um @ Rs 66	87.23 / cum	Rs 120	376.83
3	7.1.1 Random rubble mason concrete 1:6:12 (1 cemelevel with:Cement mortal Compound wall	ent : 6 coa	arse sand : 12	graded sto	•	ū	σ.	
	foundation	·	00 11000					
						tal Quantity		n
					Total Deduct			
			Sa	v 71 685 ci	um @ Rs 70	otal Quantity		
4	50.6.7.2 Laterate masonry with mortar 1:6 for super strucharges etc.		essed latera	te stone of	f size 40x20)x15cm or r	nearest size	in ceme

	Wall	1	354.000	0.200	1.800		127.440	
	Piller Addl.	118	0.350	0.150	1.800		11.151	
					To	tal Quantity	138.591 cı	ım
				7	Total Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	138.591 cu	m
			Say	138.591 cu	ım @ Rs 78	72.98 / cum	Rs 109	1124.17
5	5.1.2 Providing and laying i centering, shuttering, f sand :3 graded stone a	inishing and	d reinforceme	nt - All worl			•	
	Gate Piller Footing	3	1.000	1.000	0.150		0.450	
	,,	3/3	1.000	1.000	0.450		0.450	
			6.11	M. N.	To	tal Quantity	0.900 cum	
		611	X 2	5. A	Total Deduct	ed Quantity	0.000 cum	
		6 6	LKVST	78.B/SA	Not To	tal Overetite	0.000 aum	
					net ro	tal Quantity	10.900 Cum	
6	5.2.2 Reinforced cement corand string courses, fill excluding cost of centers against a graded stone aggred	ets, columr ering, shutte	in walls (any ns, pillars, pie ering, finishin	thickness) ers, abutme g and reinfo	ım @ Rs 89 , including a	14.95 / cum ttached pila	Rs 80 sters, buttre c. up tot flo	or five le
6	Reinforced cement cor and string courses, fill	ets, columr ering, shutte	in walls (any ns, pillars, pie ering, finishin	thickness) ers, abutme g and reinfo	ım @ Rs 89 , including a	14.95 / cum ttached pila	Rs 80 sters, buttre c. up tot flo	esses, pl
6	Reinforced cement con and string courses, fill excluding cost of center 3 graded stone aggreg	ets, columr ering, shutte gate 20 mm	in walls (any ns, pillars, pie ering, finishin nominal size	thickness) ers, abutme g and reinfo	m @ Rs 89 , including a ents, posts a prcement :1:	14.95 / cum ttached pila	Rs 80 sters, buttre c. up tot flo nent : 1.5 co	esses, pl or five le parse sa
6	Reinforced cement con and string courses, fill excluding cost of center 3 graded stone aggreg	ets, columr ering, shutte gate 20 mm	in walls (any ns, pillars, pie ering, finishin nominal size	thickness) ers, abutme g and reinfo) 0.300	, including a ents, posts a procement :1:	ttached pila and struts et 1.5:3(1 cen	Rs 80 sters, buttre c. up tot flo nent : 1.5 co 0.567	esses, pl or five le parse sa
6	Reinforced cement con and string courses, fill excluding cost of center 3 graded stone aggreg	ets, columr ering, shutte gate 20 mm	in walls (any ns, pillars, pie ering, finishin nominal size	thickness) ers, abutme g and reinfo) 0.300	, including a ents, posts a preement :1: 2.100 Total Deduct	ttached pila ind struts et 1.5:3(1 cen	Rs 80 sters, buttre c. up tot flo nent : 1.5 co 0.567 0.567 cum 0.000 cum	esses, pl or five le parse sa
6	Reinforced cement con and string courses, fill excluding cost of center 3 graded stone aggreg	ets, columr ering, shutte gate 20 mm	in walls (any ns, pillars, pie ering, finishin nominal size 0.300	thickness) ers, abutme g and reinfo) 0.300	, including a ents, posts a procement :1: 2.100 Total Deduct	ttached pila ind struts et 1.5:3(1 cen tal Quantity ed Quantity	Rs 80 sters, buttre c. up tot flo nent : 1.5 co 0.567 0.567 cum 0.000 cum 0.567 cum	esses, pli or five le parse sa
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	Reinforced cement cor and string courses, fill excluding cost of center 3 graded stone aggreg gate piller 5.9.1 Centering and shutteri	ets, columnering, shutte gate 20 mm	in walls (any ns, pillars, pie ering, finishing nominal size 0.300	y thickness) ers, abutme g and reinfo) 0.300	, including a ents, posts a procement :1: 2.100 Total Deduct Net Total @ Rs 107	ttached pila ind struts et 1.5:3(1 cen ital Quantity ed Quantity ital Quantity	Rs 80 sters, buttre c. up tot flo nent : 1.5 cc 0.567 0.567 cum 0.000 cum 0.567 cum Rs 60	esses, plior five le parse sa
	Reinforced cement cor and string courses, fill excluding cost of center 3 graded stone aggreg gate piller 5.9.1 Centering and shuttericolumns, etc for mass	ets, columnering, shutte gate 20 mm 3	in walls (any as, pillars, piering, finishing nominal size 0.300	y thickness) ers, abutme g and reinfo) 0.300	im @ Rs 89 including a ents, posts a procement :1: 2.100 Total Deduct Net Total Operation @ Rs 107 oval of form 0.150	ttached pila ind struts et 1.5:3(1 cen ital Quantity ed Quantity ital Quantity	Rs 80 sters, buttre c. up tot flo nent : 1.5 co 0.567 0.567 cum 0.000 cum 0.567 cum Rs 60 ions, footing	psses, pli or five le parse sal
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	Reinforced cement cor and string courses, fill excluding cost of center 3 graded stone aggreg gate piller 5.9.1 Centering and shuttericolumns, etc for mass	ets, columnering, shutte gate 20 mm 3	in walls (any as, pillars, piering, finishing nominal size 0.300	y 0.567 cur	im @ Rs 89 including a ents, posts a preement :1: 2.100 Total Deduct Net Total Operation @ Rs 107 oval of form 0.150 Total Deduct	ttached pilatind struts et 1.5:3(1 central Quantity ed Quantity 48.84 / cum for:Foundat	Rs 80 sters, buttre c. up tot flo nent : 1.5 co 0.567 0.567 cum 0.000 cum Rs 60 1.800 1.800 sqm 0.000 sqm	esses, plior five le parse sa

	gate pille	3*4	0.300		2.100		7.561	
					Total	Quantity	7.561 sqm	
				7	Total Deducted	Quantity	0.000 sqm	
					Net Total	Quantity	7.561 sqm	
			,	Say 7.561 s	sqm @ Rs 703	.77 / sqm	Rs 532	21.20
9	13.1.1 12 mm cement plaster	of mix:1:4 (1 cement : 4	fine sand)				
	Compound wall sides	2	354.000	1.800			1274.400	
	Piller sides	118*2	0.150	1.800			63.721	
	Тор	1	354.000	0.230			81.420	
	Piiller Top	118	0.150	0.350			6.195	
	Gate piller	2	1.000	2.100	1 0		4.200	
	,,	1	1.200	2.100	12		2.520	
	Тор	3	0.300	0.300	3 508		0.270	
		4666		2307.	Total	Quantity	1432.726 s	qm
			PER	ME PE	Total Deducted	Quantity	0.000 sqm	
		Ker	ala Wat	er Auth	Net Total	Quantity	1432.726 sc	ηm
			Say	1432.726 s	sqm @ Rs 308	.21 / sqm	Rs 441	580.4
10	13.43.1 Applying one coat of surface:Water thinnal			nt primer o	of approved b	rand and	d manufactu	re on
	Compound wall sides	2	354.000	1.800			1274.400	
	Piller sides	118*2	0.150	1.800			63.721	
	Тор	1	354.000	0.230			81.420	
	Piiller Top	118	0.150	0.350			6.195	
	Gate piller	2	1.000	2.100			4.200	
	"	1	1.200	2.100			2.520	
	Тор	3	0.300	0.300			0.270	
					Total	Quantity	1432.726 s	qm
				7	Total Deducted	Quantity	0.000 sqm	
					Net Total	Quantity	1432.726 sc	m
					1101 10101	<u> </u>	1.102.7.20 00	1

	Compound wall sides	2	354.000	1.800			1274.400	
	Piller sides	118*2	0.150	1.800			63.721	
	Тор	1	354.000	0.230			81.420	
	Piiller Top	118	0.150	0.350			6.195	
	Gate piller	2	1.000	2.100			4.200	
	,,	1	1.200	2.100			2.520	
	Тор	3	0.300	0.300			0.270	
			4.50		То	tal Quantity	1432.726 s	sqm
			160	To	otal Deduct	ed Quantity	0.000 sqm	
			1.00		Net To	tal Quantity	1432.726 s	qm
		/	Say	1432.726 sq	m @ Rs 1	48.55 / sqm	Rs 212	831.45
	Main gate	1/ 040	4.000	1.800	• ,	30.0	216.000	
	Vicat Gate		1.000	1.800	,	20.0 tal Quantity	36.000 252.000 kg)
	Vicat Gate		1.000	1.800	To	20.0 tal Quantity ed Quantity	36.000 252.000 kg 0.000 kg	
	Vicat Gate		1.000	1.800 To	To otal Deduct Net To	20.0 tal Quantity ed Quantity tal Quantity	36.000 252.000 kg 0.000 kg 252.000 kg	
13	13.62.1 Painting with synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo	re coats or	aint of appro	1.800 To Say 252.000 ved brand ar	To otal Deduct Net To 0 kg @ Rs	20.0 tal Quantity ed Quantity tal Quantity 151.28 / kg	36.000 252.000 kg 0.000 kg 252.000 kg Rs 38'	122.56
13	13.62.1 Painting with synthetic even shade:Two or mo	re coats or	aint of appro	1.800 To Say 252.000 ved brand ar	To otal Deduct Net To 0 kg @ Rs	20.0 tal Quantity ed Quantity tal Quantity 151.28 / kg	36.000 252.000 kg 0.000 kg 252.000 kg Rs 38'	122.56
13	13.62.1 Painting with synthetic even shade:Two or mo approved brand and management	re coats or anufacture	aint of approx	1.800 To Say 252.000 ved brand are over an under	To otal Deduct Net To 0 kg @ Rs	20.0 tal Quantity ed Quantity tal Quantity 151.28 / kg	36.000 252.000 kg 0.000 kg 252.000 kg Rs 38 ² uired colour e with ordina	122.56
13	13.62.1 Painting with synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade;Two or mo approved brand and management of the synthetic even shade;Two or mo approved brand and management of the synthetic even shade;Two or mo approved brand and the synthetic even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade	re coats or anufacture	aint of approx n new work o	1.800 Say 252.000 ved brand are over an under	To otal Deduct Net To 0 kg @ Rs and manufa r coat of su	20.0 tal Quantity ed Quantity tal Quantity 151.28 / kg	36.000 252.000 kg 0.000 kg 252.000 kg Rs 387 uired coloure with ordinary	to give
13	13.62.1 Painting with synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade;Two or mo approved brand and management of the synthetic even shade;Two or mo approved brand and management of the synthetic even shade;Two or mo approved brand and the synthetic even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade	re coats or anufacture	aint of approx n new work o	Say 252.000 ved brand are over an under 1.800 1.800 1.800	To stal Deduct Net To 0 kg @ Rs and manufar coat of su	20.0 tal Quantity ed Quantity tal Quantity 151.28 / kg cture of requitable shad	36.000 252.000 kg 0.000 kg 252.000 kg Rs 387 uired coloure with ordina 7.200 1.800 9.000 sqm	to give
13	13.62.1 Painting with synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade;Two or mo approved brand and management of the synthetic even shade;Two or mo approved brand and management of the synthetic even shade;Two or mo approved brand and the synthetic even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade	re coats or anufacture	aint of approx n new work o	Say 252.000 ved brand are over an under 1.800 1.800 1.800	To stal Deduct Net To 0 kg @ Rs and manufar coat of su To otal Deduct	20.0 tal Quantity ed Quantity tal Quantity 151.28 / kg cture of requitable shad	36.000 252.000 kg 0.000 kg 252.000 kg Rs 387 uired coloure with ordina 7.200 1.800 9.000 sqm 0.000 sqm	to give
13	13.62.1 Painting with synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade:Two or mo approved brand and management of the synthetic even shade;Two or mo approved brand and management of the synthetic even shade;Two or mo approved brand and management of the synthetic even shade;Two or mo approved brand and the synthetic even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade even shade	re coats or anufacture	aint of approx n new work of 4.000	Say 252.000 ved brand are over an under 1.800 1.800 1.800	To tal Deduct Net To kg @ Rs and manufa r coat of su To tal Deduct Net To	20.0 tal Quantity ed Quantity 151.28 / kg cture of requitable shad tal Quantity ed Quantity tal Quantity	36.000 252.000 kg 0.000 kg 252.000 kg Rs 387 uired coloure with ordina 7.200 1.800 9.000 sqm 0.000 sqm	to give

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SI No G Oper a	Description ation and Maintenance co	No Dost for STF	or generator and water	Say 1.000 se B works - 2n	Cotton wash Cotton wash To Total Deduct Net To at @ Rs 892 D d year to 10 - 2nd year t	tal Quantity ed Quantity tal Quantity o32.00 / set CF Oth year	Rs 813 Is (oil and G 1.000 1.000 set 0.000 set Rs 892 Quantity (Cost Inde	rease)so				
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SI No 5 Ope ra	Description Description ation and Maintenance co od341852/2021_2022 Operation and Maintena 4MLD ST	No Dost for STF ance cost for P-Operation	pr generator and water and water and Allied or STP and water and Mainter and M	Say 1.000 se B works - 2n	Cotton wash Cotton wash To Total Deduct Net To at @ Rs 892 D d year to 10 - 2nd year t	tal Quantity ed Quantity tal Quantity o32.00 / set CF Oth year	Rs 813 Is (oil and G 1.000 1.000 set 0.000 set Rs 892 Quantity (Cost Inde	rease)so				

	T									
	5 th Year-Add 32% to 1st year	1	1.320				1.320			
	6 th Year-Add 40% to 1st year	1	1.400				1.400			
	7 th Year-Add 48% to 1st year	1	1.480				1.480			
	8 th Year-Add 56% to 1st year	1	1.560				1.560			
	9 th Year-Add 64% to 1st year	1	1.640				1.640			
	10 th Year-Add 72% to 1st year	1	1.720	.a.			1.720			
					То	tal Quantity	12.600 No			
		-	E. L. W.	M. Y.	Total Deduct	ed Quantity	0.000 No			
		61	N.	AN /	17 1 8	tal Quantity				
		1 /5-	Sa	y 12.600 No	@ Rs 6686	478.06 / No	Rs 8424	9623.56		
SI No	Description	No	L	В	D	CF	Quantity	Remark		
	26Landscaping and Greenbelt Formation arround the STP compound									
	26Landscapii	ng and Gr	eenbelt For	mation arro	ound the ST	P compour	nd			
	26Landscapii	ng and Gr	eenbelt For	mation arro	f			000.00		
SI No	Description		eenbelt For	HEP2/	Lump	P compour o-Sum Total				
SI No		Noer	ala Wa	ter Autl	Lump	o-Sum Total	Rs 100			
SI No	Description	No er	ala Wa 4 MLD STF	ter Auth	Lump loriPy Ir (Cost I	cF	Rs 100	0000.00 Remark		
	Description 27Electricity cl od20771/2022_2023	No er	ala Wa 4 MLD STF	ter Auth	Lump loriPy Ir (Cost I	cF	Rs 100			
	Description 27Electricity cl od20771/2022_2023 Electricity charges for 4 Electricity charges for 4 MLD STP in korakodu zone	No er narges for MLD STP	ala Wa 4 MLD STF	ter Auth	Lump loriPy Ir (Cost I Rs.1154374	cF	Rs 1000 Quantity %)			
	Description 27Electricity cl od20771/2022_2023 Electricity charges for 4 Electricity charges for 4 MLD STP in korakodu zone	No er narges for MLD STP	ala Wa 4 MLD STF	for 10 Year	Lump loriPy Ir (Cost I Rs.1154374	o-Sum Total CF Index:33.05 0.39/Year tal Quantity	Rs 1000 Quantity %)			
	Description 27Electricity cl od20771/2022_2023 Electricity charges for 4 Electricity charges for 4 MLD STP in korakodu zone	No er narges for MLD STP	ala Wa 4 MLD STF	for 10 Year	Lump (Cost I Rs.1154374 To Total Deduct	o-Sum Total CF Index:33.05 0.39/Year tal Quantity ed Quantity	Rs 1000 Quantity %) 10.000 10.000 No 0.000 No			
	Description 27Electricity cl od20771/2022_2023 Electricity charges for 4 Electricity charges for 4 MLD STP in korakodu zone	No er narges for MLD STP	ala War 4 MLD STI in korakode	for 10 Year	Lump (Cost I Rs.1154374 To Total Deduct	o-Sum Total CF Index:33.05 0.39/Year tal Quantity ed Quantity tal Quantity	Rs 1000 Quantity %) 10.000 10.000 No 0.000 No 10.000 No	Remark		
	Description 27Electricity cl od20771/2022_2023 Electricity charges for 4 Electricity charges for 4 MLD STP in korakodu zone	No er narges for MLD STP	ala War 4 MLD STI in korakode	for 10 Year	Lump (Cost I Rs.1154374 To Total Deduct Net To	o-Sum Total CF Index:33.05 0.39/Year tal Quantity ed Quantity tal Quantity	Rs 1000 Quantity %) 10.000 10.000 No 0.000 No 10.000 No	Remark		
	Description 27Electricity cl od20771/2022_2023 Electricity charges for 4 Electricity charges for 4 MLD STP in korakodu zone	No er narges for MLD STP	ala War 4 MLD STI in korakode	for 10 Year	Cost I Rs.1154374 To Total Deduct Net To @ Rs 11543	cF Index:33.05 0.39/Year tal Quantity ed Quantity tal Quantity 740.39 / No	Rs 1000 Quantity %) 10.000 10.000 No 0.000 No 10.000 No Rs 1154: 283259	Remark		
	Description 27Electricity cl od20771/2022_2023 Electricity charges for 4 Electricity charges for 4 MLD STP in korakodu zone	No er narges for MLD STP	ala War 4 MLD STI in korakode	for 10 Year	Cost I Rs.1154374 To Total Deduct Net To @ Rs 11543	cF Index:33.05 0.39/Year tal Quantity ed Quantity tal Quantity tal Quantity	Rs 1000 Quantity %) 10.000 10.000 No 0.000 No 10.000 No Rs 1154: 283259	Remark 37403.90		
	Description 27Electricity cl od20771/2022_2023 Electricity charges for 4 Electricity charges for 4 MLD STP in korakodu zone	No er narges for MLD STP	ala War 4 MLD STI in korakode Say	for 10 Year I for 10 year	Cost I Rs.1154374 To Total Deduct Net To @ Rs 11543	tal Quantity ed Quantity tal Quantity tal Quantity Total Centage @ age Amount	Rs 1000 Quantity %) 10.000 10.000 No 0.000 No 10.000 No Rs 11543 283259 10 28325	37403.90 9601.12		

Total & Centage	362572289.44
Lumpsum for round off	0.00
GRAND TOTAL Rs	362572289.44
Rounded Grand	Total Rs 36,25,72,289
Rupees Thirty Six Crore Twenty Five Lakh Seventy Two Thousand Two Hundred	and Eighty Nine Only



General Abstract

SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY(PHASE-2) - CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK -ELECTRO-MECHANICAL

(Dsor year: 2018)

SI No	Heading Description		Amount
1	MECHANICAL WORKS		21969905.10
2	ELECTRICAL WORKS		10084198.98
3	Charges for Power allocation to KSEB and power extension by cable		10000000.00
4	Tools and Plants		200000.00
5	Provisions for Supplying and fixing Odour control system		10000000.00
6	Provision for supplying and fixing Solar panel with control unit		2500000.00
7	Provision for automating entire plant by SCADA	1.7	2500000.00
	イン エスをはなかくスト	Total	57254104.08
		Centage @	10.0%
	Centa	ge Amount	5725410.41
	Provision for GST paymen	ts (in %) @	18.0%
	Amount reserved for GST	r payments	10305738.73
	Total	& Centage	73285253.22
	Lumpsum fo	or round off	0.00
	GRAND	TOTAL Rs	73285253.22
		Rounded (Grand Total Rs 7,32,85,25
	Rupees Seven Crore Thirty Two Lakh Eighty Five Thou	ısand Two Hur	ndred and Fifty Three On

Detailed Estimate

SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY(PHASE-2) CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK -ELECTROMECHANICAL

(Dsor year: 2018)

SI No	Description	No	L	В	D	CF	Quantity	Remark
	1N	IECHANIC/	AL WORKS	(Cost I	ndex:33.05	%)		
1	od340982/2021_2022 Supply at site,erection sewage transfer pump IS 1520 and conformin phase motor, SS shaft, bolts etc including Doul PN 1 rating NRVs with 50 HZ, AC power supp	n, testing and for rated congressive to other in with automoble Flange I	nd commiss ntinuous du relevant sta atic pedesta DI/CI PN 1 r connecting c	sioning of s ty and efficient ndards), CI al coupling, coupling, coupling sluice	elf priming ency (from i constructio delivery ben valves, Pre ivery suitab	, non clog creputed man on, bronze in d, required vessure gauge	ufacturers conpeller,compwire chain, wes, Double F	omplying to blete with 3 rashers, SS lange DI/CI r-10% volts,
	automatic switch on & s as per technical specific high/ low level alarm. E the Electrical BOQ Thre	cation or as lectrical Co	directed by ntrol panels	Engineer In	Charge.Puplied with the	imps shall ha	eve dry run per the specinge Transfer	orotection & ifications in
						ted Quantity		
				·		otal Quantity		
			Sa	ay 2.000 No		5040.00 / No		0080.00
2	od340983/2021_2022 Supply at site,erection sewage transfer pump IS 1520 and conforming phase motor, SS shaft, bolts etc including Doul PN 1 rating NRVs with 50 HZ, AC power supple automatic switch on & sas per technical specific high/ low level alarm. Ethe Electrical BOQ 	for rated co ag to other in with automable Flange I DI/I/Pipes of ly etc. composition of as cation or as	nd commiss ntinuous du relevant sta atic pedesta DI/CI PN 1 r connecting of plete in all re s required by directed by ntrol panel s	sioning of s ty and efficiend ndards), CI al coupling, coupling sluice common del espects with y the standa Engineer In shall be sup	elf priming ency (from i construction delivery ben valves, Pre ivery suitable and specifican Charge.Puplied with the	non clog content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of t	entrifugal s ufacturers compeller, composite chain, wes, Double Fation on 415 pents, level in the with all apper the spec	ubmersible omplying to plete with 3 vashers, SS lange DI/CI v-10% volts, dicators for accessories protection & ifications in
		2					2.000	

