बिहार सरकार

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ROAD CONSTRUCTION DEPARTMENT

SCHEDULE OF RATES - 2026

VOLUME - II

Twentieth Edition



Kacchi Dargaah-Bidupur-6 Lane New Ganga Bridge

Published by :

STATE LEVEL SCHEDULE RATE COMMITTEE BIHAR, PATNA

Effective from 01.04.2026

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बिहार सरकार

GOVERNMENT OF BIHAR

पथ निर्माण विभाग

(राष्ट्रीय उच्च पथ उपभाग सहित)

ROAD CONSTRUCTION DEPARTMENT
(Including National Highway Wing)

VOLUME-II

(Chapter 12 to 19 & Sub-Analysis)

अनुसूचित दर (दर विश्लेषण सहित)
Schedule of Rates with Analysis
(Twentieth Edition)

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प्रस्तावना

बिहार लोक निर्माण संहिता की कण्डिका–103 के संशोधन के आलोक में बिहार सरकार, पथ निर्माण विभाग द्वारा निर्गत संकल्प सह पठित ज्ञापांक 1/बी–12–2003–5762 (एस) डबलू ई0 पटना दिनांक 05.06.2006 की कंण्डिका–2 (iii) में यह प्रावधान किया गया है कि अनुसूचित दर निर्धारण के लिए दर विश्लेषण तथा सामग्रियों का दर निर्धारण पथ निर्माण विभाग के संयोजन में गठित राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा किया जायेगा। इसी क्रम में यह प्रावधान किया गया है कि पथ निर्माण विभाग में अनुसूचित दर का निर्धारण सड़क, परिवहन एवं राजमार्ग मंत्रालय, भारत सरकार के स्टैण्डर्ड डाटा बुक के आधार पर किया जायेगा, जबकि अन्य विभागों में इससे संबंधित भारत सरकार के कार्य विभागों में प्रचलित विशिष्टियों या दर विश्लेषण के आधार पर किया जायेगा। वर्तमान में राज्य स्तरीय अनुसूचित दर निर्धारण समिति के सदस्य इस प्रकार हैं :–

(i)	अभियंता प्रमुख (मुख्यालय), पथ निर्माण विभाग, बिहार, पटना	संयोजक
(ii)	अभियंता प्रमुख, ग्रामीण कार्य विभाग, बिहार, पटना	सदस्य
(iii)	अभियंता प्रमुख, भवन निर्माण विभाग, बिहार, पटना	सदस्य
(iv)	अभियंता प्रमुख (मुख्यालय), जल संसाधन विभाग, बिहार, पटना	सदस्य
(v)	अभियंता प्रमुख (मुख्यालय), लोक स्वास्थ्य अभियंत्रण विभाग, बिहार, पटना	सदस्य
(vi)	अभियंता प्रमुख, लघु जल संसाधन विभाग, बिहार, पटना	सदस्य
(vii)	अभियंता प्रमुख, तकनीकी परीक्षक कोषांग, निगरानी विभाग, बिहार, पटना	सदस्य
(viii)	अभियंता प्रमुख (विद्युत), भवन निर्माण विभाग, बिहार, पटना	सदस्य
(ix)	मुख्य अभियंता (असैनिक), बिहार स्टेट पावर होल्डिंग कंपनी लि0, पटना	सदस्य

बिहार लोक निर्माण संहिता की कण्डिका–103 में संशोधन के आलोक में MoRT&H Standard Data Book एवं Software पर आधारित पथ निर्माण विभाग (राष्ट्रीय उच्च पथ सहित) के लिए अनुसूचित दर पुस्त का **First Edition दिनांक–05.12.2006** से लागू किया गया था।

समिति द्वारा पथ निर्माण विभाग (राष्ट्रीय उच्च पथ सहित) के लिए अनुसूचित दर पुस्त (दर विश्लेषण सहित) में आवश्यक संशोधन एवं पुनरीक्षण के पश्चात् निम्नलिखित संस्करण किया गया :–

Second Edition	:	23.05.2007
Third Edition	:	24.03.2008
Fourth Edition	:	01.04.2009
Fifth Edition	:	01.04.2010
Sixth Edition	:	01.05.2011
Seventh Edition	:	02.07.2012
Eighth Edition	:	01.04.2013



Ninth Edition	:	01.04.2014
Tenth Edition	:	01.04.2015
Eleventh Edition	:	01.04.2016
Twelfth Edition	:	01.04.2017
Thirteenth Edition	:	01.04.2018
Fourteenth Edition	:	01.04.2019
Fifteenth Edition	:	01.04.2021
Sixteenth Edition	:	01.04.2022
Seventeenth Edition	:	01.04.2023
Eighteenth Edition	:	01.04.2024
Nineteenth Edition	:	01.04.2025

समिति द्वारा Eighteenth Edition में आवश्यक संशोधन एवं पुनरीक्षण के पश्चात् इसका Nineteenth Edition दिनांक–01.04.2025 को प्रकाशित किया गया।

इसी क्रम में Twentieth Edition को तैयार करने के लिए राज्य स्तरीय अनुसूचित दर निर्धारण समिति की बैठक दिनांक–09.03.2026 को आहूत की गई।

दिनांक–09.03.2026 की बैठक में उपस्थित सभी सदस्यों द्वारा MoRT&H के Standard Data Book 2019 एवं Software के आधार पर संशोधन के साथ अनुसूचित दर पुस्तिका के Twentieth Edition को दिनांक 01.04.2026 से लागू करने में अपनी सहमति दी।

इस पुस्तिका के संस्करण के पश्चात् भी समय–समय पर निर्माण सामग्रियों यथा बिटुमेन, सीमेंट, स्टील इत्यादि की दरों में होने वाली घटोत्तरी–बढ़ोत्तरी को देखते हुए लगभग तीन माह पर राज्य स्तरीय अनुसूचित दर निर्धारण समिति की बैठक होती है जिसमें उनके द्वारा दरों को अद्यतन किया जाता है। इसके साथ ही साथ विभिन्न विभागों, संस्थाओं एवं कार्यालयों से प्राप्त सुझावों एवं प्रस्तावों के आधार पर समुचित निर्णय लिये जाते हैं जिन्हे विभागीय वेबसाइट state.bihar.gov.in/rcd पर भी उपलब्ध कराये जाते हैं।

अतः इस पुस्तिका का उपयोग करने वाले सभी पदाधिकारियों, व्यक्तियों, संस्थाओं, निगमों से अनुरोध है कि समय–समय पर विभागीय वेबसाइट का अवलोकन करते रहें।

बिहार लोक निर्माण संहिता की कण्डिका–103 के संशोधन के पश्चात् **MoRT&H Standard Data Book 2019 (2nd Revisio**n) एवं Software पर आधारित अनुसूचित दर पुस्त का यह Twentieth Edition है। यद्यपि यह सभी सदस्यों की देख–रेख में तैयार किया गया है, फिर भी ऐसी संभावना है कि इस अनुसूचित दर पुस्त को तैयार करने में कुछ त्रुटियाँ रह गई हो और व्यवहार में लाने के क्रम में कुछ त्रुटियाँ दृष्टिगोचर हो सकती है, ऐसी स्थिति में मेरा अनुरोध है कि उन त्रुटियों को राज्य



स्तरीय अनुसूचित दर निर्धारण समिति की जानकारी में E-mail ID-sorrcd2012@gmail.com/पत्र द्वारा अथवा व्यक्तिगत रूप से अविलम्ब दी जाय ताकि सम्यक् विचारोपरान्त उन त्रुटियों का समुचित निराकरण किया जा सके।

चूँकि यह दर विश्लेषण सड़क निर्माण के उच्च एवं आधुनिक तकनीक पर आधारित है। अतः Users को परामर्श दिया जाता है कि उनके द्वारा संबंधित कार्यमद का दर विश्लेषण एवं विशिष्टि का गहन अध्ययन अवश्य किया जाय।

वर्तमान अनुसूचित दर पुस्त को तैयार करने तथा उसे प्रभावी बनाने में सहयोग करने के लिए निम्नलिखित पदाधिकारियों एवं कर्मचारियों का कार्य अत्यन्त ही सराहनीय रहा है:–

1. ई0 सुनील कुमार, अधीक्षण अभियंता, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग, पटना।
2. ई0 नीतू मणि, तकनीकी सलाहकार, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग, पटना।
3. ई0 रवि कुमार सुमन, कार्यपालक अभियंता, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग, पटना।
4. ई0 शोएब उस्मानी, सहायक अभियंता, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग, पटना।
5. ई0 तृप्ति जायसवाल, सहायक अभियंता, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग, पटना।
6. ई0 अरूण कुमार चौधरी, सहायक अभियंता, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग, पटना।
7. ई0 मो० फहीम आलम, सहायक अभियंता, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग, पटना।
8. ई0 सुनील कुमार, सहायक अभियंता, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग, पटना।
9. ई0 संजय कुमार गुप्ता, कनीय अभियंता–सह–सहायक अभियंता, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग, पटना।
10. ई0 प्रतिमा कुमारी, कनीय अभियंता, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग,पटना।
11. ई0 अजय कुमार, कनीय अभियंता, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग, पटना।
12. मो0 कमालउद्दीन अशरफ, सहायक, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग, पटना।
13. श्री विपिन कुमार, डाटा इन्ट्री ऑपरेटर, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग, पटना।



14. श्री उमेश कुमार, कार्यालय परिचारी, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग, पटना।

15. श्री बिरेन्द्र कुमार, कार्यालय परिचारी, मुख्यालय निरूपण अंचल, पथ निर्माण विभाग, पटना।

राज्य स्तरीय अनुसूचित दर निर्धारण समिति श्री अजय कुमार सिंह, मुख्य अभियंता, यांत्रिक उपभाग, श्री संजीव कुमार सिन्हा, कार्यपालक अभियंता एवं श्री श्रीमन् नारायण शर्मा, अधीक्षण अभियंता, उच्च पथ योजना एवं अन्वेषण अंचल, केन्द्रीय निरूपण संगठन, पथ निर्माण विभाग, पटना के प्रति विशेष रूप से आभार व्यक्त करता है जिनके सहयोग एवं रचनात्मक सुझाव से अनुसूचित दर पुस्त के इस संस्करण में सहयोग मिला है।

अनुसूचित दर पुस्त के उपयोग करने वालों की विशेष सुविधा के लिए इस अनुसूचित दर पुस्तक के साथ Soft Copy PDF (C.D.) भी संलग्न की जा रही है। साथ ही साथ, यह अनुसूचित दर पुस्त विभागीय वेबसाइट state.bihar.gov.in/rcd पर भी उपलब्ध है।

यह अनुसूचित दर पुस्त दिनांक 01.04.2026 से प्रभावी होगा।

11/03/26

(अनिल कुमार सिंह)
संयोजक,
राज्य स्तरीय अनुसूचित दर निर्धारण समिति
–सह–अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

स्थान– पटना।

दिनांक–



MoRT&H Standard Data Book 2019 (2nd revision) एवं इसके Software पर आधारित पथ निर्माण विभाग (राष्ट्रीय उच्च पथ सहित) के लिये अनुसूचित दर पुस्तिका (दर विश्लेषण सहित) के Twentieth Edition-2026 का राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा अनुमोदन :-

बिहार लोक निर्माण संहिता की कण्डिका–103 में संशोधन के आलोक में बिहार सरकार, पथ निर्माण विभाग द्वारा निर्गत संकल्प–सह–पठित ज्ञापांक 1/बी0–12/2003–5762 (एस) (डब्लू ई) पटना, दिनांक– 05.06.2006 की कंडिका–2 (iii) में यह प्रावधान किया गया है कि अनुसूचित दर, दर विश्लेषण तथा सामग्रियों का दर निर्धारण पथ निर्माण विभाग के संयोजन में गठित राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा किया जायेगा। इसी क्रम में यह प्रावधान किया गया है कि पथ निर्माण विभाग में अनुसूचित दर का निर्धारण सड़क परिवहन एवं राजमार्ग मंत्रालय, भारत सरकार के स्टैन्डर्ड डाटा बुक के आधार पर किया जायेगा। राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा श्रमदर तथा Plant & Machinery एवं निर्माण सामग्रियों के दर में हुए दर पुनरीक्षण के आलोक में पथ निर्माण विभाग (राष्ट्रीय उच्च पथ सहित) के लिये लागू अनुसूचित दर (दिनांक 01.04.2026 से प्रभावी) के पुनरीक्षण के लिए दिनांक–31.10.2025 एवं दिनांक–19.02.2026 की बैठक में श्रम दर तथा Plant & Machinery एवं निर्माण सामग्री के usage rate के लिए INPUT की स्वीकृति दी गयी है। सदस्यों की सहमति से पथ निर्माण विभाग (राष्ट्रीय उच्च पथ सहित) के लिए दिनांक–01.04.2025 से प्रभावी अनुसूचित दर पुस्त–Nineteenth Edition में परिवर्तन करते हुए MoRT&H Standard Data Book 2019 (2nd revision) के अनुसार आवश्यक संशोधन एवं पुनरीक्षण के पश्चात् इसके **Twentieth Edition** (दिनांक–01.04.2026 से प्रभावी) का अनुमोदन किया जाता है। अनुसूचित दर तैयार करने में निम्नलिखित प्रक्रिया अपनाई गई है:–

1. **(i)** राष्ट्रीय राजमार्ग एवं भूतल परिवहन मंत्रालय के लिए लागू Standard Data Book 2019 के Basic Input Parameters के आधार पर Road/Bridge/Structure/Tunnel के लिए 10% Contractor's Profit शामिल किया गया है।

   (ii) राष्ट्रीय राजमार्ग एवं भूतल परिवहन मंत्रालय के लिए लागू Standard Data Book 2019 के Basic Approach and General Conditions के आधार पर Road/Bridge/Structure/Tunnel के लिए Large/Medium/Small Projects को इस प्रकार श्रेणीबद्ध किया गया है :–

   (a) Civil works cost up to 200 Crore :-Small Project

   (b) Civil works cost > 200 Crore and ≤ 500 Crore :-Medium Project

   (c) Civil works cost > 500 Crore :-Large Project

   (iii) राष्ट्रीय राजमार्ग एवं भूतल परिवहन मंत्रालय के लिए लागू Standard Data Book 2019 में दिये गये Basic Input Parameters के आधार पर Road/Bridge/Structure/Tunnel के लिए Overhead charge का प्रावधान इस प्रकार किया गया है :–

Sl. No.	Description	Overhead (Percentage)		
		Large Project	Medium Project	Small Project
1	Overheads for Road Works (CH-01 to 11)	8%	10%	12%
2	Overheads for New/Widening of Bridge/Structure Works(CH-12 to 16)	20%	20%	20%

3	Overheads for Rehabilitation of Bridges/Structure (CH-17)	30%	30%	30%
4	Overheads for Road Tunnel Works (CH-18)	25%	25%	25%

Note :- For Chapter-19 (Environmental & Safety Management & Bio Engineering), overhead charges will be applicable of Road works.

(iv) भविष्य में परियोजनाओं के DPR तैयार करने के क्रम में यदि किसी परियोजना में पथ कार्य के साथ Bridge/Structure/Tunnel कार्य भी सम्मिलित है, तो पथ कार्य में नियमानुसार लागू Overhead (OH) तथा Bridge/Structure/Tunnel में MoRT&H के Standard Data Book 2019 के अनुरूप नियमानुसार लागू Overhead (OH) मद का प्रावधान करते हुए प्राक्कलन का सृजन किया जाय।

(v) सीमेन्ट के दर में पटना के लिये लागू OPC Grade 43 के दर को व्यवहार में लाया गया है। निरूपण एवं संरचना की आवश्यकतानुसार संबंधित सक्षम पदाधिकारी अन्य प्रकार के सीमेंट का व्यवहार कर सकते हैं।

(vi) दर–विश्लेषण में G.S.T. (Goods & Service Tax) शामिल नहीं है।

(vii) **<u>Goods & Services Tax (G.S.T.)</u> :-** वाणिज्य कर विभाग तथा वित्त विभाग द्वारा दिए गए परामर्श के आलोक में राज्यस्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना द्वारा सम्यक् विचारोपरांत सर्वसम्मति से प्राक्कलन में Goods and Services Tax (GST) का प्रावधान करने की प्रक्रिया निम्न् प्रकार से अपनाने का निर्णय लिया गया :–

(i) दर विश्लेषण में 10 (दस) प्रतिशत मालिकाना फीस (Seigniorage Fee) नहीं जोड़ा जाय।

(ii) Carriage, Overhead Charge (excluding VAT/GST), Contractor Profit, Royalty को जोड़कर प्रत्येक कार्य मद का दर निर्धारित किया जाय तथा इस निर्धारित दर के आधार पर परियोजना की प्राक्कलित राशि निर्धारित की जाय।

(iii) उपर्युक्त कंडिका (ii) में निर्धारित प्राक्कलित राशि पर 1 प्रतिशत Labour Cess का प्रावधान निर्धारित मापदंडों के अनुसार किया जाय।

(iv) उपर्युक्त कंडिका (ii) में निर्धारित प्राक्कलित राशि (Labour Cess रहित) में सम्मिलित रॉयल्टी सहित Basic खनिज मूल्य (ढुलाई रहित) पर 10 (दस) प्रतिशत की दर से मालिकाना फीस (Seigniorage Fee) का प्रावधान अलग से किया जाय।

(v) Work-Contracts के लिए उपर्युक्त कंडिका–(ii) में निर्धारित प्राक्कलित राशि/कुल लागत में Labour Cess एवं मालिकाना फीस (Seigniorage Fee) को जोड़ा जाय तथा प्राक्कलित राशि, Labour Cess एवं मालिकाना फीस (Seigniorage Fee) के योग पर Contract Service Tax/Work Contract G.S.T का प्रावधान अधिसूचित/निर्धारित दर के अनुसार किया जाय।

(vi) Bill of Quantity (B.O.Q.) में Work Value, Labour Cess Value, मालिकाना फीस (Seigniorage Fee) एवं GST Value का अलग–अलग उल्लेख किया जाय।

तत्संबंधी उदाहरण तालिका (Model Calculation Sheet) निम्न् प्रकार है :–

(a) Estimated Amount (प्राक्कलित राशि) Including Carriage, Overhead Charge (Excluding VAT/GST), Contractor Profit, Royalty but Excluding GST, Labour Cess & Seigniorage fee = "A"

(b) Labour Cess @1% = "B" = A X 0.01

(c) प्राक्कलन में सम्मिलित रॉयल्टी सहित लघु खनिज का Basic मूल्य (ढुलाई रहित) = "C"

(d) मालिकाना फीस (Seigniorage Fee) रॉयल्टी सहित Basic लघु खनिज मूल्य पर 10 प्रतिशत की दर से = "D" = C X 0.10

(e) Estimated Amount + Labour Cess + Seigniorage Fee = "E" = A+B+D

(f) Work Contract GST in Percentage = "Y" %

(g) Contract GST Amount = "F" = $\frac{EY}{100}$

(h) Bill of Quantity (B.O.Q)

Work Value	= A
Labour Cess	= B
Seigniorage fee	= D
GST Value	= F

(viii) **<u>कार्य विभागों द्वारा सरकारी योजनाओं के लिए लघु खनिजों के उपयोग हेतु मालिकाना फीस (Seigniorage Fee)</u>** :-समिति द्वारा सर्वसम्मति से खान एवं भूतत्व विभाग, बिहार, पटना के पत्रांक–कार्य विभाग/Seigniorage-11/19-3947/एम0, पटना दिनांक–15.11.2019 एवं खान एवं भूतत्व विभाग, बिहार की अधिसूचना संख्या–3174/एम0, दिनांक–17.09.2019 के आलोक में निम्नवत् निर्णय लिया गया है :–

(क) निर्माण कार्यों में व्यवहृत लघु खनिजों पर देय मालिकाना फीस उक्त खनिज के निर्धारित स्वामित्व (रॉयल्टी) दर के अतिरिक्त देय है।

(ख) कार्य विभागों द्वारा प्राक्कलन में लघु खनिज का मूल्य वैध खदान पर वर्तमान में प्रचलित खनिज मूल्य को रॉयल्टी सहित रखा जाय।

(ग) सभी सरकारी विभाग अपनी स्कीम या परियोजनाओं के लिए किसी लघु खनिज का उपयोग करने हेतु मालिकाना फीस की कटौती अपने आपूर्तिकर्ता या संवेदक से करेंगे।

(घ) मालिकाना फीस की कटौती प्राक्कलन में लगे वैध खदान पर रॉयल्टी सहित वर्तमान में प्रचलित खनिज मूल्य पर 10 प्रतिशत की दर से की जाय। इसमें अन्य मद यथा ढुलाई आदि को शामिल नहीं किया जाय।

(ङ) प्राक्कलन में मालिकाना फीस (Seigniorage Fee) का प्रावधान वैध खदान पर रॉयल्टी सहित वर्तमान में खनिज के मूल्य पर 10 (दस) प्रतिशत की दर से किया

जाय। इसमें अन्य मद यथा ढुलाई आदि को शामिल नहीं किया जाय। दर विश्लेषण में मालिकाना फीस (Seigniorage Fee) नहीं जोड़ा जाय।

(च) वैध खदान से खनिज क्रय के समर्थन में संवेदक अपने विपत्रों के साथ खनन विभाग द्वारा निर्गत ई–चालान की प्रति संलग्न करेंगें, जिसकी जाँच संबंधित कार्य विभागों द्वारा ही की जायेगी। विपत्रों के साथ खनिज क्रय के साक्ष्य स्वरूप ई–चालान संलग्न नहीं किये जाने की स्थिति में संवेदकों के विपत्र से मालिकाना फीस के अतिरिक्त निर्धारित दर पर रॉयल्टी की वसूली भी कार्य विभागों द्वारा की जायेगी। साथ हीं नियमाधीन अन्य कार्रवाई हेतु ऐसे संवेदकों की पूर्ण सूची कार्य विभागों द्वारा खान एवं भूतत्व विभाग को उपलब्ध कराया जायेगा।

(छ) साधारण मिट्टी निजी जमीन अथवा सरकारी भूमि से प्राप्त करने की स्थिति में बिहार खनिज (समानुदान अवैध खनन, परिवहन एवं भंडारण निवारण) नियमावली, 2019 के सारे प्रावधान लागू होंगे।

(ज) निजी/सरकारी भूमि से नियमानुसार साधारण मिट्टी प्राप्त करने की स्थिति में व्यवहृत मिट्टी के संबंध में संवेदक द्वारा समर्पित विपत्र के साथ खान एवं भूतत्व विभाग द्वारा निर्गत परमिट साक्ष्य स्वरूप संलग्न रहने की स्थिति में सत्यापनोपरांत सिर्फ स्वामित्व की 10 प्रतिशत मालिकाना फीस के रूप में वसूली की जायेगी। जिन विपत्रों के साथ खान एवं भूतत्व विभाग द्वारा निर्गत परमिट संवेदक साक्ष्य स्वरूप विपत्रों के साथ संलग्न नहीं किये होगें या सत्यापनोपरांत गलत पाये जायेगें तो वैसी स्थिति में प्रति घनमीटर वर्तमान स्वामित्व दर 33/रू0 के अलावे 10 प्रतिशित मालिकाना फीस 3.30/– रू0 की कटौती संवेदक के विपत्र से की जायेगी एवं नियमाधीन अन्य कार्रवाई हेतु ऐसे संवेदकों की पूर्ण सूची कार्य विभागों द्वारा खान एवं भूतत्व विभाग को उपलब्ध कराया जायेगा।

(झ) बिहार खनिज नियमावली, 2019 के नियम 37 (2) में सिंचाई विभाग द्वारा नहर तथा जल निकास प्रणाली के संधारण की प्रक्रिया में निष्कासित खनिजों के लिए खनिज निपटाव परमिट, लघु खनिजों के विनिर्दिष्ट दरों पर रॉयल्टी के पूर्व भुगतान पर दिये जाने का प्रावधान है। साथ हीं उक्त नियमावली के नियम 37 (3) में विनिर्दिष्ट आपात स्थितियों के लिए समाहर्त्ता द्वारा लघु खनिजों के विनिर्दिष्ट दरों पर रॉयल्टी के पूर्व भुगतान पर परमिट दिये जाने का प्रावधान है। ऐसी स्थिति में संवेदक द्वारा समर्पित विपत्र के साथ खान एवं भूतत्व विभाग द्वारा निर्गत परमिट साक्ष्य स्वरूप संलग्न रहने की स्थिति में सत्यापनोपरांत सिर्फ स्वामित्व की 10 प्रतिशत मालिकाना फीस के रूप में वसूली की जायेगी। जिन विपत्रों के साथ खान एवं भूतत्व विभाग द्वारा निर्गत परमिट संवेदक द्वारा साक्ष्य स्वरूप विपत्रों के साथ संलग्न नहीं किये होंगें या सत्यापनोपरांत गलत पाये जायेगे तो वैसी स्थिति में स्वामित्व एवं मालिकाना फीस की वूसली की जायेगी।

(ix) **<u>पुल निर्माण कार्य हेतु विभिन्न व्यासों के कूपों के 40 मीटर से अधिक कूप गलाई का दर</u>** :– समिति द्वारा सर्वसम्मति से सम्यक् विचारोपरांत Well Foundation के कूप–गलाई के संदर्भ में 30 मी0 से 40 मीटर के गहराई के प्रावधान को 40 मीटर से अधिक गहराई के दर के रूप में अनुमोदित करने का निर्णय लिया गया है।

(x) **(a)** स्टील के दर में TMT Bar के लिये Fe 500D HYSD के दर को दर विश्लेषण के लिए व्यवहार में लाया गया है।

(b) बिटुमेन के लिए Packed 60/70(VG 30) ग्रेड एवं Packed 80/100(VG 10) ग्रेड Ex-Barauni का दर व्यवहार में लाया गया है। Bitumen Emulsion RS1 & SS1

Packed Ex-Patna, Modified Graded Bitumen CRMB-55 Packed Ex-Fatuha एवं Bitumen (Cutback) Packed Ex-Barauni के दर को दर विश्लेषण में लिया गया है।

(c) M-327 में VG-40 Packed Ex- Fatuha के दर को विश्लेषण में लिया गया है।

(d) Brick 100 "A" का दर Patna Urban के लिये लागू दर को व्यवहार में लाया गया है।

(xi) **(a)** Coarse Sand का Schedule-M/MoRTH-1 के M-004 एवं M-005 तथा Fine Sand का M-006 के अनुसार अनुमोदित दर को व्यवहार में लाया गया है।

संबंधित सक्षम पदाधिकारी निर्माण कार्यक्षेत्र के जोन के अनुसार ही Bitumen/Cement/ Brick/Coarse Sand के निर्धारित दर का प्रयोग करेंगे और इसके अनुसार दर में अन्तर की राशि को प्राक्कलन में जोड़ेगे या घटायेंगे।

(b) TMT Bars, Mild Steel bars एवं Structural Steel के भिन्न आकार/व्यास का व्यवहार निर्माण कार्यों में किया जाता है। इसे अनुसूचित दर विश्लेषण में अधिसूचित दर के औसत दर को व्यवहार में लिया गया है। संबंधित सक्षम पदाधिकारी द्वारा वास्तविक निरूपण के आधार पर भिन्न व्यास/आकार प्रकार के स्वीकृत दरों को आवश्यकतानुसार व्यवहार में लाया जा सकता है।

(c) TATA, SAIL, RINL एवं Shyam Steel Industries Ltd, Kolkata से प्राप्त दर पर राज्यस्तरीय अनुसूचित दर निर्धारण समिति द्वारा विचार–विमर्श कर स्टील का दर अनुमोदित करने का निर्णय लिया गया। इन्हीं चार कम्पनियों यथा TATA, SAIL, RINL एवं Shyam Steel Industries Ltd, Kolkata के स्टील/TMT BAR का प्रयोग निर्माण कार्यों में किया जाना है।

(xii) Royalty का प्रावधान खान एवं भूतत्व विभाग की अधिसूचना संख्या–3174 पटना दिनांक–17.09.2019 एवं अधिसूचना संख्या–4352 दिनांक–31.08.2022 के अनुसार किया गया है। रॉयल्टी की कटौती विपत्रों से Loose Volume of Materials पर की जानी है न कि Finished Volume of Materials (Compacted Volume) पर, जिसका अनुपालन सुनिश्चित करने की जिम्मेदारी क्षेत्रीय पदाधिकारियों की होगी।

(xiii) इसके पूर्व में भी समय–समय पर अनुसूचित दर में ''संशोधित दर'' प्रकाशित किया गया है जिसका समायोजन इस अनुसूचित दर पुस्तिका में कर लिया गया है।

2. <u>बिटुमेन से संबंधित दर</u> :–

अनुसूचित दर के पुनरीक्षण के क्रम में राष्ट्रीयकृत कम्पनी Indian Oil Corporation Ltd. (IOCL), Bharat Petroleum Corporation Ltd. (BPCL) एवं Hindustan Petroleum Corporation Ltd. (HPCL) से दर प्राप्त हुआ है। Emulsion MS/RS-1/SS-1 Packed का दर Hindustan Petroleum Corporation Ltd. (HPCL) एवं Indian Oil Corporation Ltd. (IOCL) से प्राप्त हुआ है। समिति के द्वारा सर्वसम्मति से पूर्णविचारोपरान्त, संलग्न अनुसूची "M4" के अनुसार बिटुमेन के विभिन्न Grades/प्रकार के दर को अनुमोदित किया गया है।

3. <u>सीमेन्ट का दर</u> :–

(i) **Ordinary Portland Cement (43 Grade)** का दर विभिन्न कंपनियों से प्राप्त हुआ है। इस दर में शामिल GST को घटाकर प्रति बोरा दर अनुमोदित करने का

निर्णय लिया गया। पटना के न्यूनतम दर के आधार पर, पूर्व से निर्धारित दर के अनुपात में अन्य ज़ोनों के लिए दर प्राप्त किया गया। समिति के द्वारा सर्वसम्मति से पूर्णविचारोपरान्त, संलग्न अनुसूची "M1" के दर को अनुमोदित करने का निर्णय लिया गया।

(ii) **Ordinary Portland Cement (33 Grade)** का दर किसी भी सीमेन्ट निर्माता कम्पनी से प्राप्त नहीं हुआ है। इसलिए समिति द्वारा OPC-33 grade का दर अनुमोदित नहीं किया गया है।

(iii) **Portland Pozzolona Cement (PPC)** का दर विभिन्न कम्पनियों से प्राप्त हुआ है। इस दर में शामिल GST को घटाकर प्रति बोरा दर अनुमोदित करने का निर्णय लिया गया। पटना के न्यूनतम दर के आधार पर, पूर्व से निर्धारित दर के अनुपात में अन्य जोनों के लिए दर प्राप्त किया गया।

समिति के द्वारा सर्वसम्मति से पूर्णविचारोपरान्त, संलग्न अनुसूची "M3A" के दर को अनुमोदित किया गया।

(iv) **Portland Slag Cement (PSC)** का दर विभिन्न सीमेंट निर्माता कम्पनी से प्राप्त हुआ है। इस दर में शामिल GST को घटाकर प्रति बोरा दर अनुमोदित करने का निर्णय लिया गया। P.S.C. के लिए प्राप्त पटना के न्यूनतम दर के आधार पर, पूर्व से निर्धारित दर के अनुपात में अन्य ज़ोन के दरों को भी निर्धारित करने का निर्णय लिया गया। समिति के द्वारा सर्वसम्मति से पूर्णविचारोपरान्त, संलग्न अनुसूची "M3B" के अनुसार P.S.C. के दर को अनुमोदित किया गया।

(v) **Portland Composite Cement (PCC) (IS 16415:2015)** का दर विभिन्न कम्पनियों से प्राप्त हुआ है। इस दर में शामिल GST को घटाकर प्रति बोरा दर अनुमोदित करने का निर्णय लिया गया। पटना के न्यूनतम दर के आधार पर, पूर्व से निर्धारित दर के अनुपात में अन्य ज़ोनों के लिए दर प्राप्त किया गया। समिति के द्वारा सर्वसम्मति से पूर्ण विचारोपरांत, संलग्न अनुसूची "M3C" के अनुसार PCC के दर को अनुमोदित किया गया।

4. श्रमिक कल्याण कोष हेतु 1% (एक प्रतिशत) सेस की कटौती से संबंधित श्रम विभाग, बिहार सरकार के पत्रांक 4984 दिनांक–01.10.2008 एवं संयोजक–सह–अभियंता प्रमुख के पत्रांक–746 (अनु0) दिनांक–25.02.2010 द्वारा दिये गये निर्देश का अनुपालन सुनिश्चित करने की जिम्मेदारी क्षेत्रीय पदाधिकारीयों की होगी।

इस अनुसूचित दर पुस्त के दर विश्लेषण में 1%(एक प्रतिशत) सेस की राशि सम्मिलित नहीं किया गया है।

5. (a) रेलवे द्वारा निर्माण सामग्री की ढुलाई का दर निर्धारण हेतु रेल मंत्रालय (रेलवे बोर्ड) भारत सरकार, महाप्रबंधक (परिचालन)/वाणिज्य के पत्रांक–2024/टी–टी III/27/1, नई दिल्ली दिनांक–**30.06.2025** के द्वारा माल ढुलाई हेतु Route Chart उपलब्ध कराया है जिसे क्षेत्रीय पदाधिकारी सभी Corrigendum/Amendment के साथ जाँचोपरांत व्यवहार में लायेगें। Route Chart की छाया प्रति इस अनुसूचित दर पुस्त में संलग्न कर दी गई है। Freight Rate से संबंधित रेल मंत्रालय भारत सरकार के पत्रांक–TCR/1078/2018/15, नई दिल्ली, दिनांक–31–10–2018 (Rate Circular No.-19 of 2018) एवं इस पत्र के साथ संलग्न Annexure-1, II & III के रूप में Freight Rate Table-2018 की प्रति इस अनुसूचित दर पुस्त में

Amendments के साथ संलग्न कर दी गई है। समय–समय पर रेलवे द्वारा निर्धारित निर्माण सामग्री की ढुलाई के अद्यतन दर को व्यवहार में लाया जा सकता है।

(b) MORT&H Standard Data Book में दिये गये "Carriage of Materials" के Calculation के अलावे रेलवे द्वारा निर्माण सामग्री की ढुलाई पर समिति के सदस्यों द्वारा विचार विमर्श किया गया। सर्वसम्मति से पूर्णविचारोपरान्त, सदस्यों द्वारा यह निर्णय लिया गया कि वैसे स्थल जहाँ पर रेलवे के द्वारा निर्माण सामग्रियों की ढुलाई संभव हो वहाँ पर Road एवं Railway दोनों के द्वारा Carriage of Materials का दर प्राप्त किया जाय तथा दोनों में से न्यूनतम दर को ही प्रयोग में लाया जाय।

The maximum lead to be considered as per T.E.C. Norms is as follows-

(i) For local Sand 3 Km with 1 km kuchcha road.

(ii) For brick 8 km with 1 km kuchcha road.

(iii) For Coarse Sand, Stone Metal, Stone chips, Moorum, Stone Boulder, Bitumen as per actual lead with Provision of kuchcha lead as per requirement of site condition.

6. **<u>Steel से संबंधित निर्माण सामग्रियो का दर</u>** :–

a. **G.C. Sheet** का दर :– G.C. Sheet का दर TATA से प्राप्त हुआ है। तद्नुसार समिति के द्वारा सर्वसम्मति से पूर्णविचारोपरान्त, अनुसूची "M5" के अनुसार अनुमोदित करने का निर्णय लिया गया।

b. **Wire rod in coil :-** Wire rod in coil के भिन्न–भिन्न व्यास का दर RINL से प्राप्त हुआ है। इसपर समिति के सदस्यों द्वारा विचार–विमर्श किया गया तथा RINL से प्राप्त दर बिना GST के समिति के द्वारा सर्वसम्मति से पूर्णविचारोपरान्त, अनुसूची "M6" के अनुसार अनुमोदित करने का निर्णय लिया गया।

c. **Steel Channel का दर** :– Steel Channel का दर RINL से प्राप्त हुआ है, तद्नुसार RINL से प्राप्त न्यूनतम दर बिना GST के समिति के द्वारा सर्वसम्मति से पूर्णविचारोपरान्त, अनुसूची "M8" के अनुसार अनुमोदित करने का निर्णय लिया गया।

d. **Steel Angles का दर** :– भिन्न–भिन्न आकार वाले Steel Angles का दर RINL से प्राप्त हुआ है। तद्नुसार RINL से प्राप्त न्यूनतम दर बिना GST के समिति के द्वारा सर्वसम्मति से पूर्णविचारोपरान्त, Schedule "M9" के अनुसार अनुमोदित करने का निर्णय लिया गया।

e. **TMT Bar (Fe 500D) का दर** :– TMT Bar का दर TATA, RINL, SAIL एवं Shyam Steel Industries ltd. से प्राप्त हुआ है। TATA, RINL, SAIL एवं Shyam Steel Industries ltd. से प्राप्त न्यूनतम दर बिना GST के समिति के द्वारा सर्वसम्मति से पूर्णविचारोपरान्त, Schedule "M10A" के अनुसार अनुमोदित करने का निर्णय लिया गया।

f. **Schedule M7:-** यह Steel Joist से संबंधित है। वर्तमान में इसका दर SAIL,TATA, RINL द्वारा नहीं दिया जा रहा है, अतः इसका वर्तमान में इस्तेमाल नहीं होने तथा दर के अनुपलब्धता के कारण इस पुस्तिका से विलोपित किया जा रहा है।

7. **<u>Plant & Machinery के दर पुनरीक्षण के संबंध में</u>** :– Plant & Machinery के अन्तर्गत 141 मद है। MORT&H Standard Data Book 2019 (2nd revised) के अनुसार

निर्माण कार्यों में प्रयुक्त होनेवाली मशीनों का दर Input के रूप में Oil & Lubricants के दर का प्रयोग कर MORT&H Online SOR Software (based on MORT&H Standard Data Book 2019) से downloaded दर के आधार पर अद्यतन किया गया है। इस आधार पर समिति के सभी सदस्यों द्वारा Plant & Machinery के दर को पूर्ण विचारोपरांत सर्वसम्मति से अनुसूची P&M/MORTH-1A के अनुसार अनुमोदित करने का निर्णय लिया गया।

8. **Carriage का दर पुनरीक्षण के संबंध में** :– Plant & Machinery के अद्यतन अनुमोदित दर (P&M/MoRTH-1A) एवं अद्यतन श्रम दर के आधार पर संलग्न अनुसूची "Carriage Rate of Materials by Tipper" एवं "Carriage Rate of Materials by Tractor" के अनुसार Carriage के दर को समिति के सदस्यों द्वारा पूर्ण विचारोपरांत सर्वसम्मति से अनुमोदित करने का निर्णय लिया गया।

9. **ईंट (Brick) एवं ईंट से संबंधित निर्माण सामग्रियों का दर पुनरीक्षण के संबंध में** :– विभिन्न ग्रेड के ईंट एवं ईंट से संबंधित निर्माण सामग्रियों के दर की मांग अभियंता प्रमुख, भवन निर्माण विभाग एवं सभी अधीक्षण अभियंता, पथ निर्माण विभाग से की गयी, लेकिन दर की प्राप्ति नहीं होने के कारण Office of Economic Adviser, Ministry of Commerce & Industry, भारत सरकार द्वारा निर्गत Plain Bricks के Wholesale Price Index के Moving Average के आधार पर ईंट एवं ईंट से निर्मित सामग्रियों के दर को समिति के सदस्यों द्वारा पूर्ण विचारोपरांत सर्वसम्मति से Schedule "M 11" के अनुसार अनुमोदित करने का निर्णय लिया गया।

10. **Coarse-Sand, स्टोन एवं स्टोन चिप्स से संबंधित निर्माण सामग्रियों का दर–पुनरीक्षण** :– पथ निर्माण विभाग (राष्ट्रीय उच्च पथ सहित) के लिए वर्ष 2026–27 के लिए प्रभावी होने वाले अनुसूचित दर में व्यवहृत स्टोन बोल्डर, स्टोन एग्रीगेट एवं बालू इत्यादि के अद्यतन दर की मांग क्षेत्रीय पदाधिकारियों से की गयी। क्षेत्रीय पदाधिकारियों द्वारा दर उपलब्ध नहीं कराने के कारण राज्यस्तरीय अनुसूचित दर निर्धारण समिति द्वारा स्टोन बोल्डर, स्टोन एग्रीगेट एवं बालू (M-001 से M-054 तक) के दर को Office of Economic Adviser, Ministry of Commerce & Industry, भारत सरकार द्वारा निर्गत Wholesale Price Index (Last updated on 14.01.2026) में Stone, Chips मद में रखते हुए Moving Average के आधार पर अद्यतन करने का निर्णय लिया गया। समिति द्वारा GSB Crusher Run (M-055) का दर Carriage के मद संख्या 1.07 (Crushing of stone-aggregates-GSB crusher run) के दर–विश्लेषण से प्राप्त दर के आधार पर अद्यतन करने का निर्णय लिया गया।

इस प्रकार समिति द्वारा सम्यक् विचारोपरान्त सर्वसम्मति से Coarse Sand, Stone-Boulder एवं Stone-Aggregates से संबंधित निर्माण सामग्रियों का दर अनुसूची M/MoRTH-1 के अनुसार M-001 से M-055 तक अनुमोदित करने का निर्णय लिया गया।

11. **MoRT&H Standard Data Book (2nd Revision) के कार्य मदों में व्यवहृत विभिन्न निर्माण सामग्रियों (Schedule-M/MoRTH-1A) के दर निर्धारण के संबंध में** :– Schedule-M/MoRTH-1A में निहित विभिन्न निर्माण सामग्रियों (M-056 से M-328 एवं MR-01 से MR-54) का दर क्षेत्रीय पदाधिकारियों द्वारा उपलब्ध नहीं कराने के कारण उनमें से कई मदों को समुचित श्रेणियों में रखते हुए Office of Economic Adviser, Ministry of Commerce and Industry, भारत सरकार द्वारा निर्गत Wholesale Price Index (last

updated on 14.01.2026) के Moving Average के आधार पर दरों को अद्यतन करने का निर्णय लिया गया है, जो निम्नवत है :–

Sl. No.	Item Code	Name of Commodity	% Increase/ Decrease in W.P.I
1	M-193	Alloy steel wire rods	(-) 3.712
2	M-059, 061, 306	Aluminium alloy	5.254
3	M- 065, 089, 126, 127 174, 180	Alloy steel castings	(-) 0.313
4	M-056	Asbestos Corrugated sheet	0.074
5	M- 062, 071, 072, 087, 091, 093, 099, 111, 112, 119, 133, 140, 143, 146, 153, 154, 155, 156, 157, 158, 160, 161, 162, 163, 164, 166, 167, 169, 182, 189, 190, 197, 218, 229, 234, 240, 242, 294, 299	All Commodities	0.622
6	M-086, 109, 128, 129, 159	Bolts, Screws, Nuts & Nails of Iron & steel	1.068
7	M-144, 324, 326	Cement blocks (Concrete)	4.425
8	M-186	Ceramic tiles (vitrified tiles)	3.859
9	M-080	Cast Iron, Castings	(-)0.101
10	M-120	Cordage/ropes/twines of Jute and coir	12.175
11	M-215	Explosive	1.443
12	M-095, 096, 097, 098	Epoxy, Liquids	0.241
13	M-085, 132	Fibres	1.956
14	M- 060, 101, 102, 239, 241	Galvanized iron pipes	(-)2.789
15	M-135	Insecticide and pesticide	1.298
16	M-066, 067, 068, 069, 070, 094, 142	Manufacture of Bearings, gears, gearing & Driving elements	1.730

17	M-084, 134, 148 to 152, 293, 323	Manufacture of articles of concrete, cement and plaster	0.757
18	M-217	Manufacture of electrical equipment	1.439
19	M-057, 058, 130, 131, 145, 192	Manufacture of paint, varnishes and similar coatings, printing ink and mastics	(-)1.680
20	M-104, 105, 106, 107, 108, 183, 200 to 214, 286 to 291, 301, 307 to 311	Manufacture of made up textile articles, except apparel	0.992
21	M-090	Manufacture of other non-metallic mineral products	0.898
22	M-063, 122, 123, 124, 194, 228	MS wire rods	(-) 2.498
23	M-092	Mild Steel (MS) flats & sheets	1.170
24	M-139	Nylon Rope	(-) 2.839
25	M- 199, 226	Plasticizer	(-) 6.861
26	M-079	Plain Bricks	4.438
27	M-113, 114, 137, 236, 237, 238, 302 to 304, 328	Plastic tube (Flexible/non - Flexible)	(-) 1.064
28	M-117, 136, 165, 292	Plastic Components	(-) 5.985
29	M-188	Polyethylene	0.359
30	M-141, 147, 170, 184	Stone, chips	3.336
31	M-171, 172, 175, 176, 177	Steel Pipes, tubes & poles	(-) 3.561
32	M-173	Steel Drums and Barrels	(-) 2.574
33	M-178, 179	Steel Cables	3.454
34	M-118	Stainless steel bars & rods, including flats.	(-) 3.919
35	M-088	Steel Structures	2.001
36	M-187, 195, 196, 198	Timber/wooden Plank, Sawn/ resawn	(-) 0.017

Schedule-M/MoRTH-1A के कुछ मदों का दर भवन निर्माण विभाग (दक्षिण बिहार अंचल) से प्राप्त दर के आधार पर अद्यतन किया गया है।

इस प्रकार समिति के सदस्यों द्वारा पूर्ण विचारोपरांत सर्वसम्मति से निर्माण सामग्रियों का दर अनुसूची M/MoRTH-1A के अनुसार अनुमोदित करने का निर्णय लिया गया।

12. <u>निर्माण कार्यो (सड़के, बाँध तथा सिंचाई कार्य) में नियोजित विभिन्न श्रेणी के मजदूरों का संशोधित न्यूनतम दैनिक मजदूरी के दर पुनरीक्षण हेतु लिये गये निर्णय</u> :–

(a) श्रम संसाधन विभाग, बिहार, पटना की अधिसूचना संख्या–5/एम०डब्लू०–40–16/2021–श्र०सं०–58/59 पटना, दिनांक 23.09.2025 एवं अधिसूचना संख्या–04/एम०डब्लू०–40–14/2025–श्र०सं०–56/57 पटना, दिनांक 23.09.2025 के आलोक में पथ निर्माण कार्यो में प्रयुक्त 72 प्रकार के विभिन्न कर्मियों तथा बांध निर्माण एवं सिंचाई कार्यो के लिये प्रयुक्त 71 प्रकार के कर्मियों के न्यूनतम दैनिक श्रम दर का अनुमोदन दिनांक–31.10.2025 की बैठक में सदस्यों द्वारा सर्वसम्मति से पूर्णविचारोपरांत अनुसूची–I एवं II के अनुसार करने का निर्णय लिया गया तथा समिति के सदस्यों द्वारा निर्णय लिया गया कि यह दर पथ निर्माण विभाग, भवन निर्माण विभाग, ग्रामीण कार्य विभाग, लोक स्वास्थ्य अभियंत्रण विभाग एवं अन्य कार्य विभाग के अंतर्गत कराये जानेवाले निर्माण कार्यो के उपयोग में भी लाया जा सकेगा।

(b) **<u>MoRT&H Standard Data Book 2019 (2nd Revision) के दर–विश्लेषण में व्यवहृत विभिन्न श्रेणी कै मजदूरों के दर–पुनरीक्षण हेतु लिये गये निर्णय</u>** :– समिति के सदस्यों द्वारा सर्वसम्मति से पूर्ण विचारोपरांत उक्त वर्णित क्रमांक–12 (a) पर अनुमोदित श्रमदर अनुसूची–I के आधार पर MoRT&H Standard Data Book 2019 के दर–विश्लेषण में व्यवहृत विभिन्न श्रेणी के मजदूरों के दरों को अनुसूचित दर पुस्त में INPUT के रूप में प्रयोग करने हेतु अनुसूची–III के अनुसार अनुमोदित करने का निर्णय लिया गया है। समिति के सदस्यों द्वारा सर्वसम्मति से यह निर्णय लिया गया है कि यह दर पथ निर्माण विभाग, भवन निर्माण विभाग, ग्रामीण कार्य विभाग, लोक स्वास्थ्य अभियंत्रण विभाग एवं अन्य कार्य विभाग के अन्तर्गत कराये जाने वाले निर्माण कार्यों के उपयोग में लाया जा सकता है।

13. <u>Cement Concrete Pavement (PQC) के Strength से संबंधित निर्णय</u> :– समिति द्वारा सम्यक् विचारोपरांत सर्वसम्मति से अनुसूचित दर पुस्त के मद संख्या–6.02 में Cement Concrete Pavement (PQC) का 28-day Minimum Flexural Strength 4.5 MPa एवं 28-day Compressive strength 40 (Forty) MPa अंकित करने का निर्णय लिया गया।

14. <u>MoRT&H Standard Data Book 2019 के Basic Input Parameters के अन्तर्गत समिति के सदस्यों द्वारा सर्वसम्मति से पूर्ण विचारोपरांत Lead इस प्रकार लेने का निर्णय लिया गया है</u> :–

(1) Lead from Mixing Plant to working site (L_1) = 1Km

(2) Lead for Earth Work borrow area to site (L_2) = 1 Km

15. MoRT&H Specification for Roads and Bridges work के Fifth Revision पर आधारित MoRT&H के Standard Data Book 2019 (for Analysis of Rates) का 2nd Revision प्राप्त है। इस अनुसूचित दर पुस्त का दर विश्लेषण Standard Data Book 2019 (2nd

Revision) के आधार पर करने का निर्णय पूर्णविचारोपरान्त सर्वसम्मति से समिति के सदस्यों द्वारा लिया गया।

16. **<u>Admixture</u> :-** Batching Plant, Transit Mixture एवं Concrete Pump के माध्यम से सीमेंट कंक्रीट की ढलाई करने पर आवश्यकतानुसार सक्षम प्राधिकार द्वारा अनुमोदित Design Mix की विशिष्टियों के अनुरूप Admixture (plasticizer, super plasticizer etc) का उपयोग किया जा सकता है तथा इसे तत्संबंधित मद–विशेष के दर विश्लेषण में पूर्व से Admixture शामिल नहीं रहने की स्थिति में सम्मिलित किया जा सकता है।

17. **<u>नई अनुसूचित दर पुस्त का अनुमोदन के संबंध में निर्णय</u>** :– पिछले वर्ष की भाँति इस वर्ष भी नये अनुसूचित दर पुस्त का प्रकाशन किया जाना है, जिस पर सदस्यों द्वारा विचार विमर्श किया गया तथा इसे अनुमोदित करते हुए दिनांक–01.04.2026 से लागू किये जाने का सर्वसम्मति से निर्णय लिया गया।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, भवन निर्माण
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
मुख्य अभियंता (असैनिक) बिहार
स्टेट पावर होल्डिंग कंपनी लि0,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख (विद्युत), भवन निर्माण
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख (मु०), लोक स्वास्थ्य
अभियंत्रण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख (मुख्यालय) जल संसाधन
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

राज्यस्तरीय अनुसूचित दर निर्धारण समिति की दिनांक–31.10.2025 की बैठक में निर्माण कार्यों (सड़कें, बाँध तथा सिंचाई कार्य) में नियोजित विभिन्न श्रेणी के मजदूरों का संशोधित न्यूनतम दैनिक मजदूरी का अनुमोदन :–

जुलाई–2024 से दिसम्बर–2024 तक का औसत मूल्य सूचकांक श्रम संसाधन विभाग, बिहार सरकार के अधिसूचना सं०–5/एम०डब्लू०–40–16/2021–श्र०सं०–1659 पटना/दिनांक– 28.03.2025 के अनुसार 9436.77 है। जनवरी–2025 से जून–2025 तक का औसत मूल्य सूचकांक श्रम संसाधन विभाग, बिहार सरकार के अधिसूचना सं०–5/एम डब्लू०–40–16/2021–श्र०सं०–58/59 पटना/दिनांक 23.09.2025 के अनुसार 9438.96 है।

सूचकांक में वृद्धि = 9438.96 – 9436.77 = 2.19

सूचकांक में प्रतिशत वृद्धि = 2.19 /9436.77 X 100 = 0.0232%

औसत मूल्य सूचकांक (जुलाई–2024 से दिसम्बर–2024 तक) पर आधारित न्यूनतम श्रम दर की सूची अनुसूची–'I' एवं 'II' के स्तम्भ '6' पर अंकित है। इसी स्तम्भ के अंकित दर में 0.023% वृद्धि कर न्यूनतम श्रम दर की गणना कर स्तम्भ '7' पर अंकित कर दी गयी है।

श्रम संसाधन विभाग, बिहार, पटना का अधिसूचना सं०–5/एम०डब्लू०–40–16/2021–श्र०सं०–58/59 पटना/दिनांक–23.09.2025 एवं अधिसूचना सं०–04/एम०डब्लू०–40–14/2025–श्र०सं०–56/57 पटना/दिनांक– 23.09.2025 के आलोक में अनुसूचित दर पुनरीक्षण हेतु उपर्युक्त वृद्धि को सम्मिलित करते हुए निर्माण कार्यों, सड़कें, बाँध निर्माण तथा सिंचाई कार्यों में नियोजित दैनिक मजदूरों के न्यूनतम दैनिक मजदूरी में संशोधन के लिए संलग्न अनुसूची–'I' तथा 'II' के स्तम्भ '7' के अनुसार राज्यस्तरीय अनुसूचित दर निर्धारण समिति द्वारा सहमति प्रदान की जाती है। यह दर पथ निर्माण विभाग, भवन निर्माण विभाग, ग्रामीण कार्य विभाग, लोक स्वास्थ्य अभियंत्रण विभाग एवं अन्य कार्य विभाग अंतर्गत कराये जाने वाले समरूप कार्यों के उपयोग में भी लाया जा सकेगा। Schedule-I के लिए Serial No.- 1, 70, 71 एवं 72 पर अंकित श्रमदर, श्रम संसाधन विभाग का अधिसूचना सं०–5/एम०डब्लू०–40–16/2021–श्र०सं०–58/59 पटना/दिनांक– 23.09.2025 में अंकित श्रम दर के अनुसार लिया गया है, कुछ श्रम दर, श्रम संसाधन विभाग के उक्त अधिसूचना में अंकित औसत मूल्य सूचकांक में परिवर्तन के आधार पर संगणित किया गया है एवं शेष श्रम दर श्रम संसाधन विभाग के अधिसूचना सं०–04/एम०डब्लू०–40–14/2025– श्र०सं०–56/57 पटना/दिनांक–23.09.2025 के श्रमिकों के कोटिवार वर्गीकरण के आधार पर लिया गया है। उसी प्रकार Schedule-II के लिए क्रमांक 1, 69, 70 एवं 71 पर अंकित श्रमदर, श्रम संसाधन विभाग का अधिसूचना सं०–5/एम०डब्लू०–40–16/2021–श्र०सं०–58/59 पटना/दिनांक– 23.09.2025 में अंकित श्रम दर के अनुसार लिया गया है, कुछ श्रम दर श्रम संसाधन विभाग के उक्त अधिसूचना में अंकित औसत मूल्य सूचकांक में परिवर्तन के आधार पर संगणित किया गया है एवं शेष श्रम दर श्रम संसाधन विभाग के अधिसूचना सं०–04/एम०डब्लू०–40–14/2025– श्र०सं०–56/57 पटना/दिनांक–23.09.2025 के श्रमिकों के कोटिवार वर्गीकरण के आधार पर लिया गया है। इसके अतिरिक्त MoRT&H Standard Data Book 2019 (2nd Revision) के दर वि"लेषण में प्रयुक्त होने वाले श्रमदर

Schedule-III के अनुसार, जो Schedule-I पर आधारित है। समिति के सदस्यों द्वारा सर्वसम्मति से अनुमोदन करने का निर्णय लिया गया। विशेष जानकारी हेतु श्रम संसाधन विभाग, बिहार सरकार का अधिसूचना सं०–5 / एम०डब्लू०–40– 16 / 2021–श्र०सं०–58 / 59 पटना / दिनांक–23.09.2025 एवं अधिसूचना सं०–04 / एम०डब्लू०–40– 14 / 2025–श्र०सं०–56 / 57 पटना / दिनांक–23.09.2025 द्रष्टव्य।

उक्त दर (Schedule-I, II, III) श्रम संसाधन विभाग, बिहार, पटना की अधिसूचना सं०–5 / एम०डब्लू०–40– 16 / 2021–श्र०सं०–58 / 59 पटना / दिनांक–23.09.2025 में अंकित तिथि 01.10.2025 से प्रभावी होगा।

अनु०– Schedule- I, II एवं III

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, भवन निर्माण
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
मुख्य अभियंता (असैनिक) बिहार
स्टेट पावर होल्डिंग कंपनी लि0,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख (विद्युत), भवन निर्माण
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, लोक स्वास्थ्य
अभियंत्रण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख मुख्यालय जल संसाधन
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

SCHEDULE - I						Date:- 31.10.2025
Approved Schedule of Rates for labour engaged in construction & maintenance of Roads						
Sl. No.	**Category of Employees**	**Minimum Rates of wages per day as per**				
		Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 5362 Dated 27.09.2023	Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 1496 Dated 14.03.2024	Lab. Deptt. Notification No. 5/MW.40-18/2021-L&R 14 Dated 25.10.2024	Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 1659 Dated 28.03.2025	Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 59 Dated 23.09.2025
1	**2**	**3**	**(1.0355x cl.3) 4**	**(1.0059x cl.4) 5**	**(1.0281x cl.5) 6**	**(1.00023x cl.6) 7**
1	Unskilled labour	395.00	410.00	412.00	424.00	428.00
2	Sweeper	395.00	410.00	412.00	424.00	428.00
3	Mistry	395.00	410.00	412.00	424.00	541.00
4	Cleaner	395.00	410.00	412.00	424.00	428.00
5	Helper	395.00	410.00	412.00	424.00	444.00
6	Khalasi/Chainman	395.00	410.00	412.00	424.00	444.00
7	Marker	498.00	516.00	519.00	534.00	534.00
8	Fitter grade-I	539.00	558.00	561.00	577.00	660.00
	Fitter grade-II	474.00	491.00	494.00	508.00	541.00
9	Turner	474.00	491.00	494.00	508.00	508.00
10	Mechanic grade-I	608.00	630.00	634.00	652.00	660.00
	Mechanic grade-II	566.00	586.00	589.00	606.00	541.00
11	Electrician grade-I	502.00	520.00	523.00	538.00	660.00
	Electrician grade-II	474.00	491.00	494.00	508.00	541.00
12	Lineman/Wireman	454.00	470.00	473.00	486.00	541.00
13	Chargeman	566.00	586.00	589.00	606.00	606.00
14	Foreman	668.00	692.00	696.00	716.00	541.00
15	Welder grade-I	595.00	616.00	620.00	637.00	660.00
	Welder grade-II	502.00	520.00	523.00	538.00	541.00
16	Glazier	441.00	457.00	460.00	473.00	473.00
17	Carpenter	474.00	491.00	494.00	508.00	541.00
18	Head Carpenter	531.00	550.00	553.00	569.00	660.00
19	Checker	479.00	496.00	499.00	513.00	513.00
20	Hammerman	415.00	430.00	433.00	445.00	444.00
21	Tin smith	539.00	558.00	561.00	577.00	577.00
22	Tin plate maker	566.00	586.00	589.00	606.00	606.00
23	Black Smith	474.00	491.00	494.00	508.00	541.00
24	Head black smith	531.00	550.00	553.00	569.00	660.00
25	Tile layer	419.00	434.00	437.00	449.00	449.00
26	Thatcher	419.00	434.00	437.00	449.00	444.00
27	Plumber	502.00	520.00	523.00	538.00	541.00
28	Grader	479.00	496.00	499.00	513.00	513.00
29	Road binder	441.00	457.00	460.00	473.00	473.00
30	Mason	474.00	491.00	494.00	508.00	541.00
31	Head Mason	531.00	550.00	553.00	569.00	660.00
32	Stone layer	474.00	491.00	494.00	508.00	508.00
33	Tarman	415.00	430.00	433.00	445.00	445.00
34	Fireman	419.00	434.00	437.00	449.00	541.00
35	Grinder	474.00	491.00	494.00	508.00	444.00
36	Gas cutter	498.00	516.00	519.00	534.00	534.00

SCHEDULE - I Date:- 31.10.2025						
Approved Schedule of Rates for labour engaged in construction & maintenance of Roads						
Sl. No.	Category of Employees	Minimum Rates of wages per day as per				
		Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 5362 Dated 27.09.2023	Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 1496 Dated 14.03.2024	Lab. Deptt. Notification No. 5/MW.40-18/2021-L&R 14 Dated 25.10.2024	Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 1659 Dated 28.03.2025	Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 59 Dated 23.09.2025
1	**2**	**3**	**(1.0355x cl.3) 4**	**(1.0059x cl.4) 5**	**(1.0281x cl.5) 6**	**(1.00023x cl.6) 7**
37	Rigger	479.00	496.00	499.00	513.00	541.00
38	Sarang	566.00	586.00	589.00	606.00	606.00
39	Chipper-cum-rivetter	498.00	516.00	519.00	534.00	534.00
40	Tractor operator	566.00	586.00	589.00	606.00	541.00
41	Dozer operator grade-I	668.00	692.00	696.00	716.00	660.00
	Dozer operator grade-II	595.00	616.00	620.00	637.00	541.00
42	Dumper operator	568.00	588.00	591.00	608.00	541.00
43	Viberator Operator	439.00	455.00	458.00	471.00	541.00
44	Pump driver grade-I	502.00	520.00	523.00	538.00	541.00
	Pump driver grade-II	474.00	491.00	494.00	508.00	444.00
45	Dragline operator grade-I	668.00	692.00	696.00	716.00	660.00
	Dragline operator grade-II	595.00	616.00	620.00	637.00	541.00
46	Concrete mixer operator grade-I	502.00	520.00	523.00	538.00	660.00
	Concrete mixer operator grade-II	474.00	491.00	494.00	508.00	541.00
47	Compressor operator grade-I	502.00	520.00	523.00	538.00	660.00
	Compressor operator grade-II	474.00	491.00	494.00	508.00	541.00
48	Earth excavator					
	(a) For every 110 cu. ft for soft earth	390.00	404.00	406.00	417.00	444.00
	(b) For every 100 cu. ft for hard earth	390.00	404.00	406.00	417.00	444.00
	(c) For every 90 cu. ft for highly hard earth	390.00	404.00	406.00	417.00	444.00
49	Truck driver	566.00	586.00	589.00	606.00	660.00
50	Car/Jeep driver	498.00	516.00	519.00	534.00	541.00
51	Crane operator grade-I	668.00	692.00	696.00	716.00	660.00
	Crane operator grade-II	595.00	616.00	620.00	637.00	541.00
52	Winch operator	502.00	520.00	523.00	538.00	541.00
53	Road roller driver	683.00	707.00	711.00	731.00	660.00
54	Blaster	653.00	676.00	680.00	699.00	699.00
55	Painter grade-I	502.00	520.00	523.00	538.00	541.00
56	Polisher	419.00	434.00	437.00	449.00	449.00
57	Peon / Darvan / Choukidar	415.00	430.00	433.00	445.00	444.00
58	Clerk / Typist / Typist clerk	466.00	483.00	486.00	500.00	541.00
59	Time keeper	466.00	483.00	486.00	500.00	500.00
60	Store Assistant / Storeman	504.00	522.00	525.00	540.00	444.00
61	Store head	482.00	499.00	502.00	516.00	541.00
62	Material chaser	482.00	499.00	502.00	516.00	516.00
63	Mate and Road mate	419.00	434.00	437.00	449.00	444.00
64	Munshi	439.00	455.00	458.00	471.00	541.00
65	Work Supervisor	441.00	457.00	460.00	473.00	541.00
66	Amin	466.00	483.00	486.00	500.00	500.00
67	Surveyer	479.00	496.00	499.00	513.00	541.00

SCHEDULE - I						Date:- 31.10.2025
Approved Schedule of Rates for labour engaged in construction & maintenance of Roads						
Sl. No.	**Category of Employees**	**Minimum Rates of wages per day as per**				
		Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 5362 Dated 27.09.2023	Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 1496 Dated 14.03.2024	Lab. Deptt. Notification No. 5/MW.40-18/2021-L&R 14 Dated 25.10.2024	Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 1659 Dated 28.03.2025	Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 59 Dated 23.09.2025
1	**2**	**3**	**(1.0355x cl.3) 4**	**(1.0059x cl.4) 5**	**(1.0281x cl.5) 6**	**(1.00023x cl.6) 7**
68	Supervisory diploma holder	639.00	662.00	666.00	685.00	660.00
69	Supervisory non-diploma holder	474.00	491.00	494.00	508.00	541.00
70	Any other category of semi-skilled workers not mentioned above	411.00	426.00	428.00	440.00	444.00
71	Any other category of skilled workers not mentioned above	500.00	519.00	521.00	536.00	541.00
72	Highly skilled labour	611.00	634.00	636.00	654.00	660.00

Note :- 1. The above rates has been calculated as 0.023 % increase vide Labour Dept. Memo No. 58/59 Dtd. .23.09.2025 i.e (1.00023* column 6). And Labour Dept. Memo No.56/57 Dtd. .23.09.2025

2. The above rates will be effective from 01.10.2025

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, भवन निर्माण
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
मुख्य अभियंता (असैनिक) बिहार
स्टेट पावर होल्डिंग कंपनी लि0,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख (विद्युत), भवन निर्माण
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, लोक स्वास्थ्य
अभियंत्रण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख मुख्यालय जल संसाधन
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

SCHEDULE - II						Date:- 31.10.2025
Approved Schedule of Rates for labour engaged in Dam construction & Irrigation works						
Sl. No.	**Category of Employees**	**Minimum Rate of wages per day as per**				
		Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 5362 Dated 27.09.2023	**Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 1496 Dated 14.03.2024**	**Lab. Deptt. Notification No. 5/MW.40-18/2021-L&R 14 Dated 25.10.2024**	**Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 1659 Dated 28.03.2025**	**Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 59 Dated 23.09.2025**
1	2	**3**	**(1.0355x cl.3) 4**	**(1.0059x cl.4) 5**	**(1.0281x cl.5) 6**	**(1.00023x cl.6) 7**
1	**Unskilled labour**	395.00	410.00	412.00	424.00	428.00
2	Mate	425.00	440.00	443.00	455.00	444.00
3	Head Mason	531.00	550.00	553.00	569.00	660.00
4	Mason	474.00	491.00	494.00	508.00	541.00
5	Printer Class-I	502.00	520.00	523.00	538.00	538.00
6	Printer Class-II	474.00	491.00	494.00	508.00	508.00
7	Head Carpenter	531.00	550.00	553.00	569.00	660.00
8	Carpenter	474.00	491.00	494.00	508.00	541.00
9	Head black smith	531.00	550.00	553.00	569.00	660.00
10	Black Smith	474.00	491.00	494.00	508.00	541.00
11	Glazier	419.00	434.00	437.00	449.00	449.00
12	Stone Dresser	502.00	520.00	523.00	538.00	541.00
13	Water Carrier	390.00	404.00	406.00	417.00	417.00
14	Fitter Class-I	539.00	558.00	561.00	577.00	660.00
15	Fitter Class-II	474.00	491.00	494.00	508.00	541.00
16	Helper	415.00	430.00	433.00	445.00	444.00
17	Hammer man	415.00	430.00	433.00	445.00	444.00
18	Bellowman	390.00	404.00	406.00	417.00	417.00
19	Road Roller Driver	683.00	707.00	711.00	731.00	660.00
20	Concrete Mixer Operator, Class-I	502.00	520.00	523.00	538.00	660.00
21	Concrete Mixer Operator, Class-II	474.00	491.00	494.00	508.00	541.00
22	Stone Crusher Driver, Class-I	502.00	520.00	523.00	538.00	660.00
23	Stone Crusher Driver, Class-II	474.00	491.00	494.00	508.00	541.00
24	Truck Driver	566.00	586.00	589.00	606.00	660.00
25	Compresser Operator, Class-I	502.00	520.00	523.00	538.00	660.00
26	Compresser Operator, Class-II	474.00	491.00	494.00	508.00	541.00
27	Pump Driver, Class-I	502.00	520.00	523.00	538.00	541.00
28	Pump Driver, Class-II	474.00	491.00	494.00	508.00	444.00
29	Concrete Mixer Attendant	415.00	430.00	433.00	445.00	444.00
30	Cleaner or Oilman	403.00	417.00	419.00	431.00	444.00
31	TarBoiler Man	474.00	491.00	494.00	508.00	541.00
32	Plumber	502.00	520.00	523.00	538.00	541.00
33	Thatcher	419.00	434.00	437.00	449.00	444.00
34	Khalasi / Chainman	419.00	434.00	437.00	449.00	444.00
35	Sweeper	403.00	417.00	419.00	431.00	428.00
36	Watchman	403.00	417.00	419.00	431.00	444.00
37	Stone Breaker	403.00	417.00	419.00	431.00	444.00
38	Work Sarkar	441.00	457.00	460.00	473.00	541.00
39	Time Keeper	466.00	483.00	486.00	500.00	500.00
40	Welder, Grade-I	595.00	616.00	620.00	637.00	660.00
41	Welder, Grade-II	502.00	520.00	523.00	538.00	541.00
42	Wireman/Lineman	454.00	470.00	473.00	486.00	541.00
43	Mechanic, Grade-I	608.00	630.00	634.00	652.00	660.00
44	Mechanic, Grade-II	566.00	586.00	589.00	606.00	541.00
45	Sarang	566.00	586.00	589.00	606.00	606.00
46	Drill Operator	474.00	491.00	494.00	508.00	541.00
47	Tractor Operator	566.00	586.00	589.00	606.00	541.00
48	Gauge Reader-cum-silt Observer	415.00	430.00	433.00	445.00	445.00
49	Crane Operator, Grade-I	668.00	692.00	696.00	716.00	660.00
50	Crane Operator, Grade-II	595.00	616.00	620.00	637.00	541.00
51	Dragline / Scraper / Showel Operator Grade-I	668.00	692.00	696.00	716.00	660.00
52	Dragline/Scraper/Showel Operator Grade-II	595.00	616.00	620.00	637.00	541.00
53	Dumper Operator	568.00	588.00	591.00	608.00	541.00
54	Foreman	668.00	692.00	696.00	716.00	541.00
55	Junior Forman	595.00	616.00	620.00	637.00	444.00
56	Chargeman	568.00	588.00	591.00	608.00	608.00
57	Electrician, Grade-I	502.00	520.00	523.00	538.00	660.00
58	Electrician, Grade-II	474.00	491.00	494.00	508.00	541.00

SCHEDULE - II						Date:- 31.10.2025
Approved Schedule of Rates for labour engaged in Dam construction & Irrigation works						
Sl. No.	**Category of Employees**	**Minimum Rate of wages per day as per**				
		Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 5362 Dated 27.09.2023	**Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 1496 Dated 14.03.2024**	**Lab. Deptt. Notification No. 5/MW.40-18/2021-L&R 14 Dated 25.10.2024**	**Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 1659 Dated 28.03.2025**	**Lab. Deptt. Notification No. 5/MW.40-16/2021-L&R 59 Dated 23.09.2025**
1	**2**	**3**	**(1.0355x cl.3) 4**	**(1.0059x cl.4) 5**	**(1.0281x cl.5) 6**	**(1.00023x cl.6) 7**
59	Electrician, Grade-III	415.00	430.00	433.00	445.00	445.00
60	Turner	474.00	491.00	494.00	508.00	508.00
61	Compounder	474.00	491.00	494.00	508.00	660.00
62	Superviser / (Diploma holder)	639.00	662.00	666.00	685.00	660.00
63	Surveyer / Supervisor	474.00	491.00	494.00	508.00	541.00
64	Blue Printer	415.00	430.00	433.00	445.00	445.00
65	Tracer	415.00	430.00	433.00	445.00	445.00
66	Vibrator Operator	439.00	455.00	458.00	471.00	541.00
67	Clerk / Typist / Typist Clerk	466.00	483.00	486.00	500.00	541.00
68	Earth Excavator,					
	(a) For every 110 cubic feet of soft earth	390.00	404.00	406.00	417.00	444.00
	(b) For every 100 cubic feet of hard earth	390.00	404.00	406.00	417.00	444.00
	(c) For every 90 cubic feet of highly hard earth	390.00	404.00	406.00	417.00	444.00
69	Any other category of semi-skilled workers not mentioned above	411.00	426.00	428.00	440.00	444.00
70	Any other category of skilled workers not mentioned above	500.00	519.00	521.00	536.00	541.00
71	Highly skilled labour	611.00	634.00	636.00	654.00	660.00

Note :- 1.The above rates has been calculated as 0.023 % increase vide Labour Dept. Memo No.58/59 Dtd. 23.09.2025 i.e (1.00023* column 6) andLabour Dept. Memo No.56/57 Dtd. 23.09.2025

2. The above rates will be effective from 01.10.2025

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, भवन निर्माण
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
मुख्य अभियंता (असैनिक) बिहार
स्टेट पावर होल्डिंग कंपनी लि0,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख (विद्युत), भवन निर्माण
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, लोक स्वास्थ्य
अभियंत्रण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख मुख्यालय जल संसाधन
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

SCHEDULE -III			Date 31.10.2025
Approved Input of new Labour wages for the preparation of Schedule of Rate RCD Bihar, in prescribed format of revised MORT&H Standard Data Book 2019(2nd Revision)			
S.No.	**Description of Labour**	**Unit**	**Approved Rate**
1	**2**	**3**	**4**
L-01	Blacksmith (IInd class)	day	541.00
L-02	Blacksmith (Ist class)/ Welder/ Plumber/ Electrician	day	660.00
L-03	Blaster (Stone cutter)	day	699.00
L-04	Carpenter I Class	day	660.00
L-05	Chiseller (Head Mazdoor)	day	660.00
L-06	Driller (Jumper)	day	444.00
L-07	Diver	day	660.00
L-08	Fitter	day	541.00
L-09	Mali	day	444.00
L-10	Mason (IInd class)	day	541.00
L-11	Mason (Ist class)	day	660.00
L-12	Mate / Supervisor	day	444.00
L-13	Mazdoor	day	428.00
L-14	Mazdoor/Dresser (Semi Skilled)	day	444.00
L-15	Mazdoor/Dresser/Sinker (Skilled)	day	541.00
L-16	Medical Officer	day	660.00
L-17	Operator(grouting)	day	660.00
L-18	Painter I class	day	541.00
L-19	Para medical personnel	day	660.00
L-20	Heavy Plant Operator	day	660.00
L-21	Light Plant Operator.	day	541.00
L-22	Heavy Vehicle Driver.	day	660.00
L-23	Light Vehicle Driver.	day	541.00
L-24	Helper	day	444.00
L-25	Black smith	day	541.00

Note :- The above rates are based on Schedule-I

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, भवन निर्माण
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
मुख्य अभियंता (असैनिक) बिहार
स्टेट पावर होल्डिंग कंपनी लि0,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख (विद्युत), भवन निर्माण
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, लोक स्वास्थ्य
अभियंत्रण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख मुख्यालय जल संसाधन
विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

Schedule : M1 Date: 21.01.2026

List of Rates of Ordinary Portland Cement approved by State Level Schedule Rate Committee for the year 2026-27 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.

Rates are exclusive of GST @ 18%, Overhead Charges & Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Zones	Approved Rate	
				in figure (Rs)	in words
1	2	3	4	5	6
1	**Ordinary Portland Cement**	Per bag of 50 Kg	Patna	**288.10**	Rupees Two Hundred Eighty Eight and paise Ten Only.
	(O.P.C. - 43 Grade)		Muzaffarpur	**283.70**	Rupees Two Hundred Eighty Three and paise Seventy Only.
			Darbhanga	**288.10**	Rupees Two Hundred Eighty Eight and paise Ten Only.
			Bhagalpur	**283.70**	Rupees Two Hundred Eighty Three and paise Seventy Only.
			Munger	**283.70**	Rupees Two Hundred Eighty Three and paise Seventy Only.
			Saharsa	**288.10**	Rupees Two Hundred Eighty Eight and paise Ten Only.
			Purnea	**288.10**	Rupees Two Hundred Eighty Eight and paise Ten Only.
			Gaya	**272.70**	Rupees Two Hundred Seventy Two and paise Seventy Only.
			Saran	**283.20**	Rupees Two Hundred Eighty Three and paise Twenty

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि0, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, (मुख्यालय) जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

Schedule : M3A **Date: 21.01.2026**

List of Rates of Portland Pozzolana Cement approved by State Level Schedule Rate Committee for the year 2026-27 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.

Rates are exclusive of GST @ 18%, Overhead Charges & Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Zones	Approved Rate	
				in figure (Rs.)	in words
1	2	3	4	5	6
1	**Portland Pozzolana Cement (P.P.C.)**	Per bag of 50 Kg	Patna	**211.90**	Rupees Two Hundred Eleven and paise Ninety Only.
			Muzaffarpur	**204.70**	Rupees Two Hundred Four and paise Seventy Only.
			Darbhanga	**204.70**	Rupees Two Hundred Four and paise Seventy Only.
			Bhagalpur	**211.90**	Rupees Two Hundred Eleven and paise Ninety Only.
			Munger	**210.10**	Rupees Two Hundred Ten and paise Ten Only.
			Saharsa	**208.50**	Rupees Two Hundred Eight and paise Fifty Only.
			Purnea	**215.10**	Rupees Two Hundred Fifteen and paise Ten Only
			Gaya	**186.40**	Rupees One Hundred Eighty Six and paise Forty Only.
			Saran	**207.00**	Rupees Two Hundred Seven and paise Zero Only.

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि०, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, (मुख्यालय) जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

RCD/SOR_20th Edition_2026

Schedule : M3B

Date: 21.01.2026

List of Rates of Portland Slag Cement approved by State Level Schedule Rate Committee for the year 2026-27 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.

Rates are exclusive of GST @ 18%, Overhead Charges & Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Zones	Approved Rate	
				in figure (Rs)	in words
1	2	3	4	5	6
1	**Portland Slag Cement (P.S.C.)**	Per bag of 50 Kg	Patna	**233.10**	Rupees Two Hundred Thirty Three and paise Ten Only.
			Muzaffarpur	**231.80**	Rupees Two Hundred Thirty One and paise Eighty Only.
			Darbhanga	**227.10**	Rupees Two Hundred Twenty Seven and paise Ten Only.
			Bhagalpur	**232.40**	Rupees Two Hundred Thirty Two and paise Forty Only.
			Munger	**223.80**	Rupees Two Hundred Twenty Three and paise Eighty Only
			Saharsa	**230.90**	Rupees Two Hundred Thirty and paise Ninety Only.
			Purnea	**227.10**	Rupees Two Hundred Twenty Seven and paise Ten Only.
			Gaya	**222.80**	Rupees Two Hundred Twenty Two and paise Eighty Only.
			Saran	**229.30**	Rupees Two Hundred Twenty Nine and paise Thirty Only.

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि0, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, (मुख्यालय) जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

Schedule : M3C

Date: 21.01.2026

List of Rates of Portland Composite Cement approved by State Level Schedule Rate Committee for the year 2026-27 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.

Rates are exclusive of GST @ 18%, Overhead Charges & Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Zones	Approved Rate	
				in figure (Rs)	in words
1	2	3	4	5	6
1	**Portland Composite Cement (P.C.C.)**	Per bag of 50 Kg	Patna	**220.30**	Rupees Two Hundred Twenty and paise Thirty Only.
			Muzaffarpur	**220.30**	Rupees Two Hundred Twenty and paise Thirty Only.
			Darbhanga	**220.30**	Rupees Two Hundred Twenty and paise Thirty Only.
			Bhagalpur	**220.30**	Rupees Two Hundred Twenty and paise Thirty Only.
			Munger	**220.30**	Rupees Two Hundred Twenty and paise Thirty Only.
			Saharsa	**220.30**	Rupees Two Hundred Twenty and paise Thirty Only.
			Purnea	**220.30**	Rupees Two Hundred Twenty and paise Thirty Only.
			Gaya	**220.30**	Rupees Two Hundred Twenty and paise Thirty Only.
			Saran	**220.30**	Rupees Two Hundred Twenty and paise Thirty Only.

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि0, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, (मुख्यालय) जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

RCD/SOR_20th Edition_2026

Schedule : M4

Date: 21.01.2026

List of Rates of Different Grades of Bitumen & Bitumen Emulsion approved by State Level Schedule Rate Committee for the year 2026-27 (for the preparation of Schedule of Rates only). Materials should confirm to relevant BIS/IRC/MORT&H Specifications.

Rates are exclusive of GST @ 18%, Overhead Charges and Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Approved Rate	
			in figure (Rs.)	in words
1	2	3	4	5
1	**Bitumen Grade VG-40(30/40)Packed**			
	(i) Ex. Barauni	Per MT	**63569.00**	Rupees Sixty Three Thousand Five Hundred Sixty Nine and Paise Zero Only.
	(ii) Ex. Muzaffarpur	Per MT	**61320.00**	Rupees Sixty One Thousand Three Hundred Twenty and Paise Zero Only.
	(iii) Ex. Fatuha / Patna	Per MT	**60920.00**	Rupees Sixty Thousand Nine Hundred Twenty and Paise Zero Only.
	(iv) Ex. Gaya	Per MT	**60724.00**	Rupees Sixty Thousand Seven Hundred Twenty Four and Paise Zero Only.
2	**Bitumen Grade VG-30(60/70) Packed**			
	(i) Ex. Barauni	Per MT	**57448.00**	Rupees Fifty Seven Thousand Four Hundred Forty Eight and Paise Zero Only.
	(ii) Ex. Gaya	Per MT	**58024.00**	Rupees Fifty Eight Thousand Twenty Four and Paise Zero Only.
	(iii) Ex. Fatuha /Patna	Per MT	**57466.00**	Rupees Fifty Seven Thousand FourHundred Sixty Six and Paise Zero Only.
	(iv) Ex. Muzaffarpur	Per MT	**57448.00**	Rupees Fifty Seven Thousand Four Hundred Forty Eight and Paise Zero Only.
3	**Bitumen Grade VG-10(80/100) Packed**			
	(i) Ex. Barauni	Per MT	**55548.00**	Rupees Fifty Five Thousand Five Hundred Forty Eight and Paise Zero Only
	(ii) Ex. Gaya	Per MT	**56224.00**	Rupees Fifty Six Thousand Two Hundred Twenty Four and Paise Zero Only
	(iii) Ex. Fatuha /Patna	Per MT	**55566.00**	Rupees Fifty Five Thousand Five Hundred Sixty Six and Paise Zero Only
	(iv) Ex. Muzaffarpur	Per MT	**55548.00**	Rupees Fifty Five Thousand Five Hundred Forty Eight and Paise Zero Only
4	**Bitumen Grade VG-40(30/40) Bulk**			
	(i) Ex. Barauni	Per MT	**50372.00**	Rupees Fifty Thousand Three Hundred Seventy Two and Paise Zero Only.
5	**Bitumen Grade VG-30(60/70) Bulk**			
	(i) Ex. Barauni	Per MT	**47882.00**	Rupees Forty Seven Thousand Eight Hundred Eighty Two and Paise Zero Only.
6	**Bitumen Grade VG-10(80/100) Bulk**			
	(i) Ex. Barauni		-	
7	**Modified Graded Bitumen**			
	(i) CRMB-55 Packed Ex. Gaya	Per MT	**60134.00**	Rupees Sixty Thousand One Hundred Thirty Four and Paise Zero Only.
	(ii) CRMB-55 Packed Ex.Fatuha / Patna	Per MT	**60330.00**	Rupees Sixty Thousand Three Hundred Thirty and Paise Zero Only.
	(iii) CRMB-55 Packed Ex. Muzaffarpur	Per MT	**60730.00**	Rupees Sixty Thousand Seven Hundred Thirty and Paise Zero Only.
8	**Bitumen Emulsion RS1(Packed) HDPE**			
	(i) Ex. Patna	Per MT	**53201.00**	Rupees Fifty Three Thousand Two Hundred One and Paise Zero Only.
	(ii) Ex. Gaya	Per MT	**56256.00**	Rupees Fifty Six Thousand Two Hundred Fifty Six and Paise Zero Only.
	(iii) Ex. Muzaffarpur	Per MT	**56256.00**	Rupees Fifty Six Thousand Two Hundred Fifty Six and Paise Zero Only.
9	**Bitumen Emulsion MS(Packed) HDPE**			
	(i) Ex. Patna	Per MT	**56238.00**	Rupees Fifty Six Thousand Two Hundred Thirty Eight and Paise Zero Only.
	(ii) Ex. Gaya	Per MT	**59262.00**	Rupees Fifty Nine Thousand Two Hundred Sixty Two and Paise Zero Only.
	(iii) Ex. Muzaffarpur	Per MT	**59262.00**	Rupees Fifty Nine Thousand Two Hundred Sixty Two and Paise Zero Only.
10	**Bitumen Emulsion SS1(Packed) HDPE**			
	(i) Ex. Patna	Per MT	**54349.00**	Rupees Fifty Four Thousand Three Hundred Forty Nine and Paise Zero Only.
	(ii) Ex. Gaya	Per MT	**57244.00**	Rupees Fifty Seven Thousand Two Hundred Forty Four and Paise Zero Only.
	(iii) Ex. Muzaffarpur	Per MT	**57244.00**	Rupees Fifty Seven Thousand Two Hundred Forty Four and Paise Zero Only.

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि0, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय) जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

Schedule : M5

Date: 21.01.2026

Approved rate of G.C. Sheet by State Level Schedule Rate Committee for the year 2026- 27 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.

Rates are exclusive of GST @ 18%, Overhead Charges and Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Approved Rate	
			in figure (Rs)	in words
1	2	3	4	5
	G. C. Sheet in mm			
1	0.80	Per MT	81442.37	Rupees Eighty One Thousand Four Hundred Forty Two and Paise Thirty Seven Only.
2	0.63	Per MT	80744.92	Rupees Eighty Thousand Seven Hundred Forty Four and Paise Ninety Two Only.
3	0.50	Per MT	82354.24	Rupees Eighty Two Thousand Three Hundred Fifty Four and Paise Twenty Four Only.
4	0.40	Per MT	85305.08	Rupees Eighty Five Thousand Three Hundred Five and Paise Eight Only.
5	0.35	Per MT	87450.85	Rupees Eighty Seven Thousand Four Hundred Fifty and Paise Eighty Five Only.

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि0, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, (मुख्यालय) जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

Schedule : M6

Date: 21.01.2026

Approved rate of Steel - Wire Rod in Coil by State Level Schedule Rate Committee for the year 2026- 27 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.

Rates are exclusive of GST @ 18%, Overhead Charges and Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Approved Rate	
			in figure (Rs)	in words
1	2	3	4	5
	Wire Rod in Coil			
1	5.5 mm		-	
2	7.0 mm	Per MT	50050.00	Rupees Fifty Thousand Fifty and Paise Zero Only.
3	8.0 mm	Per MT	50050.00	Rupees Fifty Thousand Fifty and Paise Zero Only.

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि0, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, (मुख्यालय) जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

Schedule : M8

Date: 21.01.2026

Approved rate of Steel Channel by State Level Schedule Rate Committee for the year 2026 - 27 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.

Rates are exclusive of GST @ 18%, Overhead Charges and Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Approved Rate	
			in figure (Rs)	in words
1	2	3	4	5
	STEEL CHANNEL			
1	Channel 75 x 40	Per MT	51200.00	Rupees Fifty One Thousand Two Hundred and Paise Zero Only
2	Channel 100 x 50	Per MT	50200.00	Rupees Fifty Thousand Two Hundred and Paise Zero Only
3	Channel 125 x 65	Per MT	50200.00	Rupees Fifty Thousand Two Hundred and Paise Zero Only
4	Channel 150 x 75	Per MT	50200.00	Rupees Fifty Thousand Two Hundred and Paise Zero Only
5	Channel 200 x 75	Per MT	50200.00	Rupees Fifty Thousand Two Hundred and Paise Zero Only

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि0, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, (मुख्यालय) जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

Schedule : M9

Date: 21.01.2026

Approved rate of Steel Angles by State Level Schedule Rate Committee for the year 2026 - 27 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.

Rates are exclusive of GST @ 18%, Overhead Charges and Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Approved Rate	
			in figure (Rs)	in words
1	2	3	4	5
	STEEL ANGLES			
1	50 x 50 x 6	Per MT.	50000.00	Rupees Fifty Thousand Paise Zero Only
2	65 x 65 x 6	Per MT.	49500.00	Rupees Forty NineThousand Five Hundred Paise Zero Only
3	75 x 75 x 6	Per MT.	49000.00	Rupees Forty NineThousand Paise Zero Only
4	75 x 75 x 8	Per MT.	49000.00	Rupees Forty NineThousand Paise Zero Only
5	75x 75 x 10	Per MT.	49000.00	Rupees Forty NineThousand Paise Zero Only

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि0, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, (मुख्यालय) जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

Schedule : M10A

Date: 21.01.2026

Approved rate of Steel - TMT BARS (Fe 500D) by State Level Schedule Rate Committee for the year 2026- 2027 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.

Rates are exclusive of GST @ 18%, Overhead Charges and Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Approved Rate	
			in figure (Rs)	in words
1	2	3	4	5
	STEEL TMT BARS			
1	TMT Fe 500D - 8 mm	Per MT	48200.00	Rupees Forty Eight Thousand Two Hundred and Paise Zero Only.
2	TMT Fe 500D -10 mm	Per MT	46300.00	Rupees Forty Six Thousand Three Hundred and Paise Zero Only.
3	TMT Fe 500D -12 mm	Per MT	45700.00	Rupees Forty Five Thousand Seven Hundred and Paise Zero Only.
4	TMT Fe 500D -16 mm	Per MT	45700.00	Rupees Forty Five Thousand Seven Hundred and Paise Zero Only.
5	TMT Fe 500D -20 mm	Per MT	45700.00	Rupees Forty Five Thousand Seven Hundred and Paise Zero Only.
6	TMT Fe 500D-25 mm	Per MT	45700.00	Rupees Forty Five Thousand Seven Hundred and Paise Zero Only.
7	TMT Fe 500D-28 mm	Per MT	45700.00	Rupees Forty Five Thousand Seven Hundred and Paise Zero Only.
8	TMT Fe 500D -32 mm	Per MT	45700.00	Rupees Forty Five Thousand Seven Hundred and Paise Zero Only.

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि0, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, (मुख्यालय) जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

Schedule: M11 Date:- 19.02.2026

Approved Rate of Bricks & Bricks related materials by the State Level Schedule Rate Committee for the year 2026 - 2027 (for Preparation of Schedule of Rate only) - Materials should conform to relevant BIS/IRC/MORT & H Specifications. Rates are inclusive of Royalty but Exclusive of all taxes,GST, Contractor's profit and Overhead Charges (Rates are at source)

Sr. No.	Materials	Unit	Approved Rates (Rs)	
			In figure (Rs)	In words
1	2	3	4	5
1	**100 A Bricks**			
	(i) For urban Patna	Nos/1000	6620.00	Rupees Six Thousand Six Hundred Twenty and Paise Zero Only.
	(ii) For Darbhanga,Bhagalpur, Munger & Muzaffarpur	Nos/1000	5589.00	Rupees Five Thousand Five Hundred Eighty Nine and Paise Zero Only.
	(iii) For Gaya & Saran	Nos/1000	5286.00	Rupees Five Thousand Two Hundred Eighty Six and Paise Zero Only.
	(iv) For Saharsa	Nos/1000	5740.00	Rupees Five Thousand Seven Hundred Forty and Paise Zero Only.
	(v) For Purnea	Nos/1000	6043.00	Rupees Six Thousand Forty Three and Paise Zero Only.
	(vi) For rural Patna	Nos/1000	5512.00	Rupees Five Thousand Five Hundred Twelve and Paise Zero Only.
2	**100 B Bricks**			
	(i) For urban Patna	Nos/1000	6144.00	Rupees Six Thousand One Hundred Forty Four and Paise Zero Only.
	(ii) For Darbhanga, Bhagalpur, Munger & Muzaffarpur	Nos/1000	5132.00	Rupees Five Thousand One Hundred Thirty Two and Paise Zero Only.
	(iii) For Gaya & Saran	Nos/1000	4833.00	Rupees Four Thousand Eight Hundred Thirty Three and Paise Zero Only.
	(iv) For Saharsa	Nos/1000	5286.00	Rupees Five Thousand Two Hundred Eighty Six and Paise Zero Only.
	(v) For Purnea	Nos/1000	5589.00	Rupees Five Thousand Five Hundred Eighty Nine and Paise Zero Only.
	(vi) For rural Patna	Nos/1000	5038.00	Rupees Five Thousand Thirty Eight and Paise Zero Only.
3	**Brick Tiles (300mmx150mmx50mm)**			
	(i) For urban Patna and rural Patna	Nos/1000	6620.00	Rupees Six Thousand Six Hundred Twenty and Paise Zero Only.
	(ii) For Saharsa, Bhagalpur, Darbhanga & Muzaffarpur	Nos/1000	6647.00	Rupees Six Thousand Six Hundred Forty Seven and Paise Zero Only.
	(iii) For Purnea	Nos/1000	6951.00	Rupees Six Thousand Nine Hundred Fifty One and Paise Zero Only.
	(iv) For other places	Nos/1000	6344.00	Rupees Six Thousand Three Hundred Forty Four and Paise Zero Only.
4	**Picket Jhama Bricks**			
	(i) For urban Patna	Nos/1000	5672.00	Rupees Five Thousand Six Hundred Seventy Two and Paise Zero Only.
	(ii) For Darbhanga, Bhagalpur, Munger & Muzaffarpur	Nos/1000	4681.00	Rupees Four Thousand Six Hundred Eighty One and Paise Zero Only.
	(iii) For Gaya & Saran	Nos/1000	4373.00	Rupees Four Thousand Three Hundred Seventy Three and Paise Zero Only.
	(iv) For Purnea	Nos/1000	5132.00	Rupees Five Thousand One Hundred Thirty Two and Paise Zero Only.
	(v) For Saharsa	Nos/1000	4833.00	Rupees Four Thousand Eight Hundred Thirty Three and Paise Zero Only.
	(vi) For rural Patna	Nos/1000	4576.00	Rupees Four Thousand Five Hundred Seventy Six and Paise Zero Only.
5	**Brick Bats**			
	(i) For urban Patna	Per m^3	1171.00	Rupees One Thousand One Hundred Seventy One and Paise Zero Only.
	(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per m^3	1125.00	Rupees One Thousand One Hundred Twenty Five and Paise Zero Only.
	(iii) For other places	Per m^3	1073.00	Rupees One Thousand Seventy Three and Paise Zero Only.
	(iv) For rural Patna	Per m^3	1124.00	Rupees One Thousand One Hundred Twenty Four and Paise Zero Only.
6	**Jhama Metals**			
	(a) 63 mm to 40 mm size			
	(i) For urban Patna	Per m^3	1391.00	Rupees One Thousand Three Hundred Ninety One and Paise Zero Only.
	(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per m^3	1331.00	Rupees One Thousand Three Hundred Thirty One and Paise Zero Only.
	(iii) For other places	Per m^3	1304.00	Rupees One Thousand Three Hundred Four and Paise Zero Only.
	(iv) For rural Patna	Per m^3	1358.00	Rupees One Thousand Three Hundred Fifty Eight and Paise Zero Only.
	(b) 40 mm to 20 mm size			
	(i) For urban Patna	Per m^3	1547.00	Rupees One Thousand Five Hundred Forty Seven and Paise Zero Only.
	(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per m^3	1483.00	Rupees One Thousand Four Hundred Eighty Three and Paise Zero Only.
	(iii) For other places	Per m^3	1440.00	Rupees One Thousand Four Hundred Forty and Paise Zero Only.
	(iv) For rural Patna	Per m^3	1500.00	Rupees One Thousand Five Hundred and Paise Zero Only.

	(c) 20 mm and down			
	(i) For urban Patna	Per m^3	1770.00	Rupees One Thousand Seven Hundred Seventy and Paise Zero Only.
	(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per m^3	1696.00	Rupees One Thousand Six Hundred Ninety Six and Paise Zero Only.
	(iii) For other places	Per m^3	1637.00	Rupees One Thousand Six Hundred Thirty Seven and Paise Zero Only.
	(iv) For rural Patna	Per m^3	1707.00	Rupees One Thousand Seven Hundred Seven and Paise Zero Only.
7	**Surkhi**			
	(i) For urban Patna	Per m^3	1831.00	Rupees One Thousand Eight Hundred Thirty One and Paise Zero Only.
	(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per m^3	1757.00	Rupees One Thousand Seven Hundred Fifty Seven and Paise Zero Only.
	(iii) For other places	Per m^3	1696.00	Rupees One Thousand Six Hundred Ninety Six and Paise Zero Only.
	(iv) For rural Patna	Per m^3	1770.00	Rupees One Thousand Seven Hundred Seventy and Paise Zero Only.

Note: For S.No. 1 to 4, Royalty has been included as Rs. 45.00 per 1000 Nos. & for S.No. 5 to 7 as Rs. 18.00 per m^3 (cum)

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि0, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख (मु०)
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, मुख्यालय जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

APPROVED RATES OF MATERIALS, PLANT-MACHINERY, LABOUR & CARRIAGE RATE (INPUT USED IN SOR)

Schedule -M / MORTH-1 Date:-19.02.2026

List for Approved Rates of Construction Materials for the Preparation of Schedule of Rates for year 2026-27 only by the State Level Schedule Rate Committee (Materials Should conform to relevant B.I.S., MoRD and MoRT&H Specifications). The rates are inclusive of royalty but exclusive of all taxes, G.S.T,Overhead,Seigniorage fee and Contractor's profit. "Rates are at source"Quarry/ Crusher Plant.

Sl. No.	Description of Materials	Unit	Approved Rates inclusive of Royalty for SoR 2026 (Rs)	Royalty included in col.4 (Rs)
1	2	3	4	5
M-001	Stone Boulder of size 150 mm and below at Source Quarry	Cum	730.02	150.00
M-002	Supply of quarried Stone 150-200 mm size for Hand Broken at source Quarry	Cum	730.02	150.00
M-003	Boulder with minimum size of 300 mm for Pitching at source Quarry	Cum	730.02	150.00
M-004*	Coarse sand/ Sand at source Quarry from five rivers- Sone / Kiul / Falgoo / Chanan and Morhar river.	Cum	612.90	150.00
M-005	Coarse sand / Sand at Source ,Quarry from other river.	Cum	537.90	75.00
M-006	Fine sand at Source	Cum	150.48	75.00
M-007	Moorum at Source Quarry	Cum	168.07	83.00
M-008	Gravel/Quarry spall at Source Quarry	Cum	377.35	150.00
M-009	Granular Material or hard murum for GSB works at source Quarry	Cum	173.92	83.00
M-010	Fly ash conforming to IS:3812 (Part II & I) at HMP Plant/Batching Plant/Crushing Plant	Cum	Nil	Nil
M-011	Filter media/Filter Material as per Table 300-3 (MoRT&H Specification) at Crusher.	Cum	733.48	150.00
M-012	Close graded Granular sub-base Material 53 mm to 9.5 mm/4.75mm at Crusher.	Cum	995.91	150.00
M-013	Close graded Granular sub-base Material 37.5 mm to 9.5 mm at Crusher.	Cum	995.91	150.00
M-014	Close graded Granular sub-base Material 26.5 mm to 9.5 mm at Crusher.	Cum	963.12	150.00
M-015	Close graded Granular sub-base Material 9.5 mm to 4.75 mm at Crusher.	Cum	631.69	150.00
M-016	Close graded Granular sub-base Material 9.5 mm to 2.36mm at Crusher.	Cum	452.95	150.00
M-017	Close graded Granular sub-base Material 4.75mm to 2.36mm At Crusher.	Cum	274.20	150.00
M-018	Close graded Granular sub-base Material 4.75mm to 75 micron at Crusher.	Cum	274.20	150.00
M-019	Close graded Granular sub-base Material 2.36 mm & below at Crusher.	Cum	274.20	150.00
M-020	Stone crusher dust finer than 3 mm with not more than 10% passing 0.075 sieve at Crusher.	Cum	274.20	150.00
M-021	Coarse graded Granular sub-base Material 2.36 mm & below At Crusher.	Cum	274.20	150.00
M-022	Coarse graded Granular sub-base Material 4.75 mm to 75 micron at	Cum	274.20	150.00
M-023	Coarse graded Granular sub-base Material 4.75mm to 2.36 mm at Crusher.	Cum	274.20	150.00
M-024	Coarse graded Granular sub-base Material 9.5mm to 4.75 mm at Crusher.	Cum	631.69	150.00
M-025	Coarse graded Granular sub-base Material 26.5mm to 4.75 mm at Crusher.	Cum	963.12	150.00
M-026	Coarse graded Granular sub-base Material 26.5 mm to 9.5 mm at Crusher.	Cum	963.12	150.00
M-027	Coarse graded Granular sub-base Material 37.5 mm to 9.5 mm at Crusher.	Cum	995.91	150.00
M-028	Coarse graded Granular sub-base Material 53 mm to 26.5 mm at Crusher.	Cum	1178.00	150.00
M-029	Aggregates below 5.6 mm at Crusher.	Cum	452.95	150.00
M-030	Aggregates 22.4 mm to 2.36 mm at Crusher.	Cum	733.48	150.00
M-031	Aggregates 22.4 mm to 5.6 mm at Crusher.	Cum	963.12	150.00
M-032	Aggregates 45 mm to 2.8 mm at Crusher.	Cum	815.48	150.00
M-033	Aggregates 45 mm to 22.4 mm at Crusher.	Cum	1178.00	150.00
M-034	Aggregates 53 mm to 2.8 mm at Crusher.	Cum	815.48	150.00
M-035	Aggregates 53 mm to 22.4 mm(Grade -III) at Crusher.	Cum	1178.00	150.00
M-036	Aggregates 63 mm to 2.8 mm at Crusher.	Cum	815.48	150.00
M-037	Aggregates 63 mm to 45 mm (Grade- II)at Crusher.	Cum	1061.46	150.00
M-038	Aggregates 90 mm to 45mm(Grade-I) at Crusher.	Cum	1061.46	150.00
M-039	Aggregates 10 mm to 5 mm at Crusher.	Cum	631.69	150.00
M-040	Aggregates 11.2 mm to 0.09 mm (Key aggregate Type B) at Crusher.	Cum	452.95	150.00
M-041	Aggregates 13.2 mm to 0.09 mm (Key aggregate Type A) at Crusher.	Cum	452.95	150.00

Sl. No.	Description of Materials	Unit	Approved Rates inclusive of Royalty for SoR 2026 (Rs)	Royalty included in col.4 (Rs)
1	2	3	4	5
M-042	Aggregates 13.2 mm to 5.6 mm at Crusher.	Cum	631.69	150.00
M-043	Aggregates 13.2 mm to 10 mm at Crusher.	Cum	631.69	150.00
M-044	Aggregates 20 mm to 10 mm at Crusher.	Cum	963.12	150.00
M-045	Aggregates 25 mm to10 mm at Crusher.	Cum	963.12	150.00
M-046	Aggregates 19 mm to 6 mm at Crusher.	Cum	963.12	150.00
M-047	Aggregates 37.5 mm to 19 mm at Crusher.	Cum	1178.00	150.00
M-048	Aggregates 37.5 mm to 25 mm at Crusher.	Cum	1178.00	150.00
M-049	Aggregates 6 mm nominal size at Crusher.	Cum	452.95	150.00
M-050	Aggregates 10 mm nominal size at Crusher plant.	Cum	631.69	150.00
M-051	Aggregates 13.2/12.5 mm nominal size at Crusher plant.	Cum	631.69	150.00
M-052	Aggregates 20 mm nominal size at Crusher plant.	Cum	1294.56	150.00
M-053	Aggregates 25 mm nominal size at Crusher.	Cum	1294.56	150.00
M-054	Aggregates 40 mm nominal size at Crusher.	Cum	1061.46	150.00
M-055	Crushing of Stone aggregates (GSB Crusher Run)	Cum	765.78	150.00

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि0, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख (मु०)
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, मुख्यालय जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

Schedule-M/MORTH-1A				Date 19.02.2026
List of Approved Rates of Construction Materials for the Preparation of Schedule of Rates for year 2026-27 only by the State Level Schedule Rate Committee (Materials Should conform to relevant B.I.S., MoRD and MoRT&H Specifications). The rates are inclusive of Royalty but exclusive of all taxes, G.S.T.,Overhead, Seigniorage fee and Contractor's profit. " Rates are at Source"				
Sl. No.	**Description of Materials**	**Unit**	**Approved Rates Inclusive of Royalty for SoR 2026 (Rs)**	**Royality (Rs)**
1	**2**	**3**	**4**	**5**
M-056	AC pipe 100 mm dia	metre	47.39	
M-057	Acrylic polymer bonding coat	litre	144.81	
M-058	Alluminium Paint	litre	136.92	
M-059	Aluminium alloy plate 2mm Thick	sqm	12771.09	
M-060	Aluminium alloy/galvanised steel	tonne	51761.60	
M-061	Aluminium sheeting 2 mm thick fixed with encapsulated lens type reflective sheeting including 2% towards lettering, cost of angle iron, cost of drilling holes, nuts, bolts etc.and signs as applicable	sqm	9584.68	
M-062	Road Aluminium Stud with Micro Prismatic lens reflectors (with shank) 100 X 100 mm	each	214.80	
M-063	Barbed wire	kg	75.66	
M-064	Bearing (Cost of parts)	nos	13248.00	
M-065	Bearing (Cast steel rocker bearing assembly of 250 tonne)	nos	95865.64	
M-066	Bearing (Elastomeric bearing assembly consisting of 7 internal layers of elastomer bonded to 6 nos. internal reinforcing steel laminates by the process of vulcanisation)	cubic cm	0.69	
	Taking elastomeric bearing of size 500 X 400 X 96mm, Overall volume=19200 cubic cm @Rs 0.68/cucm= Rs 13056.00	nos	13248.00	
M-067	Bearing (Forged steel roller bearing of 250 tonne)	nos	53052.92	
M-068	Bearing (Pot type bearing assembly consisting of a metal piston supported by a disc, PTFE pads providing sliding surfaces against stainless steel mating together with cast steel assemblies/ fabricated structural steel assemblies duly painted with all components output=250 tonne)	MT	159.42	
	Do	nos	39855.00	
	(a) Fixed POT-PTFE Bearing	MT	159.42	
	(b) Free POT-PTFE Bearing	MT	170.49	
	(c) Guide Slide (L) POT-PTFE Bearing	MT	182.21	
	(d) Guide Slide (T) POT-PTFE Bearing	MT	176.52	
M-069	Bearing (PTFE sliding plate bearing assembly of 80 tonnes)	nos	14120.78	
M-070	Bearing (Supply of sliding plate bearing of 80 tonne)	nos	12753.80	
M-071	Bentonite	kg	4.62	
M-072	Binding wire	kg	49.41	
M-073	Bitumen (Cationic Emulsion) Ex- Patna (R.S1) Packed	tonne	53201.00	
M-074	Bitumen (60-70 grade) Packed Ex- Barauni	tonne	57448.00	
M-075	Bitumen (80-100 grade) Packed Ex- Barauni	tonne	55548.00	
M-076	Bitumen (Cutback) Packed Ex- Barauni .	tonne	57448.00	

Sl. No.	Description of Materials	Unit	Approved Rates Inclusive of Royalty for SoR 2026 (Rs)	Royality (Rs)
1	2	3	4	5
M-077	Bitumen (emulsion) Packed Ex- Patna (SS1)	tonne	54349.00	
M-078	Bitumen (modified graded) Packed Ex - Fatuha (CRMB - 55)	tonne	60330.00	
M-079	Brick 100A for - Patna Urban	each	6.62	0.045
M-080	C.I. shoes for the pile	kg	54.02	
M-081	Cement - OPC 43 Grade at Patna	tonne	5762.00	
M-082	CGI Sheet 0.8 mm thick	Kg	81.44	
M-083	Cold twisted bars (HYSD Bars) - Fe 500 D Av. of M-10A	tonne	46087.50	
M-084	Coller (RCC) for joints 300 mm dia	nos	60.77	
M-085	Compressible Fibre Board (20mm thick)	sqm	1510.29	
M-086	Connectors / Staples	each	9.71	
M-087	Copper Plate (12m long x 250mm wide)	kg	566.14	
M-088	Corrosion resistant Structural steel	tonne	78009.09	
M-089	Corrugated sheet, 3 mm thick, "Thrie" beam section railing	kg	55.63	
M-090	Credit for excavated rock found suitable for use (add Royality @ 30% of Rate)	cum	110.27	25.45
M-091	Curing compound	litre	38.88	
M-092	Delineators from ISI certified firm as per the standard drawing given in IRC - 79	each	579.66	
M-093	Earth Cost or compensation for earth taken from private land	cum	35.30	33.00
M-094	Elastomeric slab seal expansion joint assembly manufactured by using chloroprene, elastomer for elastomeric slab unit conforming to clause 915.1 of IRC: 83 (part II)	metre	25568.64	
M-095	Epoxy compound with accessories for preparing epoxy mortar	kg	353.00	
M-096	Epoxy mortar	kg	497.81	
M-097	Epoxy primer	kg	108.62	
M-098	Epoxy resin-hardner mix for prime coat	kg	624.53	
M-099	Flag of red color cloth 600 x 600 mm	each	65.89	
M-100	Flowering Plants	each	9.00	
M-101	Galvanised MS flat clamp	nos	15.58	
M-102	Galvanised steel wire crates of mesh size 100 mm x 100 mm woven with 4mm dia. GI wire in rolls of required size.	sqm	101.54	
M-103	Galvanised structural steel plate 200 mm wide, 6 mm thick, 24 m long	kg	51.76	
M-104	Geo grids	sqm	105.24	
M-105	Geomembrane	sqm	53.06	
M-106	Geonets	sqm	127.53	

Sl. No.	Description of Materials	Unit	Approved Rates Inclusive of Royalty for SoR 2026 (Rs)	Royality (Rs)
1	2	3	4	5
M-107	Geotextile	sqm	99.70	
M-108	Geotextile filter fabric	sqm	99.70	
M-109	GI bolt 10 mm Dia	nos	20.85	
M-110	Spherical Dome Nut	nos	INPUT	
M-111	Grass (Doob)	kg	5.68	
M-112	Grass (Fine)	kg	5.68	
M-113	HDPE pipes 75mm dia	metre	236.12	
M-114	HDPE pipes 90mm dia	metre	236.12	
M-115	Hedge plants (1'-3' Ht) Kamini Hedge	each	40.00	
M-116	Helical pipes 600mm diameter	metre	INPUT	
M-117	Hot applied thermoplastic compound (Sp. Gravity - 2.10)	litre	191.99	
M-118	HTS strand	tonne	77144.06	
M-119	Joint Sealant Compound	kg	31.25	
M-120	Jute netting, open weave, 2.5 cm square opening for seeding and Mulching	sqm	38.46	
M-121	LDO for steam curing	litre	58.50	
M-122	M.S. Clamps	nos	44.46	
M-123	M.S. Clamps	kg	80.48	
M-124	M.S.shoes @ 35 Kg per pile of 15 m	kg	30.77	
M-125	Mild Steel bars (Av-M6)	tonne	50050.00	
M-126	Modular strip/box seal expansion joint including anchorage catering to a horizontal movement beyond 70 mm and upto 140mm assembly comprising of edge beams, central beam, 2 modules chloroprene seal, anchorage elements, support and control system, all steel sections protected against corrosion and installed by the manufacturer or his authorised representative	metre	35224.05	
M-127	Modular strip/box seal expansion joint catering to a horizontal movement beyond 140mm and upto 210mm box/box seal joint assembly containing 3 modules/cells and comprising of edge beams, two central beams, chloroprene seal, anchorage elements, support and control system, all steel sections protected against corrosion and installed by the manufacturer or his authorised representative	metre	35224.05	
M-128	Nipples 12mm,300mm long	nos	52.22	
M-129	Nuts and bolts	kg	80.60	
M-130	Paint	litre	270.83	
M-131	Pavement Marking Paint	litre	270.83	
M-132	Paving Fabric	sqm	124.74	
M-133	Perforated geosynthetic pipe 150 mm dia	metre	33.66	

Sl. No.	Description of Materials	Unit	Approved Rates Inclusive of Royalty for SoR 2026 (Rs)	Royality (Rs)
1	2	3	4	5
M-134	Perforated pipe of cement concrete, internal dia 100 mm	metre	122.45	
M-135	Pesticide	kg	79.47	
M-136	Pipes 200 mm dia, 2.5 m long for drainage	metre	167.82	
M-137	Plastic sheath, 1.25 mm thick for dowel bars	sqm	17.68	
M-138	Plastic tubes 50 mm dia, 1.2 m high	nos	INPUT	
M-139	Polymer braids	metre	15.90	
M-140	Pre moulded Joint filler, 25 mm thick for expansion joint.	sqm	429.70	
M-141	Pre-coated stone chips of 13.2 mm nominal size	cum	858.84	150.00
M-142	Preformed continuous chloroprene elastomer or closed cell foam sealing element with high tear strength, vulcanised in a single operation for the full length of a joint to ensure water tightness.	metre	1811.08	
M-143	Pre-moulded asphalt filler board	sqm	905.45	
M-144	Pre-packed cement based polymer concrete of strength 45 Mpa at 28 days	kg	214.25	
M-145	Primer (Wall)	kg	85.21	
M-146	Quick setting compound	kg	122.93	
M-147	Random Rubble Stone	cum	730.02	150.00
M-148	RCC Pipe NP 4 heavy duty non presure pipe 1000 mm dia with spigot	metre	6044.84	
M-149	RCC Pipe NP 4 heavy duty non presure pipe 1200 mm dia with spigot	metre	7064.97	
M-150	RCC Pipe NP 4 heavy duty non presure pipe 900 mm dia with spigot	metre	4883.62	
M-151	RCC Pipe NP 4 heavy duty non presure pipe 600 mm dia with spigot	metre	2550.34	
M-152	RCC Pipe NP 4 heavy duty non presure pipe 300 mm dia	metre	577.62	
M-153	Reflectorising glass beads	kg	82.57	
M-154	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. (Copper Strips)	metre	1511.57	
M-155	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. (Galvanised carbon steel strips)	metre	139.99	
M-156	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. (Glass reinforced polymer/fibre reinforced polymer/polymeric strips)	metre	72.50	
M-157	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. (Stainless steel strips)	metre	728.15	
M-158	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. (Aluminium strips)	metre	208.84	
M-159	Rivets	each	10.58	
M-160	Sand bags (Cost of sand and Empty cement bag)	nos	12.72	2.59
M-161	Sapling 2 m high 25 mm dia	each	29.30	
M-162	Scrap tyres of size 900 x 20	nos	97.64	

Sl. No.	Description of Materials	Unit	Approved Rates Inclusive of Royalty for SoR 2026 (Rs)	Royality (Rs)
1	2	3	4	5
M-163	Seeds	kg	43.94	
M-164	Selected earth (Including royalty @ `33.0 per cum & compensation @ 2.29 per cum)	cum	35.30	33.00
M-165	Separation Membrane of impermeable plastic sheeting 125 micron thick	sqm	14.74	
M-166	Sheathing duct	metre	107.41	
M-167	Shrubs	each/ (sqft)	3.18	
M-168	Sludge / Farm yard manure @ 0.18 cum per 100 sqm at site of work for turfing	cum	552.10	
M-169	Sodium vapour lamp (70 watt)	each	216.69	
M-170	Square Rubble Coursed Stone	cum	730.02	150.00
M-171	Steel circular hollow pole of standard specification for street lighting to mount light at 5 m height above deck level	each	5516.10	
M-172	Steel circular hollow pole of standard specification for street lighting to mount light at 9 m height above road level	each	9994.92	
M-173	Steel drum 300 mm dia 1.2 m high/empty bitumen drum	nos	155.57	
M-174	Steel helmet and cushion block on top of pile head during driving.	kg	47.01	
M-175	Steel pipe 25 mm external dia as per IS:1239	metre	143.50	
M-176	Steel pipe 50 mm external dia as per IS:1239	metre	256.80	
M-177	Steel pipe 100 mm external dia as per IS:1239	metre	598.94	
M-178	Steel wire rope 20 mm	kg	53.00	
M-179	Steel wire rope 40 mm	kg	53.00	
M-180	Strip seal expansion joint	metre	9916.08	
M-181	Structural Steel (Av. of M6, M8 & M9)	tonne	49936.67	
M-182	Super plastisizer admixture IS marked as per 9103-1999	kg	31.15	
M-183	Synthetic Geogrids as per clause 3102.8 and approved design and specifications.	sqm	221.55	
M-184	Through and bond stone	each	11.68	
M-185	Tie rods 20mm diameter (500mm length) @2.47 kg/m	nos	56.44	
M-186	Tiles size 300 x 300 mm and 25 mm thick	each	44.82	
M-187	Timber	cum	50657.11	
M-188	Traffic cones with 150 mm reflective sleeve	nos	429.37	
M-189	Tube anchorage set complete with bearing plate, permanent wedges etc	nos	58.58	
M-190	Unslaked lime	tonne	3222.77	
M-191	Water	KL	63.20	
M-192	Water based cement paint	litre	137.84	
M-193	Welded steel wire fabric	kg	52.71	

Sl. No.	Description of Materials	Unit	Approved Rates Inclusive of Royalty for SoR 2026 (Rs)	Royality (Rs)
1	2	3	4	5
M-194	Wire mesh 50mm x 50mm size of 3mm wire	kg	52.98	
M-195	Wooden ballies 2" Dia for bracing (Sal)	each	25.17	
M-196	Wooden ballies 8" Dia and 9 m long	each	608.82	
M-197	Wooden packing	cum	27930.68	
M-198	Wooden staff for fastening of flag 25 mm dia, 1.0 m long	each	31.48	
M-199	Silica fume	kg	25.34	
M-200	Synthetic Geogrids Ultimate tensile Strength 100kN/Metre.	Sqm	235.81	
M-201	Synthetic Geogrids Ultimate tensile Strength 150kN/Metre.	Sqm	247.61	
M-202	Synthetic Geogrids Ultimate tensile Strength 200kN/Metre.	Sqm	400.88	
M-203	Synthetic Geogrids Ultimate tensile Strength 250kN/Metre.	Sqm	412.67	
M-204	Synthetic Geogrids Ultimate tensile Strength 300kN/Metre.	Sqm	424.47	
M-205	Synthetic Geogrids Ultimate tensile Strength 350kN/Metre.	Sqm	436.26	
M-206	Synthetic Geogrids Ultimate tensile Strength 400kN/Metre.	Sqm	530.58	
M-207	Synthetic Geogrids Ultimate tensile Strength 500kN/Metre.	Sqm	589.54	
M-208	Synthetic Geogrids Ultimate tensile Strength 600kN/Metre.	Sqm	648.49	
M-209	Synthetic Geogrids Ultimate tensile Strength 700kN/Metre.	Sqm	766.40	
M-210	Synthetic Geogrids Ultimate tensile Strength 800kN/Metre.	Sqm	854.83	
M-211	Synthetic Geogrids Ultimate tensile Strength 900kN/Metre.	Sqm	1002.21	
M-212	Synthetic Geogrids Ultimate tensile Strength 1000kN/Metre.	Sqm	1120.12	
M-213	Synthetic Geogrids Ultimate tensile Strength 1100kN/Metre.	Sqm	1179.07	
M-214	Synthetic Geogrids Ultimate tensile Strength 1200kN/Metre.	Sqm	1238.02	
M-215	Explosive for blasting(Gelatine80%)	Kg	124.27	
M-216	Delay Detonators	Nos	3.47	
M-217	Electric Detonators @1 detonator for 1/2 gelatin stick of 125 gms each	Nos	6.93	
M-218	Detonation Fuse coil	Meter	16.12	
M-219	3.7 mlong extension rod boom Hydraulic Drill jumbo	Nos	INPUT	
M-220	32 mm coupling sleeve boom Hydraulic Drill jumbo	Nos	INPUT	
M-221	Difter rod boom Hydraulic Drill jumbo	Nos	INPUT	
M-222	R32 sank adapter boom Hydraulic Drill jumbo	Nos	INPUT	
M-223	45 mm Dia Button Bit boom Hydraulic Drill jumbo	Nos	INPUT	
M-224	51 mm Dia Button Bit Hydraulic Drill Jumbo	Nos	INPUT	
M-225	Steel Fiber	tonne	INPUT	

Sl. No.	Description of Materials	Unit	Approved Rates Inclusive of Royalty for SoR 2026 (Rs)	Royality (Rs)
1	2	3	4	5
M-226	Microsilica	Kg	25.34	
M-227	Accelerator	Kg	31.15	
M-228	Wire mesh	Kg	52.98	
M-229	Bamboos (i) 75mmDia 6m to 8m long (ii) 100mm Dia 6m to 8m long (iii) 50mm Dia Hill Bamboo	Meter	22.53 24.06 15.05	
M-230	Live Stake Stump	Meter	INPUT	
M-231	Hard wood sticks	Meter	INPUT	
M-232	Live Sods(0.6m Length)	Nos	INPUT	
M-233	Live Sods(2.0 m Length)	Nos	INPUT	
M-234	Coal Tar Epoxy	Kg	37.06	
M-235	Binding Material	Meter	INPUT	
M-236	Spring post 700mm (Hardness-75mm)	each	336.73	
M-237	Spring post 450 mm (Hardness-75mm)	each	271.02	
M-238	Water Filled Barricades Work zone sheeting (Trapezoidal Shape 800 mm to 1000 mm in length, 700 mm in height	each	718.61	
M-239	GI Pipe 100 mm Dia	Meter	560.43	
M-240	Bracket for G.I Pipe fixing	Kg	94.74	
M-241	Flange for G.I Pipe fixing	Kg	190.34	
M-242	Neem Cake	Quintal	6138.61	
M-243	Supplying sludge	Cum	552.10	
M-244	Contol Center Server	Nos	INPUT	
M-245	Hot Standby Backup Server	Nos	INPUT	
M-246	NAS Video Server with storage Minimum 70 TB	Nos	INPUT	
M-247	Backup Video (Only Incidents) Server.	Nos	INPUT	
M-248	Graphic Display(70" LED DLP IN 3X2 matrix)	Set	INPUT	
M-249	Graphic Display Controller and software including Video Switches	Set	INPUT	
M-250	CCTV Monitoring Workstation	Nos	INPUT	
M-251	Emergengy Telephone (1033)Console.	Nos	INPUT	
M-252	VIDS-Workstation.	Nos	INPUT	
M-253	Administrative Workstation	Nos	INPUT	
M-254	ATMS Operator Workstation	Nos	INPUT	
M-255	CCTV joystick	Nos	INPUT	

Sl. No.	Description of Materials	Unit	Approved Rates Inclusive of Royalty for SoR 2026 (Rs)	Royality (Rs)
1	2	3	4	5
M-256	Operations Laser Printer(Colour)	Nos	INPUT	
M-257	Operations Laser Printer(Black)	Nos	INPUT	
M-258	Rack 19"	Nos	INPUT	
M-259	ATMS Control Room Software(integrated with VIDS,ATCC,VMS,MOS)	Ls	INPUT	
M-260	Video Management Software with atleast 150 VMS Lic	Ls	INPUT	
M-261	Facility Monitoring System Controller Software	Ls	INPUT	
M-262	Server & Database license	Ls	INPUT	
M-263	Antivirus license	Ls	INPUT	
M-264	PTZ Camera (including CCTV Controller)	Set	INPUT	
M-265	Solar System with UPS, battery & 12mm Pole & Cabinet	Set	INPUT	
M-266	VIDS Camera (including image Prossesing unit)	Set	INPUT	
M-267	Warning amber lights with hooters, 72 Hrs solar backup,5m poles and foundation	Set	INPUT	
M-268	Cabinet	Nos	INPUT	
M-269	12 m Pole (including manufacturing and galvanizing)	Nos	INPUT	
M-270	Solar System with UPS & batteries	Set	INPUT	
M-271	Equipment,Sensor unit, Processing unit, Solar power supply and civil works for 4 Lanes	Set	INPUT	
M-272	Solar System with UPS , batteries.	Set	INPUT	
M-273	VMS (Variable Message Sine-Mtype)	Nos	INPUT	
M-274	Gantry(including Manufacturing and galvanizing)	Nos	INPUT	
M-275	Solar System with UPS, battery and Cabinet for M type VMS	Set	INPUT	
M-276	Uninterruptible Power supply (UPS)for Server Rack(10KVA)	Set	INPUT	
M-277	Uninterruptible Power supply (UPS) for TMC (30KVA)	Set	INPUT	
M-278	Power Distribution Board (Essential & CriticalSupply)	Set	INPUT	
M-279	MOS sensor Equipment (including MOS Controller)	Set	INPUT	
M-280	Cabinet	Nos	INPUT	
M-281	Pole	Nos	INPUT	
M-282	Steel fence for protection	Set	INPUT	
M-283	24 CoreArmoured OFC + all accessories	Meter	INPUT	
M-284	40 mm PLB HDPE duct as per latest TSEC specification +all accessories	Meter	INPUT	
M-285	Trenching of 1.8 meters,Laying & Back filling for PLB HDPE duct	Meter	INPUT	
M-286	Bi- Axial Extruded Geogrids of Minimum Tensile Strengh 15kN/m	sqm	105.25	

Sl. No.	Description of Materials	Unit	Approved Rates Inclusive of Royalty for SoR 2026 (Rs)	Royality (Rs)
1	2	3	4	5
M-287	Bi- Axial Extruded Geogrids of Minimum Tensile Strengh 20kN/m	sqm	120.75	
M-288	Bi- Axial Extruded Geogrids of Minimum Tensile Strengh 30kN/m	sqm	197.18	
M-289	Bi- Axial Extruded Geogrids of Minimum Tensile Strengh 40kN/m	sqm	288.02	
M-290	Geosynthetic Drainage composite (tensile strength of 18 KN/m)	sqm	558.30	
M-291	Geosynthetic Drainage composite (tensile strength of 13.5 KN/m)	sqm	664.65	
M-292	Waste Plastic (as per IRC:SP:98-2013)	tonne	15275.45	
M-293	RCC Pipe NP 4 heavy duty non presure pipe 1500 mm dia	meter	7064.97	
M-294	Acrylic noise barrier sheet	Sqm	501.32	
M-295	Silt Fence Sheet	Sqm	INPUT	
M-296	Fully Threaded Hot Dip galvanised geotechnical bars with casing'	Lm	INPUT	
M-297	Centralizer	No	INPUT	
M-298	Bearing Plate 200mm x 200mm x 10mm	No	INPUT	
M-299	Solar Power Road Marking(Solar Stud) made up of Polycarbonate or ABS Body.	Nos.	1264.15	
M-300	Fibre Reinforcement	tonne	INPUT	
M-301	Geotextile	Sqm	99.70	
M-302	Polyvinyl Chloride Pipe (PVC)-90 mm	meter	69.73	
M-303	Polyvinyl Chloride Pipe (PVC)-110 mm	meter	129.51	
M-304	Polyvinyl Chloride Pipe (PVC)-135 mm	meter	129.51	
M-305	Steel/Iron Scraps	Kg.	INPUT	
M-306	Aluminium sheeting fixed with encapsulated lens type reflective sheeting including 2% towards lettering (Class-C Type XI- 2mm thick)	sqm	9584.68	
M-307	Geocell	sqm	105.24	
M-308	Geosynthetics mat	sqm	53.07	
M-309	Natural geotextile	sqm	99.70	
M-310	Fabric Form mattress	sqm	99.70	
M-311	Non-Woven Geotextile	sqm	99.70	
M-312	Sr. Road Safety/Auditor/ Team Leader for Road Safety Audit	Month	INPUT	
M-313	Traffic Planner for Road Safety Audit	Month	INPUT	
M-314	Boarding & Loading and Per Diem for Site Visits (During Road Safety Audit)	Days	INPUT	
M-315	Transportation at site and Head Office (During Road Safety Audit)	No. of Trip	INPUT	
M-316	Duty travel to Site (During Road Safety Audit)	Days	INPUT	
M-317	Collection of Road accident data and analysis of fatal and grievously injured accident with black spot identification (During Road Safety Audit)	No. of Copies	INPUT	
M-318	Submission of GAP report (For Road Safety Audit)	No. of Copies	INPUT	

Sl. No.	Description of Materials	Unit	Approved Rates Inclusive of Royalty for SoR 2026 (Rs)	Royality (Rs)
1	2	3	4	5
M-319	Road Safety Audit Reports on all activities which were planned, actually executed and planned for the next quarter.	No. of Copies	INPUT	
M-320	Submission of Audit Report of work zone safety (for Road Safety Audit)	No. of Copies	INPUT	
M-321	Workshop Report for Road Safety Audit	No. of Copies	INPUT	
M-322	Final Safety Report (for road safety Audit)	No. of Copies	INPUT	
M-323	Cement Fly Ash Brick (Conforming to IS 12894, size= 230 X 110 X 70 mm, weight of one brick= 3Kg, composition: Fly ash= 60%, Coarse sand= 30%, Cement= 10%) including carriage of sand	each	5.44	
M-324	Paver Block (Excluding GST)			
	(i) M -35 Grade and 60 mm thickness			
	(a) White	sqm	620.52	
	(b) Red	sqm	631.58	
	(c) Yellow	sqm	651.41	
	(ii) M-40 Grade and 80mm thickness			
	(a) White	sqm	712.10	
	(b) Red	sqm	730.73	
	(c) Yellow	sqm	754.29	
M-325	Kerb-Stone Block- M30 Grade (Size 375mm x 300mm x 150mm)	each	69.50	
M-326	Autoclaved Aerated Concrete (AAC) Block	cum	3009.41	
M-327	Bitumen grade VG 40 (30/40) packed Ex Fatuha.	MT	60920.00	
M-328	Flexible Median Marker as per IRC-79-2019	each	215.73	
MR01	Construction of restaurant, workshop, first aid room, shop etc. in truck parking area complete as per drg. and direction of the Engineer.	Sqm	INPUT	
MR02	Providing Telephone booth complete as per specifications and direction of Engineer.	Nos.	INPUT	
MR03	Providing & fixing tube well, complete as per drawing and additional specifictions.	Nr.	INPUT	
MR04	Providing a Drinking Water Kiosk complete as per drawing & specification.	Nr.	INPUT	
MR05	Providing and fixing of litter bins in Truck lay Bye locations complete as per drawing or as directed by the engineer.	Nr.	INPUT	
MR06	Construction of toilet block provided with fittings and fixtures complete in truck parking area complete as per drg. and direction of the Engineer.	Nr.	INPUT	
MR07	Construction of Open lined U - Drain in truck laybye area complete as shown in drawing and technical specification clause 309.	Meter	INPUT	
MR08	Providing shelters for bus passengers as per drawing and MORT&H Specifications section 300, 1500, 1600 and 1700.	Nr.	INPUT	
MR09	Providing & fixing guard railing with tubular steel sections at foot path / medians / islands etc including foundation concrete and painting with approved paint etc. all complete as per drawing & MORT&H Specifications Clauses 808, 300, 1500, 1700 & 1900.	Meter	INPUT	
MR10	Toll Booth at Tollplaza	Nr.	INPUT	

Sl. No.	Description of Materials	Unit	Approved Rates Inclusive of Royalty for SoR 2026 (Rs)	Royality (Rs)
1	2	3	4	5
MR11	Barrier gates at Tollplaza For 3.2 m wide toll lane	Nr.	INPUT	
MR12	Barrier gates at Tollplaza For 4.5 m wide toll lane	Nr.	INPUT	
MR13	Canopy	Sqm	INPUT	
MR14	Canopy Lights Halide lamps 150 watt	Nr.	INPUT	
MR15	Canopy Lights Halogen lamps 1000 watt	Nr.	INPUT	
MR16	Loading Unloading Platform	Sqm	INPUT	
MR17	Traffic Aid Post at Toll Plaza	Nr.	INPUT	
MR18	Medical Aid Post at Toll Plaza	Nr.	INPUT	
MR19	Vehicle Rescue Post at Toll Plaza	Nr.	INPUT	
MR20	Ambulances at Toll Plaza	Nr.	INPUT	
MR21	Cranesat Toll Plaza	Nr.	INPUT	
MR22	Electronic Toll Connection (ETC lanes) at Toll Plaza	Nr.	INPUT	
MR23	Intercom facility at Toll Plaza	Nr.	INPUT	
MR24	Weigh Bridge	Nr.	INPUT	
MR25	Car Parking area	Sqm	INPUT	
MR26	Generator room	Sqm	INPUT	
MR27	Base Maintainance Camp	Sqm	INPUT	
MR28	Toll plaza equipment	Lane	INPUT	
MR29	Electrification And Air conditioning for toll Booth and toll Plaza	LS	INPUT	
MR30	Bull nose crash barrier	Nr.	INPUT	
MR31	Standby Generator at Toll Plaza	Nr.	INPUT	
MR32	CCTV camera installed at each booth	Nr.	INPUT	
MR33	T1 for Toll Road Start	Nr.	INPUT	
MR34	T2 for Toll Gate 1 Km	Nr.	INPUT	
MR35	T3 for Toll Gate 500 m and toll rates	Nr.	INPUT	
MR36	T4 for exempt vehicles at Toll Plaza	Nr.	INPUT	
MR37	T5 for pictorial description of toll rates	Nr.	INPUT	
MR38	T6 for over size vehicle lane direction sign at Toll Plaza	Nr.	INPUT	
MR39	T7 near the Toll booths displaying Toll Rates, exempt vehicles and complaint telephone number & address	Nr.	INPUT	
MR40	T8 for Toll Road End	Nr.	INPUT	
MR41	Picnic Area at Rest Area	Sqm	INPUT	
MR42	Petrol Pump & Pepairing Shop at Rest Area	Sqm	INPUT	
MR43	Buffer Zone at Rest Area	Sqm	INPUT	
MR44	Traffic blinker Signal (L.E.D.)	Nr	INPUT	

Sl. No.	Description of Materials	Unit	Approved Rates Inclusive of Royalty for SoR 2026 (Rs)	Royality (Rs)
1	2	3	4	5
MR45	PVC Roof Sheet at FOB	Sqm	INPUT	
MR46	Cost of Water Quality Monitoring	Nos.	INPUT	
MR47	Cost of Soil Quality Monitoring	Nos.	INPUT	
MR48	Cost of Ambient Air Quality	Nos.	INPUT	
MR49	Cost of Ambient Noise Monitoring 24 hour continuous	Nos.	INPUT	
MR50	Consent to Establish (CTE)	Nos.	INPUT	
MR51	Consent to Operate (CTO)	Nos.	INPUT	
MR52	Compliance submission for Consent to Establish (CTE)	Nos.	INPUT	
MR53	Compliance submission for Consent to Operate (CTO)	Nos.	INPUT	
MR54	Cost of Environmental Workshop	Nos.	INPUT	

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि0, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख (मु०)
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, मुख्यालय जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

Schedule- P & M / MORTH - 1A				Date :- 19.02.2026	
Approved Usages rate of Plants & Machinery for preparation of Schedule of rate including all charges ,cost of repair,maintaintance,tyre- replacement,running and operating charges such as fuel lubricant, labour etc but excluding GST,Overhead and Contractor's profit.					
Sl.No.	**Code**	**Description**	**Unit**	**Approved Rate**	**Remarks**
1	PM1001	Dozer - 240 HP	Hour	5,634.00	
2	PM1002	Dozer - 175 HP	Hour	4,360.00	
3	PM1003	Dozer - 90 HP	Hour	3,047.00	
4	PM2001	Motor Grader 4.3 metre blade	Hour	5,560.00	
5	PM2002	Motor Grader 3.7 metre blade	Hour	5,095.00	
6	PM2003	Motor Grader 3.35 metre blade	Hour	4,512.00	
7	PM3003	Hydraulic Excavator of 1.2 cum bucket	Hour	2,809.00	
8	PM3004	Hydraulic Excavator of 1.1 cum bucket	Hour	2,538.00	
9	PM3005	Hydraulic Excavator of 0.9 cum bucket	Hour	2,312.00	
10	PM4001	Jack Hammer (attachment of Hydraulic Excavator)	Hour	206.00	
11	PM5001	Front End loader 3.1 cum bucket capacity	Hour	3,523.00	
12	PM5002	Front End loader 2.1 cum bucket capacity	Hour	2,121.00	
13	PM5003	Backhoe-loader 1 cum bucket capacity	Hour	1,454.00	
14	PM6001	Tipper-18 Cum	Hour	2,349.00	
15	PM6002	Tipper-14 Cum	Hour	2,108.00	
16	PM6003	Tipper-10 Cum	Hour	1,891.00	
17	PM6004	Tipper-5.5 Cum	Hour	1,476.00	
18	PM7001	Vibratory Soil Compactor (10 tonne)	Hour	2,120.00	
19	PM8001	Smooth Wheeled Roller 8 tonne	Hour	1,650.00	
20	PM9001	Tandem Roller	Hour	2,110.00	Vibratory road Roller
21	PM9002	Mini Tandem Roller	hour	1,179.00	do-
22	PM10001	Pneumatic Road Roller	Hour	2,102.00	do-
23	PM11001	Water Tanker (16 KL)	Hour	1,204.00	
24	PM11002	Water Tanker (12 KL)	Hour	1,030.00	
25	PM11003	Water Tanker (6 KL)	Hour	789.00	
26	PM12001	Tractor-Trolly	Hour	717.00	
27	PM13001	Rotavator	Hour	17.00	
28	PM14001	Ripper	Hour	21.00	
29	PM15001	Air Compressor -250 cfm	Hour	496.00	
30	PM15002	Air Compressor -500 cfm	Hour	1,938.00	
31	PM16001	Integrated Stone Crusher Stone (3 Stage) 250 TPH	Hour	13,961.00	
32	PM17001	Wet Mix Plant - 250 TPH Capacity	Hour	708.00	
33	PM17002	Wet Mix Plant - 200 TPH Capacity	Hour	413.00	
34	PM17003	Wet Mix Plant - 100 TPH Capacity	Hour	388.00	
35	PM18001	Hotmix Plant - 200 TPH Capacity	Hour	84,145.00	
36	PM18002	Hotmix Plant - 160 TPH Capacity	Hour	66,183.00	
37	PM18003	Hotmix Plant - 120 TPH capacity	Hour	50,039.00	
38	PM19001	Batching and Mixing Plant - 240 cum Capacity	Hour	5,782.00	
39	PM19002	Batching and Mixing Plant - 120 cum Capacity	Hour	3,706.00	
40	PM20001	Mobile Concrete Batching / Mixing Plant	Hour	681.00	
41	PM21001	Concrete Mixer - 0.4/0.28 cum	Hour	392.00	
42	PM21002	Concrete Mixer - 1 cum	Hour	421.00	
43	PM22001	Generator 725 KVA	Hour	7,798.00	
44	PM22002	Generator 500 KVA	Hour	5,394.00	
45	PM22003	Generator 400 KVA	Hour	4,356.00	
46	PM22004	Generator 250 KVA	Hour	3,064.00	
47	PM22005	Generator 125 KVA	Hour	1,615.00	
48	PM22006	Generator 100 KVA	Hour	1,386.00	
49	PM22007	Generator 62.5 KVA	Hour	895.00	

50	PM22008	Generator 33 KVA	Hour	521.00	
51	PM22009	Generator 15 KVA	Hour	300.00	
52	PM23001	Mechanical Broom Hydraulic	Hour	834.00	
53	PM24001	Bitumen Pressure Distributor	Hour	1,382.00	
54	PM25001	Emulsion Pressure Distributor	Hour	1,382.00	
55	PM26001	Bitumen Boiler Oil Fired	Hour	592.00	
56	PM27001	Mastic Cooker	Hour	555.00	
57	PM28001	Paver Finisher Mechanical	Hour	2,188.00	
58	PM29001	Paver Finisher Hydrostatic with sensor control -240 HP	Hour	8,144.00	
59	PM29002	Paver Finisher Hydrostatic with sensor control -170 HP	Hour	6,436.00	
60	PM30001	Paver Finisher Concrete with 300 HP Motor	Hour	26,020.00	
61	PM30002	Paver Finisher Concrete with 241 HP Motor	Hour	16,683.00	
62	PM30003	Paver Finisher Concrete with 118 HP Motor	Hour	3,854.00	
63	PM31001	Texture Curing Machine (TCM) - upto 18 m	Hour	4,437.00	
64	PM31002	Texture Curing Machine (TCM) - upto 9 m	Hour	3,464.00	
65	PM32001	Hydraulic Chip Spreader	Hour	1,712.00	
66	PM33001	Pot-Hole Repair Machine	Hour	1,345.00	
67	PM34001	Transit Mixer - 6 Cum	Hour	1,992.00	
68	PM35001	Concrete Pump	Hour	1,105.00	
69	PM36001	Boom Placer	Hour	3,827.00	
70	PM37001	Kerb Casting Machine	Hour	1,650.00	
71	PM38001	Piling Rig with Bentonite Pump	Hour	17,246.00	
72	PM39001	Pneumatic Sinking Plant	Hour	5,468.00	
73	PM40001	Road marking machine	Hour	1,432.00	
74	PM41001	Mobile Slurry Seal Equipment	Hour	3,523.00	
75	PM42001	Joint Cutting Machine	Hour	397.00	
76	PM43001	Bar Bending & Cutting Machine	Hour	414.00	
77	PM44001	Needle Vibrator	Hour	456.00	
78	PM45001	Jack Hammer for air compressor	Hour	11.00	
79	PM46001	Plate Compactor	Hour	466.00	
80	PM47001	Milling Machine with 1 meter Drum Width	Hour	4,098.00	
81	PM47002	Milling Machine with 1.2 meter Drum Width	Hour	4,779.00	
82	PM47003	Milling Machine With 1.3 meter Drum Width	Hour	6,876.00	
83	PM47004	Milling Machine With 2 meter Drum Width	Hour	10,007.00	
84	PM48001	Cold in Situ recycling of bitumen's pavement with foam bitumen technology	Hour	27,482.00	
85	PM49001	In situ stabilisation of WMM/GSB/Sub grade	Hour	24,167.00	
86	PM50001	Cement spreader	Hour	7,022.00	
87	PM51001	Mobile cold recycling mixing plant	Hour	20,530.00	
88	PM52001	Hot in place recycling	Hour	1,02,643.00	
89	PM53001	Pre heater unit for hot in place recycling	Hour	741.00	
90	PM54001	Single boom Hydraulic Drill Jumbo	Hour	4,515.00	
91	PM55001	Two boom Hydraulic Drill Jumbo	Hour	6,779.00	
92	PM56001	Three boom Hydraulic Drill Jumbo	Hour	9,865.00	
93	PM57001	Hydraulic Rock bolt drill	Hour	6,701.00	
94	PM58001	Rotating Telehandlers	Hour	975.00	
95	PM59001	Shotcrete Machine	Hour	1,597.00	
96	PM60001	Grouting machine	Hour	668.00	
97	PM61001	Dewatering Pump 10 HP	Hour	235.00	
98	PM61002	Concrete cutting machine	Hour	235.00	
99	PM62001	Crawler mounted Crane 35 tonne capacity	Hour	5,608.00	
100	PM62002	Crawler mounted Crane 80 tonne capacity	Hour	5,722.00	
101	PM62003	Crawler mounted Crane 100 tonne capacity	Hour	8,812.00	
102	PM63001	Mobile Hydraulic Crane 3 tonne capacity	Hour	860.00	
103	PM63002	Mobile Hydraulic Crane 5 tonne capacity	Hour	896.00	
104	PM63003	Mobile Hydraulic Crane 10 tonne capacity	Hour	995.00	
105	PM63004	Mobile Hydraulic Crane 15 tonne capacity	Hour	1,031.00	

106	PM63005	Mobile Hydraulic Crane 20 tonne capacity	Hour	1,231.00	
107	PM63006	Mobile Hydraulic Crane 35 toone capacity	Hour	1,853.00	
108	PM64001	Concrete Bucket	Hour	117.00	
109	PM65001	Prestressing Jack with Pump & Access	Hour	493.00	
110	PM66001	Boat to carry atleast 20 persons	hour	819.00	
111	PM67001	Crane with grab 0.75 cum capacity	hour	869.00	
112	PM68001	Epoxy Injection gun	hour	312.00	
113	PM69001	Induction, deinduction and erection of plant and equipment including all components and accessories for pneumatic method of well sinking.	hour	9,111.00	
114	PM70001	Jack for Lifting 40 tonne lifting capacity.	hour	320.00	
115	PM71001	Vibrating Pile driving hammer complete with power unit and accessories.	hour	16,125.00	
116	PM72001	Tipper 18 Cum (Surface Road)	Per Tonne Km.	4.98	
117	PM72002	Tipper-18 Cum (Unsurfaced Gravelled Road) excluding OH & CP	t.km	6.04	
118	PM72003	Tipper-18 Cum (Katcha Track) excluding OH & CP	t.km	12.10	
119	PM73001	Tipper -14 Cum (Surface Road) excluding OH & CP	t.km	5.71	
120	PM73002	Tipper -14 Cum (Unsurfaced Gravelled Road) excluding OH & CP	t.km	6.93	
121	PM73003	Tipper -14 Cum (Katcha Track) excluding OH & CP	t.km	13.88	
122	PM74001	Tipper -10 Cum (Surface Road) excluding OH & CP	t.km	7.10	
123	PM74002	Tipper -10 Cum (Unsurfaced Gravelled Road) excluding OH & CP	t.km	8.63	
124	PM74003	Tipper -10 Cum (Katcha Track) excluding OH & CP	t.km	17.26	
125	PM75001	Tipper- 5.5 Cum (Surface Road) excluding OH & CP	t.km	9.93	
126	PM75002	Tipper- 5.5 Cum (Unsurfaced Gravelled Road) excluding OH & CP	t.km	12.06	
127	PM75003	Tipper- 5.5 Cum (Katcha Track) excluding OH & CP	t.km	24.14	
128	PM76001	Transit Mixer - 6 Cum excluding OH & CP	t.km	10.87	
129	PM77001	Loading and unloading of stone boulder / stone aggregates / sand / kanker / moorum (Using by 18 cum capacity Tipper & 3.1 Cum capacity Loader) excluding OH & CP	cum	75.43	
130	PM77002	Loading and unloading of stone boulder / stone aggregates / sand / kanker / moorum (Using by 14 cum capacity Tipper & 2.1 Cum capacity Loader) excluding OH & CP	cum	74.68	
131	PM77003	Loading and unloading of stone boulder / stone aggregates / sand / kanker / moorum (Using by 10 cum capacity Tipper & 1.0 Cum capacity Loader) excluding OH & CP	cum	104.81	
132	PM77004	Loading and unloading of stone boulder / stone aggregates / sand / kanker / moorum (Using by 5 cum capacity Tipper & 1.0 Cum capacity Loader) excluding OH & CP	cum	118.87	
133	PM77005	Loading and Unloading of Cement or Steel by Manual Means and Stacking	tonne	461.95	
134	PM78001	Centrifugal water pump	Hour	281.00	
135	PM79001	Shredding Machine	Hour	496.00	
136	PM80001	Mobile Bridge Inspection Unit (MBIU)	hour	6,621.00	
137	PM81001	Network Survey Vehicle (NSV) With SUV	hour	6,150.00	
138	PM82001	Falling weight deflectometer (FWD) Equipment With SUV	hour	2,964.00	
139	PM83001	Retroreflectometer testing equipment with Vehicle With SUV	hour	1,575.00	

140	PM84001	Sport utility vehicle (SUV)	hour	1,032.00	
141	PM85001	Automatic Vehicle Counter Classifier (ATCC) System	hour	74.00	

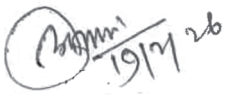


सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

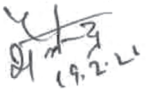


सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि0, बिहार, पटना।



सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।



सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।



सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख (मु०)
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।



सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, मुख्यालय जल
संसाधन विभाग, बिहार, पटना।



सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।



संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

Approved Input of Labour wages, Overhead &Lead for the preparation of Schedule of Rate 2026-27 in prescribed format of updated MORT&H Standard Data Book 2019(2nd Revision)
Date :-31.10.2025

S.No.	Description of Labour	Unit	Approved Rate
1	2	3	4
L-01	Blacksmith (IInd class)	day	541.00
L-02	Blacksmith (Ist class)/ Welder/ Plumber/ Electrician	day	660.00
L-03	Blaster (Stone cutter)	day	699.00
L-04	Carpenter I Class	day	660.00
L-05	Chiseller (Head Mazdoor)	day	660.00
L-06	Driller (Jumper)	day	444.00
L-07	Diver	day	660.00
L-08	Fitter	day	541.00
L-09	Mali	day	444.00
L-10	Mason (IInd class)	day	541.00
L-11	Mason (Ist class)	day	660.00
L-12	Mate / Supervisor	day	444.00
L-13	Mazdoor	day	428.00
L-14	Mazdoor/Dresser (Semi Skilled)	day	444.00
L-15	Mazdoor/Dresser/Sinker (Skilled)	day	541.00
L-16	Medical Officer	day	660.00
L-17	Operator(grouting)	day	660.00
L-18	Painter I class	day	541.00
L-19	Para medical personnel	day	660.00
L-20	Heavy Plant Operator	day	660.00
L-21	Light Plant Operator.	day	541.00
L-22	Heavy Vehicle Driver.	day	660.00
L-23	Light Vehicle Driver.	day	541.00
L-24	Helper	day	444.00
L-25	Black smith	day	541.00
	Overhead		
	Overheads for Road Works(Large)	0.08	(@ 8%)
	Overheads for Road Works(Medium)	0.10	(@ 10%)
	Overheads for Road Works (Small)	0.12	(@ 12%)
	Contractor's profit for Road Works	0.10	(@ 10%)
	Overheads for New / Widening of Bridge/Structure Works	0.20	(@ 20%)
	Overheads for Rehabilitation of Bridge /Structure	0.30	(@ 30%)
	Contractor's profit for Bridge Works	0.10	(@ 10%)
	Over heads for Road Tunnel Works	0.25	(@ 25%)
	Contractor's profit for Tunnel Works	0.10	(@ 10%)
	Lead		
L1	Lead from Mixing Plant to working site	1.0	km
L2	Lead for E/W borrow area to site	1.0	km



APPROVED CARRIAGE RATE OF MATERIALS (BY TIPPER) Date :- 19.02.2026

Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
1.01	A	Loading and unloading of stone boulder / stone aggregates / sand / kanker / moorum.									
		Placing tipper at loading point, loading with front end loader, dumping, turning for return trip, excluding time for haulage and return trip									
		Unit = cum									
		A.Taking output = 5.5 Cum									
		Time required for									
		i) Positioning of tipper at loading point	Min	1.000	1.000	1.000					
		ii) Loading by front end loader 1 cum bucket capacity	Min	6.633	6.633	6.633					
		iii) Maneuvering, reversing, dumping and turning for return	Min	2.000	2.000	2.000					
		iv) Waiting time, unforeseen contingencies etc	Min	4.000	4.000	4.000					
		Total	Min	13.633	13.633	13.633					
		a) Machinery									
		Tipper-5.5 Cum capacity	Hour	0.227	0.227	0.227	1,476.00	335.052	335.052	335.052	PM6004
		Front end -loader 1 cum bucket capacity	Hour	0.227	0.227	0.227	1,454.00	330.058	330.058	330.058	PM5003
		Total Cost Excluding OH & CP						665.110	665.110	665.110	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		53.209	66.511	79.813	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		71.832	73.162	74.492	
		Total Cost for 5.5 cum = (a+b+c) Including OH & CP						790.151	804.783	819.416	
		Unit Cost= (a+b+c)/5.5 Including OH & CP						143.664	146.324	148.985	
	Note :	**Unloading will be by tipping.**					**Say**	**143.700**	**146.300**	**149.000**	
1.01	B	**Loading and unloading of stone boulder / stone aggregates / sand / kanker / moorum.**									
		Placing tipper at loading point, loading with front end loader, dumping, turning for return trip, excluding time for haulage and return trip									
		Unit = cum									
		Taking Output = 10.00 cum									

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Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Time required for									
		i) Positioning of tipper at loading point	Min	1.000	1.000	1.000					
		ii) Loading by front end loader 1 cum bucket capacity	Min	12.060	12.060	12.060					
		iii) Maneuvering, reversing, dumping and turning for return	Min	2.000	2.000	2.000					
		iv) Waiting time, unforeseen contingencies etc	Min	4.000	4.000	4.000					
		Total	Min	19.060	19.060	19.060					
		a) Machinery									
		Tipper-10 Cum capacity	Hour	0.318	0.318	0.318	1,891.00	601.338	601.338	601.338	PM6003
		Front end-loder 1 cum bucket capacity	Hour	0.318	0.318	0.318	1,454.00	462.372	462.372	462.372	PM5003
		Total Cost Excluding OH & CP						1,063.71	1,063.71	1,063.71	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		85.097	106.371	127.645	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		114.881	117.008	119.136	
		Total Cost for 10 cum = (a+b+c)Including OH & CP						1263.687	1287.089	1310.491	
		Unit Cost= (a+b+c)/10 Including OH & CP						126.369	128.709	131.049	
	Note :	**Unloading will be by tipping.**					**Say**	**126.400**	**128.700**	**131.000**	
1.01	C.	**Loading and unloading of stone boulder / stone aggregates / sand / kanker / moorum.**									
		Placing tipper at loading point, loading with front end loader, dumping, turning for return trip, excluding time for haulage and return trip									
		Unit = cum									
		Taking Output = 14.00 cum									
		Time required for									
		i) Positioning of tipper at loading point	Min	1.000	1.000	1.000					
		ii) Loading by front end loader 2.1 cum bucket capacity	Min	8.029	8.029	8.029					
		iii) Maneuvering, reversing, dumping and turning for	Min	2.000	2.000	2.000					
		iv) Waiting time, unforeseen contingencies etc	Min	4.000	4.000	4.000					
		Total	Min	15.029	15.029	15.029					
		a) Machinery									
		Tipper-14 Cum capacity	Hour	0.250	0.250	0.250	2108.000	527.000	527.000	527.000	PM6002
		Front End loader 2.1 cum bucket capacity	Hour	0.250	0.250	0.250	2121.000	530.250	530.250	530.250	PM5002
		Total Cost Excluding OH & CP						1,057.250	1,057.250	1,057.250	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		84.580	105.725	126.870	

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Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		114.183	116.298	118.412	
		Total Cost for 14 cum = (a+b+c)Including OH & CP						1,256.013	1,279.273	1,302.532	
		Unit Cost= (a+b+c)/14 Including OH & CP						89.715	91.377	93.038	
	Note :	**Unloading will be by tipping.**					**Say**	**89.700**	**91.400**	**93.000**	
1.01	D	**Loading and unloading of stone boulder / stone aggregates / sand / kanker / moorum.**									
		Placing tipper at loading point, loading with front end loader, dumping, turning for return trip, excluding time for haulage and return trip									
		Unit = cum									
		Taking Output = 18.00 cum									
		Time required for									
		i) Positioning of tipper at loading point	Min	1.000	1.000	1.000					
		ii) Loading by front end loader 3.1 cum bucket capacity	Min	6.996	6.996	6.996					
		iii) Maneuvering, reversing, dumping and turning for return	Min	2.000	2.000	2.000					
		iv) Waiting time, unforeseen contingencies etc	Min	4.000	4.000	4.000					
		Total	Min	13.996	13.996	13.996					
		a) Machinery									
		Tipper-18 Cum capacity.	Hour	0.233	0.233	0.233	2,349.00	547.317	547.317	547.317	PM6001
		Front End loader 3.1 cum bucket capacity	Hour	0.233	0.233	0.233	3,523.00	820.859	820.859	820.859	PM5001
		Total Cost Excluding OH & CP						1,368.176	1,368.176	1,368.176	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		109.454	136.818	164.181	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		147.763	150.499	153.236	
		Total Cost for 18 cum = (a+b+c)Including OH & CP						1,625.393	1,655.493	1,685.593	
		Unit Cost= (a+b+c)/18 Including OH & CP						90.300	91.972	93.644	
	Note :	**Unloading will be by tipping.**					**Say**	**90.300**	**92.000**	**93.600**	
1.02	Ref. to Morth.	**Loading and Unloading of Boulders by Manual Means**									
		Unit = cum									
		Taking output = 10 Cum									
		a) Labour									
		Mate	day	0.055	0.055	0.055	444.000	24.420	24.420	24.420	L-12
		Mazdoor	day	1.364	1.364	1.364	428.000	583.792	583.792	583.792	L-13
		b) Machinery									

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Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Tipper-10 Cum capacity	Hour	1.364	1.364	1.364	1,891.00	2579.324	2579.324	2579.324	PM6003
		Total Cost Excluding OH & CP						3,187.54	3,187.54	3,187.54	
		c) Overheads on (a+b)		(@ 8%)	(@ 10%)	(@ 12%)		255.003	318.754	382.504	
		d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		344.254	350.629	357.004	
		Total Cost for10 cum=(a+b+c+d)Including OH & CP						3786.793	3856.919	3927.044	
		Unit Cost=(a+b+c+d)/10 Including OH & CP						378.679	385.692	392.704	
	Note :	**Unloading will be by tipping.**					**Say**	**378.70**	**385.70**	**392.70**	
1.03	Ref.to M.	**Loading and Unloading of Cement or Steel by Manual Means and Stacking.**									
		Unit = tonne									
		Taking Output = 18.00 tonne									
		a) Labour									
		Mate	day	0.144	0.144	0.144	444.000	63.936	63.936	63.936	L-12
		Mazdoor	day	3.600	3.600	3.600	428.000	1540.800	1540.800	1540.800	L-13
		b) Machinery									
		Truck-18 tonne capacity.	Hour	3.600	3.600	3.600	1,891.00	6807.600	6807.600	6807.600	PM6003
		Total Cost Excluding OH & CP						8412.336	8412.336	8412.336	
		c) Overheads on (a+b)		(@ 8%)	(@ 10%)	(@ 12%)		672.987	841.234	1,009.480	
		d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		908.532	925.357	942.182	
		Total Cost for 18 tonnes=(a+b+c+d)Including OH & CP						9,993.855	10,178.927	10,363.998	
		Unit Cost=(a+b+c+d)/18 Including OH & CP						555.214	565.496	575.778	
							Say	**555.200**	**565.500**	**575.800**	
1.04	(i) A	**Cost of Haulage Excluding Loading and Unloading**									
		i) A.Case-I : Surfaced Road.									
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking Output 10 tonnes load and lead 10 km=100. t.km									
		Speed with load : 25 km / hour.									
		Speed while Returning empty : 35 km / hour.									
		a) Machinery									
		i) Tipper 10 tonnes capacity.									
		Time taken for onward haulage with load.	Hour	0.400	0.400	0.400	1,476.00	590.400	590.400	590.400	PM6004
		Time taken for empty return trip.	Hour	0.286	0.286	0.286	1,476.00	422.136	422.136	422.136	PM6004

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Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Total Cost Excluding OH & CP						1012.536	1012.536	1012.536	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		81.003	101.254	121.504	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		109.354	111.379	113.404	
		Total Cost for100 t.km = (a+b+c)Including OH & CP						1202.893	1225.169	1247.444	
		Rate per t.km= (a+b+c)/100 Including OH & CP						12.029	12.252	12.474	
							Say	**12.000**	**12.300**	**12.500**	
		Cost of Haulage Excluding Loading and Unloading									
	B	**i) Case-I : Surfaced Road .**									
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking Output =18tonnes load and lead10 km=180. t.km									
		Speed with load : 25 km / hour.									
		Speed while Returning empty : 35 km / hour.									
		a) Machinery									
		i) Tipper 18 tonne capacity.									
		Time taken for onward haulage with load.	Hour	0.400	0.400	0.400	1891.000	756.400	756.400	756.400	PM6003
		Time taken for empty return trip.	Hour	0.286	0.286	0.286	1891.000	540.826	540.826	540.826	PM6003
		Total Cost Excluding OH & CP						1,297.226	1,297.226	1,297.226	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		103.778	129.723	155.667	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		140.100	142.695	145.289	
		Total Cost for180 t.km = (a+b+c)Including OH & CP						1,541.104	1,569.643	1,598.182	
		Rate per t.km= (a+b+c)/180 Including OH & CP						8.562	8.720	8.879	
							Say	**8.600**	**8.700**	**8.900**	
	C	**Case-I : Surfaced Road .**									
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking Output = 25 tonne load and lead 10km=250.t.km									
		Speed with load : 25 km / hour.									
		Speed while Returning empty : 35 km / hour.									
		a) Machinery									

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Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		i) Tipper 25 tonnes capacity									
		Time taken for onward haulage with load.	Hour	0.400	0.400	0.400	2108.000	843.200	843.200	843.200	PM6002
		Time taken for empty return trip.	Hour	0.286	0.286	0.286	2108.000	602.888	602.888	602.888	PM6002
		Total Cost Excluding OH & CP						1446.088	1446.088	1446.088	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		115.687	144.609	173.531	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		156.178	159.070	161.962	
		Total Cost for250 t.km = (a+b+c)Including OH & CP						1717.953	1749.766	1781.580	
		Rate per t.km= (a+b+c)/250 Including OH & CP						6.872	6.999	7.126	
							Say	**6.900**	**7.000**	**7.100**	
	D	**Case-I : Surfaced Road .**									
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking Output =32tonnes load and lead10km= 320. t.km									
		Speed with load : 25 km / hour.									
		Speed while Returning empty : 35 km / hour.									
		a) Machinery									
		i) Tipper 32 tonne capacity									
		Time taken for onward haulage with load.	Hour	0.400	0.400	0.400	2,349.00	939.6	939.6	939.6	PM6001
		Time taken for empty return trip.	Hour	0.286	0.286	0.286	2,349.00	671.814	671.814	671.814	PM6001
		Total Cost Excluding OH & CP						1,611.414	1,611.414	1,611.414	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		128.913	161.141	193.370	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		174.033	177.256	180.478	
		Total Cost for320 t.km = (a+b+c)Including OH & CP						1,914.360	1,949.811	1,985.262	
		Rate per t.km= (a+b+c)/320 Including OH & CP						5.982	6.093	6.204	
							Say	**6.000**	**6.100**	**6.200**	
1.04	(ii) A	**.Case-II : Unsurfaced Gravelled Road .**									
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking Output 10 tonnes load & lead 10 km= 100 t.km									
		Speed with load: 20 km/hour									
		Speed for empty return trip : 30 km / hour									
		a) Machinery									

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Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Tipper 10 tonnes capacity									
		Time taken for onward haulage with load	Hour	0.500	0.500	0.500	1476.000	738.000	738.000	738.000	PM6004
		Time taken for empty return trip.	Hour	0.333	0.333	0.333	1476.000	491.508	491.508	491.508	PM6004
		Total Cost Excluding OH & CP						1,229.508	1,229.508	1,229.508	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		98.361	122.951	147.541	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		132.787	135.246	137.705	
		Total Cost for100 t.km = (a+b+c)Including OH & CP						1,460.656	1,487.705	1,514.754	
		Rate per t.km= (a+b+c)/100 Including OH & CP						14.607	14.877	15.148	
							Say	**14.600**	**14.900**	**15.100**	
1.04	(ii) B	**Case-II : Unsurfaced Gravelled Road .**									
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking Output 18 tonnes load & lead10 km=180.t.km									
		Speed with load : 20 km / hour									
		Speed for empty return trip : 30 km / hour									
		a) Machinery									
		Tipper 18 tonnes capacity									
		Time taken for onward haulage with load.	Hour	0.500	0.500	0.500	1,891.00	945.500	945.500	945.500	PM6003
		Time taken for empty return trip.	Hour	0.333	0.333	0.333	1,891.00	629.703	629.703	629.703	PM6003
		Total Cost Excluding OH & CP						1,575.203	1,575.203	1,575.203	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		126.016	157.520	189.024	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		170.122	173.272	176.423	
		Total Cost for180 t.km = (a+b+c)Including OH & CP						1,871.341	1,905.996	1,940.650	
		Rate per t.km= (a+b+c)/180 Including OH & CP						10.396	10.589	10.781	
							Say	**10.400**	**10.600**	**10.800**	
1.04	(ii) C	Case-II : Unsurfaced Gravelled Road .									
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking Output 25 tonnes load & lead10 km =250. t.km									
		Speed with load : 20 km / hour									
		Speed for empty return trip : 30 km / hour									
		a) Machinery									
		Tipper 25 tonnes capacity.									
		Time taken for onward haulage with load	Hour	0.500	0.500	0.500	2,108.00	1054.000	1054.000	1054.000	PM6002

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Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Time taken for empty return trip.	Hour	0.333	0.333	0.333	2,108.00	701.964	701.964	701.964	PM6002
		Total Cost Excluding OH & CP						1,755.964	1,755.964	1,755.964	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		140.477	175.596	210.716	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		189.644	193.156	196.668	
		Total Cost for250 t.km = (a+b+c)Including OH & CP						2086.085	2124.716	2163.348	
		Rate per t.km= (a+b+c)/250 Including OH & CP						8.344	8.499	8.653	
							Say	**8.300**	**8.500**	**8.700**	
1.04	(ii) D	**Case-II : Unsurfaced Gravelled Road.**									
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking Output 32 tonnes load & lead 10 km= 320. t.km									
		Speed with load : 20 km / hour									
		Speed for empty return trip : 30 km / hour									
		a) Machinery									
		i) Tipper 32 tonnes capacity									
		Time taken for onward haulage with load	Hour	0.500	0.500	0.500	2,349.00	1174.5	1174.5	1174.5	PM6001
		Time taken for empty return trip.	Hour	0.333	0.333	0.333	2,349.00	782.217	782.217	782.217	PM6001
		Total Cost Excluding OH & CP						1,956.717	1,956.717	1,956.717	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		156.537	195.672	234.806	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		211.325	215.239	219.152	
		Total Cost for320 t.km = (a+b+c)Including OH & CP						2,324.580	2,367.628	2,410.675	
		Rate per t.km= (a+b+c)/320 Including OH & CP						7.264	7.399	7.533	
							Say	**7.300**	**7.400**	**7.500**	
1.04	(iii) A	Case-III : Katcha Track and Track in river bed / nallah bed and choe bed.									
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking Output 10 tonnes load & lead 10km= 100 t.km									
		Speed with load: 10 km / hour									
		Speed while returning empty: 15 km / hour									
		a) Machinery									
		i) Tipper 10 tonnes capacity.									
		Time taken for onward haulage	Hour	1.000	1.000	1.000	1,476.00	1476.000	1476.000	1476.000	PM6004
		Time taken for empty return trip.	Hour	0.667	0.667	0.667	1,476.00	984.492	984.492	984.492	PM6004
		Total Cost Excluding OH & CP						2,460.492	2,460.492	2,460.492	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		196.839	246.049	295.259	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		265.733	270.654	275.575	
		Total Cost for100 t.km = (a+b+c)Including OH & CP						2,923.064	2,977.195	3,031.326	

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Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Rate per t.km= (a+b+c)/100 Including OH & CP						29.231	29.772	30.313	
							Say	**29.200**	**29.800**	**30.300**	
1.04	(iii) B	Case-III : Katcha Track and Track in river bed / nallah bed and choe bed.									
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking Output18 tonnes load &lead10km=180.00 t.km									
		Speed with load: 10 km / hour									
		Speed while returning empty: 15 km / hour									
		a) Machinery									
		Tipper 18 tonnes capacity									
		Time taken for onward haulage	Hour	1.000	1.000	1.000	1,891.00	1891.000	1891.000	1891.000	PM6003
		Time taken for empty return trip.	Hour	0.667	0.667	0.667	1,891.00	1261.297	1261.297	1261.297	PM6003
		Total Cost Excluding OH & CP						3,152.297	3,152.297	3,152.297	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		252.184	315.230	378.276	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		340.448	346.753	353.057	
		Total Cost for180 t.km = (a+b+c)Including OH & CP						3,744.929	3,814.279	3,883.630	
		Rate per t.km= (a+b+c)/180 Including OH & CP						20.805	21.190	21.576	
							Say	**20.800**	**21.200**	**21.600**	
1.04	(iii) C	Case-III : Katcha Track and Track in river bed / nallah bed and choe bed.									
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking Output25Tonnes load &lead10 km=250.t.km									
		Speed with load: 10 km / hour									
		Speed while returning empty: 15 km / hour									
		a) Machinery									
		i) Tipper 25 tonnes capacity									
		Time taken for onward haulage	Hour	1.000	1.000	1.000	2,108.00	2108.000	2108.000	2108.000	PM6002
		Time taken for empty return trip.	Hour	0.667	0.667	0.667	2,108.00	1406.036	1406.036	1406.036	PM6002
		Total Cost Excluding OH & CP						3,514.036	3,514.036	3,514.036	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		281.123	351.404	421.684	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		379.516	386.544	393.572	
		Total Cost for250 t.km = (a+b+c)Including OH & CP						4,174.675	4,251.984	4,329.292	

APPROVED CARRIAGE RATE OF MATERIALS (BY TIPPER) Date :- 19.02.2026

Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Rate per t.km= (a+b+c)/250 Including OH & CP						16.699	17.008	17.317	
							Say	**16.700**	**17.000**	**17.300**	
1.04	(iii) D	Case-III : Katcha Track and Track in river bed / nallah bed and choe bed.									
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking Output 32 tonnes load &lead 10 km= 320. t.km									
		Speed with load: 10 km / hour									
		Speed while returning empty: 15 km / hour									
		a) Machinery									
		i) Tipper 32 tonnes capacity									
		Time taken for onward haulage	Hour	1.000	1.000	1.000	2349.000	2349.000	2349.000	2349.000	PM6001
		Time taken for empty return trip	Hour	0.667	0.667	0.667	2349.000	1566.783	1566.783	1566.783	PM6001
		Total Cost Excluding OH & CP						3,915.783	3,915.783	3,915.783	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		313.263	391.578	469.894	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		422.905	430.736	438.568	
		Total Cost for320 t.km = (a+b+c)Including OH & CP						4651.950	4738.097	4824.245	
		Rate per t.km= (a+b+c)/320 Including OH & CP						14.537	14.807	15.076	
							Say	**14.500**	**14.800**	**15.100**	
1.04	(iv)	**Case-IV : Katcha Track in hilly area.**									
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking Output 10 tonnes load & lead 10km= 100. t.km									
		Speed with load: 5 km / hour									
		Speed while returning empty: 7 km / hour									
		a) Machinery									
		i) Tipper 10 tonnes capacity.									
		Time taken for onward haulage	Hour	2.000	2.000	2.000	1,476.00	2952.000	2952.000	2952.000	PM6004
		Time taken for empty return trip.	Hour	1.429	1.429	1.429	1,476.00	2109.204	2109.204	2109.204	PM6004
		Total Cost Excluding OH & CP						5,061.204	5,061.204	5,061.204	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		404.896	506.120	607.344	

APPROVED CARRIAGE RATE OF MATERIALS (BY TIPPER) Date :- 19.02.2026

Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		546.610	556.732	566.855	
		Total Cost for100 t.km = (a+b+c)Including OH & CP						6,012.710	6,124.057	6,235.403	
		Rate per t.km= (a+b+c)/100 Including OH & CP						60.127	61.241	62.354	
							Say	**60.100**	**61.200**	**62.400**	
1.04	(v)	**Case-V : Transit Mixture**									
		Haulage of Concrete by transit mixture excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking Output 15Tonnes load & lead 10km= 150 t.km									
		Speed with load : 20 km / hour									
		Speed while returning empty: 30 km / hour									
		a) Machinery									
		i) Transit Mixture 6 cum capacity.									
		Time taken for onward haulage with load	Hour	0.500	0.500	0.500	1,992.00	996.000	996.000	996.000	PM34001
		Time taken for empty return trip.	Hour	0.333	0.333	0.333	1,992.00	663.336	663.336	663.336	PM34001
		Total Cost Excluding OH & CP						1,659.336	1,659.336	1,659.336	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		132.747	165.934	199.120	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		179.208	182.527	185.846	
		Total Cost for150 t.km = (a+b+c)Including OH & CP						1,971.291	2,007.797	2,044.302	
		Rate per t.km= (a+b+c)/150 Including OH & CP						13.142	13.385	13.629	
							Say	**13.100**	**13.400**	**13.600**	
1.05		**Hand Broken Stone Aggregates 63 mm nominal size**									
		Supply of quarried stone, hand breaking into coarse aggregate 63 mm nominal size (passing 80 mm and retained on 50 mm sieve) and stacking as directed									
		Unit = cum									
		Taking Output = 1.00 cum									
		a) Labour									
		Mate	day	0.0600	0.0600	0.0600	444.000	26.640	26.640	26.640	L-12
		Mazdoor	day	1.500	1.500	1.500	428.000	642.000	642.000	642.000	L-13
		b) Material									
		Supply of quarried stone 150 - 200 mm size	cum	1.1000	1.1000	1.1000	730.020	803.022	803.022	803.022	M-002
		Total Cost Excluding OH & CP						1471.662	1471.662	1471.662	
		c) Overheads on (a+b)		(@ 8%)	(@ 10%)	(@ 12%)		117.733	147.166	176.599	
		d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		158.939	161.883	164.826	
		Total Cost for1cum = (a+b+c+d)Including OH & CP						1,748.334	1,780.711	1,813.088	

APPROVED CARRIAGE RATE OF MATERIALS (BY TIPPER) Date :- 19.02.2026

Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Rate per cum= (a+b+c+d) Including OH & CP					**Say**	**1,748.300**	**1,780.700**	**1,813.100**	
1.06		**Crushing of stone aggregates (Nominal size)**									
		Crushing of stone boulders of 150 mm size in an integrated stone crushing unit of 250 tonnes per hour capacity comprising of primary and secondary crushing units, belt conveyor and vibrating screens to obtain stone aggregates of different nominal size.									
	(i)	**1.Crushing Pattern 40 mm (tonne)- Cost Distribution 28.98 %**									
		Unit = cum									
		Taking Output = 750.00 cum									
		a) Labour									
		Mate	day	0.320	0.320	0.320	444.000	142.080	142.080	142.080	L-12
		Mazdoor(Skilled)	day	2.000	2.000	2.000	541.000	1082.000	1082.000	1082.000	L-15
		Mazdoor	day	6.000	6.000	6.000	428.000	2568.000	2568.000	2568.000	L-13
		b) Material									
		Stone Boulder of size 150 mm and below.	cum	750.000	750.000	750.000	730.02	547515.000	547515.000	547515.000	M-001
		c) Machinery									
		Integrated stone crusher of 250 TPH including belt conveyor and vibrating screens	Hour	6.000	6.000	6.000	13,961.00	83766.000	83766.000	83766.000	PM16001
		Generator 725 KVA	Hour	6.000	6.000	6.000	7,798.00	46788.000	46788.000	46788.000	PM22001
		Front end loader 3.1 cum bucket capacity at quarry and crusher	Hour	5.515	5.515	5.515	3,523.00	19429.345	19429.345	19429.345	PM5001
		Tipper 14 cum capacity for loading at quarry site	Hour	5.515	5.515	5.515	2,108.00	11625.620	11625.620	11625.620	PM6002
		Tipper 14 cum capacity for transportation within 1 km	t.km	1,125.00	1,125.00	1,125.00	5.71	6423.750	6423.750	6423.750	PM73001
		d) Total Cost for 750 cum(a+b+c) (Excluding OH & CP)						719339.80	7,19,339.80	7,19,339.80	
		e) Crushing pattern 40mm(tonne)	tonne	22.71%	22.71%	22.71%	255.488				255.488
		f) % Cost distribution={(d)x(f)/e)x1.5}	cum	28.98%	28.98%	28.98%	0.2898	1,223.92	1,223.92	1,223.92	
		g) Overheads on (f)		(@ 8%)	(@ 10%)	(@ 12%)		97.914	122.392	146.870	
		h) Contractor's profit on (f+g)		(@ 10%)	(@ 10%)	(@ 10%)		132.183	134.631	137.079	
		i) Total Cost for1cum = (f+g+h) Including OH & CP						1,454.018	1,480.944	1,507.870	
		Rate per cum= (f+g+h) Including OH & CP					**Say**	**1,454.000**	**1,480.900**	**1,507.900**	
	(ii)	**Crushing of stone aggregates (Nominal size)**									

APPROVED CARRIAGE RATE OF MATERIALS (BY TIPPER) Date :- 19.02.2026

Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		2.Crushing Pattern 20 mm (tonne)- Cost Distribution 31.95 %									
		d) Total Cost for 750 cum(Excluding OH & CP)						7,19,339.80	7,19,339.80	7,19,339.80	
		e) Crushing pattern 20mm(tonne)	tonne	23.00%	23.00%	23.00%	258.75				
		f) % Cost distribution={(d)x(f)/e)x1.5}	cum	31.95%	31.95%	31.95%	0.3195	1,332.34	1,332.34	1,332.34	
		g) Overheads on (f)		(@ 8%)	(@ 10%)	(@ 12%)		106.587	133.234	159.881	
		h) Contractor's profit on (f+g)		(@ 10%)	(@ 10%)	(@ 10%)		143.893	146.558	149.222	
		i)Total Cost for1cum =(f+g+h)Including OH& CP						1,582.823	1,612.134	1,641.446	
		Rate per cum= (f+g+h) Including OH & CP					**Say**	**1,582.800**	**1,612.100**	**1,641.400**	
	(iii)	**Crushing of stone aggregates (Nominal size)**									
		3.Crushing Pattern 10 mm (tonne)- Cost Distribution 30.75 %									
		d) Total Cost for 750 cum(Excluding OH & CP)						7,19,339.80	7,19,339.80	7,19,339.80	
		e) Crushing pattern 10 mm(tonne)	tonne	25.86%	25.86%	25.86%	290.925				
		f) % Cost distribution={(d)x(f)/e)x1.5}	cum	30.75%	30.75%	30.75%	0.3075	1,140.48	1,140.48	1,140.48	
		g) Overheads on (f)		(@ 8%)	(@ 10%)	(@ 12%)		91.239	114.048	136.858	
		h) Contractor's profit on (f+g)		(@ 10%)	(@ 10%)	(@ 10%)		123.172	125.453	127.734	
		i) Total Cost for1cum = (f+g+h)Including OH & CP						1,354.896	1,379.986	1,405.077	
		Rate per cum= (f+g+h) Including OH & CP					**Say**	**1,354.900**	**1,380.000**	**1,405.100**	
	(iv)	**Crushing of stone aggregates (Nominal size)**									
		4 Crushing Pattern dust (tonne)- Cost Distribution 08.32 %									
		d) Total Cost for 750 cum(Excluding OH & CP)						7,19,339.80	7,19,339.80	7,19,339.80	
		e) Crushing pattern dust (tonne)	tonne	28.43%	28.43%	28.43%	319.838				
		f) % Cost distribution={(d)x(f)/e)x1.5}	cum	8.32%	8.32%	8.32%	0.0832	280.685	280.685	280.685	
		g) Overheads on (f)		(@ 8%)	(@ 10%)	(@ 12%)		22.455	28.068	33.682	
		h) Contractor's profit on (f+g)		(@ 10%)	(@ 10%)	(@ 10%)		30.314	30.875	31.437	
		i) Total Cost for1cum = (f+g+h)Including OH & CP						333.453	339.628	345.803	
		Rate per cum= (f+g+h) Including OH & CP					**Say**	**333.500**	**339.600**	**345.800**	
	Note:	**The average density of 1.5 tonne/cum is only a reference density in this Data Book.**									

APPROVED CARRIAGE RATE OF MATERIALS (BY TIPPER) Date :- 19.02.2026

Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
1.07		**Crushing of stone aggregates (GSB Crusher Run)**									
		Crushing of stone boulders of 150 mm size in an integrated stone crushing unit of 250 tonnes per hour capacity comprising of primary and secondary crushing units, belt conveyor and vibrating screens to obtain crusher run (all in aggregate) for GSB.									
		Unit = cum									
		Taking Output = 750.00 cum									
		a) Labour									
		Mate	day	0.320	0.320	0.320	444.000	142.080	142.080	142.080	L-12
		Mazdoor (Skilled)	day	2.000	2.000	2.000	541.000	1082.000	1082.000	1082.000	L-15
		Mazdoor	day	6.000	6.000	6.000	428.000	2568.000	2568.000	2568.000	L-13
		b) Material									
		Stone Boulder of size 150 mm and below	cum	750	750	750	730.02	547515.000	547515.000	547515.000	M-001
		c) Machinery									
		Integrated stone crusher of 250 TPH including belt conveyor and vibrating screens (for producing crusher run production capacity will increas by 30%)	Hour	4.615	4.615	4.615	13,961.00	64430.015	64430.015	64430.015	PM16001
		Generator 725 KVA	Hour	4.615	4.615	4.615	7,798.00	35987.770	35987.770	35987.770	PM22001
		Front end loader 3.1 cum bucket capacity at quarry and crusher	Hour	5.515	5.515	5.515	3,523.00	19429.345	19429.345	19429.345	PM5001
		Tipper 14 cum capacity for loading at quarry site	Hour	5.515	5.515	5.515	2,108.00	11625.620	11625.620	11625.620	PM6002
		Tipper 14 cum capacity for transportation within 1 km	t.km	1,125.00	1,125.00	1,125.00	5.71	6423.750	6423.750	6423.750	PM73001
		Total Cost Excluding OH & CP						6,89,203.580	6,89,203.580	6,89,203.580	765.78
		d) Overheads on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		55136.286	68920.358	82704.430	
		e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		74,433.99	75,812.39	77,190.80	
		Cost for 900 cum =(a+b+c+d+e)						8,18,773.85	8,33,936.33	8,49,098.81	
		Rate per cum =(a+b+c+d+e)/900(Including OH & CP)					**Say**	**909.70**	**926.60**	**943.40**	
	Note:	**Considering Crushed volume will be 1.2 times the volume of boulder.**									

APPROVED CARRIAGE RATE OF MATERIALS (BY TIPPER) Date :- 19.02.2026

Sl.No	Ref.to M.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	

Note:-1. For local transportation , carriage rate will be given as per provision of different Capacity of vehicle in Large/Medium/Small Projects in rate analysis of particular item of any Chapter.

Note:-2. Except Note 1, for transportation/carriage of Stone Aggregate/Stone Boulder/Moorum/Bitumen/Steel/Cement and Other Construction Materials,Loading-Unloading charges&Haulage charges will be allowed by 18 Cum Capacity tipper(18 tonne Capacity Truck in case of loading-unloading of Cement /Steel / Bitumen by manual means) and 32 tonne Capacity tipper respectively only for all types of Projects(Large/Medium/Small) except in cases / circumstances where any limitation/restriction regarding capacity of Vehicle has been imposed by competent Authority(District/State). Incase of restriction. rate of allowed capacity of vehicle will be given.

Note:-3. In case of Loading &Unloading of Boulders by Manual means, loading-unloading charges will be allowed by 10Cum Capacity tipper.

Note:-4. Carriage of material will be done by shortest rout.

Note:-5. Rates of item nos 1.06 will be taken as per approved rate of respective items in schedule M/MORT&H-1

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि०, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख (मु०)
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, मुख्यालय जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

APPROVED CARRIAGE RATE OF MATERIALS (By TRACTOR) Date :- 19.02.2026

Sr. No.	Ref. to MoRTH Spec.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
				Large	Medium	Small		Large	Medium	Small	
1.1		**Loading and Unloading of Stone Boulder/ Stone aggregates/Sand /Kanker/Moorum**	cum								
		Placing Tractor at loading point, loading with front end loader, dumping, turning for return trip, excluding time for haulage and return trip									
		Unit = cum									
		Taking output = 2.25 cum									
		Time required for									
		i) Positioning of Tractor at loading point				1 Min					
		ii) Loading by front end loader 1 cum bucket capacity.				2.71 Min					(6.633/5.5)* 2.25
		iii) Maneuvering, reversing, dumping and turning for return				0 Min					
		iv) Waiting time, unforeseen contingencies etc				0 Min					
		Total				**3.71 Min**					
		a) Machinery									
		Tractor 3.60 tonnes capacity	hour	0.060	0.060	0.060	717.00	43.020	43.020	43.020	**PM12001**
		Front end-loader 1 cum bucket capacity	hour	0.060	0.060	0.060	1454.00	87.240	87.240	87.240	**PM5003**
		Total Cost Excluding OH & CP						130.26	130.26	130.26	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		10.421	13.026	15.631	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		14.068	14.329	14.589	
		Total Cost for2.25 cum = (a+b+c)Including OH & CP						154.749	157.615	160.480	
		Rate per cum= (a+b+c)/2.25 Including OH & CP						68.777	70.051	71.325	
	Note	**Unloading will be done mechanically.**					***Say***	**68.800**	**70.100**	**71.300**	
1.2		**Loading and Unloading of Boulders by Manual Means**									
		Unit = cum									
		Taking output = 2.25 cum									
		a) Labour									

APPROVED CARRIAGE RATE OF MATERIALS (By TRACTOR) Date :- 19.02.2026

Sr. No.	Ref. to MoRTH Spec.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
		Mate	day	0.012	0.012	0.012	444.00	5.328	5.328	5.328	**L-12**
		Mazdoor for loading and unloading	day	0.310	0.310	0.310	428.00	132.680	132.680	132.680	**L-13**
		b) Machinery									
		Tractor 3.60 tonne capacity	hour	0.310	0.310	0.310	717.00	222.270	222.270	222.270	**PM12001**
		Total Cost Excluding OH & CP						360.278	360.278	360.278	
		c) Overheads on (a+b)		(@ 8%)	(@ 10%)	(@ 12%)		28.822	36.028	43.233	
		d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		38.910	39.631	40.351	
		Total Cost for2.25 cum = (a+b+c+d)Including OH & CP						428.010	435.936	443.862	
		Rate per cum= (a+b+c+d)/2.25 Including OH & CP						190.227	193.750	197.272	
							Say	**190.200**	**193.700**	**197.300**	
	Note	**Unloading will be done by mechanically.**									
1.3		**Loading and Unloading of Cement or Steel by Manual Means and Stacking.**									
		Unit = tonne									
		Taking output = 3.60 tonnes									
		a) Labour									
		Mate	day	0.030	0.030	0.030	444.00	13.320	13.320	13.320	**L-12**
		Mazdoor for loading and unloading	day	0.720	0.720	0.720	428.00	308.160	308.160	308.160	**L-13**
		b) Machinery									
		Tractor 3.60 tonne capacity	hour	0.720	0.720	0.720	717.00	516.240	516.240	516.240	**PM12001**
		Total Cost Excluding OH & CP						837.720	837.720	837.720	
		c) Overheads on (a+b)		(@ 8%)	(@ 10%)	(@ 12%)		67.018	83.772	100.526	
		d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		90.474	92.149	93.825	
		Total Cost for3.6 tonnes= (a+b+c+d)Including OH & CP						995.211	1,013.641	1,032.071	
		Rate per tonne= (a+b+c+d)/3.6 Including OH & CP						276.448	281.567	286.686	
							Say	**276.400**	**281.600**	**286.700**	
1.4		**Cost of Haulage Excluding Loading and Unloading**									
		Haulage of materials by Tractor excluding cost of loading, unloading and stacking.									
		Unit = t.km									
		Taking output 3.60 tonnes load and lead 10 km = 36.0 t.km									
	(i)	**Surfaced Road**									
		Speed with load : 15 km / hour.									

APPROVED CARRIAGE RATE OF MATERIALS (By TRACTOR) Date :- 19.02.2026

Sr. No.	Ref. to MoRTH Spec.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
		Speed while Returning empty :25 km / hour.									
		a) Machinery.									
		Tractor 3.6 tonne capacity									
		Time taken for onward haulage with load	hour	0.667	0.667	0.667	717.00	478.239	478.239	478.239	**PM12001**
		Time taken for empty return trip.	hour	0.400	0.400	0.400	717.00	286.800	286.800	286.800	**PM12001**
		Total Cost Excluding OH & CP						765.039	765.039	765.039	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		61.203	76.504	91.805	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		82.624	84.154	85.684	
		Total Cost for36 t.km = (a+b+c)Including OH & CP						908.866	925.697	942.528	
		Rate per t.km= (a+b+c)/36 Including OH & CP						25.246	25.714	26.181	
							Say	**25.200**	**25.700**	**26.200**	
	(ii)	**Unsurfaced Graveled Road**									
		Speed with load: 12 km / hour									
		Speed for empty return trip :20 km / hour									
		a) Machinery									
		Tractor 3.6 tonnes capacity									
		Time taken for onward haulage with load	hour	0.833	0.833	0.833	717.00	597.261	597.261	597.261	**PM12001**
		Time taken for empty return trip	hour	0.500	0.500	0.500	717.00	358.500	358.500	358.500	**PM12001**
		Total Cost Excluding OH & CP						955.761	955.761	955.761	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		76.461	95.576	114.691	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		103.222	105.134	107.045	
		Total Cost for36 t.km = (a+b+c)Including OH &						1,135.444	1,156.471	1,177.498	
		Rate per t.km= (a+b+c)/36 Including OH & CP						31.540	32.124	32.708	
								31.500	**32.100**	**32.700**	
	(iii)	**Katcha Track and Track in River Bed/Nallah Bed and Choe Bed.**									
		Speed with load :10 km / hour									
		Speed while returning empty:15 km / hour									
		a) Machinery									
		Tractor 3.6 tonnes capacity									
		Time taken for onward haulage	hour	1.000	1.000	1.000	717.00	717.000	717.000	717.000	**PM12001**
		Time taken for empty return trip	hour	0.667	0.667	0.667	717.00	478.239	478.239	478.239	**PM12001**
		Total Cost Excluding OH & CP						1195.24	1195.24	1195.24	
		b) Overheads on (a)		(@ 8%)	(@ 10%)	(@ 12%)		95.619	119.524	143.429	
		c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		129.086	131.476	133.867	

APPROVED CARRIAGE RATE OF MATERIALS (By TRACTOR) Date :- 19.02.2026

Sr. No.	Ref. to MoRTH Spec.	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
		Total Cost for36 t.km = (a+b+c)Including OH & CP						1,419.944	1,446.239	1,472.534	
		Rate per t.km= (a+b+c)/36 Including OH & CP						39.443	40.173	40.904	
							Say	**39.400**	**40.200**	**40.900**	

Note:- **वैसे स्थल जहाँ पर Truck एवं Tipper के द्वारा ढुलाई किया जाना संभव नहीं है तथा Tractor से ढुलाई economical हो केवल वैसे ही स्थलों के लिए Tractor से ढुलाई का प्रावधान किया जाय।**

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि0, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख (मु०)
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, मुख्यालय जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

PART- B
BRIDGE WORKS

B-STRUCTURE WORK

BASIC APPROACH AND GENERAL CONDITIONS FOR THE PREPARATION OF STANDARD DATA BOOK

The basic approach for the preparation of standard Data Book for Bridge Works is indicated as under :

Description of items

The description of items is given briefly and linked with the relevant clause of the MoRT&H Specification for Road and Bridge Works, Which may be referred for detailed description, provision and interpretation.

Overhead Charges

The overhead charges include the following elements :

i. Site accommodation, setting up plant, access road, water supply, electricity and general site arrangements.

ii Office furniture, equipment and communications

iii Expenditure on
Corporate office of contractor
Site supervision
Documentation and "as built" drawings

iv. Mobilization/de-mobilization of resources

v. Labour camps with minimum amenities and transportation to work sites

vi Light vehicles for site supervision including administrative and managerial requirements

vii Laboratory equipment and quality control including field and laboratory testing

viii Minor T&P and survey instruments and setting out works, including verification of line, diamensions, trial pits and bore holes, where required.

ix Temporary Diversion

x. Watch and ward

xi. Traffic management during construction

xii. Expenditure on 'safeguarding environment

xiii. Sundries

xiv Financing Expenditure

xv. Insurance/Compensation

For the purpose of calculation of overhead charges, the bridge projects may be categorized into two basic types as under :

Category 1 : New/Widening of Bridge/Structure Works 20 percent

Category 2 : Rehabilitation of Bridges/Structure 30 percent

Contractor profit is also added on overhead charges.

Basic Inputs

Basic inputs are only given in the standard data book. The rates for material and labour have to be updated by concerned State/UT govt. Officials like E-in-C, CE(NH), State PWDs.

Plants and Equipment

In the analysis of rates, for any items of work, capacity of equipment with corresponding output has been indicated which is most common in use for estimation purpose. Seeing the volume of job, different capacity equipment with corresponding output as indicated in Chapter-20 can be usage for preparing the estimate.

Materials

The rates of material should include basis coat at crushing units, cost of carriage including loading and unloading and stacking of material at site of work and shall be determined through market enquiries.

Labour

Highly skilled labour include mason (1^{st} class), carpenter, Blacksmith (1^{st} class)/Welder/Plumber/Electrician, (1^{st} class), mechanics and other trades.

One mate has been provided for 25 labours.

Carriage of Materials

The unit for vehcle for carriage has been taken as under :

a) In hours where lead is defined including time required for loading and unloading

b) In tonne. km where lead is variable. The loading and unloading for such cases have been provided separately.

General

Bridge bearing and expansion joints are ready made items commercially produced by specialized firms and in certain cases using imported technology and parts. The rates of these items are to be obtained directly from different manufacturers approved by the Ministry and shall be adopted after comparison.

Normal method of curing & with curing compound has been covered in the schedule. Analysis for steam curing has been included in the analysis of pre-cast concrete PSC beams.

The testing of materials and finished items of work is covered under overhead charges.

Traffic arrangements during construction are covered under overhead charges. Provisions of temporary diversion, where required shall be governed by Clause 112.

In the items for well foundation, provision for nominal island/temporary protection, deep islands/cofferdams with wooden ballies and sheet piles has been made. The sinking of well foundation in bouldery strate has been included.

In the case of pile foundation, pile dia up to 1.5 m is analysed.

The analysis of steel bridges has been incorporated. For innovative type of structures like cable stayed bridges, suspension bridges, arch bridges, bow string girder bridges, erected by innovative techniques where erection stage is as important as the Construction of bridge components in terms of input of machinery, manpower and materials, special analysis is called for.

For some of the items, certain size/specifications have been assumed. If size/specifications other than the same are adopted, corresponding modifications may be made in the inputs of analysis.

The items do not cover all components of bridge project and all situations. There may be specialized items for specific case, which need to be analysed keeping in view the basic approach.

Guide Bund

The items for the guide bund are excavation, embankment and protection works. The rates for these items may be taken from the respective chapters.

In case bridge construction works are to be done on wide and deep water channels in major rivers or in sea creeks etc., provision of floating barrages for taking the construction materials and equipment's inside water shall also be made separately.

Analysis for sinking of wells cover diameter; from 6 m to 12 m and Twin D Type of size 12m x 6m. For other shapes like rectangular or any other size, the rates of sinking may be worked out on pro-rata basis.

The lift for casting of concrete in well steining may be 2 to 2.5 m restricting the free fall of concrete to 1.5 m and concreting layer to 450 mm.

The Standard Data Book is for Department use only. It can not be produced in Court of law as reference/authority and this is a privilege document.

CHAPTER- 12

BRIDGE FOUNDATION

CHAPTER-12
BRIDGE FOUNDATION

PREAMBLES :

1 Excavation for structures has been provided both by manual and mechanical means. The rate relevant to a particular situation may be adopted.

2 The earth excavated from foundation has been proposed to be backfilled and balance quantity utilized for road work locally except for marshy soil where disposal has been provided.

3 The rock foundations are required to be prepared which has been analysed.

4 In case of rock, excavation has been considered upto a depth of 3 m only.

5 Embedment of foundation in soft and hard rocks has been provided as required by the specifications.

6 Dewatering has been provided in excavation for foundation. In case dewatering is not required for a particular site condition, the same may be omitted while preparing the estimate.

7 Mixing of cement concrete has been considered only by using batching plant.

8 Concrete batching plant is generally placed within one km of the bridge site. In case of longer lead, transportation cost may be worked out based on tonne km.

9 The coarse and fine aggregate for cement concrete shall be as per IS:383.

10 Description of items has been given very brief. Relevant clauses of MoRT&H Specifications may be referred for detailed specification.

11 The rate analysis for well foundation has been included for diameter varying from 6 m to 12 m. Well for twin D type has also been included.

12 Pneumatic sinking is a specialized job. All safety precaution as per IS:4138 are required to be taken. Medical supervision for such works is considered very essential. Depth of Pneumatic sinking has been restricted to 30 m below normal water level.

13 Rate analysis for various types of piles like bored cast-in-situ, driven precast RCC pile, and driven steel piles of H section have been included. If the steel casting in case of driven pile is required to be retained, the same is required to be priced separately

14 Pile driving rigs including vibratory hammers are assumed to be self contained with power units and necessary accessories required for driving.

15 The quantity of concrete which is required to be stripped off upto a minimum height of 600 mm above the designed top level of the pile has been taken into account in the rate analysis.

16 The levelling course below the pile cap is proposed with M15 grade concrete.

17 Steel reinforcement for cement concrete work is required to be protected with the steel plates of thickness not less than 10mm upto top level of well curb. For height

above top of curb, the thickness of steel plate may be reduced to 6 mm. This extra height of steel lining should be limited to 3 m.

18 Appendix-4 of IRC:78 may be referred regarding precautions to be taken during sinking of wells.

19 In case of blasting during sinking of wells the inner face of the curb is required to be protected with the steel plates of thickness not less than 10mm upto top level of well curb. For height above top curb, the thickness of steel plate may be reduced to 6 mm. This extra height of steel lining should be limited to 3 m.

20 The concrete mix used in bottom plug shall have minimum cement content of 330 kg/cum and a slump of about 150 mm to permit easy flow of concrete through tremie to fill-up all cavities.

21 Necessary safety precautions shall be taken for excavation on open foundations for which guidance may be taken from IS:3764.

22 A levelling course of 100 mm thickness in M10 shall be provided before laying open foundations.

23 In case of open foundation, dewatering shall not be permitted from the time of placing concrete upto 24 hours after placement.

24 In case of open foundations in rock, the trenches around the footing shall be filled-up with concrete of M15 grade upto a level of 0.6 m for hard rock and 1.5 m for soft rock above the foundation level. The portion above this may be filled by boulders grouted with cement.

25 When there are two or more compartments in a well, the lower edge of the cutting edge of the middle stems of such wells shall be kept about 300 mm above that of outer stems to prevent rocking.

26 The well curb shall be in RCC of mix not leaner than M25 grade with minimum steel reinforcement of 72 kg/cum excluding bond rods.

27 The top of the bottom plug shall be at least 300 mm above top of curb.

28 No dewatering shall be carried out within 7 days of casting of bottom plug.

29 In case of cement concrete piles, the minimum grade of concrete shall be M35 with minimum cement content of 400 kg/cum.

30 The top of the pile shall project 50 mm into the pile cap and reinforcement of pile shall be fully anchored in pile cap.

31 The minimum thickness of pile cap should be at least 0.6 m or 1.5 times the diameter of the pile whichever is more.

32 Guidance for piles is to be obtained from IS:2911

33 Concrete in driven cast-in-situ piles shall be cast upto a minimum height of 600 mm above the designed top level of pile, which shall be stripped off to obtain sound concrete either before final set or after 3 days.

CHAPTER-12
Summary of Rate Analysis
FOUNDATION

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
12.01	**Excavation for structures**				
	Earth work in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.				
I	**Ordinary soil**				
A	**Manual Means**				
(i)	**Depth upto 3 m**	cum	205.90	205.90	205.90
(ii)	**Depth 3 m to 6 m**	cum	264.80	264.80	264.80
(iii)	**Depth above 6 m**	cum	353.00	353.00	353.00
B	**Mechanical Means**				
(i)	**Depth upto 3 m**	cum	101.40	105.30	130.10
(ii)	**Depth 3 m to 6 m**	cum	112.10	116.40	143.80
(iii)	**Depth above 6 m**	cum	125.40	130.20	160.80
II	**Ordinary Rock (not requiring blasting)**				
A	**Manual Means**				
(i)	**Depth upto 3m**	cum	294.20	294.20	294.20
B	**Mechanical Means**	cum	627.00	665.70	688.70
III	**Hard Rock (requiring blasting)**				
	Carrying out excavation in hard rock to achieve a specified slope of the rock face by controlled use of explosives and blasting accessories in properly aligned and spaced drill holes, collection of the excavated rock by a dozer, loading in tipper by a front end loader and disposing of the material with all lifts and lead upto 1000m, all as specified in clause No. 303				
A	**Manual means**	cum	387.10	395.40	429.90
IV	**Hard Rock (blasting prohibited)**				
A	**Mechanical Means**	cum	841.50	870.60	912.60
V	**Marshy Soil**				
A	**Manual means**	cum	841.10	841.10	841.10
B	**Mechanical Means**	cum	262.80	272.60	336.50
VI	**Back Filling in Marshy Foundation Pits**	cum	609.70	609.70	609.70
12.02	**Filling Annular Space around footing in rock**	cum	4346.30	4348.60	4358.70
12.03	**Sand Filling in foundation trenches as per drawing & technical specification**	cum	273.20	275.10	283.60
12.04	**PCC 1:3:6 in Foundation**				
	Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.	cum	4346.30	4348.60	4358.70

CHAPTER-12
Summary of Rate Analysis
FOUNDATION

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
12.05	Brick Masonry Work in Cement Mortar 1:3 in Foundation complete excluding Pointing and Plastering, as per Drawing and Technical Specifications.	cum	7251.70	7256.60	7279.40
12.06 (A)	Cement Mortar 1:3 (1 cement : 3 sand)	cum	4019.00	4019.00	4019.00
(B)	Cement Mortar1:2 (1cement :2 sand)	cum	4890.20	4890.20	4890.20
(C)	Cement Mortar1:4 (1cement :4 sand)	cum	3437.90	3437.90	3437.90
(D)	Cement Mortar1:6 (1cement :6 sand)	cum	2900.50	2900.50	2900.50
12.07	Stone masonry work in cement mortar 1:3 in foundation complete as per drawing and technical specifications.				
(A)	Square Rubble Coursed Rubble masonry (first sort)	cum	4924.90	4924.90	4924.90
(B)	Random Rubble masonry (coursed/uncoursed)	cum	4756.70	4756.70	4756.70
12.08	Plain/Reinfoced Cement concrete in open foundation complete as per drwaing and technical specifications.				
A	PCC Grade M15				
Case I	PCC Grade M15 using batching plant & Concrete pump	cum	4529.10	4535.10	4560.70
Case II	PCC Grade M15 using batching plant & manual placing	cum	4845.60	4851.60	4877.10
B	PCC Grade M20				
Case I	PCC Grade M20 using batching plant, transit mixture & Concrete pump	cum	5053.10	5059.10	5084.70
Case II	PCC Grade M20 using batching plant, transit mixer & manual placing	cum	5369.60	5375.60	5401.10
C	RCC Grade M20				
Case I	RCC Grade M20 using batching plant, transit mixture & Concrete pump	cum	5515.00	5521.00	5546.60
Case II	RCC Grade M20 using batching plant, transit mixer & manual placing	cum	5851.90	5857.90	5883.40
D	PCC Grade M25				
Case I	PCC Grade M25 using batching plant, transit mixture & Concrete pump	cum	5494.60	5500.60	5526.20
Case II	PCC Grade M25 using batching plant, transit mixer & manual placing	cum	5811.10	5817.10	5842.60
E	RCC Grade M25				
Case I	RCC Grade M25 using batching plant,transit mixer & Concrete pump	cum	5529.40	5535.40	5561.00
Case II	RCC Grade M25 using batching plant, transit mixer & manual placing	cum	5866.30	5872.30	5897.80
F	PCC Grade M30				
Case I	PCC Grade M30 using batching plant,transit mixer & Concrete pump	cum	5537.70	5543.70	5569.30
Case II	PCC Grade M30 using batching plant, transit mixer & manual placing	cum	5854.20	5860.20	5885.70

CHAPTER-12
Summary of Rate Analysis
FOUNDATION

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
G	**RCC Grade M30**				
Case I	**RCC Grade M30 using batching plant,transit mixer & Concrete pump**	cum	5574.80	5580.80	5606.40
Case II	**RCC Grade M30 using batching plant, transit mixer & manual placing**	cum	5911.80	5917.70	5943.30
H	**RCC Grade M35**				
Case I	**RCC Grade M35 using batching plant,transit mixer & Concrete pump**	cum	5716.60	5722.60	5748.20
Case II	**RCC Grade M35 using batching plant, transit mixer & manual placing**	cum	6053.60	6059.50	6085.10
I	**RCC Grade M40**				
Case I	**RCC Grade M40 using batching plant,transit mixer & Concrete pump**	cum	5855.20	5861.10	5886.70
Case II	**RCC Grade M40 using batching plant, transit mixer & manual placing**	cum	6192.10	6198.10	6223.60
J	**RCC Grade M45**				
Case I	**RCC Grade M45 using batching plant,transit mixer & Concrete pump**	cum	5891.90	5897.90	5923.50
Case II	**RCC Grade M45 using batching plant, transit mixer & manual placing**	cum	6228.90	6234.80	6260.40
12.09	**WELL FOUNDATION**				
	Providing and constructing temporary island 24m diameter for construction of Well foundation for 8m dia. Well.				
A	**Assuming depth of water 1.0 m and height of island to be 1.25m including Royalty for earth @ ₹ 18661.1 for each island.**	no.	94044.60	94044.60	94044.60
B	**Assuming depth of water 4.0 m and height of island to be 4.5m including Royalty for earth @ ₹ 44748.0 for each island**	no.	561990.30	561990.30	561990.30
C	**Providing and constructiing one span service road to reach island location from one pier location to another pier loaction**				
	Assuming span length 30m, width of service road 10m and depth of water 1m including Royalty for earth @ 495.00 per m length of span	metre	4530.30	4530.30	4530.30
12.10	**Providing and Laying Cutting Edge of Mild Steel weighing 40 kg per metre for Well Foundation complete as per Drawing and Technical Specification.**	MT	107595.60	107596.60	107598.50
12.11	**Plain/Reinforced Cement Concrete, in Well Foundation complete as per Drawing and Technical Specification.**				
A	**Well curb**				
(i)	**RCC M20 Grade**				
Case I	**RCC Grade M20 using batching plant &concrete pump**	cum	6247.50	6247.50	6247.50

CHAPTER-12
Summary of Rate Analysis
FOUNDATION

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
Case II	RCC Grade M20 using batching plant & manual placing	cum	6574.40	6574.40	6574.40
(ii)	RCC M25 Grade				
Case I	RCC Grade M25 using batching plant &concrete pump	cum	6264.10	6264.10	6264.10
Case II	RCC Grade M25 using batching plant & manual placing	cum	6591.00	6591.00	6591.00
(iii)	RCC M30 Grade				
Case I	RCC Grade M30 using batching plant &concrete pump	cum	6316.60	6316.60	6316.60
Case II	RCC Grade M30 using batching plant & manual placing	cum	6643.40	6643.40	6643.40
(iv)	RCC M35 Grade				
Case I	RCC Grade M35 using batching plant &concrete pump	cum	6480.20	6480.20	6480.20
Case II	RCC Grade M35 using batching plant & manual placing	cum	6807.10	6807.10	6807.10
(v)	RCC M40 Grade				
Case I	RCC Grade M40 using batching plant &concrete pump	cum	6640.00	6640.00	6640.00
Case II	RCC Grade M40 using batching plant & manual placing	cum	6966.90	6966.90	6966.90
B	Well steining				
(i)	PCC M15Grade				
Case I	PCC Grade M15 using batching plant & Concrete pump	cum	4684.10	4684.10	4684.10
Case II	PCC Grade M15 using batching plant & manual placing	cum	5005.30	5005.30	5005.30
(ii)	PCC M20 Grade				
Case I	PCC Grade M20 using batching plant & Concrete pump	cum	5238.30	5238.30	5238.30
Case II	PCC Grade M20 using batching plant & manual placing	cum	5559.50	5559.50	5559.50
(iii)	RCC M20 Grade				
Case I	RCC Grade M20 using batching plant &concrete pump	cum	5726.90	5726.90	5726.90
Case II	RCC Grade M20 using batching plant & manual placing	cum	6026.50	6026.50	6026.50
(iv)	PCC M25 Grade				
Case I	PCC Grade M25 using batching plant & Concrete pump	cum	5705.30	5705.30	5705.30
Case II	PCC Grade M25 using batching plant & manual placing	cum	6026.50	6026.50	6026.50
(v)	RCC M25 Grade				
Case I	RCC Grade M25 using batching plant &concrete pump	cum	5742.10	5742.10	5742.10

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Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
Case II	RCC Grade M25 using batching plant & manual placing	cum	6041.80	6041.80	6041.80
(vi)	PCC M30 Grade				
Case I	PCC Grade M30 using batching plant & Concrete pump	cum	5750.90	5750.90	5750.90
Case II	PCC Grade M30 using batching plant & manual placing	cum	6072.10	6072.10	6072.10
(vii)	RCC M30 Grade				
Case I	RCC Grade M30 using batching plant &concrete pump	cum	5790.20	5790.20	5790.20
Case II	RCC Grade M30 using batching plant & manual placing	cum	6089.80	6089.80	6089.80
(viii)	RCC M35 Grade				
Case I	RCC Grade M35 using batching plant &concrete pump	cum	5940.20	5940.20	5940.20
Case II	RCC Grade M35 using batching plant & manual placing	cum	6239.80	6239.80	6239.80
(ix)	RCC M40 Grade				
Case I	RCC Grade M40 using batching plant &concrete pump	cum	6086.70	6086.70	6086.70
Case II	RCC Grade M40 using batching plant & manual placing	cum	6386.30	6386.30	6386.30
C	Bottom Plug				
(i)	PCC Grade M20				
Case I	PCC Grade M20 using batching plant & concrete pump	cum	5014.70	5014.70	5014.70
Case II	PCC Grade M20 using batching plant & manual placing	cum	5360.80	5360.80	5360.80
(II)	PCC Grade M25				
Case I	PCC Grade M25 using batching plant & concrete pump	cum	5460.40	5460.40	5460.40
Case II	PCC Grade M25 using batching plant & manual placing	cum	5806.50	5806.50	5806.50
(iii)	PCC Grade M30				
Case I	PCC Grade M30 using batching plant & concrete pump	cum	5504.00	5504.00	5504.00
Case II	PCC Grade M30 using batching plant & manual placing	cum	5850.00	5850.00	5850.00
(iv)	PCC Grade M35				
Case I	PCC Grade M35 using batching plant & concrete pump	cum	5621.50	5621.50	5621.50
Case II	PCC Grade M35 using batching plant & manual placing	cum	5967.60	5967.60	5967.60
D	Intermediate plug				
(i)	Grade M20 PCC				
Case I	PCC Grade M20 using batching plant & Concrete pump	cum	4786.70	4786.70	4786.70

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Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
Case II	PCC Grade M20 using batching plant & Manual placing	cum	5117.20	5117.20	5117.20
(ii)	Grade M25 PCC				
Case I	PCC Grade M25 using batching plant & Concrete pump	cum	5211.20	5211.20	5211.20
Case II	PCC Grade M25 using batching plant & Manual placing	cum	5541.70	5541.70	5541.70
(iii)	Grade M30 PCC				
Case I	PCC Grade M30 using batching plant & Concrete pump	cum	5252.70	5252.70	5252.70
Case II	PCC Grade M30 using batching plant & Manual placing	cum	5583.10	5583.10	5583.10
E	Top Plug				
(i)	Grade M15 PCC				
Case I	PCC Grade M15 using batching plant & concrete pump	cum	4354.90	4360.60	4385.30
Case II	PCC Grade M15 using batching plant & manual placing	cum	4659.20	4665.00	4689.60
(ii)	Grade M20 PCC				
Case I	PCC Grade M20 using batching plant & concrete pump	cum	4858.70	4864.50	4889.10
Case II	PCC Grade M20 using batching plant & manual placing	cum	5163.10	5168.80	5193.40
(iii)	Grade M25 PCC				
Case I	PCC Grade M25 using batching plant & concrete pump	cum	5283.20	5289.00	5313.60
Case II	PCC Grade M25 using batching plant & manual placing	cum	5587.60	5593.30	5617.90
(iv)	Grade M30 PCC				
Case I	PCC Grade M30 using batching plant & concrete pump	cum	5324.70	5330.40	5355.10
Case II	PCC Grade M30 using batching plant & manual placing	cum	5629.10	5634.80	5659.40
F	Well Cap				
(i)	RCC Grade M20				
Case I	RCC Grade M20 using batching plant, transit mixer & concrete pump	cum	5515.00	5521.00	5546.60
Case II	RCC Grade M20 using batching plant, transit mixer & manual placing	cum	5811.10	5817.10	5842.60
(ii)	RCC Grade M25				
Case I	RCC Grade M25 using batching plant, transit mixer & concrete pump	cum	5529.40	5535.40	5561.00
Case II	RCC Grade M25 using batching plant, transit mixer & manual placing	cum	5825.50	5831.50	5857.00
(iii)	RCC Grade M30				
Case I	RCC Grade M30 using batching plant, transit mixer & concrete pump	cum	5574.80	5580.80	5606.40

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Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
Case II	**RCC Grade M30 using batching plant, transit mixer & manual placing**	cum	5871.00	5876.90	5902.50
(iv)	**RCC Grade M35**				
Case I	**RCC Grade M35 using batching plant, transit mixer & concrete pump**	cum	5716.60	5722.60	5748.20
Case II	**RCC Grade M35 using batching plant, transit mixer & manual placing**	cum	6012.80	6018.70	6044.30
(v)	**RCC Grade M40**				
Case I	**RCC Grade M40 using batching plant, transit mixer & concrete pump**	cum	5855.20	5861.10	5886.70
Case II	**RCC Grade M40 using batching plant, transit mixer & manual placing**	cum	6151.30	6157.30	6182.80
(vi)	**RCC Grade M45**				
Case I	**RCC Grade M45 using batching plant, transit mixer & concrete pump**	cum	5891.90	5897.90	5923.53
Case II	**RCC Grade M45 using batching plant, transit mixer & manual placing**	cum	6188.10	6194.00	6219.60
12.12	**Sinking of 6 m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**				
(A)	**Sandy Soil**				
(i)	**Depth below bed level upto 3.0m**	metre	4480.20	4480.20	4480.20
(ii)	**Beyond 3m upto 10m depth**	metre	6231.10	6231.10	6231.10
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
B	**Clayey soil (6m dia. Well)**				
(i)	**Depth below bed level upto 3.0 M**	metre	6263.10	6263.10	6263.10
(ii)	**Beyond 3m upto 10m depth**	metre	13966.70	13966.70	13966.70
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
C	**Extra over item no. 12.12 (A) or (B) irrespective of depth for sinking in soft Rock (6m dia well)**	metre	52884.40	52884.40	52884.40
D	**Extra over item no. 12.12 (A) or (B) irrespective of depth for sinking in Hard Rock (6m dia well)**	metre	50176.20	50176.20	50176.20

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
E	**Extra over item no. 12.12 (A) or (B) irrespective of depth for sinking in Rock bouldery strata (6m dia well)**	metre	78642.20	78642.20	78642.20
12.13	**Sinking of 7 m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**				
A	**Sandy Soil**				
(i)	**Depth below bed level upto 3.0m**	metre	6546.60	6546.60	6546.60
(ii)	**Beyond 3m upto 10m depth**	metre	8613.00	8613.00	8613.00
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
B	**Clayey Soil (7 m dia. Well)**				
(I)	**Depth below bed level upto 3.0 M**	metre	8613.00	8613.00	8613.00
(ii)	**Beyond 3m upto 10m depth**	metre	13824.60	13824.60	13824.60
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
C	**Extra over item no. 12.13 (A) or (B) irrespective of depth for sinking in soft Rock (7m dia well)**	metre	68923.30	68923.30	68923.30
D	**Extra over item no. 12.13 (A) or (B) irrespective of depth for sinking in Hard Rock (7m dia well)**	metre	62921.30	62921.30	62921.30
E	**Extra over item no. 12.13 (A) or (B) irrespective of depth for sinking in Rock bouldery strata (7m dia well)**	metre	104470.60	104470.60	104470.60
12.14	**Sinking of 8 m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**				
A	**Sandy Soil**				
(i)	**Depth below bed level upto 3.0 M**	metre	7982.10	7982.10	7982.10
(ii)	**Beyond 3m upto 10m depth**	metre	9733.00	9733.00	9733.00
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				