							0.000.11					
				_		tal Quantity						
				T		ed Quantity						
						otal Quantity						
	Say 2.000 No @ Rs 74336.00 / No Rs 148672.00											
3	od340985/2021_2022 Supply,erection, testing required with the rotatin motor, including rotary mechancial equipments with the pump as per Charge br>	ng arm for r paddles, g s etc comple	ated continues at the continues the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the continues at the cont	uous duty mi ables, wall n equalization t	ixing and ef nooring and tank . Electr	ficiency, cor I anchoring ical Control	mplete set w system with panel shall	rith 3 phase n all electro be supplied				
		2	R	P.			2.000					
			-/N		To	tal Quantity	2.000 No					
		-	536	B Ei	otal Deduct	ed Quantity	0.000 No					
		613	Y B	DIV.	Net To	tal Quantity	2.000 No					
		1 1500		Say 2.000 No	o @ Rs 139	380.00 / No	Rs 278	760.00				
	Supply at site, erection sewage transfer pump f IS 1520 and conformin phase motor, SS shaft, bolts etc including Dout PN 1 rating NRVs with 50 HZ, AC power suppl automatic switch on & s as per technical specific high/ low level alarm. E the Electrical BOQ Clarifier to sludge sump	for rated cog to other in with automoble Flange In DI/I/Pipes of yetc. composition or as ation or as lectrical Cog Motor: three	ntinuous du relevant sta atic pedesta DI/CI PN 1 connecting blete in all r s required by directed by ntrol panel	aty and efficient andards), CI al coupling, d rating sluice common del espects with by the standar Engineer In shall be sup	ency (from r construction delivery benevalves, Pre- ivery suitable and detachable and specification Charge.Pu	eputed man n, bronze in d, required v ssure gauge le for operate arrangementions compl mps shall have the pump as p	ufacturers on peller, completer, completer, completer, completer, completer, completer, level in leter with all appear the specific per the sp	omplying to olete with 3 vashers, SS lange DI/CI v-10% volts, dicators for accessories or otection & cifications in				
	Sludge Thickener Feed Pump	2					2.000					
	Clarifier to sludge sump	2					2.000					
					To	tal Quantity	4.000 No					
				Т	otal Deduct	ed Quantity	0.000 No					
					Net To	tal Quantity	4.000 No					
				Say 4.000 N	No @ Rs 87	112.50 / No	Rs 348	450.00				
5	od340990/2021_2022 Supply at site,erection	, testing a	nd commis	sioning of s	elf priming,	non clog c	entrifugal s	ubmersible				

sewage transfer pump for rated continuous duty and efficiency (from reputed manufacturers complying to IS 1520 and conforming to other relevant standards), CI construction, bronze impeller,complete with 3 phase motor, SS shaft, with automatic pedestal coupling, delivery bend, required wire chain, washers, SS bolts etc including Double Flange DI/CI PN 1 rating sluice valves, Pressure gauges, Double Flange DI/CI PN 1 rating NRVs with DI/I/Pipes connecting common delivery suitable for operation on 415 /-10% volts, 50 HZ, AC power supply etc. complete in all respects with detachable arrangements, level indicators for automatic switch on & switch off as required by the standard specifications complete with all accessories as per technical specification or as directed by Engineer In Charge.Pumps shall have dry run protection & high/ low level alarm. Electrical Control panel shall be supplied with the pump as per the specifications in the Electrical BOQ
br>Motor: three phase motor with IP 68 Protection"- Sludge transfer to centrifuge pump

	2					2.000	
		100	60	То	tal Quantity	2.000 No	
		JAN	₩_ T	otal Deduct	ed Quantity	0.000 No	
	وسيد	CLA		Net To	tal Quantity	2.000 No	
	6 1 9	K 2	Say 2.000 N	No @ Rs 37	168.00 / No	Rs 743	336.00

6 od340992/2021 2022

Supply at site, erection, testing and commissioning of self priming, non clog centrifugal submersible sewage transfer pump for rated continuous duty and efficiency (from reputed manufacturers complying to IS 1520 and conforming to other relevant standards), CI construction, bronze impeller, complete with 3 phase motor, SS shaft, with automatic pedestal coupling, delivery bend, required wire chain, washers, SS bolts etc including Double Flange DI/CI PN 1 rating sluice valves, Pressure gauges, Double Flange DI/CI PN 1 rating NRVs with DI/I/Pipes connecting common delivery suitable for operation on 415 /-10% volts, 50 HZ, AC power supply etc. complete in all respects with detachable arrangements, level indicators for automatic switch on & switch off as required by the standard specifications complete with all accessories as per technical specification or as directed by Engineer In Charge.Pumps shall have dry run protection & high/ low level alarm. Electrical Control panel shall be supplied with the pump as per the specifications in the Electrical BOQ
br>Motor: three phase motor with IP 68 Protection"-Centrate sump to equalisation tank Pump

	2				2.000	
			То	tal Quantity	2.000 No	
		Т	otal Deduct	ed Quantity	0.000 No	
			Net To	tal Quantity	2.000 No	
		Say 2.000 N	No @ Rs 74	336.00 / No	Rs 148	672.00

7 od340994/2021 2022

Supplying and fixing of mono block centrifugal pump, for rated continuous duty and best efficiency Cl construction, Cl impeller, complete with 3 phase motor,FRP motor cover, pressure gauge, operation on 415 /-10% volts, 50 HZ, AC power supply etc including sluice valves, Pressure gauges, NRVs with Dl/l/Pipes connecting common delivery suitable for complete in all respects as required by the standard specifications and shall suit following capacities complete with all accessories as per technical specification. Pumps shall have dry run protection & high/ low level alarm. Electrical Control panel shall be

		2					2.000	
					To	tal Quantity	2.000 No	
				Т	otal Deduct	ed Quantity	0.000 No	
					Net To	tal Quantity	2.000 No	
			Ş	Say 2.000 No	e Rs 766	590.00 / No	Rs 153	3180.00
	Supplying and fixing of moconstruction, CI impeller, of 415 /-10% volts, 50 HZ, and 50 DI/I/Pipes connecting complex specifications and shall specification. Pumps shall be supplied with the pump as 68 Protection" - Treated was	complete AC powe mon deli suit follo nave dry per the s	with 3 phaser supply every suitable by sui	se motor,FF tc including le for compl acities com on & high/ lo	RP motor co sluice valv ete in all re plete with ow level ala	over, pressures, Pressures, Pressures, Pressures, pects as reall accessorm. Electrica	re gauge, ore gauges, equired by the ories as per la Control parts.	peration NRVs vone stand or techn unel shal
		2			18	le le	2.000	
	13		X.O	SERV.	To	tal Quantity	2.000 No	
				1		ed Quantity		
			A SEC	at Hope	Net To	tal Quantity	2.000 No	
		Kera	la Wat	er Auth Say 2.000 No	0111V 0 @ Rs 153	318.00 / No	Rs 306	636.00
9	od340998/2021_2022 "Air Blower br>Supply,ere complete with acoustic ca valve, acoustic hood, suctivith motor belt tightening complete as per technica m?/hr. br>Pressure: 0.6	nopy, air ion silend g arrang al specifi	filter, moto cer with sui ement inte	or of 1500 rp table flanges rconnecting as Directed	om , pulleys s, common g line with by Engine	s, pressure of motor and of flanges inc eer in Charg	gauges, pre compressor luding all a ge cap	base fra ccessoracity: 5
		3					3.000	
					To	tal Quantity	3.000 No	
				Т	otal Deduct	ed Quantity	0.000 No	
					Net To	tal Quantity	3.000 No	
				Say 3.000 No	@ Rs 574	942.50 / No	Rs 172	4827.50
	od341000/2021_2022							

	directed by the Engi	2					2.000	
					То	tal Quantity		
				Tota		ed Quantity		
						tal Quantity		
			Say 2	2.000 No @		070.00 / No		3140.00
11	od341001/2021_202: "Bubble Diffuser for E Supplying at site, er rope and pulley arrar size and length mad mm, SS C clamp sui hose clamp, RCC bi directed by the Engi	Equalisation Tection, testing ngement) for the of EPDM materials and the for 1"" lock complete	g & commissioni the aeration systonake with SS tee O.D, hose, PP Re e at a minimum	em of the 1"" x 1 "", lope, PP s	Equalizat SS lifting swivel nu	ion Tank wi j hook 8 mr t, PP sleeve	th diffusers n, SS found e, Silicone V	of sufficion lation bol Washer,
	3	2		1/24	A1		2.000	
		18	1 Die		То	tal Quantity	2.000 No	
		16/42		Tota	al Deduct	ed Quantity	0.000 No	
			TANK THE	25/10	Net To	tal Quantity	2.000 No	
		Vor	ala Wat Sa y	2.000 No	@ Rs 80	724.25 / No	Rs 161	448.50
		- NEI	ara vv ater	Auulo				
12	od341004/2021_202 "Air Grid Pipe Supply and installat blowers to various t	ion of air pip		Addition	E	er acessor	ies as requ	
12	"Air Grid Pipe Supply and installat	ion of air pip		Addition	E	er acessor	ies as requ	
12	"Air Grid Pipe Supply and installat	ion of air pip anks as a co		Addition	s and oth	er acessori	1.000	
12	"Air Grid Pipe Supply and installat	ion of air pip anks as a co		nto valves	s and oth		1.000 1.000 set	
12	"Air Grid Pipe Supply and installat	ion of air pip anks as a co		nto valves	s and oth To	tal Quantity	1.000 1.000 set 0.000 set	
12	"Air Grid Pipe Supply and installat	ion of air pip anks as a co	emplete unit"	nto valves	To al Deduct	tal Quantity	1.000 1.000 set 0.000 set 1.000 set	
13	"Air Grid Pipe Supply and installat	ion of air pip anks as a co 1 2 g of non- clo	Say 1	Tota .000 set @	To al Deduct Net To Rs 1742 hass med than 450	tal Quantity ed Quantity tal Quantity 225.00 / set	1.000 1.000 set 0.000 set 1.000 set Rs 174	ired for
	"Air Grid Pipe Supply and installat blowers to various t od341005/2021_202 "MBBR Media Supplying and fixing Sp.Gravity 0.93 for M	ion of air pip anks as a co 1 2 g of non- clo	Say 1	Tota .000 set @	To al Deduct Net To Rs 1742 hass med than 450	tal Quantity ed Quantity tal Quantity 225.00 / set	1.000 1.000 set 0.000 set 1.000 set Rs 174	ired for
	"Air Grid Pipe Supply and installat blowers to various t od341005/2021_202 "MBBR Media Supplying and fixing Sp.Gravity 0.93 for M	g of non- clo	Say 1	Tota .000 set @	To al Deduct Net To Rs 1742 hass med than 450 gineer in (tal Quantity ed Quantity tal Quantity 225.00 / set lia of polyp m/m, length Charge"	1.000 1.000 set 0.000 set 1.000 set Rs 174	ired for

					Net To	tal Quantity	250.000 cı	ım
			Say	250.000 cun	n @ Rs 104	53.50 / cum	Rs 261	3375.00
14	od341008/2021_2022 "Gas Chlorinator system Supply at site, erection Chlorine) with all wette pumps, valves, suction repair kit, FRP motor of chlorine tonners"	n, testing d parts in s and deliv	PP constru ery lines u	ction suitabl sing heavy c	le for pumpi luty PVC tu	ng Chlorine bes, gas lin	gas include e diffusers,	ding boos emergen
		2					2.000	
					To	tal Quantity	2.000 set	
			100	-G T	Total Deduct			
			M	200 J	Net To	tal Quantity	2.000 set	
			230	Say 2.000 se	et @ Rs 464	600.00 / set	Rs 92	9200.00
	flow meter with flow reco and digital display arra logger, to save upto 200 600LPS, One display sl	angements 00 linesof	and all ac	cessories in mplete to fix main contro	as per the licentre"	using arrang specification tal Quantity	gements, in s. Flow ra 2.000	nternal da
					Total Deduct			
						tal Quantity		
16	od341011/2021_2022 "Lifting Mechanism for A Supply, installation & equipments from a he	commissi	-	e manually		hain pulley	mechanis	4225.00 m to lift t
		5					5.000	
					To	tal Quantity	5.000 No	
					Total Deduct	ed Quantity	0.000 No	
					Net To	tal Quantity	5.000 No	
				Say 5.000 I	No @ Rs 11	615.00 / No	Rs 58	8075.00
17	od341012/2021_2022 "SS Gates Supplying at site, insi				-i f -11			

	sizes as per drawings, to	8			, ,	-	8.000					
		0			To	tal Quantity						
				т								
				I	otal Deduct							
				Sav 9 000 a		tal Quantity		200.00				
40	Say 8.000 set @ Rs 17422.50 / set Rs 139380.0											
18	od341013/2021_2022 "Mechanical Coarse Screen											
	"Mechanical Coarse Screen Supplying all materials, fabricating, fixing and commissioning of mechanical SS Screen Bar of folloor nearest suitable size made of flats having 50mm x 10mm and 20mm clear space across the so											
	chamber channel (fixed		F 400									
	arrangement for automa	ted scrap	ping clogge	ed materials	suitable for	operation of	on 415+/-10	% volts				
	HZ, AC power supply etc				uired by the	e standard s	specification	s com				
	with all accessories as p	er techni	cal specific	ation"	1 4 1		Т	1				
		1		1001	10	4	1.000					
		QL.	Ma		То	tal Quantity	1.000 set					
				Ţ	otal Deduct	ed Quantity	0.000 set					
		77	1 337		Net To	tal Quantity	1.000 set					
		Ker	ala Wa	Say 1.000 s	et @ Rs 69	690.00 / set	Rs 69	690.00				
19	od341014/2021_2022		D									
	"Mechanical Fine Screen											
	Supplying all materials, f				_							
	or nearest suitable size		•			•						
	chamber channel (fixed	• • •		_			_					
	arrangement for automath HZ, AC power supply etc	•				•						
	with all accessories as p	-			anda by the	otanaara c	peomoation	10 00111				
		1					1.000					
		<u>'</u>	<u> </u>		То	tal Quantity						
				т								
				ı	otal Deduct							
						tal Quantity						
			•	Say 1.000 se	t @ Rs 116	150.00 / set	Rs 116	5150.00				
20												

	manual scrapping clogged materials as per drawings, tender specifications and as directed by Engineer in Charge"								
		1					1.000		
	Total Quantity Total Deducted Quantity						1.000 set		
							0.000 set		
						Net Total Quantity		1.000 set	
	Say 1.000 set @ Rs 34845.00 / set						Rs 34845.00		
21	od341016/2021_2022 "Griting Mechanism Supplying at site all electro-mechanical equipments, fabricating, fixing and commissioning of the griting mechanism to suit gritting chamber sizes as per drawings, tender specifications or as directed by Engineer in Charge."								
		2	~/\\		2		2.000		
	Total Qua						2.000 No		
	Total Deducted Quantity						0.000 No		
	Net Total Quantity						2.000 No		
	Say 2.000 No @ Rs 545905.00 / No						Rs 1091810.00		
22	"Clarifier Mechanism Supplying all materials, fabricating, fixing and commissioning of Bridge mounted central driven type clarifier mechanical rake for the half diameter of the Clarifier Tank as per drawings including all feed well drive and rake mechanism with removable scrappers with sufficient 3phase motor and gears etc complete as per tender specifications and as directed by Engineer in Charge"								
		1					1.000		
			1	1	То	tal Quantity	1.000 No		
	Total Deducted Quantity						0.000 No		
	Net Total Quantity						1.000 No		
	Say 1.000 No @ Rs 813050.00 / No						Rs 813050.00		
23	od341018/2021_2022 "Sludge Thickener Mechanism Supplying all materials, fabricating, fixing and commissioning of Bridge mounted central driven type sludge thickening mechanism for the full diameter of the Sludge Thickener tank as per drawings including all feed well, drive and rake mechanism with removable scrappers with sufficient 3phase motor and gears etc complete as per tender specifications and as directed by Engineer in Charge"								
		1					1.000		
	Total Quantity Total Deducted Quantity						1.000 No		
				T	otal Deduct	ed Quantity	0.000 No		

					Net Tota	l Quantity	1.000 No	
				Say 1.000 No	o @ Rs 31360	05.00 / No	Rs 313	8605.00
24	od341019/2021_2022 "Poly Electrolyte dosir Supplying and fixing pumping Poly Electro delivery lines using he to prepare 5% solutio	ng system of electron olyte solution eavy duty P	n including o	cost of suitab	ole agitators,	control gea	ars, valve,	suction ar
		2					2.000	
			1	-	Tota	l Quantity	2.000 No	ı
				Т	otal Deducted	d Quantity	0.000 No	
			10	180		l Quantity		
			-//	Say 2.000 N	No @ Rs 9292			5840.00
	standards"	1 Ker	rala Wa	ter Auth	Ority Total	J Quantity	1.000	
					Total	u Quantity	1.000 No	
		P	R		otal Deducted		0.000 No	
		P	R		otal Deducted	d Quantity	0.000 No 1.000 No	845.00
26	od341021/2021_2022 "Portable Hoist - 500k Supply and commissi 6m, 5HP Motor, 415 equipments and mat	eg oning of por V 50Hz all	rtable Monke	Say 1.000 Ney type Hoist	Net Total Net Total No @ Rs 3484 with capacity medium veh	d Quantity Il Quantity 45.00 / No / upto 500l icle patfor	0.000 No 1.000 No Rs 34 kg, with lifting for easy	ng height
26	"Portable Hoist - 500k Supply and commission, 5HP Motor, 415	eg oning of por V 50Hz all	rtable Monke	Say 1.000 Ney type Hoist	Net Total Net Total No @ Rs 3484 with capacity medium veh	d Quantity Il Quantity 45.00 / No / upto 500l icle patfor	0.000 No 1.000 No Rs 34 kg, with lifting for easy	ng height
26	"Portable Hoist - 500k Supply and commission, 5HP Motor, 415	eg oning of por V 50Hz all rerials when	rtable Monke	Say 1.000 Ney type Hoist	Net Total No @ Rs 3484 with capacity medium veh	d Quantity Il Quantity 45.00 / No / upto 500l icle patfor	0.000 No 1.000 No Rs 34 kg, with lifting for easy lards"	ng height
26	"Portable Hoist - 500k Supply and commission, 5HP Motor, 415	eg oning of por V 50Hz all rerials when	rtable Monke	Say 1.000 Ney type Hoist n a suitable red with com	Net Total No @ Rs 3484 with capacity medium veh	d Quantity I Quantity 45.00 / No v upto 500licle patfor per stand	0.000 No 1.000 No Rs 34 kg, with lifting for easy lards" 1.000 1.000 No	ng height
26	"Portable Hoist - 500k Supply and commission, 5HP Motor, 415	eg oning of por V 50Hz all rerials when	rtable Monke	Say 1.000 Ney type Hoist n a suitable red with com	Net Total Net Total No @ Rs 3484 with capacity medium veh aplete set as Total	d Quantity I Quantity 45.00 / No v upto 500licle patfor per stand	0.000 No 1.000 No Rs 34 kg, with lifting for easy lards" 1.000 1.000 No 0.000 No	ng height
26	"Portable Hoist - 500k Supply and commission, 5HP Motor, 415	eg oning of por V 50Hz all rerials when	rtable Monke mounted o never requir	Say 1.000 N ey type Hoist n a suitable red with com	Net Total Net Total No @ Rs 3484 with capacity medium veh aplete set as Total	d Quantity Il Quantity 45.00 / No v upto 500licle patfor per stand Il Quantity d Quantity Il Quantity	0.000 No 1.000 No Rs 34 kg, with lifting for easy lards" 1.000 1.000 No 0.000 No	ng height

		1					1.000				
					To	otal Quantity	1.000 No				
				Т	otal Deduc	ted Quantity	0.000 No				
					Net To	otal Quantity	1.000 No				
	Say 1.000 No @ Rs 29037.50 / No							037.50			
28	od341023/2021_2022 "Aluminium Ladder Supply, Installation of aluminium ladders with caging on each elevated structures of required height a per the drawings or as directed by the Engineer in Charges"										
	por the drawings or de	4	y the Englis				4.000				
			-0	65	To	tal Quantity	4.000 No				
		ted Quantity									
			6.27	M 723	Net To	otal Quantity	4.000 No				
		653	J. 7	Say 4.000	No @ Rs 6	5969.00 / No	Rs 27	876.00			
	drawings or as directed	6 Ker	VA.	ter Auth	7 10	otal Quantity					
			R	T		ted Quantity					
						otal Quantity					
				Say 6.000 N	No @ Rs 34	1845.00 / No	Rs 209	9070.00			
30	od341025/2021_2022 "Monorail Crane Supply, Installation and capacity of 2tonnes suit span upto 20m comple accessories as per tec	table for op ete in all re	eration on 4 espects as	115+/-10% vo	olts, 50 HZ,	AC power s	supply etc. v	vith 6m lif			
		1					1.000				
					To	otal Quantity	1.000 No				
				Т	otal Deduc	ted Quantity	0.000 No				
					Net To	otal Quantity	1.000 No				
				Say 1.000 No	o @ Rs 406	6525.00 / No	Rs 400	6525.00			
31	od341026/2021_2022 "Pressure sand filter pressure vessel fabrica				•	•		•			

	outside, two coats of paint outside (pain pressure of 7.0Kg/cm with as operating princluding graded pebble and sand and a gauges, strainers, supporting structure, twice the working pressure supported over specification or as directed by Engineer fabricated pipes and specials including value.	ressure of 3.5 Kg/ antracite, frontal back wash arran er pebble/gravel in Charge. The	cm, complete with value piping, butteryfly value gement, etc and all continue with inspection manhorscope shall include continue	ves and dual filter media ves, internals, pressure other accessories tested oles etc complete as per omplete piping with MS
	4			4.000
			Total Quantit	y 4.000 No
		Т	otal Deducted Quantit	y 0.000 No
		A_A	Net Total Quantit	4.000 No
	ل	Say 4.000 No	@ Rs 522675.00 / N	Rs 2090700.00
	treatment outside, two coats of paint of minimum test pressure of 7.0Kg/cm with filter media including activated carbon of internals, pressure gauges, strainers, su accessories tested twice the working pre etc complete as per specification or as dir piping with MS fabricated pipes and spe 2.6m. 2.6m. 4	as operating pre- f approved grade apporting structures essure supported ected by Engines	ssure of 3.5 Kg/cm, of and quality, frontal re, back wash arrang over pebble/gravel wer in Charge. The scop alves br>Flow rate	omplete with valves and piping, butteryfly valves, ement, etc and all other with inspection manholes be shall include complete 52 m/hr. 4.000
		т	Total Quantit	
		1	otal Deducted Quantit Net Total Quantit	
		Sav 4,000 No		
33	od341028/2021_2022 "Centrifuge System Supply at site, installation and commiss automated, recessed type press with SS twith PP cloth. Filter operations to be mec moisture. The capacity of the filter press platform and all around drain system to be entire surroundings as per the specification.	ioning of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of	ess /centrifuge systemes pipe button surface ake consistency shout. The Filter Press Unevent the filtrate wate	m. Filter Press shall be and SS flat parallel bar, d not be more than 35% it shall be mounted on a r from contaminating the
33	"Centrifuge System Supply at site, installation and commiss automated, recessed type press with SS f with PP cloth. Filter operations to be mec moisture. The capacity of the filter press platform and all around drain system to be entire surroundings as per the specification."	ioning of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of filter profession of	ess /centrifuge systemes pipe button surface ake consistency shout. The Filter Press Unevent the filtrate wate	m. Filter Press shall be and SS flat parallel bar, d not be more than 35% it shall be mounted on a from contaminating the charge"

					Net To	tal Quantity	2.000 No			
			;	Say 2.000 N	o @ Rs 348	450.00 / No	Rs 696	900.00		
34	od341029/2021_2022 SLUDGE DEWATERING and Packing UNIT -Volute is a dewatering unit for conven dewatering. Machine is available for dry sludge (DS) output of 1.0kg/hr to 750kg/hr the Sludge from 70% moisture content to 10%. The similar type can be suggested. The Packing of the drie be packed in the packing machine. The necessary electrification civil works, cost of packing mof gunny bags for 6months. The machines suggested should be cost effective									
		1					1.000			
					То	tal Quantity	1.000 L.S			
				Т	otal Deduct	ed Quantity	0.000 L.S			
			100	185	Net To	tal Quantity	1.000 L.S			
			Sa	y 1.000 L.S	@ Rs 15000	000.00 / L.S	Rs 150	00.000		
	floor or the side of war payment purpose on accessories such as	ly weight o	of stainless	s steel men s etc.)	nbers shall	be consider the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second	8.000 8.000 kg	- ,		
					Net To	tal Quantity	8.000 kg			
36	18.73.1 Providing and laying E Class K - 9 conforming		• ,	wed / Welde	•	ıgally (Spur	l	on Pipes of		
		1	20.000			<u> </u>	20.000			
			1	-	To	tal Quantity	20.000 me	tre		
				Т	otal Deduct	ed Quantity	0.000 metro	Э		
					Net To	tal Quantity	20.000 met	re		
			Say 2	20.000 metre	e @ Rs 1769	9.96 / metre	Rs 35	399.20		
37	18.73.2 Providing and laying Dictional Class K - 9 conforming		• ,		•		n) Ductile Ir	on Pipes of		

		1	20.000				20.000	
		·	20.000		I	tal Quantity		otro
				т		ed Quantity		
						tal Quantity		
			Sov	20.000 metre				104.20
38	10.72.2		Say 2	:0.000 metre	: W KS 200:	5.21 / IIIelie	KS 53	104.20
30	18.73.3 Providing and laying E Class K - 9 conforming		• •		•		n) Ductile Ir	on Pipes o
		1	20.000				20.000	
					To	tal Quantity	20.000 me	etre
			R	T //2-	otal Deduct	ed Quantity	0.000 metr	e
			11		Net To	tal Quantity	20.000 me	tre
		1	Say 2	20.000 metre		<u>_</u>		021.20
39	18.73.8	613	Y 17	SWA				
	Providing and laying [Ouble Flan	aed (Screv	ved / Welde	d) Centrifu	ıgally (Spur	n) Ductile Ir	on Pipes c
	Class K - 9 conforming		T 1 '5 5 5			e Flanged		
			T 1 '5 5 5			e Flanged	40.000	
		g to IS: 832	29 :450 mm		Iron Double	e Flanged otal Quantity		etre
		g to IS: 832	29 :450 mm	dia Ductile	Iron Double		40.000 me	
		g to IS: 832	29 :450 mm 40.000	dia Ductile	Iron Double To Total Deduct	tal Quantity	40.000 metr	e
		g to IS: 832	29 :450 mm 40.000	dia Ductile	To Total Deduct	etal Quantity and Quantity	40.000 met 0.000 metr 40.000 me	e
SI No		g to IS: 832	29 :450 mm 40.000	dia Ductile	To Total Deduct	etal Quantity and Quantity	40.000 met 0.000 metr 40.000 me	e tre
SI No	Class K - 9 conforming	g to IS: 832	29 :450 mm 40.000 ala Wat Say 40	er AutT	To Total Deduct Net To Rs 1040	etal Quantity ted Quantity tal Quantity 1.32 / metre	40.000 metr 40.000 metr 40.000 me Rs 416	e tre 6052.80
SI No	Class K - 9 conforming	Kera No ELECTRICA ormer and 1 stallation, test type, coppe with all acc & as per speer In Charge	Say 40 L AL WORKS 1 kv indoor sting and coer wound tracessories i/opecification ge including	dia Ductile er AutT 0.000 metre B (Cost In free standing mmissioning nsformer with first filling of attached co suuply inst	To Total Deduct Net To Rs 1040* g cubcle type g of 250KV/ th OFF load of filtered d mplete in al allation con	otal Quantity ted Quantity otal Quantity otal Quantity 1.32 / metre CF %) De vcb switch A, 11KV/433 d tap changing ehydrated collinespects and	40.000 metro do not de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de	e tre 6052.80 Remark el of suitable hase, 50 Hament on Haming to Islant site or a
	Description 28 od340984/2021_2022 "250kVA Indoor Transficapacity Supplying, instead Dyn 11, indoor ONAN and LV side complete 2026 (Part 1 to Part 5) directed by the Engine	Kera No ELECTRICA ormer and 1 stallation, test type, coppe with all acc & as per speer In Charge	Say 40 L AL WORKS 1 kv indoor sting and coer wound tracessories i/opecification ge including	dia Ductile er AutT 0.000 metre B (Cost In free standing mmissioning nsformer with first filling of attached co suuply inst	To Total Deduct Net To Rs 1040* g cubcle type g of 250KV/ th OFF load of filtered d mplete in al allation con	otal Quantity ted Quantity otal Quantity otal Quantity 1.32 / metre CF %) De vcb switch A, 11KV/433 d tap changing ehydrated collinespects and	40.000 metro do not de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de	e tre 6052.80 Remark el of suitable hase, 50 Hament on Haming to Islant site or a
	Description 28 od340984/2021_2022 "250kVA Indoor Transficapacity Supplying, instead Dyn 11, indoor ONAN and LV side complete 2026 (Part 1 to Part 5) directed by the Engine	No ELECTRICA ormer and 1 stallation, test type, coppee with all access & as per speer In Chargel and suitab	Say 40 L AL WORKS 1 kv indoor sting and coer wound tracessories i/opecification ge including	dia Ductile er AutT 0.000 metre B (Cost In free standing mmissioning nsformer with first filling of attached co suuply inst	To Total Deduct Net To Rs 1040° g cubcle typ g of 250KV/ th OFF load of filtered d mplete in al allation conditermination	otal Quantity ted Quantity otal Quantity otal Quantity 1.32 / metre CF %) De vcb switch A, 11KV/433 d tap changing ehydrated collinespects and	40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.000 metro 40.00	e tre 6052.80 Remark el of suitable hase, 50 Hament on Haming to Italian at site or a
	Description 28 od340984/2021_2022 "250kVA Indoor Transficapacity Supplying, instead Dyn 11, indoor ONAN and LV side complete 2026 (Part 1 to Part 5) directed by the Engine	No ELECTRICA ormer and 1 stallation, test type, coppee with all access & as per speer In Chargel and suitab	Say 40 L AL WORKS 1 kv indoor sting and coer wound tracessories i/opecification ge including	cr AutT 0.000 metre B (Cost In free standing missioning nsformer with first filling of attached co suuply inst kv cable and	To Total Deduct Net To @ Rs 1040* g cubcle type of 250KV/ th OFF load of filtered demplete in all allation condition to the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the	otal Quantity red Quantity otal Quantity 1.32 / metre CF 26) De vcb switch A, 11KV/433 d tap changing ehydrated commissioning on	40.000 metro do not de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de	e tre 6052.80 Remark el of suitable hase, 50 Hament on Haming to Italian at site or a
	Description 28 od340984/2021_2022 "250kVA Indoor Transficapacity Supplying, instead Dyn 11, indoor ONAN and LV side complete 2026 (Part 1 to Part 5) directed by the Engine	No ELECTRICA ormer and 1 stallation, test type, coppee with all access & as per speer In Chargel and suitab	Say 40 L AL WORKS 1 kv indoor sting and coer wound tracessories i/opecification ge including	cr AutT 0.000 metre B (Cost In free standing missioning nsformer with first filling of attached co suuply inst kv cable and	To Total Deduct Net To Rs 1040* g cubcle type of 250KV/ th OFF load of filtered demplete in all allation condition to the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the condition of the	otal Quantity red Quantity red Quantity red Quantity red Quantity red Quantity 1.32 / metre CF 2%) De vcb switc A, 11KV/433 d tap changing ehydrated commissioning on otal Quantity	40.000 metro do not de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de la confession de	e tre 6052.80 Remark el of suitable hase, 50 Hz ment on HV irming to IS

2	od340986/2021_2022 "CT - PT Unit and TOD CT-PT Unit 3Phase D complete in all respec	ry type cor	nfirming to	IS 2026 (Pa	art 1 to Pai	rt 5) & as p	er KSEB sp	• •	
		1					1.000		
					To	tal Quantity			
				Т		ed Quantity			
						tal Quantity			
			s	Say 1.000 N		000.00 / No		000.00	
3	od340988/2021_2022 "10kA Surge (Lightining Supply & Installation or incoming line complying operating load of 10kV) the Engineer in Charge	f Heavy Dut ng IS: 3070 with termin	(Part - III) 8	IEC 60099	- 4 (2009)	50Hz, rated	voltage of 1	2kV with a	
		2	Deli	20/4	441		2.000		
		16	1138		To	tal Quantity	2.000 No		
					otal Deduct	ed Quantity	0.000 No		
			M ESE	10 22/	Net To	tal Quantity	2.000 No		
		Ker	ala Wat	Say 2.000	No @ Rs 4	646.00 / No	Rs 92	92.00	
4	Say 2.000 No @ Rs 4646.00 / No Rs 9292.00 od340989/2021_2022 Main LT panel br>Supplying, installation, testing and commissioning of S3phase 415V, 50Hz, floor mounted MS Cubicle type panel board suitable for connecting 250 kva transformer and all motors including all inter connections, wiring in all etc using 14 gauge CRCA sheet painted with 2coats of superior quality enamel paint of approved color over a coat of superior quality iron primer of approved quality as per specification complete in all respects as required at site conforming to relevant BIS								
	standards and KSEB						orming to re		
							orming to re		
		standards			Engineer In		orming to report		
		standards		ed by the I	Engineer In	Charge. <b< td=""><td>1.000 No</td><td></td></b<>	1.000 No		
		standards		ed by the I	Engineer In To Total Deduct	Charge. tal Quantity	1.000 1.000 No 0.000 No		
		standards	or as direct	ed by the I	Engineer In To Total Deduct Net To	Charge. tal Quantity	1.000 No 0.000 No 1.000 No	levant BIS	
5		for Transfor	or as direct	Say 1.000 Northing with on masonry	Total Deduct Net To o @ Rs 350 copper earthenclosure	tal Quantity ed Quantity tal Quantity 000.00 / No	1.000 No 1.000 No 1.000 No 1.000 No Rs 350 mm X 600 m plate havi	000.00 nm X 3 mm ng locking	
5	od340991/2021_2022 "Earthing Equipments thick including access	for Transfor	or as direct	Say 1.000 Northing with on masonry	Total Deduct Net To o @ Rs 350 copper earthenclosure	tal Quantity ed Quantity tal Quantity 000.00 / No	1.000 No 1.000 No 1.000 No 1.000 No Rs 350 mm X 600 m plate havi	000.00 nm X 3 mm ng locking	

				Т	otal Deduct	ted Quantity	0.000 L.S	
					Net To	otal Quantity	1.000 L.S	
			S	ay 1.000 L.S	@ Rs 250	000.00 / L.S	Rs 250	00.000
6	od340993/2021_2022 "250KVA Diesel Gener Generating set alongw power factor at 415 V	ith having I	Prime Powe	er Rating of 2	250 KVA, 4	15 volts at	1500 RPM,	
		1					1.000	
					To	tal Quantity	1.000 No	
				Т	otal Deduct	ted Quantity	0.000 No	
			-60	60	Net To	tal Quantity	1.000 No	
			S	ay 1.000 No	@ Rs 1509	950.00 / No	Rs 150	9950.00
	KWH, KVARH & provi			nd elsewhere	e if require		1.000	
			2	T		ed Quantity		
				Say 1.000 No				2300.00
8	od340997/2021_2022 "Earthing Equipments f Earthing with copper e masonry enclosure with with charcoal/ coke and	arth plate 6 h cover plat	e having lo			•		•
		1					1.000	
					To	tal Quantity	1.000 L.S	
				Т	otal Deduct	ed Quantity	0.000 L.S	
					Net To	tal Quantity	1.000 L.S	
			S	ay 1.000 L.S	@ Rs 102	139.99 / L.S	Rs 102	2139.99
9	od340999/2021_2022 "Main Control Centre Design, Fabrication, Sconstruction with fully a				•			

	CRCA Sheets compartmenatised with hinge lock doors with Dust, vermi proof a approved shade. The panel shall have enough size to accomadate the individual equipment set with individual MCCB's/MCB of appropriate capacity and also Busbars, ACBs & RCCB's as specified below with cable alley, interconnections mounting and internal wiring, earth terminals, numbering etc, complete in a operation on 415V, 3 phase 50Hz AC supply with enclosure protection class IP 5 supply, installation, termination testing & Commissioning of the all power and specifications or as directed by the Engineer In Charge."	control centres of each to have provision for having all accessories all respect suitable for 4 as required. Including
	1	1.000
	Total Quantity	1.000 L.S
	Total Deducted Quantity	0.000 L.S
	Net Total Quantity	1.000 L.S
	Say 1.000 L.S @ Rs 2323000.00 / L.S	Rs 2323000.00
10	od341002/2021_2022 Wiring for Each equipment Supplying and Laying of PVC insulated and PVC s cable of Aluminium conductor XLPE power cables as per IS:7098/Part-I/88 with laky grad of required size direct in ground including excavation, sand cushioning, refilling the trench etc. as required in the specifications or as directed by the English	itest ammendments 1.1 protective covering and
	1	1.000
	Total Quantity	1.000 L.S
	Kerala Water Aut Fotal Deducted Quantity	0.000 L.S
	Net Total Quantity	1.000 L.S
	Say 1.000 L.S @ Rs 1889258.73 / L.S	Rs 1889258.73
11	od341003/2021_2022 Brass Glands & Aluminium Lugs Supplying and making end termination with brand aluminium lugs for required size of PVC insulated and PVC sheathed I XLP cable of 1.1 kV grade as required.	,
	1	1.000
	Total Quantity	1.000 L.S
	Total Deducted Quantity	0.000 L.S
	Net Total Quantity	1.000 L.S
	Say 1.000 L.S @ Rs 251238.26 / L.S	Rs 251238.26
12	od341006/2021_2022 "Power Distribution Board (Control Room & Centrifuge Building) Supplying and fixing of following ways surface/ recess mounting, vertical ty distribution board of sheet steel, dust protected, duly powder painted, inclusive obus bar, common neutral link, earth bar, din bar for mounting MCBs (but without required. (Note: Vertical type MCB TPDB is normally used where 3 phase outlets are required.) 12 way (4 + 36), Double door	of 200 A, tinned copper

	(i) Incoming - 63A MCC ii) Outgoing Feeders - 4 iii) Outgoing Feeders - iv) Outgoing Feeders -	Nos of 25A Nos of 6A	MCCB with		RCCBs			
		1					1.000	
					To	tal Quantity	1.000 L.S	
				Т	otal Deduct	ed Quantity	0.000 L.S	
					Net To	tal Quantity	1.000 L.S	
			5	Say 1.000 L.	S @ Rs 660	73.09 / L.S	Rs 660)73.09
13	od341007/2021_2022 "Wiring & Lighting acce of FRLS PVC insulate cover plates, supplying commissioning of all	d copper co g and fixing	onductor,sup g following	oply and fitt modular sv	ing of GI bo	oxes along vets,supply,ir	with modula	r base and
		1	X 2		111		1.000	
			N. W.		To	tal Quantity	1.000 L.S	
		1/58			otal Deduct	ed Quantity	0.000 L.S	
	1	400	E 1000		Net To	tal Quantity	1.000 L.S	
			Sa	ay 1.000 L.S	6 @ Rs 2748	346.91 / L.S	Rs 274	846.91
14	od341009/2021_2022 "EXTERNAL LIGHTIN insulated and PVC sh is:7098/Part-I/88 with MCCB/MCB/RCCB,sup,fire extinguishers ,etc and refilling the trench	G br>Provi eathed / XI latest ame 	PE power andments 1 ction of met including ne	al lighting a cable of Co .1 kv grade talic poles,s cessary exc	errangement opper conduction of requirection trret light policavation, sa	uctor XLPE d size directles,earthing nd cushioni	control cat ct in ground and safety on ng, protective	oles as per d including equipments ve covering
		1					1.000	
					To	tal Quantity	1.000 L.S	
				Т	otal Deduct	ed Quantity	0.000 L.S	
					Net To	tal Quantity	1.000 L.S	
			Say	/ 1.000 L.S	@ Rs 16261	00.00 / L.S	Rs 1626	5100.00
SI No	Description	No	L	В	D	CF	Quantity	Remark
	3Charges for	Power allo	cation to K	SEB and po	ower extens	sion by cab	le	
					Lump	-Sum Total	Rs 1000	00.000
SI No	Description	No	L	В	D	CF	Quantity	Remark
			4Tools a	nd Plants				
					Lump	-Sum Total	Rs 200	00.00

SI No	Description	No	L	В	D	CF	Quantity	Remark
SI INU			1		I		Quantity	Remark
	SIVOING	ions for Su	ippiying an	d fixing Od				
		I	1		Lump	o-Sum Total	Rs 1000	00.000
SI No	Description	No	L	В	D	CF	Quantity	Remark
	6Provision	n for supply	ying and fix	ing Solar p	anel with c	ontrol unit		
					Lump	o-Sum Total	Rs 250	00.000
SI No	Description	No	L	В	D	CF	Quantity	Remark
	7P	rovision fo	r automatir	ng entire pla	ant by SCA	DA		
					Lumi	o-Sum Total	Rs 2500	0000.00
					<u>'</u>	Total	57254	
				V0.				.0%
			//36	1609		Centage @	10.	.0%
			-1		Centa	age Amount	57254	410.41
		1	Pr	ovision for G	ST paymer	nts (in %) @	18.	.0%
		613	A	Amount rese	rved for GS	T payments	10305	738.73
		1 15-	LANK A		Tota	I & Centage	73285	253.22
		101	LKG		Lumpsum 1	or round off	0	.00
		TUE			GRAND	TOTAL Rs	7328	5253.22
			Mr.	1 200	Roi	ınded Grand	l Total Rs	7.32.85 2
	-Kerala Water A	ala Water A	er. Ai	utb	GRAND		7328 I Total Rs	5253.22 7,32,85,2

Rupees Seven Crore Thirty Two Lakh Eighty Five Thousand Two Hundred and Fifty Three Only

General Abstract

SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY(PHASE-2) - CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK -NETWORK DESIGN

(Dsor year: 2018)

SI No	Heading Description		Amount		
1	Laying of sewer network		182119878.06		
2	Road Restoration work of laying of sewers and pumping main.		23547474.78		
3	Pumping mains		17525676.20		
4	Construction of Man holes		80497467.11		
5	Road Restoration - to PWD/NH		66201215.64		
6	Lifting Stations and Allied work		16420923.43		
7	Water Supply and Sanatory arrangements, Electrical wiring in pumping stations		400000.00		
8	Line extension , Deposit to KSEB, etc	4.1	1000000.00		
9	Operation and Maintanance cost for sewer networks and allied works- First year	AS.	2432892.60		
10	Operation and Maintanance cost for sewer networks and allied works2 nd year to 10 th year		30654446.76		
11	Sewer Connection Charges		3000000.00		
12	Electricity charges for Sewer network portion for 10 Year	ty	41199681.60		
	DDIC	Total	491999656.19		
		entage @	10.0%		
	Centag	e Amount	49199965.62		
	Provision for GST payments	s (in %) @	18.0%		
	Amount reserved for GST	payments	88559938.11		
	Total 8	& Centage	629759559.92		
	Lumpsum for	round off	0.00		
	GRAND T	OTAL Rs	629759559.92		
		Rounded	Grand Total Rs 62,97,59,		

Detailed Estimate

SEWERAGE SCHEME TO KASARAGOD MUNICIPALITY(PHASE-2) - CONSTRUCTION OF 4 MLD CAPACITY SEWAGE TREATMENT PLANT AT KORAKODVAYAL AND LAYING SEWERAGE NET WORK -NETWORK DESIGN

(Dsor year: 2018)

SI No	Description	No	L	В	D	CF	Quantity	Remark
	1La	ying of sev	wer network	(Cost	Index:33.05	5 %)		
1	100.59.1 Cutting the bituminous sides of proposed align the charges for hire an watching, ribbon fencion officers etc. complete, means and carrying out	ment of the d conveyal ng, caution before carr	pipe to be Ince of tools boards, tra	aid without and plant,	causing any cost of cons ion, and as	damage to sumables a per the dir	other utilitie nd charges ection of de	s, including for lighting, epartmental
	Sewer lines from 225mm to 560mm	2	26184.700			Ž.	52369.400	
	Inspection Chamber to Manhole	2 Kera	6960.000 ala Wat	er Auth	ority		13920.000	1160X6X2 ,50% BT/CC each
					To	otal Quantity	66289.400	metre
					otal Deduct	ed Quantity	0.000 metre	Э
					Net To	tal Quantity	66289.400	metre
			Say 66	289.400 me	etre @ Rs 29	9.87 / metre	Rs 198	0064.38
2	15.43.2 Dismantling manually / unserviceable material Sewer lines from	within 50 n	netres lead a	as per direc	•		arge:Bitumiı	
	225mm to 560mm	1	15145.000	1.000			15145.000	
	Inspection Chamber to Manhole	1	6960.000	1.000			6960.000	1160X6X2 50% cc/bt each
					To	tal Quantity	22105.000	sqm
				Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	22105.000	sqm
			Say 2	22105.000 s	qm @ Rs 3	54.18 / sqm	Rs 782	9148.90

3	15.2.1 Demolishing cement cometres lead as per dired design mix)									
	Sewer lines from 225mm to 560mm	1	11039.700	1.000	0.150		1655.956			
	Inspection Chamber to Manhole	1	6960.000	1.000	0.150		1044.000	1160X6X2 50%bt/cc each		
					То	tal Quantity	2699.956	cum		
				Т	otal Deduct	ed Quantity				
			Bu	13.	Net To	tal Quantity	2699.956 cum			
			Say 2	2699.956 cu	ım @ Rs 20	06.81 / cum	Rs 541	8298.70		
4	4.1.2 Providing and laying in shuttering - All work up mm nominal size)					_		•		
	Sewer lines from 225mm to 560mm	1	11039.700	1.000	0.150		1655.956			
	Inspection Chamber to Manhole	Kera	6960.000	er1,000 th	019.150		1044.000	1160X6X2 50%bt/cc each		
			2		То	tal Quantity	2699.956	cum		
					otal Deduct	ed Quantity	0.000 cum			
					Net To	tal Quantity	2699.956 c	um		
			Say 2	2699.956 cu	ım @ Rs 83	28.46 / cum	Rs 2248	86475.55		
5	100.8.2 Fencing 1.50m high wit casuarina pole (girth 15 NEW DATA (Prepared I	5cm to 24cr	n) fixed at 1.	5m interval	ls.	24cm) tied w	vith coir yarr	n on vertical		
	Sewer lines from 225mm to 560mm	1	26184.700			0.4	10473.881			
	Inspection Chamber to Manhole	1	13920.000			0.4	5568.000	1160X3X4		
					То	tal Quantity	16041.881	metre		
				T	otal Deduct	ed Quantity	0.000 metr	e		
					Net To	tal Quantity	16041.881	metre		
			Say 16	041.881 me	etre @ Rs 9	5.04 / metre	Rs 152	4620.37		

6	100.8.1 Fencing one side of tre casuarina pole (girth 1 (Data Prepared based o	5cm to 24	cm) fixed at	2 m interv		cm plastic o	caution tape	e in vertica				
	Sewer lines from 225mm to 560mm	1	26184.700			0.6	15710.820					
	Inspection Chamber to Manhole	1	13920.000			0.6	8352.000	1160X3X				
					То	tal Quantity	24062.820	metre				
				7	Total Deduct	ed Quantity	0.000 metre	Э				
					Net To	tal Quantity	24062.820	metre				
	Say 24062.820 metre @ Rs 27.66 / metre Rs 665577.60											
	then returning the soil and deposited layer by rammalead of 50 m: All kinds of soil (Ref. Item No. 2.10.1 of Sewer lines from 2 2 5 m m to)	ming, wate	ala Wate	l disposing	of surplus e	excavated s	oil as direct	•				
	5 6 0 m m (From calculation sheet)	D	29975.330		F	0.45	13488.899					
	Inspection Chamber to Manhole	1	13920.000	0.600	1.000	0.45	3758.400	1160X6X				
			Bitu	minous por	tion	Г	Г					
	Sewer lines from 225mm to 560mm	1	15145.000	1.000	0.300		-4543.500					
	Inspection Chamber to Manhole	1	6960.000	1.000	0.300		-2088.000	1160X6X 50% cc/b each				
			Cor	ncrete Port	ion							
	Sewer lines from 225mm to 560mm	1	11039.700	1.000	0.150		-1655.955					
	Inspection Chamber to Manhole	1	6960.000	1.000	0.150		-1044.000	1160X6X 50%bt/co				
					To	tal Quantity	17247.299	CUM				