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Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
B	**Clayey Soil (8 m dia. Well)**				
(i)	**Depth from bed level upto 3.0 M**	metre	10548.30	10548.30	10548.30
(ii)	**Beyond 3m upto 10m depth**	metre	14678.20	14678.20	14678.20
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
C	**Extra over item no. 12.14 (A) or (B) irrespective of depth for sinking in soft Rock (8m dia well)**	metre	87220.10	87220.10	87220.10
D	**Extra over item no. 12.14 (A) or (B) irrespective of depth for sinking in Hard Rock (8m dia well)**	metre	77523.30	77523.30	77523.30
E	**Extra over item no. 12.14 (A) & (B) irrespective of depth for sinking in Rock bouldery strata (8m dia well)**	metre	134064.40	134064.40	134064.40
12.15	**Sinking of 9 m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**				
A	**Sandy Soil**				
(i)	**Depth below bed level upto 3.0 M**	metre	8134.40	8134.40	8134.40
(ii)	**Beyond 3m upto 10m depth**	metre	10668.70	10668.70	10668.70
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
B	**Clayey Soil (9 m dia. Well)**				
(i)	**Depth from bed level upto 3.0 M**	metre	11200.50	11200.50	11200.50
(ii)	**Beyond 3m upto 10m depth**	metre	15793.90	15793.90	15793.90
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
C	**Extra over item no. 12.15 A) or (B) irrespective of depth for sinking in soft Rock (9m dia well)**	metre	107777.30	107777.30	107777.30
D	**Extra over item no. 12.15 (A) or (B) irrespective of depth for sinking in Hard Rock (9m dia well)**	metre	93840.10	93840.10	93840.10

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Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
E	**Extra over item no. 12.15 (A) & (B) irrespective of depth for sinking in Rock bouldery strata (9m dia well)**	metre	167423.60	167423.60	167423.60
12.16	**Sinking of 10 m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**				
A	**Sandy Soil**				
(i)	**Depth below bed level upto 3.0m**	metre	9548.60	9548.60	9548.60
(ii)	**Beyond 3m upto 10m depth**	metre	11320.90	11320.90	11320.90
(iii)	**Beyond 10m upto 20m**				
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**				
	Rate may be taken from analysis				
(v)	**Beyond 30m upto 40m**				
	Rate may be taken from analysis				
B	**Clayey Soil (10 m dia. Well)**				
(I)	**Depth below bed level upto 3.0 M**	metre	12767.00	12767.00	12767.00
(ii)	**Beyond 3m upto 10m depth**	metre	16016.60	16016.60	16016.60
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
C	**Extra over item no. 12.16 (A) or (B) irrespective of depth for sinking in soft Rock (10m dia well)**	metre	130593.60	130593.60	130593.60
D	**Extra over item no. 12.16 (A) or (B) irrespective of depth for sinking in Hard Rock (10m dia well)**	metre	111932.20	111932.20	111932.20
E	**Extra over item no. 12.16 (A) or (B) irrespective of depth for sinking in Rock bouldery strata (10m dia well)**	metre	204547.90	204547.90	204547.90
12.17	**Sinking of 11 m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**				
A	**Sandy Soil**				
(i)	**Depth from bed level upto 3.0 M**	metre	21377.00	21377.00	21377.00
(ii)	**Beyond 3m upto 10m depth**	metre	18530.30	18530.30	18530.30
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				

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Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
B	**Clayey Soil (11 m dia. Well)**				
(i)	**Depth from bed level upto 3.0 M**	metre	21181.90	21181.90	21181.90
(ii)	**Beyond 3m upto 10m depth**	metre	33435.50	33435.50	33435.50
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
C	**Extra over item no. 12.17 (A) or (B) irrespective of depth for sinking in soft Rock 11m dia well)**	metre	155668.30	155668.30	155668.30
D	**Extra over item no. 12.17 (A) or (B) irrespective of depth for sinking in Hard Rock (11m dia well)**	metre	131798.30	131798.30	131798.30
E	**Extra over item no. 12.17 (A) & (B) irrespective of depth for sinking in Rock bouldery strata (11m dia well)**	metre	245437.90	245437.90	245437.90
12.18	**Sinking of 12m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**				
A	**Sandy Soil**				
(i)	**Depth below bed level upto 3.0 M**	metre	45198.20	45198.20	45198.20
(ii)	**Beyond 3m upto 10m depth**	metre	51763.10	51763.10	51763.10
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
B	**Clayey Soil (12 m dia. Well)**				
(i)	**Depth from bed level upto 3.0 M**	metre	51366.90	51366.90	51366.90
(ii)	**Beyond 3m upto 10m depth**	metre	80698.20	80698.20	80698.20
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
C	**Extra over item no. 12.18 (A) or (B) irrespective of depth for sinking in soft Rock (12m dia well)**	metre	183002.90	183002.90	183002.90
D	**Extra over item no. 12.18 (A) or (B) irrespective of depth for sinking in Hard Rock (12m dia well)**	metre	153438.60	153438.60	153438.60

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Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
E	**Extra over item no. 12.18 (A) & (B) irrespective of depth for sinking in Rock bouldery strata (12m dia well)**	metre	290093.20	290093.20	290093.20
12.19	**Sinking of Twin D Type well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**				
A	**Sandy Soil**				
(i)	**Depth from bed level upto 3.0 M**	metre	10147.50	10147.50	10147.50
(ii)	**Beyond 3m upto 10m depth**	metre	10963.80	10963.80	10963.80
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
B	**Clayey Soil (Twin D Type Well)**				
(i)	**Depth below bed level upto 3.0 M**	metre	12168.20	12168.20	12168.20
(ii)	**Beyond 3m upto 10m depth**	metre	17711.20	17711.20	17711.20
(iii)	**Beyond 10m upto 20m**	metre			
	Rate may be taken from analysis				
(iv)	**Beyond 20m upto 30m**	metre			
	Rate may be taken from analysis				
(v)	**Beyond 30m upto 40m**	metre			
	Rate may be taken from analysis				
C	**Extra over item no. 12.19 (A) or (B) irrespective of depth for sinking in soft Rock**	metre	108722.20	108722.20	108722.20
D	**Extra over item no. 12.19 (A) or (B) irrespective of depth for sinking in Hard Rock**	metre	95123.80	95123.80	95123.80
E	**Extra over item no. 12.19 (A) & (B) irrespective of depth for sinking in Rock boulder strata**	metre	168998.50	168998.50	168998.50
12.20	**Pneumatic sinking of wells with equipment of approved design, drawing and specifications worked by competent and trained personnel and comprising of compression and decompression chambers, reducers, two air locks separately for men and plant & materials, arrangement for supply of fresh air to working chambers, check valves, exhaust valves, shafts made from steel plates of riveted construction not less than 6 mm thick to withstand an air pressure of 0.50 MPa, controlled blasting of hard rock where required, staircases and 1 m wide landing plateforms with railing,**	cum	53308.60	53318.10	53359.10

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
	arrangement for compression and decompression, electric lighting of 50 V maximum, proper rooms for rest and medical examinations and compliance with safety precautions as per IS:4138, all as per clause1208.8 of MoRTH Specifications.				
12.21	**Sand Filling in Wells complete as per Drawing and Technical Specifications.**	cum	1147.40	1147.40	1147.40
12.22	**Providing Steel Liner 10 mm thick for Curbs and 6 mm thick for Steining of Wells including Fabricating and Setting out as per Detailed Drawing.**	MT	97366.30	97366.30	97366.30
12.23	**Bored cast-in-situ M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specifications and removal of excavated earth with all lifts and lead upto 1000 m.**	metre	8650.60	8660.50	8749.00
12.24	**Bored cast-in-situ M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specifications and removal of excavated earth with all lifts and lead upto 1000 m.**	metre	10975.00	10992.70	11149.90
12.25	**Bored cast-in-situ M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specifications and removal of excavated earth with all lifts and lead upto 1000 m.**				
	Pile diameter-1200 mm	metre	14224.50	14250.10	14476.50
12.26	**Pile diameter-1500 mm**	metre	19440.80	19480.70	19834.50
12.27	**Driven cast-in-place vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**				
	Pile diameter-750mm	metre	6431.40	6434.00	6445.30
12.28	**Driven cast-in-place vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**				
	Pile diameter-1000mm	metre	9736.10	9740.80	9760.90
12.29	**Driven cast-in-place vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**				
	Pile diameter-1200mm	metre	14320.60	14327.30	14356.30
12.30	**Driven precast vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**				
	Pile diameter-500mm	metre	3868.10	3869.30	3874.40
12.31	**Driven precast vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**				

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			Large	Medium	Small
	Pile diameter-750mm	metre	5811.00	5813.70	5825.10
12.32	**Driven precast vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**				
	Pile diameter-1000mm	metre	8639.50	8644.20	8664.50
12.33	**Driven precast vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**				
	Size of pile-300mm×300mm	metre	3222.70	3223.20	3225.60
12.34	**Driven precast vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**				
	Size of pile-500mm×500mm	metre	4592.70	4594.20	4600.70
12.35	**Driven precast vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**				
	Size of pile-750mm×750mm	metre	7191.70	7195.10	7209.60
12.36	**Driven Vertical Steel Piles complete as per Drawing and Technical Specification**				
	Section of the pile-H Section steel column 400×250 mm (ISHB Series)	metre	7688.10	7688.10	7688.10
12.37	**Driven Vertical Steel Piles complete as per Drawing and Technical Specification**				
	Section of the pile-H Section steel column 450×250 mm (ISHB Series)	metre	8742.50	8742.50	8742.50
12.38	**Pile Load Test on single Vertical Pile in accordance with IS:2911 (Part-IV)**	MT	#VALUE!	#VALUE!	#VALUE!
12.39	**Dismantling of Reinforced Concrete Pile head complete as per Drawing and Technical Specification**	cum	1625.60	1667.70	1697.00
12.40	**Cement Concrete for Reinforced Concrete in Pile Cap complete as per Drawing and Technical Specification**				
A	**RCC Grade M20**				
Case I	**RCC Grade M20 using batching plant & Concrete pump**	cum	5381.30	5381.30	5381.30
Case II	**RCC Grade M20 using batching plant & manual placing**	cum	5414.70	5414.70	5414.70
B	**RCC Grade M25**				
Case I	**RCC Grade M25 using batching plant & Concrete pump**	cum	5395.70	5395.70	5395.70
Case II	**RCC Grade M25 using batching plant & manual placing**	cum	5429.10	5429.10	5429.10
C	**RCC Grade M30**				

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Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
Case I	**RCC Grade M30 using batching plant & Concrete pump**	cum	5441.20	5441.20	5441.20
Case II	**RCC Grade M30 using batching plant & manual placing**	cum	5474.60	5474.60	5474.60
D	**RCC Grade M35**				
Case I	**RCC Grade M35 using batching plant & Concrete pump**	cum	5583.00	5583.00	5583.00
Case II	**RCC Grade M35 using batching plant & manual placing**	cum	5616.40	5616.40	5616.40
E	**RCC Grade M40**				
Case I	**RCC Grade M40 using batching plant & Concrete pump**	cum	5721.50	5721.50	5721.50
Case II	**RCC Grade M40 using batching plant & manual placing**	cum	5754.90	5754.90	5754.90
F	**RCC Grade M45**				
Case I	**RCC Grade M45 using batching plant & Concrete pump**	cum	5758.30	5758.30	5758.30
Case II	**RCC Grade M45 using batching plant & manual placing**	cum	5791.70	5791.70	5791.70
12.41	**Levelling Course for Pile cap**				
	Providing and laying of PCC M15 levelling course 100 mm thick below the pile cap.				
Case I	***PCC Grade M15 using batching plant & Concrete pump***	cum	4354.90	4360.60	4385.30
Case II	***PCC Grade M15 using batching plant & manual placing***	cum	4659.20	4665.00	4689.60
12.42	**Supplying, Fitting and Placing un-coated HYSD bar Reinforcement in Foundation complete as per Drawing and Technical Specifications.**	MT	66535.80	66594.40	66705.80
12.43	**Supplying, Fitting and Placing un-coated Mild steel Reinforcement in Foundation complete as per Drawing and Technical Specifications.**	MT	72027.80	72086.40	72197.80

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.01	**304**		**Excavation for structures**									
			Earth work in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.									
		I	**Ordinary soil**									
			Unit=cum									
			Taking output=10 cum									
		A	**Manual Means**									
		(i)	**Depth upto 3 m**									
			a) Labour									
			Mate	day	0.140	0.140	0.140	444.00	62.16	62.16	62.16	L-12
			Mazdoor	day	3.500	3.500	3.500	428.00	1498.00	1498.00	1498.00	L-13
			b) Overhead charges @ on (a)		(@ 20%)	(@ 20%)	(@ 20%)		312.03	312.03	312.03	
			c) Contractor's profit @ on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		187.22	187.22	187.22	
			Cost for 10 cum =(a+b+c)						2059.41	2059.41	2059.41	
			Rate per cum= (a+b+c)/10						205.94	205.94	205.94	
								Say	**205.90**	**205.90**	**205.90**	
		Note	1. Cost of dewatering may be added where required upto, 10 percent of labour cost Assessment for dewatering shall be made as per site conditions.									
			2.The excavated earth can be used partially for backfilling of foundation pit and partly for road work except for marshy soil. Hence cost of disposal has not been added except for marshy soil. This remark is common to all cases of item 12.01 excluding marshy soil.									
			3. The cost of shoring and shuttering, where needed, may be added @ 1 percent on cost of excavation for open foundation.									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.01 (I)	A	(ii)	**Depth 3 m to 6 m**									
			a) Labour									
			Mate / Supervisor	day	0.180	0.180	0.180	444.00	79.92	79.92	79.92	L-12
			Mazdoor	day	4.500	4.500	4.500	428.00	1926.00	1926.00	1926.00	L-13
			b) Overhead charges @ on (a)		(@ 20%)	(@ 20%)	(@ 20%)		401.18	401.18	401.18	
			c) Contractor's profit @ on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		240.71	240.71	240.71	
			Cost for 10 cum =(a+b+c)						2647.81	2647.81	2647.81	
			Rate per cum= (a+b+c)/10						264.78	264.78	264.78	
								Say	**264.80**	**264.80**	**264.80**	
		Note	Cost of dewatering may be added where required upto 15 percent of labour cost. Assessment for dewatering shall be done as per actual ground conditions.									
12.01 (I)	A	(iii)	**Depth above 6 m**									
			a) Labour									
			Mate / Supervisor	day	0.240	0.240	0.240	444.00	106.56	106.56	106.56	L-12
			Mazdoor	day	6.000	6.000	6.000	428.00	2568.00	2568.00	2568.00	L-13
			b) Overhead charges @ on (a)		(@ 20%)	(@ 20%)	(@ 20%)		534.91	534.91	534.91	
			c) Contractor's profit @ on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		320.95	320.95	320.95	
			Cost for 10 cum =(a+b+c)						3530.42	3530.42	3530.42	
			Rate per cum= (a+b+c)/10						353.04	353.04	353.04	
								Say	**353.00**	**353.00**	**353.00**	
		Note	Cost of dewatering may be added where required upto 20 percent of labour cost. Assessment for dewatering shall be done as per actual ground conditions.									
12.01 (I)		B	**Mechanical Means**									
		(i)	Depth upto 3 m									
			Unit = cum									
			Taking output = 330cum									
			a) Labour									
			Mate	day	0.320	0.320	0.320	444.00	142.08	142.08	142.08	L-12

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			b) Machinery									
			Hydraulic excavator For excavation									
			(i) 1.2 cum bucket capacity	hour	4.627			2809.00	12997.24			PM3003
			(ii) 1.1 cum bucket capacity	hour		5.329		2538.00		13525.00		PM3004
			(iii) 0.9 cum bucket capacity	hour			7.450	2312.00			17224.40	PM3005
			For backfilling (considering 60% of the excavated material)									
			(i) 1.2 cum bucket capacity	hour	2.776			2809.00	7797.78			PM3003
			(ii) 1.1 cum bucket capacity	hour		3.197		2538.00		8113.99		PM3004
			(iii) 0.9 cum bucket capacity	hour			4.470	2312.00			10334.64	PM3005
			Tipper for transportation of excess material to dumping yard considering lead @ 1km									
			(i) 18 cum capacity	t.km	198.000			4.98	986.04			PM72001
			(ii) 14 cum capacity	t.km		198.000		5.71		1130.58		PM73001
			(iiii) 10 cum capacity	t.km			198.000	7.10			1405.80	PM74001
			c) Overhaead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		5069.43	5267.13	6506.18	
			d) Contractor's profit @on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		3041.66	3160.28	3903.71	
			Cost for 330 cum= a+b+c+d						33458.23	34763.06	42940.81	
			Rate per cum = (a+b+c+d)/330						101.39	105.34	130.12	
								Say	**101.40**	**105.30**	**130.10**	
		Note	Cost of dewatering upto 5 percent of (a+b) may be added, where required. Assessment for dewatering shall be made as per site conditions									
		(ii)	**Depth 3 m to 6 m**									
			Unit = cum									
			Taking output = 300cum									
			a) Labour									
			Mate	day	0.320	0.320	0.320	444.00	142.08	142.08	142.08	L-12
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			b) Machinery									
			Hydraulic excavator For excavation									
			(i) 1.2 cum bucket capacity	hour	4.674			2809.00	13129.27			PM3003

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			(ii) 1.1 cum bucket capacity	hour		5.383		2538.00		13662.05		PM3004
			(iii) 0.9 cum bucket capacity	hour			7.525	2312.00			17397.80	PM3005
			For backfilling (considering 60% of the excavated material)									
			(i) 1.2 cum bucket capacity	hour	2.804			2809.00	7876.44			PM3003
			(ii) 1.1 cum bucket capacity	hour		3.230		2538.00		8197.74		PM3004
			(iii) 0.9 cum bucket capacity	hour			4.515	2312.00			10438.68	PM3005
			Tipper for transportation of excess material to dumping yard considering lead @ 1km									
			(i) 18 cum capacity	t.km	180.000			4.98	896.40			PM72001
			(ii) 14 cum capacity	t.km		180.000		5.71		1027.80		PM73001
			(iiii) 10 cum capacity	t.km			180.000	7.10			1278.00	PM74001
			c) Overhaead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		5093.64	5290.73	6536.11	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		3056.18	3174.44	3921.67	
			Cost for 300 cum= a+b+c+d						33618.00	34918.85	43138.34	
			Rate per cum = (a+b+c+d)/300						112.06	116.40	143.79	
								Say	**112.10**	**116.40**	**143.80**	
		Note	Cost of dewatering upto 7.5 percent of (a+b) may be added, where required. Assessment for dewatering shall be made as per site conditions									
			Mechanical Means									
		(iii)	**Depth above 6 m**									
			Unit = cum									
			Taking output = 270cum									
			a) Labour									
			Mate	day	0.320	0.320	0.320	444.00	142.08	142.08	142.08	L-12
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			b) Machinery									
			Hydraulic excavator For excavation									
			(i) 1.2 cum bucket capacity	hour	4.732			2809.00	13292.19			PM3003
			(ii) 1.1 cum bucket capacity	hour		5.450		2538.00		13832.10		PM3004
			(iii) 0.9 cum bucket capacity	hour			7.619	2312.00			17615.13	PM3005

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			For backfilling (considering 60% of the excavated material)									
			(i) 1.2 cum bucket capacity	hour	2.839			2809.00	7974.75			PM3003
			(ii) 1.1 cum bucket capacity	hour		3.270		2538.00		8299.26		PM3004
			(iii) 0.9 cum bucket capacity	hour			4.571	2312.00			10568.15	PM3005
			Tipper for transportation of excess material to dumping yard considering lead @ 1km									
			(i) 18 cum capacity	t.km	162.000			4.98	806.76			PM72001
			(ii) 14 cum capacity	t.km		162.000		5.71		925.02		PM73001
			(iiii) 10 cum capacity	t.km			162.000	7.10			1150.20	PM74001
			c) Overhaead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		5127.96	5324.49	6579.91	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		3076.77	3194.70	3947.95	
			Cost for 270 cum= a+b+c+d						33844.51	35141.65	43427.42	
			Rate per cum = (a+b+c+d)/270						125.35	130.15	160.84	
								Say	**125.40**	**130.20**	**160.80**	
		Note	1. Cost of dewatering upto 10 percent of (a+b) may be added, where required. Assessment for dewatering shall be made as per site conditions									
			2. Labour provided for excavation by mechanical means includes that required for trimming of bottom and side slopes.									
12.01		**II**	**Ordinary Rock (not requiring blasting)**									
		A	**Manual Means**									
		(i)	**Depth upto 3m**									
			Unit= cum									
			Taking output =10cum									
			a) Labour									
			Mate / Supervisor	day	0.200	0.200	0.200	444.00	88.80	88.80	88.80	L-12
			Mazdoor	day	5.000	5.000	5.000	428.00	2140.00	2140.00	2140.00	L-13
			b) Overhead charges @ on (a)		(@ 20%)	(@ 20%)	(@ 20%)		445.76	445.76	445.76	
			c) Contractor's profit @ on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		267.46	267.46	267.46	
			Cost for 10 cum =(a+b+c)						2942.02	2942.02	2942.02	
			Rate per cum= (a+b+c)/10						294.20	294.20	294.20	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
								Say	294.20	294.20	294.20	
		Note	Cost of dewatering upto 10 percent of labour cost may be added, where required. Assessment for dewatering shall be made as per site conditions.									
12.01 (II)		B	**Mechanical Means**									
			Unit = cum									
			Taking output = 50cum									
			a) Labour									
			Mate	day	0.120	0.120	0.120	444.00	53.28	53.28	53.28	L-12
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			b) Machinery									
			Hydraulic excavator									
			For excavation									
			(i) 1.2 cum bucket capacity	hour	5.818			2809.00	16342.76			PM3003
			(ii) 1.1 cum bucket capacity	hour		6.845		2538.00		17372.61		PM3004
			(iii) 0.9 cum bucket capacity	hour			7.273	2312.00			16815.18	PM3005
			For loading									
			(i) 1.2 cum bucket capacity	hour	0.872			2809.00	2449.45			PM3003
			(ii) 1.1 cum bucket capacity	hour		1.005		2538.00		2550.69		PM3004
			(iii) 0.9 cum bucket capacity	hour			1.405	2312.00			3248.36	PM3005
			Jack Hammer	hour	5.818	6.845	7.273	206.00	1198.51	1410.07	1498.24	PM4001
			Tipper for transportation considering lead @ 1 km									
			(i) 18 cum capacity	t-km	75.000			4.98	373.50			PM72001
			(ii) 14 cum capacity	t-km		75.000		5.71		428.25		PM73001
			(iii) 10 cum capacity	t-km			75.000	7.10			532.50	PM74001
			For loading & unloading time									
			(i) 18 cum capacity	hour	0.872			2349.00	2048.33			PM6001
			(ii) 14 cum capacity	hour		1.005		2108.00		2118.54		PM6002
			(iii) 10 cum capacity	hour			1.405	1891.00			2656.86	PM6003
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		4749.97	5043.49	5217.68	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		2849.98	3026.09	3130.61	
			Cost for 50 cum = a+b+c+d						31349.77	33287.02	34436.70	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Rate per cum = (a+b+c+d)/50						627.00	665.74	688.73	
								Say	**627.00**	**665.70**	**688.70**	
		Note	1.Cost of dewatering upto 10 percent of (a+b), may be added, where required Assessment for dewatering shall be made as per site conditions.									
			2.In case of rock, foundation beyond 3 m is not dug and hence not included.									
12.01	**302**	**III**	**Hard Rock (requiring blasting)**									
			Carrying out excavation in hard rock to achieve a specified slope of the rock face by controlled use of explosives and blasting accessories in properly aligned and spaced drill holes, collection of the excavated rock by a dozer, loading in tipper by a front end loader and disposing of the material with all lifts and lead upto 1000m, all as specified in clause No. 303									
		A	**Manual means**									
			Unit=cum									
			Taking output=120cum									
			a) Labour									
			Mate	day	0.210	0.210	0.210	444.00	93.24	93.24	93.24	L-12
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			Driller	day	2.000	2.000	2.000	444.00	888.00	888.00	888.00	L-06
			Blaster	day	0.250	0.250	0.250	699.00	174.75	174.75	174.75	L-03
			b) Machinery									
			Air Compressor	hour	6.000	6.000	6.000	496.00	2976.00	2976.00	2976.00	PM15001
			Jack Hammer for drilling holes @ 4.5 m per hour)	hour	24.000	24.000	24.000	206.00	4944.00	4944.00	4944.00	PM4001
			Jack Hammer (consider 5% of the volume for dressing)	hour	1.024	1.205	1.280	206.00	210.94	248.23	263.68	PM4001
			Hydraulic excavator									
			Excavator For excavation									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			(i) 1.2 cum bucket capacity	hour	1.024			2809.00	2876.42			PM3003
			(ii) 1.1 cum bucket capacity	hour		1.205		2538.00		3058.29		PM3004
			(iii) 0.9 cum bucket capacity	hour			1.280	2312.00			2959.36	PM3005
			For loading									
			(i) 1.2 cum bucket capacity	hour	2.094			2809.00	5882.05			PM3003
			(ii) 1.1 cum bucket capacity	hour		2.411		2538.00		6119.12		PM3004
			(iii) 0.9 cum bucket capacity	hour			3.371	2312.00			7793.75	PM3005
			Tipper for transportation considering lead @ 1 km									
			(i) 18 cum capacity	t-km	180.000			4.98	896.40			PM72001
			(ii) 14 cum capacity	t-km		180.000		5.71		1027.80		PM73001
			(iii) 10 cum capacity	t-km			180.000	7.10			1278.00	PM74001
			For loading & unloading time									
			(i) 18 cum capacity	hour	2.094			2349.00	4918.81			PM6001
			(ii) 14 cum capacity	hour		2.411		2108.00		5082.39		PM6002
			(iii) 10 cum capacity	hour			3.371	1891.00			6374.56	PM6003
			c) Material									
			Small dia Explosive at 0.40 kg/cum for 120 cum (120×0.40) Explosive at 0.20 kg/cum for secondary blast @ 5% of the total volume (120×0.2×5%)	kg	49.200	49.200	49.200	124.27	6114.08	6114.08	6114.08	M-215
			Electric detonators at 1 per hole for main blast holes (21×3+20×2)=103 nos	no.	69.000	69.000	69.000	6.93	478.17	478.17	478.17	M-217
			Ordinary detonators @ 1 per hole for 10 secondary holes (required for 5% of the total quantity @ 0.6 m per hole for 1 cum)	no.	7.000	7.000	7.000	3.47	24.29	24.29	24.29	M-216
			Detonating fuse coil	m	213.000	213.000	213.000	16.12	3433.56	3433.56	3433.56	M-218
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		7038.94	7189.18	7815.89	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		4223.36	4313.51	4689.53	
			Cost for 120 cum = a+b+c+d+e						46457.01	47448.61	51584.87	
			Rate per cum = (a+b+c+d+e)/120						387.14	395.41	429.87	
								Say	**387.10**	**395.40**	**429.90**	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		Note	Cost of dewatering @ 10 percent of (a+b) may be added, where required. Assessment for dewatering shall be made as per site conditions.									
12.01		**IV**	**Hard Rock (blasting prohibited)**									
			Unit* = *cum									
			Taking output* = *35cum									
		A	**Mechanical Means**									
			a) Labour									
			Mate	day	0.080	0.080	0.080	444.00	35.52	35.52	35.52	L-12
			Mazdoor	day	2.000	2.000	2.000	428.00	856.00	856.00	856.00	L-13
			b) Machinery									
			Jack Hammer	hour	5.973	6.788	7.467	206.00	1230.44	1398.33	1538.20	PM4001
			Hydraulic Excavator Excavator for excavation									
			(i) 1.2 cum bucket capacity	hour	5.973			2809.00	16778.16			PM3003
			(ii) 1.1 cum bucket capacity	hour		6.788		2538.00		17227.94		PM3004
			(iii) 0.9 cum bucket capacity	hour			7.467	2312.00			17263.70	PM3005
			For loading									
			(i) 1.2 cum bucket capacity	hour	0.611			2809.00	1716.30			PM3003
			(ii) 1.1 cum bucket capacity	hour		0.703		2538.00		1784.21		PM3004
			(iii) 0.9 cum bucket capacity	hour			0.983	2312.00			2272.70	PM3005
			Tipper for **transportation** to dumping yard considering lead @ 1 km									
			(i) 18 cum capacity	t-km	52.500			4.98	261.45			PM72001
			(ii) 14 cum capacity	t-km		52.500		5.71		299.78		PM73001
			(iii) 10 cum capacity	t-km			52.500	7.10			372.75	PM74001
			For loading & unloading time									
			(i) 18 cum capacity	hour	0.611			2349.00	1435.24			PM6001
			(ii) 14 cum capacity	hour		0.703		2108.00		1481.92		PM6002
			(iii) 10 cum capacity	hour			0.983	1891.00			1858.85	PM6003
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		4462.62	4616.74	4839.55	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		2677.57	2770.04	2903.73	
			Cost for 35 cum = a+b+c+d						29453.30	30470.49	31941.00	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Rate per cum = (a+b+c+d)/35						841.52	870.59	912.60	
								Say	**841.50**	**870.60**	**912.60**	
			1. Cost of dewatering upto10 percent of (a+b), may be added, where required. Assessment for dewatering shall be made as per site conditions.									
			2.In case of rock, foundation beyond 3 m is not dug and hence not included.									
12.01		**V**	**Marshy Soil**									
			Unit* = *cum									
			Taking output* = *10 cum									
			Depth upto 3 m									
		A	**Manual means**									
			a) Labour									
			Mate/Supervisor	day	0.400	0.400	0.400	444.000	177.600	177.600	177.600	L-12
			Mazdoor	day	10.000	10.000	10.000	428.000	4280.000	4280.000	4280.000	L-13
			b) Machinery									
			Tractor-trolley for removal.	hour	2.670	2.670	2.670	717.000	1914.390	1914.390	1914.390	PM12001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1274.398	1274.398	1274.398	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		764.639	764.639	764.639	
			Cost for 10 cum = a+b+c+d						8411.027	8411.027	8411.027	
			Rate per cum = (a+b+c+d)/ 10						841.103	841.103	841.103	
								Say	**841.100**	**841.100**	**841.100**	
		Note	1. Cost of dewatering @ 30 per cent of (a), may be added, where required Assessment for dewatering shall be made as per site conditions.									
			2. Shoring & strutting 15 percent of (a), where required may be added									
			3. It is assumed that Marshy Soil will be available upto 3 m depth only. For deeper excavation below 3 m depth, refer analysis in item12.01 (i) to (iv) for ordinary soil									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.01 (V)		B	**Mechanical Means**									
			Unit=cum									
			Taking output=260cum									
			a) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			b) Machniery									
			Hydraulic Excavator									
			(i) 1.2 cum bucket capacity	hour	8.506			2809.00	23893.35			PM3003
			(ii) 1.1 cum bucket capacity	hour		9.796		2538.00		24862.25		PM3004
			(iii) 0.9 cum bucket capacity	hour			13.695	2312.00			31662.84	PM3005
			Tipper									
			for transportation to dumping yard considering lead @1km									
			(i) 18cum capacity	t-km	390.000			4.98	1942.20			PM72001
			(ii) 14cum capacity	t-km		390.000		5.71		2226.90		PM73001
			(iii) 10cum capacity	t-km			390.000	7.10			2769.00	PM74001
			For loading & unloading time									
			(i) 18cum capacity	hour	8.506			2349.00	19980.59			PM6001
			(ii) 14cum capacity	hour		9.796		2108.00		20649.97		PM6002
			(iii) 10cum capacity	hour			13.695	1891.00			25897.25	PM6003
			c) Material									
			Selected earth for refilling	cum	156.000	156.000	156.000	35.30	5506.80	5506.80	5506.80	M-164
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		10353.74	10738.34	13256.33	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		6212.24	6443.00	7953.80	
			Cost for 260 cum= a+b+c+d+e						68334.69	70873.01	87491.77	
			Rate per cum= (a+b+c+d+e)/260						262.83	272.59	336.51	
								Say	**262.80**	**272.60**	**336.50**	
			1. Cost of dewatering @ 20 percent of (a+b) may be added, where required									
			2. Shoring & strutting @ 10 percent of (a+b), where required may be added.									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			3. It is assumed that marshy soil will be available upto 3 m depth only. For deeper excavation below 3m depth , refer analysis in item 12.01 (i) to (iv) for ordinary soil.									
12.01 (VI)		**VI**	**Back Filling in Marshy Foundation Pits**									
			Unit=cum									
			Taking output= 6 cum									
			a) Labour									
			Mate	day	0.120	0.120	0.120	444.00	53.28	53.28	53.28	L-12
			Mazdoor for dressing sides, bottom and backfilling	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			b) Machinery									
			Tractor-trolley for transportation	hour	2.000	2.000	2.000	717.00	1434.00	1434.00	1434.00	PM12001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		554.26	554.26	554.26	
			d) Contractor's Profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		332.55	332.55	332.55	
			Cost for 6cum=a=b+c+d						3658.09	3658.09	3658.09	
			Rate per cum= (a+b+c+d)/6						609.68	609.68	609.68	
								Say	**609.70**	**609.70**	**609.70**	
12.02		**304**	**Filling Annular Space around footing in rock**									
			Unit =cum									
			Taking output=1 cum									
			Lean cement concrete 1:3:6 nominal mix. Rate may be taken as per item 12.04					**Say**	**4346.30**	**4348.60**	**4358.70**	
12.03		**304**	**Sand Filling in Foundation Trenches as per Drawing and Technical Specification(As per Requirement ,Fine Sand/Coarse Sand may be used)**									
			Unit=cum									
			Taking output=100 cum									
			a) Labour									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			b) Machinery									
			Water tanker (speed @20km/hr and return speed @30km/hr and unloading @ 30 mins per trip)									
			(i) 16kL capacity	hour	0.125×L1+0.75			1204.00	1053.50			PM11001
			(ii) 12kL capacity	hour		0.167×L1+1		1030.00		1202.01		PM11002
			(iii) 6kL capacity	hour			0.333×L1+2	789.00			1840.74	PM11003
			c) Material									
			Sand (assuming 20 percent voids) at site	cum	120.000	120.000	120.000	150.48	18057.60	18057.60	18057.60	M-006
			Water	KL	18.000	18.000	18.000	63.20	1137.60	1137.60	1137.60	M-191
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		4138.89	4168.59	4296.34	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		2483.34	2501.16	2577.80	
			Rate per 100cum =a+b+c+d+e						27316.69	27512.72	28355.84	
			Rate per cum= (a+b+c+d+e)/100						273.17	275.13	283.56	
								Say	**273.20**	**275.10**	**283.60**	
12.04	**2100**		**PCC 1:3:6 in Foundation**									
			Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.									
			Unit=cum									
			Taking output=15 cum									
			a) Labour									
			Mate	day	0.320	0.320	0.320	444.00	142.08	142.08	142.08	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	7.000	7.000	7.000	428.00	2996.00	2996.00	2996.00	L-13
			b) Material									
			Plain cement concrete 1:3:6 nominal mix using batching plant (Rate taken from Sub-Analysis 21.02)	cum	15.000	15.000	15.000	2990.00	44850.00	44850.00	44850.00	21.02
			Water	KL	3.240	3.240	3.240	63.20	204.77	204.77	204.77	M-191

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			c) Machinery									
			Plate compactor	hour	1.000	1.000	1.000	466.00	466.00	466.00	466.00	PM46001
			Water tanker (speed @20km/hr and return speed @30km/hr and unloading @ 30 mins per trip)									
			(i) 16kL capacity	hour	0.023 X L1 +0.135			1204.00	190.23			PM11001
			(ii) 12kL capacity	hour		0.03 X L1 +0.18		1030.00		216.30		PM11002
			(iii) 6kL capacity	hour			0.06 X L1 + 0.36	789.00			331.38	PM11003
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		9878.02	9883.23	9906.25	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		5926.81	5929.94	5943.75	
			Cost for 15cum= a+b+c+d+e						65194.91	65229.32	65381.22	
			Rate per cum= (a+b+c+d+e)/15						4346.33	4348.62	4358.75	
								Say	**4346.30**	**4348.60**	**4358.70**	
		Note	Vibrator is a part of minor T & P which is already included in overhead charges of the contractor									
12.05	**1300**		**Brick Masonry Work in Cement Mortar 1:3 in Foundation complete excluding Pointing and Plastering, as per Drawing and Technical Specifications.**									
			Unit* = *cum									
			Taking output* = *5 cum									
			a) Material									
			Bricks Ist class	each	2500.000	2500.000	2500.000	6.620	16550.00	16550.00	16550.00	M-079
			Cement mortar 1:3 (Rate taken from Sub-Analysis 21.01A))	cum	1.200	1.200	1.200	4019.00	4822.80	4822.80	4822.80	21.01 A
			Water for curing	KL	2.415	2.415	2.415	63.20	152.63	152.63	152.63	M-191
			b) Labour									
			Mate	day	0.480	0.480	0.480	444.00	213.12	213.12	213.12	L-12
			Mason	day	4.000	4.000	4.000	541.00	2164.00	2164.00	2164.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			c) Machinery									
			Water tanker (speed@ 20km/hr and return speed @ 30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL Capacity	hour	0.017×L1+ 0.101			1204.00	142.07			PM11001
			(ii) 12 KL Capacity	hour		0.022×L1+ 0.134		1030.00		160.68		PM11002
			(iii) 6 KL Capacity	hour			0.045×L1+ 0.268	789.00			246.96	PM11003
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		5493.72	5497.45	5514.70	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		3296.23	3298.47	3308.82	
			Cost for 5 cum = a+b+c+d+e						36258.58	36283.14	36397.03	
			Rate per cum = (a+b+c+d+e)/5						7251.72	7256.63	7279.41	
								Say	**7251.70**	**7256.60**	**7279.40**	
12.06	**Sub-Analysis**	**(A)**	**Cement Mortar 1:3 (1 cement : 3 sand)**									
			Unit* = *1 cum									
			Taking output* = *1 cum									
			Cement mortar 1:3 (Rate taken from Sub-Analysis 21.01A)	cum	1.000	1.000	1.000	4019.00	4019.00	4019.00	4019.00	21.01 A
		(B)	**Cement Mortar1:2 (1cement :2 sand)**									
			Unit* = *1 cum									
			Taking output* = *1 cum									
			Cement mortar 1:2 (Rate taken from Sub-Analysis 21.01B)	cum	1.000	1.000	1.000	4890.20	4890.20	4890.20	4890.20	21.01 B
		(C)	**Cement Mortar1:4 (1cement :4 sand)**									
			Unit* = *1 cum									
			Taking output* = *1 cum									
			Cement mortar 1:4 (Rate taken from Sub-Analysis 21.01C)	cum	1.000	1.000	1.000	3437.90	3437.90	3437.90	3437.90	21.01 C
		(D)	**Cement Mortar1:6 (1cement :6 sand)**									
			Unit* = *1 cum									
			Taking output* = *1 cum									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Cement mortar 1:6 (Rate taken from Sub-Analysis 21.01D)	cum	1.000	1.000	1.000	2900.50	2900.50	2900.50	2900.50	21.01 D
12.07			**Stone masonry work in cement mortar 1:3 in foundation complete as per drawing and technical specifications.**									
			Unit=cum									
			Taking output=5 cum									
		(A)	**Square Rubble Coursed Rubble masonry (first sort)**									
			a) Material									
			Stone	cum	5.500	5.500	5.500	730.02	4015.11	4015.11	4015.11	M-001
			Through and bond stone (35 no. X 0.24m X0.24mX0.39m=0.79cu.m)	each	35.000	35.000	35.000	11.68	408.80	408.80	408.80	M-184
			Cement mortar 1:3 (Rate taken from Sub-Analysis 21.01A)	cum	1.500	1.500	1.500	4019.00	6028.50	6028.50	6028.50	21.01 A
			b) Labour									
			Mate	day	0.660	0.660	0.660	444.00	293.04	293.04	293.04	L-12
			Mason	day	7.500	7.500	7.500	541.00	4057.50	4057.50	4057.50	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		3730.99	3730.99	3730.99	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		2238.59	2238.59	2238.59	
			Cost for 5 cum = a+b+c+d						24624.53	24624.53	24624.53	
			Rate per cum = (a+b+c+d)/5						4924.91	4924.91	4924.91	
								Say	**4924.90**	**4924.90**	**4924.90**	
		(B)	**Random Rubble masonry (coursed/uncoursed)**									
			Unit=cum									
			Taking output=5 cum									
			a) Material									
			Stone	cum	5.500	5.500	5.500	730.02	4015.11	4015.11	4015.11	M001
			Through and bond stone (35 no. X 0.24m X0.24mX0.39m=0.79cu.m)	each	35.000	35.000	35.000	11.68	408.80	408.80	408.80	M-184
			Cement mortar 1:3 (Rate taken from Sub-Analysis 21.01A)	cum	1.550	1.550	1.550	4019.00	6229.45	6229.45	6229.45	21.01 A

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			b) Labour									
			Mate	day	0.600	0.600	0.600	444.00	266.40	266.40	266.40	L-12
			Mason	day	6.000	6.000	6.000	541.00	3246.00	3246.00	3246.00	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		3603.55	3603.55	3603.55	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		2162.13	2162.13	2162.13	
			Cost for 5 cum = a+b+c+d						23783.44	23783.44	23783.44	
			Rate per cum = (a+b+c+d)/5						4756.69	4756.69	4756.69	
								Say	**4756.70**	**4756.70**	**4756.70**	
		Note	The labour already considered in cement mortar has been taken into account while proposing labour for masonry works.									
12.08	**1500,1700 & 2100**		**Plain/Reinforced Cement concrete in open foundation complete as per drwaing and technical specifications.**									
		A	**PCC Grade M15**									
		Case I	**PCC Grade M15 using batching plant & Concrete pump**									
			unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.03)	cum	30.000	30.000	30.000	3034.40	91032.00	91032.00	91032.00	21.03
			water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @20km/hr and return speed @30 km/hr and 30 min for unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						3958.99	3964.22	3986.60	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		20586.77	20613.92	20730.30	
			f) Contractor's profit @ on(a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		12352.06	12368.35	12438.18	
			Cost for 30 cum=a+b+c+d+e+f						135872.65	136051.90	136819.99	
			Rate per cum (a+b+c+d+e+f)/30						4529.09	4535.06	4560.67	
								Say	**4529.10**	**4535.10**	**4560.70**	
		Case II	**PCC Grade M15 using batching plant & manual placing**									
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.03)	cum	15.000	15.000	15.000	3034.40	45516.00	45516.00	45516.00	21.03
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2117.84	2120.45	2131.62	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		11012.77	11026.33	11084.41	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		6607.66	6615.80	6650.65	
			Cost for 15 cum=a+b+c+d+e+f						72684.29	72773.79	73157.13	
			Rate per cum (a+b+c+d+e+f)/15						4845.62	4851.59	4877.14	
								Say	**4845.60**	**4851.60**	**4877.10**	
12.08		**B**	**PCC Grade M20**									
		Case I	**PCC Grade M20 using batching plant, transit mixture & Concrete pump**									
			unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.04)	cum	30.000	30.000	30.000	3416.10	102483.00	102483.00	102483.00	21.04
			water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hydraulic boom placer	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						4417.03	4422.26	4444.64	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		22968.57	22995.73	23112.11	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		13781.14	13797.44	13867.27	
			Cost for 30 cum=a+b+c+d+e+f						151592.58	151771.83	152539.92	
			Rate per cum (a+b+c+d+e+f)/30						5053.09	5059.06	5084.66	
								Say	**5053.10**	**5059.10**	**5084.70**	
		Case II	**PCC Grade M20 using batching plant, transit mixer & manual placing**									
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.04)	cum	15.000	15.000	15.000	3416.10	51241.50	51241.50	51241.50	21.04
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2346.86	2349.47	2360.64	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		12203.67	12217.24	12275.32	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		7322.20	7330.34	7365.19	
			Cost for 15 cum=a+b+c+d+e+f						80544.25	80633.76	81017.10	
			Rate per cum (a+b+c+d+e+f)/15						5369.62	5375.58	5401.14	
								Say	**5369.60**	**5375.60**	**5401.10**	
12.08		**C**	**RCC Grade M20**									
		Case I	**RCC Grade M20 using batching plant, transit mixture & Concrete pump**									
			unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.06)	cum	30.000	30.000	30.000	3737.70	112131.00	112131.00	112131.00	21.06
			water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hydraulic boom placer	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						4820.78	4826.01	4848.39	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		25068.08	25095.23	25211.61	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15040.85	15057.14	15126.97	
			Cost for 30 cum=a+b+c+d+e+f						165449.30	165628.54	166396.63	
			Rate per cum (a+b+c+d+e+f)/30						5514.98	5520.95	5546.55	
								Say	**5515.00**	**5521.00**	**5546.60**	
		Case II	**RCC Grade M20 using batching plant, transit mixer & manual placing**									
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.06)	cum	15.000	15.000	15.000	3737.70	56065.50	56065.50	56065.50	21.06
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.420	0.420	0.420	444.00	186.48	186.48	186.48	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2557.65	2560.26	2571.43	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13299.78	13313.35	13371.43	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		7979.87	7988.01	8022.86	
			Cost for 15 cum=a+b+c+d+e+f						87778.58	87868.08	88251.42	
			Rate per cum (a+b+c+d+e+f)/15						5851.91	5857.87	5883.43	
								Say	**5851.90**	**5857.90**	**5883.40**	
12.08		**D**	**PCC Grade M25**									
		Case I	**PCC Grade M25 using batching plant, transit mixture & Concrete pump**									
			unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.06)	cum	30.000	30.000	30.000	3737.70	112131.00	112131.00	112131.00	21.06
			water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hydraulic boom placer	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						4802.95	4808.18	4830.56	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		24975.36	25002.52	25118.89	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		14985.21	15001.51	15071.34	
			Cost for 30 cum=a+b+c+d+e+f						164837.36	165016.60	165784.70	
			Rate per cum (a+b+c+d+e+f)/30						5494.58	5500.55	5526.16	
								Say	**5494.60**	**5500.60**	**5526.20**	
		Case II	**PCC Grade M25 using batching plant, transit mixer & manual placing**									
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.06)	cum	15.000	15.000	15.000	3737.70	56065.50	56065.50	56065.50	21.06
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2539.82	2542.43	2553.60	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13207.07	13220.63	13278.71	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		7924.24	7932.38	7967.23	
			Cost for 15 cum=a+b+c+d+e+f						87166.64	87256.14	87639.48	
			Rate per cum (a+b+c+d+e+f)/15						5811.11	5817.08	5842.63	
								Say	**5811.10**	**5817.10**	**5842.60**	
12.08		**E**	**RCC Grade M25**									
		Case I	**RCC Grade M25 using batching plant,transit mixer & Concrete pump**									
			unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.07)	cum	30.000	30.000	30.000	3748.20	112446.00	112446.00	112446.00	21.07
			water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hydraulic boom placer	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						4833.38	4838.61	4860.99	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		25133.60	25160.75	25277.13	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15080.16	15096.45	15166.28	
			Cost for 30 cum=a+b+c+d+e+f						165881.73	166060.97	166829.07	
			Rate per cum (a+b+c+d+e+f)/30						5529.39	5535.37	5560.97	
								Say	**5529.40**	**5535.40**	**5561.00**	
		Case II	**RCC Grade M25 using batching plant, transit mixer & manual placing**									
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.07)	cum	15.000	15.000	15.000	3748.20	56223.00	56223.00	56223.00	21.07
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.420	0.420	0.420	444.00	186.48	186.48	186.48	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2563.95	2566.56	2577.73	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13332.54	13346.11	13404.19	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		7999.53	8007.66	8042.51	
			Cost for 15 cum=a+b+c+d+e+f						87994.80	88084.30	88467.64	
			Rate per cum (a+b+c+d+e+f)/15						5866.32	5872.29	5897.84	
								Say	**5866.30**	**5872.30**	**5897.80**	
12.08		**F**	**PCC Grade M30**									
		Case I	**PCC Grade M30 using batching plant,transit mixer & Concrete pump**									
			unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.08)	cum	30.000	30.000	30.000	3769.10	113073.00	113073.00	113073.00	21.08
			water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hydraulic boom placer	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						4840.63	4845.86	4868.24	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		25171.29	25198.45	25314.83	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15102.78	15119.07	15188.90	
			Cost for 30 cum=a+b+c+d+e+f						166130.53	166309.78	167077.87	
			Rate per cum (a+b+c+d+e+f)/30						5537.68	5543.66	5569.26	
								Say	**5537.70**	**5543.70**	**5569.30**	
		Case II	**PCC Grade M30 using batching plant, transit mixer & manual placing**									
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.08)	cum	15.000	15.000	15.000	3769.10	56536.50	56536.50	56536.50	21.08
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2558.66	2561.27	2572.44	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13305.03	13318.60	13376.68	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		7983.02	7991.16	8026.01	
			Cost for 15 cum=a+b+c+d+e+f						87813.23	87902.73	88286.07	
			Rate per cum (a+b+c+d+e+f)/15						5854.22	5860.18	5885.74	
								Say	**5854.20**	**5860.20**	**5885.70**	
12.08		**G**	**RCC Grade M30**									
		Case I	**RCC Grade M30 using batching plant,transit mixer & Concrete pump**									
			unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.09)	cum	30.000	30.000	30.000	3781.30	113439.00	113439.00	113439.00	21.09
			water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hydraulic boom placer	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						4873.10	4878.33	4900.71	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		25340.14	25367.30	25483.68	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15204.08	15220.38	15290.21	
			Cost for 30 cum=a+b+c+d+e+f						167244.92	167424.16	168192.26	
			Rate per cum (a+b+c+d+e+f)/30						5574.83	5580.81	5606.41	
								Say	**5574.80**	**5580.80**	**5606.40**	
		Case II	**RCC Grade M30 using batching plant, transit mixer & manual placing**									
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.09)	cum	15.000	15.000	15.000	3781.30	56719.50	56719.50	56719.50	21.09
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.420	0.420	0.420	444.00	186.48	186.48	186.48	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2583.81	2586.42	2597.59	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13435.82	13449.38	13507.46	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8061.49	8069.63	8104.48	
			Cost for 15 cum=a+b+c+d+e+f						88676.39	88765.89	89149.23	
			Rate per cum= (a+b+c+d+e+f)/15						5911.76	5917.73	5943.28	
								Say	**5911.80**	**5917.70**	**5943.30**	
12.08		**H**	**RCC Grade M35**									
		Case I	**RCC Grade M35 using batching plant,transit mixer & Concrete pump**									
			unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.11)	cum	30.000	30.000	30.000	3884.60	116538.00	116538.00	116538.00	21.11
			water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						4997.06	5002.29	5024.67	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		25984.73	26011.89	26128.27	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15590.84	15607.13	15676.96	
			Cost for 30 cum=a+b+c+d+e+f						171499.23	171678.47	172446.56	
			Rate per cum (a+b+c+d+e+f)/30						5716.64	5722.62	5748.22	
								Say	**5716.60**	**5722.60**	**5748.20**	
		Case II	**RCC Grade M35 using batching plant, transit mixer & manual placing**									
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.11)	cum	15.000	15.000	15.000	3884.60	58269.00	58269.00	58269.00	21.11
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.420	0.420	0.420	444.00	186.48	186.48	186.48	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2645.79	2648.40	2659.57	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13758.11	13771.67	13829.76	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8254.87	8263.00	8297.85	
			Cost for 15 cum=a+b+c+d+e+f						90803.54	90893.05	91276.39	
			Rate per cum= (a+b+c+d+e+f)/15						6053.57	6059.54	6085.09	
								Say	**6053.60**	**6059.50**	**6085.10**	
12.08		**I**	**RCC Grade M40**									
		Case I	**RCC Grade M40 using batching plant,transit mixer & Concrete pump**									
			unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.12)	cum	30.000	30.000	30.000	3985.50	119565.00	119565.00	119565.00	21.12
			water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						5118.14	5123.37	5145.75	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		26614.35	26641.51	26757.88	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15968.61	15984.90	16054.73	
			Cost for 30 cum=a+b+c+d+e+f						175654.69	175833.94	176602.03	
			Rate per cum (a+b+c+d+e+f)/30						5855.16	5861.13	5886.73	
								Say	**5855.20**	**5861.10**	**5886.70**	
		Case II	**RCC Grade M40 using batching plant, transit mixer & manual placing**									
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.12)	cum	15.000	15.000	15.000	3985.50	59782.50	59782.50	59782.50	21.12
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.420	0.420	0.420	444.00	186.48	186.48	186.48	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30min per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2706.33	2708.94	2720.11	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		14072.92	14086.48	14144.56	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8443.75	8451.89	8486.74	
			Cost for 15 cum=a+b+c+d+e+f						92881.28	92970.78	93354.12	
			Rate per cum= (a+b+c+d+e+f)/15						6192.09	6198.05	6223.61	
								Say	**6192.10**	**6198.10**	**6223.60**	
12.08		**J**	**RCC Grade M45**									
		Case I	**RCC Grade M45 using batching plant,transit mixer & Concrete pump**									
			unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.13)	cum	30.000	30.000	30.000	4012.30	120369.00	120369.00	120369.00	21.13
			water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						5150.30	5155.53	5177.91	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		26781.58	26808.74	26925.12	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		16068.95	16085.24	16155.07	
			Cost for 30 cum=a+b+c+d+e+f						176758.42	176937.67	177705.76	
			Rate per cum (a+b+c+d+e+f)/30						5891.95	5897.92	5923.53	
								Say	**5891.90**	**5897.90**	**5923.50**	
		Case II	**RCC Grade M45 using batching plant, transit mixer & manual placing**									
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.13)	cum	15.000	15.000	15.000	4012.30	60184.50	60184.50	60184.50	21.13
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.420	0.420	0.420	444.00	186.48	186.48	186.48	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2722.41	2725.02	2736.19	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		14156.54	14170.10	14228.18	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8493.92	8502.06	8536.91	
			Cost for 15 cum=a+b+c+d+e+f						93433.14	93522.65	93905.99	
			Rate per cum= (a+b+c+d+e+f)/15						6228.88	6234.84	6260.40	
								Say	**6228.90**	**6234.80**	**6260.40**	
			WELL FOUNDATION									
12.09	**1200**		**Providing and constructing temporary island 24m diameter for construction of Well foundation for 8m dia. Well.**									
		A	**Assuming depth of water 1.0 m and height of island to be 1.25m including Royalty for earth @ ₹ 18661.1 for each island.**									
			Unit=no.									
			Taking output=1 No.									
			a) Material									
			Earth (compacted)	cum	565.487	565.487	565.487	35.30	19961.69	19961.69	19961.69	M-093
			Sand bags	each	1125.000	1125.000	1125.000	12.72	14310.00	14310.00	14310.00	M-160
			b) Labour									
			Mate	day	0.920	0.920	0.920	444.00	408.48	408.48	408.48	L-12
			Mazdoor for filling sand bags,stitching and placing	day	23.000	23.000	23.000	428.00	9844.00	9844.00	9844.00	L-13
			c) Machinery									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Crane with grab 1 cum capacity	hour	30.000	30.000	30.000	869.00	26070.00	26070.00	26070.00	PM67001
			Consumables @2.5 percent of © above						651.75	651.75	651.75	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		14249.18	14249.18	14249.18	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		8549.51	8549.51	8549.51	
			Rate per no. (a+b+c+d+e)						94044.62	94044.62	94044.62	
								Say	**94044.60**	**94044.60**	**94044.60**	
		Note	It is assumed that earth will be available within the working space of crane with grab bucket.									
12.09		**B**	**Assuming depth of water 4.0 m and height of island to be 4.5m including Royalty for earth @ ₹ 44748.0 for each island**									
			Unit=no.									
			Taking output=1 No.									
			a) Material									
			Earth (compacted)	cum	1356.000	1356.000	1356.000	35.30	47866.80	47866.80	47866.80	M-093
			Sand bags	each	9000.000	9000.000	9000.000	12.72	114480.00	114480.00	114480.00	M-160
			Wooden ballies 8" dia and 9m long	each	143.000	143.000	143.000	608.82	87061.26	87061.26	87061.26	M-196
			Wooden ballies 2" dia for bracing	metre	285.000	285.000	285.000	25.17	7173.45	7173.45	7173.45	M-195
			b) Labour									
			Mate	day	8.400	8.400	8.400	444.00	3729.60	3729.60	3729.60	L-12
			Mazdoor for piling 8" dia ballies for piling 8" dia ballies	day	27.000	27.000	27.000	428.00	11556.00	11556.00	11556.00	L-13
			Mazdoor for bracing with 2" dia ballies	day	18.000	18.000	18.000	428.00	7704.00	7704.00	7704.00	L-13
			Mazdoor for filling sand bags,stitching and placing	day	165.000	165.000	165.000	428.00	70620.00	70620.00	70620.00	L-13
			c) Machinery									
			Crane with grab 1 cum capacity	hour	75.000	75.000	75.000	869.00	65175.00	65175.00	65175.00	PM67001
			Consumables and other arrangements for piling ballies @2.5 percent of (a+b+c)						10384.15	10384.15	10384.15	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		85150.05	85150.05	85150.05	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		51090.03	51090.03	51090.03	
			Rate per no. (a+b+c+d+e)						561990.35	561990.35	561990.35	
								Say	**561990.30**	**561990.30**	**561990.30**	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		Note	For other well diameters rate can be worked out on the basis of cross-sectional area of well. The diameter of the island shall be in the conformity with clause 1203.4 of MoRTH specifications.									
12.09		**C**	**Providing and constructiing one span service road to reach island location from one pier location to another pier loaction**									
			Assuming span length 30m, width of service road 10m and depth of water 1m including Royalty for earth @ 495.00 per m length of span									
			Unit=meter									
			Taking output=30 metre									
			a) Material									
			Earth	cum	450.000	450.000	450.000	35.30	15885.00	15885.00	15885.00	M-093
			Sand bags	each	300.000	300.000	300.000	12.72	3816.00	3816.00	3816.00	M-160
			b) Labour									
			Mate	day	0.240	0.240	0.240	444.00	106.56	106.56	106.56	L-12
			Mazdoor for filling sand bags, stitching and placing	day	6.000	6.000	6.000	428.00	2568.00	2568.00	2568.00	L-13
			c) Machinery									
			Front end loader 1 cum capacity	hour	27.000	27.000	27.000	1454.00	39258.00	39258.00	39258.00	PM5003
			Tipper 5.5 cum capacity	hour	28.000	28.000	28.000	1476.00	41328.00	41328.00	41328.00	PM6004
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		20592.31	20592.31	20592.31	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		12355.39	12355.39	12355.39	
			Cost for 30 m (a+b+c+d+e)						135909.26	135909.26	135909.26	
			Rate per m= (a+b+c+d+e)/30						4530.31	4530.31	4530.31	
								Say	**4530.30**	**4530.30**	**4530.30**	
12.10	**1200 & 1900**		**Providing and Laying Cutting Edge of Mild Steel weighing 40 kg per metre for Well Foundation complete as per Drawing and Technical Specification.**									
			Unit=1 MT									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Taking output=1.0 MT									
			a) Material									
			Structural steel in plates, angles, etc. including 5 percent wastage	tonne	1.050	1.050	1.050	49936.67	52433.50	52433.50	52433.50	M-181
			Nuts & bolts	kg	20.000	20.000	20.000	80.60	1612.00	1612.00	1612.00	M-129
			b) Machinery									
			Hydra Crane of capacity 10T for lifting shifting	hour	8.000	8.000	8.000	995.00	7960.00	7960.00	7960.00	PM63003
			Tipper for									
			Transportation to site									
			(i) 18 cum capacity	t-km	1.05 X L1			4.98	5.23			PM72001
			(ii) 14 cum capacity	t-km		1.05 X L1		5.71		6.00		PM73001
			(iii) 10 cum capacity	t-km			1.05 X L1	7.10			7.46	PM74001
			c) Labour									
			(for cutting , bending, making holes, joining, welding and erecting in position)									
			Mate	day	1.080	1.080	1.080	444.00	479.52	479.52	479.52	L-12
			Fitter	day	4.500	4.500	4.500	541.00	2434.50	2434.50	2434.50	L-08
			Blacksmith	day	4.500	4.500	4.500	541.00	2434.50	2434.50	2434.50	L-25
			Welder	day	4.500	4.500	4.500	660.00	2970.00	2970.00	2970.00	L-02
			Mazdoor	day	13.500	13.500	13.500	428.00	5778.00	5778.00	5778.00	L-13
			Electrodes, cutting gas and other consumables @10 percent of cost of (a) above						5404.55	5404.55	5404.55	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		16302.36	16302.51	16302.81	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		9781.42	9781.51	9781.68	
			Cost for 1 M.T= a+b+c+d+e						107595.58	107596.59	107598.52	
								Say	**107595.60**	**107596.60**	**107598.50**	
12.11	**1200, 1500& 1700**		**Plain/Reinforced Cement Concrete, in Well Foundation complete as per Drawing and Technical Specification.**									
		A	**Well curb**									
		(i)	**RCC M20 Grade**									
12.11 A (i)		**Case I**	**RCC Grade M20 using batching plant &concrete pump**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit= cum									
			Taking output=30cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.06)	cum	30.000	30.000	30.000	3737.70	112131.00	112131.00	112131.00	21.06
			b) Labour									
			For pouring and placing									
			Mate	day	0.133	0.133	0.133	444.00	59.05	59.05	59.05	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			d) Formwork @20 percent on cost of concrete i.e cost of material, labour and machinery						23664.75	23664.75	23664.75	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		28397.70	28397.70	28397.70	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		17038.62	17038.62	17038.62	
			Cost for 30 cum=a+b+c+d+e+f						187424.82	187424.82	187424.82	
			Rate per cum=(a+b+c+d+e+f)/30						6247.49	6247.49	6247.49	
								Say	**6247.50**	**6247.50**	**6247.50**	
12.11 A (i)		**Case II**	**RCC Grade M20 using batching plant & manual placing**									
			Unit= cum									
			Taking output=15cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.06)	cum	15.000	15.000	15.000	3737.70	56065.50	56065.50	56065.50	21.06
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			d) Formwork @20 percent on cost of concrete i.e cost of material, labour and machinery						12451.46	12451.46	12451.46	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		14941.75	14941.75	14941.75	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8965.05	8965.05	8965.05	
			Cost for 15 cum=a+b+c+d+e+f						98615.56	98615.56	98615.56	
			Rate per cum=(a+b+c+d+e+f)/15						6574.37	6574.37	6574.37	
								Say	**6574.40**	**6574.40**	**6574.40**	
		(ii)	**RCC M25 Grade**									
12.11 A (ii)		**Case I**	**RCC Grade M25 using batching plant &concrete pump**									
			Unit= cum									
			Taking output=30cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.07)	cum	30.000	30.000	30.000	3748.20	112446.00	112446.00	112446.00	21.07
			b) Labour									
			For pouring and placing									
			Mate	day	0.133	0.133	0.133	444.00	59.05	59.05	59.05	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			d) Formwork @20 percent on cost of concrete i.e cost of material, labour and machinery						23727.75	23727.75	23727.75	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		28473.30	28473.30	28473.30	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		17083.98	17083.98	17083.98	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Cost for 30 cum=a+b+c+d+e+f						187923.78	187923.78	187923.78	
			Rate per cum=(a+b+c+d+e+f)/30						6264.13	6264.13	6264.13	
								Say	**6264.10**	**6264.10**	**6264.10**	
12.11 A (ii)		**Case II**	**RCC Grade M25 using batching plant & manual placing**									
			Unit= cum									
			Taking output=15cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.07)	cum	15.000	15.000	15.000	3748.20	56223.00	56223.00	56223.00	21.07
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			d) Formwork @20 percent on cost of concrete i.e cost of material, labour and machinery						12482.96	12482.96	12482.96	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		14979.55	14979.55	14979.55	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8987.73	8987.73	8987.73	
			Cost for 15 cum=a+b+c+d+e+f						98865.04	98865.04	98865.04	
			Rate per cum=(a+b+c+d+e+f)/15						6591.00	6591.00	6591.00	
								Say	**6591.00**	**6591.00**	**6591.00**	
		(iii)	**RCC M30 Grade**									
12.11 A (iii)		**Case I**	**RCC Grade M30 using batching plant &concrete pump**									
			Unit= cum									
			Taking output=30cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.09)	cum	30.000	30.000	30.000	3781.30	113439.00	113439.00	113439.00	21.09

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			b) Labour									
			For pouring and placing									
			Mate	day	0.133	0.133	0.133	444.00	59.05	59.05	59.05	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			d) Formwork @20 percent on cost of concrete i.e cost of material, labour and machinery						23926.35	23926.35	23926.35	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		28711.62	28711.62	28711.62	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		17226.97	17226.97	17226.97	
			Cost for 30 cum=a+b+c+d+e+f						189496.70	189496.70	189496.70	
			Rate per cum=(a+b+c+d+e+f)/30						6316.56	6316.56	6316.56	
								Say	**6316.60**	**6316.60**	**6316.60**	
12.11 A (iii)		**Case II**	**RCC Grade M30 using batching plant & manual placing**									
			Unit= cum									
			Taking output=15cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.09)	cum	15.000	15.000	15.000	3781.300	56719.500	56719.500	56719.500	21.09
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork @20 percent on cost of concrete i.e cost of material, labour and machinery						12582.26	12582.26	12582.26	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		15098.71	15098.71	15098.71	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		9059.23	9059.23	9059.23	
			Cost for 15 cum=a+b+c+d+e+f						99651.50	99651.50	99651.50	
			Rate per cum=(a+b+c+d+e+f)/15						6643.43	6643.43	6643.43	
								Say	**6643.40**	**6643.40**	**6643.40**	
		Note	If curb concrete is carried out within steel liner, cost of formwork shall be excluded.									
		(iv)	**RCC M35 Grade**									
12.11 A (iv)		**Case I**	**RCC Grade M35 using batching plant &concrete pump**									
			Unit= cum									
			Taking output=30cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.11)	cum	30.000	30.000	30.000	3884.60	116538.00	116538.00	116538.00	21.11
			b) Labour									
			For pouring and placing									
			Mate	day	0.133	0.133	0.133	444.00	59.05	59.05	59.05	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			d) Formwork @20 percent on cost of concrete i.e cost of material, labour and machinery						24546.15	24546.15	24546.15	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		29455.38	29455.38	29455.38	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		17673.23	17673.23	17673.23	
			Cost for 30 cum=a+b+c+d+e+f						194405.51	194405.51	194405.51	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Rate per cum=(a+b+c+d+e+f)/30						6480.18	6480.18	6480.18	
								Say	**6480.20**	**6480.20**	**6480.20**	
12.11 A (iv)		**Case II**	**RCC Grade M35 using batching plant & manual placing**									
			Unit= cum									
			Taking output=15cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.11)	cum	15.000	15.000	15.000	3884.60	58269.00	58269.00	58269.00	21.11
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			d) Formwork @20 percent on cost of concrete i.e cost of material, labour and machinery						12892.16	12892.16	12892.16	
			e) Overhead charges @on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		15470.59	15470.59	15470.59	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		9282.36	9282.36	9282.36	
			Cost for 15 cum=a+b+c+d+e+f						102105.91	102105.91	102105.91	
			Rate per cum=(a+b+c+d+e+f)/15						6807.06	6807.06	6807.06	
								Say	**6807.10**	**6807.10**	**6807.10**	
		Note	If curb concrete is carried out within steel line, cost of formwork shall be excluded									
12.11 A		**(v)**	**RCC M40 Grade**									
12.11 A (v)		**Case I**	**RCC Grade M40 using batching plant &concrete pump**									
			Unit= cum									
			Taking output=30cum									
			a) Material									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Per Cum basic cost (Rate taken from Sub-Analysis 21.12)	cum	30.000	30.000	30.000	3985.50	119565.00	119565.00	119565.00	21.12
			b) Labour									
			For pouring and placing									
			Mate	day	0.133	0.133	0.133	444.00	59.05	59.05	59.05	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			d) Formwork @20 percent on cost of concrete i.e cost of material, labour and machinery						25151.55	25151.55	25151.55	
			e) Overhead charges @on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		30181.86	30181.86	30181.86	
			f) Contractor's profit @on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		18109.12	18109.12	18109.12	
			Cost for 30 cum=a+b+c+d+e+f						199200.28	199200.28	199200.28	
			Rate per cum=(a+b+c+d+e+f)/30						6640.01	6640.01	6640.01	
								Say	**6640.00**	**6640.00**	**6640.00**	
12.11 A (v)		**Case II**	**RCC Grade M40 using batching plant & manual placing**									
			Unit= cum									
			Taking output=15cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.12)	cum	15.000	15.000	15.000	3985.50	59782.50	59782.50	59782.50	21.12
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			d) Formwork @20 percent on cost of concrete i.e cost of material, labour and machinery						13194.86	13194.86	13194.86	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		15833.83	15833.83	15833.83	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		9500.30	9500.30	9500.30	
			Cost for 15 cum=a+b+c+d+e+f						104503.29	104503.29	104503.29	
			Rate per cum=(a+b+c+d+e+f)/15						6966.89	6966.89	6966.89	
		Note	If curb concrete is carried out within steel liner, cost of formwork shall be excluded					**Say**	**6966.90**	**6966.90**	**6966.90**	
12.11		**B**	**Well steining**									
		(i)	**PCC M15Grade**									
12.11 B (i)		**Case I**	**PCC Grade M15 using batching plant & Concrete pump**									
			unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum basic cost (Rate taken from Sub-Analysis 21.03)	cum	30.000	30.000	30.000	3034.40	91032.00	91032.00	91032.00	21.03
			b) Labour									
			For pouring and placing									
			Mate	day	0.093	0.093	0.093	444.00	41.29	41.29	41.29	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	t-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material, labour and machinery						9677.90	9677.90	9677.90	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		21291.38	21291.38	21291.38	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		12774.83	12774.83	12774.83	
			Cost for 30 cum= a+b+c+d+e+f						140523.10	140523.10	140523.10	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Rate per cum= (a+b+c+d+e+f)/30						4684.10	4684.10	4684.10	
								Say	**4684.10**	**4684.10**	**4684.10**	
12.11 B (i)		**Case II**	**PCC Grade M15 using batching plant & manual placing**									
			unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (Rate taken from Sub-Analysis 21.03)	cum	15.000	15.000	15.000	3034.40	45516.00	45516.00	45516.00	21.03
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	t-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material, labour and machinery						5170.78	5170.78	5170.78	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		11375.72	11375.72	11375.72	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		6825.43	6825.43	6825.43	
			Cost for 15 cum= a+b+c+d+e+f						75079.73	75079.73	75079.73	
			Rate per cum= (a+b+c+d+e+f)/15						5005.32	5005.32	5005.32	
								Say	**5005.30**	**5005.30**	**5005.30**	
12.11 B		**(ii)**	**PCC M20 Grade**									
12.11 B (ii)		**Case I**	**PCC Grade M20 using batching plant & Concrete pump**									
			unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum basic cost (Rate taken from Sub-Analysis 21.04)	cum	30.000	30.000	30.000	3416.10	102483.00	102483.00	102483.00	21.04
			b) Labour									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			For pouring and placing									
			Mate	day	0.093	0.093	0.093	444.00	41.29	41.29	41.29	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	t-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material, labour and machinery						10823.00	10823.00	10823.00	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		23810.60	23810.60	23810.60	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		14286.36	14286.36	14286.36	
			Cost for 30 cum= a+b+c+d+e+f						157149.95	157149.95	157149.95	
			Rate per cum= (a+b+c+d+e+f)/30						5238.33	5238.33	5238.33	
								Say	**5238.30**	**5238.30**	**5238.30**	
12.11 B (ii)		**Case II**	**PCC Grade M20 using batching plant & manual placing**									
			unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (Rate taken from Sub-Analysis 21.04)	cum	15.000	15.000	15.000	3416.10	51241.50	51241.50	51241.50	21.04
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	t-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material, labour and machinery						5743.33	5743.33	5743.33	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		12635.33	12635.33	12635.33	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		7581.20	7581.20	7581.20	
			Cost for 15 cum= a+b+c+d+e+f						83393.15	83393.15	83393.15	
			Rate per cum= (a+b+c+d+e+f)/15						5559.54	5559.54	5559.54	
								Say	**5559.50**	**5559.50**	**5559.50**	
12.11 B		**(iii)**	**RCC M20 Grade**									
12.11 B (iii)		**Case I**	**RCC Grade M20 using batching plant &concrete pump**									
			Unit= cum									
			Taking output=30cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.06)	cum	30.000	30.000	30.000	3737.70	112131.00	112131.00	112131.00	21.06
			b) Labour									
			For pouring and placing									
			Mate	day	0.133	0.133	0.133	444.00	59.05	59.05	59.05	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			d) Formwork @10 percent on cost of concrete i.e cost of material, labour and machinery						11832.38	11832.38	11832.38	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		26031.23	26031.23	26031.23	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15618.74	15618.74	15618.74	
			Cost for 30 cum=a+b+c+d+e+f						171806.09	171806.09	171806.09	
			Rate per cum=(a+b+c+d+e+f)/30						5726.87	5726.87	5726.87	
								Say	**5726.90**	**5726.90**	**5726.90**	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.11 B (iii)		Case II	**RCC Grade M20 using batching plant & manual placing**									
			Unit= cum									
			Taking output=15cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.06)	cum	15.000	15.000	15.000	3737.70	56065.50	56065.50	56065.50	21.06
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			d) Formwork @10 percent on cost of concrete i.e cost of material, labour and machinery						6225.73	6225.73	6225.73	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13696.61	13696.61	13696.61	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8217.96	8217.96	8217.96	
			Cost for 15 cum=a+b+c+d+e+f						90397.60	90397.60	90397.60	
			Rate per cum=(a+b+c+d+e+f)/15						6026.51	6026.51	6026.51	
								Say	**6026.50**	**6026.50**	**6026.50**	
		(iv)	**PCC M25 Grade**									
12.11 B (iv)		Case I	**PCC Grade M25 using batching plant & Concrete pump**									
			unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum basic cost (Rate taken from Sub-Analysis 21.06)	cum	30.000	30.000	30.000	3737.70	112131.000	112131.000	112131.000	21.06
			b) Labour									
			For pouring and placing									
			Mate	day	0.093	0.093	0.093	444.00	41.292	41.292	41.292	L-12

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mason	day	1.000	1.000	1.000	541.00	541.000	541.000	541.000	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.100	567.100	567.100	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	t-km	75 X L1	75 X L1	75 X L1	10.87	815.250	815.250	815.250	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.800	1294.800	1294.800	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.550	2487.550	2487.550	PM36001
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material, labour and machinery						11787.799	11787.799	11787.799	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		25933.158	25933.158	25933.158	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15559.895	15559.895	15559.895	
			Cost for 30 cum= a+b+c+d+e+f						171158.844	171158.844	171158.844	
			Rate per cum= (a+b+c+d+e+f)/30						5705.295	5705.295	5705.295	
								Say	**5705.300**	**5705.300**	**5705.300**	
12.11 B (iv)		**Case II**	**PCC Grade M25 using batching plant & manual placing**									
			unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (Rate taken from Sub-Analysis 21.06)	cum	15.000	15.000	15.000	3737.70	56065.50	56065.50	56065.50	21.06
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	t-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material, labour and machinery						6225.73	6225.73	6225.73	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13696.61	13696.61	13696.61	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8217.96	8217.96	8217.96	
			Cost for 15 cum= a+b+c+d+e+f						90397.60	90397.60	90397.60	
			Rate per cum= (a+b+c+d+e+f)/15						6026.51	6026.51	6026.51	
								Say	**6026.50**	**6026.50**	**6026.50**	
12.11 B		**(v)**	**RCC M25 Grade**									
12.11 B (v)		**Case I**	**RCC Grade M25 using batching plant &concrete pump**									
			Unit= cum									
			Taking output=30cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.07)	cum	30.000	30.000	30.000	3748.20	112446.00	112446.00	112446.00	21.07
			b) Labour									
			For pouring and placing									
			Mate	day	0.133	0.133	0.133	444.00	59.05	59.05	59.05	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			d) Formwork @10 percent on cost of concrete i.e cost of material, labour and machinery						11863.88	11863.88	11863.88	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		26100.53	26100.53	26100.53	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15660.32	15660.32	15660.32	
			Cost for 30 cum=a+b+c+d+e+f						172263.47	172263.47	172263.47	
			Rate per cum=(a+b+c+d+e+f)/30						5742.12	5742.12	5742.12	
								Say	**5742.10**	**5742.10**	**5742.10**	
12.11 B (v)		**Case II**	**RCC Grade M25 using batching plant & manual placing**									
			Unit= cum									
			Taking output=15cum									
			a) Material									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Per Cum basic cost (Rate taken from Sub-Analysis 21.07)	cum	15.000	15.000	15.000	3748.20	56223.00	56223.00	56223.00	21.07
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			d) Formwork @10 percent on cost of concrete i.e cost of material, labour and machinery						6241.48	6241.48	6241.48	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13731.26	13731.26	13731.26	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8238.75	8238.75	8238.75	
			Cost for 15 cum=a+b+c+d+e+f						90626.29	90626.29	90626.29	
			Rate per cum=(a+b+c+d+e+f)/15						6041.75	6041.75	6041.75	
								Say	**6041.80**	**6041.80**	**6041.80**	
12.11B		**(vi)**	**PCC M30 Grade**									
12.11 B (vi)		**Case I**	**PCC Grade M30 using batching plant & Concrete pump**									
			unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum basic cost (Rate taken from Sub-Analysis 21.08)	cum	30.000	30.000	30.000	3769.10	113073.00	113073.00	113073.00	21.08
			b) Labour									
			For pouring and placing									
			Mate	day	0.093	0.093	0.093	444.00	41.29	41.29	41.29	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	t-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material, labour and machinery						11882.00	11882.00	11882.00	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		26140.40	26140.40	26140.40	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15684.24	15684.24	15684.24	
			Cost for 30 cum= a+b+c+d+e+f						172526.63	172526.63	172526.63	
			Rate per cum= (a+b+c+d+e+f)/30						5750.89	5750.89	5750.89	
								Say	**5750.90**	**5750.90**	**5750.90**	
12.11 B (vi)		**Case II**	**PCC Grade M30 using batching plant & manual placing**									
			unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (Rate taken from Sub-Analysis 21.08)	cum	15.000	15.000	15.000	3769.10	56536.50	56536.50	56536.50	21.08
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	t-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material, labour and machinery						6272.83	6272.83	6272.83	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13800.23	13800.23	13800.23	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8280.14	8280.14	8280.14	
			Cost for 15 cum= a+b+c+d+e+f						91081.49	91081.49	91081.49	
			Rate per cum= (a+b+c+d+e+f)/15						6072.10	6072.10	6072.10	
								Say	**6072.10**	**6072.10**	**6072.10**	
12.11 B		**(vii)**	**RCC M30 Grade**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.11 B (vii)		Case I	**RCC Grade M30 using batching plant &concrete pump**									
			Unit= cum									
			Taking output=30cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.09)	cum	30.000	30.000	30.000	3781.30	113439.00	113439.00	113439.00	21.09
			b) Labour									
			For pouring and placing									
			Mate	day	0.133	0.133	0.133	444.00	59.05	59.05	59.05	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.65	0.65	0.65	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer	hour	0.65	0.65	0.65	3827.00	2487.55	2487.55	2487.55	PM36001
			d) Formwork @10 percent on cost of concrete i.e cost of material, labour and machinery						11963.18	11963.18	11963.18	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		26318.99	26318.99	26318.99	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15791.39	15791.39	15791.39	
			Cost for 30 cum=a+b+c+d+e+f						173705.30	173705.30	173705.30	
			Rate per cum=(a+b+c+d+e+f)/30						5790.18	5790.18	5790.18	
								Say	**5790.20**	**5790.20**	**5790.20**	
12.11 B (vii)		Case II	**RCC Grade M30 using batching plant & manual placing**									
			Unit= cum									
			Taking output=15cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.09)	cum	15.000	15.000	15.000	3781.30	56719.50	56719.50	56719.50	21.09
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			d) Formwork @10 percent on cost of concrete i.e cost of material, labour and machinery						6291.13	6291.13	6291.13	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13840.49	13840.49	13840.49	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8304.29	8304.29	8304.29	
			Cost for 15 cum=a+b+c+d+e+f						91347.21	91347.21	91347.21	
			Rate per cum=(a+b+c+d+e+f)/15						6089.81	6089.81	6089.81	
								Say	**6089.80**	**6089.80**	**6089.80**	
12.11 B		**(viii)**	**RCC M35 Grade**									
12.11 B (viii)		**Case I**	**RCC Grade M35 using batching plant &concrete pump**									
			Unit= cum									
			Taking output=30cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.11)	cum	30.000	30.000	30.000	3884.60	116538.00	116538.00	116538.00	21.11
			b) Labour									
			For pouring and placing									
			Mate	day	0.133	0.133	0.133	444.00	59.05	59.05	59.05	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			d) Formwork @10 percent on cost of concrete i.e cost of material, labour and machinery						12273.08	12273.08	12273.08	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			e) Overhead charges @ on(a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		27000.77	27000.77	27000.77	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		16200.46	16200.46	16200.46	
			Cost for 30 cum=a+b+c+d+e+f						178205.05	178205.05	178205.05	
			Rate per cum=(a+b+c+d+e+f)/30						5940.17	5940.17	5940.17	
								Say	**5940.20**	**5940.20**	**5940.20**	
12.11 B (viii)		**Case II**	**RCC Grade M35 using batching plant & manual placing**									
			Unit= cum									
			Taking output=15cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.11)	cum	15.000	15.000	15.000	3884.60	58269.00	58269.00	58269.00	21.11
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			d) Formwork @10 percent on cost of concrete i.e cost of material, labour and machinery						6446.08	6446.08	6446.08	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		14181.38	14181.38	14181.38	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8508.83	8508.83	8508.83	
			Cost for 15 cum=a+b+c+d+e+f						93597.08	93597.08	93597.08	
			Rate per cum=(a+b+c+d+e+f)/15						6239.81	6239.81	6239.81	
								Say	**6239.80**	**6239.80**	**6239.80**	
12.11 B		**(ix)**	**RCC M40 Grade**									
12.11 B (ix)		**Case I**	**RCC Grade M40 using batching plant &concrete pump**									
			Unit= cum									
			Taking output=30cum									
			a) Material									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Per Cum basic cost (Rate taken from Sub-Analysis 21.12)	cum	30.000	30.000	30.000	3985.50	119565.00	119565.00	119565.00	21.12
			b) Labour									
			For pouring and placing									
			Mate	day	0.133	0.133	0.133	444.00	59.05	59.05	59.05	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			d) Formwork @10 percent on cost of concrete i.e cost of material, labour and machinery						12575.78	12575.78	12575.78	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		27666.71	27666.71	27666.71	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		16600.02	16600.02	16600.02	
			Cost for 30 cum=a+b+c+d+e+f						182600.26	182600.26	182600.26	
			Rate per cum=(a+b+c+d+e+f)/30						6086.68	6086.68	6086.68	
								Say	**6086.70**	**6086.70**	**6086.70**	
12.11 B (ix)		**Case II**	**RCC Grade M40 using batching plant & manual placing**									
			Unit= cum									
			Taking output=15cum									
			a) Material									
			Per Cum basic cost (Rate taken from Sub-Analysis 21.12)	cum	15.000	15.000	15.000	3985.50	59782.50	59782.50	59782.50	21.12
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			d) Formwork @10 percent on cost of concrete i.e cost of material, labour and machinery						6597.43	6597.43	6597.43	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		14514.35	14514.35	14514.35	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8708.61	8708.61	8708.61	
			Cost for 15 cum=a+b+c+d+e+f						95794.69	95794.69	95794.69	
			Rate per cum=(a+b+c+d+e+f)/15						6386.31	6386.31	6386.31	
								Say	**6386.30**	**6386.30**	**6386.30**	
12.11C		**C**	**Bottom Plug**									
		(i)	**PCC Grade M20**									
		Case I	**PCC Grade M20 using batching plant & concrete pump**									
			unit=cum									
			Taking output=30 cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from subanalysis 21.04)	cum	30.000	30.000	30.000	3416.10	102483.00	102483.00	102483.00	21.04
			b) Labour									
			For pouring and placing									
			Mate	day	0.093	0.093	0.093	444.00	41.29	41.29	41.29	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	t-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Hydra crane for holding tremie pipe	hour	0.650	0.650	0.650	860.00	559.00	559.00	559.00	PM63001
			Add 5 percent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe.						5181.62	5181.62	5181.62	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		22794.12	22794.12	22794.12	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		13676.47	13676.47	13676.47	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Cost for 30cum = a+b+c+d+e						150441.21	150441.21	150441.21	
			Rate per cum= (a+b+c+d+e)/30						5014.71	5014.71	5014.71	
								Say	**5014.70**	**5014.70**	**5014.70**	
		Case II	**PCC Grade M20 using batching plant & manual placing**									
			unit=cum									
			Taking output=15 cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from subanalysis 21.04)	cum	15.000	15.000	15.000	3416.10	51241.50	51241.50	51241.50	21.04
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	t-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Hydra crane for holding tremie pipe	hour	0.833	0.833	0.833	860.00	716.38	716.38	716.38	PM63001
			Add 5 percent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe.						2768.32	2768.32	2768.32	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		12183.60	12183.60	12183.60	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		7310.16	7310.16	7310.16	
			Cost for 15cum = a+b+c+d+e						80411.76	80411.76	80411.76	
			Rate per cum= (a+b+c+d+e)/15						5360.78	5360.78	5360.78	
								Say	**5360.80**	**5360.80**	**5360.80**	
12.11C		**(II)**	**PCC Grade M25**									
		Case I	**PCC Grade M25 using batching plant & concrete pump**									
			unit=cum									
			Taking output=30 cum									
			a) Material									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Per Cum Basic Cost (Rate taken from subanalysis 21.06)	cum	30.000	30.000	30.000	3737.70	112131.00	112131.00	112131.00	21.06
			b) Labour									
			For pouring and placing									
			Mate	day	0.093	0.093	0.093	444.00	41.29	41.29	41.29	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	t-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Hydra crane for holding tremie pipe	hour	0.650	0.650	0.650	860.00	559.00	559.00	559.00	PM63001
			Add 5 percent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe.						5664.02	5664.02	5664.02	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		24820.20	24820.20	24820.20	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		14892.12	14892.12	14892.12	
			Cost for 30cum = a+b+c+d+e						163813.34	163813.34	163813.34	
			Rate per cum= (a+b+c+d+e)/30						5460.44	5460.44	5460.44	
								Say	**5460.40**	**5460.40**	**5460.40**	
		Case II	**PCC Grade M25 using batching plant & manual placing**									
			unit=cum									
			Taking output=15 cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from subanalysis 21.06)	cum	15.000	15.000	15.000	3737.70	56065.50	56065.50	56065.50	21.06
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Transit truck agitator									
			For transportation (6 cum capacity)	t-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Hydra crane for holding tremie pipe	hour	0.833	0.833	0.833	860.00	716.38	716.38	716.38	PM63001
			Add 5 percent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe.						3009.52	3009.52	3009.52	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		13196.64	13196.64	13196.64	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		7917.98	7917.98	7917.98	
			Cost for 15cum = a+b+c+d+e						87097.82	87097.82	87097.82	
			Rate per cum= (a+b+c+d+e)/15						5806.52	5806.52	5806.52	
								Say	**5806.50**	**5806.50**	**5806.50**	
12.11C		**(III)**	**PCC Grade M30**									
		Case I	**PCC Grade M30 using batching plant & concrete pump**									
			unit=cum									
			Taking output=30 cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from subanalysis 21.08)	cum	30.000	30.000	30.000	3769.10	113073.00	113073.00	113073.00	21.08
			b) Labour									
			For pouring and placing									
			Mate	day	0.093	0.093	0.093	444.00	41.29	41.29	41.29	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	t-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Hydra crane for holding tremie pipe	hour	0.650	0.650	0.650	860.00	559.00	559.00	559.00	PM63001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Add 5 percent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe.						5711.12	5711.12	5711.12	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		25018.02	25018.02	25018.02	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		15010.81	15010.81	15010.81	
			Cost for 30cum = a+b+c+d+e						165118.95	165118.95	165118.95	
			Rate per cum= (a+b+c+d+e)/30						5503.96	5503.96	5503.96	
								Say	**5504.00**	**5504.00**	**5504.00**	
		Case II	**PCC Grade M30 using batching plant & manual placing**									
			unit=cum									
			Taking output=15 cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from subanalysis 21.08)	cum	15.000	15.000	15.000	3769.10	56536.50	56536.50	56536.50	21.08
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	t-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Hydra crane for holding tremie pipe	hour	0.833	0.833	0.833	860.00	716.38	716.38	716.38	PM63001
			Add 5 percent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe.						3033.07	3033.07	3033.07	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		13295.55	13295.55	13295.55	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		7977.33	7977.33	7977.33	
			Cost for 15cum = a+b+c+d+e						87750.63	87750.63	87750.63	
			Rate per cum= (a+b+c+d+e)/15						5850.04	5850.04	5850.04	
								Say	**5850.00**	**5850.00**	**5850.00**	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.11C		(IV)	**PCC Grade M35**									
		Case I	**PCC Grade M35 using batching plant & concrete pump**									
			unit=cum									
			Taking output=30 cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from subanalysis 21.10)	cum	30.000	30.000	30.000	3853.90	115617.00	115617.00	115617.00	21.10
			b) Labour									
			For pouring and placing									
			Mate	day	0.093	0.093	0.093	444.00	41.29	41.29	41.29	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	t-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Hydra crane for holding tremie pipe	hour	0.650	0.650	0.650	860.00	559.00	559.00	559.00	PM63001
			Add 5 percent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe.						5838.32	5838.32	5838.32	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		25552.26	25552.26	25552.26	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		15331.36	15331.36	15331.36	
			Cost for 30cum = a+b+c+d+e						168644.93	168644.93	168644.93	
			Rate per cum= (a+b+c+d+e)/30						5621.50	5621.50	5621.50	
								Say	**5621.50**	**5621.50**	**5621.50**	
		Case II	**PCC Grade M35 using batching plant & manual placing**									
			unit=cum									
			Taking output=15 cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from subanalysis 21.10)	cum	15.000	15.000	15.000	3853.90	57808.50	57808.50	57808.50	21.10

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			b) Labour									
			For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	t-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Hydra crane for holding tremie pipe	hour	0.833	0.833	0.833	860.00	716.38	716.38	716.38	PM63001
			Add 5 percent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe.						3096.67	3096.67	3096.67	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		13562.67	13562.67	13562.67	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		8137.60	8137.60	8137.60	
			Cost for 15cum = a+b+c+d+e						89513.62	89513.62	89513.62	
			Rate per cum= (a+b+c+d+e)/15						5967.57	5967.57	5967.57	
								Say	**5967.60**	**5967.60**	**5967.60**	
12.11		**D**	**Intermediate plug**									
		(i)	**Grade M20 PCC**									
			Same as in bottom plug concrete, excluding cost of forming sump, protective bunds, chiseling etc.									
12.11 D (i)		**Case I**	**PCC Grade M20 using batching plant & Concrete pump**									
			Per cum basic cost of labour, Material & Machinery (a+b+c) Rate for concrete may be adopted vide item no. 12.11 (C) (i)						3626.30	3626.30	3626.30	
			d) Overhead charges @ on **(a+b+c)**		(@ 20%)	(@ 20%)	(@ 20%)		725.26	725.26	725.26	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		435.16	435.16	435.16	
			Rate per cum= (a+b+c+d+e)						4786.72	4786.72	4786.72	
								Say	**4786.70**	**4786.70**	**4786.70**	
12.11 D (i)		**Case II**	**PCC Grade M20 using batching plant & Manual placing**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Per cum basic cost of labour, Material & Machinery (a+b+c) Rate for concrete may be adopted vide item no. 12.11 (C) (i)						3876.65	3876.65	3876.65	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		775.33	775.33	775.33	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		465.20	465.20	465.20	
			Rate per cum= (a+b+c+d+e)						5117.17	5117.17	5117.17	
								Say	**5117.20**	**5117.20**	**5117.20**	
12.11D		**(ii)**	**Grade M25 PCC**									
			Same as in bottom plug concrete, excluding cost of forming sump, protective bunds, chiseling etc.									
12.11 D (i)		**Case I**	**PCC Grade M25 using batching plant & Concrete pump**									
			Per cum basic cost of labour, Material & Machinery (a+b+c) Rate for concrete may be adopted vide item no. 12.11 (C) (ii)						3947.90	3947.90	3947.90	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		789.58	789.58	789.58	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		473.75	473.75	473.75	
			Rate per cum= (a+b+c+d+e)						5211.23	5211.23	5211.23	
								Say	**5211.20**	**5211.20**	**5211.20**	
12.11 D (ii)		**Case II**	**PCC Grade M25 using batching plant & Manual placing**									
			Per cum basic cost of labour, Material & Machinery (a+b+c) Rate for concrete may be adopted vide item no. 12.11 (C) (ii)						4198.25	4198.25	4198.25	
			d) Overhead charges @ on (a+b+C)		(@ 20%)	(@ 20%)	(@ 20%)		839.65	839.65	839.65	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		503.79	503.79	503.79	
			Rate per cum= (a+b+c+d+e)						5541.68	5541.68	5541.68	
								Say	**5541.70**	**5541.70**	**5541.70**	
12.11D		**(iii)**	**Grade M30 PCC**									
			Same as in bottom plug concrete, excluding cost of forming sump, protective bunds, chiseling etc.									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.11 D (iii)		**Case I**	**PCC Grade M30 using batching plant & Concrete pump**									
			Per cum basic cost of labour, Material & Machinery (a+b+c) Rate for concrete may be adopted vide item no. 12.11 (C) (iii)						3979.30	3979.30	3979.30	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		795.86	795.86	795.86	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		477.52	477.52	477.52	
			Rate per cum= (a+b+c+d+e)						5252.68	5252.68	5252.68	
								Say	**5252.70**	**5252.70**	**5252.70**	
12.11 D (iii)		**Case II**	**PCC Grade M30 using batching plant & Manual placing**									
			Per cum basic cost of labour, Material & Machinery (a+b+c) Rate for concrete may be adopted vide item no. 12.11 (C) (iii)						4229.65	4229.65	4229.65	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		845.93	845.93	845.93	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		507.56	507.56	507.56	
			Rate per cum= (a+b+c+d+e)						5583.13	5583.13	5583.13	
								Say	**5583.10**	**5583.10**	**5583.10**	
12.11		**E**	**Top Plug**									
		(i)	**Grade M15 PCC**									
			Same as item 12.08 (A) excluding formwork									
12.11 E (i)		**Case I**	**PCC Grade M15 using batching plant & concrete pump**									
			Per cum basic cost of labour, Material & Machinery (a+b+c) Rate for concrete may be adopted vide item no. 12.08 (A)						3299.16	3303.51	3322.16	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		659.83	660.70	664.43	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		395.90	396.42	398.66	
			Rate per cum= (a+b+c+d+e)						4354.89	4360.64	4385.26	
								Say	**4354.90**	**4360.60**	**4385.30**	
12.11 E (i)		**Case II**	**PCC Grade M15 using batching plant & manual placing**									
			Per cum basic cost of labour, Material & Machinery (a+b+c) Rate for concrete may be adopted vide item no. 12.08 (A)						3529.73	3534.08	3552.70	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		705.95	706.82	710.54	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		423.57	424.09	426.32	
			Rate per cum= (a+b+c+d+e)						4659.25	4664.99	4689.56	
								Say	**4659.20**	**4665.00**	**4689.60**	
12.11 E		**(ii)**	**Grade M20 PCC**									
			Same as item 12.08 (B) excluding formwork									
12.11 E (ii)		**Case I**	**PCC Grade M20 using batching plant & concrete pump**									
			Per cum basic cost of labour, Material & Machinery (a+b+c) Rate for concrete may be adopted vide item no. 12.08 (B)						3680.86	3685.21	3703.86	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		736.17	737.04	740.77	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		441.70	442.23	444.46	
			Rate per cum= (a+b+c+d+e)						4858.74	4864.48	4889.10	
								Say	**4858.70**	**4864.50**	**4889.10**	
12.11 E (ii)		**Case II**	**PCC Grade M20 using batching plant & manual placing**									
			Per cum basic cost of labour, Material & Machinery (a+b+c) Rate for concrete may be adopted vide item no. 12.08 (B)						3911.43	3915.78	3934.40	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		782.29	783.16	786.88	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		469.37	469.89	472.13	
			Rate per cum= (a+b+c+d+e)						5163.09	5168.83	5193.40	
								Say	**5163.10**	**5168.80**	**5193.40**	
12.11 E		**(iii)**	**Grade M25 PCC**									
			Same as item 12.08 (D) excluding formwork									
12.11 E (iii)		**Case I**	**PCC Grade M25 using batching plant & concrete pump**									
			Per cum basic cost of labour, Material & Machinery (a+b+c) Rate for concrete may be adopted vide item no. 12.08 (D)						4002.46	4006.81	4025.46	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		800.49	801.36	805.09	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		480.30	480.82	483.06	
			Rate per cum= (a+b+c+d+e)						5283.25	5288.99	5313.61	
								Say	**5283.20**	**5289.00**	**5313.60**	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.11 E (iii)		**Case II**	**PCC Grade M25 using batching plant & manual placing**									
			Per cum basic cost of labour, Material & Machinery (a+b+c) Rate for concrete may be adopted vide item no. 12.08 (D)						4233.03	4237.38	4256.00	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		846.61	847.48	851.20	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		507.96	508.49	510.72	
			Rate per cum= (a+b+c+d+e)						5587.61	5593.34	5617.92	
								Say	**5587.60**	**5593.30**	**5617.90**	
12.11 E (iv)		**(iv)**	**Grade M30 PCC**									
			Same as item 12.08 (F) excluding formwork									
12.11 E (iv)		**Case I**	**PCC Grade M30 using batching plant & concrete pump**									
			Per cum basic cost of labour, Material & Machinery (a+b+c) Rate for concrete may be adopted vide item no. 12.08 (F)						4033.86	4038.21	4056.86	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		806.77	807.64	811.37	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		484.06	484.59	486.82	
			Rate per cum= (a+b+c+d+e)						5324.70	5330.44	5355.06	
								Say	**5324.70**	**5330.40**	**5355.10**	
12.11 E (iv)		**Case II**	**PCC Grade M30 using batching plant & manual placing**									
			Per cum basic cost of labour, Material & Machinery (a+b+c) Rate for concrete may be adopted vide item no. 12.08 (F)						4264.43	4268.78	4287.40	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		852.89	853.76	857.48	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		511.73	512.25	514.49	
			Rate per cum= (a+b+c+d+e)						5629.05	5634.79	5659.36	
								Say	**5629.10**	**5634.80**	**5659.40**	
12.11		**F**	**Well Cap**									
		(i)	**RCC Grade M20**									
		Case I	**RCC Grade M20 using batching plant, transit mixer & concrete pump**									
			Unit=cum									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Taking output=30 cum									
			a) Material									
			Per cum basic cost (Rate taken from Sub-Analysis 21.06)	cum	30.000	30.000	30.000	3737.70	112131.00	112131.00	112131.00	21.06
			Water for curing	Kl	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						4820.78	4826.01	4848.39	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		25068.08	25095.23	25211.61	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15040.85	15057.14	15126.97	
			Cost for 30 cum=a+b+c+d+e+f						165449.30	165628.54	166396.63	
			Rate per cum (a+b+c+d+e+f)/30						5514.98	5520.95	5546.55	
								Say	**5515.00**	**5521.00**	**5546.60**	
		Case II	**RCC Grade M20 using batching plant, transit mixer & manual placing**									
			Unit=cum									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.06)	cum	15.000	15.000	15.000	3737.70	56065.50	56065.50	56065.50	21.06
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @30 mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2539.82	2542.43	2553.60	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13207.07	13220.63	13278.71	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		7924.24	7932.38	7967.23	
			Cost for 15 cum=a+b+c+d+e+f						87166.64	87256.14	87639.48	
			Rate per cum= (a+b+c+d+e+f)/15						5811.11	5817.08	5842.63	
								Say	**5811.10**	**5817.10**	**5842.60**	
12.11 F		**(ii)**	**RCC Grade M25**									
12.11F (ii)		**Case I**	**RCC Grade M25 using batching plant, transit mixer & concrete pump**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit=cum									
			Taking output=30 cum									
			a) Material									
			Per cum basic cost (Rate taken from Sub-Analysis 21.07)	cum	30.000	30.000	30.000	3748.20	112446.00	112446.00	112446.00	21.07
			Water for curing	Kl	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						4833.38	4838.61	4860.99	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		25133.60	25160.75	25277.13	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15080.16	15096.45	15166.28	
			Cost for 30 cum=a+b+c+d+e+f						165881.73	166060.97	166829.07	
			Rate per cum (a+b+c+d+e+f)/30						5529.39	5535.37	5560.97	
								Say	**5529.40**	**5535.40**	**5561.00**	
12.11 F (ii)		**Case II**	**RCC Grade M25 using batching plant, transit mixer & manual placing**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.07)	cum	15.000	15.000	15.000	3748.20	56223.00	56223.00	56223.00	21.07
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2546.12	2548.73	2559.90	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13239.83	13253.39	13311.47	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		7943.90	7952.03	7986.88	
			Cost for 15 cum=a+b+c+d+e+f						87382.86	87472.36	87855.70	
			Rate per cum= (a+b+c+d+e+f)/15						5825.52	5831.49	5857.05	
								Say	**5825.50**	**5831.50**	**5857.00**	
12.11 F		**(iii)**	**RCC Grade M30**									
12.11 F (iii)		**Case I**	**RCC Grade M30 using batching plant, transit mixer & concrete pump**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit=cum									
			Taking output=30 cum									
			a) Material									
			Per cum basic cost (Rate taken from Sub-Analysis 21.09)	cum	30.000	30.000	30.000	3781.30	113439.00	113439.00	113439.00	21.09
			Water for curing	Kl	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						4873.10	4878.33	4900.71	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		25340.14	25367.30	25483.68	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15204.08	15220.38	15290.21	
			Cost for 30 cum=a+b+c+d+e+f						167244.92	167424.16	168192.26	
			Rate per cum (a+b+c+d+e+f)/30						5574.83	5580.81	5606.41	
								Say	**5574.80**	**5580.80**	**5606.40**	
12.11 F (iii)		**Case II**	**RCC Grade M30 using batching plant, transit mixer & manual placing**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.09)	cum	15.000	15.000	15.000	3781.30	56719.50	56719.50	56719.50	21.09
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2565.98	2568.59	2579.76	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13343.10	13356.66	13414.74	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8005.86	8014.00	8048.84	
			Cost for 15 cum=a+b+c+d+e+f						88064.45	88153.96	88537.29	
			Rate per cum= (a+b+c+d+e+f)/15						5870.96	5876.93	5902.49	
								Say	**5871.00**	**5876.90**	**5902.50**	
12.11 F		**(iv)**	**RCC Grade M35**									
12.11 F (iv)		**Case I**	**RCC Grade M35 using batching plant, transit mixer & concrete pump**									

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Analysis of Rate
FOUNDATIONS

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit=cum									
			Taking output=30 cum									
			a) Material									
			Per cum basic cost (Rate taken from Sub-Analysis 21.11)	cum	30.000	30.000	30.000	3884.60	116538.00	116538.00	116538.00	21.11
			Water for curing	Kl	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						4997.06	5002.29	5024.67	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		25984.73	26011.89	26128.27	
			f) Contractor's profit@ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15590.84	15607.13	15676.96	
			Cost for 30 cum=a+b+c+d+e+f						171499.23	171678.47	172446.56	
			Rate per cum (a+b+c+d+e+f)/30						5716.64	5722.62	5748.22	
								Say	**5716.60**	**5722.60**	**5748.20**	
12.11 F (iv)		**Case II**	**RCC Grade M35 using batching plant, transit mixer & manual placing**									

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Analysis of Rate

FOUNDATIONS

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.11)	cum	15.000	15.000	15.000	3884.60	58269.00	58269.00	58269.00	21.11
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2627.96	2630.57	2641.74	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13665.39	13678.96	13737.04	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8199.24	8207.37	8242.22	
			Cost for 15 cum=a+b+c+d+e+f						90191.61	90281.11	90664.45	
			Rate per cum= (a+b+c+d+e+f)/15						6012.77	6018.74	6044.30	
								Say	**6012.80**	**6018.70**	**6044.30**	
12.11 F		**(v)**	**RCC Grade M40**									
12.11 F (v)		**Case I**	**RCC Grade M40 using batching plant, transit mixer & concrete pump**									