					Total Deducto	ed Quantity	-9331.455	cum			
	Total Deducted Quantity -9331.455 cum Net Total Quantity 7915.844 cum Say 7915.844 cum @ Rs 545.11 / cum Rs 4315005.72 100.1.5 Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidatingeach deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m:" Ordinary Rock. (Ref. Item No. 2.13.1 of DSR) Sewer lines from 29975.330 O.4 11990.133 Inspection Chamber 1 13920.000 0.600 1.000 0.4 3340.800 1160X3X4										
			Say	7915.844 c	cum @ Rs 54	15.11 / cum	Rs 431	5005.72			
8	Excavating trenches of dressing of sides, ramm then returning the soil a deposited layer by ramm lead of 50 m:" Ordinary Rock.	ing of bo s require ning, wat	ottoms, depth d, in layers no	up to 1.5 m ot exceedin	n, including on the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the c	getting out t depth, inclu	the excavate	ed soil, an datingeac			
		1	29975.330	a		0.4	11990.133				
	Inspection Chamber to Manhole	1_	13920.000	0.600	1.000	0.4	3340.800	1160X3X			
		FL	TAR	31/1	To	tal Quantity	15330.933	cum			
		120	1014	1000	Total Deducte	ed Quantity	0.000 cum				
	Net Total Quantity 15330.933 cum										
			Say 1	5330.933 c	cum @ Rs 79	91.65 / cum	Rs 1213	6733.11			
	"Excavating trenches of dressing of sides, ramm then returning the soil a deposited layer by ramm lead of 50 m: Medium Rock (blasting p	ning of bo s require ning, wat	ttoms, depth d, in layers no ering, etc. and	up to 1.5 m ot exceedin	n, including on the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the c	getting out t depth, inclu	the excavate	ed soil, ar datingead			
	Sewer lines from 225mm to 560mm	1	29975.330			0.15	4496.300				
	Inspection Chamber to Manhole	1	13920.000	0.600	1.000	0.15	1252.800	1160X3X			
					To	tal Quantity	5749.100	cum			
				Т	Total Deduct	ed Quantity	0.000 cum				
					Net To	tal Quantity	5749.100 c	um			
			Say 5	749.100 cu	ım @ Rs 131	16.46 / cum	Rs 756	8460.19			
10	Say 5749.100 cum @ Rs 1316.46 / cum Rs 7568460.19 100.1.2 Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth exceeding 1.5m but not exceeding 3 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth										

	including consolidating excavated soil as dire All kinds of soil (Ref. Item No. 2.11 of D	cted, withi	-	•	_	_	d disposing	of surplus			
	From calculation sheet- sewerline 225 to 560mm	1	2594.540			0.45	1167.544				
					То	tal Quantity	1167.544	cum			
				Т	otal Deduct	ed Quantity	0.000 cum				
		Net Total Quantity 1167.544 cun									
	Say 1167.544 cum @ Rs 649.48 / cum Rs 758296.48										
	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth exceeding 1.5m but not exceeding 3 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m : 1.50m to 3.0m. Ordinary Rock. (Ref. Item No. 2.14 of DSR)										
	From calculation sheet- sewerline 225 to 560mm	1 Kera	2594.540 ala Wat	er Auth	ority	0.4	1037.816				
					То	tal Quantity	1037.816	cum			
				Т	otal Deduct	ed Quantity	0.000 cum				
					Net To	tal Quantity	1037.816 c	um			
			Say	1037.816 c	um @ Rs 9	78.85 / cum	Rs 101	5866.19			
12	Excavating trenches of required width for pipes, cables, etc including excavation for sock dressing of sides, ramming of bottoms, depth up to 1.5 m but not exceeding 3 m, including gettin excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated directed, within a lead of 50 m: (Rate is over corresponding basic item for depth up to 1.5 metre 3.0m Medium Rock (blasting prohibited) New Data derived from DAR										
	From calculation sheet- sewerline 225 to 560mm	1	2594.540			0.15	389.181				
					То	tal Quantity	389.181 cu	ım			
				Т	otal Deduct	ed Quantity	0.000 cum				

					Not To	stal Ouantity	389.181 cu	m		
			Sav	380 181 cu		03.66 / cum				
40	0.47.0		Say	309.101 Cu	III @ KS 13	03.00 / Culli	KS 303	193.90		
13	2.17.2 Close timbering in case packing cavities (when timbered).Depth exceeds	rever requ	uired) etc. co	omplete (M	1easureme		-	_		
		2	26184.700	3.000		0.2	31421.641			
					To	tal Quantity	31421.641	sqm		
				Т	otal Deduct	ed Quantity	0.000 sqm			
	Net Total Quantity 31421.641 sqm									
			Say 3	1421.641 s	qm @ Rs 1	87.73 / sqm	Rs 589	8784.66		
	of the timber permanent	2	26184.700	3.000		0.05 otal Quantity		sqm		
	Total Deducted Quantity 0.000 sqm									
	Net Total Quantity 7855.411 sqm									
		Ker	Say	7855.411 s	qm @ Rs 9	47.78 / sqm	Rs 744	5201.44		
15	od338601/2021_2022 Installation of PE pipe sewer including prepar making of br>entry pit system or making the sincluding all related civi reaming and pulling back drilling fluid and back fill Ground penetrating map br>of br>corridod detected 	ing and so and exit p system bitsystem l and mech k the new of site after radar so r with inforce 	etting up the bit up to require or making to annical works pipe work on er completion urvey in commation of I ducted using	plant and lired depth the system s like the design all inclusive orridor ocations a	equipment, installing ready for cavation sled borne as per Co >with to nd br>	preparing notes preparing notes properties of the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to the prepared to	new pipe woork and coming by HDE ing etc drilling ment proper HDPE pipes ried utilities top of various	ork material missioning of operating of stringing disposal of salso using es on the ous utilities		
	225mm dia HDPE	1	1003.000				1003.000			
					To	tal Quantity		netre		
				Т			0.000 metre			
							1003.000 m			
			Say 1003	3.000 metre	e @ Rs 501	3.17 / metre	Rs 5028	3209.51		
16	od338603/2021_2022 Supplying, Providing b	edding wi	th m sand fo	r sewer lin	es as per	specification	ns to be laid	d whereve		

	beding for lines	1	26184.700	0.600	0.100	0.7	1099.758			
	bearing for infec	· · · · · · · · · · · · · · · · · · ·	2010 00	0.000		tal Quantity		cum		
				Т		ted Quantity				
				<u> </u>		otal Quantity		um		
			Sav 10			46.62 / cum		0738.32		
17	4.1.5 Providing and laying in pshuttering - All work up to nominal size)			-	_	•		_		
	PCC bedding concrete where ever necessary	1	26184.700	0.600	0.100	0.25	392.771			
		/		1 3	To	tal Quantity	392.771 cı	ım		
		(L	Mag	M/M	otal Deduct	ed Quantity	0.000 cum			
	nominal size) P C C bedding concrete where ever 1 26184.700 0.600 0.100 0.25 392.771 Total Quantity 392.771 cum Total Deducted Quantity 0.000 cum Net Total Quantity 392.771 cum Say 392.771 cum @ Rs 7229.54 / cum Rs 2839553.66 100.98.227 Supply of uPVC Pipe, IS 4985: 2000 , 8kg/cm2, 200mm Dia.									
			Say :	392.771 cu	ım @ Rs 72	29.54 / cum	Rs 283	9553.66		
18	Supply of uPVC Pipe, IS 4985: 2000 , 8kg/cm2, 200mm Dia.									
	For house connection IC to MH		13920.000	er Auth	T	otal Quantity	13920.000			
				T						
	Total Deducted Quantity 0.000 metre Net Total Quantity 13920.000 metre									
			Say 13920).000 metre						
19	od338609/2021_2022 Conveying to site, lowering into trenches, laying to correct line and grade using CC holding clamp 200mm PVC SN 8 (8 Kg/Cm2) S & S Sewerage pipes conforming to I.S.15328, including jointing the pipes using rubber rings as per approved methods with rubber gasket for flexible joints as per specification including cost of gasket, to correct line, de watering with all rates of recuperation erroviding bedding for pipe line trenches with available earth, hydraulic testing the line to the required termination pressure as per IS, CPHEEO specifications, lighting, watching, providing caution boards etc. wherever required, during laying and jointing the pipes including hire for all tools etc complete including									
	commissioning for the									

				Т	otal Deduct	ed Quantity	0.000 metre	9	
					Net To	tal Quantity	13920.000	metre	
			Say 139	20.000 met	re @ Rs 290	0.67 / metre	Rs 4046	6126.40	
20	60.2.3 Bailing out water using above 5HP and up to other stores, pay of st	10HP, inclu	uding conve	•	_		•		
		25	8.000	5.000*.74 6			746.000		
					То	tal Quantity	746.000 ho	our	
				т Т	otal Deduct	ed Quantity	0.000 hour		
			1/60	166	Net To	tal Quantity	746.000 ho	ur	
			Sa	y 746.000 h	our @ Rs 42	24.97 / hour	Rs 317	027.62	
	BAILING OUT WATER and pump set above lubrication oil and oth	10HP and	up to 20HP	, including	conveyance	•	•	Ū	
	1	10	15.000*.7 46	8.000			895.200		
		Ker	ala Wat	er Auth	ority To	tal Quantity	895.200 ho	our	
	-				otal Deduct				
			K		Net To	tal Quantity	895.200 ho	ur	
	-		Sa	y 895.200 h	our @ Rs 52	27.56 / hour	Rs 472	271.71	
22	60.2.5 BAILING OUT WATER and pump set above lubrication oil and oth	25HP and er stores, p	up to 30HP,	including of	conveyance	_	errection,c	_	
		15	46	8.000			2238.000		
					То	tal Quantity	2238.000 h	nour	
				Т	otal Deduct	ed Quantity	0.000 hour		
	Net Total Quantity 2238.000 hour								
			Say	2238.000 h	our @ Rs 9	54.93 / hour	Rs 2137	7133.34	
23	od338610/2021_2022 Supply of PE Pipe PE	100 (IS 143	33/ sewerag	e pipe with I	atest IS), 8k	g, 225mm C	Outer Dia		
	HDPE Pipe PE 100 , 8kg, 225mm Outer Dia	1 1	23147.400				23147.400		

				Tot	tal Quantity	23147.400	metre	
			Т	otal Deducte				
			·			23147.400		
		Say 2314	17.400 metre	e @ Rs 1336			5527.59	
24	od338611/2021_2022 Supply of PE Pipe PE 100 (IS 14333), 8kg, 250mm Outer Dia HDPE Pipe PE 100 , 8kg, 250mm Outer 1 169.000 Dia. Total Quantity 169.000 metre Total Deducted Quantity 0.000 metre Net Total Quantity 169.000 metre Say 169.000 metre @ Rs 2079.09 / metre Rs 351366.21							
	8kg, 250mm Outer 1	169.000				169.000		
		•		Tot	tal Quantity	169.000 m	etre	
		100	65 T	otal Deducte	ed Quantity	0.000 metro	е	
		JAN		Net Tot	tal Quantity	169.000 me	etre	
		Say 16	69.000 metre	e @ Rs 2079				
25	od338612/2021_2022 Supply of PE Pipe PE 100 (IS	S 14333/ sewerag	e pipe with I	atest IS), 8k	g, 280mm C	Outer Dia.		
	HDPE Pipe PE 100, 8kg, 280mm Outer 1 Dia.	649.500			L	649.500		
		tal Quantity	649.500 m	etre				
		Kerala Wat	er Auth	otal Deducte	ed Quantity	0.000 metro	е	
	D	D		Net Tot	tal Quantity	649.500 me	etre	
		Say 64	19.500 metre	e @ Rs 2066	3.31 / metre	Rs 134	2068.35	
26	od338613/2021_2022 Supply of PE Pipe PE 100 (IS	3 14333/ sewerag	e pipe with I	atest IS), 8k	g, 315mm C	Outer Dia.		
	HDPE Pipe PE 100 , 8kg, 315mm Outer 1 Dia.	1507.600				1507.600		
				Tot	tal Quantity	1507.600 ı	metre	
			Т	otal Deducte	ed Quantity	0.000 metro	e	
				Net Tot	tal Quantity	1507.600 n	netre	
		Say 150	7.600 metre	e @ Rs 2624	.99 / metre	Rs 395	7434.92	
27	od338614/2021_2022 Supply of PE Pipe PE 100 (IS	S 14333/ sewerag	e pipe with I	atest IS), 8kg	g, 355mm C	Outer Dia.		
	HDPE Pipe PE 100 , 8kg, 355mm Outer Dia.					249.700		

							249.700 m			
				Т			0.000 metre			
							249.700 me			
			Say 24	9.700 metre	e @ Rs 3313	3.76 / metre	Rs 827	445.87		
28	od338615/2021_2022 Supply of PE Pipe PE 1	00 (IS 1433	33/ sewerage	e pipe with la	atest IS), 8k	g, 400mm C	Outer Dia.			
	HDPE Pipe PE 100 , 8kg, 400mm Outer Dia.	1	397.400				397.400			
					То	tal Quantity	397.400 m	etre		
			100	65. T	otal Deduct	ed Quantity	ty 0.000 metre			
			JAB		Net To	tal Quantity	397.400 me	etre		
		-	Say 39	7.400 metre	e @ Rs 4215	5.86 / metre	-			
29	od338618/2021_2022 Supply of PE Pipe PE 100 (IS 14333/ sewerage pipe with latest IS), 8kg, 560mm Outer Dia.									
	HDPE Pipe PE 100,8kg, 560mm Outer Dia.	1	64.100		1	L	64.100			
			VA TO	I HAVE	То	tal Quantity	64.100 me	tre		
		Kera	ala Wate	er Auth	otal Deduct	ed Quantity	0.000 metre	Э		
					Net To	tal Quantity	64.100 met	re		
			Say 6	4.100 metre	e @ Rs 8261	1.80 / metre	Rs 529	581.38		
30										
	NEW DATA									
		1	23147.400				23147.400			
	NEW DATA HDPE Pipe PE 100 ,	1	23147.400		То	tal Quantity		metre		
	NEW DATA HDPE Pipe PE 100 ,	1	23147.400	Т						
	NEW DATA HDPE Pipe PE 100 ,	1	23147.400	Т	otal Deduct	ed Quantity	23147.400	Э		

100.10.9 Laying HDPE pipes (IS pipes, electro-fusion we line thus fabricated to s the pipe in position into water before back fillin complete but excluding 250 mm OD HDPE pipe NEW DATA	elding usin uit the hyd o the trend g and leven g cost of p	g automatic drulic working ches already eling the trer	or semi aut pressure a made, tes nches inclu	omatic elecand after test	trofusion ma sting , alignin e to suitable	chines, testi g the pipelir pressure v	ing the pipe ne, lowering vith potable
HDPE Pipe PE 100, 8kg, 250mm Outer Dia.	1	169.000				169.000	
		100	65	T	otal Quantity	169.000 m	etre
		JAN		Total Deduc	ted Quantity	0.000 metro	e
	-	£2 1		Net T	otal Quantity	169.000 me	etre
		Say 1	169.000 me	tre @ Rs 43	3.54 / metre	Rs 73	268.26
		ches already eling the trer		-	e to suitable	pressure v	vith potable
water before back fillin complete but excluding 280 mm OD HDPE pipe NEW DATA HDPE Pipe PE 100, 8kg, 280mm Outer	g and leve g cost of p	eling the trer	nches inclu	-	e to suitable	pressure v	•
water before back fillin complete but excluding 280 mm OD HDPE pipe NEW DATA HDPE Pipe PE 100,	g and leve g cost of p	eling the trer	nches inclu	ding all lab	e to suitable our charge, l	pressure whire for app	vith potable
water before back fillin complete but excluding 280 mm OD HDPE pipe NEW DATA HDPE Pipe PE 100, 8kg, 280mm Outer	g and leve g cost of p	eling the trer	nches inclu	ding all lab	e to suitable our charge, l	649.500 m	vith potable
water before back fillin complete but excluding 280 mm OD HDPE pipe NEW DATA HDPE Pipe PE 100, 8kg, 280mm Outer	g and leve g cost of p	eling the trer	nches inclu	Total Deduc	e to suitable our charge, l otal Quantity	649.500 metro	vith potable liances etc
water before back fillin complete but excluding 280 mm OD HDPE pipe NEW DATA HDPE Pipe PE 100, 8kg, 280mm Outer	g and leve g cost of p	eling the trer pipe and fittin 649.500	nches inclu	Total Deduction	e to suitable our charge, l	649.500 metro 649.500 me	vith potable liances etc

	HDPE Pipe PE 100, 8kg, 315mm Outer Dia.	1	1507.600				1507.600	
					То	tal Quantity	1507.600 r	metre
				Т	otal Deduct	ed Quantity	0.000 metre	е
					Net To	tal Quantity	1507.600 n	netre
			Say 15	507.600 met	re @ Rs 570	0.12 / metre	Rs 859	512.91
34	Laying HDPE pipes (IS pipes, electro-fusion we line thus fabricated to s the pipe in position into water before back filling complete but excluding 355 mm OD HDPE pipe NEW DATA	elding using uit the hydr o the trenc g and leve g cost of pi	automatic ulic working hes already ling the trer	or semi auto pressure a made, test nches includ	matic electind after testing the line	rofusion ma ing , alignin to suitable	chines, testing the pipelire pressure w	ing the pipe ne, lowering vith potable
	HDPE Pipe PE 100, 8kg, 355mm Outer Dia.	1	249.700				249.700	
				at of Self	То	tal Quantity	249.700 m	etre
		- Ker :	ala Wat	er Auth	otal Deduct	ed Quantity	0.000 metre	е
					Net To	tal Quantity	249.700 me	etre
			Say 2	249.700 met	re @ Rs 643	3.30 / metre	Rs 160	0632.01
35	Laying HDPE pipes (IS pipes, electro-fusion we line thus fabricated to s the pipe in position intwater before back fillin complete but excluding 400 mm OD HDPE pipe NEW DATA	elding using uit the hydr o the trenc g and leve g cost of pi	automatic of automatic of automatic working the trending	or semi auto pressure a made, test nches includ	matic electind after testing the line	rofusion ma ing , alignin to suitable	chines, testing the pipelire pressure w	ing the pipe ne, lowering vith potable
	HDPE Pipe PE 100, 8kg, 400mm Outer Dia.	1	397.400				397.400	
					То	tal Quantity	397.400 m	etre
				Т			0.000 metre	
					Net To	tal Quantity	397.400 me	etre
			Say 3	397.400 met	re @ Rs 716	6.61 / metre	Rs 284	780.81

36	100.10.16 Laying HDPE pipes (IS: 4) pipes, electro-fusion welding line thus fabricated to suit the the pipe in position into the water before back filling an complete but excluding cos 560 mm OD HDPE pipe NEW DATA	g using ne hydru e trench nd leveli	automatic ulic working nes already ing the trer	or semi aut pressure a made, tes iches inclu	comatic electrand after test	ofusion ma ing , alignin to suitable	chines, testi g the pipelir pressure v	ng the pipe ne, lowering vith potable		
	560 mm OD HDPE pipe	1	64.100				64.100			
					То	tal Quantity	64.100 me	tre		
			100	B.	Total Deduct	ed Quantity	antity 0.000 metre			
	Net Total Quantity 64.100 metre									
	Say 64.100 metre @ Rs 966.94 / metre									
	Brick work in CM 1:6 for wal including earth work excavaneat cement flush coat, provision for connecting maposition by suitable means drawings and specification resistant cement shall be understood in side size 50.45x0.45x0.6 m	ation in roviding in sewe s, conv s , inclu	all classes of necessar of and service eying and uding the c	of soil,, play slope in ce connect disposing ost of rein	astering the in the benching ions, conveying the surplus forcement, t	nside with (g towards ng, lifting, pearth with electing the	CM 1:3, 9mr main sewer lacing the c all lead and	n thick with , providing over slab in d lift as per		
					То	tal Quantity	580.000 N	0		
					Total Deduct	ed Quantity	0.000 No			
					Net To	tal Quantity	580.000 No)		
			5	Say 580.00	0 No @ Rs 7	095.90 / No	Rs 411	5622.00		
38	od338620/2021_2022 Constructing inspection ch 20mm broken stone for floo Brick work in CM 1:6 for wal including earth work excava neat cement flush coat, pr provision for connecting ma position by suitable means	or slab , lls, PCC ation in a roviding in sewe	RCC M20 21:4:8 usin all classes 3 necessar 4r and servi	slab using g 20mm br of soil, , pl y slope in ce connect	20mm broke oken stone for astering the in the benchin	en stone for or leveling c nside with (g towards	removable ourse below CM 1:3, 9mi main sewei lacing the c	cover slab foundation thick with providing over slab in		

	Inspection chambers of inside size 348 0.45x0.45x0.45m	er	348.000	2320x0.15 =348
	Total Q	uantity	348.000 N	0
	Total Deducted Qu	uantity	0.000 No	
	Net Total Qu	uantity	348.000 No)
	Say 348.000 No @ Rs 3582.6	61 / No	Rs 124	6748.28
39	od338621/2021_2022 Constructing inspection chambers of size 0.60x0.60m (inside) and 0.90r 20mm broken stone for floor slab ,RCC M20 slab using 20mm broken stone Brick work in CM 1:6 for walls, PCC 1:4:8 using 20mm broken stone for levincluding earth work excavation in all classes of soil, plastering the inside neat cement flush coat, providing necessary slope in the benching tov provision for connecting main sewer and service connections, conveying, liposition by suitable means, conveying and disposing the surplus earth drawings and specifications, including the cost of reinforcement, testing resistant cement shall be used for the the construction of inspection characteristics.	one for veling coe with Coe with Coe wards ifting, point and the coe one of the coe one of the coe one of the coe one of the coe one of the coe one of the coe one of the coe one of the coe one of the coe one of the coe one of the coe one of the coe one of the coe one of the coe one of the coe one of the coe	removable ourse below CM 1:3, 9mr main sewel lacing the call lead and	cover slab of foundation of thick with or, providing over slab in dift as pe
	Inspection chambers of inside size 0.6 X 0.6 X 0.9 m Kerala Water Authority Total Queen to the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the	u ontitu	464.000 464.000 N	23202x0.2 0=464
	Total Deducted Qu			0
	Net Total Q)
	Say 464.000 No @ Rs 7732.3			7810.40
40	od338622/2021_2022 Constructing inspection chambers of size 0.60x0.60m (inside) and 0.60m 20mm broken stone for floor slab ,RCC M20 slab using 20mm broken stone Brick work in CM 1:6 for walls, PCC 1:4:8 using 20mm broken stone for levincluding earth work excavation in all classes of soil, plastering the inside neat cement flush coat, providing necessary slope in the benching tow provision for connecting main sewer and service connections, conveying, liposition by suitable means, conveying and disposing the surplus earth drawings and specifications, including the cost of reinforcement, testing resistant cement shall be used for the the construction of inspection characteristics.	one for veling coe with Coe with Coe wards rifting, por with any the coe one control of the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the coe one for the co	removable ourse below CM 1:3, 9mm main sewel lacing the call lead and	cover slab r foundation m thick with r, providing over slab in d lift as pe
	Inspection chambers of inside size 464 0.6x0.6x0.6m		464.000	2320x0.2= 464
	Total Q	-		0
	Total Deducted Qu	uantity	0.000 No	

					Net To	otal Quantity	464.000 No)
			S	ay 464.000	No @ Rs 7	287.07 / No	Rs 338	1200.48
41	od338623/2021_2022 Constructing inspection 20mm broken stone for Brick work in CM 1:6 for including earth work exneat cement flush coaprovision for connecting position by suitable medrawings and specifical resistant cement shall	floor slab walls, PC cavation ir t, providin main sew eans, con- tions, inc	,RCC M20 s C 1:4:8 using all classes g necessary er and service veying and coluding the column	slab using g 20mm broof soil, pland slope in the connection of the connection of the cost of reinforces.	20mm broke bken stone for stering the in the benching ons, convey the surplus orcement,	en stone for or leveling on nside with Cong towards ing, lifting, poearth with a testing the	removable ourse below CM 1:3, 9mm main sewel lacing the call lead and	cover sla foundation thick winder, providing over slab d lift as pe
	Inspection chambers of inside size 0.6x0.6x0.75m	464	A	A.			464.000	2320x0.2 464
		1	37.9	R X	To	otal Quantity	464.000 N	0
			LANG		Total Deduct	ed Quantity	0.000 No	
		155			Net To	tal Quantity	464.000 No)
		THE PARTY NAMED IN	S	ay 464.000	No @ Rs 7	496.45 / No	Rs 347	8352.80
SI No	Description	No	L	В	D	CF	Quantity	Remark
1	od338577/2021_2022 Excavation for roadwork loading in tippers, trimm cross sections, and trans	ing bottom	and side slo	pes, in acc	ordance wit	h requireme	nts of lines,	grades ar
	Sewer lines from 225mm to 450mm	1	8845.000	1.500	0.300		3980.250	
	Inspection Chamber to Manhole	1	6960.000	1.500	0.300		3132.000	(1160X6 2)0.5
	Pumping main(100mm to 250mm DI)	1	1012.000	1.500	0.300		455.400	
					To	tal Quantity	7567.650	cum
					Total Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	7567.650 c	um
			Sa	y 7567.650	cum @ Rs	58.08 / cum	Rs 439	529.11
2	100.41.39 Supply ,stacking,spreacarriage, loading ,unlo	•		•	•	the trench	of pipe line	e, includi