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Analysis of Rate

FOUNDATIONS

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit=cum									
			Taking output=30 cum									
			a) Material									
			Per cum basic cost (Rate taken from Sub-Analysis 21.12)	cum	30.000	30.000	30.000	3985.50	119565.00	119565.00	119565.00	21.12
			Water for curing	Kl	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						5118.14	5123.37	5145.75	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		26614.35	26641.51	26757.88	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15968.61	15984.90	16054.73	
			Cost for 30 cum=a+b+c+d+e+f						175654.69	175833.94	176602.03	
			Rate per cum (a+b+c+d+e+f)/30						5855.16	5861.13	5886.73	
								Say	**5855.20**	**5861.10**	**5886.70**	
12.11 F (v)		**Case II**	**RCC Grade M40 using batching plant, transit mixer & manual placing**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.12)	cum	15.000	15.000	15.000	3985.50	59782.50	59782.50	59782.50	21.12
			Water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2688.50	2691.11	2702.28	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		13980.20	13993.76	14051.85	
			f) Contractor's profit @on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8388.12	8396.26	8431.11	
			Cost for 15 cum=a+b+c+d+e+f						92269.34	92358.84	92742.18	
			Rate per cum= (a+b+c+d+e+f)/15						6151.29	6157.26	6182.81	
								Say	**6151.30**	**6157.30**	**6182.80**	
12.11 F		**(vi)**	**RCC Grade M45**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.11 F (vi)		Case I	**RCC Grade M45 using batching plant, transit mixer & concrete pump**									
			Unit=cum									
			Taking output=30 cum									
			a) Material									
			Per cum basic cost (Rate taken from Sub-Analysis 21.13)	cum	30.000	30.000	30.000	4012.30	120369.00	120369.00	120369.00	21.13
			Water for curing	Kl	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.109 X L1+0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146 X L1+0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292 X L1+1.75	789.00			1611.14	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						5150.30	5155.53	5177.91	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		26781.58	26808.74	26925.12	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		16068.95	16085.24	16155.07	
			Cost for 30 cum=a+b+c+d+e+f						176758.42	176937.67	177705.76	
			Rate per cum (a+b+c+d+e+f)/30						5891.95	5897.92	5923.53	
								Say	**5891.90**	**5897.90**	**5923.53**	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.11 F (vi)		Case II	**RCC Grade M45 using batching plant, transit mixer & manual placing**									
			Unit=cum									
			Taking output=15cum									
			a) Material									
			Per cum basic cost (rate taken from Sub-Analysis 21.13)	cum	15.000	15.000	15.000	4012.30	60184.50	60184.50	60184.50	21.13
			water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			for pouring and placing									
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5 X L1	37.5 X L1	37.5 X L1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker (speed @20km/hr and return speed @30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.055 X L1+0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073 X L1+0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146 X L1 + 0.875	789.00			805.57	PM11003
			d) Formwork @4 percent on cost of concrete i.e. cost of material , labour and machinery						2704.58	2707.19	2718.36	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		14063.82	14077.38	14135.46	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		8438.29	8446.43	8481.28	
			Cost for 15 cum=a+b+c+d+e+f						92821.20	92910.71	93294.05	
			Rate per cum= (a+b+c+d+e+f)/15						6188.08	6194.05	6219.60	
								Say	**6188.10**	**6194.00**	**6219.60**	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.12	Section 1200		**Sinking of 6 m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**									
			Unit=Running metre									
			Taking output= 1m									
			Diameter of well=6m									
		(A)	**Sandy Soil**									
		(i)	**Depth below bed level upto 3.0m**									
			Rate of sinking =0.50 per hour									
			a) Labour									
			Mate	day	0.120	0.120	0.120	444.00	53.28	53.28	53.28	L-12
			Sinker (skilled)	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
			Sinking helper (semi-skilled)	day	2.000	2.000	2.000	444.00	888.00	888.00	888.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	2.000	2.000	2.000	869.00	1738.00	1738.00	1738.00	PM67001
			Consumables in sinking @10 percent of (b)						173.80	173.80	173.80	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		678.82	678.82	678.82	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		407.29	407.29	407.29	
			Rate per metre = (a+b+c+d)						4480.19	4480.19	4480.19	
								Say	**4480.20**	**4480.20**	**4480.20**	
12.12 A		(ii)	**Beyond 3m upto 10m depth**									
			Rate of sinking =0.33 per hour									
			a) Labour									
			Mate	day	0.150	0.150	0.150	444.00	66.60	66.60	66.60	L-12
			Sinker (skilled)	day	1.250	1.250	1.250	541.00	676.25	676.25	676.25	L-15
			Sinking helper (semi-skilled)	day	2.500	2.500	2.500	444.00	1,110.00	1,110.00	1,110.00	L-14
			b) Machinery									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2,607.00	2,607.00	2,607.00	PM67001
			Consumables in sinking @10 percent of (b)						260.70	260.70	260.70	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		944.11	944.11	944.11	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		566.47	566.47	566.47	
			Rate per metre = (a+b+c+d)						6,231.13	6,231.13	6,231.13	
								Say	**6,231.10**	**6,231.10**	**6,231.10**	
12.12 A		**(iii)**	Beyond 10m upto 20m									
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	6542.66	6542.66	6542.66	
			12m					5%	6869.79	6869.79	6869.79	
			13m					5%	7213.28	7213.28	7213.28	
			14m					5%	7573.94	7573.94	7573.94	
			15m					5%	7952.64	7952.64	7952.64	
			16m					5%	8350.27	8350.27	8350.27	
			17m					5%	8767.78	8767.78	8767.78	
			18m					5%	9206.17	9206.17	9206.17	
			19m					5%	9666.48	9666.48	9666.48	
			20m					5%	10149.81	10149.81	10149.81	
12.12 A		**(iv)**	Beyond 20m upto 30m									
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	10911.04	10911.04	10911.04	
			22m					7.50%	11729.37	11729.37	11729.37	
			23m					7.50%	12609.07	12609.07	12609.07	
			24m					7.50%	13554.75	13554.75	13554.75	
			25m					7.50%	14571.36	14571.36	14571.36	
			26m					7.50%	15664.21	15664.21	15664.21	
			27m					7.50%	16839.03	16839.03	16839.03	
			28m					7.50%	18101.95	18101.95	18101.95	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			29m					7.50%	19459.60	19459.60	19459.60	
			30m					7.50%	20919.07	20919.07	20919.07	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour.									
12.12 A		(v)	Beyond 30m upto 40m									
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	23010.98	23010.98	23010.98	
			32m					10%	25312.07	25312.07	25312.07	
			33m					10%	27843.28	27843.28	27843.28	
			34m					10%	30627.61	30627.61	30627.61	
			35m					10%	33690.37	33690.37	33690.37	
			36m					10%	37059.41	37059.41	37059.41	
			37m					10%	40765.35	40765.35	40765.35	
			38m					10%	44841.88	44841.88	44841.88	
			39m					10%	49326.07	49326.07	49326.07	
			40m					10%	54258.68	54258.68	54258.68	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour.									
12.12 B		B	**Clayey soil (6m dia. Well)**									
			Unit=running metre									
			Taking output= 1 metre									
		(i)	**Depth below bed level upto 3.0 M**									
			Rate of sinking = 0.33 m per hour.									
			a) Labour									
			Mate	day	0.150	0.150	0.150	444.00	66.60	66.60	66.60	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			Consumables in sinking @10 percent of (b)						260.70	260.70	260.70	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		948.96	948.96	948.96	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		569.38	569.38	569.38	
			Rate per metre = (a+b+c+d)						6263.14	6263.14	6263.14	
								Say	**6263.10**	**6263.10**	**6263.10**	
12.12B		**(ii)**	**Beyond 3m upto 10m depth**									
			Rate of sinking = 0.17 m per hour.									
			a) Labour									
			Mate	day	0.300	0.300	0.300	444.00	133.20	133.20	133.20	L-12
			Sinker (skilled)	day	3.000	3.000	3.000	541.00	1623.00	1623.00	1623.00	L-15
			Sinking helper (semi-skilled)	day	4.500	4.500	4.500	444.00	1998.00	1998.00	1998.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.000	6.000	6.000	869.00	5214.00	5214.00	5214.00	PM67001
			Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	2.000	2.000	2.000	496.00	992.00	992.00	992.00	PM15001
			Consumables in sinking @10 percent of (b)						620.60	620.60	620.60	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		2116.16	2116.16	2116.16	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1269.70	1269.70	1269.70	
			Rate per metre = (a+b+c+d)						13966.66	13966.66	13966.66	
								Say	**13966.70**	**13966.70**	**13966.70**	
12.12 B		**(iii)**	**Beyond 10m upto 20m**									
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	14665.04	14665.04	14665.04	
			12m					5%	15398.29	15398.29	15398.29	
			13m					5%	16168.20	16168.20	16168.20	
			14m					5%	16976.61	16976.61	16976.61	
			15m					5%	17825.44	17825.44	17825.44	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			16m					5%	18716.71	18716.71	18716.71	
			17m					5%	19652.55	19652.55	19652.55	
			18m					5%	20635.18	20635.18	20635.18	
			19m					5%	21666.94	21666.94	21666.94	
			20m					5%	22750.28	22750.28	22750.28	
		b	Add for dewatering @ 5 percent of cost (on a), if required.									
12.12 B		**(iv)**	**Beyond 20m upto 30m**									
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	24456.55	24456.55	24456.55	
			22m					7.50%	26290.80	26290.80	26290.80	
			23m					7.50%	28262.60	28262.60	28262.60	
			24m					7.50%	30382.30	30382.30	30382.30	
			25m					7.50%	32660.97	32660.97	32660.97	
			26m					7.50%	35110.55	35110.55	35110.55	
			27m					7.50%	37743.84	37743.84	37743.84	
			28m					7.50%	40574.62	40574.62	40574.62	
			29m					7.50%	43617.72	43617.72	43617.72	
			30m					7.50%	46889.05	46889.05	46889.05	
		b	Add 5 percent of cost (on a) for dewatering of the cost, if required									
		c	Add 25 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour).									
12.12 B		**(v)**	**Beyond 30m upto 40m**									
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	51577.96	51577.96	51577.96	
			32m					10%	56735.75	56735.75	56735.75	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			33m					10%	62409.33	62409.33	62409.33	
			34m					10%	68650.26	68650.26	68650.26	
			35m					10%	75515.28	75515.28	75515.28	
			36m					10%	83066.81	83066.81	83066.81	
			37m					10%	91373.49	91373.49	91373.49	
			38m					10%	100510.84	100510.84	100510.84	
			39m					10%	110561.93	110561.93	110561.93	
			40m					10%	121618.12	121618.12	121618.12	
		b	Add 5 percent of cost (on a) for dewatering, if required									
		c	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour).									
12.12		**C**	**Extra over item no. 12.12 (A) or (B) irrespective of depth for sinking in soft Rock (6m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Labour									
			Mate	day	0.490	0.490	0.490	444.00	217.56	217.56	217.56	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	28.274	28.274	28.274	496.00	14023.90	14023.90	14023.90	PM15001
			Pneumatic breaker	hour	56.549	56.549	56.549	206.00	11649.09	11649.09	11649.09	PM4001
			Consumables in sinking @5 percent of (b)						1283.65	1283.65	1283.65	
			Add for dewatering @ of 15 percent of (a+b), if required						4718.26	4718.26	4718.26	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		8012.79	8012.79	8012.79	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		4807.68	4807.68	4807.68	
			Rate per metre = (a+b+c+d)						52884.44	52884.44	52884.44	
								Say	**52884.40**	**52884.40**	**52884.40**	
12.12		**D**	**Extra over item no. 12.12 (A) or (B) irrespective of depth for sinking in Hard Rock (6m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Material									
			small dia Explosive at 0.20 kg/cum	kg	5.655	5.655	5.655	124.27	702.75	702.75	702.75	M-215
			Electric detonators	no	25.000	25.000	25.000	6.93	173.25	173.25	173.25	M-217
			Detonating fuse coil	m	78.000	78.000	78.000	16.12	1257.36	1257.36	1257.36	M-218
			b) Labour									
			Mate	day	0.500	0.500	0.500	444.00	222.00	222.00	222.00	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Driller	day	2.000	2.000	2.000	444.00	888.00	888.00	888.00	L-06
			Blaster	day	0.250	0.250	0.250	699.00	174.75	174.75	174.75	L-03
			Mazdoor	day	6.000	6.000	6.000	428.00	2568.00	2568.00	2568.00	L-13
			c) Machinery									
			Air Compressor 250 cfm	hour	26.590	26.590	26.590	496.00	13188.64	13188.64	13188.64	PM15001
			Pneumatic breaker	hour	22.619	22.619	22.619	206.00	4659.51	4659.51	4659.51	PM4001
			Pneumatic breaker for drilling holes @ 4.5 m per hour)	hour	14.561	14.561	14.561	206.00	2999.57	2999.57	2999.57	PM4001
			Consumables in protected blasting @ 10 percent of (c)						2084.77	2084.77	2084.77	
			Add for dewatering @ of 15 percent of (a+b+c), if required						4346.15	4346.15	4346.15	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		7602.45	7602.45	7602.45	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		4561.47	4561.47	4561.47	
			Rate per metre = (a+b+c+d+e)						50176.17	50176.17	50176.17	
								Say	**50176.20**	**50176.20**	**50176.20**	
12.12		**E**	**Extra over item no. 12.12 (A) or (B) irrespective of depth for sinking in Rock bouldery strata (6m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Labour									
			Mate	day	0.410	0.410	0.410	444.00	182.04	182.04	182.04	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	6.000	6.000	6.000	428.00	2568.00	2568.00	2568.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	47.124	47.124	47.124	496.00	23373.50	23373.50	23373.50	PM15001
			Pneumatic breaker	hour	94.248	94.248	94.248	206.00	19415.09	19415.09	19415.09	PM4001
			Consumables in sinking @ 5 percent of (b)						2139.43	2139.43	2139.43	
			Add for dewatering @ of 15 percent of (a+b), if required						7151.87	7151.87	7151.87	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		11915.49	11915.49	11915.49	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		7149.29	7149.29	7149.29	
			Rate per metre = (a+b+c+d)						78642.21	78642.21	78642.21	
								Say	**78642.20**	**78642.20**	**78642.20**	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.13	Section 1200		**Sinking of 7 m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**									
			Unit=Running metre									
			Taking output=1m									
			Diameter of well = 7m									
		A	**Sandy Soil**									
		(i)	**Depth below bed level upto 3.0m**									
			Rate of sinking = 0.30 m per hour.									
			a) Labour									
			Mate	day	0.150	0.150	0.150	444.00	66.60	66.60	66.60	L-12
			Sinker (skilled)	day	1.250	1.250	1.250	541.00	676.25	676.25	676.25	L-15
			Sinking helper (semi-skilled)	day	2.500	2.500	2.500	444.00	1110.00	1110.00	1110.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	3.250	3.250	3.250	869.00	2824.25	2824.25	2824.25	PM67001
			Consumables in sinking @10 percent of (b)						282.43	282.43	282.43	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		991.91	991.91	991.91	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		595.14	595.14	595.14	
			Rate per metre = (a+b+c+d)						6546.57	6546.57	6546.57	
								Say	**6546.60**	**6546.60**	**6546.60**	
12.13 A		(ii)	**Beyond 3m upto 10m depth**									
			Rate of sinking = 0.22 m per hour.									
			a) Labour									
			Mate	day	0.180	0.180	0.180	444.00	79.92	79.92	79.92	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	3.000	3.000	3.000	444.00	1332.00	1332.00	1332.00	L-14
			b) Machinery									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	4.500	4.500	4.500	869.00	3910.50	3910.50	3910.50	PM67001
			Consumables in sinking @10 percent of (b)						391.05	391.05	391.05	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1304.99	1304.99	1304.99	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		783.00	783.00	783.00	
			Rate per metre = (a+b+c+d)						8612.96	8612.96	8612.96	
								Say	**8613.00**	**8613.00**	**8613.00**	
12.13 A		**(iii)**	**Beyond 10m upto 20m**									
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	9043.65	9043.65	9043.65	
			12m					5%	9495.83	9495.83	9495.83	
			13m					5%	9970.62	9970.62	9970.62	
			14m					5%	10469.16	10469.16	10469.16	
			15m					5%	10992.61	10992.61	10992.61	
			16m					5%	11542.24	11542.24	11542.24	
			17m					5%	12119.36	12119.36	12119.36	
			18m					5%	12725.32	12725.32	12725.32	
			19m					5%	13361.59	13361.59	13361.59	
			20m					5%	14029.67	14029.67	14029.67	
12.13 A		**(iv)**	**Beyond 20m upto 30m**									
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	15081.89	15081.89	15081.89	
			22m					7.50%	16213.04	16213.04	16213.04	
			23m					7.50%	17429.01	17429.01	17429.01	
			24m					7.50%	18736.19	18736.19	18736.19	
			25m					7.50%	20141.40	20141.40	20141.40	
			26m					7.50%	21652.01	21652.01	21652.01	
			27m					7.50%	23275.91	23275.91	23275.91	
			28m					7.50%	25021.60	25021.60	25021.60	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			29m					7.50%	26898.22	26898.22	26898.22	
			30m					7.50%	28915.59	28915.59	28915.59	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour.									
12.13 A		(v)	**Beyond 30m upto 40m**									
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	31807.15	31807.15	31807.15	
			32m					10%	34987.87	34987.87	34987.87	
			33m					10%	38486.65	38486.65	38486.65	
			34m					10%	42335.32	42335.32	42335.32	
			35m					10%	46568.85	46568.85	46568.85	
			36m					10%	51225.73	51225.73	51225.73	
			37m					10%	56348.31	56348.31	56348.31	
			38m					10%	61983.14	61983.14	61983.14	
			39m					10%	68181.45	68181.45	68181.45	
			40m					10%	74999.60	74999.60	74999.60	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour etc.									
12.13 B		B	**Clayey Soil (7 m dia. Well)**									
			Unit= Running metre									
			Taking output= 1 cum									
		(I)	**Depth below bed level upto 3.0 M**									
			Rate of sinking = 0.22 m per hour.									
			a) Labour									
			Mate	day	0.180	0.180	0.180	444.00	79.92	79.92	79.92	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	3.000	3.000	3.000	444.00	1332.00	1332.00	1332.00	L-14
			b) Machinery									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	4.500	4.500	4.500	869.00	3910.50	3910.50	3910.50	PM67001
			Consumables in sinking @10 percent of (b)						391.05	391.05	391.05	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1304.99	1304.99	1304.99	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		783.00	783.00	783.00	
			Rate per metre = (a+b+c+d)						8612.96	8612.96	8612.96	
								Say	**8613.00**	**8613.00**	**8613.00**	
12.13 B		**(ii)**	**Beyond 3m upto 10m depth**									
			Rate of sinking=0.17 m per hour.									
			a) Labour									
			Mate	day	0.240	0.240	0.240	444.00	106.56	106.56	106.56	L-12
			Sinker	day	2.000	2.000	2.000	541.00	1082.00	1082.00	1082.00	L-15
			Sinking helper (semi-skilled)	day	4.000	4.000	4.000	444.00	1776.00	1776.00	1776.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.000	6.000	6.000	869.00	5214.00	5214.00	5214.00	PM67001
			Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	3.250	3.250	3.250	496.00	1612.00	1612.00	1612.00	PM15001
			Consumables in sinking @ 10 percent of (b)						682.60	682.60	682.60	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		2094.63	2094.63	2094.63	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1256.78	1256.78	1256.78	
			Rate per metre = (a+b+c+d)						13824.57	13824.57	13824.57	
								Say	**13824.60**	**13824.60**	**13824.60**	
12.13 B		**(iii)**	**Beyond 10m upto 20m**									
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	14515.83	14515.83	14515.83	
			12m					5%	15241.62	15241.62	15241.62	
			13m					5%	16003.70	16003.70	16003.70	
			14m					5%	16803.89	16803.89	16803.89	
			15m					5%	17644.08	17644.08	17644.08	
			16m					5%	18526.29	18526.29	18526.29	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			17m					5%	19452.60	19452.60	19452.60	
			18m					5%	20425.23	20425.23	20425.23	
			19m					5%	21446.49	21446.49	21446.49	
			20m					5%	22518.82	22518.82	22518.82	
		b	Add for dewatering @ 5 percent of cost (on a), if required.									
12.13 B		(iv)	**Beyond 20m upto 30m**									
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	24207.73	24207.73	24207.73	
			22m					7.50%	26023.31	26023.31	26023.31	
			23m					7.50%	27975.06	27975.06	27975.06	
			24m					7.50%	30073.18	30073.18	30073.18	
			25m					7.50%	32328.67	32328.67	32328.67	
			26m					7.50%	34753.32	34753.32	34753.32	
			27m					7.50%	37359.82	37359.82	37359.82	
			28m					7.50%	40161.81	40161.81	40161.81	
			29m					7.50%	43173.95	43173.95	43173.95	
			30m					7.50%	46411.99	46411.99	46411.99	
		b	Add 5 percent of cost (on a) for dewatering of the cost, if required									
		c	Add 25 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour).									
12.13 B		(v)	**Beyond 30m upto 40m**									
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	51053.19	51053.19	51053.19	
			32m					10%	56158.51	56158.51	56158.51	
			33m					10%	61774.36	61774.36	61774.36	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			34m					10%	67951.80	67951.80	67951.80	
			35m					10%	74746.98	74746.98	74746.98	
			36m					10%	82221.67	82221.67	82221.67	
			37m					10%	90443.84	90443.84	90443.84	
			38m					10%	99488.23	99488.23	99488.23	
			39m					10%	109437.05	109437.05	109437.05	
			40m					10%	120380.75	120380.75	120380.75	
		b	Add 5 percent of cost (on a) for dewatering, if required									
		c	Add 20 percent of cost(on a) for Kentledge including supports, loading arrangement and Labour).									
12.13		C	**Extra over item no. 12.13 (A) or (B) irrespective of depth for sinking in soft Rock (7m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Labour									
			Mate	day	0.570	0.570	0.570	444.00	253.08	253.08	253.08	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	10.000	10.000	10.000	428.00	4280.00	4280.00	4280.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	38.485	38.485	38.485	496.00	19088.56	19088.56	19088.56	PM15001
			Pneumatic breaker	hour	76.969	76.969	76.969	206.00	15855.61	15855.61	15855.61	PM4001
			Consumables in sinking @5 percent of (b)						1747.21	1747.21	1747.21	
			Add for dewatering @ of 15 percent of (a+b), if required						6242.66	6242.66	6242.66	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		10442.93	10442.93	10442.93	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		6265.76	6265.76	6265.76	
			Rate per metre = (a+b+c+d)						68923.31	68923.31	68923.31	
								Say	**68923.30**	**68923.30**	**68923.30**	
12.13		**D**	**Extra over item no. 12.13 (A) or (B) irrespective of depth for sinking in Hard Rock (7m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Material									
			small dia Explosive at 0.20 kg/cum	kg	7.697	7.697	7.697	124.27	956.51	956.51	956.51	M-215
			Electric detonators	no	36.000	36.000	36.000	6.93	249.48	249.48	249.48	M-217
			Detonating fuse coil	m	112.000	112.000	112.000	16.12	1805.44	1805.44	1805.44	M-218
			b)Labour									
			Mate	day	0.580	0.580	0.580	444.00	257.52	257.52	257.52	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Driller	day	2.000	2.000	2.000	444.00	888.00	888.00	888.00	L-06
			Blaster	day	0.250	0.250	0.250	699.00	174.75	174.75	174.75	L-03
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Air Compressor 250 cfm	hour	33.304	33.304	33.304	496.00	16518.78	16518.78	16518.78	PM15001
			Pneumatic breaker	hour	30.788	30.788	30.788	206.00	6342.33	6342.33	6342.33	PM4001
			Pneumatic breaker for drilling holes @ 4.5 m per hour)	hour	19.820	19.820	19.820	206.00	4082.92	4082.92	4082.92	PM4001
			Consumables in protected blasting @ 10 percent of ©						2694.40	2694.40	2694.40	
			Add for dewatering @ of 15 percent of (a+b+c), if required						5526.03	5526.03	5526.03	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		9533.533	9533.533	9533.533	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		5720.120	5720.120	5720.120	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Rate per metre = (a+b+c+d+e)						62921.319	62921.319	62921.319	
								Say	**62921.30**	**62921.30**	**62921.30**	
12.13		**E**	**Extra over item no. 12.13 (A) or (B) irrespective of depth for sinking in Rock bouldery strata (7m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Labour									
			Mate	day	0.490	0.490	0.490	444.00	217.56	217.56	217.56	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	64.141	64.141	64.141	496.00	31813.94	31813.94	31813.94	PM15001
			Pneumatic breaker	hour	128.282	128.282	128.282	206.00	26426.09	26426.09	26426.09	PM4001
			Consumables in sinking @5 percent of (b)						2912.00	2912.00	2912.00	
			Add for dewatering @ of 15 percent of (a+b), if required						9603.31	9603.31	9603.31	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		15828.88	15828.88	15828.88	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		9497.33	9497.33	9497.33	
			Rate per metre = (a+b+c+d)						104470.61	104470.61	104470.61	
								Say	**104470.60**	**104470.60**	**104470.60**	
12.14	**Section 1200**		**Sinking of 8 m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit=Running Meter.									
			Taking output=1m									
			Diameter of well-8m.									
		A	**Sandy Soil**									
		(i)	**Depth below bed level upto 3.0 M**									
			Rate of sinking @ 0.25 m/ hour.									
			a) Labour									
			Mate	day	0.180	0.180	0.180	444.00	79.92	79.92	79.92	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	3.000	3.000	3.000	444.00	1332.00	1332.00	1332.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	4.000	4.000	4.000	869.00	3476.00	3476.00	3476.00	PM67001
			Consumables in sinking @10 percent of (b)						347.60	347.60	347.60	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1209.40	1209.40	1209.40	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		725.64	725.64	725.64	
			Rate per metre = (a+b+c+d)						7982.07	7982.07	7982.07	
								Say	**7982.10**	**7982.10**	**7982.10**	
12.14 A		**(ii)**	**Beyond 3m upto 10m depth**									
			Rate of sinking = 0.20 m per hour.									
			a) Labour									
			Mate	day	0.210	0.210	0.210	444.00	93.24	93.24	93.24	L-12
			Sinker (skilled)	day	1.750	1.750	1.750	541.00	946.75	946.75	946.75	L-15
			Sinking helper (semi-skilled)	day	3.500	3.500	3.500	444.00	1554.00	1554.00	1554.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.000	5.000	5.000	869.00	4345.00	4345.00	4345.00	PM67001
			Consumables in sinking @10 percent of (b)						434.50	434.50	434.50	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1474.70	1474.70	1474.70	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		884.82	884.82	884.82	
			Rate per metre = (a+b+c+d)						9733.01	9733.01	9733.01	
								Say	**9733.00**	**9733.00**	**9733.00**	
12.14 A		**(iii)**	**Beyond 10m upto 20m**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	10219.65	10219.65	10219.65	
			12m					5%	10730.63	10730.63	10730.63	
			13m					5%	11267.16	11267.16	11267.16	
			14m					5%	11830.52	11830.52	11830.52	
			15m					5%	12422.05	12422.05	12422.05	
			16m					5%	13043.15	13043.15	13043.15	
			17m					5%	13695.31	13695.31	13695.31	
			18m					5%	14380.07	14380.07	14380.07	
			19m					5%	15099.08	15099.08	15099.08	
			20m					5%	15854.03	15854.03	15854.03	
12.14 A		**(iv)**	**Beyond 20m upto 30m**									
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	17043.08	17043.08	17043.08	
			22m					7.50%	18321.32	18321.32	18321.32	
			23m					7.50%	19695.41	19695.41	19695.41	
			24m					7.50%	21172.57	21172.57	21172.57	
			25m					7.50%	22760.51	22760.51	22760.51	
			26m					7.50%	24467.55	24467.55	24467.55	
			27m					7.50%	26302.62	26302.62	26302.62	
			28m					7.50%	28275.31	28275.31	28275.31	
			29m					7.50%	30395.96	30395.96	30395.96	
			30m					7.50%	32675.66	32675.66	32675.66	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour.									
12.14 A		**(v)**	**Beyond 30m upto 40m**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	35943.23	35943.23	35943.23	
			32m					10%	39537.55	39537.55	39537.55	
			33m					10%	43491.30	43491.30	43491.30	
			34m					10%	47840.43	47840.43	47840.43	
			35m					10%	52624.48	52624.48	52624.48	
			36m					10%	57886.92	57886.92	57886.92	
			37m					10%	63675.62	63675.62	63675.62	
			38m					10%	70043.18	70043.18	70043.18	
			39m					10%	77047.49	77047.49	77047.49	
			40m					10%	84752.24	84752.24	84752.24	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour etc.									
12.14		**B**	**Clayey Soil (8 m dia. Well)**									
			Unit = Running Meter.									
			Taking output = 1 meter									
		(i)	**Depth from bed level upto 3.0 M**									
			Rate of sinking @ 0.18 m per hour.									
			a) Labour									
			Mate	day	0.220	0.220	0.220	444.00	97.68	97.68	97.68	L-12
			Sinker (skilled)	day	2.000	2.000	2.000	541.00	1082.00	1082.00	1082.00	L-15
			Sinking helper (semi-skilled)	day	3.500	3.500	3.500	444.00	1554.00	1554.00	1554.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.500	5.500	5.500	869.00	4779.50	4779.50	4779.50	PM67001
			Consumables in sinking @10 percent of (b)						477.95	477.95	477.95	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1598.23	1598.23	1598.23	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		958.94	958.94	958.94	
			Rate per metre = (a+b+c+d)						10548.29	10548.29	10548.29	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
								Say	10548.30	10548.30	10548.30	
12.14 B		(ii)	**Beyond 3m upto 10m depth**									
			Rate of sinking @ 0.17 m/ hour.									
			a) Labour									
			Mate	day	0.280	0.280	0.280	444.00	124.32	124.32	124.32	L-12
			Sinker	day	2.500	2.500	2.500	541.00	1352.50	1352.50	1352.50	L-15
			Sinking helper (semi-skilled)	day	4.500	4.500	4.500	444.00	1998.00	1998.00	1998.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.000	6.000	6.000	869.00	5214.00	5214.00	5214.00	PM67001
			Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	3.500	3.500	3.500	496.00	1736.00	1736.00	1736.00	PM15001
			Consumables in sinking @ 10 percent of (b)						695.00	695.00	695.00	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		2223.96	2223.96	2223.96	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1334.38	1334.38	1334.38	
			Rate per metre = (a+b+c+d)						14678.16	14678.16	14678.16	
								Say	14678.20	14678.20	14678.20	
12.14 B		(iii)	**Beyond 10m upto 20m**									
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	15412.11	15412.11	15412.11	
			12m					5%	16182.72	16182.72	16182.72	
			13m					5%	16991.85	16991.85	16991.85	
			14m					5%	17841.44	17841.44	17841.44	
			15m					5%	18733.52	18733.52	18733.52	
			16m					5%	19670.19	19670.19	19670.19	
			17m					5%	20653.70	20653.70	20653.70	
			18m					5%	21686.39	21686.39	21686.39	
			19m					5%	22770.71	22770.71	22770.71	
			20m					5%	23909.24	23909.24	23909.24	
		b	Add for dewatering @ 5 percent of cost (on a), if required.									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.14 B		**(iv)**	**Beyond 20m upto 30m**									
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	25702.43	25702.43	25702.43	
			22m					7.50%	27630.12	27630.12	27630.12	
			23m					7.50%	29702.38	29702.38	29702.38	
			24m					7.50%	31930.05	31930.05	31930.05	
			25m					7.50%	34324.81	34324.81	34324.81	
			26m					7.50%	36899.17	36899.17	36899.17	
			27m					7.50%	39666.61	39666.61	39666.61	
			28m					7.50%	42641.60	42641.60	42641.60	
			29m					7.50%	45839.72	45839.72	45839.72	
			30m					7.50%	49277.70	49277.70	49277.70	
		b	Add 5 percent of cost (on a) for dewatering of the cost, if required									
		c	Add 25 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour).									
12.14 B		**(v)**	**Beyond 30m upto 40m**									
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	54205.47	54205.47	54205.47	
			32m					10%	59626.02	59626.02	59626.02	
			33m					10%	65588.62	65588.62	65588.62	
			34m					10%	72147.48	72147.48	72147.48	
			35m					10%	79362.23	79362.23	79362.23	
			36m					10%	87298.45	87298.45	87298.45	
			37m					10%	96028.30	96028.30	96028.30	
			38m					10%	105631.13	105631.13	105631.13	
			39m					10%	116194.24	116194.24	116194.24	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			40m					10%	127813.66	127813.66	127813.66	
		b	Add 5 percent of cost (on a) for dewatering, if required									
		c	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour).									
12.14		C	**Extra over item no. 12.14 (A) or (B) irrespective of depth for sinking in soft Rock (8m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Labour									
			Mate	day	0.650	0.650	0.650	444.00	288.60	288.60	288.60	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	12.000	12.000	12.000	428.00	5136.00	5136.00	5136.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	50.265	50.265	50.265	496.00	24931.44	24931.44	24931.44	PM15001
			Pneumatic breaker	hour	100.531	100.531	100.531	206.00	20709.39	20709.39	20709.39	PM4001
			Consumables in sinking @5 percent of (b)						2282.04	2282.04	2282.04	
			Add for dewatering @ of 15 percent of (a+b), if required						7980.89	7980.89	7980.89	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		13215.17	13215.17	13215.17	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		7929.10	7929.10	7929.10	
			Rate per metre = (a+b+c+d)						87220.13	87220.13	87220.13	
								Say	**87220.10**	**87220.10**	**87220.10**	

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Analysis of Rate
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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.14		D	**Extra over item no. 12.14 (A) or (B) irrespective of depth for sinking in Hard Rock (8m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Material									
			small dia Explosive at 0.20 kg/cum	kg	10.053	10.053	10.053	124.27	1249.29	1249.29	1249.29	M-215
			Electric detonators	no	50.000	50.000	50.000	6.93	346.50	346.50	346.50	M-217
			Detonating fuse coil	m	155.000	155.000	155.000	16.12	2498.60	2498.60	2498.60	M-218
			b) Labour									
			Mate	day	0.660	0.660	0.660	444.00	293.04	293.04	293.04	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Driller	day	2.000	2.000	2.000	444.00	888.00	888.00	888.00	L-06
			Blaster	day	0.250	0.250	0.250	699.00	174.75	174.75	174.75	L-03
			Mazdoor	day	10.000	10.000	10.000	428.00	4280.00	4280.00	4280.00	L-13
			c) Machinery									
			Air Compressor 250 cfm	hour	41.050	41.050	41.050	496.00	20360.80	20360.80	20360.80	PM15001
			Pneumatic breaker	hour	40.212	40.212	40.212	206.00	8283.67	8283.67	8283.67	PM4001
			Pneumatic breaker for drilling holes @ 4.5 m per hour)	hour	25.887	25.887	25.887	206.00	5332.72	5332.72	5332.72	PM4001
			Consumables in protected blasting @ 10 percent of ©						3397.72	3397.72	3397.72	
			Add for dewatering @ of 15 percent of (a+b+c), if required						6877.18	6877.18	6877.18	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		11745.95	11745.95	11745.95	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		7047.57	7047.57	7047.57	
			Rate per metre = (a+b+c+d+e)						77523.30	77523.30	77523.30	
								Say	**77523.30**	**77523.30**	**77523.30**	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.14		E	Extra over item no. 12.14 (A) & (B) irrespective of depth for sinking in Rock bouldery strata (8m dia well)									
			Unit=Running Meter.									
			Taking output=1m									
			a) Labour									
			Mate	day	0.570	0.570	0.570	444.00	253.08	253.08	253.08	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	10.000	10.000	10.000	428.00	4280.00	4280.00	4280.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	83.776	83.776	83.776	496.00	41552.90	41552.90	41552.90	PM15001
			Pneumatic breaker	hour	167.552	167.552	167.552	206.00	34515.71	34515.71	34515.71	PM4001
			Consumables in sinking @5 percent of (b)						3803.43	3803.43	3803.43	
			Add for dewatering @ of 15 percent of (a+b), if required						12411.33	12411.33	12411.33	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		20312.79	20312.79	20312.79	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		12187.67	12187.67	12187.67	
			Rate per metre = (a+b+c+d)						134064.41	134064.41	134064.41	
								Say	134064.40	134064.40	134064.40	
12.15	Section 1200		Sinking of 9 m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.									
			Unit=Running Meter.									
			Taking output=1m									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Diameter of well-9m.									
		A	**Sandy Soil**									
		(i)	**Depth below bed level upto 3.0 M**									
			Rate of sinking @ 0.25 m/ hour.									
			a) Labour									
			Mate	day	0.190	0.190	0.190	444.00	84.36	84.36	84.36	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	3.250	3.250	3.250	444.00	1443.00	1443.00	1443.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	4.000	4.000	4.000	869.00	3476.00	3476.00	3476.00	PM67001
			Consumables in sinking @10 percent of (b)						347.60	347.60	347.60	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1232.49	1232.49	1232.49	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		739.50	739.50	739.50	
			Rate per metre = (a+b+c+d)						8134.45	8134.45	8134.45	
								Say	**8134.40**	**8134.40**	**8134.40**	
12.15 A		**(ii)**	**Beyond 3m upto 10m depth**									
			Rate of sinking = 0.18 m per hour.									
			a) Labour									
			Mate	day	0.230	0.230	0.230	444.00	102.12	102.12	102.12	L-12
			Sinker (skilled)	day	1.750	1.750	1.750	541.00	946.75	946.75	946.75	L-15
			Sinking helper (semi-skilled)	day	4.000	4.000	4.000	444.00	1776.00	1776.00	1776.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.500	5.500	5.500	869.00	4779.50	4779.50	4779.50	PM67001
			Consumables in sinking @10 percent of (b)						477.95	477.95	477.95	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1616.46	1616.46	1616.46	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		969.88	969.88	969.88	
			Rate per metre = (a+b+c+d)						10668.66	10668.66	10668.66	
								Say	**10668.70**	**10668.70**	**10668.70**	
12.15 A		**(iii)**	**Beyond 10m upto 20m**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	11202.14	11202.14	11202.14	
			12m					5%	11762.24	11762.24	11762.24	
			13m					5%	12350.35	12350.35	12350.35	
			14m					5%	12967.87	12967.87	12967.87	
			15m					5%	13616.27	13616.27	13616.27	
			16m					5%	14297.08	14297.08	14297.08	
			17m					5%	15011.93	15011.93	15011.93	
			18m					5%	15762.53	15762.53	15762.53	
			19m					5%	16550.66	16550.66	16550.66	
			20m					5%	17378.19	17378.19	17378.19	
12.15 A		**(iv)**	**Beyond 20m upto 30m**									
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	18681.55	18681.55	18681.55	
			22m					7.50%	20082.67	20082.67	20082.67	
			23m					7.50%	21588.87	21588.87	21588.87	
			24m					7.50%	23208.03	23208.03	23208.03	
			25m					7.50%	24948.64	24948.64	24948.64	
			26m					7.50%	26819.78	26819.78	26819.78	
			27m					7.50%	28831.27	28831.27	28831.27	
			28m					7.50%	30993.61	30993.61	30993.61	
			29m					7.50%	33318.13	33318.13	33318.13	
			30m					7.50%	35816.99	35816.99	35816.99	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour.									
12.15 A		**(v)**	**Beyond 30m upto 40m**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	39398.69	39398.69	39398.69	
			32m					10%	43338.56	43338.56	43338.56	
			33m					10%	47672.42	47672.42	47672.42	
			34m					10%	52439.66	52439.66	52439.66	
			35m					10%	57683.63	57683.63	57683.63	
			36m					10%	63451.99	63451.99	63451.99	
			37m					10%	69797.19	69797.19	69797.19	
			38m					10%	76776.91	76776.91	76776.91	
			39m					10%	84454.60	84454.60	84454.60	
			40m					10%	92900.06	92900.06	92900.06	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour etc.									
12.15		**B**	**Clayey Soil (9 m dia. Well)**									
			Unit = Running Meter.									
			Taking output = 1 metre									
		(i)	**Depth from bed level upto 3.0 M**									
			Rate of sinking @ 0.17 m per hour.									
			a) Labour									
			Mate	day	0.240	0.240	0.240	444.00	106.56	106.56	106.56	L-12
			Sinker (skilled)	day	2.250	2.250	2.250	541.00	1217.25	1217.25	1217.25	L-15
			Sinking helper (semi-skilled)	day	3.750	3.750	3.750	444.00	1665.00	1665.00	1665.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.750	5.750	5.750	869.00	4996.75	4996.75	4996.75	PM67001
			Consumables in sinking @10 percent of (b)						499.68	499.68	499.68	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1697.05	1697.05	1697.05	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1018.23	1018.23	1018.23	
			Rate per metre = (a+b+c+d)						11200.51	11200.51	11200.51	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
								Say	**11200.50**	**11200.50**	**11200.50**	
12.15 B		**(ii)**	**Beyond 3m upto 10m depth**									
			Rate of sinking @ 0.15 m/ hour.									
			a) Labour									
			Mate	day	0.300	0.300	0.300	444.00	133.20	133.20	133.20	L-12
			Sinker	day	2.500	2.500	2.500	541.00	1352.50	1352.50	1352.50	L-15
			Sinking helper (semi-skilled)	day	5.000	5.000	5.000	444.00	2220.00	2220.00	2220.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.500	6.500	6.500	869.00	5648.50	5648.50	5648.50	PM67001
			Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	3.750	3.750	3.750	496.00	1860.00	1860.00	1860.00	PM15001
			Consumables in sinking @ 10 percent of (b)						750.85	750.85	750.85	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		2393.01	2393.01	2393.01	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1435.81	1435.81	1435.81	
			Rate per metre = (a+b+c+d)						15793.87	15793.87	15793.87	
								Say	**15793.90**	**15793.90**	**15793.90**	
12.15 B		**(iii)**	**Beyond 10m upto 20m**									
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	16583.60	16583.60	16583.60	
			12m					5%	17412.77	17412.77	17412.77	
			13m					5%	18283.41	18283.41	18283.41	
			14m					5%	19197.58	19197.58	19197.58	
			15m					5%	20157.46	20157.46	20157.46	
			16m					5%	21165.34	21165.34	21165.34	
			17m					5%	22223.60	22223.60	22223.60	
			18m					5%	23334.78	23334.78	23334.78	
			19m					5%	24501.52	24501.52	24501.52	
			20m					5%	25726.60	25726.60	25726.60	
		b	Add for dewatering @ 5 percent of cost (on a), if required.									

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Analysis of Rate
FOUNDATIONS

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.15 B		(iv)	**Beyond 20m upto 30m**									
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	27656.09	27656.09	27656.09	
			22m					7.50%	29730.30	29730.30	29730.30	
			23m					7.50%	31960.07	31960.07	31960.07	
			24m					7.50%	34357.08	34357.08	34357.08	
			25m					7.50%	36933.86	36933.86	36933.86	
			26m					7.50%	39703.90	39703.90	39703.90	
			27m					7.50%	42681.69	42681.69	42681.69	
			28m					7.50%	45882.82	45882.82	45882.82	
			29m					7.50%	49324.03	49324.03	49324.03	
			30m					7.50%	53023.33	53023.33	53023.33	
		b	Add 5 percent of cost (on a) for dewatering of the cost, if required									
		c	Add 25 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour).									
12.15 B		(v)	**Beyond 30m upto 40m**									
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	58325.67	58325.67	58325.67	
			32m					10%	64158.23	64158.23	64158.23	
			33m					10%	70574.06	70574.06	70574.06	
			34m					10%	77631.46	77631.46	77631.46	
			35m					10%	85394.61	85394.61	85394.61	
			36m					10%	93934.07	93934.07	93934.07	
			37m					10%	103327.47	103327.47	103327.47	
			38m					10%	113660.22	113660.22	113660.22	
			39m					10%	125026.24	125026.24	125026.24	
			40m					10%	137528.87	137528.87	137528.87	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		b	Add 5 percent of cost (on a) for dewatering, if required									
		c	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour).									
12.15		**C**	**Extra over item no. 12.15 A) or (B) irrespective of depth for sinking in soft Rock (9m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Labour									
			Mate	day	0.730	0.730	0.730	444.00	324.12	324.12	324.12	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	14.000	14.000	14.000	428.00	5992.00	5992.00	5992.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	63.617	63.617	63.617	496.00	31554.03	31554.03	31554.03	PM15001
			Pneumatic breaker	hour	127.235	127.235	127.235	206.00	26210.41	26210.41	26210.41	PM4001
			Consumables in sinking @5 percent of (b)						2888.22	2888.22	2888.22	
			Add for dewatering @ of 15 percent of (a+b), if required						9933.16	9933.16	9933.16	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		16329.89	16329.89	16329.89	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		9797.93	9797.93	9797.93	
			Rate per metre = (a+b+c+d)						107777.27	107777.27	107777.27	
								Say	**107777.30**	**107777.30**	**107777.30**	
12.15		**D**	**Extra over item no. 12.15 (A) or (B) irrespective of depth for sinking in Hard Rock (9m dia well)**									
			Unit=Running Meter.									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Taking output=1m									
			a) Material									
			small dia Explosive at 0.20 kg/cum	kg	12.723	12.723	12.723	124.27	1581.09	1581.09	1581.09	M-215
			Electric detonators	no	65.000	65.000	65.000	6.93	450.45	450.45	450.45	M-217
			Detonating fuse coil	m	202.000	202.000	202.000	16.12	3256.24	3256.24	3256.24	M-218
			b) Labour									
			Mate	day	0.740	0.740	0.740	444.00	328.56	328.56	328.56	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Driller	day	2.000	2.000	2.000	444.00	888.00	888.00	888.00	L-06
			Blaster	day	0.250	0.250	0.250	699.00	174.75	174.75	174.75	L-03
			Mazdoor	day	12.000	12.000	12.000	428.00	5136.00	5136.00	5136.00	L-13
			c) Machinery									
			Air Compressor 250 cfm	hour	49.828	49.828	49.828	496.00	24714.69	24714.69	24714.69	PM15001
			Pneumatic breaker	hour	50.894	50.894	50.894	206.00	10484.16	10484.16	10484.16	PM4001
			Pneumatic breaker for drilling holes @ 4.5 m per hour)	hour	32.763	32.763	32.763	206.00	6749.18	6749.18	6749.18	PM4001
			Consumables in protected blasting @ 10 percent of ©						4194.80	4194.80	4194.80	
			Add for dewatering @ of 15 percent of (a+b+c), if required						8385.54	8385.54	8385.54	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		14218.19	14218.19	14218.19	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		8530.92	8530.92	8530.92	
			Rate per metre = (a+b+c+d+e)						93840.07	93840.07	93840.07	
								Say	**93840.10**	**93840.10**	**93840.10**	
12.15		**E**	**Extra over item no. 12.15 (A) & (B) irrespective of depth for sinking in Rock bouldery strata (9m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			a) Labour									
			Mate	day	0.650	0.650	0.650	444.00	288.60	288.60	288.60	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	12.000	12.000	12.000	428.00	5136.00	5136.00	5136.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	106.029	106.029	106.029	496.00	52590.38	52590.38	52590.38	PM15001
			Pneumatic breaker	hour	212.058	212.058	212.058	206.00	43683.95	43683.95	43683.95	PM4001
			Consumables in sinking @5 percent of (b)						4813.72	4813.72	4813.72	
			Add for dewatering @ of 15 percent of (a+b), if required						15575.91	15575.91	15575.91	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		25367.21	25367.21	25367.21	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		15220.33	15220.33	15220.33	
			Rate per metre = (a+b+c+d)						167423.60	167423.60	167423.60	
								Say	**167423.60**	**167423.60**	**167423.60**	
12.16	**Section 1200**		**Sinking of 10 m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**									
			Unit=Running metre									
			Taking output=1m									
			Diameter of well = 10m									
		A	**Sandy Soil**									
		(i)	**Depth below bed level upto 3.0m**									
			Rate of sinking = 0.20 m per hour.									
			a) Labour									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mate	day	0.200	0.200	0.200	444.00	88.80	88.80	88.80	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	3.500	3.500	3.500	444.00	1554.00	1554.00	1554.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.000	5.000	5.000	869.00	4345.00	4345.00	4345.00	PM67001
			Consumables in sinking @10 percent of (b)						434.50	434.50	434.50	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1446.76	1446.76	1446.76	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		868.06	868.06	868.06	
			Rate per metre = (a+b+c+d)						9548.62	9548.62	9548.62	
								Say	**9548.60**	**9548.60**	**9548.60**	
12.16 A		**(ii)**	**Beyond 3m upto 10m depth**									
			Rate of sinking = 0.17 m per hour.									
			a) Labour									
			Mate	day	0.250	0.250	0.250	444.00	111.00	111.00	111.00	L-12
			Sinker (skilled)	day	2.000	2.000	2.000	541.00	1082.00	1082.00	1082.00	L-15
			Sinking helper (semi-skilled)	day	4.250	4.250	4.250	444.00	1887.00	1887.00	1887.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.750	5.750	5.750	869.00	4996.75	4996.75	4996.75	PM67001
			Consumables in sinking @10 percent of (b)						499.68	499.68	499.68	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1715.29	1715.29	1715.29	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1029.17	1029.17	1029.17	
			Rate per metre = (a+b+c+d)						11320.88	11320.88	11320.88	
								Say	**11320.90**	**11320.90**	**11320.90**	
12.16 A		**(iii)**	**Beyond 10m upto 20m**									
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	11886.95	11886.95	11886.95	
			12m					5%	12481.29	12481.29	12481.29	
			13m					5%	13105.36	13105.36	13105.36	
			14m					5%	13760.62	13760.62	13760.62	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			15m					5%	14448.66	14448.66	14448.66	
			16m					5%	15171.09	15171.09	15171.09	
			17m					5%	15929.64	15929.64	15929.64	
			18m					5%	16726.13	16726.13	16726.13	
			19m					5%	17562.43	17562.43	17562.43	
			20m					5%	18440.55	18440.55	18440.55	
12.16 A		**(iv)**	**Beyond 20m upto 30m**									
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	19823.59	19823.59	19823.59	
			22m					7.50%	21310.36	21310.36	21310.36	
			23m					7.50%	22908.64	22908.64	22908.64	
			24m					7.50%	24626.79	24626.79	24626.79	
			25m					7.50%	26473.80	26473.80	26473.80	
			26m					7.50%	28459.33	28459.33	28459.33	
			27m					7.50%	30593.78	30593.78	30593.78	
			28m					7.50%	32888.32	32888.32	32888.32	
			29m					7.50%	35354.94	35354.94	35354.94	
			30m					7.50%	38006.56	38006.56	38006.56	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour.									
12.16 A		**(v)**	**Beyond 30m upto 40m**									
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	41807.22	41807.22	41807.22	
			32m					10%	45987.94	45987.94	45987.94	
			33m					10%	50586.73	50586.73	50586.73	
			34m					10%	55645.41	55645.41	55645.41	
			35m					10%	61209.95	61209.95	61209.95	
			36m					10%	67330.94	67330.94	67330.94	
			37m					10%	74064.04	74064.04	74064.04	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			38m					10%	81470.44	81470.44	81470.44	
			39m					10%	89617.49	89617.49	89617.49	
			40m					10%	98579.23	98579.23	98579.23	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour etc.									
12.16 B		**B**	**Clayey Soil (10 m dia. Well)**									
			Unit= Running metre									
			Taking output= 1 cum									
		(I)	**Depth below bed level upto 3.0 M**									
			Rate of sinking = 0.18 m per hour.									
			a) Labour									
			Mate	day	0.320	0.320	0.320	444.00	142.08	142.08	142.08	L-12
			Sinker (skilled)	day	2.500	2.500	2.500	541.00	1352.50	1352.50	1352.50	L-15
			Sinking helper (semi-skilled)	day	5.500	5.500	5.500	444.00	2442.00	2442.00	2442.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.000	6.000	6.000	869.00	5214.00	5214.00	5214.00	PM67001
			Consumables in sinking @10 percent of (b)						521.40	521.40	521.40	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1934.40	1934.40	1934.40	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1160.64	1160.64	1160.64	
			Rate per metre = (a+b+c+d)						12767.01	12767.01	12767.01	
								Say	**12767.00**	**12767.00**	**12767.00**	
12.16 B		**(ii)**	**Beyond 3m upto 10m depth**									
			Rate of sinking=0.15 m per hour.									
			a) Labour									
			Mate	day	0.340	0.340	0.340	444.00	150.96	150.96	150.96	L-12
			Sinker	day	3.000	3.000	3.000	541.00	1623.00	1623.00	1623.00	L-15
			Sinking helper (semi-skilled)	day	5.500	5.500	5.500	444.00	2442.00	2442.00	2442.00	L-14
			b) Machinery									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.000	6.000	6.000	869.00	5214.00	5214.00	5214.00	PM67001
			Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	4.000	4.000	4.000	496.00	1984.00	1984.00	1984.00	PM15001
			Consumables in sinking @ 10 percent of (b)						719.80	719.80	719.80	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		2426.75	2426.75	2426.75	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1456.05	1456.05	1456.05	
			Rate per metre = (a+b+c+d)						16016.56	16016.56	16016.56	
								Say	**16016.60**	**16016.60**	**16016.60**	
12.16 B		**(iii)**	**Beyond 10m upto 20m**									
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	16817.43	16817.43	16817.43	
			12m					5%	17658.30	17658.30	17658.30	
			13m					5%	18541.22	18541.22	18541.22	
			14m					5%	19468.28	19468.28	19468.28	
			15m					5%	20441.69	20441.69	20441.69	
			16m					5%	21463.78	21463.78	21463.78	
			17m					5%	22536.96	22536.96	22536.96	
			18m					5%	23663.81	23663.81	23663.81	
			19m					5%	24847.00	24847.00	24847.00	
			20m					5%	26089.35	26089.35	26089.35	
		b	Add for dewatering @ 5 percent of cost (on a), if required.									
12.16 B		**(iv)**	**Beyond 20m upto 30m**									
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	28046.06	28046.06	28046.06	
			22m					7.50%	30149.51	30149.51	30149.51	
			23m					7.50%	32410.72	32410.72	32410.72	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			24m					7.50%	34841.53	34841.53	34841.53	
			25m					7.50%	37454.64	37454.64	37454.64	
			26m					7.50%	40263.74	40263.74	40263.74	
			27m					7.50%	43283.52	43283.52	43283.52	
			28m					7.50%	46529.78	46529.78	46529.78	
			29m					7.50%	50019.52	50019.52	50019.52	
			30m					7.50%	53770.98	53770.98	53770.98	
		b	Add 5 percent of cost for dewatering of the cost (on a), if required									
12.16 B		**(v)**	**Beyond 30m upto 40m**									
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	59148.08	59148.08	59148.08	
			32m					10%	65062.89	65062.89	65062.89	
			33m					10%	71569.18	71569.18	71569.18	
			34m					10%	78726.09	78726.09	78726.09	
			35m					10%	86598.70	86598.70	86598.70	
			36m					10%	95258.57	95258.57	95258.57	
			37m					10%	104784.43	104784.43	104784.43	
			38m					10%	115262.87	115262.87	115262.87	
			39m					10%	126789.16	126789.16	126789.16	
			40m					10%	139468.08	139468.08	139468.08	
		b	Add 5 percent of cost (on a) for dewatering, if required									
		c	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour).									
12.16		**C**	**Extra over item no. 12.16 (A) or (B) irrespective of depth for sinking in soft Rock (10m dia well)**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit=Running Meter.									
			Taking output=1m									
			a) Labour									
			Mate	day	0.810	0.810	0.810	444.00	359.64	359.64	359.64	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	16.000	16.000	16.000	428.00	6848.00	6848.00	6848.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	78.540	78.540	78.540	496.00	38955.84	38955.84	38955.84	PM15001
			Pneumatic breaker	hour	157.080	157.080	157.080	206.00	32358.48	32358.48	32358.48	PM4001
			Consumables in sinking @5 percent of (b)						3565.72	3565.72	3565.72	
			Add for dewatering @ of 15 percent of (a+b), if required						12099.37	12099.37	12099.37	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		19786.91	19786.91	19786.91	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		11872.15	11872.15	11872.15	
			Rate per metre = (a+b+c+d)						130593.60	130593.60	130593.60	
								Say	**130593.60**	**130593.60**	**130593.60**	
12.16		**D**	**Extra over item no. 12.16 (A) or (B) irrespective of depth for sinking in Hard Rock (10m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Material									
			small dia Explosive at 0.20 kg/cum	kg	15.708	15.708	15.708	124.27	1952.03	1952.03	1952.03	M-215
			Electric detonators	no	82.000	82.000	82.000	6.93	568.26	568.26	568.26	M-217
			Detonating fuse coil	m	255.000	255.000	255.000	16.12	4110.60	4110.60	4110.60	M-218
			b)Labour									
			Mate	day	0.820	0.820	0.820	444.00	364.08	364.08	364.08	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Driller	day	2.000	2.000	2.000	444.00	888.00	888.00	888.00	L-06
			Blaster	day	0.250	0.250	0.250	699.00	174.75	174.75	174.75	L-03
			Mazdoor	day	14.000	14.000	14.000	428.00	5992.00	5992.00	5992.00	L-13
			c) Machinery									
			Air Compressor 250 cfm	hour	59.640	59.640	59.640	496.00	29581.44	29581.44	29581.44	PM15001
			Pneumatic breaker	hour	62.832	62.832	62.832	206.00	12943.39	12943.39	12943.39	PM4001
			Pneumatic breaker for drilling holes @ 4.5 m per hour)	hour	40.448	40.448	40.448	206.00	8332.29	8332.29	8332.29	PM4001
			Consumables in protected blasting @ 10 percent of ©						5085.71	5085.71	5085.71	
			Add for dewatering @ of 15 percent of (a+b+c), if required						10057.10	10057.10	10057.10	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		16959.43	16959.43	16959.43	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		10175.66	10175.66	10175.66	
			Rate per metre = (a+b+c+d+e)						111932.25	111932.25	111932.25	
								Say	**111932.20**	**111932.20**	**111932.20**	
12.16		**E**	**Extra over item no. 12.16 (A) or (B) irrespective of depth for sinking in Rock bouldery strata (10m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Labour									
			Mate	day	0.730	0.730	0.730	444.00	324.12	324.12	324.12	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	14.000	14.000	14.000	428.00	5992.00	5992.00	5992.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	130.900	130.900	130.900	496.00	64926.40	64926.40	64926.40	PM15001
			Pneumatic breaker	hour	261.799	261.799	261.799	206.00	53930.59	53930.59	53930.59	PM4001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Consumables in sinking @5 percent of (b)						5942.85	5942.85	5942.85	
			Add for dewatering @ of 15 percent of (a+b), if required						19097.04	19097.04	19097.04	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		30992.10	30992.10	30992.10	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		18595.26	18595.26	18595.26	
			Rate per metre = (a+b+c+d)						204547.87	204547.87	204547.87	
								Say	**204547.90**	**204547.90**	**204547.90**	
12.17	**Section 1200**		**Sinking of 11 m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**									
			Unit=Running Meter.									
			Taking output=0.5m									
			Diameter of well-11m.									
		A	**Sandy Soil**									
		(i)	**Depth from bed level upto 3.0 M**									
			Rate of sinking @ 0.15 m/ hour.									
			a) Labour									
			Mate	day	0.192	0.192	0.192	444.00	85.25	85.25	85.25	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	3.300	3.300	3.300	444.00	1465.20	1465.20	1465.20	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.000	6.000	6.000	869.00	5214.00	5214.00	5214.00	PM67001
			Consumables in sinking @10 percent of (b)						521.40	521.40	521.40	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1619.47	1619.47	1619.47	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		971.68	971.68	971.68	
			Cost for 0.50m = a+b+c+d						10688.50	10688.50	10688.50	
			Rate per metre = (a+b+c+d)/0.5						21377.00	21377.00	21377.00	
								Say	**21377.00**	**21377.00**	**21377.00**	
12.17 A		**(ii)**	**Beyond 3m upto 10m depth**									
			Rate of sinking = 0.13 m per hour.									
			a) Labour									
			Mate	day	0.260	0.260	0.260	444.00	115.44	115.44	115.44	L-12
			Sinker (skilled)	day	2.000	2.000	2.000	541.00	1082.00	1082.00	1082.00	L-15
			Sinking helper (semi-skilled)	day	4.500	4.500	4.500	444.00	1998.00	1998.00	1998.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	4.000	4.000	4.000	869.00	3476.00	3476.00	3476.00	PM67001
			Consumables in sinking @10 percent of (b)						347.60	347.60	347.60	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1403.81	1403.81	1403.81	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		842.28	842.28	842.28	
			Cost for 0.50m = a+b+c+d						9265.13	9265.13	9265.13	
			Rate per metre = (a+b+c+d)/0.5						18530.27	18530.27	18530.27	
								Say	**18530.30**	**18530.30**	**18530.30**	
12.17 A		**(iii)**	**Beyond 10m upto 20m**									
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	19456.82	19456.82	19456.82	
			12m					5%	20429.66	20429.66	20429.66	
			13m					5%	21451.14	21451.14	21451.14	
			14m					5%	22523.70	22523.70	22523.70	
			15m					5%	23649.88	23649.88	23649.88	
			16m					5%	24832.37	24832.37	24832.37	
			17m					5%	26073.99	26073.99	26073.99	
			18m					5%	27377.69	27377.69	27377.69	
			19m					5%	28746.58	28746.58	28746.58	
			20m					5%	30183.91	30183.91	30183.91	
12.17 A		**(iv)**	**Beyond 20m upto 30m**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	32447.70	32447.70	32447.70	
			22m					7.50%	34881.28	34881.28	34881.28	
			23m					7.50%	37497.37	37497.37	37497.37	
			24m					7.50%	40309.68	40309.68	40309.68	
			25m					7.50%	43332.90	43332.90	43332.90	
			26m					7.50%	46582.87	46582.87	46582.87	
			27m					7.50%	50076.58	50076.58	50076.58	
			28m					7.50%	53832.33	53832.33	53832.33	
			29m					7.50%	57869.75	57869.75	57869.75	
			30m					7.50%	62209.98	62209.98	62209.98	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour.									
12.17 A		**(v)**	**Beyond 30m upto 40m**									
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	68430.98	68430.98	68430.98	
			32m					10%	75274.08	75274.08	75274.08	
			33m					10%	82801.49	82801.49	82801.49	
			34m					10%	91081.64	91081.64	91081.64	
			35m					10%	100189.80	100189.80	100189.80	
			36m					10%	110208.78	110208.78	110208.78	
			37m					10%	121229.66	121229.66	121229.66	
			38m					10%	133352.62	133352.62	133352.62	
			39m					10%	146687.89	146687.89	146687.89	
			40m					10%	161356.67	161356.67	161356.67	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour etc.									
12.17		B	**Clayey Soil (11 m dia. Well)**									
			Unit = Running Meter.									
			Taking output = 0.5 meter									
		(i)	**Depth from bed level upto 3.0 M**									
			Rate of sinking @ 0.10 m per hour.									
			a) Labour									
			Mate	day	0.260	0.260	0.260	444.00	115.44	115.44	115.44	L-12
			Sinker (skilled)	day	2.500	2.500	2.500	541.00	1352.50	1352.50	1352.50	L-15
			Sinking helper (semi-skilled)	day	4.000	4.000	4.000	444.00	1776.00	1776.00	1776.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.000	5.000	5.000	869.00	4345.00	4345.00	4345.00	PM67001
			Consumables in sinking @10 percent of (b)						434.50	434.50	434.50	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1604.69	1604.69	1604.69	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		962.81	962.81	962.81	
			Cost for 0.5m= a+b+c+d						10590.94	10590.94	10590.94	
			Rate per metre = (a+b+c+d)/0.5						21181.88	21181.88	21181.88	
								Say	**21181.90**	**21181.90**	**21181.90**	
12.17 B		(ii)	**Beyond 3m upto 10m depth**									
			Rate of sinking @ 0.08 m/ hour.									
			a) Labour									
			Mate	day	0.370	0.370	0.370	444.00	164.28	164.28	164.28	L-12
			Sinker	day	3.500	3.500	3.500	541.00	1893.50	1893.50	1893.50	L-15
			Sinking helper (semi-skilled)	day	5.750	5.750	5.750	444.00	2553.00	2553.00	2553.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.000	6.000	6.000	869.00	5214.00	5214.00	5214.00	PM67001
			Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	4.250	4.250	4.250	496.00	2108.00	2108.00	2108.00	PM15001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Consumables in sinking @ 10 percent of (b)						732.20	732.20	732.20	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		2533.00	2533.00	2533.00	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1519.80	1519.80	1519.80	
			Cost for 0.5m= a+b+c+d						16717.77	16717.77	16717.77	
			Rate per metre = (a+b+c+d)/0.5						33435.55	33435.55	33435.55	
								Say	**33435.50**	**33435.50**	**33435.50**	
12.17 B		**(iii)**	**Beyond 10m upto 20m**									
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	35107.28	35107.28	35107.28	
			12m					5%	36862.64	36862.64	36862.64	
			13m					5%	38705.77	38705.77	38705.77	
			14m					5%	40641.06	40641.06	40641.06	
			15m					5%	42673.11	42673.11	42673.11	
			16m					5%	44806.77	44806.77	44806.77	
			17m					5%	47047.11	47047.11	47047.11	
			18m					5%	49399.46	49399.46	49399.46	
			19m					5%	51869.43	51869.43	51869.43	
			20m					5%	54462.91	54462.91	54462.91	
		b	Add for dewatering @ 5 percent of cost (on a), if required.									
12.17 B		**(iv)**	**Beyond 20m upto 30m**									
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	58547.62	58547.62	58547.62	
			22m					7.50%	62938.70	62938.70	62938.70	
			23m					7.50%	67659.10	67659.10	67659.10	
			24m					7.50%	72733.53	72733.53	72733.53	
			25m					7.50%	78188.55	78188.55	78188.55	
			26m					7.50%	84052.69	84052.69	84052.69	
			27m					7.50%	90356.64	90356.64	90356.64	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			28m					7.50%	97133.39	97133.39	97133.39	
			29m					7.50%	104418.39	104418.39	104418.39	
			30m					7.50%	112249.77	112249.77	112249.77	
		b	Add 5 percent of cost (on a) for dewatering of the cost, if required									
		c	Add 25 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour).									
12.17 B		(v)	**Beyond 30m upto 40m**									
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	123474.75	123474.75	123474.75	
			32m					10%	135822.22	135822.22	135822.22	
			33m					10%	149404.44	149404.44	149404.44	
			34m					10%	164344.89	164344.89	164344.89	
			35m					10%	180779.38	180779.38	180779.38	
			36m					10%	198857.31	198857.31	198857.31	
			37m					10%	218743.04	218743.04	218743.04	
			38m					10%	240617.35	240617.35	240617.35	
			39m					10%	264679.08	264679.08	264679.08	
			40m					10%	291146.99	291146.99	291146.99	
		b	Add 5 percent of cost (on a) for dewatering, if required									
		c	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour).									
12.17		C	**Extra over item no. 12.17 (A) or (B) irrespective of depth for sinking in soft Rock 11m dia well)**									
			Unit=Running Meter.									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Taking output=1m									
			a) Labour									
			Mate	day	0.890	0.890	0.890	444.00	395.16	395.16	395.16	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	18.000	18.000	18.000	428.00	7704.00	7704.00	7704.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	95.033	95.033	95.033	496.00	47136.37	47136.37	47136.37	PM15001
			Pneumatic breaker	hour	190.066	190.066	190.066	206.00	39153.60	39153.60	39153.60	PM4001
			Consumables in sinking @5 percent of (b)						4314.50	4314.50	4314.50	
			Add for dewatering @ of 15 percent of (a+b), if required						14479.44	14479.44	14479.44	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		23586.11	23586.11	23586.11	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		14151.67	14151.67	14151.67	
			Rate per metre = (a+b+c+d)						155668.35	155668.35	155668.35	
								Say	**155668.30**	**155668.30**	**155668.30**	
12.17		**D**	**Extra over item no. 12.17 (A) or (B) irrespective of depth for sinking in Hard Rock (11m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Material									
			small dia Explosive at 0.20 kg/cum	kg	19.007	19.007	19.007	124.27	2362.00	2362.00	2362.00	M-215
			Electric detonators	no	101.000	101.000	101.000	6.93	699.93	699.93	699.93	M-217
			Detonating fuse coil	m	314.000	314.000	314.000	16.12	5061.68	5061.68	5061.68	M-218
			b) Labour									
			Mate	day	0.900	0.900	0.900	444.00	399.60	399.60	399.60	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Driller	day	2.000	2.000	2.000	444.00	888.00	888.00	888.00	L-06
			Blaster	day	0.250	0.250	0.250	699.00	174.75	174.75	174.75	L-03
			Mazdoor	day	16.000	16.000	16.000	428.00	6848.00	6848.00	6848.00	L-13
			c) Machinery									
			Air Compressor 250 cfm	hour	70.484	70.484	70.484	496.00	34960.06	34960.06	34960.06	PM15001
			Pneumatic breaker	hour	76.027	76.027	76.027	206.00	15661.56	15661.56	15661.56	PM4001
			Pneumatic breaker for drilling holes @ 4.5 m per hour)	hour	48.942	48.942	48.942	206.00	10082.05	10082.05	10082.05	PM4001
			Consumables in protected blasting @ 10 percent of ©						6070.37	6070.37	6070.37	
			Add for dewatering @ of 15 percent of (a+b+c), if required						11891.72	11891.72	11891.72	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		19969.45	19969.45	19969.45	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		11981.67	11981.67	11981.67	
			Rate per metre = (a+b+c+d+e)						131798.34	131798.34	131798.34	
								Say	**131798.30**	**131798.30**	**131798.30**	
12.17		**E**	**Extra over item no. 12.17 (A) & (B) irrespective of depth for sinking in Rock bouldery strata (11m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Labour									
			Mate	day	0.810	0.810	0.810	444.00	359.64	359.64	359.64	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	16.000	16.000	16.000	428.00	6848.00	6848.00	6848.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	158.389	158.389	158.389	496.00	78560.94	78560.94	78560.94	PM15001
			Pneumatic breaker	hour	316.777	316.777	316.777	206.00	65256.06	65256.06	65256.06	PM4001
			Consumables in sinking @5 percent of (b)						7190.85	7190.85	7190.85	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Add for dewatering @ of 15 percent of (a+b), if required						22974.77	22974.77	22974.77	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		37187.55	37187.55	37187.55	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		22312.53	22312.53	22312.53	
			Rate per metre = (a+b+c+d)						245437.85	245437.85	245437.85	
								Say	**245437.90**	**245437.90**	**245437.90**	
12.18	**Section 1200**		**Sinking of 12m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**									
			Unit=Running Meter.									
			Taking output=0.25m									
			Diameter of well-12m.									
		A	**Sandy Soil**									
		(i)	**Depth below bed level upto 3.0 M**									
			Rate of sinking @ 0.05 m/ hour.									
			a) Labour									
			Mate	day	0.230	0.230	0.230	444.00	102.12	102.12	102.12	L-12
			Sinker (skilled)	day	1.750	1.750	1.750	541.00	946.75	946.75	946.75	L-15
			Sinking helper (semi-skilled)	day	4.000	4.000	4.000	444.00	1776.00	1776.00	1776.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.000	6.000	6.000	869.00	5214.00	5214.00	5214.00	PM67001
			Consumables in sinking @10 percent of (b)						521.40	521.40	521.40	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1712.05	1712.05	1712.05	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1027.23	1027.23	1027.23	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Cost for 0.25m= a+b+c+d						11299.56	11299.56	11299.56	
			Rate per metre = (a+b+c+d)/0.25						45198.23	45198.23	45198.23	
								Say	**45198.20**	**45198.20**	**45198.20**	
12.18 A		**(ii)**	**Beyond 3m upto 10m depth**									
			Rate of sinking = 0.038 m per hour.									
			a) Labour									
			Mate	day	0.290	0.290	0.290	444.00	128.76	128.76	128.76	L-12
			Sinker (skilled)	day	2.500	2.500	2.500	541.00	1352.50	1352.50	1352.50	L-15
			Sinking helper (semi-skilled)	day	4.750	4.750	4.750	444.00	2109.00	2109.00	2109.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.500	6.500	6.500	869.00	5648.50	5648.50	5648.50	PM67001
			Consumables in sinking @10 percent of (b)						564.85	564.85	564.85	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1960.72	1960.72	1960.72	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1176.43	1176.43	1176.43	
			Cost for 0.25m= a+b+c+d						12940.77	12940.77	12940.77	
			Rate per metre = (a+b+c+d)/0.25						51763.06	51763.06	51763.06	
								Say	**51763.10**	**51763.10**	**51763.10**	
12.18 A		**(iii)**	**Beyond 10m upto 20m**									
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	54351.26	54351.26	54351.26	
			12m					5%	57068.82	57068.82	57068.82	
			13m					5%	59922.26	59922.26	59922.26	
			14m					5%	62918.37	62918.37	62918.37	
			15m					5%	66064.29	66064.29	66064.29	
			16m					5%	69367.50	69367.50	69367.50	
			17m					5%	72835.88	72835.88	72835.88	
			18m					5%	76477.67	76477.67	76477.67	
			19m					5%	80301.56	80301.56	80301.56	
			20m					5%	84316.64	84316.64	84316.64	
12.18 A		**(iv)**	**Beyond 20m upto 30m**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	90640.38	90640.38	90640.38	
			22m					7.50%	97438.41	97438.41	97438.41	
			23m					7.50%	104746.29	104746.29	104746.29	
			24m					7.50%	112602.26	112602.26	112602.26	
			25m					7.50%	121047.43	121047.43	121047.43	
			26m					7.50%	130125.99	130125.99	130125.99	
			27m					7.50%	139885.44	139885.44	139885.44	
			28m					7.50%	150376.85	150376.85	150376.85	
			29m					7.50%	161655.11	161655.11	161655.11	
			30m					7.50%	173779.25	173779.25	173779.25	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour.									
12.18 A		**(v)**	**Beyond 30m upto 40m**									
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	191157.17	191157.17	191157.17	
			32m					10%	210272.89	210272.89	210272.89	
			33m					10%	231300.18	231300.18	231300.18	
			34m					10%	254430.20	254430.20	254430.20	
			35m					10%	279873.21	279873.21	279873.21	
			36m					10%	307860.54	307860.54	307860.54	
			37m					10%	338646.59	338646.59	338646.59	
			38m					10%	372511.25	372511.25	372511.25	
			39m					10%	409762.37	409762.37	409762.37	
			40m					10%	450738.61	450738.61	450738.61	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour etc.									
12.18		B	**Clayey Soil (12 m dia. Well)**									
			Unit = Running Meter.									
			Taking output = 0.25metre									
		(i)	**Depth from bed level upto 3.0 M**									
			Rate of sinking @ 0.04 m per hour.									
			a) Labour									
			Mate	day	0.300	0.300	0.300	444.00	133.20	133.20	133.20	L-12
			Sinker (skilled)	day	3.000	3.000	3.000	541.00	1623.00	1623.00	1623.00	L-15
			Sinking helper (semi-skilled)	day	4.500	4.500	4.500	444.00	1998.00	1998.00	1998.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.250	6.250	6.250	869.00	5431.25	5431.25	5431.25	PM67001
			Consumables in sinking @10 percent of (b)						543.13	543.13	543.13	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1945.72	1945.72	1945.72	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1167.43	1167.43	1167.43	
			Cost for 0.25m=a+b+c+d						12841.72	12841.72	12841.72	
			Rate per metre = (a+b+c+d)/0.25						51366.88	51366.88	51366.88	
								Say	**51366.90**	**51366.90**	**51366.90**	
12.18 B		(ii)	**Beyond 3m upto 10m depth**									
			Rate of sinking @ 0.03 m/ hour.									
			a) Labour									
			Mate	day	0.390	0.390	0.390	444.00	173.16	173.16	173.16	L-12
			Sinker	day	3.750	3.750	3.750	541.00	2028.75	2028.75	2028.75	L-15
			Sinking helper (semi-skilled)	day	6.000	6.000	6.000	444.00	2664.00	2664.00	2664.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	8.330	8.330	8.330	869.00	7238.77	7238.77	7238.77	PM67001
			Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	4.500	4.500	4.500	496.00	2232.00	2232.00	2232.00	PM15001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Consumables in sinking @ 10 percent of (b)						947.08	947.08	947.08	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		3056.75	3056.75	3056.75	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1834.05	1834.05	1834.05	
			Cost for 0.25m=a+b+c+d						20174.56	20174.56	20174.56	
			Rate per metre = (a+b+c+d)/0.25						80698.24	80698.24	80698.24	
								Say	**80698.20**	**80698.20**	**80698.20**	
12.18 B		**(iii)**	**Beyond 10m upto 20m**									
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	84733.11	84733.11	84733.11	
			12m					5%	88969.77	88969.77	88969.77	
			13m					5%	93418.25	93418.25	93418.25	
			14m					5%	98089.17	98089.17	98089.17	
			15m					5%	102993.62	102993.62	102993.62	
			16m					5%	108143.31	108143.31	108143.31	
			17m					5%	113550.47	113550.47	113550.47	
			18m					5%	119227.99	119227.99	119227.99	
			19m					5%	125189.39	125189.39	125189.39	
			20m					5%	131448.86	131448.86	131448.86	
		b	Add for dewatering @ 5 percent of cost (on a), if required.									
12.18 B		**(iv)**	**Beyond 20m upto 30m**									
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	141307.53	141307.53	141307.53	
			22m					7.50%	151905.59	151905.59	151905.59	
			23m					7.50%	163298.51	163298.51	163298.51	
			24m					7.50%	175545.90	175545.90	175545.90	
			25m					7.50%	188711.84	188711.84	188711.84	
			26m					7.50%	202865.23	202865.23	202865.23	
			27m					7.50%	218080.13	218080.13	218080.13	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			28m					7.50%	234436.13	234436.13	234436.13	
			29m					7.50%	252018.84	252018.84	252018.84	
			30m					7.50%	270920.26	270920.26	270920.26	
		b	Add 5 percent of cost for dewatering of the cost (on a), if required									
		c	Add 25 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour).									
12.18 B		**(v)**	**Beyond 30m upto 40m**									
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	298012.28	298012.28	298012.28	
			32m					10%	327813.51	327813.51	327813.51	
			33m					10%	360594.86	360594.86	360594.86	
			34m					10%	396654.35	396654.35	396654.35	
			35m					10%	436319.79	436319.79	436319.79	
			36m					10%	479951.76	479951.76	479951.76	
			37m					10%	527946.94	527946.94	527946.94	
			38m					10%	580741.63	580741.63	580741.63	
			39m					10%	638815.80	638815.80	638815.80	
			40m					10%	702697.38	702697.38	702697.38	
		b	Add 5 percent of cost (on a) for dewatering, if required									
		c	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour).									
12.18		**C**	**Extra over item no. 12.18 (A) or (B) irrespective of depth for sinking in soft Rock (12m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			a) Labour									
			Mate	day	0.970	0.970	0.970	444.00	430.68	430.68	430.68	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	20.000	20.000	20.000	428.00	8560.00	8560.00	8560.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	113.097	113.097	113.097	496.00	56096.11	56096.11	56096.11	PM15001
			Pneumatic breaker	hour	226.195	226.195	226.195	206.00	46596.17	46596.17	46596.17	PM4001
			Consumables in sinking @5 percent of (b)						5134.61	5134.61	5134.61	
			Add for dewatering @ of 15 percent of (a+b), if required						17073.52	17073.52	17073.52	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		27727.72	27727.72	27727.72	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		16636.63	16636.63	16636.63	
			Rate per metre = (a+b+c+d)						183002.95	183002.95	183002.95	
								Say	**183002.90**	**183002.90**	**183002.90**	
12.18		**D**	**Extra over item no. 12.18 (A) or (B) irrespective of depth for sinking in Hard Rock (12m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Material									
			small dia Explosive at 0.20 kg/cum	kg	22.619	22.619	22.619	124.27	2810.86	2810.86	2810.86	M-215
			Electric detonators	no	122.000	122.000	122.000	6.93	845.46	845.46	845.46	M-217
			Detonating fuse coil	m	379.000	379.000	379.000	16.12	6109.48	6109.48	6109.48	M-218
			b) Labour									
			Mate	day	0.980	0.980	0.980	444.00	435.12	435.12	435.12	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Driller	day	2.000	2.000	2.000	444.00	888.00	888.00	888.00	L-06

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Blaster	day	0.250	0.250	0.250	699.00	174.75	174.75	174.75	L-03
			Mazdoor	day	18.000	18.000	18.000	428.00	7704.00	7704.00	7704.00	L-13
			c) Machinery									
			Air Compressor 250 cfm	hour	82.361	82.361	82.361	496.00	40851.06	40851.06	40851.06	PM15001
			Pneumatic breaker	hour	90.478	90.478	90.478	206.00	18638.47	18638.47	18638.47	PM4001
			Pneumatic breaker for drilling holes @ 4.5 m per hour)	hour	58.245	58.245	58.245	206.00	11998.47	11998.47	11998.47	PM4001
			Consumables in protected blasting @ 10 percent of ©						7148.80	7148.80	7148.80	
			Add for dewatering @ of 15 percent of (a+b+c), if required						13889.43	13889.43	13889.43	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		23248.28	23248.28	23248.28	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		13948.97	13948.97	13948.97	
			Rate per metre = (a+b+c+d+e)						153438.64	153438.64	153438.64	
								Say	**153438.60**	**153438.60**	**153438.60**	
12.18		**E**	**Extra over item no. 12.18 (A) & (B) irrespective of depth for sinking in Rock bouldery strata (12m dia well)**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Labour									
			Mate	day	0.890	0.890	0.890	444.00	395.16	395.16	395.16	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	18.000	18.000	18.000	428.00	7704.00	7704.00	7704.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	188.496	188.496	188.496	496.00	93494.02	93494.02	93494.02	PM15001
			Pneumatic breaker	hour	376.991	376.991	376.991	206.00	77660.15	77660.15	77660.15	PM4001
			Consumables in sinking @5 percent of (b)						8557.71	8557.71	8557.71	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Add for dewatering @ of 15 percent of (a+b), if required						27209.07	27209.07	27209.07	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		43953.52	43953.52	43953.52	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		26372.11	26372.11	26372.11	
			Rate per metre = (a+b+c+d)						290093.24	290093.24	290093.24	
								Say	**290093.20**	**290093.20**	**290093.20**	
12.19	**1200**		**Sinking of Twin D Type well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.**									
			Unit=Running Meter.									
			Taking output=1m									
			Dimensions of well-12m.									
			Overall length=12m									
			Overall width=6m									
		A	**Sandy Soil**									
		(i)	**Depth from bed level upto 3.0 M**									
			Rate of sinking @ 0.18 m/ hour.									
			a) Labour									
			Mate	day	0.200	0.200	0.200	444.00	88.80	88.80	88.80	L-12
			Sinker (skilled)	day	1.250	1.250	1.250	541.00	676.25	676.25	676.25	L-15
			Sinking helper (semi-skilled)	day	3.750	3.750	3.750	444.00	1665.00	1665.00	1665.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.500	5.500	5.500	869.00	4779.50	4779.50	4779.50	PM67001
			Consumables in sinking @10 percent of (b)						477.95	477.95	477.95	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1537.50	1537.50	1537.50	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		922.50	922.50	922.50	
			Rate per metre = (a+b+c+d)						10147.50	10147.50	10147.50	
								Say	**10147.50**	**10147.50**	**10147.50**	
12.19 A		**(ii)**	**Beyond 3m upto 10m depth**									
			Rate of sinking @ 0.17 m/hour									
			a) Labour									
			Mate	day	0.220	0.220	0.220	444.00	97.68	97.68	97.68	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	4.000	4.000	4.000	444.00	1776.00	1776.00	1776.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.880	5.880	5.880	869.00	5109.72	5109.72	5109.72	PM67001
			Consumables in sinking @10 percent of (b)						510.97	510.97	510.97	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1661.17	1661.17	1661.17	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		996.70	996.70	996.70	
			Rate per metre = (a+b+c+d)						10963.75	10963.75	10963.75	
								Say	**10963.80**	**10963.80**	**10963.80**	
12.19 A		**(iii)**	**Beyond 10m upto 20m**									
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5.00%	11511.99	11511.99	11511.99	
			12m					5.00%	12087.59	12087.59	12087.59	
			13m					5.00%	12691.97	12691.97	12691.97	
			14m					5.00%	13326.57	13326.57	13326.57	
			15m					5.00%	13992.90	13992.90	13992.90	
			16m					5.00%	14692.54	14692.54	14692.54	
			17m					5.00%	15427.17	15427.17	15427.17	
			18m					5.00%	16198.53	16198.53	16198.53	
			19m					5.00%	17008.45	17008.45	17008.45	
			20m					5.00%	17858.87	17858.87	17858.87	
12.19 A		**(iv)**	**Beyond 20m upto 30m**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.50%	19198.29	19198.29	19198.29	
			22m					7.50%	20638.16	20638.16	20638.16	
			23m					7.50%	22186.02	22186.02	22186.02	
			24m					7.50%	23849.98	23849.98	23849.98	
			25m					7.50%	25638.72	25638.72	25638.72	
			26m					7.50%	27561.63	27561.63	27561.63	
			27m					7.50%	29628.75	29628.75	29628.75	
			28m					7.50%	31850.91	31850.91	31850.91	
			29m					7.50%	34239.73	34239.73	34239.73	
			30m					7.50%	36807.70	36807.70	36807.70	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour.									
12.19 A		(v)	**Beyond 30m upto 40m**									
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	40488.48	40488.48	40488.48	
			32m					10%	44537.32	44537.32	44537.32	
			33m					10%	48991.06	48991.06	48991.06	
			34m					10%	53890.16	53890.16	53890.16	
			35m					10%	59279.18	59279.18	59279.18	
			36m					10%	65207.09	65207.09	65207.09	
			37m					10%	71727.80	71727.80	71727.80	
			38m					10%	78900.58	78900.58	78900.58	
			39m					10%	86790.64	86790.64	86790.64	
			40m					10%	95469.71	95469.71	95469.71	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		b	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour etc.									
12.19		B	**Clayey Soil (Twin D Type Well)**									
			Unit = Running Meter.									
			Taking output = 1 meter									
		(i)	**Depth below bed level upto 3.0 M**									
			Rate of sinking 0.16m/ hour.									
			a) Labour									
			Mate	day	0.260	0.260	0.260	444.00	115.44	115.44	115.44	L-12
			Sinker (skilled)	day	2.500	2.500	2.500	541.00	1352.50	1352.50	1352.50	L-15
			Sinking helper (semi-skilled)	day	4.000	4.000	4.000	444.00	1776.00	1776.00	1776.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.250	6.250	6.250	869.00	5431.25	5431.25	5431.25	PM67001
			Consumables in sinking @10 percent of (b)						543.13	543.13	543.13	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1843.66	1843.66	1843.66	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1106.20	1106.20	1106.20	
			Rate per metre = (a+b+c+d)						12168.18	12168.18	12168.18	
								Say	**12168.20**	**12168.20**	**12168.20**	
12.19 B		(ii)	**Beyond 3m upto 10m depth** Rate of sinking @ 0.15 m/ hour.									
			a) Labour									
			Mate	day	0.370	0.370	0.370	444.00	164.28	164.28	164.28	L-12
			Sinker	day	3.250	3.250	3.250	541.00	1758.25	1758.25	1758.25	L-15
			Sinking helper (semi-skilled)	day	6.000	6.000	6.000	444.00	2664.00	2664.00	2664.00	L-14
			b) Machinery									
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.670	6.670	6.670	869.00	5796.23	5796.23	5796.23	PM67001
			Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	4.500	4.500	4.500	496.00	2232.00	2232.00	2232.00	PM15001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Consumables in sinking @ 10 percent of (b)						802.82	802.82	802.82	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		2683.52	2683.52	2683.52	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1610.11	1610.11	1610.11	
			Rate per metre = (a+b+c+d)						17711.21	17711.21	17711.21	
								Say	**17711.20**	**17711.20**	**17711.20**	
12.19 B		**(iii)**	**Beyond 10m upto 20m**									
		a	Add 5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			11m					5%	18596.76	18596.76	18596.76	
			12m					5%	19526.60	19526.60	19526.60	
			13m					5%	20502.93	20502.93	20502.93	
			14m					5%	21528.07	21528.07	21528.07	
			15m					5%	22604.48	22604.48	22604.48	
			16m					5%	23734.70	23734.70	23734.70	
			17m					5%	24921.44	24921.44	24921.44	
			18m					5%	26167.51	26167.51	26167.51	
			19m					5%	27475.88	27475.88	27475.88	
			20m					5%	28849.68	28849.68	28849.68	
		b	Add for dewatering @ 5 percent of cost (on a), if required.									
12.19 B		**(iv)**	**Beyond 20m upto 30m**									
		a	Add 7.5 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			21m					7.5%	31013.40	31013.40	31013.40	
			22m					7.5%	33339.41	33339.41	33339.41	
			23m					7.5%	35839.87	35839.87	35839.87	
			24m					7.5%	38527.86	38527.86	38527.86	
			25m					7.5%	41417.44	41417.44	41417.44	
			26m					7.5%	44523.75	44523.75	44523.75	
			27m					7.5%	47863.03	47863.03	47863.03	
			28m					7.5%	51452.76	51452.76	51452.76	
			29m					7.5%	55311.72	55311.72	55311.72	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			30m					7.5%	59460.10	59460.10	59460.10	
		b	Add 5 percent of cost (on a) for dewatering of the cost, if required									
		c	Add 25 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour).									
12.19 B		**(v)**	**Beyond 30m upto 40m**									
		a	Add 10 percent for every additional meter depth of sinking over the rate of sinking for the previous meter									
			31m					10%	65406.11	65406.11	65406.11	
			32m					10%	71946.72	71946.72	71946.72	
			33m					10%	79141.39	79141.39	79141.39	
			34m					10%	87055.53	87055.53	87055.53	
			35m					10%	95761.08	95761.08	95761.08	
			36m					10%	105337.19	105337.19	105337.19	
			37m					10%	115870.91	115870.91	115870.91	
			38m					10%	127458.00	127458.00	127458.00	
			39m					10%	140203.80	140203.80	140203.80	
			40m					10%	154224.18	154224.18	154224.18	
		b	Add 5 percent of cost (on a) for dewatering, if required									
		c	Add 20 percent of cost (on a) for Kentledge including supports, loading arrangement and Labour).									
12.19		**C**	**Extra over item no. 12.19 (A) or (B) irrespective of depth for sinking in soft Rock**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Labour									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mate	day	0.730	0.730	0.730	444.00	324.12	324.12	324.12	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	14.000	14.000	14.000	428.00	5992.00	5992.00	5992.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	64.274	64.274	64.274	496.00	31879.90	31879.90	31879.90	PM15001
			Pneumatic breaker	hour	128.549	128.549	128.549	206.00	26481.09	26481.09	26481.09	PM4001
			Consumables in sinking @5 percent of (b)						2918.05	2918.05	2918.05	
			Add for dewatering @ of 15 percent of (a+b), if required						10022.64	10022.64	10022.64	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		16473.06	16473.06	16473.06	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		9883.84	9883.84	9883.84	
			Rate per metre = (a+b+c+d)						108722.21	108722.21	108722.21	
								Say	**108722.20**	**108722.20**	**108722.20**	
12.19		**D**	**Extra over item no. 12.19 (A) or (B) irrespective of depth for sinking in Hard Rock**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Material									
			small dia Explosive at 0.20 kg/cum	kg	12.855	12.855	12.855	124.27	1597.49	1597.49	1597.49	M-215
			Electric detonators	no	72.000	72.000	72.000	6.93	498.96	498.96	498.96	M-217
			Detonating fuse coil	m	224.000	224.000	224.000	16.12	3610.88	3610.88	3610.88	M-218
			b) Labour									
			Mate	day	0.740	0.740	0.740	444.00	328.56	328.56	328.56	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Driller	day	2.000	2.000	2.000	444.00	888.00	888.00	888.00	L-06
			Blaster	day	0.250	0.250	0.250	699.00	174.75	174.75	174.75	L-03

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mazdoor	day	12.000	12.000	12.000	428.00	5136.00	5136.00	5136.00	L-13
			c) Machinery									
			Air Compressor 250 cfm	hour	50.260	50.260	50.260	496.00	24928.96	24928.96	24928.96	PM15001
			Pneumatic breaker	hour	51.419	51.419	51.419	206.00	10592.31	10592.31	10592.31	PM4001
			Pneumatic breaker for drilling holes @ 4.5 m per hour)	hour	33.101	33.101	33.101	206.00	6818.81	6818.81	6818.81	PM4001
			Consumables in protected blasting @ 10 percent of ©						4234.01	4234.01	4234.01	
			Add for dewatering @ of 15 percent of (a+b+c), if required						8507.28	8507.28	8507.28	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		14412.70	14412.70	14412.70	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		8647.62	8647.62	8647.62	
			Rate per metre = (a+b+c+d+e)						95123.84	95123.84	95123.84	
								Say	**95123.80**	**95123.80**	**95123.80**	
12.19		**E**	**Extra over item no. 12.19 (A) & (B) irrespective of depth for sinking in Rock boulder strata**									
			Unit=Running Meter.									
			Taking output=1m									
			a) Labour									
			Mate	day	0.650	0.650	0.650	444.00	288.60	288.60	288.60	L-12
			Sinker (skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Sinking helper (semi-skilled)	day	2.250	2.250	2.250	444.00	999.00	999.00	999.00	L-14
			Diver	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-07
			Mazdoor	day	12.000	12.000	12.000	428.00	5136.00	5136.00	5136.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	107.124	107.124	107.124	496.00	53133.50	53133.50	53133.50	PM15001
			Pneumatic breaker	hour	214.248	214.248	214.248	206.00	44135.09	44135.09	44135.09	PM4001
			Consumables in sinking @5 percent of (b)						4863.43	4863.43	4863.43	
			Add for dewatering @ of 15 percent of (a+b), if required						15725.05	15725.05	15725.05	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Additional Hire & running charges for shifting of crane (rock breaking time) with grab bucket of 0.75 cum capacity and accessories.	hour	3.000	3.000	3.000	869.00	2607.00	2607.00	2607.00	PM67001
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		25605.84	25605.84	25605.84	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		15363.50	15363.50	15363.50	
			Rate per metre = (a+b+c+d)						168998.51	168998.51	168998.51	
								Say	**168998.50**	**168998.50**	**168998.50**	
12.20	**1200**		**Pneumatic sinking of wells with equipment of approved design, drawing and specifications worked by competent and trained personnel and comprising of compression and decompression chambers, reducers, two air locks separately for men and plant & materials, arrangement for supply of fresh air to working chambers, check valves, exhaust valves, shafts made from steel plates of riveted construction not less than 6 mm thick to withstand an air pressure of 0.50 MPa, controlled blasting of hard rock where required, staircases and 1 m wide landing plateforms with railing, arrangement for compression and decompression, electric lighting of 50 V maximum, proper rooms for rest and medical examinations and compliance with safety precautions as per IS:4138, all as per clause1208.8 of MoRTH Specifications.**									
			Unit= cum									
			Taking output= 5 cum									
			a) Material									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			M35 grade RCC corbel provided for supporting of equipment (Dimensions as per ground conditions). Rate for concrete may be adopted vide Item no. 12.08 (H)	cum	8.000	8.000	8.000	4330.80 L 4335.30 M 4354.70 S	34646.40	34682.40	34837.60	12.08 H
			HYSD bar reinforcement in corbel	tonne	0.480	0.480	0.480	46087.50	22122.00	22122.00	22122.00	M-083
			Blasting material									
			Explosives	kg	1.500	1.500	1.500	124.27	186.41	186.41	186.41	M-215
			Electric detonators	each	6.000	6.000	6.000	6.93	41.58	41.58	41.58	M-217
			b) Labour									
			Mate	day	1.880	1.880	1.880	444.00	834.72	834.72	834.72	L-12
			Driller	day	1.000	1.000	1.000	444.00	444.00	444.00	444.00	L-06
			Blaster	day	0.500	0.500	0.500	699.00	349.50	349.50	349.50	L-03
			Mazdoor (for cutting, blasting, cleaning, removal of Material etc.)	day	30.000	30.000	30.000	428.00	12840.00	12840.00	12840.00	L-13
			Mazdoor (Skilled) (for fixation and removal of adoppter for air lock, carrying out mechanical and electrical operations and repairs and other skilled jobs.)	day	10.000	10.000	10.000	541.00	5410.00	5410.00	5410.00	L-15
			Diver	day	4.000	4.000	4.000	660.00	2640.00	2640.00	2640.00	L-07
			Medical Officer	day	0.500	0.500	0.500	660.00	330.00	330.00	330.00	L-16
			Para medical personnel	day	1.000	1.000	1.000	660.00	660.00	660.00	660.00	L-19
			c) Machinery									
			(i) Induction, deinduction and erection of plant and equipment including all components and accessories for pneumatic method of well sinking.	hour	6.000	6.000	6.000	9111.00	54666.00	54666.00	54666.00	PM69001
			Induction and deinduction	L.S					0.00	0.00	0.00	
			Erection at site and commissioning	L.S					0.00	0.00	0.00	
			Usage of plant and equipment for pneumatic method of well sinking	hour	6.000	6.000	6.000	5468.00	32808.00	32808.00	32808.00	PM39001
			Air compressor 250 cfm, 2 nos.	hour	12.000	12.000	12.000	496.00	5952.00	5952.00	5952.00	PM15001
			Hire and running charges of crane of 15 tonne capacity	hour	6.000	6.000	6.000	1031.00	6186.00	6186.00	6186.00	PM63004
			Motorised barge of 20 tonne capacity	hour	6.000	6.000	6.000	819.00	4914.00	4914.00	4914.00	PM66001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Boat to carry atleast 20 persons	hour	6.000	6.000	6.000	819.00	4914.00	4914.00	4914.00	PM66001
			Electric generating set 33 KVA	hour	6.000	6.000	6.000	521.00	3126.00	3126.00	3126.00	PM22008
			Tipper 10 tonne capacity	hour	6.000	6.000	6.000	1476.00	8856.00	8856.00	8856.00	PM6004
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		40385.32	40392.52	40423.56	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		24231.19	24235.51	24254.14	
			Cost for 5 cum = a+b+c+d+e (see notes below)						266543.12	266590.64	266795.50	
			Rate per cum = (a+b+c+d+e)/5						53308.62	53318.13	53359.10	
								Say	**53308.60**	**53318.10**	**53359.10**	
		Note	1.The cost of induction, deinduction and erection of equipment shall be divided by the total quantity of pneumatic sinking for all the wells of a particular bridge to arrive at the per cum rate on account of this item.									
			2.Cost of pneumatic sinking per cum of individual wells will be added to the cost indicated at (1) above to arrive at the final rate of pneumatic sinking per cum.									
			3.The cost of induction and deinduction will depend upon the distance involved for shifting of equipment which may be assessed in individual cases as per actual ground conditions at the time of making of cost estimates.									
			4.In case pneumatic sinking is involved on a dry bed, the provision of barge and boat may be omitted.									
			5.The necessity and dimensions of the corbel will be as per actual ground conditions.									
			6.Small equipments like welding sets, pumps, vibrators, pneumatic tools, portable									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			lamps, fire extinguishers, hose pipes etc., have not been included as the same are covered as items of minor T&P under overhead charges.									
			7.Depth of sinking shall be restricted to 30 m.									
12.21	**1207**		**Sand Filling in Wells complete as per Drawing and Technical Specifications.**									
			Unit = 1 cum									
			Taking output=1 cum									
			a) Material									
			Sand (assuming 20 percent voids)	cum	1.200	1.200	1.200	612.90	735.48	735.48	735.48	M-004*
			b) Labour									
			Mate	day	0.012	0.012	0.012	444.00	5.33	5.33	5.33	L-12
			Mazdoor	day	0.300	0.300	0.300	428.00	128.40	128.40	128.40	L-13
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		173.84	173.84	173.84	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		104.30	104.30	104.30	
			Rate per cum (a+b+c+d)						1147.35	1147.35	1147.35	
								Say	**1147.40**	**1147.40**	**1147.40**	
12.22	**1200 & 1900**		**Providing Steel Liner 10 mm thick for Curbs and 6 mm thick for Steining of Wells including Fabricating and Setting out as per Detailed Drawing.**									
			Unit= MT									
			Taking output= 1 MT									
			a) Material									
			i) Structural steel including 5 percent wastage	tonne	1.050	1.050	1.050	49936.67	52433.50	52433.50	52433.50	M-181
			b) Labour									
			Mate	day	0.800	0.800	0.800	444.00	355.20	355.20	355.20	L-12
			Fitter	day	4.000	4.000	4.000	541.00	2164.00	2164.00	2164.00	L-08
			Blacksmith	day	4.000	4.000	4.000	541.00	2164.00	2164.00	2164.00	L-25

CHAPTER-12
Analysis of Rate
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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Welder	day	4.000	4.000	4.000	660.00	2640.00	2640.00	2640.00	L-02
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			Electrodes, cutting gas and other consumables @ 5 percent on cost a (a) above.						2621.68	2621.68	2621.68	
			c) Machinery									
			Hydra Crane of capacity 10T for lifting shifting	hour	8.000	8.000	8.000	995.00	7960.00	7960.00	7960.00	PM63003
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		14752.48	14752.48	14752.48	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		8851.49	8851.49	8851.49	
			Rate for per MT (a+b+c+d+e)						97366.34	97366.34	97366.34	
								Say	**97366.30**	**97366.30**	**97366.30**	
12.23	**1100 & 1700**		**Bored cast-in-situ M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specifications and removal of excavated earth with all lifts and lead upto 1000 m.**									
			Pile diameter-750 mm									
			Unit* = *meter									
			Taking output* = *25 m									
			a) Materials									
			RCC Grade M35 (including additional concreteing of 1m for pile head) Rate for concrete may be adopted vide item no. 12.11 F (iv) Rate for concrete may be adopted same as for pile vide item no. 12.11 F (iv) Concrete to be cast with a tremie pipe 200mm dia.	cum	11.490	11.490	11.490	4330.80 L 4335.30 M 4354.70 S	49760.89	49812.60	50035.50	12.11 F (iv) Case I
			Bentonite	Kg	574.500	574.322	574.322	4.62	2654.19	2653.37	2653.37	M-071
			b) Machinery(for boring and construction)									

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Analysis of Rate
FOUNDATIONS

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hire and running charges of hydraulic piling rig with power unit and complete accessories including shifting from one bore location to another.	hour	6.000	6.000	6.000	17246.00	103476.00	103476.00	103476.00	PM38001
			Hire and running charges of light crane for lowering reinforcement cage, trime pipe, holding trime pipe for concreting, removal of temporary casing etc.	hour	3.138	3.138	3.138	860.00	2698.68	2698.68	2698.68	PM63001
			Hire and running charges of Bentonite pump	hour	6.000	6.000	6.000	0.00	0.00	0.00	0.00	Rate included inPM38001
			Transit truck agitator									
			For transportation	tonne-km	29.07×L1	29.07×L1	29.07×L1	10.87	315.99	315.99	315.99	PM76001
			(6 cum Capacity)									
			For unloading	hour	0.638	0.638	0.638	1992.00	1270.90	1270.90	1270.90	PM34001
			Front end loader for removing muck									
			(i) 3.1 Cum Capacity	hour	0.342			3523.00	1204.87			PM5001
			(ii) 2.1 Cum Capacity	hour		0.504		2121.00		1068.98		PM5002
			(iii) 1 Cum Capacity	hour			1.064	1454.00			1547.06	PM5003
			Tipper For Loading time									
			(i) 18 cum Capacity	hour	0.342			2349.00	803.36			PM6001
			(ii) 14 cum Capacity	hour		0.504		2108.00		1062.43		PM6002
			(iii) 10 cum Capacity	hour			1.064	1891.00			2012.02	PM6003
			For disposal of muck from pile bore hole up to a lead of 1 Km									
			(i) 18 cum capacity	t.km	18.384			4.98	91.55			PM72001
			(ii) 14 cum capacity	t.km		18.378		5.71		104.94		PM73001
			(iii) 10 cum capacity	t.km			18.378	7.10			130.48	PM74001
			c) Labour									
			Mate/Supervisor	day	0.140	0.140	0.140	444.00	62.16	62.16	62.16	L-12
			Mazdoor	day	3.500	3.500	3.500	428.00	1498.00	1498.00	1498.00	L-13
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		32767.32	32804.81	33140.03	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		19660.39	19682.89	19884.02	
			Cost for 25 m = a+b+c+d+d+e						216264.29	216511.74	218724.21	
			Rate per metre (a+b+c+d+e)/25						8650.57	8660.47	8748.97	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
								Say	8650.60	8660.50	8749.00	
12.24	1100, 1600 & 1700		**Bored cast-in-situ M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specifications and removal of excavated earth with all lifts and lead upto 1000 m.**									
			Pile diameter-1000 mm									
			Unit = meter									
			Taking output = 25m									
			a) Materials									
			RCC Grade M35 (including additional concreteing of 1m for pile head) Rate for concrete may be adopted vide item no. 12.11 F (iv) Rate for concrete may be adopted same as for pile vide item no. 12.11 F (iv) Concrete to be cast with a tremie pipe 200mm dia.	cum	20.420	20.420	20.420	4330.80 L 4335.30 M 4354.70S	88434.94	88526.83	88922.97	12.11 F (iv) Case I
			Bentonite	Kg	1021.018	1021.018	1021.018	4.62	4717.10	4717.10	4717.10	M-071
			b) Machinery(for boring and construction)									
			Hire and running charges of hydraulic piling rig with power unit and complete accessories including shifting from one bore location to another.	hour	6.000	6.000	6.000	17246.00	103476.00	103476.00	103476.00	PM38001
			Hire and running charges of light crane for lowering reinforcement cage, trime pipe, holding trime pipe for concreting, removal of temporary casing etc.	hour	3.634	3.634	3.634	860.00	3125.24	3125.24	3125.24	PM63001
			Hire and running charges of Bentonite pump	hour	6.000	6.000	6.000	0.00	0.00	0.00	0.00	Rate included in PM38001
			Transit truck agitator									
			For transportation	tonne-km	51.05×L1	51.05×L1	51.05×L1	10.87	554.91	554.91	554.91	PM76001
			(6 cum Capacity)									

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Analysis of Rate
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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			For unloading	hour	1.134	1.134	1.134	1992.00	2258.93	2258.93	2258.93	PM34001
			Front end loader for removing muck									
			(i) 3.1 Cum Capacity	hour	0.608			3523.00	2141.98			PM5001
			(ii) 2.1 Cum Capacity	hour		0.896		2121.00		1900.42		PM5002
			(iii) 1 Cum Capacity	hour			1.891	1454.00			2749.51	PM5003
			Tipper For Loading time									
			(i) 18 cum Capacity	hour	0.608			2349.00	1428.19			PM6001
			(ii) 14 cum Capacity	hour		0.896		2108.00		1888.77		PM6002
			(iii) 10 cum Capacity	hour			1.891	1891.00			3575.88	PM6003
			For disposal of muck from pile bore hole up to a lead of 1 Km									
			(i) 18 cum capacity	t.km	32.673			4.98	162.71			PM72001
			(ii) 14 cum capacity	t.km		32.673		5.71		186.56		PM73001
			(iii) 10 cum capacity	t.km			32.673	7.10			231.98	PM74001
			c) Labour									
			Mate/Supervisor	day	0.140	0.140	0.140	444.00	62.16	62.16	62.16	L-12
			Mazdoor	day	3.500	3.500	3.500	428.00	1498.00	1498.00	1498.00	L-13
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		41572.03	41638.98	42234.54	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		24943.22	24983.39	25340.72	
			Cost for 25 m = a+b+c+d+d+e						274375.42	274817.29	278747.95	
			Rate per metre (a+b+c+d+e)/25						10975.02	10992.69	11149.92	
								Say	**10975.00**	**10992.70**	**11149.90**	
12.25	**1100 & 1700**		**Bored cast-in-situ M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specifications and removal of excavated earth with all lifts and lead upto 1000 m.**									
		A	**Pile diameter-1200 mm**									
			Unit = meter									
			Taking output = 25m									
			a) Materials									

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Analysis of Rate

FOUNDATIONS

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			RCC Grade M35 (including additional concreteing of 1m for pile head) Rate for concrete may be adopted vide item no. 12.11 F (iv) Rate for concrete may be adopted same as for pile vide item no. 12.11 F (iv) Concrete to be cast with a tremie pipe 200mm dia.	cum	29.405	29.405	29.405	4330.80 L 4335.30 M 4354.70 S	127347.17	127479.50	128049.95	12.11 F (iv) Case-I
			Bentonite	Kg	1470.265	1470.265	1470.265	4.62	6792.62	6792.62	6792.62	M-071
			b) Machinery(for boring and construction)									
			Hire and running charges of hydraulic piling rig with power unit and complete accessories including shifting from one bore location to another.	hour	7.000	7.000	7.000	17246.00	120722.00	120722.00	120722.00	PM38001
			Hire and running charges of light crane for lowering reinforcement cage, trime pipe, holding trime pipe for concreting, removal of temporary casing etc.	hour	4.134	4.134	4.134	860.00	3555.24	3555.24	3555.24	PM63001
			Hire and running charges of Bentonite pump	hour	7.000	7.000	7.000	0.00	0.00	0.00	0.00	Rate included inPM38001
			Transit truck agitator									
			For transportation	tonne-km	73.53×L1	73.53×L1	73.53×L1	10.87	799.27	799.27	799.27	PM76001
			(6 cum Capacity)									
			For unloading	hour	1.634	1.634	1.634	1992.00	3254.93	3254.93	3254.93	PM34001
			Front end loader for removing muck									
			(i) 3.1 Cum Capacity	hour	0.875			3523.00	3082.63			PM5001
			(ii) 2.1 Cum Capacity	hour		1.290		2121.00		2736.09		PM5002
			(iii) 1 Cum Capacity	hour			2.723	1454.00			3959.24	PM5003
			Tipper For Loading time									
			(i) 18 cum Capacity	hour	0.875			2349.00	2055.38			PM6001
			(ii) 14 cum Capacity	hour		1.290		2108.00		2719.32		PM6002
			(iii) 10 cum Capacity	hour			2.723	1891.00			5149.19	PM6003
			For disposal of muck from pile bore hole up to a lead of 1 Km									

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Analysis of Rate
FOUNDATIONS

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			(i) 18 cum capacity	t.km	47.048			4.98	234.30			PM72001
			(ii) 14 cum capacity	t.km		47.048		5.71		268.64		PM73001
			(iii) 10 cum capacity	t.km			47.048	7.10			334.04	PM74001
			c) Labour									
			Mate/Supervisor	day	0.140	0.140	0.140	444.00	62.16	62.16	62.16	L-12
			Mazdoor	day	3.500	3.500	3.500	428.00	1498.00	1498.00	1498.00	L-13
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		53880.74	53977.55	54835.33	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		32328.44	32386.53	32901.20	
			Cost for 25 m = a+b+c+d+d+e						355612.88	356251.86	361913.18	
			Rate per metre (a+b+c+d+e)/25						14224.52	14250.07	14476.53	
								Say	**14224.50**	**14250.10**	**14476.50**	
12.26	**1100 &1700**		**Pile diameter-1500 mm**									
			Unit = meter									
			Taking output = 25m									
			a) Materials									
			RCC Grade M35 (including additional concreteing of 1m for pile head) Rate for concrete may be adopted vide item no. 12.11 F (iv) Rate for concrete may be adopted same as for pile vide item no. 12.11 F (iv) Concrete to be cast with a tremie pipe 200mm dia.	cum	45.946	45.946	45.946	4330.80 L 4335.30 M 4354.70 S	198982.94	199189.69	200081.05	12.11 F (iv) Case-I
			Bentonite	Kg	2297.290	2297.290	2297.290	4.62	10613.48	10613.48	10613.48	M-071
			b) Machinery(for boring and construction)									
			Hire and running charges of hydraulic piling rig with power unit and complete accessories including shifting from one bore location to another.	hour	8.000	8.000	8.000	17246.00	137968.00	137968.00	137968.00	PM38001
			Hire and running charges of light crane for lowering reinforcement cage, trime pipe, holding trime pipe for concreting, removal of temporary casing etc.	hour	5.053	5.053	5.053	860.00	4345.58	4345.58	4345.58	PM63001

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Analysis of Rate
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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hire and running charges of Bentonite pump	hour	8.000	8.000	8.000	0.00	0.00	0.00	0.00	Rate included inPM38001
			Transit truck agitator									
			For transportation	tonne-km	114.86×L1	114.86×L1	114.86×L1	10.87	1248.53	1248.53	1248.53	PM76001
			(6 cum Capacity)									
			For unloading	hour	2.553	2.553	2.553	1992.00	5085.58	5085.58	5085.58	PM34001
			Front end loader for removing muck									
			(i) 3.1 Cum Capacity	hour	1.367			3523.00	4815.94			PM5001
			(ii) 2.1 Cum Capacity	hour		2.015		2121.00		4273.82		PM5002
			(iii) 1 Cum Capacity	hour			4.254	1454.00			6185.32	PM5003
			Tipper For Loading time									
			(i) 18 cum Capacity	hour	1.367			2349.00	3211.08			PM6001
			(ii) 14 cum Capacity	hour		2.015		2108.00		4247.62		PM6002
			(iii) 10 cum Capacity	hour			4.254	1891.00			8044.31	PM6003
			For disposal of muck from pile bore hole up to a lead of 1 Km									
			(i) 18 cum capacity	t.km	73.513			4.98	366.09			PM72001
			(ii) 14 cum capacity	t.km		73.513		5.71		419.76		PM73001
			(iii) 10 cum capacity	t.km			73.513	7.10			521.94	PM74001
			c) Labour									
			Mate/Supervisor	day	0.140	0.140	0.140	444.00	62.16	62.16	62.16	L-12
			Mazdoor	day	3.500	3.500	3.500	428.00	1498.00	1498.00	1498.00	L-13
			d) Overhead charges@ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		73639.48	73790.44	75130.79	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		44183.69	44274.27	45078.47	
			Cost for 25 m = a+b+c+d+d+e						486020.54	487016.92	495863.20	
			Rate per metre (a+b+c+d+e)/25						19440.82	19480.68	19834.53	
								Say	**19440.80**	**19480.70**	**19834.50**	
12.27	**1100 &1700**		**Driven cast-in-place vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**									
			Pile diameter-750mm									
			Unit = Running meter									

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Analysis of Rate

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Taking output = 40 meter									
			a) Materials									
			RCC Grade M35. Rate for concrete may be adopted vide item no. 12.11 F (iv) Rate for concrete may be adopted same as for pile vide item no. 12.11 F (iv)	cum	17.660	17.660	17.660	4330.80 L 4335.30 M 4354.70 S	76481.93	76561.40	76904.00	12.11 F (iv) Case-I
			b) Materials Pile shoes									
			(i) C.I. shoes for the pile	Kg	160.000	160.000	160.000	54.02	8643.20	8643.20	8643.20	M-080
			(ii) M.S. clamps for shoe @ 35 Kg per pile of 15 m	Kg	70.000	70.000	70.000	30.77	2153.90	2153.90	2153.90	M-124
			(iii) Steel helmet and cushion block on top of casing head during driving	Kg	50.000	50.000	50.000	47.01	2350.50	2350.50	2350.50	M-174
			c) Machinery									
			Hire and running charges of piling rig Including double acting pile driving hammer complete with power unit and accessories.	hour	6.000	6.000	6.000	17246.00	103476.00	103476.00	103476.00	PM38001
			Hire and running charges for light crane 5 tonnes lifting capacity for loweing reinforcement and handling steel casing.	hour	0.500	0.500	0.500	896.00	448.00	448.00	448.00	PM63002
			d) Labour									
			Mate/Supervisor	day	0.120	0.120	0.120	444.00	53.28	53.28	53.28	L-12
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		38978.16	38994.06	39062.58	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		23386.90	23396.43	23437.55	
			Cost for 40 m = a+b+c+d+d+e+f						257255.87	257360.77	257813.00	
			Rate per metre (a+b+c+d+e+f)/40						6431.40	6434.02	6445.33	
								Say	**6431.40**	**6434.00**	**6445.30**	
		Note	1.The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.									

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Analysis of Rate
FOUNDATIONS

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			2.In case steel lining is included in the design for driven cast-in-situ pile and is planned to be retained, the same may be included in the rate analysis. In case the temporary steel casing used during casting is planned to be removed, an additional cost @ 0.50 per cent of cost of concrete may be provided to cover its usage.									
12.28	**1100 & 1700**		**Driven cast-in-place vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**									
			Pile diameter-1000mm									
			Unit = Running meter									
			Taking output = 30 meter									
			a) Materials									
			RCC Grade M35. Rate for concrete may be adopted vide item no. 12.11 F (iv) Rate for concrete may be adopted same as for pile vide item no. 12.11 F (iv)	cum	23.550	23.550	23.550	4330.80 L 4335.30 M 4354.70 S	101990.34	102096.32	102553.19	12.11 F (iv) Case-I
			b) Materials Pile shoes									
			(i) C.I. shoes for the pile	Kg	160.000	160.000	160.000	54.02	8643.20	8643.20	8643.20	M-080
			(ii) M.S. clamps for shoe @ 35 Kg per pile of 15 m	Kg	70.000	70.000	70.000	30.77	2153.90	2153.90	2153.90	M-124
			(iii) Steel helmet and cushion block on top of casing head during driving	Kg	50.000	50.000	50.000	47.01	2350.50	2350.50	2350.50	M-174
			c) Machinery									
			Hire and running charges of piling rig Including double acting pile driving hammer complete with power unit and accessories.	hour	6.000	6.000	6.000	17246.00	103476.00	103476.00	103476.00	PM38001
			Hire and running charges for light crane 5 tonnes lifting capacity for loweing reinforcement and handling steel casing.	hour	0.500	0.500	0.500	896.00	448.00	448.00	448.00	PM63002

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Analysis of Rate
FOUNDATIONS

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hire and running charges for light crane for lowering reinforcement cage.	hour	0.500	0.500	0.500	860.00	430.00	430.00	430.00	PM63001
			d) Labour									
			Mate/Supervisor	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
			Mazdoor	day	4.000	4.000	4.000	428.00	1712.00	1712.00	1712.00	L-13
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		44255.00	44276.19	44367.57	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		26553.00	26565.71	26620.54	
			Cost for 30 m = a+b+c+d+d+e+f						292082.97	292222.86	292825.93	
			Rate per metre (a+b+c+d+e+f)/30						9736.10	9740.76	9760.86	
								Say	**9736.10**	**9740.80**	**9760.90**	
		Note	1.The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.									
			2.In case steel lining is included in the design for driven cast-in-situ pile and is planned to be retained, the same may be included in the rate analysis. In case the temporary steel casing used during casting is planned to be removed, an additional cost @ 0.50 per cent of cost of concrete may be provided to cover its usage.									
12.29	**1100 & 1700**		**Driven cast-in-place vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**									
			Pile diameter-1200mm									
			Unit = Running meter									
			Taking output = 20 meter									
			a) Materials									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			RCC Grade M35. Rate for concrete may be adopted vide item no. 12.11 F (iv) Rate for concrete may be adopted same as for pile vide item no. 12.11 F (iv)	cum	22.610	22.610	22.610	4330.80 L 4335.30 M 4354.70 S	97919.39	98021.13	98459.77	12.11 F (iv) Case-I
			b) Materials Pile shoes									
			(i) C.I. shoes for the pile	Kg	160.000	160.000	160.000	54.02	8643.20	8643.20	8643.20	M-080
			(ii) M.S. clamps for shoe @ 35 Kg per pile of 15 m	Kg	70.000	70.000	70.000	30.77	2153.90	2153.90	2153.90	M-124
			(iii) Steel helmet on top of casing head during driving	Kg	50.000	50.000	50.000	47.01	2350.50	2350.50	2350.50	M-174
			c) Machinery									
			Hire and running charges of piling rig Including double acting pile driving hammer complete with power unit and accessories.	hour	6.000	6.000	6.000	17246.00	103476.00	103476.00	103476.00	PM38001
			Hire and running charges for light crane 5 tonnes lifting capacity for loweing reinforcement and handling steel casing.	hour	0.500	0.500	0.500	860.00	430.00	430.00	430.00	PM63001
			d) Labour									
			Mate/Supervisor	day	0.180	0.180	0.180	444.00	79.92	79.92	79.92	L-12
			Mazdoor	day	4.500	4.500	4.500	428.00	1926.00	1926.00	1926.00	L-13
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		43395.78	43416.13	43503.86	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		26037.47	26049.68	26102.31	
			Cost for 20 m = a+b+c+d+d+e+f						286412.16	286546.46	287125.46	
			Rate per metre (a+b+c+d+e+f)/20						14320.61	14327.32	14356.27	
								Say	**14320.60**	**14327.30**	**14356.30**	
		Note	1.The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.									
			2.In case steel lining is included in the design for driven cast-in-situ pile and is									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			planned to be retained, the same may be included in the rate analysis. In case the temporary steel casing used during casting is planned to be removed, an additional cost @ 0.50 per cent of cost of concrete may be provided to cover its usage.									
12.30	**1100 & 1700**		**Driven precast vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**									
			Pile diameter-500mm									
			Unit = Running meter									
			Taking output = 60m									
			a) Materials									
			RCC Grade M35. Rate for concrete may be adopted vide item no. 12.11 F (iv) Rate for concrete may be adopted same as for pile vide item no. 12.11 F (iv)	cum	11.780	11.780	11.780	4330.80 L 4335.30 M 4354.70 S	51016.82	51069.83	51298.37	12.11 F (iv) Case-I
			b) Materials Pile shoes									
			(i) C.I. shoes	Kg	240.000	240.000	240.000	54.02	12964.80	12964.80	12964.80	M-080
			(ii) M.S. shoes	Kg	105.000	105.000	105.000	30.77	3230.85	3230.85	3230.85	M-124
			(iii) Steel helmet and cushion block on top of pile head during driving	Kg	30.000	30.000	30.000	47.01	1410.30	1410.30	1410.30	M-174
			c) Machinery									
			Crane 20 t capacity	hour	6.000	6.000	6.000	1231.00	7386.00	7386.00	7386.00	PM63005
			Vibrating Pile driving hammer complete with power unit and accessories.	hour	6.000	6.000	6.000	16125.00	96750.00	96750.00	96750.00	PM71001
			d) Labour									
			Mate/Supervisor	day	0.120	0.120	0.120	444.00	53.28	53.28	53.28	L-12
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Add 1 percent of (a+b+c) for carriage of piles from casting yard to work site and stacking, and other imponderables during installation.						1727.59	1728.12	1730.40	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		35164.73	35175.44	35221.60	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		21098.84	21105.26	21132.96	
			Cost for 60 m = a+b+c+d+d+e+f						232087.21	232157.88	232462.56	
			Rate per metre (a+b+c+d+e+f)/60						3868.12	3869.30	3874.38	
								Say	**3868.10**	**3869.30**	**3874.40**	
		Note	1.The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.									
12.31	**1100 & 1700**		**Driven precast vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**									
			Pile diameter-750mm									
			Unit* = *Running meter									
			Taking output* = *50m									
			a) Materials									
			RCC Grade M35. Rate for concrete may be adopted vide item no. 12.11 F (iv) Rate for concrete may be adopted same as for pile vide item no. 12.11 F (iv)	cum	22.080	22.080	22.080	4330.80 L 4335.30 M 4354.70 S	95624.06	95723.42	96151.78	12.11 F (iv) Case-I
			b) Materials Pile shoes									
			(i) C.I. shoes	Kg	160.000	160.000	160.000	54.02	8643.20	8643.20	8643.20	M-080
			(ii) M.S. shoes	Kg	70.000	70.000	70.000	30.77	2153.90	2153.90	2153.90	M-124
			(iii) Steel helmet and cushion block on top of pile head during driving	Kg	40.000	40.000	40.000	47.01	1880.40	1880.40	1880.40	M-174
			c) Machinery									
			Crane 35 t capacity	hour	6.000	6.000	6.000	1853.00	11118.00	11118.00	11118.00	PM63006

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Vibrating Pile driving hammer complete with power unit and accessories.	hour	6.000	6.000	6.000	16125.00	96750.00	96750.00	96750.00	PM71001
			d) Labour									
			Mate/Supervisor	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
			Mazdoor	day	4.000	4.000	4.000	428.00	1712.00	1712.00	1712.00	L-13
			Add 1 percent of (a+b+c) for carriage of piles from casting yard to work site and stacking, and other imponderables during installation.						2161.70	2162.69	2166.97	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		44022.86	44042.93	44129.46	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		26413.72	26425.76	26477.67	
			Cost for 50 m = a+b+c+d+d+e+f						290550.88	290683.34	291254.42	
			Rate per metre (a+b+c+d+e+f)/50						5811.02	5813.67	5825.09	
								Say	**5811.00**	**5813.70**	**5825.10**	
		Note	1.The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.									
12.32	**1100 & 1700**		**Driven precast vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**									
			Pile diameter-1000mm									
			Unit = Running meter									
			Taking output = 40m									
			a) Materials									
			RCC Grade M35. Rate for concrete may be adopted vide item no. 12.11 F (iv) Rate for concrete may be adopted same as for pile vide item no. 12.11 F (iv)	cum	31.400	31.400	31.400	4330.80 L 4335.30 M 4354.70 S	135987.12	136128.42	136737.58	12.11 F (iv) Case-I
			b) Materials Pile shoes									
			(i) C.I. shoes for the pile	Kg	160.000	160.000	160.000	54.02	8643.20	8643.20	8643.20	M-080
			(ii) M.S. shoes @ 35 kg per pile of 15 m	Kg	70.000	70.000	70.000	30.77	2153.90	2153.90	2153.90	M-124

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			(iii) Steel helmet and cushion block on top of pile head during driving	Kg	50.000	50.000	50.000	47.01	2350.50	2350.50	2350.50	M-174
			c) Machinery									
			Crane 50 t capacity	hour	6.000	6.000	6.000	1853.00	11118.00	11118.00	11118.00	PM63006
			Vibrating Pile driving hammer complete with power unit and accessories.	hour	6.000	6.000	6.000	16125.00	96750.00	96750.00	96750.00	PM71001
			d) Labour									
			Mate/Supervisor	day	0.200	0.200	0.200	444.00	88.80	88.80	88.80	L-12
			Mazdoor	day	5.000	5.000	5.000	428.00	2140.00	2140.00	2140.00	L-13
			Add 1 percent of (a+b+c) for carriage of piles from casting yard to work site and stacking, and other imponderables during installation.						2570.03	2571.44	2577.53	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		52360.31	52388.85	52511.90	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		31416.19	31433.31	31507.14	
			Cost for 40 m = a+b+c+d+d+e+f						345578.04	345766.42	346578.56	
			Rate per metre (a+b+c+d+e+f)/40						8639.45	8644.16	8664.46	
								Say	**8639.50**	**8644.20**	**8664.50**	
		Note	1.The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.									
12.33	**1100 & 1700**		**Driven precast vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**									
			Size of pile-300mm×300mm									
			Unit* = *Running meter									
			***Taking output* = 60m**									
			a) Materials									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			RCC Grade M35. RCC Grade M35 Rate for concrete may be adopted vide item no. 12.11 F (iv)	cum	5.400	5.400	5.400	4330.80 L 4335.30 M 4354.70 S	23386.32	23410.62	23515.38	12.11 F (iv) Case-I
			b) Materials Pile shoes									
			(i) C.I. shoes	Kg	240.000	240.000	240.000	54.02	12964.80	12964.80	12964.80	M-080
			(ii) M.S. shoes	Kg	105.000	105.000	105.000	30.77	3230.85	3230.85	3230.85	M-124
			(iii) Steel helmet and cushion block on top of pile head during driving	Kg	30.000	30.000	30.000	47.01	1410.30	1410.30	1410.30	M-174
			c) Machinery									
			Crane 10 t capacity	hour	6.000	6.000	6.000	995.00	5970.00	5970.00	5970.00	PM63003
			Vibrating Pile driving hammer complete with power unit and accessories.	hour	6.000	6.000	6.000	16125.00	96750.00	96750.00	96750.00	PM71001
			d) Labour									
			Mate/Supervisor	day	0.120	0.120	0.120	444.00	53.28	53.28	53.28	L-12
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			Add 1 percent of (a+b+c) for carriage of piles from casting yard to work site and stacking, and other imponderables during installation.						1437.12	1437.37	1438.41	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		29297.33	29302.24	29323.40	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		17578.40	17581.35	17594.04	
			Cost for 60 m = a+b+c+d+d+e+f						193362.41	193394.80	193534.47	
			Rate per metre (a+b+c+d+e+f)/60						3222.71	3223.25	3225.57	
								Say	**3222.70**	**3223.20**	**3225.60**	
		Note	1.The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.34	1100 & 1700		**Driven precast vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specification**									
			Size of pile-500mm×500mm									
			Unit = Running meter									
			Taking output = 50m									
			a) Materials									
			RCC Grade M35. RCC Grade M35 Rate for concrete may be adopted vide item no. 12.11 F (iv)	cum	12.500	12.500	12.500	4330.80 L 4335.30 M 4354.70 S	54135.00	54191.25	54433.75	12.11 F (iv) Case-I
			b) Materials Pile shoes									
			(i) C.I. shoes	Kg	160.000	160.000	160.000	54.02	8643.20	8643.20	8643.20	M-080
			(ii) M.S. shoes	Kg	70.000	70.000	70.000	30.77	2153.90	2153.90	2153.90	M-124
			(iii) Steel helmet and cushion block on top of pile head during driving	Kg	30.000	30.000	30.000	47.01	1410.30	1410.30	1410.30	M-174
			c) Machinery									
			Crane 20 t capacity	hour	6.000	6.000	6.000	1231.00	7386.00	7386.00	7386.00	PM63005
			Vibrating Pile driving hammer complete with power unit and accessories.	hour	6.000	6.000	6.000	16125.00	96750.00	96750.00	96750.00	PM71001
			d) Labour									
			Mate/Supervisor	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
			Mazdoor	day	4.000	4.000	4.000	428.00	1712.00	1712.00	1712.00	L-13
			Add 1 percent of (a+b+c) for carriage of piles from casting yard to work site and stacking, and other imponderables during installation.						1704.78	1705.35	1707.77	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		34793.24	34804.61	34853.59	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		20875.95	20882.76	20912.16	
			Cost for 50 m = a+b+c+d+d+e+f						229635.42	229710.41	230033.71	
			Rate per metre (a+b+c+d+e+f)/50						4592.71	4594.21	4600.67	
								Say	**4592.70**	**4594.20**	**4600.70**	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		Note	1.The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.									
12.35	**1100 & 1700**		**Driven precast vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and & Technical Specification**									
			Size of pile-750mm×750mm									
			Unit* = *Running meter									
			Taking output* = *40m									
			a) Materials									
			RCC Grade M35. RCC Grade M35 Rate for concrete may be adopted vide item no. 12.11 F (iv)	cum	22.500	22.500	22.500	4330.80 L 4335.30 M 4354.70 S	97443.00	97544.25	97980.75	12.11 F (iv) Case-I
			b) Material Pile shoes									
			(i) C.I. shoes	Kg	160.000	160.000	160.000	54.02	8643.20	8643.20	8643.20	M-080
			(ii) M.S. shoes	Kg	70.000	70.000	70.000	30.77	2153.90	2153.90	2153.90	M-124
			(iii) Steel helmet and cushion block on top of pile head during driving	Kg	30.000	30.000	30.000	47.01	1410.30	1410.30	1410.30	M-174
			c) Machinery									
			Crane 20 tonne capacity	hour	6.000	6.000	6.000	1231.00	7386.00	7386.00	7386.00	PM63005
			Vibrating Pile driving hammer complete with power unit and accessories.	hour	6.000	6.000	6.000	16125.00	96750.00	96750.00	96750.00	PM71001
			d) Labour									
			Mate/Supervisor	day	0.180	0.180	0.180	444.00	79.92	79.92	79.92	L-12
			Mazdoor	day	4.500	4.500	4.500	428.00	1926.00	1926.00	1926.00	L-13
			Add 1 percent of (a+b+c) for carriage of piles from casting yard to work site and stacking, and other imponderables during installation.						2137.86	2138.88	2143.24	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		43586.04	43606.49	43694.66	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		26151.62	26163.89	26216.80	
			Cost for 40 m = a+b+c+d+d+e+f						287667.84	287802.83	288384.77	
			Rate per metre (a+b+c+d+e+f)/40						7191.70	7195.07	7209.62	
								Say	**7191.70**	**7195.10**	**7209.60**	
		Note	1.The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.									
12.36	**1100 & 1900**		**Driven Vertical Steel Piles complete as per Drawing and Technical Specification**									
			Section of the pile-H Section steel column 400×250 mm (ISHB Series)									
			Unit = Running meter									
			Taking output = 70m									
			a) Materials									
			Structural steel including 5 percent wastage @ 82.20 kg/m	tonnes	6.040	6.040	6.040	49936.67	301617.49	301617.49	301617.49	M-181
			b) Machinery									
			Crane 10 T capacity	hour	6.000	6.000	6.000	995.00	5970.00	5970.00	5970.00	PM63003
			Vibrating Pile driving hammer complete with power unit and accessories.	hour	6.000	6.000	6.000	16125.00	96750.00	96750.00	96750.00	PM71001
			c) Labour									
			Mate/Supervisor	day	0.120	0.120	0.120	444.00	53.28	53.28	53.28	L-12
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			Add 0.5 percent of (a+b+c) for providing steel helmet on top of pile head during driving, stacking of piles at site, providing anti-corrosion treatment and other imponderables during installation.						2028.37	2028.37	2028.37	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		81540.63	81540.63	81540.63	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		48924.38	48924.38	48924.38	
			Cost for 70 m = a+b+c+d+d+e						538168.15	538168.15	538168.15	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Rate per metre (a+b+c+d+e)/70						7688.12	7688.12	7688.12	
								Say	**7688.10**	**7688.10**	**7688.10**	
12.37	**1100 & 1900**		**Driven Vertical Steel Piles complete as per Drawing and & Technical Specification**									
			Section of the pile-H Section steel column 450×250 mm (ISHB Series)									
			Unit = Running meter									
			Taking output = 60m									
			a) Materials									
			Structural steel including 5 percent wastage @ 92.50 kg/m	tonnes	5.830	5.830	5.830	49936.67	291130.79	291130.79	291130.79	M-181
			b) Machinery									
			Crane 10 T capacity	hour	6.000	6.000	6.000	995.00	5970.00	5970.00	5970.00	PM63003
			Vibrating Pile driving hammer complete with power unit and accessories.	hour	6.000	6.000	6.000	16125.00	96750.00	96750.00	96750.00	PM71001
			d) Labour									
			Mate/Supervisor	day	0.140	0.140	0.140	444.00	62.16	62.16	62.16	L-12
			Mazdoor	day	3.500	3.500	3.500	428.00	1498.00	1498.00	1498.00	L-13
			Add 0.5 percent of (a+b+c) for providing steel helmet and cushion block on top of pile head during driving, stacking of piles at site, providing anti-corrosion treatment and other imponderables during installation.						1977.05	1977.05	1977.05	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		79477.60	79477.60	79477.60	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		47686.56	47686.56	47686.56	
			Cost for 60 m = a+b+c+d+d+e						524552.16	524552.16	524552.16	
			Rate per metre (a+b+c+d+e)/60						8742.54	8742.54	8742.54	
								Say	**8742.50**	**8742.50**	**8742.50**	
12.38	**1100**		**Pile Load Test on single Vertical Pile in accordance with IS:2911 (Part-IV)**									
			Unit = 1 MT									
			Taking output =1 MT									
			a) Initial and routine load test	tonnes	1.000	1.000	1.000					
			b) Lateral load test	tonnes	1.000	1.000	1.000					

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
									#VALUE!	#VALUE!	#VALUE!	
		Note	Although, this item is incidental to work and is not required to be included in BOQ of contract, the same is required to be added in the estimate to assess cost of work.									
12.39			**Dismantling of Reinforced Concrete Pile head complete as per Drawing and Technical Specification**									
			Unit = 1 cum									
			Taking output =1.250 cum									
			a) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor with Pneumatic breaker	day	0.500	0.500	0.500	428.00	214.00	214.00	214.00	L-13
			Blacksmith	day	0.250	0.250	0.250	541.00	135.25	135.25	135.25	L-01
			Mazdoor for loading and unloading	day	0.250	0.250	0.250	428.00	107.00	107.00	107.00	L-13
			b) Machinery									
			Air Compressor 250 cfm	hour	0.625	0.625	0.625	496.00	310.00	310.00	310.00	PM15001
			Pneumatic breaker	hour	1.250	1.250	1.250	206.00	257.50	257.50	257.50	PM4001
			Tipper									
			For transportation to dumping yard considering lead @ 1 km									
			(i) 18 cum capacity	t.km	1.875			4.98	9.34			PM72001
			(ii) 14 cum capacity	t.km		1.875		5.71		10.71		PM73001
			(iii) 10 cum capacity	t.km			1.875	7.10			13.31	PM74001
			Loading & unloading time									
			(i) 18 cum capacity	hour	0.208			2349.00	488.59			PM6001
			(ii) 14 cum capacity	hour		0.250		2108.00		527.00		PM6002
			(iii) 10 cum capacity	hour			0.292	1891.00			552.17	PM6003
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		307.89	315.84	321.40	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		184.73	189.51	192.84	
			Cost for 1.25 cum = a+b+c+d						2032.06	2084.57	2121.23	
			Rate per cum (a+b+c+d)/1.25						1625.65	1667.65	1696.99	
								Say	**1625.60**	**1667.70**	**1697.00**	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
12.40	1100, 1500 & 1700		**Cement Concrete for Reinforced Concrete in Pile Cap complete as per Drawing and Technical Specification**									
		A	**RCC Grade M20**									
		Case I	**RCC Grade M20 using batching plant & Concrete pump**									
			Unit =cum									
			Taking Output = 60 cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from Sub-Analysis 21.06)	cum	60.000	60.000	60.000	3737.70	224262.00	224262.00	224262.00	21.06
			b) Labour **For pouring and placing**									
			Mate	day	0.146	0.146	0.146	444.00	64.82	64.82	64.82	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.650	2.650	2.650	428.00	1134.20	1134.20	1134.20	L-13
			c) Machinery Transit truck agitator									
			For transportation	tonne-Km	150×L1	150×L1	150×L1	10.87	1630.50	1630.50	1630.50	PM76001
			(6 cum Capacity)									
			For unloading	hour	1.300	1.300	1.300	1992.00	2589.60	2589.60	2589.60	PM34001
			Hydraulic Boom placer pump	hour	1.300	1.300	1.300	3827.00	4975.10	4975.10	4975.10	PM36001
			d) Formwork @ 4 percent on cost of concrete i.e. cost of material, labour and machinery						9407.89	9407.89	9407.89	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		48921.02	48921.02	48921.02	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		29352.61	29352.61	29352.61	
			Cost for 60 cum = a+b+c+d+e+f						322878.75	322878.75	322878.75	
			Rate per cum = (a+b+c+d+e+f)/60						5381.31	5381.31	5381.31	
								Say	**5381.30**	**5381.30**	**5381.30**	
		Case II	**RCC Grade M20 using batching plant & manual placing**									
			Unit =cum									
			Taking Output = 60cum									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			a) Material									
			Per Cum Basic Cost (Rate taken from Sub-Analysis 21.06)	cum	60.000	60.000	60.000	3737.70	224262.00	224262.00	224262.00	21.06
			b) Labour **For pouring and placing**									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery Transit truck agitator									
			For transportation	tonne-Km	150×L1	150×L1	150×L1	10.87	1630.50	1630.50	1630.50	PM76001
			(6 cum Capacity)									
			For unloading	hour	3.333	3.333	3.333	1992.00	6639.34	6639.34	6639.34	PM34001
			d) Formwork @ 4 percent on cost of concrete i.e. cost of material, labour and machinery						9466.27	9466.27	9466.27	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		49224.59	49224.59	49224.59	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		29534.75	29534.75	29534.75	
			Cost for 60 cum = a+b+c+d+e+f						324882.28	324882.28	324882.28	
			Rate per cum = (a+b+c+d+e+f)/60						5414.70	5414.70	5414.70	
								Say	**5414.70**	**5414.70**	**5414.70**	
12.40		**B**	**RCC Grade M25**									
		Case I	**RCC Grade M25 using batching plant & Concrete pump**									
			Unit =cum									
			Taking Output = 60 cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from Sub-Analysis 21.07)	cum	60.000	60.000	60.000	3748.20	224892.00	224892.00	224892.00	21.07
			b) Labour **For pouring and placing**									
			Mate	day	0.146	0.146	0.146	444.00	64.82	64.82	64.82	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.650	2.650	2.650	428.00	1134.20	1134.20	1134.20	L-13

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			c) Machinery									
			Transit truck agitator For transportation	tonne-Km	150×L1	150×L1	150×L1	10.87	1630.50	1630.50	1630.50	PM76001
			(6 cum Capacity)									
			For unloading	hour	1.300	1.300	1.300	1992.00	2589.60	2589.60	2589.60	PM34001
			Hydraulic Boom placer pump	hour	1.300	1.300	1.300	3827.00	4975.10	4975.10	4975.10	PM36001
			d) Formwork @ 4 percent on cost of concrete i.e. cost of material, labour and machinery						9433.09	9433.09	9433.09	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		49052.06	49052.06	49052.06	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		29431.24	29431.24	29431.24	
			Cost for 60 cum = a+b+c+d+e+f						323743.61	323743.61	323743.61	
			Rate per cum = (a+b+c+d+e+f)/60						5395.73	5395.73	5395.73	
								Say	**5395.70**	**5395.70**	**5395.70**	
		Case II	**RCC Grade M25 using batching plant & manual placing**									
			Unit =cum									
			Taking Output = 60cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from Sub-Analysis 21.07)	cum	60.000	60.000	60.000	3748.20	224892.00	224892.00	224892.00	21.07
			b) Labour For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery Transit truck agitator									
			For transportation	tonne-Km	150×L1	150×L1	150×L1	10.87	1630.50	1630.50	1630.50	PM76001
			(6 cum Capacity)									
			For unloading	hour	3.333	3.333	3.333	1992.00	6639.34	6639.34	6639.34	PM34001
			d) Formwork @ 4 percent on cost of concrete i.e. cost of material, labour and machinery						9491.47	9491.47	9491.47	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		49355.63	49355.63	49355.63	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		29613.38	29613.38	29613.38	
			Cost for 60 cum = a+b+c+d+e+f						325747.15	325747.15	325747.15	
			Rate per cum = (a+b+c+d+e+f)/60						5429.12	5429.12	5429.12	
								Say	**5429.10**	**5429.10**	**5429.10**	
12.40		**C**	**RCC Grade M30**									
		Case I	**RCC Grade M30 using batching plant & Concrete pump**									
			Unit =cum									
			Taking Output = 60 cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from Sub-Analysis 21.09)	cum	60.000	60.000	60.000	3781.30	226878.00	226878.00	226878.00	21.09
			b) Labour **For pouring and placing**									
			Mate	day	0.146	0.146	0.146	444.00	64.82	64.82	64.82	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.650	2.650	2.650	428.00	1134.20	1134.20	1134.20	L-13
			c) Machinery Transit truck agitator									
			For transportation	tonne-Km	150×L1	150×L1	150×L1	10.87	1630.50	1630.50	1630.50	PM76001
			(6 cum Capacity)									
			For unloading	hour	1.300	1.300	1.300	1992.00	2589.60	2589.60	2589.60	PM34001
			Hydraulic Boom placer pump	hour	1.300	1.300	1.300	3827.00	4975.10	4975.10	4975.10	PM36001
			d) Formwork @ 4 percent on cost of concrete i.e. cost of material, labour and machinery						9512.53	9512.53	9512.53	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		49465.15	49465.15	49465.15	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		29679.09	29679.09	29679.09	
			Cost for 60 cum = a+b+c+d+e+f						326469.99	326469.99	326469.99	
			Rate per cum = (a+b+c+d+e+f)/60						5441.17	5441.17	5441.17	
								Say	**5441.20**	**5441.20**	**5441.20**	
		Case II	**RCC Grade M30 using batching plant & manual placing**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit =cum									
			Taking Output = 60cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from Sub-Analysis 21.09)	cum	60.000	60.000	60.000	3781.30	226878.00	226878.00	226878.00	21.09
			b) Labour **For pouring and placing**									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery Transit truck agitator									
			For transportation	tonne-Km	150×L1	150×L1	150×L1	10.87	1630.50	1630.50	1630.50	PM76001
			(6 cum Capacity)									
			For unloading	hour	3.333	3.333	3.333	1992.00	6639.34	6639.34	6639.34	PM34001
			d) Formwork @ 4 percent on cost of concrete i.e. cost of material, labour and machinery						9570.91	9570.91	9570.91	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		49768.72	49768.72	49768.72	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		29861.23	29861.23	29861.23	
			Cost for 60 cum = a+b+c+d+e+f						328473.53	328473.53	328473.53	
			Rate per cum = (a+b+c+d+e+f)/60						5474.56	5474.56	5474.56	
								Say	**5474.60**	**5474.60**	**5474.60**	
12.40		**D**	**RCC Grade M35**									
		Case I	**RCC Grade M35 using batching plant & Concrete pump**									
			Unit =cum									
			Taking Output = 60 cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from Sub-Analysis 21.11)	cum	60.000	60.000	60.000	3884.60	233076.00	233076.00	233076.00	21.11
			b) Labour **For pouring and placing**									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mate	day	0.146	0.146	0.146	444.00	64.82	64.82	64.82	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.650	2.650	2.650	428.00	1134.20	1134.20	1134.20	L-13
			c) Machinery Transit truck agitator									
			For transportation	tonne-Km	150×L1	150×L1	150×L1	10.87	1630.50	1630.50	1630.50	PM76001
			(6 cum Capacity)									
			For unloading	hour	1.300	1.300	1.300	1992.00	2589.60	2589.60	2589.60	PM34001
			Hydraulic Boom placer pump	hour	1.300	1.300	1.300	3827.00	4975.10	4975.10	4975.10	PM36001
			d) Formwork @ 4 percent on cost of concrete i.e. cost of material, labour and machinery						9760.45	9760.45	9760.45	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		50754.33	50754.33	50754.33	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		30452.60	30452.60	30452.60	
			Cost for 60 cum = a+b+c+d+e+f						334978.61	334978.61	334978.61	
			Rate per cum = (a+b+c+d+e+f)/60						5582.98	5582.98	5582.98	
								Say	**5583.00**	**5583.00**	**5583.00**	
12.40		**Case II**	**RCC Grade M35 using batching plant & manual placing**									
			Unit =cum									
			Taking Output = 60cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from Sub-Analysis 21.11)	cum	60.000	60.000	60.000	3884.60	233076.00	233076.00	233076.00	21.11
			b) Labour For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery Transit truck agitator									
			For transportation	tonne-Km	150×L1	150×L1	150×L1	10.87	1630.50	1630.50	1630.50	PM76001
			(6 cum Capacity)									
			For unloading	hour	3.333	3.333	3.333	1992.00	6639.34	6639.34	6639.34	PM34001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork @ 4 percent on cost of concrete i.e. cost of material, labour and machinery						9818.83	9818.83	9818.83	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		51057.90	51057.90	51057.90	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		30634.74	30634.74	30634.74	
			Cost for 60 cum = a+b+c+d+e+f						336982.14	336982.14	336982.14	
			Rate per cum = (a+b+c+d+e+f)/60						5616.37	5616.37	5616.37	
								Say	**5616.40**	**5616.40**	**5616.40**	
12.40		**E**	**RCC Grade M40**									
		Case I	**RCC Grade M40 using batching plant & Concrete pump**									
			Unit =cum									
			Taking Output = 60 cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from Sub-Analysis 21.12)	cum	60.000	60.000	60.000	3985.50	239130.00	239130.00	239130.00	21.12
			b) Labour **For pouring and placing**									
			Mate	day	0.146	0.146	0.146	444.00	64.82	64.82	64.82	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.650	2.650	2.650	428.00	1134.20	1134.20	1134.20	L-13
			c) Machinery Transit truck agitator									
			For transportation	tonne-Km	150×L1	150×L1	150×L1	10.87	1630.50	1630.50	1630.50	PM76001
			(6 cum Capacity)									
			For unloading	hour	1.300	1.300	1.300	1992.00	2589.60	2589.60	2589.60	PM34001
			Hydraulic Boom placer pump	hour	1.300	1.300	1.300	3827.00	4975.10	4975.10	4975.10	PM36001
			d) Formwork @ 4 percent on cost of concrete i.e. cost of material, labour and machinery						10002.61	10002.61	10002.61	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		52013.57	52013.57	52013.57	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		31208.14	31208.14	31208.14	
			Cost for 60 cum = a+b+c+d+e+f						343289.54	343289.54	343289.54	
			Rate per cum = (a+b+c+d+e+f)/60						5721.49	5721.49	5721.49	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
								Say	**5721.50**	**5721.50**	**5721.50**	
		Case II	**RCC Grade M40 using batching plant & manual placing**									
			Unit =cum									
			Taking Output = 60cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from Sub-Analysis 21.12)	cum	60.000	60.000	60.000	3985.50	239130.00	239130.00	239130.00	21.12
			b) Labour **For pouring and placing**									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-10
			c) Machinery Transit truck agitator									L-13
			For transportation	tonne-Km	150×L1	150×L1	150×L1	10.87	1630.50	1630.50	1630.50	PM76001
			(6 cum Capacity)									
			For unloading	hour	3.333	3.333	3.333	1992.00	6639.34	6639.34	6639.34	PM34001
			d) Formwork @ 4 percent on cost of concrete i.e. cost of material, labour and machinery						10060.99	10060.99	10060.99	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		52317.13	52317.13	52317.13	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		31390.28	31390.28	31390.28	
			Cost for 60 cum = a+b+c+d+e+f						345293.08	345293.08	345293.08	
			Rate per cum = (a+b+c+d+e+f)/60						5754.88	5754.88	5754.88	
								Say	**5754.90**	**5754.90**	**5754.90**	
12.40		**F**	**RCC Grade M45**									
		Case I	**RCC Grade M45 using batching plant & Concrete pump**									
			Unit =cum									
			Taking Output = 60 cum									
			a) Material									

CHAPTER-12
Analysis of Rate
FOUNDATIONS

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Per Cum Basic Cost (Rate taken from Sub-Analysis 21.13)	cum	60.000	60.000	60.000	4012.30	240738.00	240738.00	240738.00	21.13
			b) Labour For pouring and placing									
			Mate	day	0.146	0.146	0.146	444.00	64.82	64.82	64.82	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	2.650	2.650	2.650	428.00	1134.20	1134.20	1134.20	L-13
			c) Machinery Transit truck agitator									
			For transportation	tonne-Km	150×L1	150×L1	150×L1	10.87	1630.50	1630.50	1630.50	PM76001
			(6 cum Capacity)									
			For unloading	hour	1.300	1.300	1.300	1992.00	2589.60	2589.60	2589.60	PM34001
			Hydraulic Boom placer pump	hour	1.300	1.300	1.300	3827.00	4975.10	4975.10	4975.10	PM36001
			d) Formwork @ 4 percent on cost of concrete i.e. cost of material, labour and machinery						10066.93	10066.93	10066.93	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		52348.03	52348.03	52348.03	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		31408.82	31408.82	31408.82	
			Cost for 60 cum = a+b+c+d+e+f						345497.00	345497.00	345497.00	
			Rate per cum = (a+b+c+d+e+f)/60						5758.28	5758.28	5758.28	
								Say	**5758.30**	**5758.30**	**5758.30**	
12.40		**Case II**	**RCC Grade M45 using batching plant & manual placing**									
			Unit =cum									
			Taking Output = 60cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from Sub-Analysis 21.13)	cum	60.000	60.000	60.000	4012.30	240738.00	240738.00	240738.00	21.13
			b) Labour For pouring and placing									
			Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
			Mason	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery Transit truck agitator									
			For transportation	tonne-Km	150×L1	150×L1	150×L1	10.87	1630.50	1630.50	1630.50	PM76001

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Analysis of Rate
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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			(6 cum Capacity)									
			For unloading	hour	3.333	3.333	3.333	1992.00	6639.34	6639.34	6639.34	PM34001
			d) Formwork @ 4 percent on cost of concrete i.e. cost of material, labour and machinery						10125.31	10125.31	10125.31	
			e) Overhead charges @ on (a+b+c+d)						52651.60	52651.60	52651.60	
			f) Contractor's profit @ on (a+b+c+d+e)						31590.96	31590.96	31590.96	
			Cost for 60 cum = a+b+c+d+e+f						347500.54	347500.54	347500.54	
			Rate per cum = (a+b+c+d+e+f)/60						5791.68	5791.68	5791.68	
								Say	**5791.70**	**5791.70**	**5791.70**	
12.41	**1100 & 1700**		**Levelling Course for Pile cap**									
			Providing and laying of PCC M15 levelling course 100 mm thick below the pile cap.									
		Case I	***PCC Grade M15 using batching plant & Concrete pump***									
			Unit=cum									
			Taking output = 30 cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from Sub-Analysis 21.03)	cum	30.000	30.000	30.000	3034.40	91032.00	91032.00	91032.00	21.03
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery Transit truck agitator									
			For transportation	tonne-Km	75×L1	75×L1	75×L1	10.87	815.25	815.25	815.25	PM76001
			(6 cum Capacity)									
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pumb		0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and unloading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.109×L1+ 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146×L1+ 0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292×L1+ 1.75	789.00			1611.14	PM11003
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		19794.97	19821.08	19932.98	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		11876.98	11892.65	11959.79	
			Cost for 30 cum = a+b+c+d+e						130646.78	130819.13	131557.68	
			Rate per cum = (a+b+c+d+e)/30						4354.89	4360.64	4385.26	
								Say	**4354.90**	**4360.60**	**4385.30**	
		Case II	***PCC Grade M15 using batching plant & manual placing***									
			Unit=cum									
			Taking output = 15cum									
			a) Material									
			Per Cum Basic Cost (Rate taken from Sub-Analysis 21.03)	cum	15.000	15.000	15.000	3034.40	45516.00	45516.00	45516.00	21.03
			Water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery Transit truck agitator									
			For transportation	tonne-Km	37.5×L1	37.5×L1	37.5×L1	10.87	407.63	407.63	407.63	PM76001
			(6 cum Capacity)									
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and unloading @ 30 mins per trip)									

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Analysis of Rate
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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			(i) 16 KL capacity	hour	0.055×L1+ 0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073×L1+ 0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146×L1+ 0.875	789.00			805.57	PM11003
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		10589.20	10602.24	10658.09	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		6353.52	6361.35	6394.85	
			Cost for 15 cum = a+b+c+d+e						69888.74	69974.80	70343.39	
			Rate per cum = (a+b+c+d+e)/15						4659.25	4664.99	4689.56	
								Say	**4659.20**	**4665.00**	**4689.60**	
12.42	**1600**		**Supplying, Fitting and Placing un-coated HYSD bar Reinforcement in Foundation complete as per Drawing and Technical Specifications.**									
			Unit=MT									
			Taking output = 8 MT									
			a) Material									
			HYSD bars including 5 percent overlaps and wastage	tonne	8.400	8.400	8.400	46087.50	387135.00	387135.00	387135.00	M-083
			Binding wire	kg	48.000	48.000	48.000	49.41	2371.68	2371.68	2371.68	M-072
			b) Labour for straightening, cutting, bending, shifting to site, tying and placing in position									
			Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
			Blacksmith	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-01
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			c) Machinery									
			Cutting Machine	hour	5.333	5.333	5.333	414.00	2207.86	2207.86	2207.86	PM43001
			Bending Machine	hour	5.333	5.333	5.333	414.00	2207.86	2207.86	2207.86	PM43001
			Electric generator 15 KVA	hour	5.333	5.333	5.333	300.00	1599.90	1599.90	1599.90	PM22009
			Tipper									
			Tipper for Transportation									
			(i) 18 cum capacity	t.km	8×L1			4.98	39.84			PM72001
			(ii) 14 cum capacity	t.km		8×L1		5.71		45.68		PM73001

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Analysis of Rate
FOUNDATIONS

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			(iii) 10 cum capacity	t.km			8×L1	7.10			56.80	PM74001
			Loading & Unloading Time	hour								
			(i) 18 cum capacity	hour	1.000			2349.00	2349.00			PM6001
			(ii) 14 cum capacity	hour		1.280		2108.00		2698.24		PM6002
			(iii) 10 cum capacity	hour			1.778	1891.00			3362.20	PM6003
			Light weight Crane									
			At cutting bending yard	hour	2.000	2.000	2.000	860.00	1720.00	1720.00	1720.00	PM63001
			At site	hour	2.000	2.000	2.000	860.00	1720.00	1720.00	1720.00	PM63001
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		80649.44	80720.45	80855.47	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		48389.66	48432.27	48513.28	
			Cost for 8 MT = (a+b+c+d+e)						532286.28	532754.99	533646.09	
			Rate for per MT = (a+b+c+d+e)/8						66535.79	66594.37	66705.76	
								Say	**66535.80**	**66594.40**	**66705.80**	
12.43	**1600**		**Supplying, Fitting and Placing un-coated Mild steel Reinforcement in Foundation complete as per Drawing and Technical Specifications.**									
			Unit=MT									
			Taking output = 8 MT									
			a) Material									
			MS bars including 5 percent overlaps and wastage	tonne	8.400	8.400	8.400	50050.00	420420.00	420420.00	420420.00	M-125
			Binding wire	kg	48.000	48.000	48.000	49.41	2371.68	2371.68	2371.68	M-072
			b) Labour for straightening, cutting, bending, shifting to site, tying and placing in position									
			Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
			Blacksmith	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-01
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			c) Machinery									
			Cutting Machine	hour	5.333	5.333	5.333	414.00	2207.86	2207.86	2207.86	PM43001
			Bending Machine	hour	5.333	5.333	5.333	414.00	2207.86	2207.86	2207.86	PM43001
			Electric generator 15 KVA	hour	5.333	5.333	5.333	300.00	1599.90	1599.90	1599.90	PM22009
			Tipper									
			Tipper for Transportation									

CHAPTER-12

Analysis of Rate

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			(i) 18 cum capacity	t.km	8×L1			4.98	39.84			PM72001
			(ii) 14 cum capacity	t.km		8×L1		5.71		45.68		PM73001
			(iii) 10 cum capacity	t.km			8×L1	7.10			56.80	PM74001
			Loading & Unloading Time									
			(i) 18 cum capacity	hour	1.000			2349.00	2349.00			PM6001
			(ii) 14 cum capacity	hour		1.280		2108.00		2698.24		PM6002
			(iii) 10 cum capacity	hour			1.778	1891.00			3362.20	PM6003
			Light weight Crane									
			At cutting bending yard	hour	2.000	2.000	2.000	860.00	1720.00	1720.00	1720.00	PM63001
			At site	hour	2.000	2.000	2.000	860.00	1720.00	1720.00	1720.00	PM63001
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		87306.44	87377.45	87512.47	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		52383.86	52426.47	52507.48	
			Cost for 8 MT = (a+b+c+d+e)						576222.48	576691.19	577582.29	
			Rate for per MT = (a+b+c+d+e)/8						72027.81	72086.40	72197.79	
								Say	**72027.80**	**72086.40**	**72197.80**	

CHAPTER- 13

BRIDGE SUB-STRUCTURE

CHAPTER-13

BRIDGE SUB-STRUCTURE

PREAMBLE S:

1 Although, Substructures are generally constructed in cement concrete, the rate analysis for brick and stone masonry in CM 1:3 have also been included which can be adopted if permitted by design.

2 The cost of formwork will vary with the height of the substructure. Provision has accordingly been made.

3 As the higher grade of concrete is costlier , the provision made for formwork on perceentage basis has been suitably adjusted to make it comparable with other grades.

4 Bridge bearing, being commercial items produced by specialized firms with imported technology and parts, the rates for the same are required to be ascertained from the market for the approved design and technical specifications. These rates are not included in the analysis as they can vary from design to design and base on their loading arrangement and span variations, hence if required they maybe analysed for a particular project depending upon the loadings and design.

5 Filter media and backfilling behind abutments are required to be provided as per guidelines given in IRC:78.

6 Weep holes shall be provided as per Clause 2706 of MoRT&H Specifications.

7 In case of roller-cum-rocker bearings, only full circular rollers are to be provided.

8 All bearings shall be set truly level so as to have full and even seating.

9 For elastomeric bearing pads, the concrete surface shall be levelled such that the variation is not more than 1.5 mm from a straight edge placed in any direction across the area.

10 The bearing should be procured only from those manufactures who have been pre-qualified by the Ministry of Road Transport and Highways.

11 The bottoms of girders resting on the bearing shall be plane and truly horizontal.

12 For spans in grade, the bearing shall be placed horizontal by using sole plates for suitable designed RCC pedestals.

CHAPTER- 13
Summary of Rate Analysis
SUB-STRUCTURE

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
13.01	Brick masonry work in 1:3 in substructure complete excluding pointing and plastering, as per drawing and Technical Specifications	cum	7117.20	7122.80	7146.30
13.02	Pointing with cement mortar (1:3) on brick work in sub-structure as per technical specifications	sqm	822.10	822.10	822.10
13.03	Plastering with cement mortar (1:3) on brick work in substructure as per technical specifications	sqm	145.00	145.10	145.70
13.04	Stone masonry work in cement mortar 1:3 for substructure complete as per drawing and technical specifications				
A	Random Rubble Masonry (Coursed/uncoursed)	cum	4793.40	4804.30	4848.90
B	Coursed rubble masonry (first sort)	cum	5145.10	5156.10	5200.60
C	Ashlar masonry (first sort)	cum	6714.60	6725.60	6770.10
13.05	Plain/Reinforced cement concrete in sub-strucutre complete as per drawing and Technical specifications				
A	PCC Grade M15				
(p)	Height upto 5m				
	PCC Grade M15 using batching plant & concrete pump	cum	4790.40	4796.70	4823.80
B	PCC Grade M20				
(p)	Height upto 5m				
	PCC Grade M20 using batching plant, transit mixer & concrete pump	cum	5344.60	5350.90	5378.00
C	PCC Grade M25				
(p)	Height upto 5m				
	PCC Grade M25 using batching plant, transit mixer & concrete pump	cum	5811.60	5817.90	5845.00
(q)	Height 5m to 10m				
	PCC Grade M25 using batching plant, transit mixer & concrete pump	cum	6022.90	6029.50	6057.50
(r)	Height above 10m				
	PCC Grade M25 using batching plant, transit mixer & concrete pump	cum	6287.10	6293.90	6323.20
D	PCC Grade M30				
(p)	Height upto 5 m				
	PCC Grade M30 using batching plant, transit mixer & concrete pump	cum	5857.20	5863.50	5890.60
(q)	Height 5m to 10m				
	PCC Grade M30 using batching plant, transit mixer & concrete pump	cum	6070.20	6076.70	6104.80
(r)	Height above 10m				
	PCC Grade M30 using batching plant, transit mixer & concrete pump	cum	6336.40	6343.20	6372.50
E	RCC Grade M20				
(p)	Height upto 5m				

CHAPTER- 13
Summary of Rate Analysis
SUB-STRUCTURE

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
	RCC Grade M20 using batching plant, transit mixer & concrete pump	cum	5341.40	5347.70	5374.80
(q)	**Height 5m to 10m**				
	RCC Grade M20 using batching plant, transit mixer & concrete pump	cum	5535.60	5542.10	5570.20
(r)	**Height above 10m**				
	RCC Grade M20 using batching plant, transit mixer & concrete pump	cum	5778.40	5785.20	5814.50
F	**RCC Grade M25**				
(p)	**Height upto 5m**				
	RCC Grade M25 using batching plant, transit mixer & concrete pump	cum	5848.40	5854.70	5881.80
(q)	**Height 5 to 10m**				
	RCC Grade M25 using batching plant, transit mixer & concrete pump	cum	6039.80	6046.30	6074.30
(r)	**Height above 10m**				
	RCC Grade M25 using batching plant, transit mixer & concrete pump	cum	6326.90	6333.70	6363.00
G	**RCC Grade M30**				
(p)	**Height upto 5m**				
	RCC Grade M30 using batching plant, transit mixer & concrete pump	cum	5896.50	5902.80	5929.90
(q)	**Height 5m to 10m**				
	RCC Grade M30 using batching plant, transit mixer & concrete pump	cum	6062.60	6069.10	6097.00
(r)	**Height above 10m**				
	RCC Grade M30 using batching plant, transit mixer & concrete pump	cum	6298.50	6305.20	6334.20
H	**RCC Grade M35**				
(p)	**Height upto 5 m**				
	RCC Grade M35 using batching plant, transit mixer & concrete pump	cum	6046.40	6052.80	6079.80
(q)	**Height 5m to 10m**				
	RCC Grade M35 using batching plant, transit mixer & concrete pump	cum	6178.40	6184.80	6212.50
(r)	**Height above 10m**				
	RCC Grade M35 using batching plant, transit mixer & concrete pump	cum	6376.30	6382.90	6411.50
I	**RCC Grade M40**				
(p)	**Height upto 5m**				
	RCC Grade M40 using batching plant, transit mixer & concrete pump	cum	6193.00	6199.30	6226.40
(q)	**Height 5m to 10m**				
	RCC Grade M40 using batching plant, transit mixer & concrete pump	cum	6328.10	6334.50	6362.20
(r)	**Height above 10m**				

CHAPTER- 13
Summary of Rate Analysis
SUB-STRUCTURE

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
	RCC Grade M40 using batching plant, transit mixer & concrete pump	cum	6530.80	6537.40	6566.00
J	RCC Grade M 45				
(p)	Height upto 5m				
	RCC Grade M45 using batching plant, transit mixer & concrete pump	cum	6231.90	6238.20	6265.30
(q)	Height 5m to 10m				
	RCC Grade M45 using batching plant, transit mixer & concrete pump	cum	6367.80	6374.30	6402.00
(r)	Height above 10m				
	RCC Grade M45 using batching plant, transit mixer & concrete pump	cum	6571.80	6578.50	6607.00
K	RCC Grade M50				
(p)	Height upto 5m				
	RCC Grade M50 using batching plant, transit mixer & concrete pump	cum	6984.00	6990.30	7017.40
(q)	Height 5m to 10m				
	RCC Grade M50 using batching plant, transit mixer & concrete pump	cum	7136.40	7142.80	7170.50
(r)	Height above 10m				
	RCC Grade M50 using batching plant, transit mixer & concrete pump	cum	7364.90	7371.60	7400.20
13.06	Supplying, fitting and placing HYSD bar reinforcement in sub structure complete as per drawing and technical specifications	MT	66784.10	66842.70	66954.00
13.07	Supplying, fitting and placing Mild steel reinforcement complete in sub structure as per drawing and technical specifications	MT	72276.10	72334.70	72446.10
13.08	Providing weep holes in Brick masonry/ Plain/Reinforced concrete abutment , wing wall/ return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V:20 H towards drawing face. Complete as per drawing and technical specifications.	Nos.	152.50	152.50	152.50
13.09	Back filling behind abutment, wing wall, return wall complete as per drawing and technical specifications				
A	Granular Material	cum	846.40	846.40	846.40
B	Sandy material	cum	1542.70	1542.70	1542.70
13.10	Providing and laying of filter media with granular materials/stones crushed aggregates satisfying the requirements laid down in clause 2504.2.2 of MoRT&H specifications to a thickness of not less than 600 mm with smaller size towards the soil and	cum	1653.70	1653.70	1653.70

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
	bigger size towards the wall and provided over the entire surface behind abutment , wing wall and return wall to the full height compacted to a firm condition complete as per drawing and technical specification.				
13.11	**Supplying and laying of drainage composite for use behind walls , between two different fills, alongside drains of road, below concrete lining of canals etc.. Geo composite for planar drainage, realised by thermos bonding a draining core in extruded monofilaments with two filtering nonwoven geotextiles that may also be working as seperation or protecting layers. The draining three dimensional core will have a "W" configuration as longitudinal parallel channels. Minimum thickness to be 7.2 mm with two filtering UV stabilised polypropylene nonwoven geotextile of minimum thickness of 0.75mm having pores of 150 micron and tensile strength of 8KN/m that will be working as separation or protecting layer, geocomposite having in plane flow capacity of 2.1 L /(m.s) at hydraulic gradient of 1.0 and 20 kpa pressure and tensile strength of 18KN/m, with mass per unit area of 740 gsm , supplied in the form of roll for easy transportation to site of work as per detailed specification all complete as per direction of Engineer in charge.**	sqm	821.50	821.50	821.50
13.12	**Supplying and laying of drainage composite for use behind walls between two different fills, along side drains of road, below concrete lining of canals etc having thermos bonding draining core- HDPE geonet comprises of two sets of parallel overlaid ribs integrally connected to have a rhomboidal shape with a polyethylene film and a nonwoven geotextile having mass per unit area 130g/m2 and tensile strength of 8KN/m that will be working as separation or protecting layer, geocomposite having in plane flow capacity of 0.7 l/(m.s) at hydraulic gradient of 1.0 and 20 kpa pressure and tensile strength of 13.5 KN/m, with mass per unit area of 830 gsm, at easily accesible location including top and bottom, with all leads and lifts, manpower and machinery, materials, labour etc complete and as directed by Engineer in charge**	sqm	975.90	975.90	975.90

CHAPTER- 13
Summary of Rate Analysis
SUB-STRUCTURE

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
13.13	Supplying fitting and fixing in positon true to line and level cast steel rocker bearing conforming to IRC: 83 (pt.-1) Section IX and clause 2003 of MoRT&H specifications complete including all accessories as per drawing and technical specification	tonne	515.10	515.10	515.10
13.14	Supplying fitting and fixing in positon true to line and level forged steel roller bearing conforming to IRC: 83 (pt.-1) Section IX and clause 2003 of Mort&h specifications complete including all accessories as per drawing and technical specification	tonne	286.70	286.70	286.70
13.15	Supplying fitting and fixing in positon true to line and level sliding plate bearing with PTFE surface sliding of stainless steel complete including all accessories as per drawing and technical specification and BS:5400, section 9.1 & 9.2 (for PTFE) and clause 2004 of Mort&H specifications	tonne	247.30	247.30	247.30
13.16	Supplying , fitting and fixing in position true to line and level elastomeric bearing conforming to IRC:83 (Part-II) section IX and clause 2005 of Mort&H specification complete including all accessories as per drawing and technical specifications	cubic cm	1.00	1.00	1.00
13.17	Supplying fitting and fixing in position true to line and level sliding plate bearing with stainless steel plate sliding on stainless steel plate with mild steel matrix complete including all accessories as per drawing and technical specifications.	tonne	221.30	221.30	221.30
13.18	Supplying, fitting and fixing in position true to line and level POT-PTFE bearing consisting of a metal piston supported by a disc or unreinforced elastomer confined within a metal cylinder, sealing rings, dust seals, PTFE surface sliding against stainless steel mating surface, complete assembly to be of cast steel /fabricated structural steel, metal and elastomer elements to be as per IRC:83 Part I & II respectively and other parts conforming to BS:5400 section 9.1 & 9.2 and clause 2006 of Mort&h specification complete as per drawing and approved technical specificatons	tonne	217.50	217.50	217.50

CHAPTER- 13
Summary of Rate Analysis
SUB-STRUCTURE

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
13.19	Protection to sub strucutre by using coal tar epoxy	sqm	87.80	87.80	87.80
13.20	Providing strucutral steel for sub-structure complete as per drawing and technical specifications	MT	122787.50	122787.50	122787.50

CHAPTER-13

Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
13.01	1300 & 2200		**Brick masonry work in 1:3 in substructure complete excluding pointing and plastering, as per drawing and Technical Specifications**									
			Unit=cum									
			Taking output=1cum									
			a) Material									
			Brick Ist class	each	500.000	500.000	500.000	6.620	3310.00	3310.00	3310.00	M-079
			Cement mortar 1:3 (Rate taken from subanalysis 21.01 A)	cum	0.240	0.240	0.240	4019.00	964.56	964.56	964.56	21.01 A
			Water for curing	KL	0.483	0.483	0.483	63.20	30.53	30.53	30.53	M-191
			b) Labour									
			Mate	day	0.064	0.064	0.064	444.00	28.42	28.42	28.42	L-12
			Mason	day	0.800	0.800	0.800	541.00	432.80	432.80	432.80	L-10
			Mazdoor	day	0.800	0.800	0.800	428.00	342.40	342.40	342.40	L-13
			Add for scaffolding @5 percent of cost of material and labour						255.44	255.44	255.44	
			c) Machinery									
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.003 X L1 +0.02			1204.00	27.69			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.004 X L1 + 0.027		1030.00		31.93		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.009 X L1 + 0.054	789.00			49.71	PM11003
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		1078.37	1079.21	1082.77	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		647.02	647.53	649.66	
			Rate per cum (a+b+c+d+e)						7117.21	7122.81	7146.27	

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
								Say	7117.20	7122.80	7146.30	
13.02	1300 & 2200		**Pointing with cement mortar (1:3) on brick work in sub-structure as per technical specifications**									
			Unit=sqm									
			Taking output =10 sqm									
			a) Material									
			Cement mortar 1:3 (Rate taken from sub-analysis 21.01 A)	cum	0.030	0.030	0.030	4019.00	120.57	120.57	120.57	21.01 A
			b) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mason	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-10
			Mazdoor	day	0.500	0.500	0.500	428.00	214.00	214.00	214.00	L-13
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		124.57	124.57	124.57	
			d)Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		74.74	74.74	74.74	
			Rate for 10 sqm (a+b+c+d)						822.14	822.14	822.14	
								Say	822.10	822.10	822.10	
		Note	Scaffolding is already included in item 13.01									
13.03	1300 & 2200		**Plastering with cement mortar (1:3) on brick work in substructure as per technical specifications**									
			Unit= 10sqm									
			Taking output=10sqm									
			a) Material									
			Cement mortar 1:3 (Rate taken from sub-analysis 21.01 A)	cum	0.144	0.144	0.144	4019.00	578.74	578.74	578.74	21.01 A
			Water for curing	KL	0.139	0.139	0.139	63.20	8.78	8.78	8.78	M-191
			b) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mason	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-10
			Mazdoor	day	0.500	0.500	0.500	428.00	214.00	214.00	214.00	L-13
			c) Machinery									
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.001 X L1 + 0.006			1204.00	8.43			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.001 X L1 + .008		1030.00		9.27		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.003 X L1 + 0.015	789.00			14.20	PM11003
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		219.64	219.81	220.80	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		131.79	131.89	132.48	
			Cost for 10 sqm= (a+b+c+d+e)						1449.64	1450.75	1457.26	
			Rate per sqm=(a+b+c+d+e)/10						144.96	145.07	145.73	
		Note	1. Scaffolding is already included in item no. 13.01					**Say**	**145.00**	**145.10**	**145.70**	
			2. The number of mason and mazdoors already catered in the cement mortar have been taken into acount while providing these categories in brick masonry, pointing and plastering									
13.04	**1400 2200**		**Stone masonry work in cement mortar 1:3 for substructure complete as per drawing and technical specifications**									
		A	**Random Rubble Masonry (Coursed/uncoursed)**									
			unit=cum									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Taking output=1cum									
			a) Material									
			Stone	cum	1.000	1.000	1.000	730.02	730.02	730.02	730.02	M-001
			Through and bond stone (7no. X 0.24m X 0.24m X 0.39m=0.16cum)	No.	7.000	7.000	7.000	11.68	81.76	81.76	81.76	M-184
			Cement mortar 1:3 (Rate taken from sub analysis 21.01 A)	cum	0.330	0.330	0.330	4019.00	1326.27	1326.27	1326.27	21.01 A
			Water for curing	KL	0.966	0.966	0.966	63.20	61.05	61.05	61.05	M-191
			b) Labour									
			Mate	day	0.096	0.096	0.096	444.00	42.62	42.62	42.62	L-12
			Mason	day	1.200	1.200	1.200	541.00	649.20	649.20	649.20	L-10
			Mazdoor	day	1.200	1.200	1.200	428.00	513.60	513.60	513.60	L-13
			Add for scaffolding @5 percent of cost of a) Material and b) Labour)						170.23	170.23	170.23	
			c) Machinery									
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.007 X L1 + 0.04			1204.00	56.59			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.009 X L1 + 0.054		1030.00		64.89		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.018 X L1 + 0.107	789.00			98.63	PM11003
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		726.27	727.93	734.68	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		435.76	436.76	440.81	
			Rate per cum (a+b+c+d+e)						4793.37	4804.33	4848.86	
								Say	**4793.40**	**4804.30**	**4848.90**	
13.04		**B**	**Coursed rubble masonry (first sort)**									
			unit=cum									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Taking output=1cum									
			a) Material									
			Stone	cum	1.100	1.100	1.100	730.02	803.02	803.02	803.02	M-001
			Through and bond stone (7no. X 0.24m X 0.24m X 0.39m=0.16cum)	No.	7.000	7.000	7.000	11.68	81.76	81.76	81.76	M-184
			Cement mortar 1:3 (Rate taken from sub analysis 21.01 A)	cum	0.300	0.300	0.300	4019.00	1205.70	1205.70	1205.70	21.01 A
			Water for curing	KL	0.966	0.966	0.966	63.20	61.05	61.05	61.05	M-191
			b) Labour									
			Mate	day	0.120	0.120	0.120	444.00	53.28	53.28	53.28	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.500	1.500	1.500	428.00	642.00	642.00	642.00	L-13
			Add for scaffolding @5 percent of cost of a) Material and b) Labour)						182.92	182.92	182.92	
			c) Machinery									
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.007 X L1 + 0.04			1204.00	56.59			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.009 X L1 + 0.054		1030.00		64.89		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.018 X L1 + 0.107	789.00			98.63	PM11003
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		779.56	781.22	787.97	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		467.74	468.73	472.78	
			Rate per cum (a+b+c+d+e)						5145.12	5156.08	5200.61	
								Say	**5145.10**	**5156.10**	**5200.60**	
13.04		**C**	**Ashlar masonry (first sort)**									
			Plain ashlar									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Unit=cum									
		Taking output=1cum									
		a) Material									
		Stone	cum	1.110	1.110	1.110	730.02	810.32	810.32	810.32	M-001
		Through and bond stone (7no. X 0.24m X 0.24m X 0.39m=0.16cum)	No.	7.000	7.000	7.000	11.68	81.76	81.76	81.76	M-184
		Cement mortar 1:3 (Rate taken from sub analysis 21.01 A)	cum	0.330	0.330	0.330	4019.00	1326.27	1326.27	1326.27	21.01 A
		Water for curing	KL	0.966	0.966	0.966	63.20	61.05	61.05	61.05	M-191
		b) Labour for masonry work									
		Mate	day	0.200	0.200	0.200	444.00	88.80	88.80	88.80	L-12
		Mason	day	2.500	2.500	2.500	541.00	1352.50	1352.50	1352.50	L-10
		Mazdoor	day	2.500	2.500	2.500	428.00	1070.00	1070.00	1070.00	L-13
		Add for scaffolding @5 percent of cost of a) Material and b) Labour)						239.54	239.54	239.54	
		c) Machinery									
		Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
		(i) 16 KL capacity & L1 = 1Km	hour	0.007 X L1 + 0.04			1204.00	56.59			PM11001
		(ii) 12 KL capacity & L1 = 1Km	hour		0.009 X L1 + 0.054		1030.00		64.89		PM11002
		(iii)6 KL capacity & L1 = 1Km	hour			0.018 X L1 + 0.107	789.00			98.63	PM11003
		d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		1017.37	1019.03	1025.77	
		e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		610.42	611.42	615.46	
		Rate per cum (a+b+c+d+e)						6714.61	6725.57	6770.10	
							Say	**6714.60**	**6725.60**	**6770.10**	

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		Note	The labour already considered in the cement mortar have been taken into account while providing these categories in the stone masonry works.									
13.05	**1500,1700 & 2200**		**Plain/Reinforced cement concrete in sub-strucutre complete as per drawing and Technical specifications**									
		A	**PCC Grade M15**									
		(p)	**Height upto 5m**									
			PCC Grade M15 using batching plant & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.03)	cum	30.000	30.000	30.000	3034.40	91032.00	91032.00	91032.00	21.03
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork @10 percent on cost of concrete i.e. cost of material , labour and machinery						9897.48	9910.54	9966.49	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		21774.46	21803.19	21926.28	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		13064.68	13081.91	13155.77	
			Rate per cum (a+b+c+d+e+f)/30						4790.38	4796.70	4823.78	
								Say	**4790.40**	**4796.70**	**4823.80**	
13.05		**B**	**PCC Grade M20**									
		(p)	**Height upto 5m**									
			PCC Grade M20 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.04)	cum	30.000	30.000	30.000	3416.10	102483.00	102483.00	102483.00	21.04
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork @10 percent on cost of concrete i.e. cost of material , labour and machinery						11042.58	11055.64	11111.59	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		24293.68	24322.41	24445.50	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		14576.21	14593.45	14667.30	
			Cost for 30 cum= a+b+c+d+e+f						160338.31	160527.90	161340.30	
			Rate per cum (a+b+c+d+e+f)/30						5344.61	5350.93	5378.01	
								Say	**5344.60**	**5350.90**	**5378.00**	
13.05		**C**	**PCC Grade M25**									
		(p)	**Height upto 5m**									
			PCC Grade M25 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Per cum Basic cost (Rate taken from sub-analysis-21.06)	cum	30.000	30.000	30.000	3737.70	112131.00	112131.00	112131.00	21.06
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork @10 percent on cost of concrete i.e. cost of material , labour and machinery						12007.38	12020.44	12076.39	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		26416.24	26444.97	26568.06	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15849.75	15866.98	15940.84	
			Cost for 30 cum=a+b+c+d+e+f						174347.20	174536.79	175349.20	
			Rate per cum (a+b+c+d+e+f)/30						5811.57	5817.89	5844.97	
								Say	**5811.60**	**5817.90**	**5845.00**	
13.05		**C**	**(q) Height 5m to 10m**									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		PCC Grade M25 using batching plant, transit mixer & concrete pump									
		Unit=cum									
		Taking output=30cum									
		a) Material									
		Per cum Basic cost (Rate taken from sub-analysis-21.06)	cum	30.000	30.000	30.000	3737.70	112131.00	112131.00	112131.00	21.06
		Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
		b) labour									
		For pouring and placing									
		Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
		c) Machinery									
		Transit truck agitator									
		For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
		For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
		Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
		Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
		(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
		(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
		(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
		d) Formwork @12 percent on cost of concrete i.e. cost of material , labour and machinery						14408.86	14424.53	14491.67	

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Add 2 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						2401.48	2404.09	2415.28	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		27376.83	27406.60	27534.17	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		16426.10	16443.96	16520.50	
			Cost for 30 cum=a+b+c+d+e+f						180687.10	180883.58	181725.53	
			Rate per cum (a+b+c+d+e+f)/30						6022.90	6029.45	6057.52	
								Say	**6022.90**	**6029.50**	**6057.50**	
13.05		**C**	**(r) Height above 10m**									
			PCC Grade M25 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.06)	cum	30.000	30.000	30.000	3737.70	112131.00	112131.00	112131.00	21.06
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork @15 percent on cost of concrete i.e. cost of material , labour and machinery						18011.07	18030.66	18114.59	
			Add 4 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						4802.95	4808.18	4830.56	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		28577.57	28608.65	28741.81	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		17146.54	17165.19	17245.09	
			Cost for 30 cum=a+b+c+d+e+f						188611.98	188817.07	189695.95	
			Rate per cum (a+b+c+d+e+f)/30						6287.07	6293.90	6323.20	
								Say	**6287.10**	**6293.90**	**6323.20**	
13.05		**D**	**PCC Grade M30**									
			(p) Height upto 5 m									
			PCC Grade M30 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.08)	cum	30.000	30.000	30.000	3769.10	113073.00	113073.00	113073.00	21.08
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork @10 percent on cost of concrete i.e. cost of material , labour and machinery						12101.58	12114.64	12170.59	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		26623.48	26652.21	26775.30	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15974.09	15991.33	16065.18	
			Cost for 30 cum=a+b+c+d+e+f						175714.99	175904.58	176716.98	
			Rate per cum (a+b+c+d+e+f)/30						5857.17	5863.49	5890.57	
								Say	**5857.20**	**5863.50**	**5890.60**	
13.05		**D**	**(q) Height 5m to 10m**									
			PCC Grade M30 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.08)	cum	30.000	30.000	30.000	3769.10	113073.00	113073.00	113073.00	21.08

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork @12 percent on cost of concrete i.e. cost of material , labour and machinery						14521.90	14537.57	14604.71	
			Add 2 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						2420.32	2422.93	2434.12	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		27591.61	27621.38	27748.95	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		16554.97	16572.83	16649.37	
			Cost for 30 cum=a+b+c+d+e+f						182104.62	182301.11	183143.05	
			Rate per cum (a+b+c+d+e+f)/30						6070.15	6076.70	6104.77	
								Say	**6070.20**	**6076.70**	**6104.80**	

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
13.05		D	(r) Height above 10m									
			PCC Grade M30 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.08)	cum	30.000	30.000	30.000	3769.10	113073.00	113073.00	113073.00	21.08
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork @15 percent on cost of concrete i.e. cost of material , labour and machinery						18152.37	18171.96	18255.89	

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Add 4 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						4840.63	4845.86	4868.24	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		28801.77	28832.84	28966.01	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		17281.06	17299.71	17379.60	
			Cost for 30 cum= a+b+c+d+e+f						190091.67	190296.77	191175.64	
			Rate per cum (a+b+c+d+e+f)/30						6336.39	6343.23	6372.52	
								Say	**6336.40**	**6343.20**	**6372.50**	
13.05		**E**	**RCC Grade M20**									
			(p) Height upto 5m									
			RCC Grade M20 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.05)	cum	30.000	30.000	30.000	3399.00	101970.00	101970.00	101970.00	21.05
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork @10 percent on cost of concrete i.e. cost of material , labour and machinery						11035.86	11048.92	11104.87	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		24278.89	24307.62	24430.71	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		14567.33	14584.57	14658.42	
			Cost for 30 cum= a+b+c+d+e+f						160240.68	160430.26	161242.67	
			Rate per cum (a+b+c+d+e+f)/30						5341.36	5347.68	5374.76	
								Say	**5341.40**	**5347.70**	**5374.80**	
13.05		**E**	**(q) Height 5m to 10m**									
			RCC Grade M20 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.05)	cum	30.000	30.000	30.000	3399.00	101970.00	101970.00	101970.00	21.05
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork @12 percent on cost of concrete i.e. cost of material , labour and machinery						13243.03	13258.70	13325.84	
			Add 2 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						2207.17	2209.78	2220.97	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		25161.76	25191.53	25319.10	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15097.06	15114.92	15191.46	
			Cost for 30 cum= a+b+c+d+e+f						166067.61	166264.09	167106.04	
			Rate per cum (a+b+c+d+e+f)/30						5535.59	5542.14	5570.20	
								Say	**5535.60**	**5542.10**	**5570.20**	
13.05		**E**	**(r) Height above 10m**									
			RCC Grade M20 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Per cum Basic cost (Rate taken from sub-analysis-21.05)	cum	30.000	30.000	30.000	3399.00	101970.00	101970.00	101970.00	21.05
		Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
		b) labour									
		For pouring and placing									
		Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
		c) Machinery									
		Transit truck agitator									
		For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
		For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
		Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
		Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
		(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
		(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
		(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
		d) Formwork @15 percent on cost of concrete i.e. cost of material , labour and machinery						16553.79	16573.37	16657.30	
		Add 4 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						4414.34	4419.57	4441.95	
		e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		26265.34	26296.42	26429.58	
		f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15759.21	15777.85	15857.75	
		Cost for 30 cum= a+b+c+d+e+f						173351.28	173556.38	174435.25	

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Rate per cum (a+b+c+d+e+f)/30						5778.38	5785.21	5814.51	
								Say	**5778.40**	**5785.20**	**5814.50**	
13.05		**F**	**RCC Grade M25**									
			(p) Height upto 5m									
			RCC Grade M25 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.07)	cum	30.000	30.000	30.000	3748.20	112446.00	112446.00	112446.00	21.07
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork									
			Add @ 10 percent on cost of concrete i.e cost of material , labour and machinery (a+b+c) for formwork						12083.46	12096.52	12152.47	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		26583.61	26612.34	26735.43	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		15950.17	15967.40	16041.26	
			Cost for 30 cum= a+b+c+d+e+f						175451.83	175641.42	176453.82	
			Rate per cum (a+b+c+d+e+f)/30						5848.39	5854.71	5881.79	
								Say	**5848.40**	**5854.70**	**5881.80**	
13.05		**F**	**(q) Height 5 to 10m**									
			RCC Grade M25 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.07)	cum	30.000	30.000	30.000	3748.20	112446.00	112446.00	112446.00	21.07
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork									
			Add @11.8 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						14258.48	14273.89	14339.91	
			Add 1.8 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						2175.02	2177.37	2187.44	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		27453.62	27483.28	27610.41	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		16472.17	16489.97	16566.24	
			Cost for 30 cum= a+b+c+d+e+f						181193.89	181389.68	182228.67	
			Rate per cum (a+b+c+d+e+f)/30						6039.80	6046.32	6074.29	
								Say	**6039.80**	**6046.30**	**6074.30**	
13.05		**F**	**(r) Height above 10m**									
			RCC Grade M25 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.07)	cum	30.000	30.000	30.000	3748.20	112446.00	112446.00	112446.00	21.07
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		b) labour									
		For pouring and placing									
		Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
		c) Machinery									
		Transit truck agitator									
		For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
		For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
		Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
		Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
		(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
		(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
		(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
		d) Formwork									
		Add @15 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						18125.19	18144.77	18228.70	
		Add 4 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						4833.38	4838.61	4860.99	
		e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		28758.63	28789.71	28922.87	
		f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		17255.18	17273.83	17353.72	
		Cost for 30 cum= a+b+c+d+e+f						189806.98	190012.08	190890.95	
		Rate per cum (a+b+c+d+e+f)/30						6326.90	6333.74	6363.03	

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
								Say	6326.90	6333.70	6363.00	
13.05		G	RCC Grade M30									
			(p) Height upto 5m									
			RCC Grade M30 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.09)	cum	30.000	30.000	30.000	3781.30	113439.00	113439.00	113439.00	21.09
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork									
			Add @10 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						12182.76	12195.82	12251.77	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		26802.07	26830.80	26953.89	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		16081.24	16098.48	16172.33	
			Cost for 30 cum= a+b+c+d+e+f						176893.66	177083.25	177895.66	
			Rate per cum (a+b+c+d+e+f)/30						5896.46	5902.78	5929.86	
								Say	**5896.50**	**5902.80**	**5929.90**	
13.05		**G**	**(q) Height 5m to 10m**									
			RCC Grade M30 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.09)	cum	30.000	30.000	30.000	3781.30	113439.00	113439.00	113439.00	21.09
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork									
			Add @11.5 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						14010.17	14025.19	14089.53	
			Add 1.6 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						1949.24	1951.33	1960.28	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		27557.40	27586.94	27713.50	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		16534.44	16552.16	16628.10	
			Cost for 30 cum= a+b+c+d+e+f						181878.85	182073.78	182909.08	
			Rate per cum (a+b+c+d+e+f)/30						6062.63	6069.13	6096.97	
								Say	**6062.60**	**6069.10**	**6097.00**	
13.05		**G**	**(r) Height above 10m**									
			RCC Grade M30 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.09)	cum	30.000	30.000	30.000	3781.30	113439.00	113439.00	113439.00	21.09
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		b) labour									
		For pouring and placing									
		Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
		c) Machinery									
		Transit truck agitator									
		For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
		For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
		Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
		Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
		(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
		(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
		(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
		d) Formwork									
		Add @14 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						17055.86	17074.14	17152.47	
		Add 3.5 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						4263.97	4268.54	4288.12	
		e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		28629.48	28660.17	28791.65	
		f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		17177.69	17196.10	17274.99	
		Cost for 30 cum= a+b+c+d+e+f						188954.60	189157.11	190024.91	
		Rate per cum (a+b+c+d+e+f)/30						6298.49	6305.24	6334.16	

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
								Say	6298.50	6305.20	6334.20	
13.05		H	RCC Grade M35									
			(p) Height upto 5 m									
			RCC Grade M35 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.11)	cum	30.000	30.000	30.000	3884.60	116538.00	116538.00	116538.00	21.11
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork									
			Add @10 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						12492.66	12505.72	12561.67	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		27483.85	27512.58	27635.67	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		16490.31	16507.55	16581.40	
			Cost for 30 cum= a+b+c+d+e+f						181393.41	181583.00	182395.40	
			Rate per cum (a+b+c+d+e+f)/30						6046.45	6052.77	6079.85	
								Say	**6046.40**	**6052.80**	**6079.80**	
13.05		**H**	**(q) Height 5m to 10m**									
			RCC Grade M35 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.11)	cum	30.000	30.000	30.000	3884.60	116538.00	116538.00	116538.00	21.11
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork									
			Add @11 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						13741.93	13756.29	13817.83	
			Add 1.4 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						1748.97	1750.80	1758.63	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		28083.50	28112.85	28238.63	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		16850.10	16867.71	16943.18	
			Cost for 30 cum= a+b+c+d+e+f						185351.09	185544.81	186374.94	
			Rate per cum (a+b+c+d+e+f)/30						6178.37	6184.83	6212.50	
								Say	**6178.40**	**6184.80**	**6212.50**	
		Note	The basic components of this analysis are the same as those of items 13.05 (A to H). The only changes are as under									
			(a) Ramps/Stairs: Extra expenditure on structures which are more than 5m high @ 2 percent of cost for height upto 10m and 4									

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BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			percent for heights above 10m will be involved for approaching the work spot by providing higher ramp/stairs case for use by the working parties.									
			(b) The above mentioned percentages have been suitably modified for different categories as cost for various categories varies whereas effort for access for same height will be similar. As the cost of richer concrete is comparatively more , the percentage to be added has been reduced to maintaine the same cost for extra efforts.									
13.05		**H**	**(r) Height above 10m**									
			RCC Grade M35 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.11)	cum	30.000	30.000	30.000	3884.60	116538.00	116538.00	116538.00	21.11
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork									
			Add @13 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						16240.46	16257.43	16330.17	
			Add 3 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						3747.80	3751.71	3768.50	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		28982.97	29013.26	29143.07	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		17389.78	17407.96	17485.84	
			Cost for 30 cum= a+b+c+d+e+f						191287.60	191487.53	192344.25	
			Rate per cum (a+b+c+d+e+f)/30						6376.25	6382.92	6411.47	
								Say	**6376.30**	**6382.90**	**6411.50**	
13.05		**I**	**RCC Grade M40**									
			(p) Height upto 5m									
			RCC Grade M40 using batching plant, transit mixer & concrete pump									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Unit=cum									
		Taking output=30cum									
		a) Material									
		Per cum Basic cost (Rate taken from sub-analysis-21.12)	cum	30.000	30.000	30.000	3985.50	119565.00	119565.00	119565.00	21.12
		Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
		b) labour									
		For pouring and placing									
		Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
		c) Machinery									
		Transit truck agitator									
		For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
		For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
		Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
		Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
		(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
		(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
		(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
		d) Formwork									
		Add @10 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						12795.36	12808.42	12864.37	
		e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		28149.79	28178.52	28301.61	

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		16889.87	16907.11	16980.96	
			Cost for 30 cum= a+b+c+d+e+f						185788.62	185978.20	186790.61	
			Rate per cum (a+b+c+d+e+f)/30						6192.95	6199.27	6226.35	
								Say	**6193.00**	**6199.30**	**6226.40**	
13.05		**I**	**(q) Height 5m to 10m**									
			RCC Grade M40 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.12)	cum	30.000	30.000	30.000	3985.50	119565.00	119565.00	119565.00	21.12
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork									
			Add @11 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						14074.90	14089.26	14150.80	
			Add 1.4 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						1791.35	1793.18	1801.01	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		28763.97	28793.32	28919.10	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		17258.38	17275.99	17351.46	
			Cost for 30 cum= a+b+c+d+e+f						189842.19	190035.91	190866.04	
			Rate per cum (a+b+c+d+e+f)/30						6328.07	6334.53	6362.20	
								Say	**6328.10**	**6334.50**	**6362.20**	
13.05		**I**	**(r) Height above 10m**									
			RCC Grade M40 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.12)	cum	30.000	30.000	30.000	3985.50	119565.00	119565.00	119565.00	21.12
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork									
			Add @13 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						16633.97	16650.94	16723.68	
			Add 3 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						3838.61	3842.52	3859.31	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		29685.23	29715.53	29845.33	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		17811.14	17829.32	17907.20	
			Cost for 30 cum= a+b+c+d+e+f						195922.54	196122.47	196979.19	
			Rate per cum (a+b+c+d+e+f)/30						6530.75	6537.42	6565.97	
								Say	**6530.80**	**6537.40**	**6566.00**	
13.05		**J**	**RCC Grade M 45**									
			(p) Height upto 5m									
			RCC Grade M45 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		a) Material									
		Per cum Basic cost (Rate taken from sub-analysis-21.13)	cum	30.000	30.000	30.000	4012.30	120369.00	120369.00	120369.00	21.13
		Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
		b) labour									
		For pouring and placing									
		Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
		c) Machinery									
		Transit truck agitator									
		For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
		For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
		Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
		Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
		(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
		(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
		(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
		d) Formwork									
		Add @10 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						12875.76	12888.82	12944.77	
		e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		28326.67	28355.40	28478.49	
		f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		16996.00	17013.24	17087.09	
		Cost for 30 cum= a+b+c+d+e+f						186956.02	187145.61	187958.02	

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Rate per cum (a+b+c+d+e+f)/30						6231.87	6238.19	6265.27	
								Say	**6231.90**	**6238.20**	**6265.30**	
13.05		**J**	**(q) Height 5m to 10m**									
			RCC Grade M45 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.13)	cum	30.000	30.000	30.000	4012.30	120369.00	120369.00	120369.00	21.13
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork									
			Add @11 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						14163.34	14177.70	14239.24	
			Add 1.4 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						1802.61	1804.43	1812.27	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		28944.71	28974.06	29099.84	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		17366.82	17384.44	17459.90	
			Cost for 30 cum= a+b+c+d+e+f						191035.06	191228.79	192058.92	
			Rate per cum (a+b+c+d+e+f)/30						6367.84	6374.29	6401.96	
								Say	**6367.80**	**6374.30**	**6402.00**	
13.05		**J**	**(r) Height above 10m**									
			RCC Grade M45 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.13)	cum	30.000	30.000	30.000	4012.30	120369.00	120369.00	120369.00	21.13
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork									
			Add @13 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						16738.49	16755.46	16828.20	
			Add 3 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						3862.73	3866.64	3883.43	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		29871.76	29902.05	30031.86	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		17923.06	17941.23	18019.12	
			Cost for 30 cum= a+b+c+d+e+f						197153.62	197353.55	198210.27	
			Rate per cum (a+b+c+d+e+f)/30						6571.79	6578.45	6607.01	
								Say	**6571.80**	**6578.50**	**6607.00**	
13.05		**K**	**RCC Grade M50**									
			(p) Height upto 5m									
			RCC Grade M50 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Per cum Basic cost (Rate taken from sub-analysis-21.14)	cum	30.000	30.000	30.000	4530.30	135909.00	135909.00	135909.00	21.14
		Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
		b) labour									
		For pouring and placing									
		Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
		c) Machinery									
		Transit truck agitator									
		For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
		For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
		Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
		Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
		(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
		(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
		(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
		d) Formwork									
		Add @10 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						14429.76	14442.82	14498.77	
		e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		31745.47	31774.20	31897.29	
		f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		19047.28	19064.52	19138.37	
		Cost for 30 cum= a+b+c+d+e+f						209520.10	209709.69	210522.10	
		Rate per cum (a+b+c+d+e+f)/30						6984.00	6990.32	7017.40	

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
								Say	6984.00	6990.30	7017.40	
13.05		K	(q) Height 5m to 10m									
			RCC Grade M50 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.14)	cum	30.000	30.000	30.000	4530.30	135909.00	135909.00	135909.00	21.14
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Add @11 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						15872.74	15887.10	15948.64	
			Add 1.4 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						2020.17	2021.99	2029.83	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		32438.10	32467.45	32593.23	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		19462.86	19480.47	19555.94	
			Cost for 30 cum= a+b+c+d+e+f						214091.45	214285.18	215115.31	
			Rate per cum (a+b+c+d+e+f)/30						7136.38	7142.84	7170.51	
								Say	**7136.40**	**7142.80**	**7170.50**	
13.05		**K**	**(r) Height above 10m**									
			RCC Grade M50 using batching plant, transit mixer & concrete pump									
			Unit=cum									
			Taking output=30cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub-analysis-21.14)	cum	30.000	30.000	30.000	4530.30	135909.00	135909.00	135909.00	21.14
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6cum capacity) & L1 = 1Km	tonne-km	75 X L1	75 X L1	75 X L1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @30 mins per trip)									
			(i) 16 KL capacity & L1 = 1Km	hour	0.109 X L1 + 0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity & L1 = 1Km	hour		0.146 X L1 + 0.875		1030.00		1051.63		PM11002
			(iii)6 KL capacity & L1 = 1Km	hour			0.292 X L1 +1.75	789.00			1611.14	PM11003
			d) Formwork									
			Add @13 percent on cost of concrete i.e. cost of material , labour and machinery (a+b+c) for formwork						18758.69	18775.66	18848.40	
			Add 3 percent of cost of material, labour and machinery excluding formwork to cater for extra lift						4328.93	4332.84	4349.63	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		33477.04	33507.33	33637.14	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		20086.22	20104.40	20182.28	
			Cost for 30 cum= a+b+c+d+e+f						220948.47	221148.40	222005.12	
			Rate per cum (a+b+c+d+e+f)/30						7364.95	7371.61	7400.17	
								Say	**7364.90**	**7371.60**	**7400.20**	
		Note	The basic components of this analysis are the same as those of items 13.05 (A to K). The only changes are as under									
			(a) Ramps/Stairs: Extra expenditure on structures which are more than 5m high @ 2 percent of cost for height upto 10m and 4									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			percent for heights above 10m will be involved for approaching the work spot by providing higher ramp/stairs case for use by the working parties.									
			(b) The above mentioned percentage have been suitably modified for different categories as cost for various categories varies whereas effort for access for same height will be similar. As the cost of richer concrete is comparatively more , the percentage to be added has been reduced to maintain the same cost for extra efforts.									
13.06	**Section 1600 & 2200**		**Supplying, fitting and placing HYSD bar reinforcement in sub structure complete as per drawing and technical specifications**									
			Unit=MT									
			Taking output=8MT									
			a) Material									
			HYSD bars including 5% overlaps and wastage	tonne	8.400	8.400	8.400	46087.50	387135.00	387135.00	387135.00	M-083
			Binding Wire	kg	48.000	48.000	48.000	49.41	2371.68	2371.68	2371.68	M-072
			b) Labour for straightening, cutting, bending , shifting to site tying and placing in position.									
			Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Blacksmith	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-25
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			c) Machinery									
			Cutting Machine	hour	6.667	6.667	6.667	414.00	2760.14	2760.14	2760.14	PM43001
			Bending machine	hour	6.667	6.667	6.667	414.00	2760.14	2760.14	2760.14	PM43001
			Electric generator 15 KVA	hour	6.667	6.667	6.667	300.00	2000.10	2000.10	2000.10	PM22009
			Tipper									
			Tipper for transportation									
			(i) 18 cum capacity	t.km	8 X L1			4.98	39.84			PM72001
			(ii) 14 cum capacity	t.km		8 X L1		5.71		45.68		PM73001
			(iii) 10 cum capacity	t.km			8 X L1	7.10			56.80	PM74001
			Loading & unloading time									
			(i) 18 cum capacity	hour	1.000			2349.00	2349.00			PM6001
			(ii) 14 cum capacity	hour		1.280		2108.00		2698.24		PM6002
			(iii) 10 cum capacity	hour			1.778	1891.00			3362.20	PM6003
			Light weight crane									
			At cutting bending yard	hour	2.000	2.000	2.000	860.00	1720.00	1720.00	1720.00	PM63001
			At site	hour	2.000	2.000	2.000	860.00	1720.00	1720.00	1720.00	PM63001
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		80950.39	81021.40	81156.42	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		48570.23	48612.84	48693.85	
			Cost for 8MT (a+b+c+d+e)						534272.56	534741.26	535632.36	
			Rate per MT= (a+b+c+d+e)/8						66784.07	66842.66	66954.05	
								Say	**66784.10**	**66842.70**	**66954.00**	
13.07	**Section 1600 & 2200**		**Supplying, fitting and placing Mild steel reinforcement complete in sub structure as per drawing and technical specifications**									
			Unit=MT									
			Taking output=8MT									
			a) Material									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			MS bars including 5% overlaps and wastage	tonne	8.400	8.400	8.400	50050.00	420420.00	420420.00	420420.00	M-125
			Binding Wire	kg	48.000	48.000	48.000	49.41	2371.68	2371.68	2371.68	M-072
			b) Labour for straightening, cutting, bending , shifting to site tying and placing in position.									
			Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
			Blacksmith	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-25
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			c) Machinery									
			Cutting Machine	hour	6.667	6.667	6.667	414.00	2760.14	2760.14	2760.14	PM43001
			Bending machine	hour	6.667	6.667	6.667	414.00	2760.14	2760.14	2760.14	PM43001
			Electric generator 15 KVA	hour	6.667	6.667	6.667	300.00	2000.10	2000.10	2000.10	PM22009
			Tipper									
			Tipper for transportation									
			(i) 18 cum capacity	t.km	8 X L1			4.98	39.84			PM72001
			(ii) 14 cum capacity	t.km		8 X L1		5.71		45.68		PM73001
			(iii) 10 cum capacity	t.km			8 X L1	7.10			56.80	PM74001
			Loading & unloading time									
			(i) 18 cum capacity	hour	1.000			2349.00	2349.00			PM6001
			(ii) 14 cum capacity	hour		1.280		2108.00		2698.24		PM6002
			(iii) 10 cum capacity	hour			1.778	1891.00			3362.20	PM6003
			Light weight crane									
			At cutting bending yard	hour	2.000	2.000	2.000	860.00	1720.00	1720.00	1720.00	PM63001
			At site	hour	2.000	2.000	2.000	860.00	1720.00	1720.00	1720.00	PM63001
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		87607.39	87678.40	87813.42	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		52564.43	52607.04	52688.05	
			Cost for 8MT (a+b+c+d+e)						578208.76	578677.46	579568.56	
			Rate per MT= (a+b+c+d+e)/8						72276.09	72334.68	72446.07	
								Say	**72276.10**	**72334.70**	**72446.10**	

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
13.08	2706 & 2200	**Providing weep holes in Brick masonry/ Plain/Reinforced concrete abutment , wing wall/ return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V:20 H towards drawing face. Complete as per drawing and technical specifications.**									
		Unit=Nos.									
		Taking output=30 nos.									
		a) Material									
		AC pipe 100 mm dia (including wastage @ 5%)	metre	31.500	31.500	31.500	47.39	1492.79	1492.79	1492.79	M-056
		Average length of weep hole is taken as 1m for the purpose of estimating									
		MS Clamp	each	30.000	30.000	30.000	44.46	1333.80	1333.80	1333.80	M-122
		Collar for AC pipe (average)	each	10.000	10.000	10.000	4.74	47.39	47.39	47.39	M056 X 0.1
		taking 10 % of above pipe rate									
		Per cum basic cost (rate taken from sub analysis-21.01 A)	cum	0.050	0.050	0.050	4019.00	200.95	200.95	200.95	21.01 A
		b) Labour									
		Mate	day	0.030	0.030	0.030	444.00	13.32	13.32	13.32	L-12
		Mason	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-10
		Mazdoor	day	0.250	0.250	0.250	428.00	107.00	107.00	107.00	L-13
		c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		693.15	693.15	693.15	
		d) Contractors profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		415.89	415.89	415.89	
		Cost for 30 Nos.= (a+b+c+d)						4574.78	4574.78	4574.78	
		Rate per No.=(a+b+c+d)/30						152.49	152.49	152.49	
							Say	**152.50**	**152.50**	**152.50**	

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			1. In case of stone masonry, the size of the weep holes shall be 150mm X 80 mm or circular with 150mm diameter.									
			2. For structure in stone masonry, the weep holes shall be deemed to be included in the item of stone masonry work and shall not be paid separately									
13.09	**710.1.4. of IRC:78 & 2200**		**Back filling behind abutment, wing wall, return wall complete as per drawing and technical specifications**									
			Unit=cum									
			Taking output=10 cum									
		A	**Granular Material**									
			a) Labour									
			Mate	day	0.280	0.280	0.280	444.00	124.32	124.32	124.32	L-12
			Mazdoor	day	7.000	7.000	7.000	428.00	2996.00	2996.00	2996.00	L-13
			b) Material									
			Granular material	cum	12.000	12.000	12.000	173.92	2087.04	2087.04	2087.04	M-009
			c) Machinery									
			Plate compactor/power rammer	hour	2.500	2.500	2.500	466.00	1165.00	1165.00	1165.00	PM46001
			Water tanker 6KL capacity	hour	0.050	0.050	0.050	789.00	39.45	39.45	39.45	PM11003
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		1282.36	1282.36	1282.36	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		769.42	769.42	769.42	
			Cost for 10 cum of granular backfill=a+b+c+d+e						8463.59	8463.59	8463.59	
			Rate per cum= (a+b+c+d+e)/10						846.36	846.36	846.36	
								Say	**846.40**	**846.40**	**846.40**	
13.09		**B**	**Sandy material**									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			a) Labour									
			Mate	day	0.280	0.280	0.280	444.00	124.32	124.32	124.32	L-12
			Mazdoor for filling, watering,ramming, etc	day	7.000	7.000	7.000	428.00	2996.00	2996.00	2996.00	L-13
			b) Material									
			Sand	cum	12.000	12.000	12.000	612.90	7354.80	7354.80	7354.80	M-004*
			c) Machinery									
			Plate compactor/ power rammer	hour	2.500	2.500	2.500	466.00	1165.00	1165.00	1165.00	PM46001
			Water tanker 6KL capacity	hour	0.060	0.060	0.060	789.00	47.34	47.34	47.34	PM11003
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		2337.49	2337.49	2337.49	
			e)Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		1402.50	1402.50	1402.50	
			Cost for 10 cum of sandy backfill= a+b+c+d+e						15427.45	15427.45	15427.45	
			Rate per cum= (a+b+c+d+e)/10						1542.74	1542.74	1542.74	
								Say	**1542.70**	**1542.70**	**1542.70**	
13.10	**710.1.4 of IRC :78 & 2504.2**		**Providing and laying of filter media with granular materials/stones crushed aggregates satisfying the requirements laid down in clause 2504.2.2 of MoRT&H specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment , wing wall and return wall to the full height compacted to a firm condition complete as per drawing and technical specification.**									
			Unit=cum									
			Taking output=10 cum									
			a) Labour									
			Mate	day	0.320	0.320	0.320	444.00	142.08	142.08	142.08	L-12
			Mazdoor for filling, watering , ramming, etc	day	7.000	7.000	7.000	428.00	2996.00	2996.00	2996.00	L-13

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Mazdoor (skilled)	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		b) Material									
		Filter media of stone aggregate conforming ito clause 2504.2.2 of MoRT&H specification	cum	12.000	12.000	12.000	733.48	8801.76	8801.76	8801.76	M-011
		c)Machinery									
		Water tanker of 6KL capacity	hour	0.060	0.060	0.060	789.00	47.34	47.34	47.34	PM11003
		d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		2505.64	2505.64	2505.64	
		e)Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		1503.38	1503.38	1503.38	
		Cost for 10 cum of filter media = a+b+c+d+e						16537.20	16537.20	16537.20	
		Rate per cum= (a+b+c+d+e)/10						1653.72	1653.72	1653.72	
							Say	**1653.70**	**1653.70**	**1653.70**	
13.11	**704**	**Supplying and laying of drainage composite for use behind walls , between two different fills, alongside drains of road, below concrete lining of canals etc.. Geo composite for planar drainage, realised by thermos bonding a draining core in extruded monofilaments with two filtering nonwoven geotextiles that may also be working as seperation or protecting layers. The draining three dimensional core will have a "W" configuration as longitudinal parallel channels.**									
		Minimum thickness to be 7.2 mm with two filtering UV stabilised polypropylene nonwoven geotextile of minimum thickness									

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		of 0.75mm having pores of 150 micron and tensile strength of 8KN/m that will be working as separation or protecting layer, geocomposite having in plane flow capacity of 2.1 L /(m.s) at hydraulic gradient of 1.0 and 20 kpa pressure and tensile strength of 18KN/m, with mass per unit area of 740 gsm , supplied in the form of roll for easy transportation to site of work as per detailed specification all complete as per direction of Engineer in charge.									
		Unit=sqm									
		Taking output=300 sqm									
		a) Labour									
		Mate	day	0.200	0.200	0.200	444.00	88.80	88.80	88.80	L-12
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		Mazdoor (skilled)	day	2.000	2.000	2.000	541.00	1082.00	1082.00	1082.00	L-15
		b) Material									
		Geosynthetic drainge composite	sqm	300.000	300.000	300.000	558.30	167490.00	167490.00	167490.00	M-290
		Add 10 percent of the cost of synthetic composites for wastage and accessories for joining sheets with the fascia panels, overlap, other protective elements for synthetic composites and other miscellaneous activities required to complete the item in all respect including transportation and takes.						16749.00	16749.00	16749.00	

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		37338.76	37338.76	37338.76	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		22403.26	22403.26	22403.26	
			Cost for 300 sqm = a+b+c+d						246435.82	246435.82	246435.82	
			Rate per sqm=(a+b+c+d)/300						821.45	821.45	821.45	
								Say	**821.50**	**821.50**	**821.50**	
13.12	**704**		**Supplying and laying of drainage composite for use behind walls between two different fills, along side drains of road, below concrete lining of canals etc having thermos bonding draining core- HDPE geonet comprises of two sets of parallel overlaid ribs integrally connected to have a rhomboidal shape with a polyethylene film and a nonwoven geotextile having mass per unit area 130g/m2 and tensile strength of 8KN/m that will be working as separation or protecting layer, geocomposite having in plane flow capacity of 0.7 l/(m.s) at hydraulic gradient of 1.0 and 20 kpa pressure and tensile strength of 13.5 KN/m, with mass per unit area of 830 gsm, at easily accesible location including top and bottom, with all leads and lifts, manpower and machinery, materials, labour etc complete and as directed by Engineer in charge**									
			Unit= sqm									
			Taking output= 300sqm									
			a) Labour									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Mate	day	0.200	0.200	0.200	444.00	88.80	88.80	88.80	L-12
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		Mazdoor (skilled)	day	2.000	2.000	2.000	541.00	1082.00	1082.00	1082.00	L-15
		b) Material									
		Geosynthetic drainage composite	sqm	300.000	300.000	300.000	664.65	199395.00	199395.00	199395.00	M-291
		Add 10 percent of the cost of synthetic composites for wastage and accessories for joining sheets with the fascia panels, overlaps, other protective elements for synthetic composites and other miscellaneous activities required to complete the item in all respect including transportation and takes.						19939.50	19939.50	19939.50	
		c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		44357.86	44357.86	44357.86	
		d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		26614.72	26614.72	26614.72	
		Cost for 300 sqm = a+b+c+d						292761.88	292761.88	292761.88	
		Rate per sqm= (a+b+c+d)/300						975.87	975.87	975.87	
							Say	**975.90**	**975.90**	**975.90**	
13.13	**2000,1000 &2200**	**Supplying fitting and fixing in positon true to line and level cast steel rocker bearing conforming to IRC: 83 (pt.-1) Section IX and clause 2003 of MoRT&H specifications complete including all accessories as per drawing and technical specification**									
		Unit=one Tonne capacity									
		Considering a 250 tonne capacity bearing for the analysis									
		a) Labour									
		Mate	day	0.060	0.060	0.060	444.00	26.64	26.64	26.64	L-12
		Mazdoor(skilled)	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
		b) Material									
		Cast steel rocker bearing assembly of 250 tonne design load capacity duly painted complete with all its components as per drawing and specification	each	1.000	1.000	1.000	95865.64	95865.64	95865.64	95865.64	M-065
		Add 1 percent of cost of bearing assembly for foundation anchorage bolts, lifting arrangements, grease and other consumables						958.66	958.66	958.66	
		c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		19509.89	19509.89	19509.89	
		d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		11705.93	11705.93	11705.93	
		Cost for 250 tonnes capacity bearing =a+b+c+d						128765.26	128765.26	128765.26	
		Rate per tonne capacity = (a+b+c+d) /250						515.06	515.06	515.06	
							Say	**515.10**	**515.10**	**515.10**	
13.14	**2000,1000 & 2200**	**Supplying fitting and fixing in positon true to line and level forged steel roller bearing conforming to IRC: 83 (pt.-1) Section IX and clause 2003 of Mort&h specifications complete including all accessories as per drawing and technical specification**									
		Unit= one tonne capacity									
		Considering a 250 tonne capacity bearing for the analysis									
		a) Labour									
		Mate	day	0.060	0.060	0.060	444.00	26.64	26.64	26.64	L-12
		Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
		Mazdoor (skilled)	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			b) Material									
			forged steel roller bearing of 250 tonne design load capacity duly painted complete with all its component as per drawing and specification	each	1.000	1.000	1.000	53052.92	53052.92	53052.92	53052.92	M-067
			Add 1 percent of cost of bearing assembly for foundation anchorage bolts, lifting arrangements, grease and other consumables						530.53	530.53	530.53	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		10861.72	10861.72	10861.72	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		6517.03	6517.03	6517.03	
			Cost for 250 tonnes capacity bearing =a+b+c+d						71687.34	71687.34	71687.34	
			Rate per tonne capacity =(a+b+c+d)/ 250						286.75	286.75	286.75	
								Say	**286.70**	**286.70**	**286.70**	
13.15	**2000 & 2200**		**Supplying fitting and fixing in positon true to line and level sliding plate bearing with PTFE surface sliding of stainless steel complete including all accessories as per drawing and technical specification and BS:5400, section 9.1 & 9.2 (for PTFE) and clause 2004 of Mort&H specifications**									
			Unit= one tonne capacity									
			Considering a 80 tonne capacity bearing for the analysis									
			a) Labour									
			Mate	day	0.060	0.060	0.060	444.00	26.64	26.64	26.64	L-12
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			Mazdoor (skilled)	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15
			b) Material									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			PTFE sliding plate bearing assembly of 80 tonnes design load capacity duly painted complete with all its component as per drawing and specification	each	1.000	1.000	1.000	14120.78	14120.78	14120.78	14120.78	M-069
			Add 1 percent for foundation anchorage bolts, and consumables						141.21	141.21	141.21	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		2997.43	2997.43	2997.43	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1798.46	1798.46	1798.46	
			Cost for 80 tonnes capacity bearing =a+b+c+d						19783.01	19783.01	19783.01	
			Rate per tonne capacity =(a+b+c+d)/ 80						247.29	247.29	247.29	
								Say	**247.30**	**247.30**	**247.30**	
13.16	**2000 & 2200**		**Supplying , fitting and fixing in position true to line and level elastomeric bearing conforming to IRC:83 (Part-II) section IX and clause 2005 of Mort&H specification complete including all accessories as per drawing and technical specifications**									
			Unit= one cubic centimetre									
			Considering an elastomeric bearing of size 500 X 400 X 96 mm for this analysis.									
			Overall volume 19200 cu.cm									
			Volume of 6 nos.488 X 388 X4 mm size reinforcing steel plates= 4545 cu.cm									
			Hence volume of elastomneric = 14655 cu.cm									
			a) Labour									
			Mate	day	0.060	0.060	0.060	444.00	26.64	26.64	26.64	L-12
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			Mazdoor (skilled)	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15
			b) Material									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Elastomeric bearing assembly consisting of 7 layers of elastomer bonded to 6 nos. internal reinforcing steel laminates by the process of vulcanisation, complete with all component as per drawing and technical specifications	each	1.000	1.000	1.000	13248.00	13248.00	13248.00	13248.00	M66
		Add 1 percent of cost of bearing assembly for foundation anchorage bolts and consumables.						132.48	132.48	132.48	
		c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		2821.12	2821.12	2821.12	
		d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1692.67	1692.67	1692.67	
		Cost for 19200 cc of elastomeric bearing =a+b+c+d						18619.42	18619.42	18619.42	
		Rate per cc of elastomeric bearing = (a+b+c+d)/19200						0.97	0.97	0.97	
							Say	**1.00**	**1.00**	**1.00**	
13.17	**2000 & 2200**	**Supplying fitting and fixing in position true to line and level sliding plate bearing with stainless steel plate sliding on stainless steel plate with mild steel matrix complete including all accessories as per drawing and technical specifications.**									
		Unit= one tonne capacity									
		Considering the sliding bearing of 80 tonnes design capacity for this analysis									
		a) Labour									
		Mate	day	0.044	0.044	0.044	444.00	19.54	19.54	19.54	L-12
		Mazdoor	day	0.750	0.750	0.750	428.00	321.00	321.00	321.00	L-13
		Mazdoor (skilled)	day	0.350	0.350	0.350	541.00	189.35	189.35	189.35	L-15
		b) Material									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Supplying of sliding plate bearing of 80 tonnes design capacity complete as per drawing and specification	each	1.000	1.000	1.000	12753.80	12753.80	12753.80	12753.80	M-070
			Add 1 percent of cost of bearing assembly for foundation anchorage bolts, and consumables						127.54	127.54	127.54	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		2682.24	2682.24	2682.24	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1609.35	1609.35	1609.35	
			Cost for 80 tonnes of capacity bearing =a+b+c+d						17702.82	17702.82	17702.82	
			Rate per tonne capacity =(a+b+c+d)/80						221.29	221.29	221.29	
								Say	**221.30**	**221.30**	**221.30**	
13.18	**2000 & 2200**		**Supplying, fitting and fixing in position true to line and level POT-PTFE bearing consisting of a metal piston saupported by a disc or unreinforced elastomer confined within a metal cylinder, sealing rings, dust seals, PTFE surface sliding against stainless steel mating surface, complete assembly to be of cast steel /fabricated structural steel, metal and elastomer elements to be as per IRC:83 Part (i) & (ii) respectively and other parts conforming to BS:5400 section 9.1 & 9.2 and clause 2006 of Mort&h specification complete as per drawing and approved technical specificatons**									
			Unit=one tonne capacity									
			Considering a pot bearing assembly of 250 tonnes capacity for this analysis									
			a) Labour									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Mate	day	0.080	0.080	0.080	444.00	35.52	35.52	35.52	L-12
		Mazdoor	day	1.500	1.500	1.500	428.00	642.00	642.00	642.00	L-13
		Mazdoor (skilled)	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15
		b) Material									
		Pot type bearing assembly consisting of a metal piston supported by a disc, PTFE pads providing sliding surfaces against stainless steel mating together with cast steel assemblies/fabricated structural steel assemblies duly painted with all components as per clause 2006 and complete as per drawings and technical specifications	each	1.000	1.000	1.000	39855.00	39855.00	39855.00	39855.00	M-068
		Add 1 percent of cost of bearing assembly for foundation anchorage bolts and consumables						398.55	398.55	398.55	
		c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		8240.31	8240.31	8240.31	
		d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		4944.19	4944.19	4944.19	
		Cost for 250 tonnes capacity bearing =a+b+c+d						54386.07	54386.07	54386.07	
		Rate per tonne capacity =(a+b+c+d)/ 250						217.54	217.54	217.54	
							Say	**217.50**	**217.50**	**217.50**	
13.19	**Suggestive**	**Protection to substructure by using coal tar epoxy**									
		Providing and applying two coats of two components, high build, 100% solid content, low VOC, polycyclin aromatic hydrocarbon based, Pot life= 2hrs @ 72 deg. F, Tack free- 4-6 hrs, DFT per coat 80-120 microns (dry) coal tar epoxy coating with coal tar									
		Unit=sqm									
		Taking output=100sqm									

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		a) Labour									
		Mate	day	0.360	0.360	0.360	444.00	159.84	159.84	159.84	L-12
		Painter	day	6.000	6.000	6.000	541.00	3246.00	3246.00	3246.00	L-18
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		b) Material									
		Coal tar epoxy coating @ 0.5kg/sqm coverage including 5% wastage	kg	52.500	52.500	52.500	37.06	1945.650	1945.650	1945.650	M-234
		Add 1 percent of cost of abs towards miscellaneous (water, painting brush, etc)						19.457	19.457	19.457	
		c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1330.989	1330.989	1330.989	
		d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		798.594	798.594	798.594	
		Cost for 100 sqm=a+b+c+d						8784.529	8784.529	8784.529	
		Rate per sqm=(a+b+c+d)/100					**Say**	**87.800**	**87.800**	**87.800**	
13.20		**Providing structural steel for sub-structure complete as per drawing and technical specifications**									
		Unit=MT									
		Taking output=10MT									
		a) Material									
		Structural steel in plates, angles etc including 5 % wastage	tonne	10.500	10.500	10.500	49936.67	524335.04	524335.04	524335.04	M-181
		Nuts and bolts	kg	105.00	105.00	105.00	80.60	8463.00	8463.00	8463.00	M-129
		b) Labour									
		(for cutting, bending, making holes,joining welding and erecting in position)									
		Mate	day	12.312	12.312	12.312	444.00	5466.53	5466.53	5466.53	L-12
		Fitter	day	45.000	45.000	45.000	541.00	24345.00	24345.00	24345.00	L-08
		Blacksmith	day	45.000	45.000	45.000	541.00	24345.00	24345.00	24345.00	L-25
		Welder	day	45.000	45.000	45.000	660.00	29700.00	29700.00	29700.00	L-02

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Analysis of Rate

BRIDGE SUB-STRUCTURE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Painter I class	day	18.900	18.900	18.900	541.00	10224.90	10224.90	10224.90	L-18
		Mazdoor	day	153.900	153.900	153.900	428.00	65869.20	65869.20	65869.20	L-13
		Electodes, cutting gas and other consumables @ 10 percent of cost of (a) above						53279.80	53279.80	53279.80	
		c) Machinery									
		Mobile hydraulic crane 10 tonne capacity (for fabrication)	hrs	40.000	40.000	40.000	995.00	39800.00	39800.00	39800.00	PM63003
		Crane 35 tonne capacity (for loading & unloading@ 1 hr for each operation)	hrs	2.000	2.000	2.000	1853.00	3706.00	3706.00	3706.00	PM63006
		Crane 35 tonne capacity (for lifting and placing in position @ 2 hr)	hrs	2.000	2.000	2.000	1853.00	3706.00	3706.00	3706.00	PM63006
		Trailer 30 tonne capacity for transporting to site	hrs	2+ L/15	2+ L/15	2+ L/15	2349.00	4854.60	4854.60	4854.60	PM6001
		Applying two coats primer before painting of truss and girder (42 sqm/tonne) (85.21/1.35=63.118)	lits	525.000	525.000	525.000	63.118	33136.95	33136.95	33136.95	M-145
		Painting of Truss and girder	lits	525.000	525.000	525.000	136.92	71883.00	71883.00	71883.00	M-058
		Sundries @ 3% of the above						27093.45	27093.45	27093.45	
		d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		186041.69	186041.69	186041.69	
		e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		111625.02	111625.02	111625.02	
		Cost for 10 MT=a+b+c+d+e						1227875.18	1227875.18	1227875.18	
		Rate per MT=(a+b+c+d+e)/10						122787.52	122787.52	122787.52	
							Say	**122787.50**	**122787.50**	**122787.50**	

CHAPTER- 14

SUPER-STRUCTURE

CHAPTER-14

BRIDGE SUPER-STRUCTURE

PREAMBLES :

1 The rate for the wearing coat has been analyzed as under :

a) Cement concrete wearing coat

b) Asphaltic concrete wearing coat

c) Bitumen mastic wearing coat

The item may be selected as per approved design. In case the thickness of wearing coat is different from that analyzed, the rate for the desired thickness may be worked out on pro-rata basis.