	Sewer lines from 225mm to 450mm	1	8845.000	1.500	0.150		1990.125	
	Inspection Chamber to Manhole	1	6960.000	1.500	0.150		1566.000	(1160X6X 2)0.5
	Pumping main(100mm to 250mm DI)	1	1012.000	1.500	0.150		227.700	
					То	tal Quantity	3783.825	cum
				7	Total Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	3783.825 c	um
			Say	3783.825 c	cum @ Rs 5	43.16 / cum	Rs 205	5222.39
	Providing, laying spread wet mix macadam (WMI mix plant, carriage of m mechanical paver finish vibratory roller of 8 to 1 and directions of Engin	M) specific nixed mate ner in sub 0 tonne ca	ation includirerial by tippe - base / base apacity to ac	ng premixing r to site, fo se course o	g the materi r all leads & n well prep	al with wate k lifts, laying ared surfac	r at OMC in g in uniform e and comp	mechanica layers wit pacting wit
	Sewer lines from 225mm to 450mm	1	8845.000	1.500	0.150	last.	1990.125	
	Inspection Chamber to Manhole	1 Ker	6960.000	1.500 er Auth	0.150 OTITY		1566.000	(1160X6) 2)0.5
	Pumping main(100mm to 250mm DI)		1012.000	1.500	0.150		227.700	
					To	tal Quantity	3783.825	cum
				7	Total Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	3783.825 c	um
			Say 3	3783.825 cu	ım @ Rs 30	50.90 / cum	Rs 1154	4071.69
4	od338581/2021_2022 Providing and apply granular br>Base includes the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the	ding cleari				` '		
	Sewer lines from 225mm to 450mm	1	8845.000	1.500			13267.500	
	Inspection Chamber to Manhole	1	6960.000	1.500			10440.000	(1160X6X 2)0.5
	Pumping main(100mm to 250mm DI)	1	1012.000	1.500			1518.000	
					To	tal Quantity	25225.500	sqm

				Т	otal Deducted Quantity	0.000 sqm	
					Net Total Quantity	25225.500	sqm
			Say	25225.500	sqm @ Rs 59.03 / sqm	Rs 148	9061.27
5	od338583/2021_2022 Providing and applying at br>the rate of 0.20 broom	_			· · · · · -	15921.000 (1160X6.	
	Sewer lines from 225mm to 450mm	1	8845.000	1.800		15921.000	
	Inspection Chamber to Manhole	1	6960.000	1.800		12528.000	(1160X6 2)0.5
	Pumping main(100mm to 250mm DI)	1	1012.000	1.800		1821.601	
			23 6	6 2	Total Quantity	30270.601	sqm
		61	14 1/2	S\ /\f	otal Deducted Quantity	0.000 sqm	
		18	4 1916		Net Total Quantity	30270.601	sqm
			Say	30270.601	sqm @ Rs 10.41 / sqm	Rs 315	116.96
	grade hr>hitumen to r		iala vval		g of bitumen per 10 s		
	grade bitumen to rexisting surface rolling with a three grades, followed by a second bitumen per 10 same	equired li h 5 kg of l r>wheel al coat of	ne, grade and bitumen (VG 3 static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static rolle	d level on a 30) 10 sqm of 80-100 I	a previously prepared including mixing in a s KN capacity, finished	base, after plant to required	priming th , laying ar d level ar
	existing surface br>with rolling with a three b	equired li h 5 kg of l r>wheel al coat of	ne, grade and bitumen (VG 3 static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static rolle	d level on a 30) 10 sqm of 80-100 I	a previously prepared including mixing in a s KN capacity, finished	base, after plant to required	priming th , laying ar d level ar with 8.64 l
	existing surface rolling with a three grades,followed by a se of bitumen per 10 sqm. Sewer lines from	equired li h 5 kg of l r>wheel eal coat of By Manua	ne, grade and bitumen (VG static roller of >0.09 cum al >Means.	d level on a 30) 10 sqm of 80-100 I of 6 mm d	a previously prepared including mixing in a s KN capacity, finished	base, after uitable plant to required s premixed v	priming the priming the priming and level arwith 8.64 level
	existing surface rolling with a three grades,followed by a se of bitumen per 10 sqm. Sewer lines from 	equired li h 5 kg of l r>wheel eal coat of By Manua	ne, grade and bitumen (VG static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller	d level on a 30) 10 sqm of 80-100 I of 6 mm d	a previously prepared including mixing in a s KN capacity, finished	base, after uitable plant to required s premixed v	priming the priming the priming and level are with 8.64 level (1160X6
	existing surface rolling with a three grades,followed by a se of bitumen per 10 sqm. Sewer lines from 	equired li h 5 kg of l r>wheel eal coat of By Manua 1	ne, grade and bitumen (VG static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller	d level on a 30) 10 sqm of 80-100 l of 6 mm d 1.800	a previously prepared including mixing in a s KN capacity, finished	base, after uitable plant to required s premixed via 15921.000 12528.000	priming the priming the priming and level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are
	existing surface rolling with a three grades,followed by a se of bitumen per 10 sqm. Sewer lines from 	equired li h 5 kg of l r>wheel eal coat of By Manua 1	ne, grade and bitumen (VG static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller	d level on a 30) 10 sqm of 80-100 l of 6 mm d 1.800 1.800	a previously prepared including mixing in a s KN capacity, finished epartmental aggregate	base, after uitable plant to required s premixed v 15921.000 12528.000 1821.601	priming the priming the priming and level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are
	existing surface rolling with a three grades,followed by a se of bitumen per 10 sqm. Sewer lines from 	equired li h 5 kg of l r>wheel eal coat of By Manua 1	ne, grade and bitumen (VG static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller	d level on a 30) 10 sqm of 80-100 l of 6 mm d 1.800 1.800	a previously prepared including mixing in a s KN capacity, finished epartmental aggregate	base, after uitable plant to required s premixed v 15921.000 12528.000 1821.601 30270.601 0.000 sqm	priming the priming the priming and level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are with 8.64 level are
	existing surface rolling with a three grades,followed by a se of bitumen per 10 sqm. Sewer lines from 	equired li h 5 kg of l r>wheel eal coat of By Manua 1	ne, grade and bitumen (VG static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller of static roller	d level on a 30) 10 sqm of 80-100 H of 6 mm d 1.800	Total Quantity	base, after uitable plant to required s premixed v 15921.000 12528.000 1821.601 0.000 sqm 30270.601	priming the priming the priming and level and with 8.64 (1160X6 2)0.5

	B and br>Type C as pe	er Technica	l Specificatio	n Clause 5	10 br>A.By	Manual Mea	ans:-Case -	III : Type C
	Sewer lines from 225mm to 450mm	1	8845.000	1.800			15921.000	
	Inspection Chamber to Manhole	1	6960.000	1.800			12528.000	(1160X6X 2)0.5
	Pumping main(100mm to 250mm DI)	1	1012.000	1.800			1821.601	
					То	tal Quantity	30270.601	sqm
				-	Total Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	30270.601	sqm
			Say	30270.601	sqm @ Rs	78.00 / sqm	Rs 236	1106.88
SI No	Description	No 3Pumping	L M	В	x:33.05 %)	CF	Quantity	Remark
	sides of proposed align the charges for hire an						nd charges	
	watching, ribbon fencion officers etc. complete,					•		-
	officers etc. complete, means and carrying ou LS1 to MH-id 351-	before car	rying out the	demolition	of bitumino	•		-
	officers etc. complete, means and carrying ou	before car ut the exca Ker	rying out the vation.	demolition	of bitumino	ous / concre	ete road by i	-
	officers etc. complete, means and carrying ou LS1 to MH-id 351-(100mmDI)	before car at the exca Ker 2	rying out the vation. 12 Wat 445.000	demolition	of bitumino	ous / concre	712.000	-
	officers etc. complete, means and carrying ou LS1 to MH-id 351-(100mmDI) CW1 to MH-id 101(200mmDI) LS2 to MH-id	before car at the exca Ker 2 2	rying out the vation. ala Wat 445.000 810.000	demolition	of bitumino	0.8 0.8	712.000 1296.000	-
	officers etc. complete, means and carrying out LS1 to MH-id 351-(100mmDI) CW1 to MH-id 101(200mmDI) LS2 to MH-id 659(100mmDI) LS3 to MH-id	the exca Ker 2 2 2	rying out the vation. 445.000 810.000	demolition	of bitumino	0.8 0.8 0.8	712.000 1296.000 176.000	-
	officers etc. complete, means and carrying out LS1 to MH-id 351-(100mmDI) CW1 to MH-id 101(200mmDI) LS2 to MH-id 659(100mmDI) LS3 to MH-id 125(100mmDI) LS4 to MH-id	the excar Ker 2 2 2	rying out the vation. ala Wat 445.000 810.000 172.000	demolition	of bitumino	0.8 0.8 0.8	712.000 1296.000 176.000 275.200	-
	officers etc. complete, means and carrying out LS1 to MH-id 351-(100mmDI) CW1 to MH-id 101(200mmDI) LS2 to MH-id 659(100mmDI) LS3 to MH-id 125(100mmDI) LS4 to MH-id 30(150mmDI) CW1 to MH-id	the excar Ker 2 2 2 2	rying out the vation. 445.000 810.000 110.000 440.000	demolition	of bitumino	0.8 0.8 0.8 0.8	712.000 1296.000 176.000 275.200	-
	officers etc. complete, means and carrying out LS1 to MH-id 351-(100mmDI) CW1 to MH-id 101(200mmDI) LS2 to MH-id 659(100mmDI) LS3 to MH-id 125(100mmDI) LS4 to MH-id 30(150mmDI) CW1 to MH-id 30(250mmDI) LS5 to MH-id	the excar Ker 2 2 2 2 2	rying out the vation. ala Wat 445.000 810.000 172.000 1700.000	demolition	of bitumino	0.8 0.8 0.8 0.8 0.8	712.000 1296.000 176.000 275.200 704.000	•

					To	otal Quantity	8059.200	metre
				-	Total Deduc	ted Quantity	0.000 metr	e
					Net To	otal Quantity	8059.200 n	netre
			Say 8	059.200 m	etre @ Rs 2	9.87 / metre	Rs 240	728.30
2	15.43.2 Dismantling manually / tunserviceable material v	-		_	•			•
	LS1 to MH-id 351- (100mmDI) -445M	1	445.000	0.600			267.000	BMBC,N AI-445N
	C W 1 to M H - id 101(200mmDI)-810M	1	443.000	0.700			310.100	BT- 443M,C0 367M
	LS3 to MH-id 125(100mmDI)-172M	1	32.000	0.600			19.200	PWD CO 140M,NI AI BMBO 32M
	LS4 to MH-id 30(150mmDI)-440M	1	440.000	0.700		L	308.000	PWD BMBC
	C W 1 to M H - i d 30(250mmDI)-1700M	Ker	1254,000	er ^{0,800} th	ority		1003.200	M CC- 446,M B 254,PW BMBC- 1000M
	LS5 to MH-id 369(100mmDI)-315M	1	315.000	0.600			189.000	PWD BMBC
	LS6 to MH-id 195(100mmDI)-195M	1	195.000	0.600			117.000	M BT
	CW3 to MH-id 90(200mmDI)-850M	1	120.000	0.700			84.000	M BT- 120,M CC-730
					To	otal Quantity	2297.500	sqm
				-	Total Deduc	ted Quantity	0.000 sqm	
					Net To	otal Quantity	2297.500 s	qm
			Say	2297.500	sqm @ Rs 3	54.18 / sqm	Rs 813	3728.55
3	15.2.1 Demolishing cement commetres lead as per direct design mix)					• .		

		1					
C W 1 to M H - i d 101(200mmDI)-810M	1	367.000	0.700	0.150		38.535	BT- 443M,CC- 367M
LS3 to MH-id 125(100mmDI)-172M	1	140.000	0.600	0.150		12.600	PWD CC- 140M,NH AI BMBC- 32M
C W 1 to M H - i d 30(250mmDI)-1700M	1	446.000	0.800	0.150		53.520	M CC- 446,M BT- 254,PWD BMBC- 1000M
CW3 to MH-id 90(200mmDI)-850M	1	730.000	0.700	0.150		76.650	M BT- 120,M CC-730
	1	37.3	K X	То	tal Quantity	181.305 cı	ım
	1 1		73 / AT	otal Deduct	ed Quantity	0.000 cum	
	155			Net To	tal Quantity	181.305 cu	m
	4000	Say	181.305 cu	m @ Rs 200	06.81 / cum	Rs 363	8844.69
Excavating trenches of dressing of sides, rample then returning the soil deposited layer by rample lead of 50 m : All kinds of soil (Ref. Item No. 2.10.1 of	ming of both as required ming, wate	toms, depth , in layers n	up to 1.5 m ot exceedin	, including of	getting out t depth, inclu	he excavat ding consol	ed soil, and
(DSR)						ed, within a
LS1 to MH-id 351- (100mmDI)	1	445.000	0.600	1.000	0.45	120.150	ed, within a
LS1 to MH-id 351-	•	445.000 810.000	0.600	1.000	0.45		ed, within a
LS1 to MH-id 351- (100mmDI) CW1 to MH-id	1					120.150	ed, within a
LS1 to MH-id 351- (100mmDI) CW1 to MH-id 101(200mmDI) LS2 to MH-id	1	810.000	0.700	1.000	0.45	120.150 255.150	ed, within a
LS1 to MH-id 351- (100mmDI) CW1 to MH-id 101(200mmDI) LS2 to MH-id 659(100mmDI) LS3 to MH-id	1 1	810.000	0.700	1.000	0.45	120.150 255.150 29.700	ed, within a

LS5 to MH-id 369(100mmDI)	1	315.000	0.600	1.000	0.45	85.050	
LS6 to MH-id 195(100mmDI)	1	195.000	0.600	1.000	0.45	52.650	
CW3 to MH-id 90(200mmDI)	1	850.000	0.700	1.000	0.45	267.750	
LS1 to MH-id 351- (100mmDI) -445M	1	445.000	0.600	0.300		-80.100	BMBC,NH AI-445M
C W 1 to M H - i d 101(200mmDI)-810M	1	443.000	0.700	0.300		-93.029	BT- 443M,CC- 367M
LS3 to MH-id 125(100mmDI)-172M	1	32.000	0.600	0.300		-5.760	PWD CC- 140M,NH AI BMBC- 32M
LS4 to MH-id 30(150mmDI)-440M		440.000	0.700	0.300		-92.399	PWD BMBC
C W 1 to M H - i d 30(250mmDI)-1700M	1 Kera	1254.000 ala Wat	0.800 er Auth	0.300	<u>L</u>	-300.960	M CC- 446,M BT- 254,PWD BMBC- 1000M
LS5 to MH-id 369(100mmDI)-315M		315.000	0.600	0.300	1	-56.699	PWD BMBC
LS6 to MH-id 195(100mmDI)-195M	1	195.000	0.600	0.300		-35.100	МВТ
CW3 to MH-id 90(200mmDI)-850M	1	120.000	0.700	0.300		-25.200	M BT- 120,M CC-730
C W 1 to M H - i d 101(200mmDI)-810M	1	367.000	0.700	0.150		-38.535	BT- 443M,CC- 367M
LS3 to MH-id 125(100mmDI)-172M	1	140.000	0.600	0.150		-12.600	PWD CC- 140M,NH AI BMBC- 32M
C W 1 to M H - i d 30(250mmDI)-1700M	1	446.000	0.800	0.150		-53.520	M CC- 446,M BT- 254,PWD BMBC- 1000M

	CW3 to MH-id 90(200mmDI)-850M	1	730.000	0.700	0.150		-76.650	M BT- 120,M CC-730
					То	tal Quantity	1607.491	cum
				Т	Total Deduct	ed Quantity	-870.552 c	ım
					Net To	tal Quantity	736.939 cu	m
			Sa	y 736.939 c	cum @ Rs 5	45.11 / cum	Rs 401	712.82
5	100.1.5 Excavating trenches of dressing of sides, ramn then returning the soil a deposited layer by ramilead of 50 m:" Ordinary Rock. (Ref. Item No. 2.13.1 of	ning of bot as required ming, wate	toms, depth I, in layers n	up to 1.5 m ot exceedin	n, including ng 20 cm in	getting out t depth, inclu	the excavated ding consol	ed soil, and idatingeach
	LS1 to MH-id 351- (100mmDI)	1	445.000	0.600	1.000	0.4	106.801	
	CW1 to MH-id 101(200mmDI)	1	810.000	0.700	1.000	0.4	226.800	
	LS2 to MH-id 659(100mmDI)	1 Ker	110.000 ala Wat	0.600 er Auth	1.000 ority	0.4	26.401	
	LS3 to MH-id 125(100mmDI)		172.000	0.600	1.000	0.4	41.280	
	LS4 to MH-id 30(150mmDI)	1	440.000	0.700	1.000	0.4	123.200	
	CW1 to MH-id 30(250mmDI)	1	1700.000	0.800	1.000	0.4	544.000	
	LS5 to MH-id 369(100mmDI)	1	315.000	0.600	1.000	0.4	75.601	
	LS6 to MH-id 195(100mmDI)	1	195.000	0.600	1.000	0.4	46.801	
	CW3 to MH-id 90(200mmDI)	1	850.000	0.700	1.000	0.4	238.000	
					То	tal Quantity	1428.884	cum
				7	Total Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	1428.884 c	um
			Say	1428.884 0	cum @ Rs 7	91.65 / cum	Rs 113	1176.02
6	100.2.7							

	"Excavating trenches dressing of sides, rame then returning the soil deposited layer by rame lead of 50 m: Medium Rock (blasting New Data derived from	ming of botto as required, ming, water prohibited)	oms, depth in layers n	up to 1.5 m ot exceedin	n, including ng 20 cm in	getting out t depth, inclu	the excavate ding consoli	ed soil, and datingeach
	LS1 to MH-id 351- (100mmDI)	1	445.000	0.600	1.000	0.15	40.050	
	CW1 to MH-id 101(200mmDI)	1	810.000	0.700	1.000	0.15	85.050	
	LS2 to MH-id 659(100mmDI)	1	110.000	0.600	1.000	0.15	9.900	
	LS3 to MH-id 125(100mmDI)	1	172.000	0.600	1.000	0.15	15.480	
	LS4 to MH-id 30(150mmDI)	1	440.000	0.700	1.000	0.15	46.200	
	CW1 to MH-id 30(250mmDI)	1	1700.000	0.800	1.000	0.15	204.000	
	LS5 to MH-id 369(100mmDI)	1	315.000	0.600	1.000	0.15	28.350	
	LS6 to MH-id 195(100mmDI)	Kera 1	195.000	er Auth - 0.600	1.000	0.15	17.550	
	CW3 to MH-id 90(200mmDI)		850.000	0.700	1.000	0.15	89.250	
					То	tal Quantity	535.830 cu	ım
				Т	Total Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	535.830 cu	m
			Say	535.830 cu	ım @ Rs 13	16.46 / cum	Rs 705	398.76
7	100.8.1 Fencing one side of to casuarina pole (girth (Data Prepared based)	15cm to 24d	cm) fixed at	t 2 m interv		cm plastic o	caution tape	in vertical
		1	5037.000			0.6	3022.200	
					То	tal Quantity	3022.200 r	netre
				T	Total Deduct	ed Quantity	0.000 metre)
					Net To	tal Quantity	3022.200 m	netre
			Say 3	022.200 me	etre @ Rs 2	7.66 / metre	Rs 83	594.05

8	100.98.115 Supply of DI K9 Pipe Co	onforming to	o IS 8329/20	00, 100mm	ı Dia.			
	DI K9 Pipe , 100mm Dia.	1	1237.000				1237.000	
					То	tal Quantity	1237.000 ı	metre
				٦	Total Deduct	ed Quantity	0.000 metro	Э
			Sav 123	7.000 metre	Net To		1237.000 n	netre 3952.85
9	100.98.116 Supply of DI K9 Pipe Co	onforming to	·					
	DI K9 Pipe 150mm Dia.	1	440.000	A.			440.000	
			C. 0 1		То	tal Quantity	440.000 m	etre
		1	37.9	K X	Total Deduct	ed Quantity	0.000 metro	Э
			NO.		Net To	tal Quantity	440.000 me	etre
		155	Say 44	0.000 metre	e @ Rs 1673	3.35 / metre	Rs 736	274.00
10	100.98.117 Supply of DI K9 Pipe Co	onforming t	o IS 8329/20	00, 200mm	Dia.	4		
	DI K9 Pipe, 200mm Dia.	Kera	1660.000	er Auth	ority		1660.000	
					То	tal Quantity	1660.000 ı	metre
					otal Deduct	ed Quantity	0.000 metro	Э
					Net To	tal Quantity	1660.000 n	netre
			Say 166	0.000 metre	e @ Rs 2100	0.55 / metre	Rs 348	6913.00
11	100.98.118 Supply of DI K9 Pipe Co	onforming t	o IS 8329/20	00, 250mm	Dia.			
	DI K9 Pipe 250mm Dia.	1	1700.000				1700.000	
					То	tal Quantity	1700.000 ı	metre
				7	Total Deduct	ed Quantity	0.000 metro	Э
					Net To	tal Quantity	1700.000 n	netre
			Say 170	0.000 metre	e @ Rs 2811	1.20 / metre	Rs 477	9040.00
12	100.14.1 Conveying and laying excluding cost of pipe 100 mm dia Ductile Iron	s and spe	cials :	ast (Spun)	/ Ductile Ire	on Pipes c	onforming t	o IS: 83

	Data derived from 18.72	.15 in DAR			Γ	T	T	Г
	DI K9 Pipe , 100mm Dia.	1	1237.000				1237.000	
					То	tal Quantity	1237.000 r	metre
				Т	otal Deduct	ed Quantity	0.000 metre	Э
					Net To	tal Quantity	1237.000 m	netre
			Say 1	237.000 me	etre @ Rs 5	7.74 / metre	Rs 71	424.38
13	100.14.2 Conveying and laying excluding cost of pipe 150 mm dia Ductile Iron Data derived from 18.72	s and spe Class K-9	cials : Pipes	ast (Spun)	/ Ductile In	on Pipes co	onforming t	o IS: 83
	DI K9 Pipe 150mm Dia.	1	440.000				440.000	
		(L)	Y M	53/1	То	tal Quantity	440.000 m	etre
		1. 1500		7	otal Deduct	ed Quantity	0.000 metre	Э
		a.	Ka		Net To	tal Quantity	440.000 me	etre
			Say	440.000 me	etre @ Rs 86	6.02 / metre	Rs 37	848.80
	Conveying and laying	S&S Cent	rifugally Ca	or Amush	topoider. L.	an Dinaa a		
	excluding cost of pipe 200 mm dia Ductile Iron Data derived from 18.72 DI K9 Pipe, 200mm	s and spe Class K-9	cials : Pipes	asi (Spun)	/ Ductile In	on Pipes Co	1660.000	o IS: 83
	excluding cost of pipe 200 mm dia Ductile Iron Data derived from 18.72	s and spe Class K-9 .17 in DAR	cials : Pipes	asi (Spun)	F	tal Quantity	1660.000	
	excluding cost of pipe 200 mm dia Ductile Iron Data derived from 18.72 DI K9 Pipe, 200mm	s and spe Class K-9 .17 in DAR	cials : Pipes		To	tal Quantity	1660.000	metre
	excluding cost of pipe 200 mm dia Ductile Iron Data derived from 18.72 DI K9 Pipe, 200mm	s and spe Class K-9 .17 in DAR	cials : Pipes		To otal Deduct	tal Quantity	1660.000 1660.000 r	metre e
	excluding cost of pipe 200 mm dia Ductile Iron Data derived from 18.72 DI K9 Pipe, 200mm	s and spe Class K-9 .17 in DAR	cials : Pipes 1660.000	1	To otal Deduct	tal Quantity	1660.000 r 1660.000 r 0.000 metre 1660.000 m	metre e
15	excluding cost of pipe 200 mm dia Ductile Iron Data derived from 18.72 DI K9 Pipe, 200mm	s and spe Class K-9 .17 in DAR 1 S&S Cent s and spe Class K-9	Say 16	1060.000 met	Total Deduct Net Total re @ Rs 119	tal Quantity ed Quantity tal Quantity 9.81 / metre	1660.000 r 1660.000 r 0.000 metre 1660.000 m	metre e netre
15	excluding cost of pipe 200 mm dia Ductile Iron Data derived from 18.72 DI K9 Pipe, 200mm Dia. 100.14.4 Conveying and laying excluding cost of pipe 250 mm dia Ductile Iron	s and spe Class K-9 .17 in DAR 1 S&S Cent s and spe Class K-9	Say 16	1060.000 met	Total Deduct Net Total re @ Rs 119	tal Quantity ed Quantity tal Quantity 9.81 / metre	1660.000 r 1660.000 r 0.000 metre 1660.000 m	metre e netre