2 The rate analysis has been done both for RCC railing and M.S. railing, which can be adopted as per approved design.

3 The length of drainage spout has been provided in such a way that it is connected to the drainage system on the ground in case of flyover and there is no splashing of water on the structure in case of bridges.

4 The rate for anti-corresive treatment is required to be ascertained from firms specialized in this work.

5 Expansion joints involving moments exceeding 40 mm are specialized readymade items commercially produced by reputed firms with imported technology and parts. The rates for such joints are required to be ascertained from the firms pre-qualified by the Ministry.

6 The rate analysis for pre-stressed cement concrete of M60 grade has also been included which can be adopted for bridges with innovative design/construction.

7 Supply of new type of expansion joint may be obtained on the basis of competitive bidding from amongst the suppliers pre-qualified by the Ministry of Road Transport and Highways. Further, a warranty of 10 years of trouble free performance may be insisted from the suppliers

8 For bridges having wide deck/spm length of more than 120 M or/and involving complex movements/rotations in different directions/planes, provision of a special type of modular expansion joint such as swivel joists joints are required for which firms specialise in this field may be consulted. such cases will require prior approval of ministry.

CHAPTER- 14
Summary of Rate Analysis
SUPER-STRUCTURE

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
14.01	Furnishing and Placing Reinforced/ Prestressed cement concrete in super-structure as per drawing and Technical Specification.				
A	RCC Grade M20				
	Using Batching Plant ,Transit Mixer and Concrete Pump				
(i)	For solid slab super-structure, 20-30 percent of (a+b+c)				
(p)	Height upto 5m	cum	5758.50	5765.30	5794.90
(q)	Height 5m to 10m	cum	5998.40	6005.50	6036.30
(r)	Height above 10m	cum	6238.40	6245.80	6277.80
(ii)	For T-beam & slab, 25-35 percent of (a+b+c)				
(p)	Height upto 5m	cum	5998.40	6005.50	6036.30
(q)	Height 5m to 10m	cum	6238.40	6245.80	6277.80
(r)	Height above 10m	cum	6478.30	6486.00	6519.20
B	RCC Grade M25 Using Batching Plant, Transit Mixer and Concrete Pump				
(i)	For solid slab super-structure, 20-30 percent of (a+b+c)				
(p)	Height upto 5m	cum	6311.60	6318.50	6348.00
(q)	Height 5m to 10m	cum	6574.60	6581.70	6612.50
(r)	Height above 10m	cum	6837.60	6845.00	6877.00
(ii)	For T-beam & slab, 25-35 percent of (a+b+c)				
(p)	Height upto 5m	cum	6574.60	6581.70	6612.50
(q)	Height 5m to 10m	cum	6837.60	6845.00	6877.00
(r)	Height above 10m	cum	7100.60	7108.30	7141.50
C	RCC Grade M30 Using Batching Plant,Transit Mixer and Concrete Pump.				
(i)	For solid slab super-structure, 20-30 percent of (a+b+c)				
(p)	Height upto 5m	cum	6364.10	6370.90	6400.40
(q)	Height 5m to 10m	cum	6629.20	6636.30	6667.10
(r)	Height above 10m	cum	6894.40	6901.80	6933.80
(ii)	For T-beam & slab, 25-35 percent of (a+b+c)				
(p)	Height upto 5m	cum	6629.20	6636.30	6667.10
(q)	Height 5m to 10m	cum	6894.40	6901.80	6933.80
(r)	Height above 10m	cum	7159.60	7167.20	7200.50
D	RCC/PSC Grade M35				
	Using Batching Plant, Transit Mixer and Concrete Pump				

CHAPTER- 14
Summary of Rate Analysis
SUPER-STRUCTURE

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
(i)	For solid slab super-structure, 18-28 percent of (a+b+c)				
(p)	Height upto 5m	cum	6418.90	6425.60	6454.70
(q)	Height 5m to 10m	cum	6690.90	6697.90	6728.20
(r)	Height above 10m	cum	6962.90	6970.10	7001.70
(ii)	For T-beam & slab, 23-33 percent of (a+b+c)				
(p)	Height upto 5m	cum	6690.90	6697.90	6728.20
(q)	Height 5m to 10m	cum	6962.90	6970.10	7001.70
(r)	Height above 10m	cum	7234.80	7242.40	7275.20
(iii)	For box girder and balanced cantilever ,38-58 percent of cost concrete.				
(p)	Height upto 5m	cum	7506.80	7514.70	7548.70
(q)	Height 5m to 10m	cum	8050.80	8059.20	8095.70
(r)	Height above 10m	cum	8594.80	8603.80	8642.70
E	RCC/PSC Grade M-40				
	Using Batching Plant, Transit Mixer and Concrete Pump				
(i)	For solid slab/voided slab super-structure, 18-28 percent of (a+b+c)				
(p)	Height upto 5m	cum	6576.00	6582.80	6611.80
(q)	Height 5m to 10m	cum	6854.70	6861.70	6892.00
(r)	Height above 10m	cum	7133.30	7140.60	7172.10
(ii)	For T-beam & slab, 23-33 percent of (a+b+c)				
(p)	Height upto 5m	cum	6854.70	6861.70	6892.00
(q)	Height 5m to 10m	cum	7133.30	7140.60	7172.10
(r)	Height above 10m	cum	7412.00	7419.60	7452.30
(iii)	For cast-in situ box girder,segmental construction and balanced cantilever ,38-58 percent of cost of concrete.				
(p)	Height upto 5m	cum	7690.60	7698.50	7732.50
(q)	Height 5m to 10m	cum	8247.90	8256.30	8292.80
(r)	Height above 10m	cum	8805.20	8814.20	8853.10
F	RCC/PSC Grade M-45				
(i)	For solid slab / voided slab super-structure, 16-26 percent of cost of concrete (a+b+c)				
(p)	Height upto 5m	cum	6505.60	6512.20	6540.80
(q)	Height 5m to 10m	cum	6786.00	6792.90	6822.70
(r)	Height above 10m	cum	7066.50	7073.60	7104.60
(ii)	For T-beam & slab including launching of precast girders by launching truss up to 40 m span, 21-31 percent cost of concrete .				

CHAPTER- 14
Summary of Rate Analysis
SUPER-STRUCTURE

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
(p)	Height upto 5m	cum	6786.00	6792.90	6822.70
(q)	Height 5m to 10m	cum	7066.50	7073.60	7104.60
(r)	Height above 10m	cum	7346.90	7354.30	7386.60
(iii)	For cast-in situ box girder,segmental construction and balanced cantilever ,36-56 percent of cost of concrete.				
(p)	Height upto 5m	cum	7627.30	7635.00	7668.50
(q)	Height 5m to 10m	cum	8188.10	8196.40	8232.40
(r)	Height above 10m	cum	8748.90	8757.80	8796.20
G	PSC Grade M-50				
(i)	For cast-in-situ box girder, segmental construction and balanced cantilever, 35-55 percent of cost of concrete				
(p)	Height upto 5m	cum	8494.30	8502.00	8535.20
(q)	Height 5m to 10m	cum	9123.50	9131.70	9167.40
(r)	Height above 10m	cum	9752.70	9761.50	9799.70
H	PSC Grade M- 55				
(i)	For cast-in-situ box girder, segmental construction and balanced cantilever, 35-55 percent of cost of concrete				
(p)	Height upto 5m	cum	8624.50	8632.20	8665.50
(q)	Height 5m to 10m	cum	9263.40	9271.60	9307.30
(r)	Height above 10m	cum	9902.20	9911.10	9949.20
I	PSC Grade M- 60				
(i)	For cast-in-situ box girder, segmental construction and balanced cantilever, 35-55 percent of cost of concrete				
(p)	Height upto 5m	cum	8890.40	8898.10	8931.30
(q)	Height 5m to 10m	cum	9549.00	9557.20	9592.90
(r)	Height above 10m	cum	10207.50	10216.30	10254.50
J	PSC Grade M- 65				
(i)	For cast-in-situ box girder, segmental construction and balanced cantilever, 35-55 percent of cost of concrete				
(p)	Height upto 5m	cum	8957.80	8965.50	8998.70
(q)	Height 5m to 10m	cum	9621.30	9629.60	9665.30
(r)	Height above 10m	cum	10284.80	10293.70	10331.80
14.02	Supplying, fitting and placing HYSD bar reinforcement in super-structure complete as per drawing and technical specifications	MT	67032.20	67090.80	67202.10

CHAPTER- 14
Summary of Rate Analysis
SUPER-STRUCTURE

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
14.03	**High tensile steel wires/strands including all accessories for stressing, stressing operations and grouting complete as per drawing and Technical Specifications**	MT	147109.20	147109.20	147109.20
14.04	**Providing and laying Cement concrete wearing coat M-30 grade including reinforcement complete as per drawing and Technical Specifications**	cum	10415.50	10425.60	10458.60
14.05	**Mastic Asphalt**				
	Providing and laying 12 mm thick mastic asphalt wearing course on top of deck slab excluding prime coat with paving grade bitumen meeting the requirements given in Table **500-39**, prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen precoated fine grained hard stone chipping of 9.5 mm nominal size at the rate of 0.005cum per 10 sqm and at an approximate spacing of 10 cm center to center in both directions, pressed into surface when the temperature of surfaces not less than 100 deg. C, protruding 1 mm to 4 mm over mastic surface, all complete as per clause 516.	sqm	499.50	499.50	499.50
14.06	**Construction of precast RCC railing of M30 Grade, aggregate size not exceeding 12 mm, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post for expansion, complete as per approved drawings and technical specifications.**	metre	1766.80	1768.50	1772.90
14.07	**Construction of RCC railing of M30 Grade in-situ with 20 mm nominal size aggregate, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post for expansion, complete as per approved drawings and technical specifications.**	metre	1714.30	1715.90	1720.30
14.08	**Providing, fitting and fixing mild steel railing complete as per drawing and Technical Specification**	metre	3546.20	3546.20	3546.20
14.09	**Drainage Spouts complete as per drawing and Technical specification**	no.	5472.00	5472.00	5472.00

CHAPTER- 14
Summary of Rate Analysis
SUPER-STRUCTURE

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
14.10	**PCC M15 Grade leveling course below approach slab complete as per drawing and Technical specification**				
Case I	**PCC Grade M15 using batching plant & Concrete pump**	cum	4354.90	4360.60	4385.30
Case II	**PCC Grade M15 using batching plant & manual placing**	cum	4659.20	4665.00	4689.60
14.11	**Reinforced cement concrete approach slab including reinforcement and formwork complete as per drawing and Technical specification**	cum	8819.20	8828.00	8858.70
14.12	**Providing anti-corrosive treatment to HYSD reinforcement with Fusion Bonded Epoxy Coating (FBEC)**				
	To be taken as per the prevailing market rates.	MT			
14.13	**Precast - pretensioned Girders**				
	Providing, precasting, transportation and placing in position precast pretensioned concrete girders as per drawing and technical specifications	cum	29158.00	40191.60	51245.80
14.14	**Providing and fixing Helical pipes in voided concrete slabs**	m	#VALUE!	#VALUE!	#VALUE!
14.15	**Crash Barriers for Bridge**				
	Provision of an Reinforced cement concrete crash barrier at the bridge decks& approaches to bridge structures constructed with Rein forced Cement Concrete With HYSD reinforcement confirming MoRT&H Specification and as per details given IRC-5 including dowel bars ,expansion joints filled with pre-moulded asphalt filler board etc.. and approved drawing and at locations directed by the Engineer ,all as specified .				
A	**Crash Barriers for Bridge (Height 950 mm) as per details given IRC-5 (fig.-1) (Area -0.254 sqm. For 1 meter length)**	metre	3295.90	3298.90	3308.80
B	**Crash Barriers for Bridge (Height 1100 mm) as per details given IRC-5 (fig.-2) (Area -0.298 sqm. For 1 meter length)**	metre	3852.00	3855.60	3867.20
C	**Crash Barriers for Bridge (Height 1550 mm) as per details given IRC-5 (fig.-3) (Surface Area 0.514 sqm. For 1 meter length)**	metre	6636.50	6642.70	6662.70
14.16	**Painting on concrete surface**				

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
	Providing and applying 2 coats of water based cement paint to unplastered concrete surface after cleaning the surface of dirt, dust, oil, grease, efflorescence and applying paint @ of 1 litre for 2 sqm.	sqm	127.90	127.90	127.90
14.17	**Filler joint**				
(i)	**Providing & fixing 2 mm thick corrugated copper plate in expansion joint complete as per drawing & Technical Specification.**	metre	3480.40	3480.40	3480.40
(ii)	**Providing & fixing 20 mm thick compressible fibre board in expansion joint complete as per drawing & Technical Specification.**	metre	509.40	509.40	509.40
(iii)	**Providing and fixing in position 20 mm thick premoulded joint filler in expansion joint for fixed ends of simply supported spans not exceeding 10 m to cater for a horizontal movement upto 20 mm, covered with sealant complete as per drawing and technical specifications.**	metre	186.10	186.10	186.10
(iv)	**Providing and filling joint sealing compound as per drawings and technical specifications with coarse sand and 6percent bitumen by weight**	metre	37.80	37.80	37.80
14.18	**Asphaltic Plug joint**				
	Providing and laying of asphaltic plug joint to provide for horizontal movement of 25 mm and vertical movement of 2 mm, depth of joint varying from 75 mm to 100 mm, width varying from 500 mm to 750 mm (in traffic direction), covered with a closure plate of 200mm x 6mm of weldable structural steel conforming to IS: 2062, asphaltic plug to consist of polymer modified bitumen binder, carefully selected single size aggregate of 12.5 mm nominal size and a heat resistant foam caulking/backer rod, all as per approved drawings and specifications.	metre	1435.50	1435.50	1435.50
14.19	**Elastomeric Slab Steel Expansion Joint**				
	Providing and laying of an elastomeric slab steel expansion joint, catering to right or skew (less than 20 deg., moderately curved with maximum horizontal movement upto 50 mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation and clause 2605 of MoRT&H specifications for road & bridge works.	metre	35517.90	35517.90	35517.90
14.20	**Compression Seal Joint**				

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Summary of Rate Analysis
SUPER-STRUCTURE

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
	Providing and laying of compression seal joint consisting of steel armoured nosing at two edges of the joint gap suitably anchored to the deck concrete and a preformed chloroprene elastomer or closed cell foam joint sealer compressed and fixed into the joint gap with special adhesive binder to cater for a horizontal movement upto 40 mm and vertical movement of 3 mm.	metre	5128.70	5128.70	5128.70
14.21	**Strip Seal Expansion Joint**				
	Providing and laying of a strip seal expansion joint catering to maximum horizontal movement upto 70 mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation.	metre	13808.10	13808.10	13808.10
14.22	**Modular Strip / Box Seal Joint**				
	Providing and laying of a modular strip Box seal expansion joint including anchorage catering to a horizontal movement beyond 70 mm and upto 140mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation.	metre	46569.40	46569.40	46569.40
14.23	**Modular Strip / Box Seal Joint**				
	Providing and laying of a modular strip box seal expansion joint catering to a horizontal movement beyond 140mm and upto 210mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation.	metre	46587.80	46587.80	46587.80
14.24	**Painting with synthetic enamel paint bridge No. and span arrangements**				
	Painting two coat after filling the surface with synthetic enamel paint bridge No. and span arrangements as per direction by engineer .	no.	222.00	222.00	222.00
14.25	**Bipolar corrosion inhibiting admixture in concrete for protection of reinforced steel from corrosion**				
	Admix polydentate ,bipolar ,migratory, intergal non nitrate base concrete penetrating corrosion inhibiting admixture at dosage of 3Kg per cu.m. of concrete as per manufactures specification. Inhibitor should conforms to following-	cum	123.40	123.40	123.40
14.26	**Providing structural steel for super- structure complete as per drawing and technical specifications**	MT	127052.80	127052.80	127052.80

CHAPTER-14

Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
14.01	**1500 &1600 1700**		**Furnishing and Placing Reinforced/ Prestressed cement concrete in super-structure as per drawing and Technical Specification**									
14.01A		**A**	**RCC Grade M20**									
			Using Batching Plant ,Transit Mixer and Concrete Pump									
			Unit = cum									
			Taking output = 120 cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub -analysis -21.05)	cum	120.000	120.000	120.000	3399.00	407880.00	407880.00	407880.00	21.05
			Water for curing	kl	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.192	0.192	0.192	444.00	85.25	85.25	85.25	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	3.300	3.300	3.300	428.00	1412.40	1412.40	1412.40	L-13
			c) Machinery									
			Transit truck and agitator									
			For transportation (6 cum Capacity), L1-lead in kilometer	tonne-km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
			For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
			Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
			Water tanker (speed @ 20km /hr and return speed @ 30 km /hr and 30 mins for uploading)									
			(i)16 KL capacity	hour	0.438xL1+ 2.625			1204.00	3687.85			PM11001
			(ii)12 KL capacity	hour		0.583xL1+ 3.500		1030.00		4205.49		PM11002
			(iii)6 KL capacity	hour			1.167xL1+ 7.000	789.00			6443.76	PM11003
			For formwork and staging add the following									
14.01A		**(i)**	**For solid slab super-structure, 20-30 percent of (a+b+c)**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						436249.00	436766.64	439004.91	

CHAPTER-14

Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork and staging 20 percent of (a+b+c)						87249.80	87353.33	87800.98	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		104699.76	104823.99	105361.18	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		62819.86	62894.40	63216.71	
			Cost for 120 cum = a+b+c+d+e+f						691018.42	691838.35	695383.78	
			Rate per cum = (a+b+c+d+e+f)/120						5758.49	5765.32	5794.86	
								Say	**5758.50**	**5765.30**	**5794.90**	
14.01A		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						436249.00	436766.64	439004.91	
			d) Formwork and staging 25 percent of (a+b+c)						109062.25	109191.66	109751.23	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		109062.25	109191.66	109751.23	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		65437.35	65515.00	65850.74	
			Cost for 120 cum = a+b+c+d+e+f						719810.85	720664.95	724358.10	
			Rate per cum = (a+b+c+d+e+f)/120						5998.42	6005.54	6036.32	
								Say	**5998.40**	**6005.50**	**6036.30**	
14.01A		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						436249.00	436766.64	439004.91	
			d) Formwork and staging 30 percent of (a+b+c)						130874.70	131029.99	131701.47	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		113424.74	113559.33	114141.28	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		68054.84	68135.60	68484.77	
			Cost for 120 cum = a+b+c+d+e+f						748603.28	749491.55	753332.43	
			Rate per cum = (a+b+c+d+e+f)/120						6238.36	6245.76	6277.77	
								Say	**6238.40**	**6245.80**	**6277.80**	
14.01A		**(ii)**	**For T-beam & slab, 25-35 percent of (a+b+c)**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						436249.00	436766.64	439004.91	
			d) Formwork and staging 25 percent of (a+b+c)						109062.25	109191.66	109751.23	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		109062.25	109191.66	109751.23	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		65437.35	65515.00	65850.74	
			Cost for 120 cum = a+b+c+d+e+f						719810.85	720664.95	724358.10	
			Rate per cum = (a+b+c+d+e+f)/120						5998.42	6005.54	6036.32	
								Say	**5998.40**	**6005.50**	**6036.30**	
14.01A		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						436249.00	436766.64	439004.91	
			d) Formwork and staging 30 percent of (a+b+c)						130874.70	131029.99	131701.47	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		113424.74	113559.33	114141.28	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		68054.84	68135.60	68484.77	
			Cost for 120 cum = a+b+c+d+e+f						748603.28	749491.55	753332.43	
			Rate per cum = (a+b+c+d+e+f)/120						6238.36	6245.76	6277.77	
								Say	**6238.40**	**6245.80**	**6277.80**	
14.01A (ii)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						436249.00	436766.64	439004.91	
			d) Formwork and staging 35 percent of (a+b+c)						152687.15	152868.32	153651.72	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		117787.23	117926.99	118531.33	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		70672.34	70756.20	71118.80	
			Cost for 120 cum = a+b+c+d+e+f						777395.72	778318.15	782306.75	
			Rate per cum = (a+b+c+d+e+f)/120						6478.30	6485.98	6519.22	
								Say	**6478.30**	**6486.00**	**6519.20**	
14.01	**B**		**RCC Grade M25 Using Batching Plant, Transit Mixer and Concrete Pump**									
			Unit = cum									
			Taking output = 120 cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub -analysis -21.07)	cum	120.000	120.000	120.000	3748.20	449784.00	449784.00	449784.00	21.07
			Water for curing	kl	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			b) Labour									
			For pouring and placing									
			Mate	day	0.192	0.192	0.192	444.00	85.25	85.25	85.25	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	3.300	3.300	3.300	428.00	1412.40	1412.40	1412.40	L-13
			c) Machinery									
			Transit truck and agitator									
			For transportation (6 cum Capacity),L1-lead in kilometer	tonne-km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
			For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
			Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
			Water tanker (speed @ 20km /hr and return speed @ 30 km /hr and 30 mins for uploading)									
			(i)16 KL capacity	hour	0.438xL1+2.625			1204.00	3687.85			PM11001
			(ii)12 KL capacity	hour		0.583xL1+3.5		1030.00		4205.49		PM11002
			(iii)6 KL capacity	hour			1.167xL1+7	789.00			6443.76	PM11003
			For formwork and staging add the following									
14.01B		**(i)**	**For solid slab super-structure, 20-30 percent of (a+b+c)**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						478153.00	478670.64	480908.91	
			d) Formwork and staging 20 percent of (a+b+c)						95630.60	95734.13	96181.78	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		114756.72	114880.95	115418.14	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		68854.03	68928.57	69250.88	
			Cost for 120 cum = a+b+c+d+e+f						757394.35	758214.29	761759.72	
			Rate per cum = (a+b+c+d+e+f)/120						6311.62	6318.45	6348.00	
								Say	**6311.60**	**6318.50**	**6348.00**	
14.01B (i)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						478153.00	478670.64	480908.91	
			d) Formwork and staging 25 percent of (a+b+c)						119538.25	119667.66	120227.23	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		119538.25	119667.66	120227.23	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		71722.95	71800.60	72136.34	
			Cost for 120 cum = a+b+c+d+e+f						788952.45	789806.55	793499.70	
			Rate per cum = (a+b+c+d+e+f)/120						6574.60	6581.72	6612.50	
								Say	**6574.60**	**6581.70**	**6612.50**	
14.01B (i)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						478153.00	478670.64	480908.91	
			d)Formwork and staging 30 percent of (a+b+c)						143445.90	143601.19	144272.67	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		124319.78	124454.37	125036.32	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		74591.87	74672.62	75021.79	
			Cost for 120 cum = a+b+c+d+e+f						820510.55	821398.81	825239.69	
			Rate per cum = (a+b+c+d+e+f)/120						6837.59	6844.99	6877.00	
								Say	**6837.60**	**6845.00**	**6877.00**	
14.01B		**(ii)**	**For T-beam & slab, 25-35 percent of (a+b+c)**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						478153.00	478670.64	480908.91	
			d) Formwork and staging 25 percent of (a+b+c)						119538.25	119667.66	120227.23	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		119538.25	119667.66	120227.23	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		71722.95	71800.60	72136.34	
			Cost for 120 cum = a+b+c+d+e+f						788952.45	789806.55	793499.70	
			Rate per cum = (a+b+c+d+e+f)/120						6574.60	6581.72	6612.50	
								Say	**6574.60**	**6581.70**	**6612.50**	
14.01B (ii)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						478153.00	478670.64	480908.91	
			d) Formwork and staging 30 percent of (a+b+c)						143445.90	143601.19	144272.67	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		124319.78	124454.37	125036.32	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		74591.87	74672.62	75021.79	
			Cost for 120 cum = a+b+c+d+e+f						820510.55	821398.81	825239.69	
			Rate per cum = (a+b+c+d+e+f)/120						6837.59	6844.99	6877.00	
								Say	**6837.60**	**6845.00**	**6877.00**	
14.01B (ii)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						478153.00	478670.64	480908.91	
			d)Formwork and staging 35 percent of (a+b+c)						167353.55	167534.72	168318.12	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		129101.31	129241.07	129845.41	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		77460.79	77544.64	77907.24	
			Cost for 120 cum = a+b+c+d+e+f						852068.65	852991.08	856979.68	
			Rate per cum = (a+b+c+d+e+f)/120						7100.57	7108.26	7141.50	
								Say	**7100.60**	**7108.30**	**7141.50**	
14.01 14.01C		**C**	**RCC Grade M30 Using Batching Plant,Transit Mixer and Concrete Pump.**									
			Unit = cum									
			Taking output = 120 cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub -analysis -21.09)	cum	120.000	120.000	120.000	3781.30	453756.00	453756.00	453756.00	21.09
			Water for curing	kl	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.192	0.192	0.192	444.00	85.25	85.25	85.25	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	3.300	3.300	3.300	428.00	1412.40	1412.40	1412.40	L-13
			c) Machinery									
			Transit truck and agitator									
			For transportation (6 cum Capacity),L1-lead in kilometer	tonne-km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
			For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
			Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
			Water tanker (speed @ 20km /hr and return speed @ 30 km /hr and 30 mins for uploading)									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			(i)16 KL capacity	hour	0.438xL1+ 2.625			1204.00	3687.85			PM11001
			(ii)12 KL capacity	hour		0.583xL1+ 3.5		1030.00		4205.49		PM11002
			(iii)6 KL capacity	hour			1.167xL1+ 7	789.00			6443.76	PM11003
			For formwork and staging add the following									
14.01C		**(i)**	**For solid slab super-structure, 20-30 percent of (a+b+c)**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						482125.00	482642.64	484880.91	
			d) Formwork and staging 20 percent of (a+b+c)						96425.00	96528.53	96976.18	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		115710.00	115834.23	116371.42	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		69426.00	69500.54	69822.85	
			Cost for 120 cum = a+b+c+d+e+f						763686.00	764505.94	768051.36	
			Rate per cum = (a+b+c+d+e+f)/120						6364.05	6370.88	6400.43	
								Say	**6364.10**	**6370.90**	**6400.40**	
14.01C (i)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						482125.00	482642.64	484880.91	
			d) Formwork and staging 25 percent of (a+b+c)						120531.25	120660.66	121220.23	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		120531.25	120660.66	121220.23	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		72318.75	72396.40	72732.14	
			Cost for 120 cum = a+b+c+d+e+f						795506.25	796360.35	800053.50	
			Rate per cum = (a+b+c+d+e+f)/120						6629.22	6636.34	6667.11	
								Say	**6629.20**	**6636.30**	**6667.10**	
14.01C (i)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						482125.00	482642.64	484880.91	
			d) Formwork and staging 30 percent of (a+b+c)						144637.50	144792.79	145464.27	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		125352.50	125487.09	126069.04	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		75211.50	75292.25	75641.42	
			Cost for 120 cum = a+b+c+d+e+f						827326.50	828214.77	832055.64	
			Rate per cum = (a+b+c+d+e+f)/120						6894.39	6901.79	6933.80	
								Say	**6894.40**	**6901.80**	**6933.80**	
14.01C		**(ii)**	**For T-beam & slab, 25-35 percent of (a+b+c)**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						482125.00	482642.64	484880.91	
			d) Formwork and staging 25 percent of (a+b+c)						120531.25	120660.66	121220.23	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		120531.25	120660.66	121220.23	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		72318.75	72396.40	72732.14	
			Cost for 120 cum = a+b+c+d+e+f						795506.25	796360.35	800053.50	
			Rate per cum = (a+b+c+d+e+f)/120						6629.22	6636.34	6667.11	
								Say	**6629.20**	**6636.30**	**6667.10**	
14.01C (ii)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						482125.00	482642.64	484880.91	
			d)Formwork and staging 30 percent of (a+b+c)						144637.50	144792.79	145464.27	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		125352.50	125487.09	126069.04	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		75211.50	75292.25	75641.42	
			Cost for 120 cum = a+b+c+d+e+f						827326.50	828214.77	832055.64	
			Rate per cum = (a+b+c+d+e+f)/120						6894.39	6901.79	6933.80	
								Say	**6894.40**	**6901.80**	**6933.80**	
14.01C (ii)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						482125.00	482642.64	484880.91	
			d) Formwork and staging 35 percent of (a+b+c)						168743.75	168924.92	169708.32	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		130173.75	130313.51	130917.85	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		78104.25	78188.11	78550.71	
			Cost for 120 cum = a+b+c+d+e+f						859146.75	860069.18	864057.78	
			Rate per cum = (a+b+c+d+e+f)/120						7159.56	7167.24	7200.48	
								Say	**7159.60**	**7167.20**	**7200.50**	
14.01		**D**	**RCC/PSC Grade M35**									
		casell	**Using Batching Plant, Transit Mixer and Concrete Pump**									
			Unit = cum									
			Taking output = 120 cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub -analysis -21.11)	cum	120.000	120.000	120.000	3884.60	466152.00	466152.00	466152.00	21.11
			Water for curing	kl	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.192	0.192	0.192	444.00	85.25	85.25	85.25	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	3.300	3.300	3.300	428.00	1412.40	1412.40	1412.40	L-13
			c) Machinery									
			Transit truck and agitator									
			For transportation (6 cum Capacity),L1-lead in kilometer	tonne-km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
			For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
			Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
			Water tanker (speed @ 20km /hr and return speed @ 30 km /hr and 30 mins for uploading)									
			(i)16 KL capacity	hour	0.438xL1+ 2.625			1204.00	3687.85			PM11001
			(ii)12 KL capacity	hour		0.583xL1+ 3.5		1030.00		4205.49		PM11002
			(iii)6 KL capacity	hour			1.167xL1+ 7	789.00			6443.76	PM11003
			For formwork and staging add the following									
14.01 D		**(i)**	**For solid slab super-structure, 18-28 percent of (a+b+c)**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						494521.00	495038.64	497276.91	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork and staging 18 percent of (a+b+c)						89013.78	89106.95	89509.84	
			e) Overhead charges@ on(a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		116706.96	116829.12	117357.35	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		70024.17	70097.47	70414.41	
			Cost for 120 cum = a+b+c+d+e+f						770265.91	771072.18	774558.52	
			Rate per cum = (a+b+c+d+e+f)/120						6418.88	6425.60	6454.65	
								Say	**6418.90**	**6425.60**	**6454.70**	
14.01 D(i)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						494521.00	495038.64	497276.91	
			d) Formwork and staging 23 percent of (a+b+c)						113739.83	113858.89	114373.69	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		121652.17	121779.50	122330.12	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		72991.30	73067.70	73398.07	
			Cost for 120 cum = a+b+c+d+e+f						802904.30	803744.73	807378.79	
			Rate per cum = (a+b+c+d+e+f)/120						6690.87	6697.87	6728.16	
								Say	**6690.90**	**6697.90**	**6728.20**	
14.01 D(i)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						494521.00	495038.64	497276.91	
			d) Formwork and staging 28 percent of (a+b+c)						138465.88	138610.82	139237.54	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		126597.38	126729.89	127302.89	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		75958.43	76037.93	76381.73	
			Cost for 120 cum = a+b+c+d+e+f						835542.68	836417.28	840199.07	
			Rate per cum = (a+b+c+d+e+f)/120						6962.86	6970.14	7001.66	
								Say	**6962.90**	**6970.10**	**7001.70**	
14.01 D		**(ii)**	**For T-beam & slab, 23-33 percent of (a+b+c)**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						494521.00	495038.64	497276.91	
			d) Formwork and staging 23 percent of (a+b+c)						113739.83	113858.89	114373.69	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		121652.17	121779.50	122330.12	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		72991.30	73067.70	73398.07	
			Cost for 120 cum = a+b+c+d+e+f						802904.30	803744.73	807378.79	
			Rate per cum = (a+b+c+d+e+f)/120						6690.87	6697.87	6728.16	
								Say	**6690.90**	**6697.90**	**6728.20**	
14.01 D(ii)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						494521.00	495038.64	497276.91	
			d) Formwork and staging 28 percent of (a+b+c)						138465.88	138610.82	139237.54	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		126597.38	126729.89	127302.89	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		75958.43	76037.93	76381.73	
			Cost for 120 cum = a+b+c+d+e+f						835542.68	836417.28	840199.07	
			Rate per cum = (a+b+c+d+e+f)/120						6962.86	6970.14	7001.66	
								Say	**6962.90**	**6970.10**	**7001.70**	
14.01 D(ii)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						494521.00	495038.64	497276.91	
			d)Formwork and staging 33 percent of (a+b+c)						163191.93	163362.75	164101.38	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		131542.59	131680.28	132275.66	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		78925.55	79008.17	79365.39	
			Cost for 120 cum = a+b+c+d+e+f						868181.07	869089.83	873019.34	
			Rate per cum = (a+b+c+d+e+f)/120						7234.84	7242.42	7275.16	
								Say	**7234.80**	**7242.40**	**7275.20**	
14.01 D		**(iii)**	**For box girder and balanced cantilever ,38-58 percent of cost concrete.**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						494521.00	495038.64	497276.91	
			d)Formwork and staging 38 percent of (a+b+c)						187917.98	188114.68	188965.23	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		136487.80	136630.66	137248.43	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		81892.68	81978.40	82349.06	
			Cost for 120 cum = a+b+c+d+e+f						900819.45	901762.38	905839.62	
			Rate per cum = (a+b+c+d+e+f)/120						7506.83	7514.69	7548.66	
								Say	**7506.80**	**7514.70**	**7548.70**	
14.01 D(iii)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						494521.00	495038.64	497276.91	
			d)Formwork and staging 48 percent of (a+b+c)						237370.08	237618.55	238692.92	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		146378.22	146531.44	147193.97	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		87826.93	87918.86	88316.38	
			Cost for 120 cum = a+b+c+d+e+f						966096.23	967107.48	971480.17	
			Rate per cum = (a+b+c+d+e+f)/120						8050.80	8059.23	8095.67	
								Say	**8050.80**	**8059.20**	**8095.70**	
14.01 D(iii)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						494521.00	495038.64	497276.91	
			d) Formwork and staging 58 percent of (a+b+c)						286822.18	287122.41	288420.61	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		156268.64	156432.21	157139.50	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		93761.18	93859.33	94283.70	
			Cost for 120 cum = a+b+c+d+e+f						1031373.00	1032452.58	1037120.73	
			Rate per cum = (a+b+c+d+e+f)/120						8594.77	8603.77	8642.67	
								Say	**8594.80**	**8603.80**	**8642.70**	
14.01		**E**	**RCC/PSC Grade M-40**									
14.01E			**Using Batching Plant, Transit Mixer and Concrete Pump**									
			Unit = cum									
			Taking output = 120 cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub -analysis -21.12)	cum	120.000	120.000	120.000	3985.50	478260.00	478260.00	478260.00	21.12
			Water for curing	kl	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			b) Labour									
			For pouring and placing									
			Mate	day	0.192	0.192	0.192	444.00	85.25	85.25	85.25	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	3.300	3.300	3.300	428.00	1412.40	1412.40	1412.40	L-13
			c) Machinery									
			Transit truck and agitator									
			For transportation (6 cum Capacity),L1-lead in kilometer	tonne-km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
			For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
			Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
			Water tanker (speed @ 20km /hr and return speed @ 30 km /hr and 30 mins for uploading)									
			(i)16 KL capacity	hour	0.438xL1+ 2.625			1204.00	3687.85			PM11001
			(ii)12 KL capacity	hour		0.583xL1+ 3.5		1030.00		4205.49		PM11002
			(iii)6 KL capacity	hour			1.167xL1+ 7	789.00			6443.76	PM11003
			For formwork and staging add the following									
14.01E		**(i)**	**For solid slab/voided slab super-structure, 18-28 percent of (a+b+c)**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						506629.00	507146.64	509384.91	
			d)Formwork and staging 18 percent of (a+b+c)						91193.22	91286.39	91689.28	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		119564.44	119686.61	120214.84	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		71738.67	71811.96	72128.90	
			Cost for 120 cum = a+b+c+d+e+f						789125.33	789931.60	793417.94	
			Rate per cum = (a+b+c+d+e+f)/120						6576.04	6582.76	6611.82	
								Say	**6576.00**	**6582.80**	**6611.80**	
14.01E (i)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						506629.00	507146.64	509384.91	
			d) Formwork and staging 23 percent of (a+b+c)						116524.67	116643.73	117158.53	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		124630.73	124758.07	125308.69	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		74778.44	74854.84	75185.21	
			Cost for 120 cum = a+b+c+d+e+f						822562.84	823403.28	827037.34	
			Rate per cum = (a+b+c+d+e+f)/120						6854.69	6861.69	6891.98	
								Say	**6854.70**	**6861.70**	**6892.00**	
14.01E (i)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						506629.00	507146.64	509384.91	
			d) Formwork and staging 28 percent of (a+b+c)						141856.12	142001.06	142627.78	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		129697.02	129829.54	130402.54	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		77818.21	77897.72	78241.52	
			Cost for 120 cum = a+b+c+d+e+f						856000.36	856874.96	860656.75	
			Rate per cum = (a+b+c+d+e+f)/120						7133.34	7140.62	7172.14	
								Say	**7133.30**	**7140.60**	**7172.10**	
14.01E		**(ii)**	**For T-beam & slab, 23-33 percent of (a+b+c)**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						506629.00	507146.64	509384.91	
			d)Formwork and staging 23 percent of (a+b+c)						116524.67	116643.73	117158.53	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		124630.73	124758.07	125308.69	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		74778.44	74854.84	75185.21	
			Cost for 120 cum = a+b+c+d+e+f						822562.84	823403.28	827037.34	
			Rate per cum = (a+b+c+d+e+f)/120						6854.69	6861.69	6891.98	
								Say	**6854.70**	**6861.70**	**6892.00**	
14.01E (ii)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						506629.00	507146.64	509384.91	
			d) Formwork and staging 28 percent of (a+b+c)						141856.12	142001.06	142627.78	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		129697.02	129829.54	130402.54	

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		77818.21	77897.72	78241.52	
			Cost for 120 cum = a+b+c+d+e+f						856000.36	856874.96	860656.75	
			Rate per cum = (a+b+c+d+e+f)/120						7133.34	7140.62	7172.14	
								Say	**7133.30**	**7140.60**	**7172.10**	
14.01E (ii)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						506629.00	507146.64	509384.91	
			d) Formwork and staging 33 percent of (a+b+c)						167187.57	167358.39	168097.02	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		134763.31	134901.01	135496.39	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		80857.99	80940.60	81297.83	
			Cost for 120 cum = a+b+c+d+e+f						889437.87	890346.64	894276.15	
			Rate per cum = (a+b+c+d+e+f)/120						7411.98	7419.56	7452.30	
								Say	**7412.00**	**7419.60**	**7452.30**	
14.01E		**(iii)**	**For cast-in situ box girder,segmental construction and balanced cantilever ,38-58 percent of cost of concrete.**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						506629.00	507146.64	509384.91	
			d) Formwork and staging 38 percent of (a+b+c)						192519.02	192715.72	193566.27	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		139829.60	139972.47	140590.24	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		83897.76	83983.48	84354.14	
			Cost for 120 cum = a+b+c+d+e+f						922875.39	923818.32	927895.55	
			Rate per cum = (a+b+c+d+e+f)/120						7690.63	7698.49	7732.46	
								Say	**7690.60**	**7698.50**	**7732.50**	
14.01E (iii)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						506629.00	507146.64	509384.91	
			d) Formwork and staging 48 percent of (a+b+c)						243181.92	243430.39	244504.76	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		149962.18	150115.40	150777.93	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		89977.31	90069.24	90466.76	
			Cost for 120 cum = a+b+c+d+e+f						989750.41	990761.67	995134.36	
			Rate per cum = (a+b+c+d+e+f)/120						8247.92	8256.35	8292.79	
								Say	**8247.90**	**8256.30**	**8292.80**	
14.01E (iii)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						506629.00	507146.64	509384.91	
			d)Formwork and staging 58 percent of (a+b+c)						293844.82	294145.05	295443.25	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		160094.76	160258.34	160965.63	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		96056.86	96155.00	96579.38	
			Cost for 120 cum = a+b+c+d+e+f						1056625.44	1057705.03	1062373.17	
			Rate per cum = (a+b+c+d+e+f)/120						8805.21	8814.21	8853.11	
								Say	**8805.20**	**8814.20**	**8853.10**	
14.01		**F**	**RCC/PSC Grade M-45**									
			Unit = 1cum									
			Taking output = 120 cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub -analysis -21.13)	cum	120.000	120.000	120.000	4012.30	481476.00	481476.00	481476.00	21.13
			Water for curing	kl	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.192	0.192	0.192	444.00	85.25	85.25	85.25	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	3.300	3.300	3.300	428.00	1412.40	1412.40	1412.40	L-13
			c) Machinery									
			Transit truck and agitator									
			For transportation (6 cum Capacity),L1-lead in kilometer	tonne-km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
			For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
			Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
			Water tanker (speed @ 20km /hr and return speed @ 30 km /hr and 30 mins for uploading)									
			(i)16 KL capacity	hour	0.438xL1+ 2.625			1204.00	3687.85			PM11001

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			(ii)12 KL capacity	hour		0.583xL1+ 3.5		1030.00		4205.49		PM11002
			(iii)6 KL capacity	hour			1.167xL1+ 7	789.00			6443.76	PM11003
			For formwork and staging add the following									
14.01F		**(i)**	**For solid slab / voided slab super-structure, 16-26 percent of cost of concrete (a+b+c)**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						509845.00	510362.64	512600.91	
			d) Formwork and staging 16 percent of (a+b+c)						81575.20	81658.02	82016.15	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		118284.04	118404.13	118923.41	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		70970.42	71042.48	71354.05	
			Cost for 120 cum = a+b+c+d+e+f						780674.66	781467.27	784894.51	
			Rate per cum = (a+b+c+d+e+f)/120						6505.62	6512.23	6540.79	
								Say	**6505.60**	**6512.20**	**6540.80**	
14.01F (i)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						509845.00	510362.64	512600.91	
			d)Formwork and staging 21 percent of (a+b+c)						107067.45	107176.15	107646.19	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		123382.49	123507.76	124049.42	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		74029.49	74104.66	74429.65	
			Cost for 120 cum = a+b+c+d+e+f						814324.43	815151.21	818726.18	
			Rate per cum = (a+b+c+d+e+f)/120						6786.04	6792.93	6822.72	
								Say	**6786.00**	**6792.90**	**6822.70**	
14.01F (i)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						509845.00	510362.64	512600.91	
			d) Formwork and staging 26 percent of (a+b+c)						132559.70	132694.29	133276.24	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		128480.94	128611.38	129175.43	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		77088.56	77166.83	77505.26	
			Cost for 120 cum = a+b+c+d+e+f						847974.20	848835.14	852557.84	
			Rate per cum = (a+b+c+d+e+f)/120						7066.45	7073.63	7104.65	
								Say	**7066.50**	**7073.60**	**7104.60**	
14.01F		**(ii)**	**For T-beam & slab including launching of precast girders by launching truss up to 40 m span, 21-31 percent cost of concrete .**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						509845.00	510362.64	512600.91	
			d) Formwork and staging 21 percent of (a+b+c)						107067.45	107176.15	107646.19	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		123382.49	123507.76	124049.42	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		74029.49	74104.66	74429.65	
			Cost for 120 cum = a+b+c+d+e+f						814324.43	815151.21	818726.18	
			Rate per cum = (a+b+c+d+e+f)/120						6786.04	6792.93	6822.72	
								Say	**6786.00**	**6792.90**	**6822.70**	
14.01F (ii)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						509845.00	510362.64	512600.91	
			d) Formwork and staging 26 percent of (a+b+c)						132559.70	132694.29	133276.24	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		128480.94	128611.38	129175.43	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		77088.56	77166.83	77505.26	
			Cost for 120 cum = a+b+c+d+e+f						847974.20	848835.14	852557.84	
			Rate per cum = (a+b+c+d+e+f)/120						7066.45	7073.63	7104.65	
								Say	**7066.50**	**7073.60**	**7104.60**	
14.01F (ii)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						509845.00	510362.64	512600.91	
			d) Formwork and staging 31 percent of (a+b+c)						158051.95	158212.42	158906.28	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		133579.39	133715.01	134301.44	

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		80147.63	80229.01	80580.86	
			Cost for 120 cum = a+b+c+d+e+f						881623.97	882519.07	886389.50	
			Rate per cum = (a+b+c+d+e+f)/120						7346.87	7354.33	7386.58	
								Say	**7346.90**	**7354.30**	**7386.60**	
14.01F		**(iii)**	**For cast-in situ box girder,segmental construction and balanced cantilever ,36-56 percent of cost of concrete.**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						509845.00	510362.64	512600.91	
			d)Formwork and staging 36 percent of (a+b+c)						183544.20	183730.55	184536.33	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		138677.84	138818.64	139427.45	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		83206.70	83291.18	83656.47	
			Cost for 120 cum = a+b+c+d+e+f						915273.74	916203.01	920221.16	
			Rate per cum = (a+b+c+d+e+f)/120						7627.28	7635.03	7668.51	
								Say	**7627.30**	**7635.00**	**7668.50**	
14.01F (iii)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						509845.00	510362.64	512600.91	
			d)Formwork and staging 46 percent of (a+b+c)						234528.70	234766.81	235796.42	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		148874.74	149025.89	149679.47	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		89324.84	89415.53	89807.68	
			Cost for 120 cum = a+b+c+d+e+f						982573.28	983570.88	987884.48	
			Rate per cum = (a+b+c+d+e+f)/120						8188.11	8196.42	8232.37	
								Say	**8188.10**	**8196.40**	**8232.40**	
14.01F (iii)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						509845.00	510362.64	512600.91	
			d) Formwork and staging 56 percent of (a+b+c)						285513.20	285803.08	287056.51	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		159071.64	159233.14	159931.48	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		95442.98	95539.89	95958.89	
			Cost for 120 cum = a+b+c+d+e+f						1049872.82	1050938.74	1055547.80	
			Rate per cum = (a+b+c+d+e+f)/120						8748.94	8757.82	8796.23	
								Say	**8748.90**	**8757.80**	**8796.20**	
14.01		**G**	**PSC Grade M-50**									
			Unit = cum									
			Taking output = 120 cum									
			a) Material									
			Per cum Basic cost (Rate taken from sub -analysis -21.14)	cum	120.000	120.000	120.000	4530.30	543636.00	543636.00	543636.00	21.14
			Water for curing	kl	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.192	0.192	0.192	444.00	85.25	85.25	85.25	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	3.300	3.300	3.300	428.00	1412.40	1412.40	1412.40	L-13
			c) Machinery									
			Transit truck and agitator									
			For transportation (6 cum Capacity),L1-lead in kilometer	tonne-km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
			For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
			Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
			Water tanker (speed @ 20km /hr and return speed @ 30 km /hr and 30 mins for uploading)									
			(i)16 KL capacity	hour	0.438xL1+ 2.625			1204.00	3687.85			PM11001
			(ii)12 KL capacity	hour		0.583xL1+ 3.5		1030.00		4205.49		PM11002
			(iii)6 KL capacity	hour			1.167xL1+ 7	789.00			6443.76	PM11003
			For formwork and staging add the following:									
14.01G		**(i)**	**For cast-in-situ box girder, segmental construction and balanced cantilever, 35-55 percent of cost of concrete**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						572005.00	572522.64	574760.91	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork and staging 35 percent of (a+b+c)						200201.75	200382.92	201166.32	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		154441.35	154581.11	155185.45	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		92664.81	92748.67	93111.27	
			Cost for 120 cum = a+b+c+d+e+f						1019312.91	1020235.34	1024223.94	
			Rate per cum = (a+b+c+d+e+f)/120						8494.27	8501.96	8535.20	
								Say	**8494.30**	**8502.00**	**8535.20**	
14.01G (i)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						572005.00	572522.64	574760.91	
			d) Formwork and staging 45 percent of (a+b+c)						257402.25	257635.19	258642.41	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		165881.45	166031.57	166680.66	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		99528.87	99618.94	100008.40	
			Cost for 120 cum = a+b+c+d+e+f						1094817.57	1095808.33	1100092.38	
			Rate per cum = (a+b+c+d+e+f)/120						9123.48	9131.74	9167.44	
								Say	**9123.50**	**9131.70**	**9167.40**	
14.01G (i)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						572005.00	572522.64	574760.91	
			d) Formwork and staging 55 percent of (a+b+c)						314602.75	314887.45	316118.50	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		177321.55	177482.02	178175.88	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		106392.93	106489.21	106905.53	
			Cost for 120 cum = a+b+c+d+e+f						1170322.23	1171381.32	1175960.82	
			Rate per cum = (a+b+c+d+e+f)/120						9752.69	9761.51	9799.67	
								Say	**9752.70**	**9761.50**	**9799.70**	
14.01		**H**	**PSC Grade M- 55**									
			Unit = 1 cum									
			Taking output = 120 cum									
			a) Material									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Per cum Basic Cost (Rate taken from sub -analysis -21.15)	cum	120.000	120.000	120.000	4603.40	552408.00	552408.00	552408.00	21.15
			Water for curing	kl	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.192	0.192	0.192	444.00	85.25	85.25	85.25	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	3.300	3.300	3.300	428.00	1412.40	1412.40	1412.40	L-13
			c) Machinery									
			Transit truck and agitator									
			For transportation (6 cum Capacity),L1-lead in kilometer	tonne-km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
			For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
			Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
			Water tanker (speed @ 20km /hr and return speed @ 30 km /hr and 30 mins for uploading)									
			(i)16 KL capacity	hour	0.438xL1+ 2.625			1204.00	3687.85			PM11001
			(ii)12 KL capacity	hour		0.583xL1+ 3.5		1030.00		4205.49		PM11002
			(iii)6 KL capacity	hour			1.167xL1+ 7	789.00			6443.76	PM11003
			For formwork and staging add the following:									
14.01H		**(i)**	**For cast-in-situ box girder, segmental construction and balanced cantilever, 35-55 percent of cost of concrete**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						580777.00	581294.64	583532.91	
			d) Formwork and staging 35 percent of (a+b+c)						203271.95	203453.12	204236.52	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		156809.79	156949.55	157553.89	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		94085.87	94169.73	94532.33	
			Cost for 120 cum = a+b+c+d+e+f						1034944.61	1035867.04	1039855.65	
			Rate per cum = (a+b+c+d+e+f)/120						8624.54	8632.23	8665.46	
								Say	**8624.50**	**8632.20**	**8665.50**	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
14.01H (i)		(q)	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						580777.00	581294.64	583532.91	
			d) Formwork and staging 45 percent of (a+b+c)						261349.65	261582.59	262589.81	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		168425.33	168575.45	169224.54	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		101055.20	101145.27	101534.73	
			Cost for 120 cum = a+b+c+d+e+f						1111607.18	1112597.94	1116881.99	
			Rate per cum = (a+b+c+d+e+f)/120						9263.39	9271.65	9307.35	
								Say	**9263.40**	**9271.60**	**9307.30**	
14.01H (i)		(r)	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						580777.00	581294.64	583532.91	
			d) Formwork and staging 55 percent of (a+b+c)						319427.35	319712.05	320943.10	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		180040.87	180201.34	180895.20	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		108024.52	108120.80	108537.12	
			Cost for 120 cum = a+b+c+d+e+f						1188269.74	1189328.83	1193908.34	
			Rate per cum = (a+b+c+d+e+f)/120						9902.25	9911.07	9949.24	
								Say	**9902.20**	**9911.10**	**9949.20**	
		Note	1. Cement provided for various components of the super structure is for estimating purpose .									
			2. Actual quantity of cement will be as per approved mix design. Similarly, the provision for coarse and fine aggregates is for estimating purpose and the exact quantity shall be as per the mix design.									
			3. The items like needle and surface vibrators are part of minor T & P which is already covered under the overhead charges. As such these items have not been added separately in the rate analysis.									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
14.01		I	PSC Grade M- 60									
			Unit = 1 cum									
			Taking output = 120 cum									
			a) Material									
			Per cum Basic Cost (Rate taken from sub -analysis -21.16)	cum	120.000	120.000	120.000	4752.60	570312.00	570312.00	570312.00	21.16
			Water for curing	kl	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.192	0.192	0.192	444.00	85.25	85.25	85.25	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	3.300	3.300	3.300	428.00	1412.40	1412.40	1412.40	L-13
			c) Machinery									
			Transit truck and agitator									
			For transportation (6 cum Capacity),L1-lead in kilometer	tonne-km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
			For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
			Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
			Water tanker (speed @ 20km /hr and return speed @ 30 km /hr and 30 mins for uploading)									
			(i)16 KL capacity	hour	0.438xL1+ 2.625			1204.00	3687.85			PM11001
			(ii)12 KL capacity	hour		0.583xL1+ 3.5		1030.00		4205.49		PM11002
			(iii)6 KL capacity	hour			1.167xL1+ 7	789.00			6443.76	PM11003
			For formwork and staging add the following:									
14.01H		(i)	For cast-in-situ box girder, segmental construction and balanced cantilever, 35-55 percent of cost of concrete									
		(p)	Height upto 5m									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						598681.00	599198.64	601436.91	
			d) Formwork and staging 35 percent of (a+b+c)						209538.35	209719.52	210502.92	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		161643.87	161783.63	162387.97	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			f) Contractor's profit @on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		96986.32	97070.18	97432.78	
			Cost for 120 cum = a+b+c+d+e+f						1066849.54	1067771.97	1071760.58	
			Rate per cum = (a+b+c+d+e+f)/120						8890.41	8898.10	8931.34	
								Say	**8890.40**	**8898.10**	**8931.30**	
14.01H (i)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						598681.00	599198.64	601436.91	
			d) Formwork and staging 45 percent of (a+b+c)						269406.45	269639.39	270646.61	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		173617.49	173767.61	174416.70	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		104170.49	104260.56	104650.02	
			Cost for 120 cum = a+b+c+d+e+f						1145875.43	1146866.19	1151150.25	
			Rate per cum = (a+b+c+d+e+f)/120						9548.96	9557.22	9592.92	
								Say	**9549.00**	**9557.20**	**9592.90**	
14.01H (i)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						598681.00	599198.64	601436.91	
			d) Formwork and staging 55 percent of (a+b+c)						329274.55	329559.25	330790.30	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		185591.11	185751.58	186445.44	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		111354.67	111450.95	111867.27	
			Cost for 120 cum = a+b+c+d+e+f						1224901.33	1225960.41	1230539.92	
			Rate per cum = (a+b+c+d+e+f)/120						10207.51	10216.34	10254.50	
								Say	**10207.50**	**10216.30**	**10254.50**	
14.01		**J**	**PSC Grade M- 65**									
			Unit = 1 cum									
			Taking output = 120 cum									
			a) Material									
			Per cum Basic Cost (Rate taken from sub -analysis -21.17)	cum	120.000	120.000	120.000	4790.40	574848.00	574848.00	574848.00	21.17
			Water for curing	kl	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
			b) Labour									
			For pouring and placing									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mate	day	0.192	0.192	0.192	444.00	85.25	85.25	85.25	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	3.300	3.300	3.300	428.00	1412.40	1412.40	1412.40	L-13
			c) Machinery									
			Transit truck and agitator									
			For transportation (6 cum Capacity),L1-lead in kilometer	tonne-km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
			For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
			Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
			Water tanker (speed @ 20km /hr and return speed @ 30 km /hr and 30 mins for uploading)									
			(i)16 KL capacity	hour	0.438xL1+ 2.625			1204.00	3687.85			PM11001
			(ii)12 KL capacity	hour		0.583xL1+ 3.5		1030.00		4205.49		PM11002
			(iii)6 KL capacity	hour			1.167xL1+ 7	789.00			6443.76	PM11003
			For formwork and staging add the following:									
14.01		**(i)**	**For cast-in-situ box girder, segmental construction and balanced cantilever, 35-55 percent of cost of concrete**									
		(p)	**Height upto 5m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						603217.00	603734.64	605972.91	
			d) Formwork and staging 35 percent of (a+b+c)						211125.95	211307.12	212090.52	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		162868.59	163008.35	163612.69	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		97721.15	97805.01	98167.61	
			Cost for 120 cum = a+b+c+d+e+f						1074932.69	1075855.12	1079843.73	
			Rate per cum = (a+b+c+d+e+f)/120						8957.77	8965.46	8998.70	
								Say	**8957.80**	**8965.50**	**8998.70**	
14.01H (i)		**(q)**	**Height 5m to 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						603217.00	603734.64	605972.91	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork and staging 45 percent of (a+b+c)						271447.65	271680.59	272687.81	
			e) Overhead charges@ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		174932.93	175083.05	175732.14	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		104959.76	105049.83	105439.29	
			Cost for 120 cum = a+b+c+d+e+f						1154557.34	1155548.10	1159832.15	
			Rate per cum = (a+b+c+d+e+f)/120						9621.31	9629.57	9665.27	
								Say	**9621.30**	**9629.60**	**9665.30**	
14.01H (i)		**(r)**	**Height above 10m**									
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum						603217.00	603734.64	605972.91	
			d) Formwork and staging 55 percent of (a+b+c)						331769.35	332054.05	333285.10	
			e) Overhead charges @ on (a+b+c+d)		(@ 20%)	(@ 20%)	(@ 20%)		186997.27	187157.74	187851.60	
			f) Contractor's profit @ on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		112198.36	112294.64	112710.96	
			Cost for 120 cum = a+b+c+d+e+f						1234181.98	1235241.07	1239820.58	
			Rate per cum = (a+b+c+d+e+f)/120						10284.85	10293.68	10331.84	
								Say	**10284.80**	**10293.70**	**10331.80**	
		Note	1. Cement provided for various components of the super structure is for estimating purpose only. Actual quantity of cement will be as per approved mix design. Similarly, the provision for coarse and fine aggregates is for estimating purpose and the exact quantity shall be as per the mix design.									
			2. The items like needle and surface vibrators are part of minor T & P which is already covered under the overhead charges. As such these items have not been added separately in the rate analysis.									
14.02	**1600**		**Supplying, fitting and placing HYSD bar reinforcement in super-structure complete as per drawing and technical specifications**									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit = MT									
			Taking output = 8 MT									
			a) Material									
			HYSD bars including 5 percent overlaps and wastage	tonne	8.400	8.400	8.400	46087.50	387135.00	387135.00	387135.00	M-083
			Binding wire	Kg	48.000	48.000	48.000	49.41	2371.68	2371.68	2371.68	M-072
			b) Labour for straightening, cutting, bending, shifting to site , tying and placing in position									
			Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
			Blacksmith	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-01
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			C) Machinery									
			Cutting Machine	hour	8.000	8.000	8.000	414.00	3312.00	3312.00	3312.00	PM43001
			Bending Machine	hour	8.000	8.000	8.000	414.00	3312.00	3312.00	3312.00	PM43001
			Electric generator 15 KVA	hour	8.000	8.000	8.000	300.00	2400.00	2400.00	2400.00	PM22009
			Tipper									
			Tipper for Transportation									
			(i) 18 cum capacity	t-km	8xL1			4.98	39.84			PM72001
			(ii) 14 cum capacity	t-km		8xL1		5.71		45.68		PM73001
			(iii) 10 cum capacity	t-km			8xL1	7.10			56.80	PM74001
			Loading & Unloading Time	hour								
			(i) 18 cum capacity	hour	1.000			2349.00	2349.00			PM6001
			(ii) 14 cum capacity	hour		1.280		2108.00		2698.24		PM6002
			(iii) 10 cum capacity	hour			1.778	1891.00			3362.20	PM6003
			Light weight Crane									
			At cutting bending yard	hour	2.000	2.000	2.000	860.00	1720.00	1720.00	1720.00	PM63001
			At site	hour	2.000	2.000	2.000	860.00	1720.00	1720.00	1720.00	PM63001
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		81251.11	81322.13	81457.14	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		48750.67	48793.28	48874.29	
			Cost for 8 MT (a+b+c+d+e)						536257.34	536726.04	537617.15	
			Rate for per MT(a+b+c+d+e) /8						67032.17	67090.76	67202.14	
								Say	**67032.20**	**67090.80**	**67202.10**	
14.03	**1800**		**High tensile steel wires/strands including all accessories for stressing, stressing operations and grouting complete as per drawing and Technical Specifications**									
			Unit = MT									
			Taking output = 0.377 MT									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Details of cost for 12T13 strand 40 m long cable (weight = 0.377 MT)									
		a) Material									
		H.T. Strand @ 9.42 kg/m including 2 percent for wastage and extra length for jacking	tonne	0.385	0.385	0.385	77144.06	29700.46	29700.46	29700.46	M-118
		Sheathing duct ID 66 mm along with 5 percent extra length 40 x 1.05 = 42 m.	metre	42.000	42.000	42.000	107.41	4511.22	4511.22	4511.22	M-166
		Tube anchorage set complete with bearing plate, permanent wedges etc	each	2.000	2.000	2.000	58.58	117.16	117.16	117.16	M-189
		Cement for grouting including 3 percent wastage @ 3.00 kg/m = 3 x 1.03 x 40 = 123.60 kg (say , = 125 kg)	tonne	0.125	0.125	0.125	5762.00	720.25	720.25	720.25	M-081
		Add 0.50 percent cost of material for Spacers, Insulation tape and miscellaneous items						175.25	175.25	175.25	
		b) Labour									
		i) For making and fixing cables, anchorages									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Blacksmith	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-01
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		ii) For prestressing									
		Mate/Supervisor	day	0.050	0.050	0.050	444.00	22.20	22.20	22.20	L-12
		Prestressing operator / Fitter	day	0.250	0.250	0.250	541.00	135.25	135.25	135.25	L-08
		Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
		iii) For grouting									
		Mate/Supervisor	day	0.050	0.050	0.050	444.00	22.20	22.20	22.20	L-12
		Mason	day	0.250	0.250	0.250	541.00	135.25	135.25	135.25	L-10
		Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
		c) Machinery									
		Stressing jack with pump	hour	2.500	2.500	2.500	493.00	1232.50	1232.50	1232.50	PM65001
		Grouting pump with agitator	hour	1.000	1.000	1.000	668.00	668.00	668.00	668.00	PM60001
		Generator 33 KVA.	hour	3.500	3.500	3.500	521.00	1823.50	1823.50	1823.50	PM22008
		d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		8403.06	8403.06	8403.06	
		e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		5041.83	5041.83	5041.83	
		Cost for 0.377 MT (a+b+c+d +e)						55460.17	55460.17	55460.17	
		Rate per MT = (a+b+c+d+e)/0.377						147109.20	147109.20	147109.20	
							Say	**147109.20**	**147109.20**	**147109.20**	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
14.04	**2702**		**Providing and laying Cement concrete wearing coat M-30 grade including reinforcement complete as per drawing and Technical Specifications**									
			Unit = 1 cum									
			Taking output = 1 cum									
			a) Material									
			Cement concrete M30 Grade Refer relevant item of concrete in Item 14.01 excluding formwork	cum	1.000	1.000	1.000	4017.71 L 4022.02 M 4040.67 S	4017.71	4022.02	4040.67	14.01 C
			HYSD bar reinforcement Rate as per item No 14.02(Excluding OH & CP)	tonne	0.075	0.075	0.075	50781.95 L 50826.33 M 50910.71 S	3808.65	3811.97	3818.30	14.02 excluding OH & CP
			b) Labour									
			Mazdoor for cleaning deck slab concrete surface.	day	0.150	0.150	0.150	428.00	64.20	64.20	64.20	L-13
			c) Overhead charges@ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		1578.11	1579.64	1584.64	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		946.87	947.78	950.78	
			Rate per cum (a+b+c+d)						10415.53	10425.62	10458.59	
								Say	**10415.50**	**10425.60**	**10458.60**	
14.05	**516 & 2702**		**Mastic Asphalt**									
			Providing and laying 12 mm thick mastic asphalt wearing course on top of deck slab excluding prime coat with paving grade bitumen meeting the requirements given in **Table 500-39,** prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen precoated fine grained hard stone chipping of 9.5 mm nominal size at the rate of 0.005cum per 10 sqm and at an approximate spacing of 10 cm center to center in both directions, pressed into surface when the temperature of surfaces not less than 100 deg. C, protruding 1 mm to 4 mm over mastic surface, all complete as per clause 516.									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Unit = sqm									
		Taking output = 72.46 sqm (2 tonnes)(0.869 cum) assuming a density of 2.3 tonnes/cum.									
		a) Labour									
		Mate	day	0.490	0.490	0.490	444.00	217.56	217.56	217.56	L-12
		Mazdoor	day	11.000	11.000	11.000	428.00	4708.00	4708.00	4708.00	L-13
		Mazdoor (Skilled)	day	1.250	1.250	1.250	541.00	676.25	676.25	676.25	L-15
		b) Machinery									
		Mechanical broom @ 1250 sqm per hour	hour	0.060	0.060	0.060	834.00	50.04	50.04	50.04	PM23001
		Air compressor 250 cfm	hour	0.060	0.060	0.060	496.00	29.76	29.76	29.76	PM15001
		Mastic cooker 1 tonne capacity	hour	6.000	6.000	6.000	555.00	3330.00	3330.00	3330.00	PM27001
		Bitumen boiler 1500 litres capacity	hour	6.000	6.000	6.000	592.00	3552.00	3552.00	3552.00	PM26001
		Tractor for towing and positioning of mastic cooker and bitumen boiler	hour	1.000	1.000	1.000	717.00	717.00	717.00	717.00	PM12001
		c) Material									
		Base mastic (without coarse aggregates) = 60 percent									
		Coarse aggregate(3.35mm to 9.5 mm size) = 40 percent .									
		Proportion of material required for mastic asphalt with coarse aggregates (based on mix design done by CRRI for a specific case)									
		i) Bitumen 80/100 or60 /70 or 30/40 @ 10.2 percent by weight of mix. 2 x 10.2/100 = 0.204	tonne	0.204	0.204	0.204	60920.00	12427.68	12427.68	12427.68	M-327
		ii) Crusher stone dust @ 31.9 percent by weight of mix = 2 x 31.9/100 = 0.638 tonnes = 0.638/1.625 = 0.39	cum	0.390	0.390	0.390	274.20	106.94	106.94	106.94	M-020
		iii) Lime stone dust filler with calcium carbonate content not less than 80 percent by weight @ 17.92 percent by weight of mix = 2 x 17.92/100 = 0.36	tonne	0.360	0.360	0.360	3222.77	1160.20	1160.20	1160.20	M-190
		iv) Coarse aggregates 9.5 mm to 3.35 mm size @ 40 percent by weight of mix = 2 x 40/100 = 0.8 MT = 0.8/1.456 = 0.55	cum	0.550	0.550	0.550	631.69	347.43	347.43	347.43	M-050

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			v) Pre-coated stone chips of 9.5 mm nominal size for skid resistance = 72.46x0.005/10 = 0.036	cum	0.036	0.036	0.036	858.84	30.92	30.92	30.92	M-141
			vi) Bitumen for coating of chips @ 2 percent by weight = 0.036 x 1.456 x 2/100 = 0.001048MT = 1.05kg	kg	1.050	1.050	1.050	60.92	63.97	63.97	63.97	M-327
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		5483.55	5483.55	5483.55	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		3290.13	3290.13	3290.13	
			Cost for 72.46 sqm = a+b+c+d+e						36191.42	36191.42	36191.42	
			Rate per sqm = (a+b+c+d+e)/72.46						499.47	499.47	499.47	
								Say	**499.50**	**499.50**	**499.50**	
		Note	**1.**The rates for 6 mm or any other thickness may be worked out on pro-data basis.									
			2. Where tack coat is required to be provided before laying mastic asphalt, the same is required to be measured and paid separately.									
			3.The quantities of binder, filler and aggregates are for estimating purpose. Exact quantities shall be as per mix design.									
			4.This rate analysis is based on design made by CRRI for a specific case and is meant for estimating purposes only. Actual design is required to be done for each case.									
			5.The quantity of bitumen works out 17 percent of the mastic asphalt blocks without aggregates and falls within the standards laid down by MoRT&H Specifications.									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
14.06	**2703, 1500, 1600 & 1700**		**Construction of precast RCC railing of M30 Grade, aggregate size not exceeding 12 mm, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post for expansion, complete as per approved drawings and technical specifications.**									
			Unit = 1 RM									
			Taking output = 2 x 24 m									
			span= 48 m.									
			a) Material									
			Cement concrete M30 Grade refer relevent item of concrete in Item 14.01 (C) by using batching plant, excluding form work i.e. per cum basic cost (a+b+c) No. of vertical posts =(12+2)2=28 Nos., External area of vertical posts=0.25x0.275 =0.069sqm, Concrete in Vertical posts =0.069x28 =1.932 cum, Hand rail in 3 tiers =3x24= 72 m, External area =0.170x0.175 =0.03 sqm, Concrete in hand rails = 0.03 x 72 = 2.16 cum, Total Concrete = 1.932 + 2.16 = 4.092 cum.	cum	4.092	4.092	4.092	4017.71 L 4022.02 M 4040.67 S	16440.46	16458.11	16534.44	14.01 C excluding formwork
			Add 5 percent of above cost for form work for casting in casting yard						822.02	822.91	826.72	
			HYSD bar reinforcement Rate as per item No 14.02	tonne	0.865	0.865	0.865	50781.95 L 50826.33 M 50910.71 S	43926.38	43964.78	44037.77	14.02 (excluding OH & CP)
			Add 5 percent of (a) for handling and fixing of precast panels in position						3059.44	3062.29	3069.95	
			b) Overhead charges @ on (a)		(@ 20%)	(@ 20%)	(@ 20%)		12849.66	12861.62	12893.78	
			c) Contractor's profit @ on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		7709.80	7716.97	7736.27	
			Rate for 48 m (a+b+c)						84807.77	84886.67	85098.92	
			Rate per metre (a+b+c) / 48						1766.83	1768.47	1772.89	
								Say	**1766.80**	**1768.50**	**1772.90**	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		Note	1. Quantities of material have been adopted from standard plans of MoRTH vide drawing no. SD/202.									
			2. 48 m length is the total linear length adding both sides of 24 m span.									
14.07	**2703, 1500, 1600 & 1700**		**Construction of RCC railing of M30 Grade in-situ with 20 mm nominal size aggregate, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post for expansion, complete as per approved drawings and technical specifications.**									
			Unit = 1 RM									
			Taking output = 2 x 24 m									
			span= 48 m.									
			a) Material									
			Cement concrete M30 Grade refer relevent item of concrete in Item 14.01 (C) by using batching plant, excluding form work i.e. per cum basic cost (a+b+c) No. of vertical posts = (12 + 2)2 = 28 Nos., External area of vertical post 0.25x0.275 = 0.069sqm, Concrete in verticle posts = 0.069 x 28 = 1.932 cum, Hand rail in 3 tiers = 3 x 24 = 72 m, External area = 0.170 x 0.175 = 0.03 sqm, Concrete in hand rails = 0.03 x 72 = 2.16 cum, Total Concrete = 1.932 + 2.16 = 4.092 cum.	cum	4.092	4.092	4.092	4017.71 L 4022.02 M 4040.67 S	16440.46	16458.11	16534.44	Same as 14.01 (C) excluding formwork
			Add 12 percent of above cost for form work.						1972.86	1974.97	1984.13	
			HYSD bar reinforcement Rate as per item No 14.02 (Excluding OH & CP)	tonne	0.865	0.865	0.865	50781.95 L 50826.33 M 50910.71 S	43926.38	43964.78	44037.77	Same as 14.02 excluding OH & CP
			b) Overhead charges @ on (a)		(@ 20%)	(@ 20%)	(@ 20%)		12467.94	12479.57	12511.27	
			c) Contractor's profit @ on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		7480.76	7487.74	7506.76	
			Rate for 48 m (a+b+c)						82288.40	82365.18	82574.37	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Rate per metre (a+b+c) / 48						1714.34	1715.94	1720.30	
								Say	**1714.30**	**1715.90**	**1720.30**	
		Note	**1.** Quantities of material have been calculated as per above assumption .									
			2. 48 m length is the total linear length adding both sides of 24 m span.									
14.08	**2703.2 & 1900**		**Providing, fitting and fixing mild steel railing complete as per drawing and Technical Specification**									
			Unit = RM									
			Taking output = 2 x 50 m span = 100 m									
			a) Material:									
			1) ISMC 100 = 2.806 x 1.05 = 2.946 MT	tonne	2.946	2.946	2.946	49936.67	147113.43	147113.43	147113.43	M-181
			2) MS Flat = 0.964 x 1.05 = 1.012 MT	tonne	1.012	1.012	1.012	49936.67	50535.91	50535.91	50535.91	M-181
			3) MS bars = 0.17 x 1.05 = 0.180 MT	tonne	0.180	0.180	0.180	50050.00	9009.00	9009.00	9009.00	M-125
			4) MS bolts, nuts and washers	tonne	0.150	0.150	0.150	80600.00	12090.00	12090.00	12090.00	M-129
			Add @ 5 percent of cost of material for painting one shop coat with red oxide primer and three coats of synthetic enamel paint and consumables to safeguard against weathering and corrosion.						10937.42	10937.42	10937.42	
			Add for cost of concrete for fixing vertical posts in the performed recess @ 1 percent of cost of material.						2187.48	2187.48	2187.48	
			Add for electricity charges, welding and drilling equipment, electrodes and other consumables @ 1 percent of cost of material.						2187.48	2187.48	2187.48	
			b) Labour									
			Mate	day	2.800	2.800	2.800	444.00	1243.20	1243.20	1243.20	L-12
			Mazdoor (Skilled)	day	30.000	30.000	30.000	541.00	16230.00	16230.00	16230.00	L-15
			Mazdoor	day	40.000	40.000	40.000	428.00	17120.00	17120.00	17120.00	L-13
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		53730.78	53730.78	53730.78	
			d) Contractor's profit @ on(a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		32238.47	32238.47	32238.47	
			Cost for 100 m steel railing = (a+b+c+d)						354623.18	354623.18	354623.18	
			Rate per metre (a+b+c+d) /100						3546.23	3546.23	3546.23	
								Say	**3546.20**	**3546.20**	**3546.20**	
14.09	**2705**		**Drainage Spouts complete as per drawing and Technical specification**									
			Unit = 1 No.									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Taking output = 1 No.									
			a) Material									
			Corrosion resistant Structural steel including 5 percent wastage	Kg	4.000	4.000	4.000	78.01	312.04	312.04	312.04	M-088
			GI pipe 100mm dia	metre	6.000	6.000	6.000	560.43	3362.58	3362.58	3362.58	M-239
			GI bolt 10 mm Dia	each	6.000	6.000	6.000	20.85	125.10	125.10	125.10	M-109
			Galvanised MS flat clamp	each	2.000	2.000	2.000	15.58	31.16	31.16	31.16	M-101
			b) Labour									
			For fabrication									
			Mate	day	0.002	0.002	0.002	444.00	0.89	0.89	0.89	L-12
			Skilled (Blacksmith, welder etc.)	day	0.020	0.020	0.020	660.00	13.20	13.20	13.20	L-02
			Mazdoor	day	0.020	0.020	0.020	428.00	8.56	8.56	8.56	L-13
			For fixing in position									
			Mate	day	0.008	0.008	0.008	444.00	3.55	3.55	3.55	L-12
			Mason	day	0.010	0.010	0.010	541.00	5.41	5.41	5.41	L-10
			Mazdoor	day	0.200	0.200	0.200	428.00	85.60	85.60	85.60	L-13
			Add @ 5 percent of cost of material and labour for electrodes, cutting gas, sealant, anti-corrosive bituminous paint, mild steel grating etc.						197.40	197.40	197.40	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		829.10	829.10	829.10	
			d) Contractor's profit @ on(a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		497.46	497.46	497.46	
			Rate per No. = (a+b+c+d)						5472.05	5472.05	5472.05	
								Say	**5472.00**	**5472.00**	**5472.00**	
		Note	**1.** In case of viaducts in urban areas, the drainage spouts should be connected with suitably located pipelines to discharge the surface run-off to drains provided at ground level.									
			2. In case of bridges, sufficient length of G.I Pipe shall be provided to ensure that there is no splashing of water from the drainage spout on the structure.									
14.10	**2700**		**PCC M15 Grade leveling course below approach slab complete as per drawing and Technical specification**									
			Unit = 1 cum									
			Taking output = 1 cum									
			Material									
		Case I	**PCC Grade M15 using batching plant & Concrete pump**									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			a) Concrete, Rate as per item No. 12.08 (A) excluding formworks	cum	1.000			3299.16	3299.16			12.08 (A) Case I (Large)
			Concrete, Rate as per item No. 12.08 (A) excluding formworks	cum		1.000		3303.51		3303.51		12.08 (A) Case I (Medium)
			Concrete, Rate as per item No. 12.08 (A) excluding formworks	cum			1.000	3322.16			3322.16	12.08 (A) Case I (small)
			b) Overhead charges @ on (a)		(@ 20%)	(@ 20%)	(@ 20%)		659.83	660.70	664.43	
			c) Contractor profit @ on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		395.90	396.42	398.66	
			Rate per cum= (a+b+c)						**4354.90**	**4360.60**	**4385.30**	
		Case II	**PCC Grade M15 using batching plant & manual placing**									
			a) Concrete, Rate as per item No. 12.08 (A) excluding formworks	cum	1.000			3529.73	3529.73			12.08 (A) Case II (large)
			Concrete, Rate as per item No. 12.08 (A) excluding formworks	cum		1.000		3534.08		3534.08		12.08 (A) Case II (Medium)
			Concrete, Rate as per item No. 12.08 (A) excluding formworks	cum			1.000	3552.70			3552.70	12.08 (A) Case II (small)
			b) Overhead charges @ on (a)		(@ 20%)	(@ 20%)	(@ 20%)		705.95	706.82	710.54	
			c) Contractor profit @ on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		423.57	424.09	426.32	
			Rate per cum= (a+b+c)						**4659.20**	**4665.00**	**4689.60**	
14.11	**1500, 1600, 1700 & 2704**		**Reinforced cement concrete approach slab including reinforcement and formwork complete as per drawing and Technical specification**									
			Unit = 1 cum									
			Taking output = 1 cum									
			a) Material									
			Cement concrete M30 Grade Refer relevant item of concrete in item 12.08(G)by using batching plant, excluding formwork i.e. per cum basic cost (a+b+c) (Excluding OH & CP)	cum	1.000	1.000	1.000	4060.92 L 4065.27 M 4083.92 S	4060.92	4065.27	4083.92	12.08 G Case I

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			(Refer relevant item of concrete in item No. 12.8 (G) except that form work may be added at the rate of 2 percent of cost against 3.5 percent provided in the foundation concrete.						81.22	81.31	81.68	
			HYSD bar reinforcement Rate as per item No 14.02(Excluding OH & CP)	tonne	0.050	0.050	0.050	50781.95 L 50826.33 M 50910.71 S	2539.10	2541.32	2545.54	14.02 excluding OH &CP
			b) Overhead charges @ on (a)		(@ 20%)	(@ 20%)	(@ 20%)		1336.25	1337.58	1342.23	
			c) Contractor's profit @ on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		801.75	802.55	805.34	
			Rate per cum (a+b+c)						8819.23	8828.02	8858.70	
								Say	**8819.20**	**8828.00**	**8858.70**	
		Note	The grade of reinforced cement concrete may be adopted as M30 for severe conditions and M25 for moderate conditions.									
14.12	**1600**		**Providing anti-corrosive treatment to HYSD reinforcement with Fusion Bonded Epoxy Coating (FBEC)**									
			Unit = 1 MT									
			Taking output = 1 MT									
			To be taken as per the prevailing market rates.									
		Note	Contractors generally do not have expertise for this item . The job is therefore, got done from specialised firms who have the expertise in the field of construction chemicals. The prevailing rate in the market is required to be ascertained from the market and added in the cost estimate. HYSD reinforcement with Fusion Bonded Epoxy Coating(FBEC) as per MoRT&H circular / specification.									
14.13	**1800 & 2300**		**Precast - pretensioned Girders**									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Providing, precasting, transportation and placing in position precast pretensioned concrete girders as per drawing and technical specifications									
			Unit = 1 cum									
			Taking output = 1 cum									
			Grade of concrete - M40									
			a) Material									
			Per Cum Basic Cost (Rate as in sub - analysis)	cum	1.000	1.000	1.000	3985.50	3985.50	3985.50	3985.50	21.12
			Water for curing	KL	0.525	0.525	0.525	63.20	33.18	33.18	33.18	M-191
			HYSD steel .	tonne	0.100	0.100	0.100	46087.50	4608.75	4608.75	4608.75	M-083
			HT strand with 5 percent as wastage and extra length for anchoring	tonne	0.060	0.060	0.060	77144.06	4628.64	4628.64	4628.64	M-118
			LDO for steam curing	Litre	37.000	37.000	37.000	58.50	2164.50	2164.50	2164.50	M-121
			Add consumables such as binding wire, foam, packing tape, shuttering oil, HDPE pipe for unbonding of strand, bolt & nuts etc @ 1 percent of material cost						154.21	154.21	154.21	
			b) Labour									
			(i) Cutting, bending, making reinforcement cage, placing in position, binding etc. complete									
			Taking quantity of steel 100 Kg/cum of concrete including laps and wastage									
			Mate	day	0.070	0.070	0.070	444.00	31.08	31.08	31.08	L-12
			Mazdoor (Skilled)	day	0.350	0.350	0.350	541.00	189.35	189.35	189.35	L-15
			Mazdoor	day	1.400	1.400	1.400	428.00	599.20	599.20	599.20	L-13
			(ii) Cable cutting and threading in position including binding by insulation tape with HDPE pipes etc., prestessing and cutting of extra length of HT strand after de-stressing.									
			Taking quantity of HT strand 60 Kg/cum									
			Mate	day	0.026	0.026	0.026	444.00	11.54	11.54	11.54	L-12
			Mazdoor (Skilled)	day	0.140	0.140	0.140	541.00	75.74	75.74	75.74	L-15
			Mazdoor	day	0.500	0.500	0.500	428.00	214.00	214.00	214.00	L-13

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		(iii) Erection and dismantling of shuttering									
		Taking shuttering area 10 sqm/cum of concrete									
		Mate	day	0.120	0.120	0.120	444.00	53.28	53.28	53.28	L-12
		Mazdoor (Skilled)	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	2.000	2.000	2.000	428.00	856.00	856.00	856.00	L-13
		(iv) Concreting by Batching plant and stationary concrete pump									
		Mate	day	0.026	0.026	0.026	444.00	11.54	11.54	11.54	L-12
		Mazdoor (Skilled)	day	0.050	0.050	0.050	541.00	27.05	27.05	27.05	L-15
		Mazdoor	day	0.600	0.600	0.600	428.00	256.80	256.80	256.80	L-13
		(v) Steam curing and manual curing									
		Mate	day	0.014	0.014	0.014	444.00	6.22	6.22	6.22	L-12
		Mazdoor	day	0.350	0.350	0.350	428.00	149.80	149.80	149.80	L-13
		(vi) Handling of precast girder, stacking in stockyard and again loading in trailor									
		Mate	day	0.010	0.010	0.010	444.00	4.44	4.44	4.44	L-12
		Mazdoor	day	0.250	0.250	0.250	428.00	107.00	107.00	107.00	L-13
		(vii) Placement of girders in position over pier caps including placement of sand jacks, channel, levelling etc.									
		Mate	day	0.012	0.012	0.012	444.00	5.33	5.33	5.33	L-12
		Mazdoor (Skilled)	day	0.060	0.060	0.060	541.00	32.46	32.46	32.46	L-15
		Mazdoor	day	0.240	0.240	0.240	428.00	102.72	102.72	102.72	L-13
		c) Machinery									
		i) At casting yard Transit truck agitator									
		For transportation (6 cum capacity) ,L1 - lead in Kilometer	tonne-km	2.5xL	2.5xL	2.5xL	10.87	27.18	27.18	27.18	PM76001
		For unloading	hour	0.022	0.022	0.022	1992.00	43.82	43.82	43.82	PM34001
		Hydraulic Boom placer pump	hour	0.022	0.022	0.022	3827.00	84.19	84.19	84.19	PM36001
		Water tanker (speed @ 20km /hr and return speed @ 30 km /hr and 30 mins for uploading)									
		(i)16 KL capacity	hour	0.004XL1+ 0.022			1204.00	31.30			PM11001
		(ii)12 KL capacity	hour		0.005xL1+0 .029		1030.00		35.02		PM11002
		(iii)6 KL capacity	hour			0.01xL1+0 .058	789.00			53.65	PM11003

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Crane 35 tonne capacity	hour	0.100	0.100	0.100	5608.00	560.80	560.80	560.80	PM62001
			Trailer 30 tonne capacity	hour	0.100	0.100	0.100	2349.00	234.90	234.90	234.90	PM6001
			ii) For transportation and placement at site									
			Crane 35 tonne capacity	hour	0.150	1.150	2.15	5608.00	841.20	6449.20	12057.20	PM62001
			Trailer 30 tonne capacity for transporting to site.	tonne.km	2.5xL	2.5xL	2.5xL	4.98	12.45	12.45	12.45	PM72001
			(L - Lead in Kilometer)									
			Trailor 30 tonne capacity during placement.	hour	0.150	1.15	2.150	2349.00	352.35	2701.35	5050.35	PM6001
			Cost of formwork, steam curing arrangement, pretensioning arrangement etc @ 5 percent of cost material, labour and machinery						1051.88	1449.91	1848.69	
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		4417.88	6089.63	7764.51	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		2650.73	3653.78	4658.71	
			Rate per cum = (a+b+c+d+e)						29158.01	40191.57	51245.79	
								Say	**29158.00**	**40191.60**	**51245.80**	
14.14	**1700 & 1800**		**Providing and fixing Helical pipes in voided concrete slabs**									
			Unit = 1 RM									
			Taking output = 1 RM									
			a) Material									
			Helical pipes 600mm diameter	metre	1.000	1.000	1.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-116
			Tie rods 20mm diameter	each	1.000	1.000	1.000	56.44	56.44	56.44	56.44	M-185
			Consumables for sealing joints etc.@ 5 percent of cost of material						#VALUE!	#VALUE!	#VALUE!	
			b) Labour									
			Mate	day	0.010	0.010	0.010	444.00	4.44	4.44	4.44	L-12
			Fitter	day	0.050	0.050	0.050	541.00	27.05	27.05	27.05	L-08
			Mazdoor	day	0.200	0.200	0.200	428.00	85.60	85.60	85.60	L-13
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		#VALUE!	#VALUE!	#VALUE!	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate per m = (a+b+c+d)						#VALUE!	#VALUE!	#VALUE!	
								Say	**#VALUE!**	**#VALUE!**	**#VALUE!**	
14.15	**800**		**Crash Barriers for Bridge**									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Provision of an Reinforced cement concrete crash barrier at the bridge decks& approaches to bridge structures constructed with Rein forced Cement Concrete With HYSD reinforcement confirming MoRT&H Specification and as per details given IRC-5 including dowel bars ,expansion joints filled with pre-moulded asphalt filler board etc.. and approved drawing and at locations directed by the Engineer ,all as specified .									
			Unit = Linear meter									
			Taking output 10 m									
		A	**Crash Barriers for Bridge (Height 950 mm) as per details given IRC-5 (fig.-1) (Area -0.254 sqm. For 1 meter length)**									
			a) M 40 grade concrete &HYSD steel reinforcment									
			M 40 grade concrete (Area -0.254 Sqm. /Meter) (Rate taken from item No. 14.01 E (p) including OH&CP)	cum	2.540	2.540	2.540	6576.00 L 6582.80 M 6611.80 S	16703.04	16720.31	16793.97	14.01 E (i) (p)
			HYSD steel reinforcement including dowel bars (Rate taken from item No. 14.02 including OH & CP)	tonne	0.229	0.229	0.229	67032.20 L 67090.80 M 67202.10 S	15350.37	15363.79	15389.28	14.02 including OH & CP
			b) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			c) Material									
			Pre-moulded ashphalt filler board	sqm	0.265	0.265	0.265	905.45	239.94	239.94	239.94	M-143
			d) Overhead charges @ on (b+c)		(@ 20%)	(@ 20%)	(@ 20%)		137.14	137.14	137.14	
			e) Contractor's profit @ on (b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		82.28	82.28	82.28	
			Cost for 10 metre =a+b+c+d+e						32958.54	32989.23	33088.38	
			Rate per metre =(a+b+c+d+e) /10						3295.85	3298.92	3308.84	
								Say	**3295.90**	**3298.90**	**3308.80**	
14.15		**B**	**Crash Barriers for Bridge (Height 1100 mm) as per details given IRC-5 (fig.-2) (Area -0.298 sqm. For 1 meter length)**									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			a) M 40 grade concrete &HYSD steel reinforcment									
			M 40 grade concrete (Area 0.298 Sqm. /Meter) (Rate taken from item No. 14.01 E (p) including OH&CP)	cum	2.980	2.980	2.980	6576.00 L 6582.80 M 6611.80S	19596.48	19616.74	19703.16	14.01 E (i) (p)
			HYSD steel reinforcement including dowel bars (Rate taken from item No. 14.02 including OH & CP)	tonne	0.268	0.268	0.268	67032.20 L 67090.80 M 67202.10 S	17964.63	17980.33	18010.16	14.02 including OH & CP
			b) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			c) Material									
			Pre-moulded ashphalt filler board	sqm	0.310	0.310	0.310	905.45	280.69	280.69	280.69	M-143
			d) Overhead charges @ on (b+c)		(@ 20%)	(@ 20%)	(@ 20%)		145.29	145.29	145.29	
			e) Contractor's profit @ on (b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		87.17	87.17	87.17	
			Cost for 10 metre =a+b+c+d+e						38520.02	38555.99	38672.24	
			Rate per metre =(a+b+c+d+e) /10						3852.00	3855.60	3867.22	
								Say	**3852.00**	**3855.60**	**3867.20**	
14.15		**C**	**Crash Barriers for Bridge (Height 1550 mm) as per details given IRC-5 (fig.-3) (Surface Area 0.514 sqm. For 1 meter length)**									
			a) M 40 grade concrete &HYSD steel reinforcment									
			M 40 grade concrete (Area 0.514 Sqm. /Meter) (Rate taken from item No. 14.01 E (p) including OH&CP)	cum	5.140	5.140	5.140	6576.00 L 6582.80 M 6611.80S	33800.64	33835.59	33984.65	14.01 E (i) (p)
			HYSD steel reinforcement including dowel bars (Rate taken from item No. 14.02 including OH & CP)	tonne	0.463	0.463	0.463	67032.20 L 67090.80 M 67202.10 S	31035.91	31063.04	31114.57	14.02 including OH & CP
			b) Labour									
			Mate	day	0.060	0.060	0.060	444.00	26.64	26.64	26.64	L-12
			Mazdoor	day	1.500	1.500	1.500	428.00	642.00	642.00	642.00	L-13
			c) Material									
			Premoulded ashphalt filler board	sqm	0.540	0.540	0.540	905.45	488.94	488.94	488.94	M-143
			d) Overhead charges @ on (b+c)		(@ 20%)	(@ 20%)	(@ 20%)		231.52	231.52	231.52	
			e) Contractor's profit @ (b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		138.91	138.91	138.91	
			Cost for 10 metre =a+b+c+d+e						66364.56	66426.64	66627.23	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Rate per metre =(a+b+c+d+e) /10						6636.46	6642.66	6662.72	
								Say	**6636.50**	**6642.70**	**6662.70**	
		Note	The rate analysis for semi - rigid crash barrier with metal beam and flexible crash barrier with wire ropes have been made and included in chapter-8 on Traffic and Transportation.									
14.16	**800**		**Painting on concrete surface**									
			Providing and applying 2 coats of water based cement paint to unplastered concrete surface after cleaning the surface of dirt, dust, oil, grease, efflorescence and applying paint @ of 1 litre for 2 sqm.									
			Unit = sqm									
			Taking output = 10 sqm									
			a) Labour									
			Mate	day	0.020	0.020	0.020	444.00	8.88	8.88	8.88	L-12
			Painter	day	0.250	0.250	0.250	541.00	135.25	135.25	135.25	L-18
			Mazdoor (Skilled)	day	0.250	0.250	0.250	541.00	135.25	135.25	135.25	L-15
			b) Material									
			Water based paint of approved quality for cement concrete surface	Litres	5.000	5.000	5.000	137.84	689.19	689.19	689.19	M-192
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		193.71	193.71	193.71	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		116.23	116.23	116.23	
			Cost for 10 sqm =a+b+c+d						1278.51	1278.51	1278.51	
			Rate per sqm =(a+b+c+d) /10						127.85	127.85	127.85	
								Say	**127.90**	**127.90**	**127.90**	
14.17	**2604**		**Filler joint**									
		(i)	**Providing & fixing 2 mm thick corrugated copper plate in expansion joint complete as per drawing & Technical Specification.**									
			Unit = Running meter									
			Taking output = 12 m									
			a) Labour									
			Cutting, bending, carrying & fixing etc.									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor	day	0.500	0.500	0.500	428.00	214.00	214.00	214.00	L-13
			Mazdoor (Skilled)	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15
			b) Material									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Copper plate - 12m long x 250 mm wide	kg	55.000	55.000	55.000	566.14	31137.70	31137.70	31137.70	M-087
			Area = 12 x 0.25 = 3 sqm									
			Weight = 3 x 0.002 x 8900 = 53.4 kg									
			Wastage @ 2.5 percent = 1.33 kg/54.73 kg say = 55 kg.									
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		6327.99	6327.99	6327.99	
			d) Contractor's profit @on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		3796.80	3796.80	3796.80	
			Cost for 12 m =a+b+c+d						41764.75	41764.75	41764.75	
			Rate per m =(a+b+c+d) /12						3480.40	3480.40	3480.40	
								Say	**3480.40**	**3480.40**	**3480.40**	
14.17		**(ii)**	**Providing & fixing 20 mm thick compressible fibre board in expansion joint complete as per drawing & Technical Specification.**									
			Unit = Running meter									
			Taking output = 12 m									
			a) Labour									
			For carrying, placing & fixing.									
			Mate	day	0.008	0.008	0.008	444.00	3.55	3.55	3.55	L-12
			Mazdoor	day	0.100	0.100	0.100	428.00	42.80	42.80	42.80	L-13
			Mazdoor (Skilled)	day	0.100	0.100	0.100	541.00	54.10	54.10	54.10	L-15
			b) Material									
			20 mm thick compressible fibre board 12 m long x 25 cm deep.	sqm	3.000	3.000	3.000	1510.29	4530.88	4530.88	4530.88	M-085
			Area = 12 x 0.25 = 3 sqm									
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		926.27	926.27	926.27	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		555.76	555.76	555.76	
			Cost for 12 m =a+b+c+d						6113.35	6113.35	6113.35	
			Rate per m =(a+b+c+d) /12						509.45	509.45	509.45	
								Say	**509.40**	**509.40**	**509.40**	
14.17		**(iii)**	**Providing and fixing in position 20 mm thick premoulded joint filler in expansion joint for fixed ends of simply supported spans not exceeding 10 m to cater for a horizontal movement upto 20 mm, covered with sealant complete as per drawing and technical specifications.**									
			Unit = Running meter									
			Taking output = 12 m									
			a) Labour									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mate	day	0.012	0.012	0.012	444.00	5.33	5.33	5.33	L-12
			Mazdoor	day	0.200	0.200	0.200	428.00	85.60	85.60	85.60	L-13
			Mazdoor (Skilled)	day	0.100	0.100	0.100	541.00	54.10	54.10	54.10	L-15
			b) Material									
			Pre-moulded joint filler 12 m long,20 mm thick and 300 mm deep.	sqm	3.600	3.600	3.600	429.70	1546.93	1546.93	1546.93	M-140
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		338.39	338.39	338.39	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		203.03	203.03	203.03	
			Cost for 12 m =a+b+c+d						2233.38	2233.38	2233.38	
			Rate per m =(a+b+c+d) /12						186.12	186.12	186.12	
								Say	**186.10**	**186.10**	**186.10**	
14.17		**(iv)**	**Providing and filling joint sealing compound as per drawings and technical specifications with coarse sand and 6 percent bitumen by weight**									
			Unit = Running meter									
			Taking output = 12 m									
			12m long x 100 mm wide x 10mm deep recess									
			a) Labour									
			Mate	day	0.024	0.024	0.024	444.00	10.66	10.66	10.66	L-12
			Mazdoor	day	0.500	0.500	0.500	428.00	214.00	214.00	214.00	L-13
			Mazdoor (Skilled)	day	0.100	0.100	0.100	541.00	54.10	54.10	54.10	L-15
			b) Material									
			Sand	cum	0.012	0.012	0.012	612.90	7.35	7.35	7.35	M-004*
			Volume 12 x 0.1 x 0.01 = 0.012 cum									
			Weight 0.012 x 1400 = 16.8kg									
			Bitumen	tonne	0.001	0.001	0.001	57448.00	57.45	57.45	57.45	M-074
			16.8 x 0.06 = 1 kg									
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		68.71	68.71	68.71	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		41.23	41.23	41.23	
			Cost for 12 m =a+b+c+d						453.50	453.50	453.50	
			Rate per m =(a+b+c+d) /12						37.79	37.79	37.79	
								Say	**37.80**	**37.80**	**37.80**	
		Note	For arriving at the final rate of filler joints per m									
			length and per cm depth of joint filling compound,									
			the rates at Sl. No. i), ii), iii) & iv) shall be added									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
14.18	**2608**		**Asphaltic Plug joint**									
			Providing and laying of asphaltic plug joint to provide for horizontal movement of 25 mm and vertical movement of 2 mm, depth of joint varying from 75 mm to 100 mm, width varying from 500 mm to 750 mm (in traffic direction), covered with a closure plate of 200mm x 6mm of weldable structural steel conforming to IS: 2062, asphaltic plug to consist of polymer modified bitumen binder, carefully selected single size aggregate of 12.5 mm nominal size and a heat resistant foam caulking/ backer rod, all as per approved drawings and specifications.									
			Unit = Running meter									
			Taking output = 12 m									
			a) Labour									
			Mate	day	0.052	0.052	0.052	444.00	23.09	23.09	23.09	L-12
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			Mazdoor (Skilled)	day	0.300	0.300	0.300	541.00	162.30	162.30	162.30	L-15
			b) Material									
			Crushed stone aggregate 12.5 mm nominal size	cum	0.750	0.750	0.750	631.69	473.77	473.77	473.77	M-051
			Polymer modified bitumen	kg	77.500	77.500	77.500	60.33	4675.58	4675.58	4675.58	M-078/1000
			Galvanised structural steel plate 200 mm wide,6 mm thick, 12 m long (2.4 sqm) @ 47.10 kg/sqm including 5 percent wastage	kg	113.000	113.000	113.000	51.76	5848.88	5848.88	5848.88	M-103
			Add 1 percent for welding and foam caulking/backer rod and other incidentals.						58.49	58.49	58.49	
			c) Machinery									
			Mastic cooker 1 tonne capacity	hour	1.000	1.000	1.000	555.00	555.00	555.00	555.00	PM27001
			Smooth 3-wheeled steel roller 8-10 capacity	hour	0.500	0.500	0.500	1650.00	825.00	825.00	825.00	PM8001
			d) Overhead charges @ on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		2610.02	2610.02	2610.02	
			e) Contractor's profit @ on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		1566.01	1566.01	1566.01	

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Cost for 12 m asphalt plug joint =a+b+c+d +e						17226.13	17226.13	17226.13	
			Rate per m =(a+b+c+d+e) /12						1435.51	1435.51	1435.51	
								Say	**1435.50**	**1435.50**	**1435.50**	
		Note	The nominal size of aggregates shall be 12.5 mm for depth of joint upto 75 mm and 20 mm for joints of depth more than 75 mm.									
14.19	**2605**		**Elastomeric Slab Steel Expansion Joint**									
			Providing and laying of an elastomeric slab steel expansion joint, catering to right or skew (less than 20 deg., moderately curved with maximum horizontal movement upto 50 mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/ supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation and clause 2605 of MoRT&H specifications for road & bridge works.									
			Unit = Running meter									
			Taking output = 12 m									
			a) Labour									
			Mate	day	0.060	0.060	0.060	444.00	26.64	26.64	26.64	L-12
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			Mazdoor (Skilled)	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15
			b) Material									
			Supply of elastomeric slab seal expansion joint assembly manufactured by using chloroprene, elastomer for elastomeric slab unit conforming to clause 915.1 of IRC: 83 (part II), complete as per approved drawings and standard specification conforming to clause 2605 of MoRT&H Specification	metre	12.000	12.000	12.000	25568.64	306823.68	306823.68	306823.68	M-094

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Add 5 percent of cost of material for anchorage reinforcement, welding and other incidentals.						15341.18	15341.18	15341.18	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		64578.00	64578.00	64578.00	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		38746.80	38746.80	38746.80	
			Cost for 12 m =a+b+c+d						426214.81	426214.81	426214.81	
			Rate per m =(a+b+c+d) /12						35517.90	35517.90	35517.90	
								Say	**35517.90**	**35517.90**	**35517.90**	
14.20	**2600**		**Compression Seal Joint**									
			Providing and laying of compression seal joint consisting of steel armoured nosing at two edges of the joint gap suitably anchored to the deck concrete and a preformed chloroprene elastomer or closed cell foam joint sealer compressed and fixed into the joint gap with special adhesive binder to cater for a horizontal movement upto 40 mm and vertical movement of 3 mm.									
			Unit = Running meter									
			Taking output = 12 m									
			a) Labour									
			Mate	day	0.036	0.036	0.036	444.00	15.98	15.98	15.98	L-12
			Mazdoor	day	0.600	0.600	0.600	428.00	256.80	256.80	256.80	L-13
			Mazdoor (Skilled)	day	0.300	0.300	0.300	541.00	162.30	162.30	162.30	L-15
			b) Material									
			1. Galvanised angle sections 100mm x 100mm of 12mm thickness weldable structural steel as per IS: 2062, 2 nos. of 12 m length each @ 17.7 kg/m and 5 percent wastage.	kg	446.000	446.000	446.000	51.76	23084.96	23084.96	23084.96	M-103
			Add 5 percent of cost of above for structural steel for anchorage, welding and other incidentals.						1154.25	1154.25	1154.25	
			Preformed continuous chloroprene elastomer or closed cell foam sealing element with high tear strength, vulcanised in a single operation for the full length of a joint to ensure water tightness.	metre	12.000	12.000	12.000	1811.08	21732.95	21732.95	21732.95	M-142

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.	Description		Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Add 1 percent of cost of sealing element for lubricant-cum-adhesive and other consumables.						217.33	217.33	217.33	
			c) Overhead charges @ on on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		9324.91	9324.91	9324.91	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		5594.95	5594.95	5594.95	
			Cost for 12 m =a+b+c+d						61544.44	61544.44	61544.44	
			Rate per m =(a+b+c+d) /12						5128.70	5128.70	5128.70	
								Say	**5128.70**	**5128.70**	**5128.70**	
		Note	**1.** The installation shall be done by the manufacturer or his authorised representative to the satisfaction of the Engineer.									
			2. The concreting for joining the expansion joint assembly with the deck has not been included in this analysis as the same is catered in the quantities of RCC deck.									
			3. The anchoring bars of the expansion joint assembly shall be welded to the main reinforcement of the deck.									
14.21	**2607**		**Strip Seal Expansion Joint**									
			Providing and laying of a strip seal expansion joint catering to maximum horizontal movement upto 70 mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/ supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation.									
			Unit = Running meter									
			Taking output = 12 m									
			a) Labour									
			Mate	day	0.050	0.050	0.050	444.00	22.20	22.20	22.20	L-12
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			Mazdoor (Skilled)	day	0.250	0.250	0.250	541.00	135.25	135.25	135.25	L-15
			b) Material									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Supply of complete assembly of strip seal expansion joint comprising of edge beams, anchorage, strip seal element and complete accessories as per approved specifications and drawings.	metre	12.000	12.000	12.000	9916.08	118992.96	118992.96	118992.96	M-180
			Add 5 percent of cost of material for anchorage reinforcement, welding and other incidentals						5949.65	5949.65	5949.65	
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		25105.61	25105.61	25105.61	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		15063.37	15063.37	15063.37	
			Cost for 12 m =a+b+c+d						165697.04	165697.04	165697.04	
			Rate per m =(a+b+c+d) /12						13808.09	13808.09	13808.09	
								Say	**13808.10**	**13808.10**	**13808.10**	
		Note	**1.** The installation shall be done by the manufacturer or his authorised representative to the satisfaction of the Engineer.									
			2. The concreting for joining the expansion joint assembly with the deck has not been included in this analysis as the same is catered in the quantities of RCC deck.									
14.22	**2600**		**Modular Strip / Box Seal Joint**									
			Providing and laying of a modular strip Box seal expansion joint including anchorage catering to a horizontal movement beyond 70 mm and upto 140mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation.									
			Unit = Running meter									
			Taking output = 12 m									
			a) Labour									
			Mate	day	0.056	0.056	0.056	444.00	24.86	24.86	24.86	L-12
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			Mazdoor (Skilled)	day	0.400	0.400	0.400	541.00	216.40	216.40	216.40	L-15
			b) Material									

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Supply of a modular strip/box seal joint assembly comprising of edge beams, central beam,2 modules chloroprene seal, anchorage elements, support and control system, all steel sections protected against corrosion and installed by the manufacturer or his authorised representative.	metre	12.000	12.000	12.000	35224.05	422688.61	422688.61	422688.61	M-126
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		84671.58	84671.58	84671.58	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		50802.95	50802.95	50802.95	
			Cost for 12 m Modular strip/ box seal joint =a+b+c+d						558832.40	558832.40	558832.40	
			Rate per m =(a+b+c+d) /12						46569.37	46569.37	46569.37	
								Say	**46569.40**	**46569.40**	**46569.40**	
		Note	**1.** The installation shall be done by the manufacturer or his authorised representative to the satisfaction of the Engineer.									
			2. The concreting for joining the expansion joint assembly with the deck has not been included in this analysis as the same is catered in the quantities of RCC deck.									
			3. The anchoring bars of the expansion joint assembly shall be welded to the main reinforcement of the deck.									
14.23	**2600**		**Modular Strip / Box Seal Joint**									
			Providing and laying of a modular strip box seal expansion joint catering to a horizontal movement beyond 140mm and upto 210mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/ supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation.									
			Unit = Running meter									
			Taking output = 12 m									
			a) Labour									
			Mate	day	0.070	0.070	0.070	444.00	31.08	31.08	31.08	L-12

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mazdoor	day	1.250	1.250	1.250	428.00	535.00	535.00	535.00	L-13
			Mazdoor (Skilled)	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15
			b) Material									
			Supply of a modular box/box seal joint assembly containing 3 modules/cells and comprising of edge beams, two central beams, chloroprene seal, anchorage elements, support and control system, all steel sections protected against corrosion and installed by the manufacturer or his authorised representative.	metre	12.000	12.000	12.000	35224.05	422688.61	422688.61	422688.61	M-127
			c) Overhead charges @on(a+b)		(@ 20%)	(@ 20%)	(@ 20%)		84705.04	84705.04	84705.04	
			d) Contractor's profit @on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		50823.02	50823.02	50823.02	
			Cost for 12 m =a+b+c +d						559053.25	559053.25	559053.25	
			Rate per m =(a+b+c +d) /12						46587.77	46587.77	46587.77	
								Say	**46587.80**	**46587.80**	**46587.80**	
		Note	**1.** The installation shall be done by the manufacturer or his authorised representative to the satisfaction of the Engineer.									
			2. The concreting for joining the expansion joint assembly with the deck has not been included in this analysis as the same is catered in the quantities of RCC deck.									
			3. The anchoring bars of the expansion joint assembly shall be welded to the main reinforcement of the deck.									
14.24			**Painting with synthetic enamel paint bridge No. and span arrangements**									
			Painting two coat after filling the surface with synthetic enamel paint bridge No. and span arrangements as per direction by Engineer .									
			Unit = Nos.									
			Taking output = 1 Nos									
			a) Labour									
			Mate	day	0.006	0.006	0.006	444.00	2.66	2.66	2.66	L-12
			Painter	day	0.100	0.100	0.100	541.00	54.10	54.10	54.10	L-18
			Mazdoor	day	0.05	0.05	0.05	428.00	21.40	21.40	21.40	L-13

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		b) Material									
		Paint confirming to requirement of clause 803.3	Litre	0.300	0.300	0.300	270.83	81.25	81.25	81.25	M-130
		Add for scaffolding @ 1 percent of labour cost where required						0.78	0.78	0.78	
		Add @ 5 percent cost of labour and materials to prepare the surface by filling minutes roughness on the surface and priming the surface before laying 2 coats of painting.						7.97	7.97	7.97	
		c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		33.63	33.63	33.63	
		d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		20.18	20.18	20.18	
		Cost for 1 No. =a+b+c+d						221.98	221.98	221.98	
		Rate per Nos.=(a+b+c+d)						221.98	221.98	221.98	
							Say	**222.00**	**222.00**	**222.00**	
14.25	**Suggestive**	**Bipolar corrosion inhibiting admixture in concrete for protection of reinforced steel from corrosion**									
		Admix polydentate ,bipolar ,migratory, intergal non nitrate base concrete penetrating corrosion inhibiting admixture at dosage of 3Kg per cu.m. of concrete as per manufactures specification. Inhibitor should conforms to following-									
		i. ASTM G-109-2005-Long term corrosion test resulting in a corrosion rate of zero coulombs.									
		ii JIS Z1535- Accelerated corrosion test showing significant reduction in corrosion using the admixture.									
		iii ASTM G1-Immersion test for 720 hrs indicating rebar weight loss less than 5 mpy.									
		iv ASTM G3-Polarization test by Tafel test indicating Rebar weight loss less than 5 mpy.									
		Unit =Cum									
		Taking output =100.000 cum									
		a) Material									
		Corrosion inhibiting Admixture @3 kg per cubic meter	kg.	300.000	300.000	300.000	31.15	9345.00	9345.00	9345.00	M-182

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Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			b) Overhead charges @ on (a)		(@ 20%)	(@ 20%)	(@ 20%)		1869.00	1869.00	1869.00	
			c) Contractor's profit @ (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		1121.40	1121.40	1121.40	
			Cost for 100 cum. =a+b+c						12335.40	12335.40	12335.40	
			Rate per cum.=(a+b+c)/100						123.35	123.35	123.35	
								Say	**123.40**	**123.40**	**123.40**	
14.26	**1700**		**Providing structural steel for super-structure complete as per drawing and technical specifications**									
			Unit = MT									
			Taking output =17.135 MT									
			a) Material									
			Structural steel in plates ,angles, etc. including 5 percent wastage	Tonne	17.992	17.992	17.992	49936.67	898460.57	898460.57	898460.57	M-181
			Nuts & bolts	kg.	180.000	180.000	180.000	80.60	14508.00	14508.00	14508.00	M-129
			b) Labour									
			(for cutting, bending , marking holes ,joining, welding, and erecting im position)									
			mate	day	21.097	21.097	21.097	444.00	9367.07	9367.07	9367.07	L-12
			Filter	day	77.108	77.108	77.108	541.00	41715.43	41715.43	41715.43	L-08
			Blacksmith	day	77.108	77.108	77.108	541.00	41715.43	41715.43	41715.43	L-25
			Welder	day	77.108	77.108	77.108	660.00	50891.28	50891.28	50891.28	L-02
			Painter Ist class	day	32.385	32.385	32.385	541.00	17520.29	17520.29	17520.29	L-18
			Mazdoor	day	263.708	263.708	263.708	428.00	112867.02	112867.02	112867.02	L-13
			Electrode, cutting gas and other consummables @10 percent of cost of **(a) above**						91296.86	91296.86	91296.86	
			c) Machinery									
			Mobile Hydraulic Crane 10 tonne capacity (for fabrication)	Hrs	68.540	68.540	68.540	995.00	68197.30	68197.30	68197.30	PM63003
			Crane 35 tonne capacity (for Loading &Unloading @1 hr for each operation)	Hrs	4.000	4.000	4.000	1853.00	7412.00	7412.00	7412.00	PM63006
			Crane 35 tonne capacity (for Lifting and placing in position @2 hr)	Hrs	4.000	4.000	4.000	1853.00	7412.00	7412.00	7412.00	PM63006

CHAPTER-14

Analysis of Rate

BRIDGE SUPERSTRUCUTRE

Sr No	Ref. to M.	Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
				Large	Medium	Small		Large	Medium	Small	
		Trailer30 tonne capacity for transporting to site	Hrs	4+L /15	4+L /15	4+L /15	2349.00	9552.60	9552.60	9552.60	PM6001
		Applying 2 coats primer before painting of Truss and Girder (42 sqm /tonne)	Lit	899.598	899.598	899.598	85.21	76654.75	76654.75	76654.75	M-145
		Painting of Truss and Girder	Lit	899.598	899.598	899.598	136.92	123172.96	123172.96	123172.96	M-058
		Sundries @5% of the above (a,b,&c)						78537.18	78537.18	78537.18	
		d) Overhead charges on (a+b+c)		(@ 20%)	(@ 20%)	(@ 20%)		329856.14	329856.14	329856.14	
		e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		197913.69	197913.69	197913.69	
		Cost for 17.135MT =a+b+c+d+e						2177050.55	2177050.55	2177050.55	
		Rate for per MT.=(a+b+c +d+e) /17.135						127052.85	127052.85	127052.85	
							Say	**127052.80**	**127052.80**	**127052.80**	

CHAPTER- 15

BOX CELL STRUCTURE

CHAPTER-15

BOX CELL STRUCTURES

PREAMBLES :

1 Excavation for structures has been provided both by manual and mechanical means. The rate relevant to a particular situation may be adopted.

2 The earth excavated from Foundation has been proposed to be back filled and balance quality utilised for road work locally except for marshy soil where disposal has been provided

3 The rock Foundation are required to be prepared which has been analysed.

4 In case of rocks, excavation has been considered up to a depth of 3M only

5 Embedment of foundation is soft and hard rocks has been provided as required by specifications.

6 Mixing of cement concrete has been considered by using batching plant.

7 concrete batching plant is generally placed within 1 km of the Box Cell site. In case of longer lead, transportation cost may be worked out based on tone km.

8 The Course and fine aggregate for cement concrete shall be as per IS:383.

9 Description of items has been given very brief. Relevant clauses of MoRT&H specifications may be referred for detailed specification.

10 Filter media and backfilling behind abutments are required to be provided as per guidelines given in IRC:78.

11 weep holes shall be provided as per clause 2706 of MoRT&H Specifications.

CHAPTER - 15
Summary of Rate Analysis

BOX CELL STRUCTURE

Sr. No.		Description	Unit	Rate (₹)		
				Large	Medium	Small
15.01		**Excavation for structures**				
		Earth work in excavation of foundation of structures as per drawing and technical specifications, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.				
	I	**Ordinary soil**				
	A	**Manual Means**				
	(i)	**Depth upto 3 m**	Cum	205.90	205.90	205.90
	(ii)	**Depth 3 m to 6 m**	Cum	264.80	264.80	264.80
	(iii)	**Depth above 6 m**	Cum	353.00	353.00	353.00
	B (i)	**Mechanical Means (Depth upto 3 m)**	Cum	101.40	105.30	130.10
	(ii)	**Mechanical Means (Depth 3 m to 6 m)**	Cum	112.10	116.40	143.80
	(iii)	**Mechanical Means (Depth above 6 m)**	Cum	125.40	130.20	160.80
	II	**Ordinary Rock (not requiring blasting)**				
	A	**Manual Means**	Cum	294.20	294.20	294.20
	B	**Mechanical Means**	Cum	627.00	665.70	688.70
	III	**Hard Rock (requiring blasting)**				
	A	**Manual Means**	Cum	663.40	663.40	663.40
		Hard Rock (requiring blasting)				
		Carrying out excavation in hard rock to achieve a specified slope of the rock face by controlled use of explosives and blasting accessories in properly aligned and spaced drill holes, collection of the excavated rock by a dozer, loading in tipper by a front end loader and disposing of the material with all lifts and lead upto 1000 m, all as specified in clause No. 303				
	B	**Mechanical Means**	Cum	385.50	388.30	421.10
	IV	**Hard Rock (blasting prohibited)**				
	A	**Mechanical Means**	Cum	841.50	940.90	1076.20
	V	**Marshy soil**				
		Depth upto 3 m				
	A	**Manual Means**	Cum	841.10	841.10	841.10
	B	**Mechanical Means**	Cum	262.80	272.60	336.50
	VI	**Back filling in Marshy foundation pits**	Cum	609.70	609.70	609.70
15.02		**Filling Annular space Around Footing in Rock**				
		PCC-15 nominal mix. Rate may be taken as per item 15.11				
15.03		**Sand Filling in Foundation Trenches as per Drawing and Technical Specification**	Cum	273.20	275.10	283.60

CHAPTER - 15
Summary of Rate Analysis

BOX CELL STRUCTURE

Sr. No.		Description	Unit	Rate (₹)		
				Large	Medium	Small
15.04		**Brick Masonary Work in Cement Mortar 1:3 in Foundation complete excluding pointing and plastering, as per Drawing and Technical specifications.**	Cum	7251.70	7256.60	7279.40
15.05	(A)	**Cement Mortar 1:3 (1 cement:3 sand)**	Cum	3983.30	3983.30	3983.30
	(B)	**Cement Mortar 1:2 (1 cement:2 sand)**	Cum	4843.20	4843.20	4843.20
	(C)	**Cement Mortar 1:4 (1 cement:4 sand)**	Cum	3409.70	3409.70	3409.70
	(D)	**Cement Mortar 1:6 (1 cement:6 sand)**	Cum	2880.10	2880.10	2880.10
15.06		**Stone Masonary Work in Cement Mortar 1:3 in Foundation complete as per Drawing and Technical specifications.**				
	(A)	**Square Rubble Coursed Rubble Masonary (first sort)**	Cum	4924.90	4924.90	4924.90
	(B)	**Random Rubble Masonary**	Cum	4756.70	4756.70	4756.70
15.07		**Brick Masonary Work in 1:3 in sub-structure complete excluding pointing and plastering, as per Drawing and Technical specifications.**	Cum	7117.20	7122.80	7146.30
15.08		**Pointing with cement mortar (1:3) on brick work in sub-structure as per Technical specifications.**	10 Sqm	822.10	822.10	822.10
15.09		**Plastering with cement mortar (1:3) on brick work in sub-structure as per Technical specifications.**	10 Sqm	1449.60	1450.70	1458.30
15.10		**Stone Masonary Work in Cement Mortar 1:3 for substructure complete as per Drawing and Technical specifications.**				
	A	**Random Rubble Masonary**	Cum	4793.40	4804.30	4848.90
	B	**Coursed Rubble Masonary**	Cum	5145.10	5156.10	5200.60
	C	**Ashlar Masonary**	Cum	6714.60	6725.60	6770.10
15.11		**Plain/Reinforced Cement concrete in open Foundation complete as per Drawing and Technical specifications.**				
	A	**PCC Grade M15**				
	Case I	PCC Grade M15 using batching plant & concrete pump	Cum	4790.40	4796.60	4823.80
	Case II	PCC Grade M15 using batching plant & manual placing	Cum	5125.20	5131.50	5158.50
	B	**PCC Grade M20**				
	Case I	PCC Grade M20 using batching plant, transit mixer & concrete pump	Cum	5344.60	5350.90	5378.00
	Case II	PCC Grade M20 using batching plant,transit mixer & manual placing	Cum	5679.40	5685.70	5712.70
	C	**RCC Grade M20**				

CHAPTER - 15
Summary of Rate Analysis

BOX CELL STRUCTURE

Sr. No.		Description	Unit	Rate (₹)		
				Large	Medium	Small
	Case I	RCC Grade M20 using batching plant, transit mixer & concrete pump	Cum	5341.40	5347.70	5374.80
	Case II	RCC Grade M20 using batching plant,transit mixer & manual placing	Cum	5697.70	5704.00	5731.10
	D	**PCC Grade M25**				
	Case I	PCC Grade M25 using batching plant, transit mixer & concrete pump	Cum	5811.60	5817.90	5845.00
	Case II	PCC Grade M25 using batching plant,transit mixer & manual placing	Cum	6146.40	6152.70	6179.70
	E	**RCC Grade M25**				
	Case I	RCC Grade M25 using batching plant, transit mixer & concrete pump	Cum	5848.40	5854.70	5881.80
	Case II	RCC Grade M25 using batching plant,transit mixer & manual placing	Cum	6204.80	6211.10	6238.10
	F	**PCC Grade M30**				
	Case I	PCC Grade M30 using batching plant, transit mixer & concrete pump	Cum	5857.20	5863.50	5890.60
	Case II	PCC Grade M30 using batching plant,transit mixer & manual placing	Cum	6192.00	6198.30	6225.30
	G	**RCC Grade M30**				
	Case I	RCC Grade M30 using batching plant, transit mixer & concrete pump	Cum	5896.50	5902.80	5929.90
	Case II	RCC Grade M30 using batching plant,transit mixer & manual placing	Cum	6252.80	6259.10	6286.20
	H	**RCC Grade M35**				
	Case I	RCC Grade M35 using batching plant, transit mixer & concrete pump	Cum	6046.40	6052.80	6079.80
	Case II	RCC Grade M35 using batching plant,transit mixer & manual placing	Cum	6402.80	6409.10	6436.20
	I	**RCC Grade M40**				
	Case I	RCC Grade M40 using batching plant, transit mixer & concrete pump	Cum	6193.00	6199.30	6226.40
	Case II	RCC Grade M40 using batching plant,transit mixer & manual placing	Cum	6589.60	6601.60	6653.20
15.12		**Plain/Reinforced cement concrete for wall & slab etc. complete as per Drawing and Technical specifications.**				
	A	**RCC Grade M20**				
		RCC Grade M20 using batching plant, transit mixer & concrete pump	Cum	6069.70	6076.90	6107.70
	B	**RCC Grade M25**				
		RCC Grade M25 using batching plant, transit mixer & concrete pump	Cum	6645.90	6653.10	6683.90
	C	**RCC Grade M30**				

CHAPTER - 15
Summary of Rate Analysis

BOX CELL STRUCTURE

Sr. No.		Description	Unit	Rate (₹)		
				Large	Medium	Small
		RCC Grade M30 using batching plant, transit mixer & concrete pump	Cum	6700.50	6707.70	6738.50
	D	**RCC Grade M35**				
		RCC Grade M35 using batching plant, transit mixer & concrete pump	Cum	6871.00	6878.10	6908.90
	E	**RCC Grade M40**				
		RCC Grade M40 using batching plant, transit mixer & concrete pump	Cum	7037.40	7044.60	7075.40
15.13		**Supplying, fitting and placing un-coated HYSD bar Reinforcement in Foundation complete as per Drawing and Technical specifications**	MT	66535.80	66594.40	66705.80
15.14		**Providing weep holes in Brick masonary/ plain/ Reinforced concrete abutment, wing wall/ return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V:20H towards drawing face. Complete as per drawing and Technical specifications.**	Number	152.50	152.50	152.50
15.15		**PCC M15 Grade leveling course below approach slab complete as per drawing and Technical specifications.**				
	Case I	PCC Grade M15 using batching plant & concrete pump	Cum	4354.90	4360.50	4385.30
	Case II	PCC Grade M15 using batching plant & manual placing	Cum	4659.20	4665.00	4689.60
15.16		**Reinforced cement concrete approach slab including reinforcement and formwork complete as per Drawing and Technical specifications.**	Cum	8687.20	8695.90	8726.10
15.17		**Drainage spouts complete as per Drawing and Technical Specifications.**	Number	1060.10	1060.10	1060.10
15.18		**Providing and laying Cement concrete wearing coat M-30 grade including reinforcement complete as per drawing and Technical specifications.**	Cum	10435.30	10445.50	10478.50
15.19		**Mastic Asphalt**				

BOX CELL STRUCTURE

Sr. No.		Description	Unit	Rate (₹)		
				Large	Medium	Small
		Providing and laying 12 mm thick mastic asphalt wearing course on top of deck slab excluding prime coat with paving grade bitumen meeting the requirements given in Table 500-39, prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen precoated fine grained hard stone chipping of 9.5 mm nominal size at the rate of 0.005 cum per 10 sqm and at an approximate spacing of 10 cm center to center in both directions, pressed into surface when the temperature of surfaces not less than 100 deg. C, protruding 1 mm to 4 mm over mastic surface, all complete as per clause 516.	Sqm	499.50	499.50	499.50
15.20		**Crash Barriers for Bridge**				
		The rate analysis for semi rigid crash barrier with metal beam and flexible crash barrier with wire ropes have been made and included in chapter-8 on Traffic and Transportation. The rate analysis for rigid crash barrier in reinforced cement concrete, have been made and included in chapter-14 on Super-structure.				
15.21		**Painting on concrete surface**				
		Providing and applying 2 coats of water based cement paint to unplastered concrete surface after cleaning the surface of dirt, dust, oil, grease, efflorescence and applying paint @ of 1 litre for 2 sqm.	Sqm	127.90	127.90	127.90
15.22		**Filler joint**				
	(i)	Providing & fixing 2 mm thick corrugated copper plate in expansion joint complete as per drawing & Technical Specification.	Running Metre	3480.40	3480.40	3480.40
	(ii)	Providing & fixing 20 mm thick compressible fibre board in expansion joint complete as per drawing & Technical Specification.	Running Metre	509.40	509.40	509.40
	(iii)	Providing and fixing in position 20 mm thick pre moulded joint filler in expansion joint for fixed ends of simply supported spans not exceeding 10 m to cater for a horizontal movement upto 20 mm, covered with sealant complete as per drawing and technical specifications.	Running Metre	186.10	186.10	186.10

BOX CELL STRUCTURE

Sr. No.		Description	Unit	Rate (₹)		
				Large	Medium	Small
	(iv)	Providing and filling joint sealing compound as per drawings and technical specifications with coarse sand and 6 percent bitumen by weight	Running Metre	37.80	37.80	37.80
15.23		**Back filling behind abutment, wing wall and return wall complete as per drawing and Technical specifications.**				
	A	Granular material	Cum	846.40	846.40	846.40
	B	Sandy material	Cum	810.30	810.30	810.30
15.24		**Providing and laying of Filter media with granular materials/stone crushed aggregates satisfying the requirements laid down in clause 2504.2.2. of MoRT&H specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and return wall to the full height compacted to a firm condition complete as per drawing and Technical Specification.**	Cum	1653.70	1653.70	1653.70
15.25		**Painting with synthetic enamel paint bridge No. and span arrangements**				
		Painting two coats after filling the surface with synthetic enamel paint bridge No. and span arrangements as per as directed by Engineer.	Number	222.00	222.00	222.00

CHAPTER - 15
Analysis of Rate
BOX CELL STRUCTURE

Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
15.01	**304**		**Excavation for structures**									
			Earth work in excavation of foundation of structures as per drawing and technical specifications, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.									
		I	**Ordinary soil**									
			Unit = cum									
			Taking output = 10 cum									
		A	**Manual Means**									
		(i)	**Depth upto 3 m**									
			a) Labour									
			Mate	day	0.140	0.140	0.140	444.00	62.16	62.16	62.16	L-12
			Mazdoor	day	3.500	3.500	3.500	428.00	1498.00	1498.00	1498.00	L-13
			b) Overhead charges @ on (a)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		312.03	312.03	312.03	
			c) Contractor's profit @ on (a + b)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		187.22	187.22	187.22	
			Cost for 10 cum = a+b+c						2059.41	2059.41	2059.41	
			Rate per cum = a+b+c/10						205.94	205.94	205.94	
								Say	**205.90**	**205.90**	**205.90**	
		Note	1. Cost of dewatering may be added where required upto 10 percent of labour cost. Assessment for dewatering shall be made as per site conditions.									
			2. The excavated earth can be used partially for backfilling of foundation pit and partly for road work except for marshy soil. Hence cost of disposal has not been added except for marshy soil. This remark is common to all cases of item 15.01 excluding marshy soil.									
			3. The cost of shoring and shuttering, where needed, may be added @ 1 percent on cost of excavation for open foundation.									
15.01	**A**	**(ii)**	**Depth 3 m to 6 m**									
			a) Labour									

CHAPTER - 15
Analysis of Rate
BOX CELL STRUCTURE

Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Mate/Supervisor	day	0.180	0.180	0.180	444.00	79.92	79.92	79.92	L-12
			Mazdoor	day	4.500	4.500	4.500	428.00	1926.00	1926.00	1926.00	L-13
			b) Overhead charges @ on (a)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		401.18	401.18	401.18	
			c) Contractor's profit @ on (a + b)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		240.71	240.71	240.71	
			Cost for 10 cum = a+b+c						2647.81	2647.81	2647.81	
			Rate per cum = (a+b+c)/10						264.78	264.78	264.78	
								Say	**264.80**	**264.80**	**264.80**	
		Note	Cost of dewatering may be added where required upto 15 percent of labour cost.Assessment for dewatering shall be done as per actual ground conditions.									
15.01	**A**	**(iii)**	**Depth above 6 m**									
			a) Labour									
			Mate/Supervisor	day	0.240	0.240	0.240	444.00	106.56	106.56	106.56	L-12
			Mazdoor	day	6.000	6.000	6.000	428.00	2568.00	2568.00	2568.00	L-13
			b) Overhead charges @ on (a)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		534.91	534.91	534.91	
			c) Contractor's profit @ on (a + b)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		320.95	320.95	320.95	
			Cost for 10 cum = a+b+c						3530.42	3530.42	3530.42	
			Rate per cum = (a+b+c)/10						353.04	353.04	353.04	
								Say	**353.00**	**353.00**	**353.00**	
		Note	1. Cost of dewatering may be added where required upto 20 percent of labour cost. Assessment for dewatering shall be made as per site conditions.									
15.01	**B**	**(i)**	**Mechanical Means (Depth upto 3 m)**									
			Unit = cum									
			Taking Output = 330 cum									
			a) Labour									
			Mate	day	0.320	0.320	0.320	444.00	142.08	142.08	142.08	L-12
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			b) Machinery									
			Hydraulic Excavator									
			For excavation									
			(i) 1.2 cum bucket capacity	hour	4.627			2809.00	12997.24			PM3003
			(ii) 1.1 cum bucket capacity	hour		5.329		2538.00		13525.00		PM3004
			(iii) 0.9 cum bucket capacity	hour			7.450	2312.00			17224.40	PM3005
			For backfilling (considering 60% of the excavated material									
			(i) 1.2 cum bucket capacity	hour	2.776			2809.00	7797.78			PM3003
			(ii) 1.1 cum bucket capacity	hour		3.197		2538.00		8113.99		PM3004
			(iii) 0.9 cum bucket capacity	hour			4.470	2312.00			10334.64	PM3005

CHAPTER - 15
Analysis of Rate
BOX CELL STRUCTURE

Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Tipper for transportation of excess material to dumping yard considering lead @ 1 km									
			(i) 18 cum capacity	t-km	198.000			4.98	986.04			PM72001
			(ii) 14 cum capacity	t-km		198.000		5.71		1130.58		PM73001
			(iii)10 cum capacity	t-km			198.000	7.10			1405.80	PM74001
			c) Overhead charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		5069.43	5267.13	6506.18	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		3041.66	3160.28	3903.71	
			Cost for 330 cum = a+b+c+d						33458.23	34763.06	42940.81	
			Rate per cum =(a+b+c+d)/330						101.39	105.34	130.12	
								Say	**101.40**	**105.30**	**130.10**	
15.01	**B**	**(ii)**	**Mechanical Means (Depth 3 m to 6 m)**									
			Unit = cum									
			Taking Output = 300 cum									
			a) Labour									
			Mate	day	0.320	0.320	0.320	444.00	142.08	142.08	142.08	L-12
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			b) Machinery									
			Hydraulic Excavator									
			For excavation									
			(i) 1.2 cum bucket capacity	hour	4.674			2809.00	13129.27			PM3003
			(ii) 1.1 cum bucket capacity	hour		5.383		2538.00		13662.05		PM3004
			(iii) 0.9 cum bucket capacity	hour			7.525	2312.00			17397.80	PM3005
			For backfilling (considering 60% of the excavated material									
			(i) 1.2 cum bucket capacity	hour	2.804			2809.00	7876.44			PM3003
			(ii) 1.1 cum bucket capacity	hour		3.230		2538.00		8197.74		PM3004
			(iii) 0.9 cum bucket capacity	hour			4.515	2312.00			10438.68	PM3005
			Tipper for transportation of excess material to dumping yard considering lead @ 1 km									
			(i) 18 cum capacity	t-km	180.000			4.98	896.40			PM72001
			(ii) 14 cum capacity	t-km		180.000		5.71		1027.80		PM73001
			(iii)10 cum capacity	t-km			180.000	7.10			1278.00	PM74001
			c) Overhead charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		5093.64	5290.73	6536.11	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		3056.18	3174.44	3921.67	
			Cost for 300 cum = a+b+c+d						33618.00	34918.85	43138.34	
			Rate per cum =(a+b+c+d)/300						112.06	116.40	143.79	

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
								Say	112.10	116.40	143.80	
15.01	B	(iii)	**Mechanical Means (Depth above 6 m)**									
			Unit = cum									
			Taking Output = 270 cum									
			a) Labour									
			Mate	day	0.320	0.320	0.320	444.00	142.08	142.08	142.08	L-12
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			b) Machinery									
			Hydraulic Excavator									
			For excavation									
			(i) 1.2 cum bucket capacity	hour	4.732			2809.00	13292.19			PM3003
			(ii) 1.1 cum bucket capacity	hour		5.450		2538.00		13832.10		PM3004
			(iii) 0.9 cum bucket capacity	hour			7.619	2312.00			17615.13	PM3005
			For backfilling (considering 60% of the excavated material									
			(i) 1.2 cum bucket capacity	hour	2.839			2809.00	7974.75			PM3003
			(ii) 1.1 cum bucket capacity	hour		3.270		2538.00		8299.26		PM3004
			(iii) 0.9 cum bucket capacity	hour			4.571	2312.00			10568.15	PM3005
			Tipper for transportation of excess material to dumping yard considering lead @ 1 km									
			(i) 18 cum capacity	t-km	162.000			4.98	806.76			PM72001
			(ii) 14 cum capacity	t-km		162.000		5.71		925.02		PM73001
			(iii)10 cum capacity	t-km			162.000	7.10			1150.20	PM74001
			c) Overhead charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		5127.96	5324.49	6579.91	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		3076.77	3194.70	3947.95	
			Cost for 270 cum = a+b+c+d						33844.51	35141.65	43427.42	
			Rate per cum =(a+b+c+d)/270						125.35	130.15	160.84	
								Say	125.40	130.20	160.80	
15.01		II	**Ordinary Rock (not requiring blasting)**									
		A	**Manual Means**									
		(i)	**Depth upto 3 m**									
			Unit = cum									
			Taking output = 10 cum									
			a) Labour									
			Mate	day	0.200	0.200	0.200	444.00	88.80	88.80	88.80	L-12
			Mazdoor	day	5.000	5.000	5.000	428.00	2140.00	2140.00	2140.00	L-13

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			b) Overhead charges @ on (a)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		445.76	445.76	445.76	
			c) Contractor's profit @ on (a+b)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		267.46	267.46	267.46	
			Cost for 10 cum = a+b+c						2942.02	2942.02	2942.02	
			Rate per cum = (a+b+c)/10						294.20	294.20	294.20	
								Say	**294.20**	**294.20**	**294.20**	
		Note	Cost of dewatering upto 10 percent of labour cost may be added, where required. Assessment for dewatering shall be made as per site conditions.									
15.01		**B**	**Mechanical Means**									
			Unit = cum									
			Taking Output = 50 cum									
			a) Labour									
			Mate	day	0.120	0.120	0.120	444.00	53.28	53.28	53.28	L-12
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			b) Machinery									
			Hydraulic Excavator									
			Excavator For excavation									
			(i) 1.2 cum bucket capacity	hour	5.818			2809.00	16342.76			PM3003
			(ii) 1.1 cum bucket capacity	hour		6.845		2538.00		17372.61		PM3004
			(iii) 0.9 cum bucket capacity	hour			7.273	2312.00			16815.18	PM3005
			For loading									
			(i) 1.2 cum bucket capacity	hour	0.872			2809.00	2449.45			PM3003
			(ii) 1.1 cum bucket capacity	hour		1.005		2538.00		2550.69		PM3004
			(iii) 0.9 cum bucket capacity	hour			1.405	2312.00			3248.36	PM3005
			Jack Hammer	hour	5.818	6.845	7.273	206.00	1198.51	1410.07	1498.24	PM4001
			Tipper for transportation considering lead @ 1 km									
			(i) 18 cum capacity	t-km	75.000			4.98	373.50			PM72001
			(ii) 14 cum capacity	t-km		75.000		5.71		428.25		PM73001
			(iii)10 cum capacity	t-km			75.000	7.10			532.50	PM74001
			For loading & unloading time									
			(i) 18 cum capacity	hour	0.872			2349.00	2048.33			PM6001
			(ii) 14 cum capacity	hour		1.005		2108.00		2118.54		PM6002
			(iii)10 cum capacity	hour			1.405	1891.00			2656.86	PM6003
			c) Overhead charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		4749.97	5043.49	5217.68	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		2849.98	3026.09	3130.61	
			Cost for 50 cum= a+b+c+d						31349.77	33287.02	34436.70	
			Rate per cum =(a+b+c+d)/50						627.00	665.74	688.73	
								Say	**627.00**	**665.70**	**688.70**	

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BOX CELL STRUCTURE

Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
15.01	**302 & 303**	**III**	**Hard Rock (requiring blasting)**									
		A	**Manual Means**									
			Unit = cum									
			Taking Output = 10 cum									
			a) Labour									
			Mate	day	0.350	0.350	0.350	444.00	155.40	155.40	155.40	L-12
			Driller	day	0.500	0.500	0.500	444.00	222.00	222.00	222.00	L-06
			Blaster	day	0.250	0.250	0.250	699.00	174.75	174.75	174.75	L-03
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			b) Machinery									
			Air Compressor 250 cfm with 2 jack hammer for drilling	hour	1.000	1.000	1.000	518.00	518.00	518.00	518.00	PM15001 +2*45001
			c) Material									
			Explosives (Blasting Material)	kg	3.500	3.500	3.500	124.27	434.95	434.95	434.95	M-215
			Detonator electric	each	14.000	14.000	14.000	6.93	97.02	97.02	97.02	M-217
			d) Overhead charges @ on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		1005.22	1005.22	1005.22	
			e) Contractor's profit @ on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		603.13	603.13	603.13	
			Cost for 10 cum = a+b+c+d+e						6634.47	6634.47	6634.47	
			Rate per cum =(a+b+c+d+e)/10						663.45	663.45	663.45	
								Say	**663.40**	**663.40**	**663.40**	
		Note	Cost of dewatering @ 10 percent of (a+b) may be added, where required. Assessment for dewatering shall be made as per site conditions.									
15.01	**302 & 303**	**III**	**Hard Rock (requiring blasting)**									
			Carrying out excavation in hard rock to achieve a specified slope of the rock face by controlled use of explosives and blasting accessories in properly aligned and spaced drill holes, collection of the excavated rock by a dozer, loading in tipper by a front end loader and disposing of the material with all lifts and lead upto 1000 m, all as specified in clause No. 303									
		B	**Mechanical Means**									
			Unit = cum									
			Taking Output = 120 cum									
			a) Labour									
			Mate	day	0.210	0.210	0.210	444.00	93.24	93.24	93.24	L-12
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			Driller	day	2.000	2.000	2.000	444.00	888.00	888.00	888.00	L-06

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Blaster	day	0.250	0.250	0.250	699.00	174.75	174.75	174.75	L-03
			b) Machinery									
			Air Compressor	hour	6.000	6.000	6.000	496.00	2976.00	2976.00	2976.00	PM15001
			Jack Hammer for drilling holes (@ 4.5 m per hour)	hour	24.000	24.000	24.000	206.00	4944.00	4944.00	4944.00	PM4001
			Jack hammer (consider 5% of the volume for dressing)	hour	1.024	1.024	1.024	206.00	210.94	210.94	210.94	PM4001
			Hydraulic Excavator									
			Excavator For excavation									
			(i) 1.2 cum bucket capacity	hour	1.024			2809.00	2876.42			PM3003
			(ii) 1.1 cum bucket capacity	hour		1.024		2538.00		2598.91		PM3004
			(iii) 0.9 cum bucket capacity	hour			1.024	2312.00			2367.49	PM3005
			For loading									
			(i) 1.2 cum bucket capacity	hour	2.094			2809.00	5882.05			PM3003
			(ii) 1.1 cum bucket capacity	hour		2.411		2538.00		6119.12		PM3004
			(iii) 0.9 cum bucket capacity	hour			3.371	2312.00			7793.75	PM3005
			Tipper for transportation considering lead @ 1 km									
			(i) 18 cum capacity	t-km	180.000			4.98	896.40			PM72001
			(ii) 14 cum capacity	t-km		180.000		5.71		1027.80		PM73001
			(iii)10 cum capacity	t-km			180.000	7.10			1278.00	PM74001
			For loading & unloading time									
			(i) 18 cum capacity	hour	2.094			2349.00	4918.81			PM6001
			(ii) 14 cum capacity	hour		2.411		2108.00		5082.39		PM6002
			(iii)10 cum capacity	hour			3.371	1891.00			6374.56	PM6003
			c) Materials									
			Small dia Explosive at 0.40 kg/cum for 120 cum (120 x0.40) Explosive at 0.20 kg/cum for secondary blast @ 5% of the total volume (120x0.2x5%)	kg	48.000	48.000	48.000	124.27	5964.96	5964.96	5964.96	M-215
			Electric detonators at 1 per hole for main blast holes (21x3+20*2)= 103 nos.	no	69.000	69.000	69.000	6.93	478.17	478.17	478.17	M-217
			Ordinary detonators @ 1 per hole for 10 secondary holes (required for 5% of the total quantity @ 0.6 m per hole for 1 cum)	no	7.000	7.000	7.000	3.47	24.29	24.29	24.29	M-216
			Detonating fuse coil	m	213.000	213.000	213.000	16.12	3433.56	3433.56	3433.56	M-218
			d) Overhead charges @ on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		7009.12	7060.03	7657.14	
			e) Contractor's profit @ on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		4205.47	4236.02	4594.29	
			Cost for 120 cum = a+b+c+d+e						46260.17	46596.17	50537.14	
			Rate per cum = (a+b+c+d+e)/120						385.50	388.30	421.14	

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
								Say	385.50	388.30	421.10	
15.01		IV	Hard Rock (blasting prohibited)									
			Unit = cum									
			Taking Output = 35 cum									
		A	Mechanical Means									
			a) Labour									
			Mate	day	0.080	0.080	0.080	444.00	35.52	35.52	35.52	L-12
			Mazdoor	day	2.000	2.000	2.000	428.00	856.00	856.00	856.00	L-13
			b) Machinery									
			Jack Hammer	hour	5.973	7.467	9.190	206.00	1230.44	1538.20	1893.14	PM4001
			Hydraulic Excavator									
			Excavator For excavation									
			(i) 1.2 cum bucket capacity	hour	5.973			2809.00	16778.16			PM3003
			(ii) 1.1 cum bucket capacity	hour		7.467		2538.00		18951.25		PM3004
			(iii) 0.9 cum bucket capacity	hour			9.190	2312.00			21247.28	PM3005
			For loading									
			(i) 1.2 cum bucket capacity	hour	0.611			2809.00	1716.30			PM3003
			(ii) 1.1 cum bucket capacity	hour		0.703		2538.00		1784.21		PM3004
			(iii) 0.9 cum bucket capacity	hour			0.983	2312.00			2272.70	PM3005
			Tipper									
			For transportation to dumping yard considering lead @ 1 km									
			(i) 18 cum capacity	t-km	52.500			4.98	261.45			PM72001
			(ii) 14 cum capacity	t-km		52.500		5.71		299.78		PM73001
			(iii)10 cum capacity	t-km			52.500	7.10			372.75	PM74001
			For loading & unloading time									
			(i) 18 cum capacity	hour	0.611			2349.00	1435.24			PM6001
			(ii) 14 cum capacity	hour		0.703		2108.00		1481.92		PM6002
			(iii)10 cum capacity	hour			0.983	1891.00			1858.85	PM6003
			c) Overhead charges @ on (a+b)		(@ 20%)	(@ 20%)	(@ 20%)		4462.62	4989.38	5707.25	
			d) Contractor's profit @ on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		2677.57	2993.63	3424.35	
			Cost for 35 cum= a+b+c+d						29453.30	32929.88	37667.84	
			Rate per cum = (a+b+c+d)/35						841.52	940.85	1076.22	
								Say	841.50	940.90	1076.20	
15.01		V	Marshy soil									
			Unit = cum									

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Taking output = 10 cum									
			Depth upto 3 m									
		A	**Manual Means**									
			a) Labour									
			Mate/ Supervisor	day	0.400	0.400	0.400	444.00	177.60	177.60	177.60	L-12
			Mazdoor	day	10.000	10.000	10.000	428.00	4280.00	4280.00	4280.00	L-13
			b) Machinery									
			Tractor-trolley for removal	hour	2.670	2.670	2.670	717.00	1914.39	1914.39	1914.39	PM12001
			c) Overhead charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		1274.40	1274.40	1274.40	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		764.64	764.64	764.64	
			Cost for 10 cum = a+b+c+d						8411.03	8411.03	8411.03	
			Rate per cum = (a+b+c+d)/10						841.10	841.10	841.10	
								Say	**841.10**	**841.10**	**841.10**	
		Note	1. Cost of dewatering @ 30 percent of (a), may be added where required. Assessment for dewatering shall be made as per site conditions.									
			2. Shoring and strutting 15 percent of (a), where required may be added.									
			3. It is assumed that Marshy soil will be available upto 3 m depth only. For deeper excavation below 3 m depth, refer analysis in item 15.01 (i) to (iv) for ordinary soil.									
15.01		**B**	**Mechanical Means**									
			Unit = cum									
			Taking Output = 260 cum									
			a) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			b) Machinery									
			Hydraulic Excavator									
			(i) 1.2 cum bucket capacity	hour	8.506			2809.00	23893.35			PM3003
			(ii) 1.1 cum bucket capacity	hour		9.796		2538.00		24862.25		PM3004
			(iii) 0.9 cum bucket capacity	hour			13.695	2312.00			31662.84	PM3005
			Tipper									
			For transportation to dumping yard considering lead @ 1 km									
			(i) 18 cum capacity	t-km	390.000			4.98	1942.20			PM72001

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			(ii) 14 cum capacity	t-km		390.000		5.71		2226.90		PM73001
			(iii)10 cum capacity	t-km			390.000	7.10			2769.00	PM74001
			For loading & unloading time									
			(i) 18 cum capacity	hour	8.506			2349.00	19980.59			PM6001
			(ii) 14 cum capacity	hour		9.796		2108.00		20649.97		PM6002
			(iii) 10 cum capacity	hour			13.695	1891.00			25897.25	PM6003
			c) Material									
			Selected earth for refilling	cum	156.000	156.000	156.000	35.30	5506.80	5506.80	5506.80	M-164
			c) Overhead charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		10353.74	10738.34	13256.33	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		6212.24	6443.00	7953.80	
			Cost for 260 cum = a+b+c+d						68334.69	70873.01	87491.77	
			Rate per cum = (a+b+c+d)/260						262.83	272.59	336.51	
								Say	**262.80**	**272.60**	**336.50**	
15.01		**VI**	**Back filling in Marshy foundation pits**									
			Unit= cum									
			Taking Output = 6 cum									
			a) Labour									
			Mate	day	0.120	0.120	0.120	444.00	53.28	53.28	53.28	L-12
			Mazdoor for dressing sides, bottom and backfilling	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			b) Machinery									
			Tractor-trolley for transportation	hour	2.000	2.000	2.000	717.00	1434.00	1434.00	1434.00	PM12001
			c) Overhead charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		554.26	554.26	554.26	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		332.55	332.55	332.55	
			Cost for 6 cum = a+b+c+d						3658.09	3658.09	3658.09	
			Rate per cum = (a+b+c+d)/6						609.68	609.68	609.68	
								Say	**609.70**	**609.70**	**609.70**	
15.02	**304**		**Filling Annular Space around Footing in Rock**									
			Unit= cum									
			Taking Output = 1 cum									
			PCC-15 nominal mix. Rate may be taken as per item 15.11									
15.03	**304**		**Sand Filling in Foundation Trenches as per Drawing and Technical Specification(As per Requirement ,Fine Sand/Coarse Sand may be used)**									
			Unit= cum									
			Taking output= 100 cum									

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			a) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			b) Machinery									
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and spreading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.125xL1 +0.750			1204.00	1053.50			PM1 1001
			(ii) 12 KL capacity	hour		0.167xL1+ 1.000		1030.00		1202.01		PM1 1002
			(iii) 6 KL capacity	hour			0.333xL1 +2.000	789.00			1840.74	PM1 1003
			c) Material									
			Sand (assuming 20 percent voids) at site	cum	120.000	120.000	120.000	150.48	18057.60	18057.60	18057.60	M-006
			Water	KL	18.000	18.000	18.000	63.20	1137.60	1137.60	1137.60	M-191
			d) Overhead Charges @ on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		4138.89	4168.59	4296.34	
			e) Contractor's profit @ on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		2483.34	2501.16	2577.80	
			Rate per 100 cum= a+b+c+d+e						27316.69	27512.72	28355.84	
			Rate per cum = (a+b+c+d+e)/100						273.17	275.13	283.56	
								Say	**273.20**	**275.10**	**283.60**	
15.04	**1300**		**Brick Masonary Work in Cement Mortar 1:3 in Foundation complete excluding pointing and plastering, as per Drawing and Technical specifications.**									
			Unit = cum									
			Taking output =5 cum									
			a) Material									
			Brick 1st class	each	2500.000	2500.000	2500.000	6.620	16550.00	16550.00	16550.00	M-079
			Cement mortar 1:3 (Rate taken from Sub-Analysis items 21.01A)	cum	1.200	1.200	1.200	4019.00	4822.80	4822.80	4822.80	21.01A
			Water for curing	KL	2.415	2.415	2.415	63.20	152.63	152.63	152.63	M-191
			b) Labour									
			Mate	day	0.480	0.480	0.480	444.00	213.12	213.12	213.12	L-12
			Mason	day	4.000	4.000	4.000	541.00	2164.00	2164.00	2164.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									

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Analysis of Rate
BOX CELL STRUCTURE

Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and spreading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.017xL1 +0.101			1204.00	142.07			PM11001
			(ii) 12 KL capacity	hour		0.022xL1 +0.134		1030.00		160.68		PM11002
			(iii) 6 KL capacity	hour			0.045xL1 +0.268	789.00			246.96	PM11003
			d) Overhead Charges @ on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		5493.72	5497.45	5514.70	
			e) Contractor's profit @ on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		3296.23	3298.47	3308.82	
			Cost for 5 cum= a+b+c+d+e						36258.58	36283.14	36397.03	
			Rate per cum = (a+b+c+d+e)/5						7251.72	7256.63	7279.41	
								Say	**7251.70**	**7256.60**	**7279.40**	
15.05	**Sub-Analysis**	**(A)**	**Cement Mortar 1:3 (1 cement:3 sand)**									
			Unit = 1 cum									
			Taking output = 1 cum									
			a) Materials									
			Cement	tonne	0.510	0.510	0.510	5762.00	2938.62	2938.62	2938.62	M-081
			Sand	cum	1.050	1.050	1.050	612.90	643.55	643.55	643.55	M-004*
			b) Labour									
			Mate	day	0.036	0.036	0.036	444.00	15.98	15.98	15.98	L-12
			Mazdoor	day	0.900	0.900	0.900	428.00	385.20	385.20	385.20	L-13
			Total Material and Labour = (a+b)						3983.35	3983.35	3983.35	
								Say	**3983.30**	**3983.30**	**3983.30**	
	Sub-Analysis (Addl.)	**(B)**	**Cement Mortar 1:2 (1 cement:2 sand)**									
			Unit = 1 cum									
			Taking output = 1 cum									
			a) Materials									
			Cement	tonne	0.672	0.672	0.672	5762.00	3872.06	3872.06	3872.06	M-081
			Sand	cum	0.930	0.930	0.930	612.90	570.00	570.00	570.00	M-004*
			b) Labour									
			Mate	day	0.036	0.036	0.036	444.00	15.98	15.98	15.98	L-12
			Mazdoor	day	0.900	0.900	0.900	428.00	385.20	385.20	385.20	L-13
			Total Material and Labour = (a+b)						4843.25	4843.25	4843.25	

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BOX CELL STRUCTURE

Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
								Say	**4843.20**	**4843.20**	**4843.20**	
	Sub-Analysis (Addl.)	**(C)**	**Cement Mortar 1:4 (1 cement:4 sand)**									
			Unit = 1 cum									
			Taking output = 1 cum									
			a) Materials									
			Cement	tonne	0.403	0.403	0.403	5762.00	2322.09	2322.09	2322.09	M-081
			Sand	cum	1.120	1.120	1.120	612.90	686.45	686.45	686.45	M-004*
			b) Labour									
			Mate	day	0.036	0.036	0.036	444.00	15.98	15.98	15.98	L-12
			Mazdoor	day	0.900	0.900	0.900	428.00	385.20	385.20	385.20	L-13
			Total Material and Labour = (a+b)						3409.72	3409.72	3409.72	
								Say	**3409.70**	**3409.70**	**3409.70**	
	Sub-Analysis (Addl.)	**(D)**	**Cement Mortar 1:6 (1 cement:6 sand)**									
			Unit = 1 cum									
			Taking output = 1 cum									
			a) Materials									
			Cement	tonne	0.288	0.288	0.288	5762.00	1659.46	1659.46	1659.46	M-081
			Sand	cum	1.337	1.337	1.337	612.90	819.45	819.45	819.45	M-004*
			b) Labour									
			Mate	day	0.036	0.036	0.036	444.00	15.98	15.98	15.98	L-12
			Mazdoor	day	0.900	0.900	0.900	428.00	385.20	385.20	385.20	L-13
			Total Material and Labour = (a+b)						2880.09	2880.09	2880.09	
								Say	**2880.10**	**2880.10**	**2880.10**	
15.06	**1400**		**Stone Masonary Work in Cement Mortar 1:3 in Foundation complete as per Drawing and Technical specifications.**									
			Unit = cum									
			Taking output = 5 cum									
	1405.4	**(A)**	**Square Rubble Coursed Rubble Masonary(first sort)**									

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BOX CELL STRUCTURE

Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			a) Material									
			Stone	cum	5.500	5.500	5.500	730.02	4015.12	4015.12	4015.12	M-170
			Through and bond stone	each	35.000	35.000	35.000	11.68	408.80	408.80	408.80	M-184
			(35 nos.x0.24mx0.24mx0.39m=0.79 cu.m)									
			. Cement mortar 1:3	cum	1.500	1.500	1.500	4019.00	6028.50	6028.50	6028.50	21.01A
			(Rate taken from Sub-Analysis items 21.01 A)									
			b) Labour									
			Mate	day	0.660	0.660	0.660	444.00	293.04	293.04	293.04	L-12
			Mason	day	7.500	7.500	7.500	541.00	4057.50	4057.50	4057.50	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Overhead Charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		3730.99	3730.99	3730.99	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		2238.60	2238.60	2238.60	
			Cost for 5 cum = a+b+c+d						24624.55	24624.55	24624.55	
			Rate per cum = (a+b+c+d)/5						4924.91	4924.91	4924.91	
								Say	**4924.90**	**4924.90**	**4924.90**	
	1405.3	**(B)**	**Random Rubble Masonary**									
			(Coursed/uncoursed)									
			Unit = cum									
			Taking output = 5 cum									
			a) Material									
			Stone	cum	5.500	5.500	5.500	730.02	4015.12	4015.12	4015.12	M-147
			Through and bond stone	each	35.000	35.000	35.000	11.68	408.80	408.80	408.80	M-184
			(35 nos.x0.24mx0.24mx0.39m=0.79 cu.m)									
			. Cement mortar 1:3	cum	1.550	1.550	1.550	4019.00	6229.45	6229.45	6229.45	21.01A
			(Rate taken from Sub-Analysis items 21.01 A)									
			b) Labour									
			Mate	day	0.600	0.600	0.600	444.00	266.40	266.40	266.40	L-12
			Mason	day	6.000	6.000	6.000	541.00	3246.00	3246.00	3246.00	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Overhead Charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		3603.55	3603.55	3603.55	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		2162.13	2162.13	2162.13	
			Cost for 5 cum = a+b+c+d						23783.46	23783.46	23783.46	
			Rate per cum = (a+b+c+d)/5						4756.69	4756.69	4756.69	

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
		Note	The labour already considered in cement mortar has been taken into account while proposing labour for masonary works.					**Say**	**4756.70**	**4756.70**	**4756.70**	
15.07	**1300 & 2200**		**Brick Masonary Work in 1:3 in sub-structure complete excluding pointing and plastering, as per Drawing and Technical specifications.**									
			Unit = cum									
			Taking output =1 cum									
			a) Material									
			Brick 1st class	each	500.000	500.000	500.000	6.620	3310.00	3310.00	3310.00	M-079
			Cement mortar 1:3	cum	0.240	0.240	0.240	4019.00	964.56	964.56	964.56	21.01A
			(Rate taken from Sub-Analysis items 21.01 A)									
			Water for curing	KL	0.483	0.483	0.483	63.20	30.53	30.53	30.53	M-191
			b) Labour									
			Mate	day	0.064	0.064	0.064	444.00	28.42	28.42	28.42	L-12
			Mason	day	0.800	0.800	0.800	541.00	432.80	432.80	432.80	L-10
			Mazdoor	day	0.800	0.800	0.800	428.00	342.40	342.40	342.40	L-13
			Add for scaffolding @ 5 percent of cost of material and labour						255.44	255.44	255.44	
			c) Machinery									
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and spreading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.003xL1 +0.020			1204.00	27.69			PM1 1001
			(ii) 12 KL capacity	hour		0.004xL1+ 0.027		1030.00		31.93		PM1 1002
			(iii) 6 KL capacity	hour			0.009xL1 +0.054	789.00			49.71	PM1 1003
			d) Overhead Charges @ on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		1078.37	1079.21	1082.77	
			e) Contractor's profit @ on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		647.02	647.53	649.66	
			Rate per cum = (a+b+c+d+e)						7117.21	7122.81	7146.27	
								Say	**7117.20**	**7122.80**	**7146.30**	
15.08	**1300 & 2200**		**Pointing with cement mortar (1:3) on brick work in sub-structure as per Technical specifications.**									
			Unit =10 sqm									

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Taking output =10 sqm									
			a) Material									
			Cement mortar 1:3	cum	0.030	0.030	0.030	4019.00	120.57	120.57	120.57	21.01A
			(Rate taken from Sub-Analysis items 21.01 A)									
			b) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mason	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-10
			Mazdoor	day	0.500	0.500	0.500	428.00	214.00	214.00	214.00	L-13
			c) Overhead Charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		124.57	124.57	124.57	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		74.74	74.74	74.74	
			Rate per 10 sqm (a+b+c+d)						822.14	822.14	822.14	
								Say	**822.10**	**822.10**	**822.10**	
15.09	**1300 & 2200**		**Plastering with cement mortar (1:3) on brick work in sub-structure as per Technical specifications.**									
			Unit = 10 sqm									
			Taking output =10 sqm									
			a) Material									
			Cement mortar 1:3	cum	0.144	0.144	0.144	4019.00	578.74	578.74	578.74	21.01A
			(Rate taken from Sub-Analysis items 21.01 A)									
			Water for curing	KL	0.139	0.139	0.139	63.20	8.78	8.78	8.78	M-191
			b) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mason	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-10
			Mazdoor	day	0.500	0.500	0.500	428.00	214.00	214.00	214.00	L-13
			c) Machinery									
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and spreading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.001xL1 +0.006			1204.00	8.43			PM11001
			(ii) 12 KL capacity	hour		0.001xL1+ 0.008		1030.00		9.27		PM11002
			(iii) 6 KL capacity	hour			0.003xL1 +0.016	789.00			14.99	PM11003
			d) Overhead Charges @ on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		219.64	219.81	220.95	
			e) Contractor's profit @ on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		131.79	131.89	132.57	
			Rate per 10 sqm=(a+b+c+d+e)						1449.64	1450.75	1458.30	

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
								Say	1449.60	1450.70	1458.30	
		Note	The number of masons and mazdoors already catered in the cement mortar have been taken into account while providing these categories in brick masonary, pointing and plastering.									
15.10	1400 & 2200		**Stone Masonary Work in Cement Mortar 1:3 for substructure complete as per Drawing and Technical specifications.**									
		A	**Random Rubble Masonary**									
			(coursed/uncoursed)									
			Unit = cum									
			Taking output = 1 cum									
			a) Material									
			Stone	cum	1.000	1.000	1.000	730.02	730.02	730.02	730.02	M-147
			Through and bond stone	No	7.000	7.000	7.000	11.68	81.76	81.76	81.76	M-184
			(7 no.x0.24mx0.24mx0.39m=0.16 cu.m)									
			. Cement mortar 1:3	cum	0.330	0.330	0.330	4019.00	1326.27	1326.27	1326.27	21.01A
			(Rate taken from Sub-Analysis items 21.01 A)									
			Water for curing	KL	0.966	0.966	0.966	63.20	61.05	61.05	61.05	M-191
			b) Labour									
			Mate	day	0.096	0.096	0.096	444.00	42.62	42.62	42.62	L-12
			Mason	day	1.200	1.200	1.200	541.00	649.20	649.20	649.20	L-10
			Mazdoor	day	1.200	1.200	1.200	428.00	513.60	513.60	513.60	L-13
			Add for scaffolding @ 5 percent of cost of a) material and b) Labour						170.23	170.23	170.23	
			c) Machinery									
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and spreading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.007xL1 +0.040			1204.00	56.59			PM1 1001
			(ii) 12 KL capacity	hour		0.009xL1 +0.054		1030.00		64.89		PM1 1002
			(iii) 6 KL capacity	hour			0.018xL1 +0.107	789.00			98.63	PM1 1003
			d) Overhead Charges @ on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		726.27	727.93	734.68	
			e) Contractor's profit @ on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		435.76	436.76	440.81	

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Rate per cum (a+b+c+d+e)						4793.37	4804.33	4848.86	
								Say	**4793.40**	**4804.30**	**4848.90**	
15.10		**B**	**Coursed Rubble Masonary**									
			(first sort)									
			Unit = cum									
			Taking output = 1 cum									
			a) Material									
			Stone	cum	1.100	1.100	1.100	730.02	803.02	803.02	803.02	M-170
			Through and bond stone	each	7.000	7.000	7.000	11.68	81.76	81.76	81.76	M-184
			(7 no.x0.24mx0.24mx0.39m=0.16 cu.m)									
			. Cement mortar 1:3	cum	0.300	0.300	0.300	4019.00	1205.70	1205.70	1205.70	21.01A
			(Rate taken from Sub-Analysis items 21.01 A)									
			Water for curing	KL	0.966	0.966	0.966	63.20	61.05	61.05	61.05	M-191
			b) Labour									
			Mate	day	0.120	0.120	0.120	444.00	53.28	53.28	53.28	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.500	1.500	1.500	428.00	642.00	642.00	642.00	L-13
			Add for scaffolding @ 5 percent of cost of material and labour						182.92	182.92	182.92	
			c) Machinery									
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and spreading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.007xL1 +0.040			1204.00	56.59			PM1 1001
			(ii) 12 KL capacity	hour		0.009xL1 +0.054		1030.00		64.89		PM1 1002
			(iii) 6 KL capacity	hour			0.018xL1 +0.107	789.00			98.63	PM1 1003
			d) Overhead Charges @ on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		779.56	781.22	787.97	
			e) Contractor's profit @ on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		467.74	468.73	472.78	
			Rate per cum (a+b+c+d+e)						5145.12	5156.08	5200.61	
								Say	**5145.10**	**5156.10**	**5200.60**	
15.10		**C**	**Ashlar Masonary**									
			(first sort)									
			Plain ashlar									
			Unit = cum									

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BOX CELL STRUCTURE

Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Taking output = 1 cum									
			a) Material									
			Stone	cum	1.110	1.110	1.110	730.02	810.32	810.32	810.32	M-170
			Through and bond stone	each	7.000	7.000	7.000	11.68	81.76	81.76	81.76	M-184
			(7 no.x0.24mx0.24mx0.39m=0.16 cu.m)									
			. Cement mortar 1:3	cum	0.330	0.330	0.330	4019.00	1326.27	1326.27	1326.27	21.01A
			(Rate taken from Sub-Analysis items 21.01 A)									
			Water for curing	KL	0.966	0.966	0.966	63.20	61.05	61.05	61.05	M-191
			b) Labour for masonary work									
			Mate	day	0.200	0.200	0.200	444.00	88.80	88.80	88.80	L-12
			Mason	day	2.500	2.500	2.500	541.00	1352.50	1352.50	1352.50	L-10
			Mazdoor	day	2.500	2.500	2.500	428.00	1070.00	1070.00	1070.00	L-13
			Add for scaffolding @ 5 percent of cost of a)material and b) Labour						239.54	239.54	239.54	
			c) Machinery									
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and spreading @ 30 mins per trip)									
			(i) 16 KL capacity	hour	0.007xL1 +0.040			1204.00	56.59			PM1 1001
			(ii) 12 KL capacity	hour		0.009xL1 +0.054		1030.00		64.89		PM1 1002
			(iii) 6 KL capacity	hour			0.018xL1 +0.107	789.00			98.63	PM1 1003
			d) Overhead Charges @ on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		1017.37	1019.03	1025.77	
			e) Contractor's profit @ on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		610.42	611.42	615.46	
			Rate per cum (a+b+c+d+e)						6714.61	6725.57	6770.10	
								Say	**6714.60**	**6725.60**	**6770.10**	
		Note	The labour already considered in the cement mortar have been taken into account while providing these categories in the stone masonary works.									
15.11	**1500, 1700 & 2100**		**Plain/Reinforced Cement concrete in open Foundation complete as per Drawing and Technical specifications.**									
		A	**PCC Grade M15**									
		Case I	**PCC Grade M15 using batching plant & concrete pump**									
			Unit = cum									
			Taking output = 30 cum									

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Analysis of Rate
BOX CELL STRUCTURE

Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			a) Material									
			Per cum Basic cost	cum	30.000	30.000	30.000	3034.40	91032.00	91032.00	91032.00	21.03
			(Rate taken from Sub-Analysis items 21.03)									
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75xL1	75xL1	75xL1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.109xL1 +0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.143xL1 +0.875		1030.00		1048.54		PM11002
			(iii) 6 KL capacity	hour			0.292xL1 +1.750	789.00			1611.14	PM11003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						9897.48	9910.23	9966.49	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		21774.46	21802.51	21926.28	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		13064.68	13081.51	13155.77	
			Cost for 30 cum= a+b+c+d+e+f						143711.46	143896.56	144713.45	
			Rate per cum = (a+b+c+d+e+f)/30						4790.38	4796.55	4823.78	
								Say	**4790.40**	**4796.60**	**4823.80**	
		Case II	**PCC Grade M15 using batching plant & manual placing**									
			Unit = cum									
			Taking output = 15 cum									
			a) Material									
			Per cum Basic cost	cum	15.000	15.000	15.000	3034.40	45516.00	45516.00	45516.00	21.03

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BOX CELL STRUCTURE

Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			(Rate taken from Sub-Analysis items 21.03)									
			Water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5xL1	37.5xL1	37.5xL1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.055xL1 +0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073xL1 +0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146xL1 +0.875	789.00			805.57	PM11003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						5294.60	5301.12	5329.05	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		11648.12	11662.47	11723.90	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		6988.87	6997.48	7034.34	
			Cost for 15 cum= a+b+c+d+e+f						76877.61	76972.28	77377.73	
			Rate per cum = (a+b+c+d+e+f)/15						5125.17	5131.49	5158.52	
								Say	**5125.20**	**5131.50**	**5158.50**	
15.11		**B**	**PCC Grade M20**									
		Case I	**PCC Grade M20 using batching plant, transit mixer & concrete pump**									
			Unit = cum									
			Taking output = 30 cum									
			a) Material									
			Per cum Basic cost	cum	30.000	30.000	30.000	3416.10	102483.00	102483.00	102483.00	21.04
			(Rate taken from Sub-Analysis items 21.04)									
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			b) Labour									
			For pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75xL1	75xL1	75xL1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.109xL1 +0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146xL1 +0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292xL1 +1.750	789.00			1611.14	PM11003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						11042.58	11055.64	11111.59	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		24293.68	24322.41	24445.50	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		14576.21	14593.45	14667.30	
			Cost for 30 cum= a+b+c+d+e+f						160338.31	160527.90	161340.30	
			Rate per cum = (a+b+c+d+e+f)/30						5344.61	5350.93	5378.01	
								Say	**5344.60**	**5350.90**	**5378.00**	
		Case II	**PCC Grade M20 using batching plant,transit mixer & manual placing**									
			Unit = cum									
			Taking output = 15 cum									
			a) Material									
			Per cum Basic cost	cum	15.000	15.000	15.000	3416.10	51241.50	51241.50	51241.50	21.04
			(Rate taken from Sub-Analysis items 21.04)									
			Water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			For pouring and placing									

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5xL1	37.5xL1	37.5xL1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.055xL1 +0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073xL1 +0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146xL1 +0.875	789.00			805.57	PM11003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						5867.15	5873.67	5901.60	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		12907.73	12922.08	12983.51	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		7744.64	7753.25	7790.11	
			Cost for 15 cum= a+b+c+d+e+f						85191.04	85285.70	85691.16	
			Rate per cum = (a+b+c+d+e+f)/15						5679.40	5685.71	5712.74	
								Say	**5679.40**	**5685.70**	**5712.70**	
15.11		**C**	**RCC Grade M20**									
		Case I	**RCC Grade M20 using batching plant, transit mixer & concrete pump**									
			Unit = cum									
			Taking output = 30 cum									
			a) Material									
			Per cum Basic cost	cum	30.000	30.000	30.000	3399.00	101970.00	101970.00	101970.00	21.05
			(Rate taken from Sub-Analysis items 21.05)									
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75xL1	75xL1	75xL1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.109xL1 +0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146xL1 +0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292xL1 +1.750	789.00			1611.14	PM11003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						11035.86	11048.92	11104.87	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		24278.89	24307.62	24430.71	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		14567.33	14584.57	14658.42	
			Cost for 30 cum= a+b+c+d+e+f						160240.68	160430.26	161242.67	
			Rate per cum = (a+b+c+d+e+f)/30						5341.36	5347.68	5374.76	
								Say	**5341.40**	**5347.70**	**5374.80**	
		Case II	**RCC Grade M20 using batching plant,transit mixer & manual placing**									
			Unit = cum									
			Taking output = 15 cum									
			a) Material									
			Per cum Basic cost	cum	15.000	15.000	15.000	3399.00	50985.00	50985.00	50985.00	21.05
			(Rate taken from Sub-Analysis items 21.05)									
			Water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.420	0.420	0.420	444.00	186.48	186.48	186.48	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Machinery									

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5xL1	37.5xL1	37.5xL1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading))									
			(i) 16 KL capacity	hour	0.055xL1 +0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073xL1 +0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146xL1 +0.875	789.00			805.57	PM11003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						5886.08	5892.60	5920.52	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		12949.37	12963.71	13025.15	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		7769.62	7778.23	7815.09	
			Cost for 15 cum= a+b+c+d+e+f						85465.84	85560.51	85965.96	
			Rate per cum = (a+b+c+d+e+f)/15						5697.72	5704.03	5731.06	
								Say	**5697.70**	**5704.00**	**5731.10**	
15.11		**D**	**PCC Grade M25**									
		Case I	**PCC Grade M25 using batching plant, transit mixer & concrete pump**									
			Unit = cum									
			Taking output = 30 cum									
			a) Material									
			Per cum Basic cost	cum	30.000	30.000	30.000	3737.70	112131.00	112131.00	112131.00	21.06
			(Rate taken from Sub-Analysis items 21.06)									
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			For transportation (6 cum capacity)	tonne-km	75xL1	75xL1	75xL1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.109xL1 +0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146xL1 +0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292xL1 +1.750	789.00			1611.14	PM11003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						12007.38	12020.44	12076.39	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		26416.24	26444.97	26568.06	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		15849.75	15866.98	15940.84	
			Cost for 30 cum= a+b+c+d+e+f						174347.20	174536.79	175349.20	
			Rate per cum = (a+b+c+d+e+f)/30						5811.57	5817.89	5844.97	
								Say	**5811.60**	**5817.90**	**5845.00**	
		Case II	**PCC Grade M25 using batching plant,transit mixer & manual placing**									
			Unit = cum									
			Taking output = 15 cum									
			a) Material									
			Per cum Basic cost	cum	15.000	15.000	15.000	3737.70	56065.50	56065.50	56065.50	21.06
			(Rate taken from Sub-Analysis items 21.06)									
			Water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5xL1	37.5xL1	37.5xL1	10.87	407.63	407.63	407.63	PM76001

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.055xL1 +0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073xL1 +0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146xL1 +0.875	789.00			805.57	PM11003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						6349.55	6356.07	6384.00	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		13969.01	13983.36	14044.79	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		8381.41	8390.01	8426.87	
			Cost for 15 cum= a+b+c+d+e+f						92195.48	92290.15	92695.61	
			Rate per cum = (a+b+c+d+e+f)/15						6146.37	6152.68	6179.71	
								Say	**6146.40**	**6152.70**	**6179.70**	
15.11		**E**	**RCC Grade M25**									
		Case I	**RCC Grade M25 using batching plant, transit mixer & concrete pump**									
			Unit = cum									
			Taking output = 30 cum									
			a) Material									
			Per cum Basic cost	cum	30.000	30.000	30.000	3748.20	112446.00	112446.00	112446.00	21.07
			(Rate taken from Sub-Analysis items 21.07)									
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75xL1	75xL1	75xL1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.109xL1 +0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146xL1 +0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292xL1 +1.750	789.00			1611.14	PM11003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						12083.46	12096.52	12152.47	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		26583.61	26612.34	26735.43	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		15950.17	15967.40	16041.26	
			Cost for 30 cum= a+b+c+d+e+f						175451.83	175641.42	176453.82	
			Rate per cum = (a+b+c+d+e+f)/30						5848.39	5854.71	5881.79	
								Say	**5848.40**	**5854.70**	**5881.80**	
		Case II	**RCC Grade M25 using batching plant,transit mixer & manual placing**									
			Unit = cum									
			Taking output = 15 cum									
			a) Material									
			Per cum Basic cost	cum	15.000	15.000	15.000	3748.20	56223.00	56223.00	56223.00	21.07
			(Rate taken from Sub-Analysis items 21.07)									
			Water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.420	0.420	0.420	444.00	186.48	186.48	186.48	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5xL1	37.5xL1	37.5xL1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			(i) 16 KL capacity	hour	0.055xL1 +0.328			1204.00	461.13			PM11001
			(ii) 12 KL capacity	hour		0.073xL1 +0.438		1030.00		526.33		PM11002
			(iii) 6 KL capacity	hour			0.146xL1 +0.875	789.00			805.57	PM11003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						6409.88	6416.40	6444.32	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		14101.73	14116.07	14177.51	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		8461.04	8469.64	8506.50	
			Cost for 15 cum= a+b+c+d+e+f						93071.42	93166.09	93571.54	
			Rate per cum = (a+b+c+d+e+f)/15						6204.76	6211.07	6238.10	
								Say	**6204.80**	**6211.10**	**6238.10**	
15.11		**F**	**PCC Grade M30**									
		Case I	**PCC Grade M30 using batching plant, transit mixer & concrete pump**									
			Unit = cum									
			Taking output = 30 cum									
			a) Material									
			Per cum Basic cost	cum	30.000	30.000	30.000	3769.10	113073.00	113073.00	113073.00	21.08
			(Rate taken from Sub-Analysis items 21.08)									
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.113	0.113	0.113	444.00	50.17	50.17	50.17	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	1.325	1.325	1.325	428.00	567.10	567.10	567.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75xL1	75xL1	75xL1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			(i) 16 KL capacity	hour	0.109xL1 +0.656			1204.00	921.06			PM1 1001
			(ii) 12 KL capacity	hour		0.146xL1 +0.875		1030.00		1051.63		PM1 1002
			(iii) 6 KL capacity	hour			0.292xL1 +1.750	789.00			1611.14	PM1 1003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						12101.58	12114.64	12170.59	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		26623.48	26652.21	26775.30	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		15974.09	15991.33	16065.18	
			Cost for 30 cum= a+b+c+d+e+f						175714.99	175904.58	176716.98	
			Rate per cum = (a+b+c+d+e+f)/30						5857.17	5863.49	5890.57	
								Say	**5857.20**	**5863.50**	**5890.60**	
		Case II	**PCC Grade M30 using batching plant,transit mixer & manual placing**									
			Unit = cum									
			Taking output = 15 cum									
			a) Material									
			Per cum Basic cost	cum	15.000	15.000	15.000	3769.10	56536.50	56536.50	56536.50	21.08
			(Rate taken from Sub-Analysis items 21.08)									
			Water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.380	0.380	0.380	444.00	168.72	168.72	168.72	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5xL1	37.5xL1	37.5xL1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.055xL1 +0.328			1204.00	461.13			PM1 1001

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			(ii) 12 KL capacity	hour		0.073xL1 +0.438		1030.00		526.33		PM1 1002
			(iii) 6 KL capacity	hour			0.146xL1 +0.875	789.00			805.57	PM1 1003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						6396.65	6403.17	6431.10	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		14072.63	14086.98	14148.41	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		8443.58	8452.19	8489.05	
			Cost for 15 cum= a+b+c+d+e+f						92879.38	92974.04	93379.50	
			Rate per cum = (a+b+c+d+e+f)/15						6191.96	6198.27	6225.30	
								Say	**6192.00**	**6198.30**	**6225.30**	
15.11		**G**	**RCC Grade M30**									
		Case I	**RCC Grade M30 using batching plant, transit mixer & concrete pump**									
			Unit = cum									
			Taking output = 30 cum									
			a) Material									
			Per cum Basic cost	cum	30.000	30.000	30.000	3781.30	113439.00	113439.00	113439.00	21.09
			(Rate taken from Sub-Analysis items 21.09)									
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75xL1	75xL1	75xL1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.109xL1 +0.656			1204.00	921.06			PM1 1001

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			(ii) 12 KL capacity	hour		0.146xL1 +0.875		1030.00		1051.63		PM1 1002
			(iii) 6 KL capacity	hour			0.292xL1 +1.750	789.00			1611.14	PM1 1003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						12182.76	12195.82	12251.77	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		26802.07	26830.80	26953.89	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		16081.24	16098.48	16172.33	
			Cost for 30 cum= a+b+c+d+e+f						176893.66	177083.25	177895.66	
			Rate per cum = (a+b+c+d+e+f)/30						5896.46	5902.78	5929.86	
								Say	**5896.50**	**5902.80**	**5929.90**	
		Case II	**RCC Grade M30 using batching plant,transit mixer & manual placing**									
			Unit = cum									
			Taking output = 15 cum									
			a) Material									
			Per cum Basic cost	cum	15.000	15.000	15.000	3781.30	56719.50	56719.50	56719.50	21.09
			(Rate taken from Sub-Analysis items 21.09)									
			Water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.420	0.420	0.420	444.00	186.48	186.48	186.48	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5xL1	37.5xL1	37.5xL1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.055xL1 +0.328			1204.00	461.13			PM1 1001
			(ii) 12 KL capacity	hour		0.073xL1 +0.438		1030.00		526.33		PM1 1002

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			(iii) 6 KL capacity	hour			0.146xL1 +0.875	789.00			805.57	PM1 1003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						6459.53	6466.05	6493.97	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		14210.96	14225.30	14286.74	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		8526.58	8535.18	8572.04	
			Cost for 15 cum= a+b+c+d+e+f						93792.34	93887.00	94292.46	
			Rate per cum = (a+b+c+d+e+f)/15						6252.82	6259.13	6286.16	
								Say	**6252.80**	**6259.10**	**6286.20**	
15.11		**H**	**RCC Grade M35**									
		Case I	**RCC Grade M35 using batching plant, transit mixer & concrete pump**									
			Unit = cum									
			Taking output = 30 cum									
			a) Material									
			Per cum Basic cost	cum	30.000	30.000	30.000	3884.60	116538.00	116538.00	116538.00	21.11
			(Rate taken from Sub-Analysis items 21.11)									
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75xL1	75xL1	75xL1	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker (speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.109xL1 +0.656			1204.00	921.06			PM1 1001
			(ii) 12 KL capacity	hour		0.146xL1 +0.875		1030.00		1051.63		PM1 1002

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			(iii) 6 KL capacity	hour			0.292xL1 +1.750	789.00			1611.14	PM1 1003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						12492.66	12505.72	12561.67	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		27483.85	27512.58	27635.67	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		16490.31	16507.55	16581.40	
			Costfor 30 cum= a+b+c+d+e+f						181393.41	181583.00	182395.40	
			Rate per cum = (a+b+c+d+e+f)/30						6046.45	6052.77	6079.85	
								Say	**6046.40**	**6052.80**	**6079.80**	
		Case II	**RCC Grade M35 using batching plant,transit mixer & manual placing**									
			Unit = cum									
			Taking output = 15 cum									
			a) Material									
			Per cum Basic cost	cum	15.000	15.000	15.000	3884.60	58269.00	58269.00	58269.00	21.11
			(Rate taken from Sub-Analysis items 21.11)									
			Water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.420	0.420	0.420	444.00	186.48	186.48	186.48	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5xL1	37.5xL1	37.5xL1	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.055xL1 +0.328			1204.00	461.13			PM1 1001
			(ii) 12 KL capacity	hour		0.073xL1 +0.438		1030.00		526.33		PM1 1002
			(iii) 6 KL capacity	hour			0.146xL1 +0.875	789.00			805.57	PM1 1003

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						6614.48	6621.00	6648.92	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		14551.85	14566.19	14627.63	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		8731.11	8739.72	8776.58	
			Cost for 15 cum= a+b+c+d+e+f						96042.21	96136.88	96542.33	
			Rate per cum = (a+b+c+d+e+f)/15						6402.81	6409.13	6436.16	
								Say	**6402.80**	**6409.10**	**6436.20**	
15.11		**I**	**RCC Grade M40**									
		Case I	**RCC Grade M40 using batching plant, transit mixer & concrete pump**									
			Unit = cum									
			Taking output = 30 cum									
			a) Material									
			Per cum Basic cost	cum	30.000	30.000	30.000	3985.50	119565.00	119565.00	119565.00	21.12
			(Rate taken from Sub-Analysis items 21.12)									
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75xL	75xL	75xL	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.109xL1 +0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146xL1 +0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292xL1 +1.750	789.00			1611.14	PM11003

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						12795.36	12808.42	12864.37	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		28149.79	28178.52	28301.61	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		16889.87	16907.11	16980.96	
			Cost for 30 cum= a+b+c+d+e+f						185788.62	185978.20	186790.61	
			Rate per cum = (a+b+c+d+e+f)/30						6192.95	6199.27	6226.35	
								Say	**6193.00**	**6199.30**	**6226.40**	
		Case II	**RCC Grade M40 using batching plant,transit mixer & manual placing**									
			Unit = cum									
			Taking output = 15 cum									
			a) Material									
			Per cum Basic cost	cum	15.000	15.000	15.000	3985.50	59782.50	59782.50	59782.50	21.12
			(Rate taken from Sub-Analysis items 21.12)									
			Water for curing	KL	7.875	7.875	7.875	63.20	497.70	497.70	497.70	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.420	0.420	0.420	444.00	186.48	186.48	186.48	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	9.000	9.000	9.000	428.00	3852.00	3852.00	3852.00	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	37.5xL	37.5xL	37.5xL	10.87	407.63	407.63	407.63	PM76001
			For unloading	hour	0.833	0.833	0.833	1992.00	1659.34	1659.34	1659.34	PM34001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.104xL1 +0.625			1204.00	877.72			PM11001
			(ii) 12 KL capacity	hour		0.139xL1 +0.833		1030.00		1001.16		PM11002
			(iii) 6 KL capacity	hour			0.278xL1 +1.667	789.00			1534.61	PM11003
			d) Formwork @ 10 percent on cost of concrete i.e. cost of material,labour and machinery						6807.49	6819.83	6873.17	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		14976.47	15003.63	15120.98	

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		8985.88	9002.18	9072.59	
			Cost for 15 cum= a+b+c+d+e+f						98844.69	99023.93	99798.50	
			Rate per cum = (a+b+c+d+e+f)/15						6589.65	6601.60	6653.23	
								Say	**6589.60**	**6601.60**	**6653.20**	
15.12	**1500,1700 & 2100**		**Plain/Reinforced cement concrete for wall & slab etc. complete as per Drawing and Technical specifications.**									
		A	**RCC Grade M20**									
			RCC Grade M20 using batching plant, transit mixer & concrete pump									
			Unit = cum									
			Taking output = 30 cum									
			a) Material									
			Per cum Basic cost	cum	30.000	30.000	30.000	3399.00	101970.00	101970.00	101970.00	21.05
			(Rate taken from Sub-Analysis items 21.05)									
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75xL	75xL	75xL	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.109xL1 +0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146xL1 +0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292xL1 +1.750	789.00			1611.14	PM11003

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork @ 25 percent on cost of concrete i.e. cost of material,labour and machinery						27589.65	27622.29	27762.17	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		27589.65	27622.29	27762.17	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		16553.79	16573.37	16657.30	
			Cost for 30 cum= a+b+c+d+e+f						182091.68	182307.12	183230.31	
			Rate per cum = (a+b+c+d+e+f)/30						6069.72	6076.90	6107.68	
								Say	**6069.70**	**6076.90**	**6107.70**	
15.12		**B**	**RCC Grade M25**									
			RCC Grade M25 using batching plant, transit mixer & concrete pump									
			Unit = cum									
			Taking output = 30 cum									
			a) Material									
			Per cum Basic cost	cum	30.000	30.000	30.000	3748.20	112446.00	112446.00	112446.00	21.07
			(Rate taken from Sub-Analysis items 21.07)									
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75xL	75xL	75xL	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.109xL1 +0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146xL1 +0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292xL1 +1.750	789.00			1611.14	PM11003

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BOX CELL STRUCTURE

Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork @ 25 percent on cost of concrete i.e. cost of material,labour and machinery						30208.65	30241.29	30381.17	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		30208.65	30241.29	30381.17	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		18125.19	18144.77	18228.70	
			Cost for 30 cum= a+b+c+d+e+f						199377.08	199592.52	200515.71	
			Rate per cum = (a+b+c+d+e+f)/30						6645.90	6653.08	6683.86	
								Say	**6645.90**	**6653.10**	**6683.90**	
15.12		**C**	**RCC Grade M30**									
			RCC Grade M30 using batching plant, transit mixer & concrete pump									
			Unit = cum									
			Taking output = 30 cum									
			a) Material									
			Per cum Basic cost	cum	30.000	30.000	30.000	3781.30	113439.00	113439.00	113439.00	21.09
			(Rate taken from Sub-Analysis items 21.09)									
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75xL	75xL	75xL	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.109xL1 +0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146xL1 +0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292xL1 +1.750	789.00			1611.14	PM11003

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork @ 25 percent on cost of concrete i.e. cost of material,labour and machinery						30456.90	30489.54	30629.42	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		30456.90	30489.54	30629.42	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		18274.14	18293.72	18377.65	
			Cost for 30 cum= a+b+c+d+e+f						201015.53	201230.97	202154.16	
			Rate per cum = (a+b+c+d+e+f)/30						6700.52	6707.70	6738.47	
								Say	**6700.50**	**6707.70**	**6738.50**	
15.12		**D**	**RCC Grade M35**									
			RCC Grade M35 using batching plant, transit mixer & concrete pump									
			Unit = cum									
			Taking output = 30 cum									
			a) Material									
			Per cum Basic cost	cum	30.000	30.000	30.000	3884.60	116538.00	116538.00	116538.00	21.11
			(Rate taken from Sub-Analysis items 21.11)									
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75xL	75xL	75xL	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.109xL1 +0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146xL1 +0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292xL1 +1.750	789.00			1611.14	PM11003

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork @ 25 percent on cost of concrete i.e. cost of material,labour and machinery						31231.65	31264.29	31404.17	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		31231.65	31264.29	31404.17	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		18738.99	18758.57	18842.50	
			Cost for 30 cum= a+b+c+d+e+f						206128.88	206344.32	207267.51	
			Rate per cum = (a+b+c+d+e+f)/30						6870.96	6878.14	6908.92	
								Say	**6871.00**	**6878.10**	**6908.90**	
15.12		**E**	**RCC Grade M40**									
			RCC Grade M40 using batching plant, transit mixer & concrete pump									
			Unit = cum									
			Taking output = 30 cum									
			a) Material									
			Per cum Basic cost	cum	30.000	30.000	30.000	3985.50	119565.00	119565.00	119565.00	21.12
			(Rate taken from Sub-Analysis items 21.12)									
			Water for curing	KL	15.750	15.750	15.750	63.20	995.40	995.40	995.40	M-191
			b) Labour									
			For pouring and placing									
			Mate	day	0.153	0.153	0.153	444.00	67.93	67.93	67.93	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	2.325	2.325	2.325	428.00	995.10	995.10	995.10	L-13
			c) Machinery									
			Transit truck agitator									
			For transportation (6 cum capacity)	tonne-km	75xL	75xL	75xL	10.87	815.25	815.25	815.25	PM76001
			For unloading	hour	0.650	0.650	0.650	1992.00	1294.80	1294.80	1294.80	PM34001
			Hydraulic Boom placer pump	hour	0.650	0.650	0.650	3827.00	2487.55	2487.55	2487.55	PM36001
			Water tanker(speed @ 20 km/hr and return speed @ 30 km/hr and 30 mins for unloading)									
			(i) 16 KL capacity	hour	0.109xL1 +0.656			1204.00	921.06			PM11001
			(ii) 12 KL capacity	hour		0.146xL1 +0.875		1030.00		1051.63		PM11002
			(iii) 6 KL capacity	hour			0.292xL1 +1.750	789.00			1611.14	PM11003

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			d) Formwork @ 25 percent on cost of concrete i.e. cost of material,labour and machinery						31988.40	32021.04	32160.92	
			e) Overhead Charges @ on (a+b+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		31988.40	32021.04	32160.92	
			f) Contractor's profit @ on (a+b+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		19193.04	19212.62	19296.55	
			Cost for 30 cum= a+b+c+d+e+f						211123.43	211338.87	212262.06	
			Rate per cum = (a+b+c+d+e+f)/30						7037.45	7044.63	7075.40	
								Say	**7037.40**	**7044.60**	**7075.40**	
15.13	**1600**		**Supplying, fitting and placing un-coated HYSD bar Reinforcement in Foundation complete as per Drawing and Technical specifications**									
			Unit = MT									
			Taking output = 8 MT									
			a) Material									
			HYSD bars including 5 percent overlaps and wastage	tonne	8.400	8.400	8.400	46087.50	387135.00	387135.00	387135.00	M-083
			Binding wire	kg	48.000	48.000	48.000	49.41	2371.68	2371.68	2371.68	M-072
			b) Labour for straightening, cutting, bending,shifting to site, tying and placing in position									
			Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
			Blacksmith	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-25
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			c) Machinery									
			Cutting machine	hour	5.333	5.333	5.333	414.00	2207.86	2207.86	2207.86	PM43001
			Bending machine	hour	5.333	5.333	5.333	414.00	2207.86	2207.86	2207.86	PM43001
			Electric generator 15 KVA	hour	5.333	5.333	5.333	300.00	1599.90	1599.90	1599.90	PM22009
			Tipper									
			Tipper for transportation									
			(i) 18 cum capacity	t.km	8 x L			4.98	39.84			PM72001
			(ii) 14 cum capacity	t.km		8 x L		5.71		45.68		PM73001
			(iii) 10 cum capacity	t.km			8 x L	7.10			56.80	PM74001
			Loading and Unloading Time									
			(i) 18 cum capacity	hour	1.000			2349.00	2349.00			PM6001
			(ii) 14 cum capacity	hour		1.280		2108.00		2698.24		PM6002
			(iii) 10 cum capacity	hour			1.778	1891.00			3362.20	PM6003
			Light Weight Crane									
			At cutting bending yard	hour	2.000	2.000	2.000	860.00	1720.00	1720.00	1720.00	PM63001

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			At site	hour	2.000	2.000	2.000	860.00	1720.00	1720.00	1720.00	PM63001
			d) Overhead Charges on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		80649.44	80720.45	80855.47	
			e) Contractor's profit on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		48389.66	48432.27	48513.28	
			Cost for 8 MT= a+b+c+d+e						532286.28	532754.99	533646.09	
			Rate for per MT = (a+b+c+d+e)/8						66535.79	66594.37	66705.76	
								Say	**66535.80**	**66594.40**	**66705.80**	
15.14	**2706 & 2200**		**Providing weep holes in Brick masonary/ plain/ Reinforced concrete abutment, wing wall/ return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V:20H towards drawing face. Complete as per drawing and Technical specifications.**									
			Unit = Nos.									
			Taking output = 30 Nos.									
			a) Material									
			AC pipe 100 mm dia	metre	31.500	31.500	31.500	47.39	1492.79	1492.79	1492.79	M-056
			(including wastage @ 5 percent)									
			Average length of weep hole is taken as one metre for the purpose of estimating.									
			MS clamp	each	30.000	30.000	30.000	44.46	1333.80	1333.80	1333.80	M-122
			Collar for AC pipe	each	10.000	10.000	10.000	4.739	47.39	47.39	47.39	M056*0.1
			(average) taking 10% of above pipe rate									
			Cement mortar 1:3	cum	0.050	0.050	0.050	4019.00	200.95	200.95	200.95	21.01A
			(Rate taken from Sub-Analysis items 21.01 A)									
			b) Labour									
			Mate	day	0.030	0.030	0.030	444.00	13.32	13.32	13.32	L-12
			Mason	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-10
			Mazdoor	day	0.250	0.250	0.250	428.00	107.00	107.00	107.00	L-13
			c) Overhead Charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		693.15	693.15	693.15	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		415.89	415.89	415.89	
			Cost for 30 nos. = a+b+c+d						4574.78	4574.78	4574.78	
			Rate per nos. = (a+b+c+d)/30						152.49	152.49	152.49	
								Say	**152.50**	**152.50**	**152.50**	
	Note		1. In case of stone masonary, the size of the weep hole shall be 150 mm x 80 mm or circular with 150 mm diameter									
			2. For structure in stone masonary, the weep holes shall be deemed to be included in the item of stone masonary work and shall not be paid separately.									

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
15.15	2700		**PCC M15 Grade leveling course below approach slab complete as per drawing and Technical specifications.**									
			Unit = cum									
			Taking output = 1 cum									
		a)	**Material**									
		Case I	**PCC Grade M15 using batching plant & concrete pump**									
			a) Material									
			Concrete, item no- 15.11(A), Case-I excluding formworks	cum	1.000			3299.16	3299.16			
			Concrete, item no- 15.11(A), Case-I excluding formworks	cum		1.000		3303.41		3303.41		
			Concrete, item no- 15.11(A), Case-I excluding formworks	cum			1.000	3322.16			3322.16	
			b) Overhead Charges @ on (a)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		659.83	660.68	664.43	
			c) Contractor's profit @ on (a+b)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		395.90	396.41	398.66	
			Cost for 1 cum = a+b+c						4354.89	4360.50	4385.26	
			Rate per cum = (a+b+c)						4354.89	4360.50	4385.26	
								Say	**4354.90**	**4360.50**	**4385.30**	
		b)	**Material**									
		Case II	**PCC Grade M15 using batching plant & manual placing**									
			Concrete, item no- 15.11(A), Case-II excluding formworks	cum	1.000			3529.73	3529.73			
			Concrete, item no- 15.11(A), Case-II excluding formworks	cum		1.000		3534.08		3534.08		
			Concrete, item no- 15.11(A), Case-II excluding formworks	cum			1.000	3552.70			3552.70	
			b) Overhead Charges @ on (a)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		705.95	706.82	710.54	
			c) Contractor's profit @ on (a+b)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		423.57	424.09	426.32	
			Cost for 1 cum = a+b+c						4659.25	4664.99	4689.56	
			Rate per cum = (a+b+c)						4659.25	4664.99	4689.56	
								Say	**4659.20**	**4665.00**	**4689.60**	

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
15.16	**1500,1600, 1700 & 2704**		**Reinforced cement concrete approach slab including reinforcement and formwork complete as per Drawing and Technical specifications.**									
			Unit = cum									
			Taking output = 1 cum									
			a) Material									
			Cement concrete M30 Grade refer relevant item of concrete in item 15.11 G Case -I by using batching plant, excluding formwork i.e. per cum basic cost (a+b+c) (Excluding OH and CP)	cum	1.000	1.000	1.000	4060.92-L 4065.27-M 4083.92-S	4060.92	4065.27	4083.92	15.11G case 1
			HYSD bar (Reinforcement rate as per item no. 15.13 excluding OH & CP)	tonne	0.050	0.050	0.050	50405.9-L 50450.28-M 50534.67-S	2520.29	2522.51	2526.73	
			b) Overhead Charges @ on (a)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		1316.24	1317.56	1322.13	
			c) Contractor's profit @ on (a+b)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		789.75	790.53	793.28	
			Rate per cum = (a+b+c)						8687.20	8695.88	8726.07	
								Say	**8687.20**	**8695.90**	**8726.10**	
		Note	The grade of reinforced cement concrete may be adopted as M30 for severe conditions and M25 for moderate conditions.									
15.17	**2705**		**Drainage spouts complete as per Drawing and Technical Specifications.**									
			Unit = No.									
			Taking output = 1 No.									
			a) Material									
			Corrosion resistant structural steel including 5 percent wastage	kg	4.000	4.000	4.000	78.01	312.04	312.04	312.04	M-088
			GI pipe 100mm dia	metre	0.320	0.320	0.320	560.43	179.34	179.34	179.34	M-239
			GI bolt 10mm dia	each	6.000	6.000	6.000	20.85	125.10	125.10	125.10	M-109
			Galvanised MS flat clamp	each	2.000	2.000	2.000	15.58	31.16	31.16	31.16	M-101
			b) Labour									
			For fabrication									
			Mate	day	0.002	0.002	0.002	444.00	0.89	0.89	0.89	L-12
			Skilled (Blacksmith, Welder etc.)	day	0.020	0.020	0.020	660.00	13.20	13.20	13.20	L-02
			Mazdoor	day	0.020	0.020	0.020	428.00	8.56	8.56	8.56	L-13
			For fixing in position									
			Mate	day	0.008	0.008	0.008	444.00	3.55	3.55	3.55	L-12
			Mason	day	0.010	0.010	0.010	541.00	5.41	5.41	5.41	L-10

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Mazdoor	day	0.200	0.200	0.200	428.00	85.60	85.60	85.60	L-13
			Add @ 5 percent of cost of material and labour for electrodes, cutting gas, sealant, anti-corrosive bituminous paint, mild steel grating etc.						38.24	38.24	38.24	
			c) Overhead Charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		160.62	160.62	160.62	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		96.37	96.37	96.37	
			Rate per metre (a+b+c+d)						1060.07	1060.07	1060.07	
								Say	**1060.10**	**1060.10**	**1060.10**	
		Note	1. In case of viaducts in urban areas, the drainage spouts should be connected with suitably located pipelines to discharge the surface run-off to drains provided at ground level.									
			2. In case of bridges, sufficient length of G.I. pipe shall be provided to ensure that there is no splashing of water from the drainage spout on the structure.									
15.18	**2702**		**Providing and laying Cement concrete wearing coat M-30 grade including reinforcement complete as per drawing and Technical specifications.**									
			Unit = cum									
			Taking output = 1 cum									
			a) Material									
			Cement concrete M30 Grade Refer relevant item of concrete in item 15.12(C) excluding formwork	cum	1.000	1.000	1.000	4060.92-L 4065.27-M 4083.92-S	4060.92	4065.27	4083.92	
			HYSD bar reinforcement Rate as per item No 15.13 (Excluding OH & CP)	tonne	0.075	0.075	0.075	50405.9-L 50450.28-M 50534.67-S	3780.44	3783.77	3790.10	
			b) Labour									
			Mazdoor for cleaning deck slab concrete surface	day	0.150	0.150	0.150	428.00	64.20	64.20	64.20	L-13
			c) Overhead Charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		1581.11	1582.65	1587.64	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		948.67	949.59	952.59	
			Rate per cum (a+b+c+d)						10435.34	10445.48	10478.45	
								Say	**10435.30**	**10445.50**	**10478.50**	
15.19	**516 & 2702**		**Mastic Asphalt**									

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Providing and laying 12 mm thick mastic asphalt wearing course on top of deck slab excluding prime coat with paving grade bitumen meeting the requirements given in Table 500-39, prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen precoated fine grained hard stone chipping of 9.5 mm nominal size at the rate of 0.005 cum per 10 sqm and at an approximate spacing of 10 cm center to center in both directions, pressed into surface when the temperature of surfaces not less than 100 deg. C, protruding 1 mm to 4 mm over mastic surface, all complete as per clause 516.									
			Unit = sqm									
			Taking output= 72.46 sqm (2 tonnes)(0.869 cum) assuming a density of 2.3 tonnes/cum.									
			a) Labour									
			Mate	day	0.490	0.490	0.490	444.00	217.56	217.56	217.56	L-12
			Mazdoor	day	11.000	11.000	11.000	428.00	4708.00	4708.00	4708.00	L-13
			Mazdoor (Skillled)	day	1.250	1.250	1.250	541.00	676.25	676.25	676.25	L-15
			b) Machinery									
			Mechanical broom @ 1250 sqm per hour	hour	0.060	0.060	0.060	834.00	50.04	50.04	50.04	PM23001
			Air compressor 250 cfm	hour	0.060	0.060	0.060	496.00	29.76	29.76	29.76	PM15001
			Mastic cooker 1 tonne capacity	hour	6.000	6.000	6.000	555.00	3330.00	3330.00	3330.00	PM27001
			Bitumen boiler 1500 litres capacity	hour	6.000	6.000	6.000	592.00	3552.00	3552.00	3552.00	PM26001
			Tractor for towing and positioning of mastic cooker and bitumen boiler	hour	1.000	1.000	1.000	717.00	717.00	717.00	717.00	PM12001
			c) Material									
			Base mastic (without coarse aggregates) = 60 percent									
			Coarse aggregate (3.35 mm to 9.5 mm size)= 40 percent									
			Proportion of material required for mastic ashphalt with coarse aggregates (based on mix design done by CRRI for a specific case)									
			i) Bitumen 80/100 or 60/70 or 30/40 @ 10.2 percent by weight of mix.	tonne	0.204	0.204	0.204	60920.00	12427.68	12427.68	12427.68	M-327

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			2 x 10.2/100 = 0.204	.								
			ii) Crusher stone dust @ 31.9 percent by weight of mix= 2x31.9/100=0.638 tonnes= 0.638/1.625=0.39	cum	0.390	0.390	0.390	274.20	106.94	106.94	106.94	M-020
			iii) Lime stone dust filler with calcium carbonate content not less than 80 percent by weight @ 17.92 percent by weight of mix =2x17.92/100=0.36	tonne	0.360	0.360	0.360	3222.77	1160.20	1160.20	1160.20	M-190
			iv) Coarse aggregates 9.5 mm to 3.35 mm size @ 40 percent by weight of mix=2x40/100=0.8 MT=0.8/1.456=0.55	cum	0.550	0.550	0.550	631.69	347.43	347.43	347.43	M-024
			v) Pre-coated stone chips of 9.5 mm nominal size for skid resistance= 72.46x0.005/10=0.036	cum	0.036	0.036	0.036	858.84	30.92	30.92	30.92	M-141
			vi) Bitumen for coating of chips @ 2 percent by weight= 0.036x1.456x2/100=0.001048 MT= 1.05 kg	kg	1.050	1.050	1.050	60.92	63.97	63.97	63.97	M-327
			d) Overhead Charges @ on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		5483.55	5483.55	5483.55	
			e) Contractor's profit @ on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		3290.13	3290.13	3290.13	
			Cost for 72.46 sqm = a+b+c+d+e						36191.42	36191.42	36191.42	
			Rate per sqm = (a+b+c+d+e)/72.46						499.47	499.47	499.47	
								Say	**499.50**	**499.50**	**499.50**	
		Note	1. The rates for 6 mm or any other thickness may be worked out on pro-rata basis.									
			2. Where tack coat is required to be provided before laying mastic ashphalt, the same is required to be measured and paid separately.									
			3. The quantities of binder, filler and aggregates are for estimating purpose. Exact quantities shall be as per mix design									
			4. This rate analysis is based on design made by CRRI for a specific case and is meant for estimating purposes only. Actual design is required to be done for each case									
			5. The quantity of bitumen works out 17 percent of the mastic asphalt blocks without aggregates and falls within the standards laid down by MoRT&H Specifications									
15.20	**800**		**Crash Barriers for Bridge**									
			The rate analysis for semi rigid crash barrier with metal beam and flexible crash barrier with wire ropes have been made and included in chapter-8 on Traffic and Transportation. The rate analysis for rigid crash barrier in reinforced cement concrete, have been made and included in chapter-14 on Super-structure.									
15.21	**800**		**Painting on concrete surface**									
			Providing and applying 2 coats of water based cement paint to unplastered concrete surface after cleaning the surface of dirt, dust, oil, grease, efflorescence and applying paint @ of 1 litre for 2 sqm.									
			Unit = sqm									

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Taking output = 10 sqm									
			a) Labour									
			Mate	day	0.020	0.020	0.020	444.00	8.88	8.88	8.88	L-12
			Painter	day	0.250	0.250	0.250	541.00	135.25	135.25	135.25	L-18
			Mazdoor (skilled)	day	0.250	0.250	0.250	541.00	135.25	135.25	135.25	L-15
			b) Material									
			Water based paint of approved quality for cement concrete surface	Litres	5.000	5.000	5.000	137.84	689.19	689.19	689.19	M-192
			c) Overhead Charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		193.71	193.71	193.71	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		116.23	116.23	116.23	
			Cost for 10 sqm (a+b+c+d)						1278.51	1278.51	1278.51	
			Rate per sqm (a+b+c+d)/10						127.85	127.85	127.85	
								Say	**127.90**	**127.90**	**127.90**	
15.22	**2605**		**Filler joint**									
		(i)	Providing & fixing 2 mm thick corrugated copper plate in expansion joint complete as per drawing & Technical Specification.									
			Unit = Running meter									
			Taking output = 12 m									
			a) Labour									
			cutting, bending, carrying & fixing etc.									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor	day	0.500	0.500	0.500	428.00	214.00	214.00	214.00	L-13
			Mazdoor (skilled)	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15
			b) Material									
			Copper plate- 12 m long x 250 mm wide	kg	55.000	55.000	55.000	566.14	31137.70	31137.70	31137.70	M-087
			Area = 12x0.25=3 sqm									
			weight = 3x0.002x8900=53.4 kg									
			wastage @ 2.5 percent=1.33 kg/54.73 kg say=55 kg									
			c) Overhead Charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		6327.99	6327.99	6327.99	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		3796.80	3796.80	3796.80	
			Cost for 12 m= a+b+c+d						41764.75	41764.75	41764.75	
			Rate per m= (a+b+c+d)/12						3480.40	3480.40	3480.40	
								Say	**3480.40**	**3480.40**	**3480.40**	

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
15.22		(ii)	**Providing & fixing 20 mm thick compressible fibre board in expansion joint complete as per drawing & Technical Specification.**									
			Unit = Running meter									
			Taking output = 12 m									
			a) Labour									
			for carrying, placing & fixing									
			Mate	day	0.008	0.008	0.008	444.00	3.55	3.55	3.55	L-12
			Mazdoor	day	0.100	0.100	0.100	428.00	42.80	42.80	42.80	L-13
			Mazdoor (skilled)	day	0.100	0.100	0.100	541.00	54.10	54.10	54.10	L-15
			b) Material									
			20 mm thick compressible fibre board 12 m longx 25 cm deep.	sqm	3.000	3.000	3.000	1510.29	4530.88	4530.88	4530.88	M-085
			Area = 12x0.25 = 3 sqm									
			c) Overhead Charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		926.27	926.27	926.27	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		555.76	555.76	555.76	
			Cost for 12 m= a+b+c+d						6113.35	6113.35	6113.35	
			Rate per m= (a+b+c+d)/12						509.45	509.45	509.45	
								Say	**509.40**	**509.40**	**509.40**	
15.22		(iii)	**Providing and fixing in position 20 mm thick pre moulded joint filler in expansion joint for fixed ends of simply supported spans not exceeding 10 m to cater for a horizontal movement upto 20 mm, covered with sealant complete as per drawing and technical specifications.**									
			Unit = Running meter									
			Taking output = 12 m									
			a) Labour									
			Mate	day	0.012	0.012	0.012	444.00	5.33	5.33	5.33	L-12
			Mazdoor	day	0.200	0.200	0.200	428.00	85.60	85.60	85.60	L-13
			Mazdoor (skilled)	day	0.100	0.100	0.100	541.00	54.10	54.10	54.10	L-15
			b) Material									
			Pre-moulded joint filler 12 m long, 20 mm thick and 300 mm deep	sqm	3.600	3.600	3.600	429.70	1546.93	1546.93	1546.93	M-140
			c) Overhead Charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		338.39	338.39	338.39	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		203.03	203.03	203.03	

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			Cost for 12 m= a+b+c+d						2233.38	2233.38	2233.38	
			Rate per m= (a+b+c+d)/12						186.12	186.12	186.12	
								Say	**186.10**	**186.10**	**186.10**	
15.22		(iv)	**Providing and filling joint sealing compound as per drawings and technical specifications with coarse sand and 6 percent bitumen by weight**									
			Unit = Running meter									
			Taking output = 12 m									
			12m long x 100 mm wide x 10 mm deep recess									
			a) Labour									
			Mate	day	0.024	0.024	0.024	444.00	10.66	10.66	10.66	L-12
			Mazdoor	day	0.500	0.500	0.500	428.00	214.00	214.00	214.00	L-13
			Mazdoor (skilled)	day	0.100	0.100	0.100	541.00	54.10	54.10	54.10	L-15
			b) Material									
			sand	cum	0.012	0.012	0.012	612.90	7.35	7.35	7.35	M-004*
			volume 12 x 0.1 x 0.01 = 0.012 cum									
			Weight 0.012 x 1400 = 16.8 kg									
			Bitumen	tonne	0.001	0.001	0.001	57448.00	57.45	57.45	57.45	M-074
			16.8 x 0.06 = 1 kg									
			c) Overhead Charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		68.71	68.71	68.71	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		41.23	41.23	41.23	
			Cost for 12 m= a+b+c+d						453.50	453.50	453.50	
			Rate per m= (a+b+c+d)/12						37.79	37.79	37.79	
								Say	**37.80**	**37.80**	**37.80**	
		Note	For arriving at the final rate of filler joints per m length and per cm depth of joint filling compound, the rates at Sl. No. i), ii), iii) & iv) shall be added.									
15.23	**710.1.4 of IRC:78 & 2200**		**Back filling behind abutment, wing wall and return wall complete as per drawing and Technical specifications.**									
			Unit = cum									
			Taking output = 10 cum									
		A	**Granular material**									
			a) Labour									
			Mate	day	0.280	0.280	0.280	444.00	124.32	124.32	124.32	L-12
			Mazdoor	day	7.000	7.000	7.000	428.00	2996.00	2996.00	2996.00	L-13
			b) Material									
			Granular material	cum	12.000	12.000	12.000	173.92	2087.04	2087.04	2087.04	M-009

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Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			c) Machinery									
			Plate	hour	2.500	2.500	2.500	466.00	1165.00	1165.00	1165.00	PM46001
			Compactor/power rammer									
			Water tanker 6 KL capacity	hour	0.050	0.050	0.050	789.00	39.45	39.45	39.45	PM1 1003
			d) Overhead Charges @ on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		1282.36	1282.36	1282.36	
			e) Contractor's profit @ on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		769.42	769.42	769.42	
			Cost for 10 cum of granular backfill= a+b+c+d+e						8463.59	8463.59	8463.59	
			Rate per cum = (a+b+c+d+e)/10						846.36	846.36	846.36	
								Say	**846.40**	**846.40**	**846.40**	
15.23		**B**	**Sandy material**									
			a) Labour									
			Mate	day	0.280	0.280	0.280	444.00	124.32	124.32	124.32	L-12
			Mazdoor for filling,watering,ramming etc.	day	7.000	7.000	7.000	428.00	2996.00	2996.00	2996.00	L-13
			b) Material									
			Sand	cum	12.000	12.000	12.000	150.48	1805.76	1805.76	1805.76	M-006
			c) Machinery									
			Plate	hour	2.500	2.500	2.500	466.00	1165.00	1165.00	1165.00	PM46001
			Compactor/power rammer									
			Water tanker 6 KL capacity	hour	0.060	0.060	0.060	789.00	47.34	47.34	47.34	PM1 1003
			d) Overhead Charges @ on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		1227.68	1227.68	1227.68	
			e) Contractor's profit @ on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		736.61	736.61	736.61	
			Cost for 10 cum of sandy backfill= a+b+c+d+e						8102.71	8102.71	8102.71	
			Rate per cum = (a+b+c+d+e)/10						810.27	810.27	810.27	
								Say	**810.30**	**810.30**	**810.30**	
15.24	**710.1.4. of IRC:78 and 2504.2**		**Providing and laying of Filter media with granular materials/stone crushed aggregates satisfying the requirements laid down in clause 2504.2.2. of MoRT&H specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and return wall to the full height compacted to a firm condition complete as per drawing and Technical Specification.**									
			Unit = cum									
			Taking output = 10 cum									

CHAPTER - 15
Analysis of Rate
BOX CELL STRUCTURE

Sr. No.	Ref. to MoRTH Spec.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks/ Input ref.
					Large	Medium	Small		Large	Medium	Small	
			a) Labour									
			Mate	day	0.320	0.320	0.320	444.00	142.08	142.08	142.08	L-12
			Mazdoor for filling,watering,ramming etc.	day	7.000	7.000	7.000	428.00	2996.00	2996.00	2996.00	L-13
			Mazdoor (skilled)	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
			b) Material									
			Filter media of stone aggregate conforming to clause 2504.2.2. of MoRT&H specifications.	cum	12.000	12.000	12.000	733.48	8801.76	8801.76	8801.76	M-011
			c) Machinery									
			Water tanker of 6 KL capacity	hour	0.060	0.060	0.060	789.00	47.34	47.34	47.34	PM11003
			d) Overhead Charges on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		2505.64	2505.64	2505.64	
			e) Contractor's profit on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		1503.38	1503.38	1503.38	
			Cost for 10 cum of Filter media= a+b+c+d+e						16537.20	16537.20	16537.20	
			Rate per cum = (a+b+c+d+e)/10						1653.72	1653.72	1653.72	
								Say	**1653.70**	**1653.70**	**1653.70**	
15.25			**Painting with synthetic enamel paint bridge No. and span arrangements**									
			Painting two coats after filling the surface with synthetic enamel paint bridge No. and span arrangements as per as directed by Engineer.									
			Unit = Nos.									
			Taking output = 1 Nos.									
			a) Labour									
			Mate	day	0.006	0.006	0.006	444.00	2.66	2.66	2.66	L-12
			Painter	day	0.100	0.100	0.100	541.00	54.10	54.10	54.10	L-18
			Mazdoor	day	0.050	0.050	0.050	428.00	21.40	21.40	21.40	L-13
			b) Material									
			Paint conforming to requirement of clause 803.3.	Litre	0.300	0.300	0.300	270.83	81.25	81.25	81.25	M-130
			Add for scaffolding @ 1 percent of labour cost where required						0.78	0.78	0.78	
			Add @ 5 percent cost of labour and materials to prepare the surface by filling minutes roughness on the surface and priming the surface before laying 2 coats of painting.						7.97	7.97	7.97	
			c) Overhead Charges @ on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		33.63	33.63	33.63	
			d) Contractor's profit @ on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		20.18	20.18	20.18	
			Cost for 1 No.= a+b+c+d						221.98	221.98	221.98	
			Rate per Nos. = (a+b+c+d)					**Say**	**222.00**	**222.00**	**222.00**	

CHAPTER- 16

RIVER TRAINING AND PROTECTION WORKS

CHAPTER-16

RIVER TRAINING AND PROTECTION WORKS

PREAMBLES :

1 Three types of aprons on riverbed as under have been catered.

a) Boulder apron laid dry

b) Boulder apron laid in wire crates

c) Apron laid in cement concrete blocks on M 15

2 A toe wall for toe protection of pitching can be either in dry rubble masonary (uncoursed) or in nominal mix cement concrete M15. Depending upon the design, the rates may be adopted under respective clauses.