				-	5-1-1 D - 1 - 1	- 10 - 11	0.000	
							0.000 metre	
							1700.000 m	
			Say 17	00.000 met	re @ Rs 159	9.99 / metre	Rs 271	983.00
16	18.70.1 Providing push - on-join joints and including the			•	•	uctile Iron P	ipes includin	g testing of
	DI K9 Pipe , 100mm Dia.	1	248.000				248.000	
					То	tal Quantity	248.000 joi	nt
				7	Total Deduct	ed Quantity	0.000 joint	
		Net Total Quant						
			Sa	y 248.000 j	oint @ Rs 1	05.84 / joint	Rs 262	248.32
17	18.70.2 Providing push - on-join joints and including the	cost of rubl			-1 - 1 - 4	uctile Iron P		
	150mm DI	88	Lian			1	88.000	422/5
					То	tal Quantity	88.000 join	t
				HI OLDEN	Total Deduct	ed Quantity	0.000 joint	
		Ker	ala Wat	er Autl	Net To	tal Quantity	88.000 joint	
				Say 88.000 j	oint @ Rs 1	73.10 / joint	Rs 152	232.80
18	18.70.3 Providing push - on-join joints and including the					uctile Iron P	ipes includin	g testing o
	200mm DI	332					332.000	
					То	tal Quantity	332.000 joi	nt
				7	Total Deduct	ed Quantity	0.000 joint	
					Net To	tal Quantity	332.000 joir	nt
			Sa	чу 332.000 ј	oint @ Rs 2	53.93 / joint	Rs 843	304.76
19	Say 332.000 joint @ Rs 253.93 / joint Rs 84304.76 18.70.4 Providing push - on-joints to Centrifugally (Spun) Cast Iron Pipes or Ductile Iron Pipes including testing of joints and including the cost of rubber gasket:250 mm dia pipes							
	250mm DI	340					340.000	
			•		To	tal Quantity	340.000 joi	nt
				7	Total Deduct		-	
							340.000 joir	nt

20	18.83.2	· C. L. nino with ot	aal aaw 100	mm diamata	ur C L nino			
	Labour for cutting		eer saw. 100	mm diamete	er C.i. pipe		00.000	
	100 DI	30			_		30.000	
						tal Quantity		
				Т	otal Deduct			
					Net To	tal Quantity	30.000 Ead	ch Cut
			Say 30.000	Each Cut ©	® Rs 168.64	/ Each Cut	Rs 50)59.20
21	18.83.4 Labour for cutting	ι C.I. pipe with st	eel saw.150	mm diamete	er C.I. pipe			1
	150mm DI	26					26.000	
			160	1835	То	tal Quantity	26.000 Ea	ch Cut
			-//		otal Deduct	ed Quantity	0.000 Each	n Cut
			345 6	9 5	Net To	tal Quantity	26.000 Ead	ch Cut
		16 16 3	Say 26.000	Each Cut ©	® Rs 316.93	/ Each Cut	Rs 82	240.18
22	18.83.5 Labour for cutting	C.I. pipe with sto	eel saw.200	mm diamete	er C.I. pipe	L		
	200mm DI	30			Sp.		30.000	
			No.	4 300	То	tal Quantity	30.000 Ea	ch Cut
		Ker	ala Wat	er Auth	otal Deduct	ed Quantity	0.000 Each	n Cut
			D)		Net To	tal Quantity	30.000 Ead	ch Cut
			Say 30.000	Each Cut @	® Rs 422.63	/Each Cut	Rs 12	678.90
23	18.83.6 Labour for cutting	ς C.I. pipe with ste	eel saw.250	mm diamete	er C.I. pipe			
		40					40.000	
					To	tal Quantity	40.000 Ea	ch Cut
				Т	otal Deduct	ed Quantity	0.000 Each	n Cut
					Net To	tal Quantity	40.000 Ead	ch Cut
			Say 40.000	Each Cut ©	② Rs 525.61	/ Each Cut	Rs 21	024.40
24	18.68.1 Providing and lay	ving D.I specials	·					23 :Upt (
24	mm dia							
24	mm dia	1	25.000				25.000	
	mm dia	1	25.000		То	tal Quantity		intal

							25.000 quir	ntal	
			Say 25.0	000 quintal @	® Rs 19744.	62 / quintal	Rs 493	615.50	
25	100.35.1 Testing 100mm DI/CI pi 100 mm dia Observed Data derived				uired test pro	essure			
	DI K9 Pipe , 100mm Dia.	1	1237.000				1237.000		
					Tot	al Quantity	1237.000 r	metre	
	Total Deducted Quantity 0.000 metre								
					Net Tot	al Quantity	1237.000 n	netre	
			Say 1	237.000 me	tre @ Rs 22	.92 / metre	Rs 28	352.04	
26	100.35.2 Testing 150mm DI/CI pi 150 mm dia Observed Data derived	FI	11/1/2	201	uired test pro	essure			
	DI K9 Pipe 150mm Dia.	1	440.000			La.	440.000		
			PRODU	HE PET	Tot	al Quantity	440.000 m	etre	
		Ker	ala Wat	er Auth	otal Deducte	ed Quantity	0.000 metre	Э	
					Net Tot	al Quantity	440.000 me	etre	
			Say	440.000 me	tre @ Rs 30	.99 / metre	Rs 13	635.60	
27	100.35.3 Testing 200mm DI/CI pi 200 mm dia Observed Data derived				uired test pro	essure			
	200mm DI	1	1660.000				1660.000		
					Tot	al Quantity	1660.000 r	metre	
				Т	otal Deducte	ed Quantity	0.000 metre	Э	
					Net Tot	al Quantity	1660.000 n	netre	
			Say 1	660.000 me	tre @ Rs 39	.20 / metre	Rs 65	072.00	
28									
		1	1700.000				1700.000		
	1		1						

				Т			0.000 metre	
							1700.000 n	
			Say 1	700.000 me	etre @ Rs 50	0.02 / metre	Rs 85	034.00
29	5.1.3 Providing and laying in centering, shuttering, fit sand: 4 graded stone a	nishing and	d reinforceme	ent - All woi			•	
	pipe supports/ anchor blocks	15	1.000	1.000	1.000		15.000	
					То	tal Quantity	15.000 cur	n
				т Т	otal Deduct	ed Quantity	0.000 cum	
			168		Net To	tal Quantity	15.000 cum	1
			Sa	y 15.000 cu	ım @ Rs 84	27.59 / cum	Rs 126	413.85
30	5.9.1 Centering and shutterin columns, etc for mass of	concrete	TAN	c. and remo	oval of form	for:Foundat		js, bases d
		15	2.000	35337			30.000	
	For item noairvalve and scour valve chamber	2 Ker	9.200 ala Wat	er Auth	1.300		23.920	
					То	tal Quantity	53.920 sqr	n
			R	Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	53.920 sqm	1
			S	ay 53.920 s	qm @ Rs 3	29.03 / sqm	Rs 17	741.30
31	5.22.6 Steel reinforcement for binding all complete up		_		0.			
	For item noair valve and scour valve chamber	1	2.487			80.0	198.960	
					То	tal Quantity	1398.960 l	kilogram
				Т			0.000 kilogi	
							1398.960 k	
			Say 1398.9	60 kilogram	n @ Rs 96.4			943.68
32	2.8.1 Earth work in excavati	on by med	chanical mea	ans (Hydra	ulic excava	tor) /manua	al means in	foundatio

	Air valve & Scour valve Chamber	2	1.300	1.300	1.500		5.070	
					Tot	al Quantity	5.070 cum	
				7	Total Deducte	ed Quantity	0.000 cum	
					Net Tot	al Quantity	5.070 cum	
		1.38 / cum	Rs 14	77.30				
	Providing and laying in shuttering - All work up nominal size) Air valve & Scour	•			ŭ	J		•
	valve chamber	f L"	YVE	SA/X	1 4 3			
		1 Section			1 10	7	1.014 cum	
	Total Deducted Quantity 0.000 cum							
	Net Total Quantity 1.014 cum							
	10				Net Tot	al Quantity	1.014 cum	
34	5.2.2	Kera	s ala Wat	Say 1.014 cu	ım @ Rs 784	-		50.95
34	5.2.2 Reinforced cement condand string courses, filler excluding cost of centers 3 graded stone aggrega	crete work ts, columning, shutte	ala Wat in walls (any s, pillars, pi ring, finishin	er Auth thickness) ers, abutme g and reinfo	um @ Rs 784 OCTITY , including at ents, posts ar	1.17 / cum tached pilas	Rs 79	sses, p
34	Reinforced cement conc and string courses, fillet excluding cost of center	crete work ts, columning, shutte	ala Wat in walls (any s, pillars, pi ring, finishin	er Auth thickness) ers, abutme g and reinfo	um @ Rs 784 OCTITY , including at ents, posts ar	1.17 / cum tached pilas	Rs 79	sses, p
34	Reinforced cement cond and string courses, filled excluding cost of center 3 graded stone aggrega air valve & Scour valve back to collection well-	erete work ts, column ing, shutte te 20 mm	ala Wat in walls (any s, pillars, pi ring, finishin nominal size	er Author thickness) ers, abutme g and reinfo	ority in @ Rs 784 including at ents, posts are procement :1:1	1.17 / cum tached pilas	Rs 79 sters, buttre c. up tot flo nent : 1.5 co	sses, p
34	Reinforced cement cond and string courses, filler excluding cost of center 3 graded stone aggrega air valve & Scour valve back to collection well- sidewall	erete work ts, column ing, shutte te 20 mm	ala Wat in walls (any s, pillars, pi ring, finishin nominal size 4*1.15	er Authorities (a) 1.014 cuer Authorities (a) 2.150	ority , including at ents, posts ar orcement :1:1	1.17 / cum tached pilas	Rs 79 sters, buttre c. up tot flo nent : 1.5 cc	sses, p
34	Reinforced cement condand string courses, filler excluding cost of center 3 graded stone aggrega air valve & Scour valve back to collection well-sidewall	erete work ts, column ing, shutte te 20 mm	ala Wat in walls (any s, pillars, pir ring, finishin nominal size 4*1.15	er Authorities (a) 1.014 curer Authorities (b) 2.150	ority in @ Rs 784 including at ents, posts ar orcement :1:1 1.100	1.17 / cum tached pilas	Rs 79 sters, buttre c. up tot flo nent : 1.5 cc 1.518	sses, p
34	Reinforced cement condand string courses, filler excluding cost of center 3 graded stone aggrega air valve & Scour valve back to collection well-sidewall bottom	erete work ts, columning, shutte te 20 mm 2 2 2	ala Wat in walls (any s, pillars, pir ring, finishin nominal size 4*1.15	er Autrostation (a) thickness) ers, abutme g and reinfors) 0.150 1.300	nm @ Rs 784 nority , including at ents, posts ar orcement :1:1 1.100 0.150 0.200 0.600	tached pilas nd struts et 1.5:3(1 cen	Rs 79 sters, buttre c. up tot flo nent : 1.5 cc 1.518 0.397 0.677	sses, p or five I parse sa
34	Reinforced cement condand string courses, filler excluding cost of center 3 graded stone aggrega air valve & Scour valve back to collection well-sidewall bottom	erete work ts, columning, shutte te 20 mm 2 2 2	ala Wat in walls (any s, pillars, pir ring, finishin nominal size 4*1.15	er Autrophysics (a) 1.014 curer Autrophysics (b) 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150	nm @ Rs 784 nority , including at ents, posts ar orcement :1:1 1.100 0.150 0.200 0.600	tached pilas nd struts etcl.5:3(1 centres)	Rs 79 sters, buttre c. up tot flo nent : 1.5 cc 1.518 0.397 0.677 -0.105 2.592 cum	sses, p or five I parse sa
34	Reinforced cement condand string courses, filler excluding cost of center 3 graded stone aggrega air valve & Scour valve back to collection well-sidewall bottom	erete work ts, columning, shutte te 20 mm 2 2 2	ala Wat in walls (any s, pillars, pir ring, finishin nominal size 4*1.15	er Autrophysics (a) 1.014 curer Autrophysics (b) 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150 2.150	nm @ Rs 784 OCITY including at ents, posts are prement :1:1 1.100 0.150 0.200 0.600 Total Deducted	tached pilas and struts etc 1.5:3(1 cent 0.2 al Quantity	Rs 79 sters, buttre c. up tot flo nent : 1.5 cc 1.518 0.397 0.677 -0.105 2.592 cum	sses, p or five I parse sa

	mm nominal size)		1		1	1	
	C W 1 to M H - id 101(200mmDI)-810M	1	367.000	0.700	0.150	38.53	BT- 443M,CC 367M
	LS3 to MH-id 125(100mmDI)-172M	1	140.000	0.600	0.150	12.60	PWD CC 140M,NH AI BMBC 32M
	C W 1 to M H - id 30(250mmDI)-1700M	1	446.000	0.800	0.150	53.52	M CC- 446,M BT 254,PWE BMBC- 1000M
	CW3 to MH-id 90(200mmDI)-850M	1	730.000	0.700	0.150	76.65	M BT- 120,M CC-730
					Total C	Quantity 181.30	5 cum
		155			Total Deducted C	Quantity 0.000 c	um
		400			Net Total C	Quantity 181.30	5 cum
			Say	181.305 cu	ım @ Rs 8328.4	6 / cum Rs	1509991.44
SI No	Description	No	ala Wat	er Auth	lority	CF Quantit	ty Remark
	4Cor	nstruction	of Man hole	s (Cost	t Index:33.05 %)	
1	od338572/2021_2022 Constructing manhole provided with tight fitting into the cover slab, provided manner, bottom slab, inside coat, two coats of antichannelling inside the rearthwork excavation for provision of pipe connibarricades etc.and dispidepth 1.5m (internal dispiders)	g approved viding provide wall and to be plasticorrossive manhole wor all leads ection for posing the	I make heavy ision of encado cover slab tered with Ce bituminous ith CC M30 as and lifts, be inlet, outlet surplus eart	y duty CI may be possible of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the con	anhole cover wit VC/CI foot rests M30 with a proving thick one cone outside surfavings and specifile-watering, side ce connection p	th frame 600 mm. 2 @ 30 cm apart sion of PCC 1:3 at with a neat caces, providing ications. The rappropersion with protection with sipes, providing	n dia, embede in a staggere 3:6, 10 cm thic ement flushin benching an te shall includ n steel shorin danger light
	MH-up to 1.5m depth, 1.2m dia	855				855.00	00
					Total C	Quantity 855.00	0 No
				7	Total Deducted C	Quantity 0.000 N	
				7		Quantity 0.000 N	lo

2 od338575/2021_2022 Constructing manholes of different depths as per drawings and specifications on sewer lines and provided with tight fitting approved make heavy CI manhole cover with frame 600 mm dia, embeded into the cover slab, providing provision of encapsulated PVC/CI foot rests @ 30 cm apart in a staggered manner, bottom slab, side wall and cover slabwith RCC M30 with a provision of PCC 1:3:6, 10 cm thick below floor slab, inside to be plastered with CM. 1:3, 12mm thick one coat with a neat cement flushing coat, two coats of anticorrossive bituminous paint to the outside surfaces, providing benching and channelling inside the manhole with CC M30 as per drawings and specifications. The rate shall include earthwork excavation for all leads and lifts, backfilling, de-watering, side protection with steel shoring, provision of pipe connection for inlet, outlet and service connection pipes, providing danger lights, barricades etc.and disposing the surplus earth away with all leads and lifts as directed upto manhole depth 2.5m (internal diameter 1200m) MH- up to 2.5m depth, 216 216.000 1.2m dia Total Quantity 216.000 No Total Deducted Quantity 0.000 No Net Total Quantity 216.000 No Say 216.000 No @ Rs 75213.42 / No Rs 16246098.72 3 od338576/2021 2022 Constructing manholes of different depths as per drawings and specifications on sewer lines and provided with tight fitting approved make heavy CI manhole cover with frame 600 mm dia, embeded into the cover slab, providing provision of encapsulated PMC/CI foot rests @ 30 cm apart in a staggered manner, bottom slab, side wall and cover slabwith RCC M30 with a provision of PCC 1:3:6, 10 cm thick below floor slab, inside to be plastered with CM. 1:3, 12mm thick one coat with a neat cement flushing coat, two coats of anticorrossive bituminous paint to the outside surfaces, providing benching and channelling inside the manhole with CC-M30 as per drawings and specifications. The rate shall include earthwork excavation for all leads and lifts, backfilling, de-watering, side protection with steel shoring, provision of pipe connection for inlet, outlet and service connection pipes, providing danger lights, barricades etc.and disposing the surplus earth away with all leads and lifts as directed upto manhole depth 3.5m (internal diameter - 1500mm) upto manhole depth 3.5m (internal 52 52.000 diameter - 1500mm) Total Quantity 52.000 No Total Deducted Quantity 0.000 No Net Total Quantity 52.000 No Say 52.000 No @ Rs 150804.07 / No Rs 7841811.64 4 od338578/2021 2022 Constructing manholes of different depths as per drawings and specifications on sewer lines and provided with tight fitting approved make heavy CI manhole cover with frame 600 mm dia, embeded into the cover slab, providing provision of encapsulated PVC/CI foot rests @ 30 cm apart in a staggered

	manner, bottom slab, si below floor slab, inside coat, two coats of anti channelling inside the r earthwork excavation for provision of pipe conn barricades etc.and disp depth upto 4.5m (inter	to be plas corrossive nanhole wi or all leads ection for posing the	tered with C bituminou th CC M30 and lifts, b inlet, outle surplus ear	CM. 1:3, 12ms paint to the as per draw backfilling, do and service the away with	nm thick one ne outside s ings and sp e-watering, e connection	e coat with surfaces, po- ecifications side protect on pipes, p	a neat ceme roviding bea . The rate s tion with ste roviding da	ent flushing nching and hall include eel shoring, nger lights,
	upto manhole depth upto 4.5m (internal diameter-1500mm)	25					25.000	
					То	tal Quantity	25.000 No	
			10	T Be	otal Deduct	ed Quantity	0.000 No	
			-//		Net To	tal Quantity	25.000 No	
		-	S	ay 25.000 No	@ Rs 192	105.61 / No	Rs 480	2640.25
	Constructing manholes provided with tight fitting the cover slab, providing manner, bottom slab, since below floor slab, inside coat, two coats of antichannelling inside their earthwork excavation for provision of pipe connubarricades etc.and dispute depth upto 5.50m (inter-	g approveding provision to be plas corrossive manhole with or all leads ection for posing the	make heaven of encaped cover slattered with Continuous th CC M30 and lifts, beinlet, outlessurplus ear	ry CI manholousulated PVC bwith RCC M CM. 1:3, 12m s paint to the as per draw backfilling, do t and service th away with	le cover with C/CI foot resoluted from thick one outside sings and spee-watering, e connection	n frame 600 ets @ 30 cr provision of e coat with surfaces, precifications side protection pipes, p	mm dia, en mapart in a PCC 1:3:6, a neat cemeroviding beat too with steroviding daroviding daroviding daroviding daroviding daren manual en metal e	nbeded into staggered 10 cm thick ent flushing nching and hall include eel shoring, nger lights,
	upto manhole depth upto 5.50m (internal diameter-1500mm)	7					7.000	
						tal Quantity		
				Т	otal Deduct			
						tal Quantity		
			(Say 7.000 No	o @ Rs 231	093.65 / No	Rs 161	7655.55
6	od338580/2021_2022 Constructing manhole: provided with tight fitting the cover slab, providir manner, bottom slab, si below floor slab, inside coat, two coats of anti	g approveding provisions ide wall and to be plas	make heaven of encaped cover slateted with (y CI manhol sulated PVC owith RCC M CM. 1:3, 12m	le cover with C/CI foot res 130 with a point thick one	n frame 600 sts @ 30 cr	mm dia, en n apart in a PCC 1:3:6, a neat ceme	nbeded into staggered 10 cm thick ent flushing

	channelling inside the rearthwork excavation for	or all lead	s and lifts, ba	ackfilling, d	e-watering,	side protec	tion with ste	eel shoring
	provision of pipe conn barricades etc.and disp depth upto 6.50m (inte	osing the	surplus eart	h away wit			ū	
		5					5.000	
					То	tal Quantity	5.000 No	
				Т	otal Deduct	ed Quantity	0.000 No	
					Net To	tal Quantity	5.000 No	
			S	ay 5.000 N	o @ Rs 242	888.72 / No	Rs 121	4443.60
SI No	Description	No	L	В	D	CF	Quantity	Remark
	5Road	Restorati	on - to PWD/	NH (Co	st Index:33	.05 %)		
1	od338569/2021_2022 PWD Berm Cutting(G. C	O (Ms)No.5	59/2020/PWD	Dated, Thi	ruvananthar	ourarq 30/ 0	7/2020)	
	IC to MH Line -160mm	1	3480.000	1.500	1 1 1	0.1	522.000	6960x0.5
		1 /5-	TYM		То	tal Quantity	522.000 sc	ηm
		101			otal Deduct	ed Quantity	0.000 sqm	-
	-	133			2001-2		522.000 sq	m
			Say	v 522 000 s	sqm @ Rs 30	<u>-</u>		
2	od338571/2021_2022 PWD Road reformation 30/ 07/2020)		ala Wate	er Auth	ority	_		nthapurar
	IC to MH Line -160mm	1	3480.000	1.500		0.6	3132.000	6960x0.5
					То	tal Quantity	3132.000 s	sqm
				7	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	3132.000 s	qm
			Say 3	132.000 sc	Net To m @ Rs 369			•
3	od338573/2021_2022 Road restoration cha Thiruvananthapurarq	_	BM & BC		ım @ Rs 369	92.36 / sqm	Rs 1156	4471.52
3	Road restoration cha	_	BM & BC		ım @ Rs 369	92.36 / sqm	Rs 1156	4471.52
3	Road restoration characteristics Thiruvananthapurarq Sewer line -225 to 450	30/ 07/2	BM & BC 2020)	Tar C	ım @ Rs 369	92.36 / sqm	Rs 1156 59/2020/PV	
3	Road restoration characteristics Thiruvananthapurarq Sewer line -225 to 450 mm	30/ 07/2	BM & BC 2020) 6300.000	Tar C	ım @ Rs 369	92.36 / sqm O (Ms)No.5	Rs 1156	4471.52

				Т	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	14364.000	sqm
			Say 1	4364.000 sq	m @ Rs 344	48.73 / sqm	Rs 4953	7557.72
4	od20641/2022_2023 Road restoration cha Thiruvananthapurarq	_		ad surface	cutting(G.	O (Ms)No.	.59/2020/P\	WD Date
	Sewer line	1	570.000	1.500			855.000	
	Pumping main	1	140.000	1.500			210.000	
					То	tal Quantity	1065.000 s	sqm
				Т	otal Deduct	ed Quantity	0.000 sqm	
			100	P.S.	Net To	tal Quantity	1065.000 s	qm
			Say	1065.000 sq	m @ Rs 460	38.50 / sqm	Rs 4940	0002.50
SI No	Description	No	LA	В	D	CF	Quantity	Remark
1	100.3.3.1 Earthwork open well ex soil and conveying and banking.	cavation (a	g the spoil w	for wells of vithin initial l	ead of 50m	.5m and up		
1	100.3.3.1 Earthwork open well ex soil and conveying and banking. NEW DATA (Prepared I 2m dia- LS1-depth 5.56m	cavation (a	above water) g the spoil w	for wells of vithin initial lelitem No.108	dia. above 2 ead of 50m 30 & 1083	.5m and up		luding ne
1	100.3.3.1 Earthwork open well ex soil and conveying and banking. NEW DATA (Prepared I	cavation (all depositines based on F	above water) g the spoil w PHED SDB -	for wells of vithin initial latern No.108	dia. above 2 ead of 50m	.5m and up	to 1.5 m inc	luding ne
1	100.3.3.1 Earthwork open well ex soil and conveying and banking. NEW DATA (Prepared I 2m dia- LS1-depth 5.56m 2m dia- LS2-depth	cavation (all depositing based on Figure 1	ebove water) g the spoil w PHED SDB - ala Wat 3.140	for wells of vithin initial litem No.108	dia. above 2 ead of 50m 30 & 1083 01110	.5m and up	to 1.5 m inc	luding ne
1	100.3.3.1 Earthwork open well ex soil and conveying and banking. NEW DATA (Prepared I 2m dia- LS1-depth 5.56m 2m dia- LS2-depth 2.77m 2m dia- LS3-depth	cavation (a I depositin based on F	above water) g the spoil w PHED SDB - ala Wat 3.140	for wells of vithin initial letter No.108 1.600*1.6 0 1.600*1.6 0 1.600*1.6	dia. above 2 ead of 50m 30 & 1083 1.500	.5m and up	12.058 12.058	luding ne
1	100.3.3.1 Earthwork open well ex soil and conveying and banking. NEW DATA (Prepared I 2m dia- LS1-depth 5.56m 2m dia- LS2-depth 2.77m 2m dia- LS3-depth 2.94m 2m dia- LS4-depth	cavation (a I deposition based on F Ker 1	above water) g the spoil w PHED SDB - 3.140 3.140	for wells of vithin initial letem No.108 1.600*1.6 0 1.600*1.6 0 1.600*1.6	dia. above 2 ead of 50m 30 & 1083	.5m and up	12.058 12.058 12.058	luding ne
1	100.3.3.1 Earthwork open well ex soil and conveying and banking. NEW DATA (Prepared II) 2m dia- LS1-depth 5.56m 2m dia- LS2-depth 2.77m 2m dia- LS3-depth 2.94m 2m dia- LS4-depth 3.47m 2m dia- LS5-depth	cavation (and deposition to the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms of the latest terms o	above water) g the spoil w PHED SDB - 3.140 3.140 3.140	for wells of vithin initial later No.108 1.600*1.6 0 1.600*1.6 0 1.600*1.6 0 1.600*1.6	dia. above 2 ead of 50m 30 & 1083 1.500 1.500 1.500	.5m and up	12.058 12.058 12.058 12.058	luding ne
1	100.3.3.1 Earthwork open well ex soil and conveying and banking. NEW DATA (Prepared II) 2m dia- LS1-depth 5.56m 2m dia- LS2-depth 2.77m 2m dia- LS3-depth 2.94m 2m dia- LS4-depth 3.47m 2m dia- LS5-depth 2.77m	cavation (all deposition based on Figure 1 1 1 1 1	above water) g the spoil water PHED SDB - 3.140 3.140 3.140 3.140	for wells of vithin initial letem No.108 1.600*1.6 0 1.600*1.6 0 1.600*1.6 0 1.600*1.6 0 1.600*1.6	dia. above 2 ead of 50m 30 & 1083 1.500 1.500 1.500 1.500	.5m and up	12.058 12.058 12.058 12.058 12.058	Deptth 4.97m
1	100.3.3.1 Earthwork open well ex soil and conveying and banking. NEW DATA (Prepared II) 2m dia- LS1-depth 5.56m 2m dia- LS2-depth 2.77m 2m dia- LS3-depth 2.94m 2m dia- LS4-depth 3.47m 2m dia- LS5-depth 2.77m	cavation (all deposition based on Figure 1 1 1 1 1	above water) g the spoil water PHED SDB - 3.140 3.140 3.140 3.140	for wells of vithin initial letem No.108 1.600*1.6 0 1.600*1.6 0 1.600*1.6 0 1.600*1.6 0 1.600*1.6	dia. above 2 ead of 50m 30 & 1083 1.500 1.500 1.500 1.500	2.5m and up and lift up	12.058 12.058 12.058 12.058 12.058 12.058 72.348 cur	Deptth 4.97m
1	100.3.3.1 Earthwork open well ex soil and conveying and banking. NEW DATA (Prepared II) 2m dia- LS1-depth 5.56m 2m dia- LS2-depth 2.77m 2m dia- LS3-depth 2.94m 2m dia- LS4-depth 3.47m 2m dia- LS5-depth 2.77m	cavation (all deposition based on Figure 1 1 1 1 1	above water) g the spoil water PHED SDB - 3.140 3.140 3.140 3.140	for wells of vithin initial letem No.108 1.600*1.6 0 1.600*1.6 0 1.600*1.6 0 1.600*1.6 0 1.600*1.6	dia. above 2 ead of 50m 30 & 1083 1.500 1.500 1.500 1.500 To Total Deduct	2.5m and up and lift up that and lift up that are all quantity and quantity and quantity	12.058 12.058 12.058 12.058 12.058 12.058 72.348 cur	Deptth 4.97m

	soil and conveying and	depositing	the spoil wi	thin initial lea	ad of 50m a	nd lift from	1.5m to 3.0	m including
	neat banking. NEW DATA (Prepared)	pased on P	HED SDB -	Item No.108	32 & 1085		T	
	2m dia- LS1-depth 5.56m	1	3.140	1.600*1.6 0	1.500		12.058	Deptth 4.97m
	2m dia- LS2-depth 2.77m	1	3.140	1.600*1.6 0	1.500		12.058	
	2m dia- LS3-depth 2.94m	1	3.140	1.600*1.6 0	1.500		12.058	
	2m dia- LS4-depth 3.47m	1	3.140	1.600*1.6 0	1.500		12.058	
	2m dia- LS5-depth 2.77m	1	3.140	1.600*1.6 0	1.500		12.058	
	2m dia- LS6-depth 2m	1	3.140	1.600*1.6 0	1.000		8.039	
		16		201/1	То	tal Quantity	68.329 cur	n
		145		i de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de l	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	68.329 cum	1
			5	Say 68.329 c	um @ Rs 5	51.09 / cum	Rs 37	655.43
3	100.3.3.13 Earthwork open well exkinds of soil and conversion including neat banking. NEW DATA (Prepared)	ying and de	epositing the	e spoil within	n initial lead			
	2m dia- LS1-depth 5.56m	1	3.140	1.600*1.6 0	1.500		12.058	Deptth 4.97m
	2m dia- LS2-depth 2.77m	1	3.140	1.600*1.6 0	0.270		2.171	
	2m dia- LS3-depth 2.94m	1	3.140	1.600*1.6 0	0.440		3.537	
	2m dia- LS4-depth 3.47m	1	3.140	1.600*1.6 0	0.970		7.798	
	2m dia- LS5-depth 2.77m	1	3.140	1.600*1.6 0	0.270		2.171	
					То	tal Quantity	27.735 cur	n
				Т	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	27.735 cum)
			5	Say 27.735 c	um @ Rs 7	21.40 / cum	Rs 20	008.03

4	100.3.4.14 Earthwork open well e ordinary rock in ordina from 4.5m to 6.0 m inc NEW DATA (Prepared I	ry rock and luding neat	conveying banking.	and deposi	ting the spo		-			
	2m dia- LS1-depth 5.56m	1	3.140	1.600*1.6 0	1.560		12.540			
					То	tal Quantity	12.540 cur	n		
				Т	otal Deduct	ed Quantity	0.000 cum			
					Net To	tal Quantity	/ 12.540 cum			
			Sa	ay 12.540 cu	m @ Rs 20	25.89 / cum	Rs 254	404.66		
5	100.3.5.1 Earthwork open well ex soil and conveying and banking. NEW DATA (Prepared I	depositing	the spoil w	vithin initial l	ead of 50m		•			
	3m dia CW1, Depth 4.46	1	3.140	2.1*2.1	1.500	Ŀ	20.772			
	3m dia CW2, Depth 5.00	1	3.140	2.1*2.1	1.500		20.772			
	3m dia CW30, Depth 3.82	Kera	ala _{3.140} at	er.A.4th	Oqi.500		20.772			
			2		То	tal Quantity	62.316 cur	n		
				T	otal Deduct	ed Quantity	0.000 cum			
					Net To	tal Quantity	62.316 cum	1		
			5	Say 62.316 c	um @ Rs 4	61.35 / cum	Rs 287	749.49		
6	100.3.5.2 Earthwork open well ex soil and conveying and neat banking. NEW DATA (Prepared I	depositing	the spoil wi	thin initial lea	ad of 50m a		•			
	3m dia CW1, Depth 4.46	1	3.140	2.1*2.1	1.500		20.772			
	3m dia CW2, Depth 5.00	1	3.140	2.1*2.1	1.500		20.772			
	3m dia CW30, Depth 3.82	1	3.140	2.1*2.1	1.500		20.772			
			-		То	tal Quantity	62.316 cur	n		

				7		ed Quantity		
					Net To	tal Quantity	62.316 cum	1
			5	Say 62.316 d	cum @ Rs 5	07.52 / cum	Rs 31	626.62
7	100.3.5.13 Earthwork open well exkinds of soil and conversincluding neat banking. NEW DATA (Prepared I	ying and d	epositing the	e spoil within	n initial lead		•	
	3m dia CW1, Depth 4.46	1	3.140	2.1*2.1	1.500		20.772	
	3m dia CW2, Depth 5.00	1	3.140	2.1*2.1	1.500		20.772	
	3m dia CW30, Depth 3.82	1	3.140	2.1*2.1	1.320		18.279	
		6	N. 3	K. A	To	tal Quantity	59.823 cur	n
			11/1/10	333//	otal Deduct	ed Quantity	0.000 cum	
		1/st			Net To	tal Quantity	59.823 cum	ı
			9	Say 59.823 d	cum @ Rs 6	64.32 / cum	Rs 39	741.62
	Earthwork open well ex rock and conveying ar including neat banking NEW DATA (Prepared I	nd deposit J.	ing the spo	il within init	ial lead of		-	-
	3m dia CW1, Depth 4.46	1	3.140	2.1*2.1	0.460		6.370	
	3m dia CW2, Depth 5.00	1	3.140	2.1*2.1	1.000		13.848	
					To	tal Quantity	20.218 cur	n
				7	otal Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	20.218 cum	ı
			Sa	ay 20.218 cu	ım @ Rs 15	16.70 / cum	Rs 30	664.64
9	100.7.1 Bailing out water with 5 and taking back of en complete. NEW DATA (Prepared I	gine and	pump, cost	of fuel lubi	ricating oil			_
	INE VV DATA (Flepaled I	9	200.000	TIGHT NO. 10			1800.000	
		3	200.000		 	tal Ougatit		Cwb
					10	tal Quantity	1800.000 l	VVII

				Т	otal Deduc	ted Quantity	0.000 Kwh	
					Net To	otal Quantity	1800.000 k	(wh
			Sa	ay 1800.000	Kwh @ Rs	36.26 / Kwh	Rs 65	268.00
10	2.17.3 Close timbering in case packing cavities (whe timbered). Depth excent	rever requ	uired) etc. (complete (N	/leasureme		-	•
	2m dia- LS1-depth 5.56m	1	3.140	3.700	6.060		70.406	
	2m dia- LS2-depth 2.77m	1	3.140	3.700	3.260		37.875	
	2m dia- LS3-depth 2.94m	1	3.140	3.700	3.440		39.966	
	2m dia- LS4-depth 3.47m	1	3.140	3.700	3.970		46.124	
	2m dia- LS5-depth 2.77m	1	3.140	3.700	3.270		37.991	
	2m dia- LS6-depth 2m	1	3.140	3.700	2.500		29.045	
	3m dia CW1, Depth 4.46	1	3.140	4.600	4.960		71.643	
	3m dia CW2, Depth 5.00	Ker 1	3.140	4.600	5.500		79.442	
	3m dia CW30, Depth 3.82	1	3.140	4.600	4.320		62.399	
					To	otal Quantity	474.891 so	mp
				Т	otal Deduc	ted Quantity	0.000 sqm	
					Net To	otal Quantity	474.891 sq	m
			Sa	ay 474.891 s	qm @ Rs 2	217.07 / sqm	Rs 103	8084.59
11	4.1.6 Providing and laying in shuttering - All work up nominal size)	-		-	_	_		•
	2m dia- LS1-depth 5.56m	1	3.140	1.600*1.6 0	0.200		1.608	Deptth 4.97m
	2m dia- LS2-depth 2.77m	1	3.140	1.600*1.6 0	0.200		1.608	
	2m dia- LS3-depth 2.94m	1	3.140	1.600*1.6 0	0.200		1.608	

						I	
2m dia- LS4-depth 3.47m	1	3.140	1.600*1.6 0	0.200		1.608	
2m dia- LS5-depth 2.77m	1	3.140	1.600*1.6 0	0.200		1.608	
2m dia- LS6-depth 2m	1	3.140	1.600*1.6 0	0.200		1.608	
3m dia CW1, Depth 4.46	1	3.140	2.1*2.1	0.200		2.770	
3m dia CW2, Depth 5.00	1	3.140	2.1*2.1	0.200		2.770	
3m dia CW30, Depth 3.82	1	3.140	2.1*2.1	0.200		2.770	
				Tot	tal Quantity	17.958 cur	n
		E. L. W		otal Deducte	ed Quantity	0.000 cum	
	613	N 17.	SN /Y	Net To	tal Quantity	17.958 cum	1
	Bur	Sa	ay 17.958 cu	m @ Rs 707	76.06 / cum	Rs 127	071.89
transported to site of was per mix design of sign from transit mixer to sit including cost of admix	pecified gra e of laying,	ade for reinf	orced ceme	nt concrete	•		
-charge. Note:- Cemer	ability without content c	out impairing onsidered ir	proportions strength an this item is	as per IS: 9 d durability a : @330 kg/c	103 to acce as per direc cum. Excess	elerate/ retar tion of the E	nforcement d setting of ngineer - in
	ability without content c	out impairing onsidered ir	proportions strength an this item is	as per IS: 9 d durability a : @330 kg/c	103 to acce as per direc cum. Excess	elerate/ retar tion of the E	nforcement d setting of ngineer - in
-charge. Note:- Cemer	ability without content c	out impairing onsidered ir	proportions strength an this item is	as per IS: 9 d durability a : @330 kg/c	103 to acce as per direc cum. Excess	elerate/ retar tion of the E	nforcement d setting of ngineer - in
-charge. Note:- Cemer per design mix is paya 2m dia- LS1-depth 5.56m- Bottom	ability without content content of ble/recover	out impairing onsidered in able separa	proportions strength an this item is ately.All wior 1.600*1.6	as per IS: 9 d durability a @330 kg/c k upto plinth	103 to acce as per direc cum. Excess	elerate/ retar tion of the E s /less ceme	nforcement of setting of ngineer - in ent used as
-charge. Note:- Cemer per design mix is paya 2m dia- LS1-depth 5.56m- Bottom pluging	ability without content colle/recover	out impairing onsidered in table separa 3.140	proportions strength an this item is ately.All wior 1.600*1.6	as per IS: 9 d durability a s @330 kg/c k upto plinth 0.300	103 to acce as per direc cum. Excess	elerate/ retar tion of the E s /less ceme 2.412	nforcement of setting of ngineer - in ent used as
-charge. Note:- Cemer per design mix is paya 2m dia- LS1-depth 5.56m- Bottom pluging well side wall	ability without content colle/recover	out impairing onsidered in table separated 3.140	proportions strength an this item is ately.All wior 1.600*1.6 0	as per IS: 9 d durability as @330 kg/c k upto plinth 0.300	103 to acce as per direc cum. Excess	elerate/ retartion of the Es /less ceme 2.412	nforcement of setting of ngineer - in ent used as
-charge. Note:- Cemer per design mix is paya 2m dia- LS1-depth 5.56m- Bottom pluging well side wall cover slab 2m dia- LS2-depth 2.77m- Bottom	ability without content colle/recovers 1 1 1	out impairing onsidered in table separated 3.140 3.140*2.3 3.140	proportions strength and this item is ately.All wion 1.600*1.6 0 0.300 1.3*1.3	as per IS: 9 d durability a s @330 kg/c k upto plinth 0.300 5.560 0.250	103 to acce as per direc cum. Excess	elerate/ retartion of the Es /less ceme 2.412 12.047 1.327	nforcement of setting of ngineer - in ent used as
-charge. Note:- Cemer per design mix is paya 2m dia- LS1-depth 5.56m- Bottom pluging well side wall cover slab 2m dia- LS2-depth 2.77m- Bottom pluging	ability without content colle/recovers 1 1 1 1	out impairing onsidered in table separated 3.140 3.140*2.3 3.140 3.140	proportions strength and this item is ately.All wior 1.600*1.6 0 0.300 1.3*1.3 1.600*1.6 0	as per IS: 9 d durability a @ 330 kg/c k upto plinth 0.300 5.560 0.250 0.300	103 to acce as per direc cum. Excess	elerate/ retartion of the Es /less ceme 2.412 12.047 1.327 2.412	nforcement of setting of ngineer - in ent used as

well side wall	1	3.140*2.3	0.300	2.940		6.370	
cover slab	1	3.140	1.3*1.3	0.250		1.327	
2m dia- LS4-depth 3.47m- Bottom pluging	1	3.140	1.600*1.6 0	0.300		2.412	
well side wall	1	3.140*2.3	0.300	3.470		7.519	
cover slab	1	3.140	1.3*1.3	0.250		1.327	
2m dia- LS5-depth 2.77m- Bottom pluging	1	3.140	1.600*1.6 0	0.300		2.412	
well side wall	1	3.140*2.3	0.300	2.770		6.002	
cover slab	1	3.140	1.3*1.3	0.250		1.327	
2m dia- LS6-depth 2m- Bottom pluging	1	3.140	1.600*1.6 0	0.250		2.010	
well side wall	1	3.140*2.3	0.300	2.000		4.334	
cover slab	1	3.140	1.3*1.3	0.250	·	1.327	
3m dia CW1, Depth 4.46-Bottom pluging	1	3.140	2.1*2.1	0.300		4.155	
well side wall	1	3.140*3.3	0.300	4.460		13.865	
Cover slab	Kera	ala _{3.140} at	er Auth	0.300		3.053	
3m dia CW2, Depth 5.00-Bottom pluging	\mathbf{D}_{1}	3.140	2.1*2.1	0.300		4.155	
well side wall	1	3.140*3.3	0.300	5.000		15.543	
Cover slab	1	3.140	1.8*1.8	0.300		3.053	
3m dia CW30, Depth 3.82-Bottom pluging	1	3.140	2.1*2.1	0.300		4.155	
well side wall	1	3.14*3.3	0.300	3.820		11.875	
Cover slab	1	3.140	1.8*1.8	0.300		3.053	
	6	0.500	0.500	0.250		-0.375	
	3	0.500	0.500	0.300		-0.224	
				To	tal Quantity	127.213 cu	ım
			Т	otal Deduct	ed Quantity	-0.599 cum	
				Net To	tal Quantity	126.614 cu	m
		Say	126.614 cu	m @ Rs 97	00.81 / cum	Rs 1228	3258.3

	content used is payable BMC/RMC. (Note:- Cell		•	-	•		instead of N	M-25 gra	
	Qty taken from item no-12	1	126.614				126.614		
					To	tal Quantity	126.614 cu	m	
				Т	otal Deduct	ed Quantity	0.000 cum		
					Net To	tal Quantity	126.614 cur	m	
			S	ay 126.614	cum @ Rs 8	30.56 / cum	Rs 102	200.02	
14	4.12 Extra for providing and cement as per manufa	•		material in	cement co	ncrete work	in doses by	y weigh	
	Qty taken from item no-12*340	1	126.614	340.000			43048.760		
			Ty 5		To	tal Quantity	43048.760	kg	
				20/AT	otal Deduct	ed Quantity	0.000 kg		
		145	100		Net To	tal Quantity	43048.760	43048.760 kg	
		14/45	1000	Say 43048	3.760 kg @ F	Rs 1.33 / kg	Rs 572	254.85	
15	5.9.2 Centering and shuttering attached pilasters, buttoop dia- LS1-depth	eresses, pl	inth and strir	ng courses	eterity	for:Walls (a	ny thickness	s) includ	
	5.56m- wall inside	1	3.140	2.000	5.560	1	34.917	4.97r	
	well out side wall	1	3.140	2.600	5.560		45.392		
	2m dia- LS2-depth 2.77m- wall inside	1	3.140	2.000	2.770		17.396		
	well out side wall	1	3.140	2.600	2.770		22.615		
	2m dia- LS3-depth 2.94m- wall inside	1	3.140	2.000	2.940		18.464		
	·	1	3.140 3.140	2.000	2.940		18.464 24.003		
	2.94m- wall inside								
	2.94m- wall inside well out side wall 2m dia- LS4-depth	1	3.140	2.600	2.940		24.003		
	2.94m- wall inside well out side wall 2m dia- LS4-depth 3.47m- wall inside	1	3.140	2.600	2.940 3.470		24.003 21.792		
	2.94m- wall inside well out side wall 2m dia- LS4-depth 3.47m- wall inside well out side wall 2m dia- LS5-depth	1 1 1	3.140 3.140 3.140	2.600 2.000 2.600	2.940 3.470 3.470		24.003 21.792 28.330		

			1	1	1		1	
	well out side wall	1	3.140	2.600	2.000		16.329	
	3m dia CW1, Depth 4.46-inside wall	1	3.140	3.000	4.460		42.014	
	out side wall	1	3.140	3.600	4.460		50.416	
	3m dia CW2, Depth 5.00-inside wall	1	3.140	3.000	0.300		2.826	
	out side wall	1	3.140	3.600	5.000		56.520	
	3m dia CW30, Depth 3.82-inside wall	1	3.140	3.000	0.300		2.826	
	out side wall	1	3.140	3.600	3.820		43.182	
			100	65	То	tal Quantity	479.593 sc	ηm
			JAB	192	Total Deduct	ed Quantity	0.000 sqm	
			≤ 2 h		Net To	tal Quantity	479.593 sq	m
		610	Sa	ay 479.593 s	sqm @ Rs 7	03.77 / sqm	Rs 337	523.17
16	5.9.20 Centering and shutter landings, balconies ar	N 7 - 5 - 6 - 6 - 6 - 6 - 6 - 6 - 6 - 6 - 6	1 44 / 1				spended flo	oors, roofs
				100000				
	2m dia- LS1-depth 5.56m- cover slab	1	3.140	1.3*1.3			5.307	
	·	1 Kera			0.250		5.307 2.042	
	5.56m- cover slab			1.3*1.3				
	5.56m- cover slab cover slab edge 2m dia- LS2-depth	Ker	ala _{3.140} at	1.3*1.3 er _{2.600}			2.042	
	5.56m- cover slab cover slab edge 2m dia- LS2-depth 2.77m- cover slab	Kera D ₁	3.140 3.140	1.3*1.3 er _{2.600} 1.3*1.3	0.250		2.042 5.307	
	5.56m- cover slab cover slab edge 2m dia- LS2-depth 2.77m- cover slab cover slab edge 2m dia- LS3-depth	Kera D ₁	3.140 3.140	1.3*1.3 2.600 1.3*1.3 2.600	0.250		2.042 5.307 2.042	
	5.56m- cover slab cover slab edge 2m dia- LS2-depth 2.77m- cover slab cover slab edge 2m dia- LS3-depth 2.94m- cover slab	Kera D ₁	3.140 3.140 3.140 3.140	1.3*1.3 2.600 1.3*1.3 2.600	0.250		2.042 5.307 2.042 5.307	
	5.56m- cover slab cover slab edge 2m dia- LS2-depth 2.77m- cover slab cover slab edge 2m dia- LS3-depth 2.94m- cover slab cover slab edge 2m dia- LS4-depth	Kera D ₁	3.140 3.140 3.140 3.140	1.3*1.3 2.600 1.3*1.3 2.600 2.600	0.250		2.042 5.307 2.042 5.307 2.042	
	5.56m- cover slab cover slab edge 2m dia- LS2-depth 2.77m- cover slab cover slab edge 2m dia- LS3-depth 2.94m- cover slab cover slab edge 2m dia- LS4-depth 3.47m- cover slab	Kers D 1 1 1 1	3.140 3.140 3.140 3.140 3.140	1.3*1.3 2.600 1.3*1.3 2.600 1.3*1.3	0.250		2.042 5.307 2.042 5.307 2.042 5.307	
	5.56m- cover slab cover slab edge 2m dia- LS2-depth 2.77m- cover slab cover slab edge 2m dia- LS3-depth 2.94m- cover slab cover slab edge 2m dia- LS4-depth 3.47m- cover slab cover slab edge 2m dia- LS4-depth 3.47m- cover slab	1 1 1 1 1	3.140 3.140 3.140 3.140 3.140 3.140	1.3*1.3 2.600 1.3*1.3 2.600 1.3*1.3 2.600	0.250		2.042 5.307 2.042 5.307 2.042 5.307 2.042	
	5.56m- cover slab cover slab edge 2m dia- LS2-depth 2.77m- cover slab cover slab edge 2m dia- LS3-depth 2.94m- cover slab cover slab edge 2m dia- LS4-depth 3.47m- cover slab cover slab edge 2m dia- LS5-depth 2.77m- cover slab	1 1 1 1 1 1	3.140 3.140 3.140 3.140 3.140 3.140 3.140	1.3*1.3 2.600 1.3*1.3 2.600 1.3*1.3 2.600 1.3*1.3	0.250 0.250 0.250		2.042 5.307 2.042 5.307 2.042 5.307 2.042 5.307	

			,			1				
	3m dia CW1, Depth 4.46-Cover slab	1	3.140	1.800*1.8			10.174			
	cover slab side edge	1	3.140	3.600	0.300		3.392			
	3m dia CW2, Depth 5.00Cover slab	1	3.140	1.800*1.8			10.174			
	cover slab side edge	1	3.140	3.600	0.300		3.392			
	3m dia CW30, Depth 3.82Cover slab	1	3.140	1.800*1.8			10.174			
	cover slab side edge	1	3.140	3.600	0.300		3.392			
					To	tal Quantity	84.792 sqn	n		
		ed Quantity	0.000 sqm							
			JAN		Net To	tal Quantity	84.792 sqm			
			5	Say 84.792 s	qm @ Rs 9	00.08 / sqm	Rs 763	319.58		
	Steel reinforcement for binding all complete u				_		• .	osition a		
	Qty taken from item n o - 1 2 S t e e I reinforcement @ 100Kg/ 1Cum of CC	1 Ker	126.614	100.000 er Auth	ority		12661.400			
					To	tal Quantity	12661.400	kg		
		P	R	Т	otal Deduct	ed Quantity	0.000 kg			
					Net To	tal Quantity	12661.400	kg		
				Say 12661.4	400 kg @ R	s 94.86 / kg	Rs 1201	060.40		
18	od338596/2021_2022 Extra for providing epox	xy coating f	for reinforcer	nent bars.						
	Qty taken from item n o - 1 2 S t e e I reinforcement @ 100Kg/ 1Cum of CC	1	126.614	100.000			12661.400			
			•		To	tal Quantity	12661.400	kg		
				Т	otal Deduct	ed Quantity	0.000 kg			
					Net To	tal Quantity	12661.400	kg		
				Say 12661	.400 kg @ l	Rs 2.32 / kg	Rs 293	374.45		
19	22.23.1 Providing and applying RCC structures like reta		•				_			

& water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5:2 (5 partsintegral crystalline slurry: 2 parts water) for vertical surfaces and 3:1 (3 partsintegral crystalline slurry: 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the help of synthetic fiber brush. The materialshall meet the requirements as specified in ACI-212-3R-2010 i.e by reducingpermeability of concrete by more than 90% compared with control concrete as perDIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable of self-healing of cracks up to a width of 0.50mm. The workshall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee for 10 years against anyleakage. For vertical surface two coats @0.70 kg per sgm

2m dia- LS1-depth 5.56m- wall inside	1	3.140	2.000	5.560	ng por oqi	34.917	Deptth 4.97m
well out side wall	1	3.140	2.600	5.560		45.392	
2m dia- LS2-depth 2.77m- wall inside	1	3.140	2.000	2.770		17.396	
well out side wall	1	3.140	2.600	2.770		22.615	
2m dia- LS3-depth 2.94m- wall inside	1	3.140	2.000	2.940		18.464	
well out side wall	1	3.140	2.600	2.940	L	24.003	
2m dia- LS4-depth 3.47m- wall inside	1	3.140	2.000	3.470		21.792	
well out side wall	1	3.140	2.600	3.470		28.330	
2m dia- LS5-depth 2.77m- wall inside		3.140	2.000	2.770	7	17.396	
well out side wall	1	3.140	2.600	2.770		22.615	
2m dia- LS6-depth 2m- wall inside	1	3.140	2.000	2.000		12.560	
well out side wall	1	3.140	2.600	2.000		16.329	
3m dia CW1, Depth 4.46-inside wall	1	3.140	3.000	4.460		42.014	
out side wall	1	3.140	3.600	4.460		50.416	
3m dia CW2, Depth 5.00-inside wall	1	3.140	3.000	0.300		2.826	
out side wall	1	3.140	3.600	5.000		56.520	
3m dia CW30, Depth 3.82-inside wall	1	3.140	3.000	0.300		2.826	
out side wall	1	3.140	3.600	3.820		43.182	
				То	tal Quantity	479.593 sc	mp
			7	Total Deduct	ed Quantity	0.000 sqm	

					Net To	tal Quantity	479.593 sq	m
			Sa	ay 479.593 s	sqm @ Rs 5	59.61 / sqm	Rs 268	385.04
20	Providing and applying RCC structures like retal water treatment plant partsintegral crystalline slurry: 1 part water) for help of synthetic fiber beine by reducing permea 1048 and resistant to 10 of self-healing of crack specification and the differ 10 years against an	aining walls t, tunnels/s s slurry: 2 r horizontal brush. The bility of cor 6 bar hydro ks up to a rection of th	of the base ubway and parts water; surfaces a materialsha acrete by m static press width of 0.5 ne engineer	ement, water bridge deck of for vertical applying li meet the rore than 90 ure on nega 50mm. The in-charge. T	tanks, roof etc., prepa surfaces a thesame fro requirement % compare tive side. The workshall be the product	slabs, podiumed by mixing and 3:1 (3 points as specified with continue crystalline carried of performance	g in the rational section artsintegral (internal) section ACI-2° rol concrete eslurry shall ut all compershall carry	or, sewage of of 5:2 (5) crystalline ide with the 12-3R-2010 as perDIN be capable lete as per
	2m dia- LS1-depth 5.56m- cover slab&base slab	2	3.140	1.3*1.3	m		10.614	
	2m dia- LS2-depth 2.77m- cover slab&base slab	2	3.140	1.3*1.3			10.614	
	2m dia- LS3-depth 2.94m- cover slab&base slab	2 Kera	3.140 ala Wat	1.3*1.3 er Auth	ority		10.614	
	2m dia- LS4-depth 3.47m- cover slab&base slab		3.140	1.3*1.3	E	3	10.614	
	2m dia- LS5-depth 2.77m- cover slab&base slab	2	3.140	1.3*1.3			10.614	
	2m dia- LS6-depth 2m- cover slab&base slab	2	3.140	1.3*1.3			10.614	
	3m dia CW1, Depth 4.46-Cover slab&base slab	2	3.140	1.800*1.8			20.348	
	3m dia CW2, Depth 5.00-Cover slab&base slab	2	3.140	1.800*1.8			20.348	
	3m dia CW30, Depth 3 . 8 2 C o v e r slab&base slab	2	3.140	1.800*1.8			20.348	

					To	otal Quantity	124.728 so	mp					
				7	otal Deduct	ted Quantity	0.000 sqm						
					Net To	otal Quantity	124.728 sq	m					
			Sa	y 124.728 s	sqm @ Rs 4	31.28 / sqm	Rs 53	792.69					
21	13.7.1 12 mm cement plaster f	inished with	n a floating c	oat of neat	cement of n	nix:1:3 (1 ce	Deptth						
	2m dia- LS1-depth 5.56m- wall inside	1	3.140	2.000	5.560		34.917	Deptth 4.97m					
	well out side wall	1	3.140	2.600	5.560		45.392						
	2m dia- LS2-depth 2.77m- wall inside	1	3.140	2.000	2.770		17.396						
	well out side wall	1	3.140	2.600	2.770		22.615						
	2m dia- LS3-depth 2.94m- wall inside	1	3.140	2.000	2.940		18.464						
	well out side wall	1	3.140	2.600	2.940		24.003						
	2m dia- LS4-depth 3.47m- wall inside	1	3.140	2.000	3.470	L	21.792						
	well out side wall	1	3.140	2.600	3.470		28.330						
	2m dia- LS5-depth 2.77m- wall inside	Kera	al a .140at	er2.000th	012,770		17.396						
	well out side wall	1	3.140	2.600	2.770	7	22.615						
	2m dia- LS6-depth 2m- wall inside	1	3.140	2.000	2.000		12.560						
	well out side wall	1	3.140	2.600	2.000		16.329						
	3m dia CW1, Depth 4.46-inside wall	1	3.140	3.000	4.460		42.014						
	out side wall	1	3.140	3.600	4.460		50.416						
	3m dia CW2, Depth 5.00-inside wall	1	3.140	3.000	0.300		2.826						
	out side wall	1	3.140	3.600	5.000		56.520						
	3m dia CW30, Depth 3.82-inside wall	1	3.140	3.000	0.300		2.826						
	out side wall	1	3.140	3.600	3.820		43.182						
	2m dia- LS1-depth 5.56m- cover slab&base slab	2	3.140	1.3*1.3			10.614						

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	2m dia- LS2-depth 2.77m- cover slab&base slab	2	3.140	1.3*1.3			10.614	
	2m dia- LS3-depth 2.94m- cover slab&base slab	2	3.140	1.3*1.3			10.614	
	2m dia- LS4-depth 3.47m- cover slab&base slab	2	3.140	1.3*1.3			10.614	
	2m dia- LS5-depth 2.77m- cover slab&base slab	2	3.140	1.3*1.3			10.614	
	2m dia- LS6-depth 2m- cover slab&base slab	2	3.140	1.3*1.3			10.614	
	3m dia CW1, Depth 4.46-Cover slab&base slab	2	3.140	1.800*1.8			20.348	
	3m dia CW2, Depth 5.00-Cover slab&base slab	2	3.140	1.800*1.8			20.348	
	3m dia CW30, Depth 3 . 8 2 C o v e r slab&base slab	Kera 2		1.800*1.8			20.348	
					То	tal Quantity	604.321 s	qm
				7	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	604.321 sc	m
			Sa	ay 604.321 s	qm @ Rs 3	93.69 / sqm	Rs 237	7915.13
22	13.44.1 Finishing walls with wat @ 3.84 kg/10 sqm)	er proofing	cement pai	int of require	d shade:Ne	w work (Two	o or more co	oats applied
	Qty vide item no 21	1	604.321				604.321	
					То	tal Quantity	604.321 s	qm
				7	otal Deduct	ed Quantity	0.000 sqm	
					Net To	tal Quantity	604.321 sc	m
			Sa	ay 604.321 s	qm @ Rs 10	05.38 / sqm	Rs 63	683.35
23	13.65.1 Painting with black antishade:Two or more coa			paint of app	roved brand	d and manu	facture to g	ive an ever

	Qty vide item no 21	1	604.321				604.321				
					То	tal Quantity	604.321 sc	mp			
				ד	Total Deduct	ed Quantity	0.000 sqm				
					Net To	tal Quantity	604.321 sq	m			
			Sa	y 604.321 s	sqm @ Rs 1:	22.47 / sqm	Rs 74	011.19			
24	100.41.34 Supplying and fixing Reall cost, labour charges	ū		cover 455x6	10 mm with	frame (low	duty) charge	uty) charges including			
	Fixing on Cover slab	9					9.000				
					То	tal Quantity	9.000 No				
		ed Quantity	0.000 No								
		tal Quantity	9.000 No								
		Rs 24	711.75								
	Filling water with 5000 I the reservoir site and p engine pump set, hire "(Ref. No. 000, Technic	umping the for tanker l	water into to	he reservoi	r of height n	ot less than	3 m using	5 HP diesel			
	2m dia- LS1-depth 5.56m	Kera	ala . 140 ata	er <mark>Xu</mark> th	5.560 OTILY		17.459				
	2m dia- LS2-depth 2.77m		3.140	1*1	2.770	7	8.698				
	2m dia- LS3-depth 2.94m	1	3.140	1*1	2.940		9.232				
	2m dia- LS4-depth 3.47m	1	3.140	1*1	3.470		10.896				
	2m dia- LS5-depth 2.77m	1	3.140	1*1	2.770		8.698				
	2m dia- LS6-depth 2m	1	3.140	1*1	2.000		6.280				
	3m dia CW1, Depth 4.46	1	3.140	1.5*1.5	4.460		31.510				
	3m dia CW2, Depth 5.00	1	3.140	1.5*1.5	5.000		35.325				
	3m dia CW30, Depth 3.82	1	3.140	1.5*1.5	3.820		26.989				
				т	To Total Deduct	tal Quantity					
					Jiai Deuucl	ou Quantity	0.000 1110 1	1110			

					Net To	tal Quantity	155.087 Kil	o litre
			Say 155.0	87 Kilo litre	@ Rs 182.7	9 / Kilo litre	Rs 28	348.35
26	2.25 Filling available excava not exceeding 20 cm in 50 m and lift up to 1.5 r	depth, cor	_	•	•			-
	2m dia- LS1-depth 5.56m	1	3.140*2.6	0.500	5.560		22.696	
	2m dia- LS2-depth 2.77m	1	3.140*2.6	0.500	2.770		11.308	
	2m dia- LS3-depth 2.94m	1	3.140*2.6	0.500	2.940		12.002	
	2m dia- LS4-depth 3.47m	1	3.140*2.6	0.500	3.470		14.165	
	2m dia- LS5-depth 2.77m	1	3.140*2.6	0.500	2.770		11.308	
	2m dia- LS6-depth 2m	1	3.140*2.6	0.500	2.000	E	8.165	
	3m dia CW1, Depth 4.46	1	3.140*3.6	0.500	4.460		25.208	
	3m dia CW2, Depth 5.00	Kera	3.140*3.6	er ^{0.500} tl	1015.000		28.260	
	3m dia CW30, Depth 3.82		3.140*3.6	0.500	3.820	7	21.591	
					To	tal Quantity	154.703 сเ	ım
				٦	Total Deduct	ed Quantity	0.000 cum	
					Net To	tal Quantity	154.703 cu	m
			Sa	ay 154.703 d	cum @ Rs 2	53.73 / cum	Rs 39	252.79
27	od338605/2021_2022 Pump set - Supply, In HANDLING Type Pum		Commissio	oning, testir	ng and trial	run of SUE	BMERSIBLE	E SLURR
	LS1 to MH-id 351	2	3.000				6.000	
	CW1 to MH-id 101	2	15.000				30.000	
	LS2 to MH-id 659	2	0.500				1.000	
	LS3 to MH-id 125	2	2.000				4.000	
	LS4 to MH-id 30	2	6.000				12.000	
	CW2 to MH-id 30	2	37.000				74.000	
	LS5 to MH-id 369	2	2.000				4.000	

	LS6 to MH-id 146	2	0.500				1.000			
	CW3 to MH-id 90	2	12.000				24.000			
					То	tal Quantity	156.000 H	р		
				Т	Total Deduct	ed Quantity	0.000 Hp			
					Net To	tal Quantity	156.000 Нր)		
	Say 156.000 Hp @ Rs 29037.50 / Hp Rs 45							9850.00		
28	od338606/2021_2022 Supply and erection of Indoor Type Generator Suitable Capacity UP TO 15 KVA									
	LS1 to MH-id 351(3.000*0.746)/0.8= 2.798	1		65			1.000			
	CW1 to MH-id 101(15*0.746)/0.8=13. 98	1	31				1.000			
	LS2 to MH-id 659(0.5*0.746)/0.8=0. 467	1	N			E.	1.000			
	L S 3 to M H - i d 125(2*0.746)/0.8=1.86 5	1	1 337				1.000			
	L S 4 t o M H - i d 30(6*0.746)/0.8=5.595	Kera D ¹	ala Wat	er Auth	onity	7	1.000			
	C W 2 to M H - i d 30(37*0.746)/0.8=34.5	1				3.0	3.000	15 kva= lakhs 34 kva take time cos		
	L S 5 t o M H - i d 369(2*0.746)/0.8=1.86 5	1					1.000			
	L S 6 to M H - i d 146(0.5*0.746)/0.8=0. 467	1					1.000			
	C W 3 to M H - i d 90(12*0.746)/0.8=11.1 9	1					1.000			
	Total Quantity							/ 11.000 Nos		
	Total Deducted Quantity									
	Net Total Quantity									
		7.1.555 1400	-							

		Say 11.000 Nos @ Rs 348450.00 / Nos Rs 3832950								
29	od338607/2021_202	.2								
	Automatic Control system									
		9					9.000			
					To	otal Quantity	9.000 No			
		0.000 No								
		9.000 No								
	1000000/0004 000			Say 9.000	No @ Rs 100	000.00 / NO	K5 900	000.00		
30	od338608/2021_202 Control Room and G		oom							
	Control Room and G			0.0			0.000			
		9	- 3	ABSTON L			9.000			
					To	otal Quantity	9.000 No			
			But	60 5	Total Deduc	ted Quantity	0.000 No			
	Net Total Quantity							9.000 No		
		Say 9.000 No @ Rs 320279.00 / No								
SI No	Description	No		В	D	CF	Quantity	Remark		
	7Water Supply a	and Sanato	ry arrange	ements, Electi	rical wiring i	n pumping	stations			
			100	Act and	Lum	p-Sum Total	Rs 400	00.000		
SI No	Description	No.	erala V	Vater Aut	chority	CF	Quantity	Remark		
		8Line	extensio	n , Deposit to	KSEB, etc					
			K		Lum	p-Sum Total	Rs 100	00.000		
			4							
SI No	Description	No	L	В	D	CF	Quantity	Remark		
	Description tion and Maintanance						Quantity (Cost Index			
	od340300/2021_202 Sewer line,well mair	cost for se	ewer netw	vorks and allie	ed works- Fir	st year	(Cost Index	:33.05 %		
Opera	od340300/2021_202 Sewer line,well mair sewer lines with safe	e cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for sec	ewer netw	vorks and allie	ed works- Fir	st year	(Cost Index	:33.05 %		
Opera	od340300/2021_202 Sewer line,well mair	cost for se	ewer netw	vorks and allie	ed works- Fir	st year	(Cost Index	:33.05 %		
Opera	od340300/2021_202 Sewer line,well mair sewer lines with safe	e cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for sec	ewer netw	vorks and allie	ed works- Find the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second seco	st year	required for	:33.05 %		
Opera	od340300/2021_202 Sewer line,well mair sewer lines with safe	e cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for second cost for sec	ewer netw	vorks and allie	ed works- Find the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second seco	est year accessories otal Quantity	required for 1.000	:33.05 %		
Opera	od340300/2021_202 Sewer line,well mair sewer lines with safe	e cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and	ewer netw	vorks and allie	necessary a	est year accessories otal Quantity	required for 1.000 1.000 L.S 0.000 L.S	:33.05 %		
Opera	od340300/2021_202 Sewer line,well mair sewer lines with safe	e cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and a cost for second and	ewer netw	aners including	necessary a	est year accessories otal Quantity ted Quantity otal Quantity	1.000 L.S 1.000 L.S			
Opera	od340300/2021_202 Sewer line,well mair sewer lines with safe	e cost for section and the cost for section an	sewer clearent and ve	say 1.000 L.S	Total Deduction Res 1808	est year accessories otal Quantity ted Quantity otal Quantity 005.60 / L.S	required for 1.000 1.000 L.S 0.000 L.S 1.000 L.S Rs 180	:33.05 % cleaning 8005.60		

						tal Quantity			
		1.000 L.S							
		0.000 L.S							
		1.000 L.S							
		Rs 261337.50							
3	od340303/2021_2022 Consumables Fuel for generator, chemicals , Cotton waste , Lubricants (oil and Grease) soap , Glaware, safety equipment etc								
		1					1.000		
					To	tal Quantity	1.000 L.S		
		0.000 L.S							
		1.000 L.S							
			S	Say 1.000 L.S	S @ Rs 363	549.50 / L.S	Rs 363	549.50	
SI No	Description	No	L	В	D	CF	Quantity	Remark	
1	od340404/2021_2022	tion and M		33.05 %)	econd vest	to 10 th year	r)		
	Sewer Network - Operation and Maintenance for 9 year (Second year to 10 th year) Sewer Network - Operation and Maintenance for 9 year (Second year to 10 th year)								
	2 nd Year-Add 8% to 1st year	-	V 415	ter Auth		Joona year w	1.080		
	3 rd Year-Add 16% to 1st year		1.160		F		1.160		
	4 th Year-Add 24% to 1st year	1	1.240				1.240		
	5 th Year-Add 32% to 1st year	1	1.320				1.320		
	6 th Year-Add 40% to 1st year	1	1.400				1.400		
	7 th Year-Add 48% to 1st year	1	1.480				1.480		
	8 th Year-Add 56% to 1st year	1	1.560				1.560		
	9 th Year-Add 64% to 1st year	1	1.640				1.640		
	9 th Year-Add 72% to 1st year	1	1.720				1.720		
		12.600 No							

				-	Total Deduct	ed Quantity	0.000 No		
	Net Total Quantity								
	Say 12.600 No @ Rs 2432892.60 / No								
SI No	Description	No	L	В	D	CF	Quantity	Remark	
	11Sev	ver Conne	ction Charges	s (Co	st Index:33.	05 %)			
1	od20695/2022_2023 Sewer Connection Char	ges- Includ	ding material,la	bour and	connection	deposite cha	arges		
	Sewer Connection Charges-	3000					3000.000		
					Тс	tal Quantity	3000.000 L.S		
	Total Deducted Quantity							0.000 L.S	
	Net Total Quantity							3000.000 L.S	
	Say 3000.000 L.S @ Rs 10000.00 / L.S							Rs 3000000.00	
SI No	Description	No	L	В	D	CF	Quantity	Remark	
	12Electricity charges	for Sewe	r network por	tion for 1	10 Year	(Cost Index	:33.05 %)		
1	od20720/2022_2023 Electricity charges for Selectricity charges for		ork portion Rs	.4119968	3.16/Year	ماد	10,000		
	sewernet work	10	ala Watas	. A 2241	· ·		10.000		
	Kerala Water Authority Total Quantity							10.000 No	
				-	Total Deduct	ed Quantity	0.000 No		
	Net Total Quantity						10.000 No		
	Say 10.000 No @ Rs 4119968.16 / No						Rs 4119	9681.60	
	Total						491999	656.19	
	Centage @ Centage Amount							10.0%	
								49199965.62	
			Prov	ision for (GST paymer	nts (in %) @	18	.0%	
			Am	ount rese	erved for GS	T payments	88559	938.11	
	Total & Centage Lumpsum for round off							559.92	
								.00	
_		GRAND TOTAL Rs						9559.92	
					Rour	nded Grand	Total Rs 6	2,97,59,5	