3 Flooring has been proposed in dry rubble stone, rubble stone laid in Cement Mortar 1: 3 and with cement concrete blocks M 15.

4 Curtain wall proposed are of the following two types :

a) Course rubble stone masonry (1st sort) in CM 1:3.

b) Cement concrete M 15 grade.

5 The rate analysis for gabion structures comprising of stone boulders laid in wire crates have been included. Such structures are suited as retaining structures and for erosion in river training works especially for situations where some settlement of foundation is anticipated. These structures can adjust in minor settlements, being flexible structures, without loosing their functional requirement.

Chapter - 16
Summary of Rate Analysis
RIVER TRAINING AND PROTECTION WORKS

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
16.01	Providing and laying boulders apron on river bed for protection against scour with stone boulders weighing not less than 40 kg each complete as per drawing and Technical specification.	Cum	1762.70	1762.70	1762.70
16.02	**Boulder Apron Laid in Wire Crates.** Providing and laying of boulder apron laid in wire crates made with 4mm dia GI wire conforming to IS: 280 & IS:4826 in 100mm x 100mm mesh (weaved diagonally) including 10 percent extra for laps and joints laid with stone boulders weighing not less than 40 kg each.	Cum	2097.40	2097.40	2097.40
16.03	**Cement Concrete Blocks (size 0.5 x 0.5 x 0.5 m).**Providing and laying of apron with cement concrete blocks of size 0.5x0.5x0.5 m cast in-situ and made with nominal mix of M-15 grade cement concrete with minimum cement content of 250 kg/cum.	Cum	4942.50	4948.60	4974.60
16.04	Providing and laying pitching on slopes Laid over prepared filter media including boulder apron laid dry in front of toe as per drawing and technical specifications.				
A	Stone/Boulder	Cum	1762.70	1762.70	1762.70
B	Cement Concrete Blocks of size 0.3x0.3 x0.3 m cast in cement concrete of Grade M15	Cum	4942.50	4948.60	4974.60
16.05	Providing and laying Filter material underneath pitching in slopes complete as per drawing and Technical specification	Cum	1934.60	1934.60	1934.60
16.06	**Geotextile Filter.** (Laying of a geotextile filter between pitching and embankment slopes on which pitching is laid to prevent escape of the embankment material through the voids of the stone pitching/cement concrete blocks as well as to allow free movement of water without creating any uplift head on the pitching.)	Sqm	169.80	169.80	169.80
16.07	**Toe Protection**.(A toe wall for toe protection can either be in dry rubble masonry in case of dry rubble pitching or pitching with stones in wire crates or it can be in PCC M15 nominal mix if cement concrete block have been used for pitching . Rates for toe wall can be adopted from respective clauses depending upon approved design. The rate for excavation for foundation, dry rubble masonry and PCC M15 have been analysed and given in respective chapters.)				
16.08	**Providing and laying Flooring complete as per drawing and Technical specifications laid over cement concrete bedding.**				

Chapter - 16
Summary of Rate Analysis
RIVER TRAINING AND PROTECTION WORKS

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
A	Rubble stone laid in cement mortar 1:3	Cum	4548.80	4550.80	4559.50
B	Cement Concrete blocks Grade M15 including 100 mm thick bedding.	Cum	6083.94	6092.00	6126.39
16.09	**Dry Rubble Flooring.** (Construction of dry rubble flooring at cross drainage works for relatively less important works.)	Cum	2327.10	2327.10	2327.10
16.10	**Curtain wall complete as per drawing and Technical specification**				
A	Stone masonry in cement mortar (1:3)	Cum	4924.90	4924.90	4924.90
B	Cement concrete Grade M15	Cum	4529.10	4535.10	4560.70
16.11	**Flexible Apron :Construction of flexible apron 1 m thick comprising of loose stone boulders weighing not less than 40 kg beyond curtain wall.**	Cum	1854.40	1854.40	1854.40
16.12	**Gabion Structure for Retaining Earth**. (Providing and construction of a gabion structure for retaining earth with segments of wire crates of size 7 m x 3 m x 0.6 m each divided into 1.5 m compartments by cross netting, made from 4 mm galvanised steel wire @ 32 kg per 10 sqm having minimum tensile strength of 300 Mpa conforming to IS:280 and galvanizing coating conforming to IS:4826, woven into mesh with double twist, mesh size not exceeding 100 x 100 mm, filled with boulders with least dimension of 200 mm, all loose ends to be tied with 4 mm galvanised steel wire)	Cum	2062.70	2062.70	2062.70
16.13	**Gabion Structure for Erosion Control, River Training Works and Protection works.(** Providing and constructing gabion structures for erosion control, river training works and protection works with wire crates of size 2 m x 1 m x 0.3 m each divided into 1m compartments by cross netting, made from 4 mm galvanised steel wire @ 32 kg per 10 sqm having minimum tensile strength of 300 Mpa conforming to IS:280 and galvanizing coating conforming to IS:4826, woven into mesh with double twist, mesh size not exceeding 100 mm x 100 mm, filled with boulders with least dimension of 200 mm, all loose ends to be securely tied with 4 mm galvanised steel wire)	Cum	2883.40	2883.40	2883.40

Chapter - 16
Summary of Rate Analysis
RIVER TRAINING AND PROTECTION WORKS

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
16.14	Providing & making Gabion structure with Mechanically Woven Double Twisted Hexagonal Shaped Wire mesh Gabion Boxes as per IS 16014:2012, MORT&H Clause 2500, of required size, Mesh Type 10x12 (D=100 mm with Tolerance of+/- 2%) Zinc Coated Mesh Wire diameter 3.0 mm, mechanically edged/ selvedge with partitions at every 1m interval and shall have minimum 10 number of openings per meter of mesh perpendicular to twist , tying with lacing wire of diameter 2.2 mm, supplied @ 3% by weight of Gabion boxes, filled with boulders with least dimension of 200 mm, as per drawing, all complete as per direction of Engineer-in-charge.	Cum	2326.50	2326.50	2326.50
16.15	**Embankment Erosion Protection using Fine Aggregate concrete filled fabric form mattress system** (Laying of a fine aggregate concrete grade M30 filled fabric form for erosion protection of embankments)	Sqm	760.50	761.10	763.50

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Analysis of Rate

RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
16.01	2503		Providing and laying boulders apron on river bed for protection against scour with stone boulders weighing not less than 40 kg each complete as per drawing and Technical specification.									
		A	Boulder Laid Dry without wire crates									
			Unit = cum									
			Taking output= 1 cum									
			a) Material									
			Stone	cum	1.000	1.000	1.000	730.02	730.02	730.02	730.02	M-003
			Stone Spalls	cum	0.200	0.200	0.200	377.35	75.47	75.47	75.47	M-008
			b) Labour									
			Mate	day	0.044	0.044	0.044	444.00	19.54	19.54	19.54	L-12
			Mason	day	0.350	0.350	0.350	541.00	189.35	189.35	189.35	L-10
			Mazdoor*	day	0.750	0.750	0.750	428.00	321.00	321.00	321.00	L-13
			Total cost without OH & CP (a+b)						1335.38	1335.38	1335.38	
			c) Overhead charges on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		267.08	267.08	267.08	
			d) Contractor's profit on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		160.25	160.25	160.25	
			Rate per cum= (a+b+c+d)						1762.70	1762.70	1762.70	
								Say	**1762.70**	**1762.70**	**1762.70**	
		*	Including excavation for trimming for preparation of bed.									
		Note	Nominal excavation required for preparation of bed has been taken into account while making provision for labour.									

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Analysis of Rate
RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
16.02	**2503**		**Boulder Apron Laid in Wire Crates**									
			Providing and laying of boulder apron laid in wire crates made with 4mm dia GI wire conforming to IS: 280 & IS:4826 in 100mm x 100mm mesh (weaved diagonally) including 10 percent extra for laps and joints laid with stone boulders weighing not less than 40 kg each.									
			Unit = cum									
			Taking output = 3 mx1.5mx1.25m = 5.63 cum									
			a) Material									
			4mm GI wire crates woven in mesh size of 100 mm x 100 mm.	sqm	22.000	22.000	22.000	101.54	2233.88	2233.88	2233.88	M-102
			Stone	cum	5.630	5.630	5.630	730.02	4110.01	4110.01	4110.01	M-003
			Stone Spalls	cum	1.130	1.130	1.130	377.35	426.41	426.41	426.41	M-008
			b) Labour									
			Mate	day	0.180	0.180	0.180	444.00	79.92	79.92	79.92	L-12
			Mazdoor (Skilled)	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-15
			Mazdoor*	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			Total cost without OH & CP (a+b)						8945.72	8945.72	8945.72	
			c) Overhead charges on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		1789.14	1789.14	1789.14	
			d) Contractor's profit on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		1073.49	1073.49	1073.49	
			Cost for 5.63 cum = a+b+c+d						11808.35	11808.35	11808.35	
			Rate per cum = (a+b+c+d)/5.63						2097.40	2097.40	2097.40	

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Analysis of Rate

RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
								Say	**2097.40**	**2097.40**	**2097.40**	
		*	Mazdoor Including excavation for trimming for preparation of bed.									
		Note	Readymade woven wire crate rolls have been considered in the rate analysis. In case readymade rolls are not available, GI wire 4mm dia. @ 32 kg per 10 sqm may be provided. In that case 2 per cent of the cost of GI wire may be added for weaving the wire crates.									
16.03	**2503**		**Cement Concrete Blocks (size 0.5 x 0.5 x 0.5 m)**									
			Providing and laying of apron with cement concrete blocks of size 0.5x0.5x0.5 m cast in-situ and made with nominal mix of M-15 grade cement concrete with minimum cement content of 250 kg/cum.									
			Unit = cum									
			Taking out put = 1 cum									
			Concrete Grade M15 (Rate taken from items 12.08 A, Case II) including OH & CP	cum	1.000	1.000	1.000	4845.60-L 4851.60-M 4877.10-S	4845.60	4851.60	4877.10	12.08 A Case II
			Add 2 per cent of cost to account for excavation for preparation of bed, nominal surface reinforcement and filling of granular material in recesses between blocks.						96.91	97.03	97.54	
			Rate per cum						4942.51	4948.63	4974.64	
								Say	**4942.50**	**4948.60**	**4974.60**	

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Analysis of Rate

RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
16.04	**2504**		Providing and laying pitching on slopes Laid over prepared filter media including boulder apron laid dry in front of toe embankment complete as per drawing and technical specifications..									
		A	**Stone/Boulder**									
			Unit = cum									
			Taking output = 1 cum									
			a) Material									
			Stone weighing not less than 40kg	cum	1.000	1.000	1.000	730.02	730.02	730.02	730.02	M-003
			Stone spalls of minimum 25 mm size	cum	0.200	0.200	0.200	377.35	75.47	75.47	75.47	M-008
			b) Labour									
			Mate	day	0.044	0.044	0.044	444.00	19.54	19.54	19.54	L-12
			Mason	day	0.350	0.350	0.350	541.00	189.35	189.35	189.35	L-10
			Mazdoor	day	0.750	0.750	0.750	428.00	321.00	321.00	321.00	L-13
			Total cost without OH & CP (a+b)						1335.38	1335.38	1335.38	
			c) Overhead charges on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		267.08	267.08	267.08	
			d) Contractor's profit on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		160.25	160.25	160.25	
			Rate per cum = (a+b+c+d)						1762.70	1762.70	1762.70	
								Say	**1762.70**	**1762.70**	**1762.70**	

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Analysis of Rate
RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
16.04		**B**	**Cement Concrete Blocks of size 0.3x0.3 x0.3 m cast in cement concrete of Grade M15**									
			Unit = cum									
			Taking output = 1 cum									
			Concrete Grade M15 (Rate taken from items 12.08 A, Case II) including OH & CP	cum	1.000	1.000	1.000	4845.60-L 4851.60-M 4877.10-S	4845.60	4851.60	4877.10	12.08 A Case II
			Add 2 per cent of cost to account for nominal surface reinforcement and filling of granular material in recesses between blocks.						96.91	97.03	97.54	
			Rate per cum						4942.51	4948.63	4974.64	
								Say	**4942.50**	**4948.60**	**4974.60**	
16.05	**2504**		Providing and laying Filter material underneath pitching in slopes complete as per drawing and Technical specification									
			Unit = cum									
			Taking output = 1 cum									
			a) Material									
			Graded stone aggregate of required size	cum	1.200	1.200	1.200	733.48	880.18	880.18	880.18	M-011
			b) Labour									
			Mate	day	0.050	0.050	0.050	444.00	22.20	22.20	22.20	L-12
			Mazdoor (Skilled)	day	0.250	0.250	0.250	541.00	135.25	135.25	135.25	L-15

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Analysis of Rate
RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mazdoor*	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			Total cost without OH & CP (a+b)						1465.63	1465.63	1465.63	
			c) Overhead charges on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		293.13	293.13	293.13	
			d) Contractor's profit on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		175.88	175.88	175.88	
			Rate per cum = (a+b+c+d)						1934.63	1934.63	1934.63	
								Say	**1934.60**	**1934.60**	**1934.60**	
			* Includes Mazdoor required for trimming of slope to proper profile and preparation of bed.									
16.06	**700 & 2504**		**Geotextile Filter**									
			Laying of a geotextile filter between pitching and embankment slopes on which pitching is laid to prevent escape of the embankment material through the voids of the stone pitching/cement concrete blocks as well as to allow free movement of water without creating any uplift head on the pitching.									
			Unit = sqm									
			Taking output = 10 sqm.									
			a) Labour									
			Mate	day	0.016	0.016	0.016	444.00	7.10	7.10	7.10	L-12
			Mazdoor	day	0.300	0.300	0.300	428.00	128.40	128.40	128.40	L-13
			Mazdoor (Skilled)	day	0.100	0.100	0.100	541.00	54.10	54.10	54.10	L-15
			b) Material									

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RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Permeable synthetic geotextile including 5 percent for overlap and wastage	sqm	11.000	11.000	11.000	99.70	1096.67	1096.67	1096.67	M-301
			Total cost without OH & CP (a+b)						1286.27	1286.27	1286.27	
			c) Overhead charges on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		257.25	257.25	257.25	
			d) Contractor's profit on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		154.35	154.35	154.35	
			Cost for 10 sqm = a+b+c+d						1697.88	1697.88	1697.88	
			Rate per sqm = (a+b+c+d)/10						169.79	169.79	169.79	
								Say	**169.80**	**169.80**	**169.80**	
16.07	**2504.4**		**Toe protection**									
			A toe wall for toe protection can either be in dry rubble masonry in case of dry rubble pitching or pitching with stones in wire crates or it can be in PCC M15 nominal mix if cement concrete block have been used for pitching . Rates for toe wall can be adopted from respective clauses depending upon approved design. The rate for excavation for foundation, dry rubble masonry and PCC M15 have been analysed and given in respective chapters.									
16.08	**2505**		**Providing and laying Flooring complete as per drawing and Technical specifications laid over cement concrete bedding.**									

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Analysis of Rate
RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
		A	**Rubble stone laid in cement mortar 1:3**									
			Unit = cum									
			Taking output = 1 cum									
			a) Cement mortar 1:3 (Rate taken from Items 21.01 A)	cum	0.133	0.133	0.133	4019.00	534.53	534.53	534.53	21.01A
			b) Add for cement concrete bedding (M15 Nominal mix) vide Item 12.08 (A) including OH & CP . Quantity shall be adopted as per design (Assume Rubble stone Flooring thickness 300 mm and cement concrete bedding thickness 100 mm)	cum	0.333	0.333	0.333	4529.10-L 4535.10-M 4560.70-S	1508.19	1510.19	1518.71	12.08 A Case I
			Add 1 per cent of cost to account for excavation for preparation of bed.						20.43	20.45	20.53	
			c) Material									
			Stone	cum	1.000	1.000	1.000	730.02	730.02	730.02	730.02	M-003
			Stone Spalls	cum	0.200	0.200	0.200	377.35	75.47	75.47	75.47	M-008
			d) Labour									
			Mate	day	0.080	0.080	0.080	444.00	35.52	35.52	35.52	L-12
			Mason	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-10
			Mazdoor (for laying stones, filling of quarry spalls)	day	1.500	1.500	1.500	428.00	642.00	642.00	642.00	L-13

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
								(a+c+d)	2288.04	2288.04	2288.04	
			e) Overhead charges on (a+c+d)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		457.61	457.61	457.61	
			f) Contractor's profit on (a+c+d+e)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		274.56	274.56	274.56	
			Rate per cum = (a+b+c+d+e+f)						4548.83	4550.84	4559.45	
								Say	**4548.80**	**4550.80**	**4559.50**	
		*	Includes cement mortar for laying and filling of joints.									
16.08		**B**	**Cement Concrete blocks Grade M15 including 100 mm thick bedding.**									
			Concrete Grade M15 block. (Rate taken from items 12.8 A case- (i) including OH & CP.	cum	1.000	1.000	1.000	4529.10-L 4535.10-M 4560.70-S	4529.10	4535.10	4560.70	12.08 A Case I
			Add for cement concrete bedding (M15 Nominal mix) vide Item 12.08 (A) case-(i) including OH & CP. Quantity shall be adopted as per design (Assume Cement Concrete blocks thickness 300mm and cement concrete bedding thickness 100mm)	cum	0.330	0.330	0.330	4529.10-L 4535.10-M 4560.70-S	1494.60	1496.58	1505.03	12.08 A Case I
			Add 1 percent of cost to account for excavation for preparation of bed.						60.24	60.32	60.66	
			Rate per cum						**6083.94**	**6092.00**	**6126.39**	
16.09	**2506**		**Dry Rubble Flooring**									

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Analysis of Rate
RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Construction of dry rubble flooring at cross drainage works for relatively less important works.									
			Unit = cum									
			Taking output = 1 cum									
			a) Material									
			Stone	cum	1.000	1.000	1.000	730.02	730.02	730.02	730.02	M-003
			Stone Spalls	cum	0.200	0.200	0.200	377.35	75.47	75.47	75.47	M-008
			b) Labour									
			Mate	day	0.080	0.080	0.080	444.00	35.52	35.52	35.52	L-12
			Mason	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-10
			mazdoor	day	1.500	1.500	1.500	428.00	642.00	642.00	642.00	L-13
			Add 1 per cent of (b) for trimming and preparation of base.						9.48	9.48	9.48	
			Total cost without OH & CP						1762.99	1762.99	1762.99	
			c) Overhead charges on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		352.60	352.60	352.60	
			d) Contractor's profit on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		211.56	211.56	211.56	
			Rate per cum = (a+b+c+d)						2327.15	2327.15	2327.15	
								Say	**2327.10**	**2327.10**	**2327.10**	
16.10	**2507.2**		**Curtain wall complete as per drawing and Technical specification**									

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RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit =Cum									
			Taking output = 1 cum									
		A	**Stone masonry in cement mortar (1:3)**									
			Coursed rubble masonry (1st sort) (Rate taken from items 12.07 A) including OH & CP	cum	1.000	1.000	1.000	4924.90	4924.90	4924.90	4924.90	12.07 (A)
			Rate same as per item No. 12.07 (A) including OH & CP									
			Rate per cum						4924.90	4924.90	4924.90	
			or									
16.10		**B**	**Cement concrete Grade M15**									
			Concrete Grade M15 (Rate taken from items 12.08 A) including OH & CP	cum	1.000	1.000	1.000	4529.10-L 4535.10-M 4560.70-S	4529.10	4535.10	4560.70	12.08 A Case I
			Rate per cum					**Say**	**4529.10**	**4535.10**	**4560.70**	
		Note	Other items like excavation for foundation, filling behind wall, filter media, weep holes etc. shall be added separately as per approved design.									
16.11	**2507.2**		**Flexible Apron :Construction of flexible apron 1 m thick comprising of loose stone boulders weighing not less than 40 kg beyond curtain wall.**									
			Unit = cum									
			Taking Output = 1 cum									
			a) Material									

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Analysis of Rate
RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Stone	cum	1.000	1.000	1.000	730.02	730.02	730.02	730.02	M-003
			Stone Spalls	cum	0.200	0.200	0.200	377.35	75.47	75.47	75.47	M-008
			b) Labour									
			Mate	day	0.050	0.050	0.050	444.00	22.20	22.20	22.20	L-12
			Mason	day	0.250	0.250	0.250	541.00	135.25	135.25	135.25	L-10
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			Add 1 per cent of cost of (a+b) for trimming and preparation of bed.						13.91	13.91	13.91	
			Total cost without OH & CP						1404.85	1404.85	1404.85	
			c) Overhead charges on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		280.97	280.97	280.97	
			d) Contractor's profit on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		168.58	168.58	168.58	
			Rate per cum = (a+b+c+d)						1854.40	1854.40	1854.40	
								Say	**1854.40**	**1854.40**	**1854.40**	
16.12	**2503.3**		**Gabion Structure for Retaining Earth**									
			Providing and construction of a gabion structure for retaining earth with segments of wire crates of size 7 m x 3 m x 0.6 m each divided into 1.5 m compartments by cross netting, made from 4 mm galvanised steel wire @ 32 kg per 10 sqm having minimum tensile strength of 300 Mpa conforming to									

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			IS:280 and galvanizing coating conforming to IS:4826, woven into mesh with double twist, mesh size not exceeding 100 x 100 mm, filled with boulders with least dimension of 200 mm, all loose ends to be tied with 4 mm galvanised steel wire									
			Unit = cum									
			Taking output = 7 x 3 x 0.6 = 12.60 cum									
			a) Labour									
			Mate	day	0.280	0.280	0.280	444.00	124.32	124.32	124.32	L-12
			Mazdoor	day	5.000	5.000	5.000	428.00	2140.00	2140.00	2140.00	L-13
			Mazdoor (Skilled)	day	2.000	2.000	2.000	541.00	1082.00	1082.00	1082.00	L-15
			b) Material									
			Galvanised steel wire crates of mesh size 100 mm x 100 mm woven with 4mm dia. GI wire in rolls of required size.	sqm	61.000	61.000	61.000	101.54	6193.94	6193.94	6193.94	M-102
			Stone boulders with least dimension of 200 mm	cum	12.600	12.600	12.600	730.02	9198.25	9198.25	9198.25	M-003
			Stone spalls of minimum size 25 mm	cum	2.520	2.520	2.520	377.35	950.92	950.92	950.92	M-008
			Total cost without OH & CP (a+b)						19689.43	19689.43	19689.43	
			c) Overhead charges on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		3937.89	3937.89	3937.89	
			d) Contractor's profit on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		2362.73	2362.73	2362.73	
			Cost for 12.60 cum (a+b+c+d)						25990.05	25990.05	25990.05	
			Rate per cum (a+b+c+d)/12.60						2062.70	2062.70	2062.70	
								Say	**2062.70**	**2062.70**	**2062.70**	
		Note	Readymade woven wire crate rolls have been considered in the rate analysis. In case readymade rolls are not available, GI wire 4mm dia. @ 32 kg per 10 sqm may be provided. In that case 2 per cent of the cost of GI wire may be added for weaving the wire crates.									

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RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
16.13	**2503.3**		**Gabion Structure for Erosion Control, River Training Works and Protection works**									
			Providing and constructing gabion structures for erosion control, river training works and protection works with wire crates of size 2 m x 1 m x 0.3 m each divided into 1m compartments by cross netting, made from 4 mm galvanised steel wire @ 32 kg per 10 sqm having minimum tensile strength of 300 Mpa conforming to IS:280 and galvanizing coating conforming to IS:4826, woven into mesh with double twist, mesh size not exceeding 100 mm x 100 mm, filled with boulders with least dimension of 200 mm, all loose ends to be securely tied with 4 mm galvanised steel wire.								
			Unit = cum									
			Taking output = 2 x 1 x 0.3 x 10 Nos. = 6.00 cum									
			a) Labour									
			Mate	day	0.140	0.140	0.140	444.00	62.16	62.16	62.16	L-12
			Mazdoor	day	2.500	2.500	2.500	428.00	1070.00	1070.00	1070.00	L-13
			Mazdoor (Skilled)	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
			b) Material									

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RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Galvanised steel wire crates of mesh size 100 mm x 100 mm woven with 4mm dia. GI wire in rolls of required size to cover 6.00 cum.	sqm	65.000	65.000	65.000	101.54	6600.10	6600.10	6600.10	M-102
			Stone boulders with least dimension of 200 mm	cum	6.000	6.000	6.000	730.02	4380.12	4380.12	4380.12	M-003
			Stone spalls of minimum size 25 mm	cum	1.200	1.200	1.200	377.35	452.82	452.82	452.82	M-008
			Total cost without OH & CP (a+b)						13106.20	13106.20	13106.20	
			c) Overhead charges on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		2621.24	2621.24	2621.24	
			d) Contractor's profit on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		1572.74	1572.74	1572.74	
			Cost for 6.00 cum (a+b+c+d)						17300.18	17300.18	17300.18	
			Rate per cum (a+b+c+d)/6.00						2883.36	2883.36	2883.36	
								Say	**2883.40**	**2883.40**	**2883.40**	
		Note	Readymade woven wire crate rolls have been considered in the rate analysis. In case readymade rolls are not available, GI wire 4mm dia. @ 32 kg per 10 sqm may be provided. In that case 2 per cent of the cost of GI wire may be added for weaving the wire crates.									
16.14	**2503**		Providing & making Gabion structure with Mechanically Woven Double Twisted Hexagonal Shaped Wire mesh Gabion Boxes as per IS 16014:2012, MORT&H Clause 2500, of required size, Mesh Type 10x12 (D=100 mm with Tolerance of+/- 2%) Zinc Coated Mesh Wire diameter 3.0 mm, mechanically edged/ selvedge with partitions at every 1m interval and shall have minimum 10 number of openings per meter of mesh perpendicular to twist , tying with lacing wire of									

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Analysis of Rate
RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			diameter 2.2 mm, supplied @ 3% by weight of Gabion boxes, filled with boulders with least dimension of 200 mm, as per drawing, all complete as per direction of Engineer-in-charge.									
			Unit = cum									
			Taking output = 2 x 1 x1 m = 2 cum									
			a) Material									
			Crates made of Mesh Type 10 x12 (D= 100mm) Zn coated. (Mesh wire diameter 3.00 mm). Surface Area required= 11.00 sqm.	sqm	11.000	11.000	11.000	101.54	1116.94	1116.94	1116.94	M-102
			Stone boulder with least dimension 200mm	cum	2.000	2.000	2.000	730.02	1460.04	1460.04	1460.04	M-003
			b) Labour									
			Mate	day	0.080	0.080	0.080	444.00	35.52	35.52	35.52	L-12
			Mason (for plain stone work) 2nd class	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-10
			Mazdoor	day	1.500	1.500	1.500	428.00	642.00	642.00	642.00	L-13
			Total cost without OH & CP (a+b)						3525.00	3525.00	3525.00	
			c) Overhead charges on (a+b)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		705.00	705.00	705.00	
			d) Contractor's profit on (a+b+c)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		423.00	423.00	423.00	
			Cost for 2 cum= (a+b+c+d)						4653.00	4653.00	4653.00	
			Rate per cum = (a+b+c+d)/2						2326.50	2326.50	2326.50	
								Say	**2326.50**	**2326.50**	**2326.50**	
16.15			**Embankment Erosion Protection using Fine Aggregate concrete filled fabric form mattress system**									

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Analysis of Rate

RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Laying of a fine aggregate concrete grade M30 filled fabric form for erosion protection of embankments									
			Unit= Sqm									
			Taking output=60 sqm									
			a) Labour									
			Mate	day	0.096	0.096	0.096	444.00	42.62	42.62	42.62	L-12
			Mazdoor	day	1.800	1.800	1.800	428.00	770.40	770.40	770.40	L-13
			Mazdoor (skilled)	day	0.600	0.600	0.600	541.00	324.60	324.60	324.60	L-15
			b) Machinery									
			Transit Truck agitator									
			For Transportation Transit truck agitator 6 cum capacity (L =1Km)	t.km	13.800x L	13.800x L	13.800x L	10.87	150.01	150.01	150.01	PM76001
			Unloading time	hour	0.130	0.130	0.130	1992.00	258.96	258.96	258.96	PM34001
			Concrete Pump	hour	0.130	0.130	0.130	1105.00	143.65	143.65	143.65	PM35001
			c) Materials									
			PCC M30 Grade Refer relevent item of concrete in item 12.08 (F) Case I by using batching plant, excluding formwork i.e. per cum basic cost (a+b+c)	cum	6.000	6.000	6.000	4033.861-L 4038.212-M 4056.863-S	24203.17	24229.28	24341.18	12.08 (F) Case I
			Fabric Form Mattress with 30% Shrinkage	sqm	78.000	78.000	78.000	99.70	7776.60	7776.60	7776.60	M-108
			Non-woven Geotextile to be placed under concrete filled fabric form including 15 percent for overlap and shrinkage	sqm	9.000	9.000	9.000	99.70	897.30	897.30	897.30	M-107

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RIVER TRAINING AND PROTECTION WORKS

Sr No	Ref. to M.		Description	Unit	Quantity as per peroject category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Total cost without OH & CP (a+b+c)						34567.31	34593.42	34705.32	
			d) Overhead charges on (a+b+c)		**(@ 20%)**	**(@ 20%)**	**(@ 20%)**		6913.46	6918.68	6941.06	
			e) Contractor's profit on (a+b+c+d)		**(@ 10%)**	**(@ 10%)**	**(@ 10%)**		4148.08	4151.21	4164.64	
			Cost for 60 sqm= (a+b+c+d+e)						45628.84	45663.31	45811.03	
			Rate per sqm = (a+b+c+d+e)/60						760.48	761.06	763.52	
								Say	**760.50**	**761.10**	**763.50**	

CHAPTER- 17

REPAIR AND REHABILITATION

CHAPTER-17

REPAIR AND REHABILITAION

PREAMBLES :

1 Removal of cement concrete wearing coat and asphaltic wearing coat has been proposed with pneumatic breakers.

2 The rate for external pre-stressing has been analysed for three different spans of 25,50 and 100 m.

3 Sealing of cranks has been proposed with cement grout, cement mortar (1:1) grout and epoxy grout by injecting with grout pump through nipples.

4 Bonding of new concrete with old concrete is proposed with epoxy resin.

5 The repair and placement of the following structures has been included.

a) Bridge bearings

b) Expansion Joints

c) Concrete Railing

d) Mild steel railing

e) Crash barrier

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Summmary of Rate Analysis

REPAIR AND REHABILITATION

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
17.01	Removal of existing cement concrete wearing coat including its disposal complete as per technical specification without causing any detrimental effect to any part of the bridge structure and removal of dismantled material with all lifts and lead upto 1000 m	Sqm	187.50	187.50	187.50
17.02	Removal of existing asphaltic wearing coat comprising of 50 mm thick asphaltic concrete laid over 12 mm thick mastic asphalt including disposal with all lifts and lead upto 1000 m.	Sqm	143.20	143.20	143.20
17.03	Guniting concrete surface with cement mortar applied with compressor after cleaning surface and spraying with epoxy complete as per Technical Specification.	Sqm	890.80	890.80	890.80
17.04	Providing and inserting nipples with approved fixing compound after drilling holes for grouting as per technical Specifications including subsequent cutting/removal and sealing of the hole as necessary of nipples after completion of grouting with Cement/Epoxy	No.	253.20	253.20	253.20
17.05	Sealing of cracks/porous concrete by injection process through nipples/Grouting complete as per Technical Specification.				
A	Cement Grout	Kg	250.00	250.00	250.00
B	Cement Mortar (1:1) Grouting	Kg	244.90	244.90	244.90
17.06	Patching of damaged concrete surface with polymer concrete and curing compounds,initiator and promoter,available in present formulations, to be applied as per instructions of manufacturer and as approved by the Engineer.	Sqm	9949.70	9949.70	9949.70
17.07	Sealing of crack/porous concrete with Epoxy Grout by injection through nipples complete as per clause 2803.1	Kg	743.50	743.50	743.50

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Summmary of Rate Analysis

REPAIR AND REHABILITATION

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
17.08	Applying epoxy mortar over leached, honey combed and spalled concrete surface and exposed steel reinforcement complete as per Technical Specification.	Sqm	647.10	647.10	647.10
17.09	Removal of defective concrete, cleaning the surface thoroughly, applying the shotcrete mixture mechanically with compressed air under pressure, comprising of cement, sand, coarse aggregates, water and quick setting compound in the proportion as per clause 2807.1 sand and coarse aggregates conforming to IS:383 and table 1 of IS: 9012 respectively, water cement ratio ranging from 0.35 to 0.50, density of gunite not less than 2000 kg/cum, strength not less than 25 Mpa and workmanship conforming to clause 2807.6.	Sqm	536.10	536.10	536.10
17.10	Applying pre-packed cement based polymer mortar of strength 45 Mpa at 28 days for replacement of spalled concrete	Sqm	480.40	480.40	480.40
17.11	Epoxy bonding of new concrete to old concrete	Sqm	807.70	807.70	807.70
17.12	Providing external prestressing with high tensile steel wires/strands including drilling for passage of prestressing steel, all accessories for stressing and stressing operation and grouting complete as per drawing and Technical Specification.	MT	392720.50	392720.50	392720.50
17.13	Providing external prestressing with high tensile steel wires/strands including drilling for passage of prestressing steel, all accessories for stressing and stressing operation and grouting complete as per drawing and Technical Specification.	MT	375778.90	375778.90	375778.90

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Summmary of Rate Analysis

REPAIR AND REHABILITATION

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
17.14	Providing external prestressing with high tensile steel wires/strands including drilling for passage of prestressing steel, all accessories for stressing and stressing operation and grouting complete as per drawing and Technical Specification.	MT	365032.20	365032.20	365032.20
17.15	Replacement of Bearings complete as per Technical Specification (Lifting of superstructure span by jacking up from below i.e by placing the jacks on pier/abutment caps for span length of 30m)	No.	143157.60	143157.60	143157.60
17.16	Rectification of Bearings as per Technical Specifications (Lifting of superstructure span by jacking up from below i.e by placing the jacks on pier/abutment caps for span length of 30m)	No.	25014.40	25014.40	25014.40
17.17	Replacement of expansion joints complete as per drawings	RM	2824.20	2826.40	2836.00
17.18	Replacement of Damaged Concrete Railing.	RM	421.20	421.20	421.20
17.19	Replacement of Crash barrier.	RM	740.00	740.00	740.00
17.20	Replacement of Damaged mild Steel Railing	RM	357.50	357.50	357.50
17.21	Repair of Crash Barrier (Repair of concrete crash barrier with cement concrete of M-30 grade by cutting and trimming the damaged portion to a regular shape,cleaning the area to be repaired thoroughly applying cement concrete after erection of proper form work)	RM	270.60	270.80	271.80
17.22	Repair of RCC Railing (Carrying out repair of RCC M-30 railing to bring it to the original shape)	RM	176.10	176.30	176.70
17.23	Repair of Steel Railing (Repair of Steel Railing to bring it to the original shape)	RM	333.30	333.30	333.30
17.24	Mobile Bridge Inspection Unit (MBIU) (Inspection of bridge by using of Mobile Bridge Inspection Unit(MBIU))	Km	54839.10	54839.10	54839.10

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Analysis of Rate
REPAIR AND REHABILITATION

Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
17.01	**2811**		**Removal of existing cement concrete wearing coat including its disposal complete as per technical specification without causing any detrimental effect to any part of the bridge structure and removal of dismantled material with all lifts and lead upto 1000 m**									
			Unit = Sqm (Thickness 75 mm)									
			Taking output = 10 sqm									
			a) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			b) Machinery									
			Air Compressor 250 cfm with pneumatic breaker/jack hammer along with accessories.	hour	1.000	1.000	1.000	507.00	507.00	507.00	507.00	PM15001 + PM45001
			Tractor-trolley	hour	0.500	0.500	0.500	717.00	358.50	358.50	358.50	PM12001
			Total cost without OH & CP						1311.26	1311.26	1311.26	
			c) Overhead charges on (a+b)		(@ 30%)	(@ 30%)	(@ 30%)		393.38	393.38	393.38	
			d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		170.46	170.46	170.46	
			cost for 10sqm=(a +b+c+d)						1875.10	1875.10	1875.10	
			Rate per sqm=(a+b+c+d)/10						187.51	187.51	187.51	
								Say	**187.50**	**187.50**	**187.50**	
17.02	**2811**		**Removal of existing asphaltic wearing coat comprising of 50 mm thick asphaltic concrete laid over 12 mm thick mastic asphalt including disposal with all lifts and lead upto 1000 m.**									
			Unit=Sqm									
			Taking output=10 Sqm									
			a) Labour									
			Mate	day	0.030	0.030	0.030	444.00	13.32	13.32	13.32	L-12
			Masdoor	day	0.750	0.750	0.750	428.00	321.00	321.00	321.00	L-13

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			b) Machinery									
			Air Compressor 250 cfm with pneumatic breaker	hour	0.750	0.750	0.750	507.00	380.25	380.25	380.25	PM15001 + PM45001
			Tractor-trolley	hour	0.400	0.400	0.400	717.00	286.80	286.80	286.80	PM12001
			Total cost without OH & CP						1001.37	1001.37	1001.37	
			c) Overhead charges on (a+b)		(@ 30%)	(@ 30%)	(@ 30%)		300.41	300.41	300.41	
			d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		130.18	130.18	130.18	
			Cost for 10 sqm=(a+b+c+d)						1431.96	1431.96	1431.96	
			Rate per sqm=(a+b+c+d)/10						143.20	143.20	143.20	
								Say	**143.20**	**143.20**	**143.20**	
17.03	**2807**		**Guniting concrete surface with cement mortar applied with compressor after cleaning surface and spraying with epoxy complete as per Technical Specification.**									
			Unit=Sqm									
			Taking output= 1 sqm									
			Assuming thickness 25mm									
			a) Material									
			Cement	kg	16.000	16.000	16.000	5.762	92.19	92.19	92.19	M081/ 1000
			Graded sand	cum	0.040	0.040	0.040	612.90	24.52	24.52	24.52	M-004*
			Wire mesh 50mm x 50mm size of 3mm wire	kg	2.000	2.000	2.000	52.98	105.96	105.96	105.96	M-194
			Epoxy	kg	0.670	0.670	0.670	353.00	236.51	236.51	236.51	M-095
			Accelerator compound for guniting @ 4 percent of weight of cement	kg	0.640	0.640	0.640	31.15	19.94	19.94	19.94	M-227
			Add 2 percent of cost of material for miscelleneous consumables like nozzles,wire brush,cotton waste etc.						9.58	9.58	9.58	

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			b) Labour									
			Mate	day	0.007	0.007	0.007	444.00	3.11	3.11	3.11	L-12
			Mason	day	0.040	0.040	0.040	541.00	21.64	21.64	21.64	L-10
			Mazdoor	day	0.140	0.140	0.140	428.00	59.92	59.92	59.92	L-13
			c) Machinery									
			Compressor with guniting equipment along with accessories	hour	0.100	0.100	0.100	496.00	49.60	49.60	49.60	PM15001
			Total cost without OH & CP						622.968	622.968	622.968	
			d) Overhead charges on (a+b+c)		(@ 30%)	(@ 30%)	(@ 30%)		186.890	186.890	186.890	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		80.986	80.986	80.986	
			Rate per sqm=(a+b+c+d+e)						890.845	890.845	890.845	
								Say	**890.800**	**890.800**	**890.800**	
17.04	**2800**		**Providing and inserting nipples with approved fixing compound after drilling holes for grouting as per technical Specifications including subsequent cutting/removal and sealing of the hole as necessary of nipples after completion of grouting with Cement/Epoxy**									
			Unit=Number									
			Taking output=1 No									
			a)Material									
			Nipples	each	1.000	1.000	1.000	52.22	52.22	52.22	52.22	M-128
			Cement,fixing compound and consumables@15 percent of cost of nipple						7.83	7.83	7.83	
			b) Labour									
			Mate	day	0.006	0.006	0.006	444.00	2.66	2.66	2.66	L-12
			Mazdoor(Skilled) labour for drilling	day	0.080	0.080	0.080	541.00	43.28	43.28	43.28	L-15
			Mazdoor (skilled) labour for fixing nipple and sealing inlets	day	0.080	0.080	0.080	541.00	43.28	43.28	43.28	L-15

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			Mazdoor for cutting and removing of nipples	day	0.040	0.040	0.040	428.00	17.12	17.12	17.12	L-13
			Add 10 percent of labour cost for drilling holes etc						10.63	10.63	10.63	
			Total cost without OH & CP						177.03	177.03	177.03	
			c) Overhead charges on (a+b)		(@ 30%)	(@ 30%)	(@ 30%)		53.11	53.11	53.11	
			d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		23.01	23.01	23.01	
			Rate per no=(a+b+c+d)						253.15	253.15	253.15	
								Say	**253.20**	**253.20**	**253.20**	
17.05	**2806**		**Sealing of cracks/porous concrete by injection process through nipples/Grouting complete as per Technical Specification.**									
		A	**Cement Grout**									
			Unit= kg									
			Taking output= 1kg									
			a) Material									
			Cement including 10 percent wastage	kg	1.100	1.100	1.100	5.762	6.34	6.34	6.34	M081/ 1000
			Admixtures (anti shrinkage compound) @ 20 percent of cost of cement						1.27	1.27	1.27	
			b) Labour									
			Mate	day	0.008	0.008	0.008	444.00	3.55	3.55	3.55	L-12
			Mazdoor(Skilled)	day	0.100	0.100	0.100	541.00	54.10	54.10	54.10	L-15
			Mazdoor	day	0.100	0.100	0.100	428.00	42.80	42.80	42.80	L-13
			c) Machinery									
			Grout pump with agitator and accessories	hour	0.100	0.100	0.100	668.00	66.80	66.80	66.80	PM60001
			Total cost without OH & CP						174.86	174.86	174.86	
			d) overhead Charges on (a+b+c)		(@ 30%)	(@ 30%)	(@ 30%)		52.46	52.46	52.46	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		22.73	22.73	22.73	
			Rate per kg =(a+b+c+d+e)						250.05	250.05	250.05	
								Say	**250.00**	**250.00**	**250.00**	

Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
		B	**Cement Mortar (1:1) Grouting**									
			Unit=kg									
			Taking output=1kg									
			a) Material									
			Cement including 10 percent wastage	kg	0.550	0.550	0.550	5.762	3.17	3.17	3.17	M081/ 1000
			Sand including 10 percent wastage	kg	0.550	0.550	0.550	0.41	0.22	0.22	0.22	M004 /1500
			Admixtures (anti shrinkage compound) @ 20 percent of cost of cement						0.63	0.63	0.63	
			b) Labour									
			Mate	day	0.008	0.008	0.008	444.00	3.55	3.55	3.55	L-12
			Mazdoor(skilled)	day	0.100	0.100	0.100	541.00	54.10	54.10	54.10	L-15
			Mazdoor	day	0.100	0.100	0.100	428.00	42.80	42.80	42.80	L-13
			c) Machinery									
			Grout pump with agitator and accessories	hour	0.100	0.100	0.100	668.00	66.80	66.80	66.80	PM60001
			Total cost without OH & CP						171.28	171.28	171.28	
			d) overhead Charges on (a+b+c)		(@ 30%)	(@ 30%)	(@ 30%)		51.38	51.38	51.38	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		22.27	22.27	22.27	
			Rate per kg =(a+b+c+d+e)						244.93	244.93	244.93	
								Say	**244.90**	**244.90**	**244.90**	
17.06	**2800**		**Patching of damaged concrete surface with polymer concrete and curing compounds,initiator and promoter,available in present formulations, to be applied as per instructions of manufacturer and as approved by the Engineer.**									
			Unit =sqm									
			Taking output=10sqm for an average thickness of 25mm									
			a) Labour									
			Mate	day	0.060	0.060	0.060	444.00	26.64	26.64	26.64	L-12

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			Mazdoor(skilled)	day	0.750	0.750	0.750	541.00	405.75	405.75	405.75	L-15
			Mazdoor	day	0.750	0.750	0.750	428.00	321.00	321.00	321.00	L-13
			b) Material									
			Pre-packed polymer concrete based on epoxy system complete with curing compound, initiator and promotor including 5 percentage wastage.	kg	315.000	315.000	315.000	214.25	67488.75	67488.75	67488.75	M-144
			c) Machinery									
			Grout pump with agitator and accessories	hour	2.000	2.000	2.000	668.00	1336.00	1336.00	1336.00	PM60001
			Total cost without OH & CP						69578.140	69578.140	69578.140	
			d) Overhead Charges on (a+b+c)		(@ 30%)	(@ 30%)	(@ 30%)		20873.442	20873.442	20873.442	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		9045.158	9045.158	9045.158	
			Cost for 10 sqm=a+b+c+d+e						99496.740	99496.740	99496.740	
			Rate per sqm=(a+b+c+d+e)/10						9949.674	9949.674	9949.674	
								Say	**9949.70**	**9949.70**	**9949.70**	
		Note	This item is a proprietary item available in market as pre-packed polymer concrete and is required to be applied as per instructions of the manufacturer.									
17.07	**2803**		**Sealing of crack/porous concrete with Epoxy Grout by injection through nipples complete as per clause 2803.1**									
			Unit=kg									
			Taking output=1kg									
			a) Material									
			Epoxy including 10 percent wastage	kg	1.100	1.100	1.100	353.00	388.30	388.30	388.30	M-095
			b) Labour									
			Mate	day	0.008	0.008	0.008	444.00	3.55	3.55	3.55	L-12
			Mazdoor(skilled)	day	0.100	0.100	0.100	541.00	54.10	54.10	54.10	L-15
			Mazdoor	day	0.100	0.100	0.100	428.00	42.80	42.80	42.80	L-13
			c) Machinery									
			Epoxy injection gun	hour	0.100	0.100	0.100	312.00	31.20	31.20	31.20	PM68001
			Total cost without OH & CP						519.95	519.95	519.95	

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			d) Overhead charges on (a+b+c)		(@ 30%)	(@ 30%)	(@ 30%)		155.99	155.99	155.99	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		67.59	67.59	67.59	
			Rate per kg= (a+b+c+d+e)						743.53	743.53	743.53	
								Say	**743.50**	**743.50**	**743.50**	
17.08	**2804**		**Applying epoxy mortar over leached, honey combed and spalled concrete surface and exposed steel reinforcement complete as per Technical Specification.**									
			Unit=sqm									
			Taking output=10 sqm									
			Assuming average 10mm thickness of epoxy mortar									
			a) Material									
			Epoxy resin-hardener mix for prime coat	kg	2.500	2.500	2.500	624.53	1561.33	1561.33	1561.33	M-098
			Epoxy mortar	kg	2.200	2.200	2.200	497.81	1095.19	1095.19	1095.19	M-096
			Epoxy resin-hardener mix for seal coat.	kg	2.000	2.000	2.000	624.53	1249.06	1249.06	1249.06	M-098
			Add 3 percent cost of material for other consumables like acetone etc and to cover wastage.						117.17	117.17	117.17	
			b) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor(skilled)	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15
			Mazdoor	day	0.500	0.500	0.500	428.00	214.00	214.00	214.00	L-13
			Total cost without OH & CP						4525.01	4525.01	4525.01	
			c) Overhead charge on (a+b)		(@ 30%)	(@ 30%)	(@ 30%)		1357.50	1357.50	1357.50	
			d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		588.25	588.25	588.25	
			Cost for 10 sqm=a+b+c+d						6470.76	6470.76	6470.76	
			Rate per sqm=(a+b+c+d)/10						647.08	647.08	647.08	
								Say	**647.10**	**647.10**	**647.10**	

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
17.09	2807		**Removal of defective concrete, cleaning the surface thoroughly, applying the shotcrete mixture mechanically with compressed air under pressure, comprising of cement, sand, coarse aggregates, water and quick setting compound in the proportion as per clause 2807.1 sand and coarse aggregates conforming to IS:383 and table 1 of IS: 9012 respectively, water cement ratio ranging from 0.35 to 0.50, density of gunite not less than 2000 kg/cum, strength not less than 25 Mpa and workmanship conforming to clause 2807.6.**									
			Unit=sqm									
			Taking output=10sqm,									
			40mm average thickness									
			a) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor	day	0.500	0.500	0.500	428.00	214.00	214.00	214.00	L-13
			Mazdoor(skilled)	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15
			b) Machinery									
			Air compressor 250 cfm	hour	1.000	1.000	1.000	496.00	496.00	496.00	496.00	PM15001
			shotcreting equipment	hour	1.000	1.000	1.000	1597.00	1597.00	1597.00	1597.00	PM59001
			water tanker 6KL capacity	hour	0.020	0.020	0.020	789.00	15.78	15.78	15.78	PM11003
			c) Material									
			Cement	kg	120.000	120.000	120.000	5.762	691.44	691.44	691.44	M081/ 1000
			Sand	cum	0.150	0.150	0.150	612.90	91.94	91.94	91.94	M-004*
			Coarse aggregate of size 4.75mm	cum	0.150	0.150	0.150	274.20	41.13	41.13	41.13	M-018
			Quick setting compound	kg	2.500	2.500	2.500	122.93	307.33	307.33	307.33	M-146
			Water	KL	0.100	0.100	0.100	63.20	6.32	6.32	6.32	M-191
			Total cost without OH & CP						3749.190	3749.190	3749.190	
			d) Overhead charges on (a+b+c)		(@ 30%)	(@ 30%)	(@ 30%)		1124.757	1124.757	1124.757	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		487.395	487.395	487.395	

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			Cost for 10 sqm=a+b+c+d+e						5361.342	5361.342	5361.342	
			Rate per sqm=(a+b+c+d+e)/10						536.134	536.134	536.134	
								Say	**536.10**	**536.10**	**536.10**	
17.10	**2800**		**Applying pre-packed cement based polymer mortar of strength 45 Mpa at 28 days for replacement of spalled concrete**									
			Unit=sqm									
			Taking output=10sqm									
			Assumed thickness-10mm									
			a) Material									
			Acrylic polymer bonding coat	Litre	1.400	1.400	1.400	144.81	202.73	202.73	202.73	M-057
			Pre-packed cement based polymer mortar of strength 45 Mpa at 28 days	Kg	12.000	12.000	12.000	214.25	2571.00	2571.00	2571.00	M-144
			Add 3 percent of (a) above for wastage						83.21	83.21	83.21	
			b) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor (skilled)	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15
			Mazdoor	day	0.500	0.500	0.500	428.00	214.00	214.00	214.00	L-13
			Total cost without OH & CP						3359.203	3359.203	3359.203	
			c) Overhead charges on (a+b)		(@ 30%)	(@ 30%)	(@ 30%)		1007.761	1007.761	1007.761	
			d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		436.696	436.696	436.696	
			Cost for 10 sqm=a+b+c+d						4803.661	4803.661	4803.661	
			Rate per sqm=(a+b+c+d)/10						480.366	480.366	480.366	
								Say	**480.40**	**480.40**	**480.40**	
17.11	**2805**		**Epoxy bonding of new concrete to old concrete**									
			Unit= sqm									
			Taking output=10sqm									
			a) Material									

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			Epoxy resin with pot life not less than 60-90 minutes and satisfying testing as per clause 2803.9	kg	8.000	8.000	8.000	624.53	4996.24	4996.24	4996.24	M-098
			Add 3 percent of (a) above for wastage						149.89	149.89	149.89	
			b) Labour									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor (skilled)	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15
			Mazdoor	day	0.500	0.500	0.500	428.00	214.00	214.00	214.00	L-13
			Total cost without OH & CP						5648.39	5648.39	5648.39	
			c) Overhead charges on (a+b)		(@ 30%)	(@ 30%)	(@ 30%)		1694.52	1694.52	1694.52	
			d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		734.29	734.29	734.29	
			Cost for 10 sqm=a+b+c+d						8077.20	8077.20	8077.20	
			Rate per sqm=(a+b+c+d)/10						807.72	807.72	807.72	
								Say	**807.70**	**807.70**	**807.70**	
17.12	**2812**		**Providing external prestressing with high tensile steel wires/strands including drilling for passage of prestressing steel, all accessories for stressing and stressing operation and grouting complete as per drawing and Technical Specification.**									
			Span assumed: 25m									
			No. of cables:4 no.									
			No. of anchorages:8 no.									
			Unit=MT									
			Taking output = 1MT									
			Assume 12.7mm dia.Strand in 12T13 system Weight-9.42 kg/m of cable.									
			a) Material									
			HTS strand including 5 percent wastage and extra length of jacking	tonne	1.050	1.050	1.050	77144.06	81001.26	81001.26	81001.26	M-118

Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			HDPE pipes 75mm dia including 5 percent wastage	meter	112.000	112.000	112.000	236.12	26445.44	26445.44	26445.44	M-113
			Cement for grouting	kg	400.000	400.000	400.000	5.762	2304.80	2304.80	2304.80	M081 /1000
			Tube anchorage set complete with bearing plate,permanent wedges etc.	each	8.000	8.000	8.000	58.58	468.64	468.64	468.64	M-189
			Epoxy	kg	6.000	6.000	6.000	353.00	2118.00	2118.00	2118.00	M-095
			MS plates for deviator(where deviator blocks are not provided)	tonne	2.100	2.100	2.100	49936.67	104867.01	104867.01	104867.01	M-181
			Add 20 percent cost of material for other materials like lead sheet,sleeves,deviator fixture etc.						43441.03	43441.03	43441.03	
			b) Labour									
			i) For making holes in the structure									
			Mate	day	0.240	0.240	0.240	444.00	106.56	106.56	106.56	L-12
			Mazdoor(Semi-skilled)	day	3.000	3.000	3.000	444.00	1332.00	1332.00	1332.00	L-14
			Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			ii) For making and fixing anchorages for cables and placement of cables.									
			Mate	day	0.440	0.440	0.440	444.00	195.36	195.36	195.36	L-12
			Blacksmith	day	3.000	3.000	3.000	541.00	1623.00	1623.00	1623.00	L-25
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			iii) For prestressing									
			Mate/Supervisor	day	0.134	0.134	0.134	444.00	59.50	59.50	59.50	L-12
			Fitter	day	0.700	0.700	0.700	541.00	378.70	378.70	378.70	L-08
			Mazdoor	day	2.650	2.650	2.650	428.00	1134.20	1134.20	1134.20	L-13
			iv) For grouting									
			Mate/Supervisor	day	0.134	0.134	0.134	444.00	59.50	59.50	59.50	L-12
			Mason	day	0.700	0.700	0.700	541.00	378.70	378.70	378.70	L-10
			Mazdoor	day	2.650	2.650	2.650	428.00	1134.20	1134.20	1134.20	L-13
			c) Machinery									

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			stressing jack with pump	hour	4.000	4.000	4.000	493.00	1972.00	1972.00	1972.00	PM65001
			Grouting pump with agitator	hour	1.350	1.350	1.350	668.00	901.80	901.80	901.80	PM60001
			Total cost without OH & CP						274629.69	274629.69	274629.69	
			d) Overhead charge on (a+b+c)		(@ 30%)	(@ 30%)	(@ 30%)		82388.91	82388.91	82388.91	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		35701.86	35701.86	35701.86	
			Rate per MT=(a+b+c+d+e)						392720.46	392720.46	392720.46	
								Say	**392720.50**	**392720.50**	**392720.50**	
17.13	**2812**		**Providing external prestressing with high tensile steel wires/strands including drilling for passage of prestressing steel, all accessories for stressing and stressing operation and grouting complete as per drawing and Technical Specification.**									
			Span assumed: 50 m									
			No.of cables:4 no									
			No.of anchorages:8 no.									
			Unit=MT									
			Taking output = 3.10MT									
			Assume 12.7mm dia.Strand in 19T13 system Weight-14.73 kg/m of cable.									
			a)Material									
			HTS strand including 5 percent wastage and extra length for jacking	tonne	3.100	3.100	3.100	77144.06	239146.59	239146.59	239146.59	M118
			HDPE pipes 90mm dia including 5 percent wastage	meter	224.000	224.000	224.000	236.12	52890.88	52890.88	52890.88	M114
			Cement for grouting	tonne	1.010	1.010	1.010	5762.00	5819.62	5819.62	5819.62	M081
			Tube anchorage set complete with bearing plate, permanent wedges etc	each	8.000	8.000	8.000	58.58	468.64	468.64	468.64	M189
			Epoxy	kg	10.000	10.000	10.000	353.00	3530.00	3530.00	3530.00	M095
			MS plates for deviator(where deviator blocks are not provided)	tonne	7.000	7.000	7.000	49936.67	349556.69	349556.69	349556.69	M181

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			Add 20 percent cost of material for other materials like lead sheet,sleeves,deviator fixture etc.						130282.48	130282.48	130282.48	
			b)Labour									
			i)For making holes in the structure									
			Mate	day	0.080	0.080	0.080	444.00	35.52	35.52	35.52	L-12
			Mazdoor(Semi-skilled)	day	8.000	8.000	8.000	444.00	3552.00	3552.00	3552.00	L-14
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			ii)For making and fixing anchorages for cables and placement of cables.									
			Mate	day	1.280	1.280	1.280	444.00	568.32	568.32	568.32	L-12
			Blacksmith	day	7.000	7.000	7.000	541.00	3787.00	3787.00	3787.00	L-25
			Mazdoor	day	25.000	25.000	25.000	428.00	10700.00	10700.00	10700.00	L-13
			iii) For prestressing									
			Mate/Supervisor	day	0.200	0.200	0.200	444.00	88.80	88.80	88.80	L-12
			Fitter	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-08
			Mazdoor	day	4.000	4.000	4.000	428.00	1712.00	1712.00	1712.00	L-13
			iv) For grouting									
			Mate/Superviser	day	0.260	0.260	0.260	444.00	115.44	115.44	115.44	L-12
			Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
			Mazdoor	day	5.000	5.000	5.000	428.00	2140.00	2140.00	2140.00	L-13
			c) Machinery									
			Stressing jack with pump	hour	7.000	7.000	7.000	493.00	3451.00	3451.00	3451.00	PM65001
			Grouting pump with agitator	hour	3.000	3.000	3.000	668.00	2004.00	2004.00	2004.00	PM60001
			Total cost without OH & CP						814625.48	814625.48	814625.48	
			d) Overhead charges on (a+b+c)		(@ 30%)	(@ 30%)	(@ 30%)		244387.64	244387.64	244387.64	
			e)Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		105901.31	105901.31	105901.31	
			Cost for 3.10 MT=a+b+c+d+e						1164914.44	1164914.44	1164914.44	
			Rate per MT=(a+b+c+d+e)/3.10						375778.85	375778.85	375778.85	
								Say	**375778.90**	**375778.90**	**375778.90**	

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
17.14	**2812**		**Providing external prestressing with high tensile steel wires/strands including drilling for passage of prestressing steel, all accessories for stressing and stressing operation and grouting complete as per drawing and Technical Specification.**									
			Span assumed:100 m									
			No. of cables:6 No.									
			No. of anchorages:12 no.									
			Unit=MT									
			Taking output = 9.28MT									
			Assume 12.7mm dia Strand in 19T13 system.Weight - 14.73kg/m of cable.									
			a) Material									
			HTS strand including 5 percent wastage and extra length for jacking	tonne	9.280	9.280	9.280	77144.06	715896.88	715896.88	715896.88	M-118
			HDPE pipes 90 mm dia including 5 percent wastage	meter	672.000	672.000	672.000	236.12	158672.64	158672.64	158672.64	M-114
			Cement for grouting	tonne	3.040	3.040	3.040	5762.00	17516.48	17516.48	17516.48	M-081
			Tube anchorage set complete with bearing plate,permanent wedges etc.	each	12.000	12.000	12.000	58.58	702.96	702.96	702.96	M-189
			Epoxy	kg	14.000	14.000	14.000	353.00	4942.00	4942.00	4942.00	M-095
			MS plates for deviator(where deviator blocks are not provided)	tonne	20.000	20.000	20.000	49936.67	998733.40	998733.40	998733.40	M-181
			Add 20 percent cost of material for other materials like lead sheet,sleeves,deviator fixture etc.						379292.87	379292.87	379292.87	
			b)Labour									
			i) For making holes in the structure									
			Mate	day	1.720	1.720	1.720	444.00	763.68	763.68	763.68	L-12

Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			Mazdoor(Semi-skilled)	day	18.000	18.000	18.000	444.00	7992.00	7992.00	7992.00	L-14
			Mazdoor	day	25.000	25.000	25.000	428.00	10700.00	10700.00	10700.00	L-13
			ii) For making and fixing anchorages for cables and placement of cables.									
			Mate	day	4.000	4.000	4.000	444.00	1776.00	1776.00	1776.00	L-12
			Blacksmith	day	20.000	20.000	20.000	541.00	10820.00	10820.00	10820.00	L-25
			Mazdoor	day	80.000	80.000	80.000	428.00	34240.00	34240.00	34240.00	L-13
			iii) For prestressing									
			Mate/Supervisor	day	0.300	0.300	0.300	444.00	133.20	133.20	133.20	L-12
			Fitter	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-08
			Mazdoor	day	6.000	6.000	6.000	428.00	2568.00	2568.00	2568.00	L-13
			iv) For grouting									
			Mate/Supervisor	day	1.000	1.000	1.000	444.00	444.00	444.00	444.00	L-12
			Mason	day	5.000	5.000	5.000	541.00	2705.00	2705.00	2705.00	L-10
			Mazdoor	day	20.000	20.000	20.000	428.00	8560.00	8560.00	8560.00	L-13
			c) Machinery									
			stressing jack with pump	hour	10.000	10.000	10.000	493.00	4930.00	4930.00	4930.00	PM65001
			Grouting pump with agitator	hour	10.000	10.000	10.000	668.00	6680.00	6680.00	6680.00	PM60001
			Total cost without OH & CP						2368880.61	2368880.61	2368880.61	
			d) Overhead charges on (a+b+c)		(@ 30%)	(@ 30%)	(@ 30%)		710664.18	710664.18	710664.18	
			e)Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		307954.48	307954.48	307954.48	
			Cost for 9.28MT=a+b+c+d+e						3387499.27	3387499.27	3387499.27	
			Rate per MT=(a+b+c+d+e)/9.28						365032.25	365032.25	365032.25	
								Say	**365032.20**	**365032.20**	**365032.20**	
17.15	**2810**		**Replacement of Bearings complete as per Technical Specification**									
			Unit=No									
			Taking output=3No.									
			Lifting of superstructure span by jacking up from below i.e by placing the jacks on pier/abutment caps for span length of 30m									

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			a)Labour									
			Mate	day	0.640	0.640	0.640	444.00	284.16	284.16	284.16	L-12
			Mazdoor(skilled)	day	4.000	4.000	4.000	541.00	2164.00	2164.00	2164.00	L-15
			Mazdoor	day	12.000	12.000	12.000	428.00	5136.00	5136.00	5136.00	L-13
			b)Machinery									
			i)Hire charges for jack of 40 tonne lifting capacity(Lifting of span)	hour	3.000	3.000	3.000	320.00	960.00	960.00	960.00	PM70001
			c)Material									
			Wooden packing	cum	0.150	0.150	0.150	27930.68	4189.60	4189.60	4189.60	M-197
			Cost of bearing (Replacement of bearing)	each	3.000	3.000	3.000	95865.64	287596.92	287596.92	287596.92	M-065
			Total cost without OH & CP						300330.68	300330.68	300330.68	
			d)Overhead charges on (a+b+c)		(@ 30%)	(@ 30%)	(@ 30%)		90099.20	90099.20	90099.20	
			e)Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		39042.99	39042.99	39042.99	
			Cost of repair of 3 bearings =a+b+c+d+e						429472.88	429472.88	429472.88	
			Rate of repair per bearing=(a+b+c+d+e)/3						143157.63	143157.63	143157.63	
								Say	**143157.60**	**143157.60**	**143157.60**	
		Note	The work entails replacement of all the bearings on one side of the span.									
17.16	**2811**		**Rectification of Bearings as per Technical Specifications**									
			Unit= No									
			Taking output=3 No.									
			Lifting of superstructure span by jacking up from below i.e by placing the jacks on pier/abutment caps for span length of 30m									
			a)Labour									
			Mate	day	0.640	0.640	0.640	444.00	284.16	284.16	284.16	L-12
			Mazdoor(skilled)	day	4.000	4.000	4.000	541.00	2164.00	2164.00	2164.00	L-15
			Mazdoor	day	12.000	12.000	12.000	428.00	5136.00	5136.00	5136.00	L-13
			b)Machinery									
			i)Hire charges for jack of 40 tonne lifting capacity.	hour	3.000	3.000	3.000	320.00	960.00	960.00	960.00	PM70001
			c)Material									

Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			Cost of parts to be replaced for 3 bearings	each	3.000	3.000	3.000	13248.00	39744.00	39744.00	39744.00	M-064
			Wooden packing	cum	0.150	0.150	0.150	27930.68	4189.60	4189.60	4189.60	M-197
			Total cost without OH & CP						52477.76	52477.76	52477.76	
			d)Overhead charges on (a+b+c)		(@ 30%)	(@ 30%)	(@ 30%)		15743.33	15743.33	15743.33	
			e)Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		6822.11	6822.11	6822.11	
			Cost of repair of 3 bearings=a+b+c+d+e						75043.20	75043.20	75043.20	
			Rate of repair per bearing =(a+b+c+d+e)/3						25014.40	25014.40	25014.40	
								Say	**25014.40**	**25014.40**	**25014.40**	
		Note	The rectification of 3 bearings included in this analysis are on the same side of the span .									
17.17			**Replacement of expansion joints complete as per drawings**									
			Unit=1 RM									
			Taking output=12 RM									
			a)Material									
			Epoxy for bonding new concrete to old concrete @ 0.8 kg/sqm	kg	9.600	9.600	9.600	353.00	3388.80	3388.80	3388.80	M-095
			M-30 grade cement concrete excluding OH&CP (Rate taken from item 14.01c (i) (p)	cum	3.600	3.600	3.600	4821.25-L 4826.42-M 4848.81-S	17356.50	17375.13	17455.71	14.01 C (i) (P)
			b)Labour									
			Removal of old expansion joint including breaking of concrete, cutting of lugs and shifting of broken material etc.									
			Mate	day	0.260	0.260	0.260	444.00	115.44	115.44	115.44	L-12
			Mazdoor	day	6.000	6.000	6.000	428.00	2568.00	2568.00	2568.00	L-13
			Mazdoor (skilled)	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15
			Total cost without OH & CP						23699.24	23717.87	23798.45	
			c)Overhead charges on (a+b)		(@ 30%)	(@ 30%)	(@ 30%)		7109.77	7115.36	7139.54	
			d)Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		3080.90	3083.32	3093.80	
			Cost for replacement of 12 RM=a+b+c+d						33889.91	33916.56	34031.79	
			Rate per RM=(a+b+c+d)/12						2824.16	2826.38	2835.98	
								Say	**2824.20**	**2826.40**	**2836.00**	

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
		Note	The rate for the installation of new expansion joints may be taken from the chapter on superstructure. Broken concrete will have to be replaced which has been included in this analysis.									
17.18			**Replacement of Damaged Concrete Railing.**									
			Unit =RM									
			Taking output = 10 RM									
			a)Labour									
			Labour for dismantling old railing and disposal of dismantled material.									
			Mate	day	0.200	0.200	0.200	444.00	88.80	88.80	88.80	L-12
			Mazdoor	day	5.000	5.000	5.000	428.00	2140.00	2140.00	2140.00	L-13
			b)Machinery									
			Tractor-trolly for disposal of dismantled material	hour	1.000	1.000	1.000	717.00	717.00	717.00	717.00	PM12001
			Total cost without OH & CP						2945.80	2945.80	2945.80	
			c)Overhead charge on (a+b)		(@ 30%)	(@ 30%)	(@ 30%)		883.74	883.74	883.74	
			d)Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		382.95	382.95	382.95	
			Cost for 10 M =a+b+c+d						4212.49	4212.49	4212.49	
			Rate per metre = (a+b+c+d)/10						421.25	421.25	421.25	
								Say	**421.20**	**421.20**	**421.20**	
		Note	The rate for the provision of new railing may be adopted from the chapter on superstructure									
17.19			**Replacement of Crash barrier.**									
			Unit =RM									
			Taking output = 10M									
			a) Labour									
			Labour for dismantaling old railing and disposal of dismantled material.									
			Mate	day	0.400	0.400	0.400	444.00	177.60	177.60	177.60	L-12
			Mazdoor	day	10.000	10.000	10.000	428.00	4280.00	4280.00	4280.00	L-13
			b) Machinery									
			Tractor-trolley for disposal of dismantled material.	hour	1.000	1.000	1.000	717.00	717.00	717.00	717.00	PM12001
			Total cost without OH & CP						5174.60	5174.60	5174.60	
			c) Overhead charged on (a+b)		(@ 30%)	(@ 30%)	(@ 30%)		1552.38	1552.38	1552.38	

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		672.70	672.70	672.70	
			Cost for 10m = a+b+c+d						7399.68	7399.68	7399.68	
			Rate per metre = (a+b+c+d)/10						739.97	739.97	739.97	
								Say	**740.00**	**740.00**	**740.00**	
		Note	The rate for the construction of new crash barrier may be adopted from chapter 8 0n Traffic and Transportation.									
17.20			**Replacement of Damaged mild Steel Railing**									
			Unit = RM									
			Taking output = 10M									
			a) Labour									
			Labour for dismantling old railing and disposal of dismantled material.									
			Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
			Mazdoor	day	4.000	4.000	4.000	428.00	1712.00	1712.00	1712.00	L-13
			b) Machinery									
			Tractor-trolley for disposal of dismantled material	hour	1.000	1.000	1.000	717.00	717.00	717.00	717.00	PM12001
			Total cost without OH & CP						2500.04	2500.04	2500.04	
			c)Overhead charges on (a+b)		(@ 30%)	(@ 30%)	(@ 30%)		750.01	750.01	750.01	
			d)Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		325.01	325.01	325.01	
			Cost for 10 m=a+b+c+d						3575.06	3575.06	3575.06	
			Rate per metre = (a+b+c+d)/10						357.51	357.51	357.51	
								Say	**357.50**	**357.50**	**357.50**	
17.21			**Repair of Crash Barrier**									
			Repair of concrete crash barrier with cement concrete of M-30 grade by cutting and trimming the damaged portion to a regular shape,cleaning the area to be repaired thoroughly applying cement concrete after erection of proper form work.									
			Unit = Running meter									

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			Taking output = 10 m									
			It is assumed that damage is to the extent of 10 percent of the volume of concrete. This will require 0.30 cum of concrete									
			a) Manpower*									
			Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			*For dismantling and trimming the surface to a regular shape and removal of damaged material.									
			b)Material									
			M-30 grade cement concrete excluding OH &CP (Rate taken from item 14.01C(i)(p)	cum	0.300	0.300	0.300	4821.25-L 4826.42-M 4848.81-S	1446.38	1447.93	1454.64	14.01 C (i) (P)
			This may be priced based on the rate given the chapter of superstructure									
			Total cost without OH & CP						1892.14	1893.69	1900.40	
			c)Overhead charges on (a+b)		(@ 30%)	(@ 30%)	(@ 30%)		567.64	568.11	570.12	
			d)Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		245.98	246.18	247.05	
			Cost for 10m = a+b+c+d						2705.75	2707.97	2717.58	
			Rate per meter = (a+b+c+d)/10						270.58	270.80	271.76	
								Say	**270.60**	**270.80**	**271.80**	
17.22			**Repair of RCC Railing**									
			Carrying out repair of RCC M-30 railing to bring it to the original shape									
			Unit = Running meter									
			Taking output = 10M									
			It is assumed that damage is to the extent of 10 percent.									

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Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			a)Material									
			M - 30 grade cement concrete excluding OH & CP (Rate taken from items 14.01 C (i)(p)	cum	0.100	0.100	0.100	4821.25-L 4826.42-M 4848.81-S	482.13	482.64	484.88	14.01 C (i) (P)
			HYSD bar reinforcement Rate as per item No 14.02(Excluding OH & CP)A	tonne	0.013	0.013	0.013	50781.95-L 50826.33-M 50910.71-S	660.17	660.74	661.84	14.02
			b)Labour*									
			Mate	day	0.008	0.008	0.008	444.00	3.55	3.55	3.55	L-12
			Mazdoor	day	0.200	0.200	0.200	428.00	85.60	85.60	85.60	L-13
			*For dismantling and trimming the surface to a regular shape and removal of damaged material.									
			Total cost without OH & CP						1231.44	1232.54	1235.87	
			c)Overhead charges on (a+b)		(@ 30%)	(@ 30%)	(@ 30%)		369.43	369.76	370.76	
			d)Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		160.09	160.23	160.66	
			Cost of 10m = a+b+c+d						1760.96	1762.53	1767.30	
			Rate per meter = (a+b+c+d)/10						176.10	176.25	176.73	
								Say	**176.10**	**176.30**	**176.70**	
17.23			**Repair of Steel Railing**									
			Repair of Steel Railing to bring it to the original shape									
			It is assumed that the damage to the steel railing is to the extent of 10 percent.									
			Unit = Running meter									
			Taking output = 10 M									
			a) Material									
			Mild steel ISMC series	kg	29.000	29.000	29.000	49.937	1448.16	1448.16	1448.16	M181/ 1000

Chapter - 17
Analysis of Rate
REPAIR AND REHABILITATION

Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			Flat iron	kg	10.000	10.000	10.000	49.937	499.37	499.37	499.37	M181/ 1000
			MS bolt and nuts	kg	1.000	1.000	1.000	80.60	80.60	80.60	80.60	M-129
			Add 5 percent of cost of material for painting						101.41	101.41	101.41	
			b)Labour									
			Mate	day	0.016	0.016	0.016	444.00	7.10	7.10	7.10	L-12
			Mazdoor(Skilled)	day	0.200	0.200	0.200	541.00	108.20	108.20	108.20	L-15
			Mazdoor	day	0.200	0.200	0.200	428.00	85.60	85.60	85.60	L-13
			Total cost without OH & CP						2330.44	2330.44	2330.44	
			c)Overhead charges on (a+b)		(@ 30%)	(@ 30%)	(@ 30%)		699.13	699.13	699.13	
			d)Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		302.96	302.96	302.96	
			Cost of repair for 10m =a+b+c+d						3332.53	3332.53	3332.53	
			Cost per meter = (a+b+c+d)/10						333.25	333.25	333.25	
								Say	**333.30**	**333.30**	**333.30**	
17.24			**Mobile Bridge Inspection Unit (MBIU)**									
			Inspection of bridge by using of Mobile Bridge Inspection Unit(MBIU)									
			Unit = Km									
			Taking Output = 50km									
			a) Labour									
			Mate	day	1.360	1.360	1.360	444.00	603.84	603.84	603.84	L-12
			Mazdoor(skilled)	day	34.000	34.000	34.000	541.00	18394.00	18394.00	18394.00	L-15
			Mazdoor	day	34.000	34.000	34.000	428.00	14552.00	14552.00	14552.00	L-13
			b)Machinery									
			Mobile Bridge Inspection Unit (MBIU)	hour	266.667	266.667	266.667	6621.00	1765602.21	1765602.21	1765602.21	PM80001
			Mobile Bridge Inspection Unit (MBIU) Mobilization & demobilization	hour	15.000	15.000	15.000	6621.00	99315.00	99315.00	99315.00	PM80001
			Add 1 percent of cost of a+b for Miscellaneous work						18984.67	18984.67	18984.67	
			Total cost without OH & CP						1917451.72	1917451.72	1917451.72	
			c) Overhead charges on (a+b)		(@ 30%)	(@ 30%)	(@ 30%)		575235.52	575235.52	575235.52	

Chapter - 17
Analysis of Rate
REPAIR AND REHABILITATION

Sr No.	Ref. to M		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Remarks
					Large	Medium	Small		Large	Medium	Small	
			d)Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		249268.72	249268.72	249268.72	
			Cost for 50 km = a+b+c+d						2741955.96	2741955.96	2741955.96	
			Rate per km = (a+b+c+d)/50						54839.12	54839.12	54839.12	
								Say	**54839.10**	**54839.10**	**54839.10**	
		Note	(i)Average Distance has been considered 300 km for mobilization at working site and same for demobilization.									
			(ii) Speed of vehicle 40km/ hour has been considered.									

PART- C
TUNNEL WORKS

C. TUNNEL WORK

BASIC APPROACH AND GENERAL CONDITIONS FOR THE PREPARATION OF STANDARD DATA BOOK

The basic approach for the preparation of standard Data Book for Tunnel Works is indicated as under :

Description of items

The description of items is given briefly and linked with the relevant IRC-91, which may be referred for detailed description, provisions and interpretation.

Overhead Charges

The overhead charges include the following elements :

i. Site accommodation, setting up plant, access road, water supply, electricity and general site arrangements.

ii Office furniture, equipment and communications

iii Expenditure on

Corporate office of contractor

Site supervision

Documentation and "as built" drawings

iv. Mobilization/de-mobilization of resources

v. Labour camps with minimum amenities and transportation to work sites

vi Light vehicles for site supervision including administrative and managerial requirements

vii Laboratory equipment and quality control including field and laboratory testing

viii Minor T&P and survey instruments and setting out works, including verification of line, dimensions, trial pits and bore holes, where required.

ix Temporary Diversion

x. Watch and ward

xi. Traffic management during construction

xii. Expenditure on 'safeguarding environment

xiii. Sundries

xiv Financing Expenditure

xv. Work Insurance/Compensation

xvi. Car Policy

xvii. Employee Insurance

xviii. Property Insurance (Camp Builtup Area)

For the purpose of calculation of overhead charges

Tunnel Works	25 percent
Contractor Profit	10 percent of cost of works

Contractor profit is also added on overhead charges.

Basic Inputs

Basic inputs are only given in the standard data book. The rates for material and labour have to be updated by concerned State/UT govt. Officials like E-in-C, CE(NH), State PWDs.

Plants and Equipment

In the analysis of rates, for any items of work, capacity of equipment with corresponding output has been indicated which is most common in use for estimation purpose. Seeing the volume of job, different capacity equipment with corresponding output as indicated in Chapter-20 can be usage for preparing the estimate.

Materials

The rates of material should include basic cost at crushing units, cost of carriage including loading and unloading and stacking of material at site of work and shall be determined through market enquiries.

Labour

Highly skilled labour include mason (1^{st} class), carpenter, Blacksmith (1^{st} class)/Welder/Plumber/Electrician (1^{st} class), mechanics and other trades.

One mate has been provided for 25 labours

Carriage of Materials

The unit for vehicle for carriage has been taken as under :

a) In hours where lead is defined including time required for loading and unloading

b) In tonne. km where lead is variable. The loading and unloading for such cases have been provided separately.

General :

Most of tunnels works in India is constructed/under construction using NATM technology and Rate has been analysed using the same. However, analysis of rate for tunnel construction with TBM will be incorporated in future.

Various items for tunnel work i.e. firefighting, ventilation, tunnel lighting, safety items etc. has been included in this Chapter.

The testing of materials and finished items of work is covered under overhead charges.

The Standard Data Book is for Department use only. It cannot be produced in Court of law as references/authority and this is a privilege document.

CHAPTER- 18

TUNNEL WORK

CHAPTER-18
TUNNEL WORKS

PREAMBLES:

1 For drilling, pneumatically and hydraulically powered method is considered.

2 The excavated materials suitable for construction shall be stockpiled at approved locations otherwise it should be dumped at the approved disposal location

3 Cement Grouting has been also considered to prevent the seepage of water from the side wall of the tunnel. The grout mix shall have low or no bleedability and low shrinkage characteristics. Guniting to sides and arch of tunnel with cement mortar 1:3 preparation by weight is also considered for analysis.

4 Two types of material fo shotcrete i.e, welded wire mesh and fiber reinforced micro silica has been considered.

5 Rock bolting, steel support and lining items are considered for analysis.

6 Permanent structural steel supports i.e. lattice girder has been also consider for analysis.

7 The basis rates are inclusive of scaling loose material, removal of under-cuts, cleaning bed and lighting and ventilation inside tunnel during construction.

8 The items related to road works, drain, foothpath, crash barrier, railing, kerb etc. of tunnel is covered under relevant Chapters. But overhead charges are applicable for tunnel work.

9 The basic rates are exclusive of cost of dewatering. Separate provision shall be made in the estimate for dewatering

10 The rate for lighting, ventilation and firefighting items are required to be ascertained from the marked, this being a commercially produced item by specialized firms.

CHAPTER: 18

Summary of Rate Analysis

TUNNEL WORK

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
18.01	**Excavation in Ordinary Rock using Hydraulic Excavator and Tippers with Disposal upto 1000 meters.**(Excavation for Portal in Ordinary Rock with hydraulic excavator including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and disposal of excavated materials including all lifts and lead upto 1000m)	Cum	747.10	747.10	747.10
18.02	**Excavation in Hard Rock (blasting prohibited).** (Excavation for Portal in Hard Rock (blasting prohibited) with hydraulic excavator including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and disposal of excavated materials including all lifts and lead upto 1000m)	Cum	871.30	871.30	871.30
18.03	**Excavation in Soil using Hydraulic Excavator and Tippers with Disposal upto 1000 meters.** (Excavation for portal in soil with hydraulic excavator including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and disposal of excavated materials including all lifts and lead upto 1000m.)	Cum	68.60	68.60	68.60
18.04	**Drill steel with Drill jumbo** (Excavation for tunnel by using drilling & blasting methods in all types of rock including cost of all materials,machinery, labour, scaling excavated surface, marking, ventilation, lighting, drainage, removing and hauling the excavated muck outside tunnel upto specified dump area and all other ancillary operations etc.)	Cum	#VALUE!	#VALUE!	#VALUE!
18.05	**Dewatering tunnel by pumping out water collected by natural drainage inside tunnel including** (Dewatering in tunnel by pumping out water collected by natural drainage inside tunnel including providing sump wherever necessary, cost of all materials, machinery, labour, drainage and all other ancillary operations etc., complete.)	hour	421.80	421.80	421.80

CHAPTER: 18

Summary of Rate Analysis
TUNNEL WORK

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
18.06	**Providing , Fitting and Placing of Ribs** (Providing , Fitting and Placing of Ribs including Fabrication, Erection,Temporary fixture, Handling of material inside fabrication workshop, final matching, field welding and complete as per Drawing and Technical Specifications.)	Tonne	100710.20	100710.20	100710.20
18.07	**Shotcreting with Steel fibre reinforced micro silica shotcrete (SFRS)** (Shotcreting to upper bench / lower bench with steel fiber reinforced shotcrete (SFRS) , shotcrete compressive strength shall be 25 N/mm2 and complete as per Drawing and Technical Specifications.)	Cum	#VALUE!	#VALUE!	#VALUE!
18.08	**Shotcreting with welded wire mesh.** (Shotcreting to upper bench / lower bench with welded wire mesh, shotcrete compressive strength shall be 25 N/mm2 and complete as per Drawing and Technical Specifications.)	Cum	10094.40	10094.40	10094.40
18.09	**Providing and fixing 25 mm diameter 3 meter long steel rock bolts including drilling 45 mm dia holes, plate, nuts, cement grout, cost of all materials, machinery, labour, ventilation, lighting, drainage and all other ancillary operations etc. complete as per Drawing and Technical Specifications.**	No.	#VALUE!	#VALUE!	#VALUE!
18.10	**Providing and fixing 32 mm diameter 7 meter long steel rock bolts including drilling 51 mm dia holes, plate, nuts, cement grout, cost of all materials, machinery, labour, ventilation, lighting, drainage and all other ancillary operations etc. complete as per Drawing and Technical Specifications.**	No.	#VALUE!	#VALUE!	#VALUE!
18.11	**Grouting with Cement** (Grouting cement slurry in grout holes under specified pressure for consolidation / contact grouting including cost of all materials, machinery, labour, predrilling wherever necessary, ventilation,lighting, drainage and other ancillary operations etc. complete as per Drawing and Technical Specifications.)	Tonne	#VALUE!	#VALUE!	#VALUE!

CHAPTER: 18

Summary of Rate Analysis

TUNNEL WORK

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
18.12	**Furnishing and Placing Reinforced cement concrete in Tunnel Work as per drawing and Technical Specification**				
A	**RCC Grade M 20** (Using Batching Plant ,Transit Mixer and Concrete Pump.)	Cum	7013.60	7013.60	7013.60
B	**RCC Grade M 25** (Using Batching Plant ,Transit Mixer and Concrete Pump.)	Cum	7685.80	7685.80	7685.80
C	**RCC Grade M 30** (Using Batching Plant ,Transit Mixer and Concrete Pump.)	Cum	7749.50	7749.50	7749.50
D	**RCC Grade M35** (Using Batching Plant ,Transit Mixer and Concrete Pump.)	Cum	7948.40	7948.40	7948.40
E	**RCC Grade M-40** (Using Batching Plant ,Transit Mixer and Concrete Pump.)	Cum	8142.60	8142.60	8142.60
F	**RCC Grade M-45**	Cum	8194.20	8194.20	8194.20
G	**RCC Grade M-50**	Cum	9191.40	9191.40	9191.40
H	**RCC Grade M-55**	Cum	9332.10	9332.10	9332.10
I	**RCC Grade M-60**	Cum	9619.30	9619.30	9619.30
J	**RCC Grade M-65**	Cum	9692.10	9692.10	9692.10
18.13	**Supplying, Fitting and placing HYSD bar reinforcement in Tunnel Work complete as per drawing and technical specifications.**	MT	70147.10	70147.10	70147.10

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
18.01	**304**	**Excavation in Ordinary Rock using Hydraulic Excavator and Tippers with Disposal upto 1000 meters.**									
		Excavation for Portal in Ordinary Rock with hydraulic excavator including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and disposal of excavated materials including all lifts and lead upto 1000m									
		Unit = cum									
		Taking Output = 60 cum									
		a) Labour									
		Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
		Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
		b) Machinery									
		Excavator 1.1 cum bucket capacity	hour	8.214	8.214	8.214	2538.00	20847.13	20847.13	20847.13	PM3004
		Jack hammer	hour	8.214	8.214	8.214	206.00	1692.08	1692.08	1692.08	PM4001
		Loading & unloading charges for disposed of grabbed material (Using by 10 cum capacity Tipper & 1 Cum capacity Loader)	cum	72.000	72.000	72.000	104.81	7546.32	7546.32	7546.32	PM77003
		Tipper 10 cum capacity for transportation to dumping yard considering lead @ 1 km	t.km	120.000	120.000	120.000	17.26	2071.20	2071.20	2071.20	PM74003
		Total cost Without O.H.&C.P.						32602.50	32602.50	32602.50	
		C) Overhead charge on (a+b)		(@ 25%)	(@ 25%)	(@ 25%)		8150.62	8150.62	8150.62	
		d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		4075.31	4075.31	4075.31	
		Cost for 60 cum = (a+b+c+d)						44828.43	44828.43	44828.43	
		Rate per cum= (a+b+c+d) / 60						747.14	747.14	747.14	
							Say	**747.10**	**747.10**	**747.10**	
18.02	**303 & 304**	**Excavation in Hard Rock (blasting prohibited)**									
		Excavation for Portal in Hard Rock (blasting prohibited) with hydraulic excavator including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and disposal of excavated materials including all lifts and lead upto 1000m									
		Unit = cum									
		Taking Output = 50 cum									
		a) Labour									

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Analysis of Rate
TUNNEL WORK

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
		Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
		b) Machinery									
		Excavator 1.1 cum bucket capacity	hour	10.039	10.039	10.039	2538.00	25478.98	25478.98	25478.98	PM3004
		Jack hammer	hour	10.039	10.039	10.039	206.00	2068.03	2068.03	2068.03	PM4001
		Loading & unloading charges for disposed of grabbed material (using by 10 cum capacity Tipper & 1 Cum capacity Loader)	cum	60.000	60.000	60.000	104.81	6288.60	6288.60	6288.60	PM77003
		Tipper 10 cum capacity for transportation to dumping yard considering lead @ 1 km	t.km	100.000	100.000	100.000	7.10	710.00	710.00	710.00	PM74001
		Credit for excavated rock found suitable for use @ 50 percent of excavated quantity.	cum	30.000	30.000	30.000	110.27	-3308.10	-3308.10	-3308.10	M-090
		Total cost Without O.H.&C.P.						31683.28	31683.28	31683.28	
		C) Overhead charge on (a+b)		(@ 25%)	(@ 25%)	(@ 25%)		7920.82	7920.82	7920.82	
		d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		3960.41	3960.41	3960.41	
		Cost for 50 cum = (a+b+c+d)						43564.50	43564.50	43564.50	
		Rate per cum= (a+b+c+d) / 50						871.29	871.29	871.29	
							Say	**871.30**	**871.30**	**871.30**	
18.03	**304**	**Excavation in Soil using Hydraulic Excavator and Tippers with Disposal upto 1000 meters.**									
		Excavation for portal in soil with hydraulic excavator including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and disposal of excavated materials including all lifts and lead upto 1000m.									
		Unit = cum									
		Taking Output = 350 cum									
		a) Labour									
		Mate	day	0.040	0.040	0.040	444.00	17.76	17.76	17.76	L-12
		Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
		b) Machinery									
		Excavator 1.1 cum bucket capacity	hour	5.024	5.024	5.024	2538.00	12750.91	12750.91	12750.91	PM3004
		Loading & unloading charges for disposal of grabbed material (using by 10 cum capacity Tipper & 1 Cum capacityLoader)	cum	5.024	5.024	5.024	104.81	526.57	526.57	526.57	PM77003

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Tipper 10 cum capacity for transportation to dumping yard considering lead @ 1 km	t.km	525.000	525.000	525.000	7.10	3727.50	3727.50	3727.50	PM74001
		Total cost Without O.H.&C.P.						17450.74	17450.74	17450.74	
		c) Overhead charge on (a+b)		(@ 25%)	(@ 25%)	(@ 25%)		4362.68	4362.68	4362.68	
		d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		2181.34	2181.34	2181.34	
		Cost for 350 cum = (a+b+c+d)						23994.76	23994.76	23994.76	
		Rate per cum= (a+b+c+d) / 350						68.56	68.56	68.56	
							Say	**68.60**	**68.60**	**68.60**	
18.04		**Drill steel with Drill jumbo**									
		Excavation for tunnel by using drilling & blasting methods in all types of rock including cost of all materials,machinery, labour, scaling excavated surface, marking, ventilation, lighting, drainage, removing and hauling the excavated muck outside tunnel upto specified dump area and all other ancillary operations etc.									
		Unit = cum									
		Taking Output = 480 cum									
		a) Labour									
		Mate	day	0.320	0.320	0.320	444.00	142.08	142.08	142.08	L-12
		Mazdoor	day	6.000	6.000	6.000	428.00	2568.00	2568.00	2568.00	L-13
		Mazdoor (Skilled)	day	2.000	2.000	2.000	541.00	1082.00	1082.00	1082.00	L-15
		b) Machinery									
		Three boom hydraulic Drill jumbo	hour	25.067	25.067	25.067	9865.00	247285.96	247285.96	247285.96	PM56001
		Excavator for Scaling	hour	2.000	2.000	2.000	2538.00	5076.00	5076.00	5076.00	PM3004
		Tipper 10 cum capacity for transportation	t.km	480x2xL	480x2xL	480x2xL	7.10	6816.00	6816.00	6816.00	PM74001
		Loading & unloading charges (Using by 10 cum capacity tipper & 1 cum capacity Loader)	cum	576.000	576.000	576.000	104.81	60370.56	60370.56	60370.56	PM77003
		Dozer(175HP)	hour	9.600	9.600	9.600	4360.00	41856.00	41856.00	41856.00	PM1002
		c) Materials									
		Explosives	kg	576.000	576.000	576.000	124.27	71579.52	71579.52	71579.52	M-215
		Delay Detonators	Nos	228.000	228.000	228.000	3.47	791.16	791.16	791.16	M-216
		Electric Detonators	Nos	35.000	35.000	35.000	6.93	242.55	242.55	242.55	M-217
		Detonation fuse coil	Meter	50.000	50.000	50.000	16.12	806.000	806.000	806.000	M-218
		3.7 meter long extension rod	Nos	1.043	1.043	1.043	INPUT	#VALUE!	#VALUE!	#VALUE!	M-219
		Drifter rod	Nos	0.505	0.505	0.505	INPUT	#VALUE!	#VALUE!	#VALUE!	M-221
		R 32 shank adapter	Nos	1.043	1.043	1.043	INPUT	#VALUE!	#VALUE!	#VALUE!	M-222
		45 mm Button Bit	Nos	3.692	3.692	3.692	INPUT	#VALUE!	#VALUE!	#VALUE!	M-223
								#VALUE!	#VALUE!	#VALUE!	

CHAPTER 18
Analysis of Rate
TUNNEL WORK

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Add 10 percent of cost of a+b+c towards Other consumable petty stores such as blasting batteries,galvanometers and sharpening charges of bit etc…						#VALUE!	#VALUE!	#VALUE!	
		Total cost Without O.H.&C.P.						#VALUE!	#VALUE!	#VALUE!	
		d) Overhead charges on (a+b+c)		(@ 25%)	(@ 25%)	(@ 25%)		#VALUE!	#VALUE!	#VALUE!	
		e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
		Cost for 480 cum=(a+b+c+d+e)						#VALUE!	#VALUE!	#VALUE!	
		Rate per cum=(a+b+c+d+e)/480					**Say**	#VALUE!	#VALUE!	#VALUE!	
18.05	**304**	**Dewatering tunnel by pumping out water collected by natural drainage inside tunnel including**									
		Dewatering in tunnel by pumping out water collected by natural drainage inside tunnel including providing sump wherever necessary, cost of all materials, machinery, labour, drainage and all other ancillary operations etc., complete.									
		Unit=Hour									
		Taking output=20000 Hour									
		a) Labour									
		Mate	day	100.00	100.00	100.00	444.00	44400.00	44400.00	44400.00	L-12
		Mazdoor	day	2500.00	2500.00	2500.00	428.00	1070000.00	1070000.00	1070000.00	L-13
		b) Machinery									
		Water Pump 10 HP	hour	20000.00	20000.00	20000.00	235.00	4700000.00	4700000.00	4700000.00	PM61001
		C) Materials									
		GI Pipe 100 mm Dia	Meter	500.00	500.00	500.00	560.43	280215.00	280215.00	280215.00	M-239
		Flange	Kg	41.667	41.667	41.667	190.34	7930.90	7930.90	7930.90	M-241
		Nut & Bolt	Kg	133.333	133.333	133.333	80.60	10746.64	10746.64	10746.64	M-129
		Bracket	Kg	1125.00	1125.00	1125.00	94.74	106582.50	106582.50	106582.50	M-240
		Credit for salvage value of GI Pipe @ 30 percent	Meter	150.00	150.00	150.00	560.43	-84064.50	-84064.50	-84064.50	M-239
		Total cost Without O.H.&C.P.						6135810.537	6135810.537	6135810.537	
		d) Overhead charges on (a+b+c)		(@ 25%)	(@ 25%)	(@ 25%)		1533952.634	1533952.634	1533952.634	
		e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		766976.317	766976.317	766976.317	
		Cost for 20000 hour =(a+b+c+d+e)						8436739.488	8436739.488	8436739.488	
		Rate per hour = (a+b+c+d+e) / 20000						421.837	421.837	421.837	
							Say	**421.80**	**421.80**	**421.80**	
18.06		**Providing , Fitting and Placing of Ribs**									

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Providing , Fitting and Placing of Ribs including Fabrication, Erection,Temporary fixture, Handling of material inside fabrication workshop, final matching, field welding and complete as per Drawing and Technical Specifications.									
		Unit=Tonne									
		Taking output=26 Tonne									
		a) Labour									
		Mate	day	0.800	0.800	0.800	444.00	355.20	355.20	355.20	L-12
		Mazdoor	day	10.000	10.000	10.000	428.00	4280.00	4280.00	4280.00	L-13
		Mazdoor(Semi-Skilled)	day	5.000	5.000	5.000	444.00	2220.00	2220.00	2220.00	L-14
		Welder	day	5.000	5.000	5.000	660.00	3300.00	3300.00	3300.00	L-02
		b) Machinery									
		Rotating Telehandlers	hour	37.180	37.180	37.180	975.00	36250.50	36250.50	36250.50	PM58001
		C) Materials									
		ISMB 350 (Including 0.25% Wastage)	Tonne	20.732	20.732	20.732	49936.67	1035287.04	1035287.04	1035287.04	M-181
		MS Channel ISMC 75 (Including 0. 25% Wastage)	Tonne	3.830	3.830	3.830	49936.67	191257.45	191257.45	191257.45	M-181
		MS Plate 200x200x12mm (Including 0.25% Wastage)	Tonne	1.504	1.504	1.504	49936.67	75104.75	75104.75	75104.75	M-181
		Nuts & Bolts (M 16x40)	Kg	151.200	151.200	151.200	80.60	12186.72	12186.72	12186.72	M-129
		Add 40 percent of cost of a+b+c towards of Fabrication, Erection,Temporary fixture, Handling of material, final matching and field welding etc.						544096.66	544096.66	544096.66	
		Total cost Without O.H.&C.P.						1904338.32	1904338.32	1904338.32	
		d) Overhead charges on (a+b+c)		(@ 25%)	(@ 25%)	(@ 25%)		476084.58	476084.58	476084.58	
		e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		238042.29	238042.29	238042.29	
		Cost for 26 Tonne =(a+b+c+d+e)						2618465.20	2618465.20	2618465.20	
		Rate per Tonne = (a+b+c+d+e) / 26						100710.20	100710.20	100710.20	
							Say	**100710.20**	**100710.20**	**100710.20**	
18.07	**2807**	**Shotcreting with Steel fibre reinforced micro silica shotcrete (SFRS)**									
		Shotcreting to upper bench / lower bench with steel fiber reinforced shotcrete (SFRS) , shotcrete compressive strength shall be 25 N/mm2 and complete as per Drawing and Technical Specifications.									
		Unit=cum									

CHAPTER 18
Analysis of Rate
TUNNEL WORK

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Taking output=120 cum									
		a) Labour									
		Mate	day	0.320	0.320	0.320	444.00	142.08	142.08	142.08	L-12
		Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
		b) Machinery									
		Batching Plant of capacity 120 cum / hour	hour	1.333	1.333	1.333	3706.00	4940.10	4940.10	4940.10	PM19002
		Generator 250 KVA	hour	1.333	1.333	1.333	3064.00	4084.31	4084.31	4084.31	PM22004
		Loader 3.1 cum capacity	hour	1.333	1.333	1.333	3523.00	4696.16	4696.16	4696.16	PM5001
		Transit Truck agitator									
		For transportation (6 cum capacity)	t.km.	300xL	300xL	300xL	10.87	3261.00	**3261.00**	**3261.00**	PM76001
		For Loading & unloading	hour	11.333	11.333	11.333	1992.00	22575.34	22575.34	22575.34	PM34001
		Shotcrete Machine @ 12 cum /hour	hour	10.000	10.000	10.000	1597.00	15970.00	15970.00	15970.00	PM59001
		Compressor 500 cfm	hour	10.000	10.000	10.000	1938.00	19380.00	19380.00	19380.00	PM15002
		c) Materials									
		Cement	Tonne	49.440	49.440	49.440	5762.00	284873.28	284873.28	284873.28	M-081
		Sand	Cum	86.850	86.850	86.850	612.90	53230.37	53230.37	53230.37	M-004*
		10mm to 4.76 mm Aggregate	Cum	52.080	52.080	52.080	631.69	32898.42	32898.42	32898.42	M-039
		Steel Fiber	Tonne	6.120	6.120	6.120	INPUT	#VALUE!	#VALUE!	#VALUE!	M-225
		Admixture @ 0.4 % of Cement	Kg	197.760	197.760	197.760	31.15	6160.22	6160.22	6160.22	M-182
		Micro Silica @ 6 % of Cement	Kg	2966.400	2966.400	2966.400	25.34	75168.58	75168.58	75168.58	M-226
		Accelerator @ 4.5 % of Cement	Kg	2224.800	2224.800	2224.800	31.15	69302.520	69302.520	69302.520	M-227
		Add 20 Percent of cost of a+b+c for Wastage due to rebound.						#VALUE!	#VALUE!	#VALUE!	
		Total cost Without O.H.&C.P.						#VALUE!	#VALUE!	#VALUE!	
		d) Overhead charges on (a+b+c)		(@ 25%)	(@ 25%)	(@ 25%)		#VALUE!	#VALUE!	#VALUE!	
		e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
		Cost for 120 Cum =(a+b+c+d+e)						#VALUE!	#VALUE!	#VALUE!	
		Rate per Cum = (a+b+c+d+e) / 120						#VALUE!	#VALUE!	#VALUE!	
							Say	#VALUE!	#VALUE!	#VALUE!	
18.08	**2807**	**Shotcreting with welded wire mesh.**									
		Shotcreting to upper bench / lower bench with welded wire mesh, shotcrete compressive strength shall be 25 N/mm2 and complete as per Drawing and Technical Specifications.									
		Unit=cum									
		Taking output=120 cum									
		a) Labour									
		Mate	day	0.320	0.320	0.320	444.00	142.08	142.08	142.08	L-12
		Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
		b) Machinery									
		Batching Plant of capacity 120 cum / hour	hour	1.333	1.333	1.333	3706.00	4940.10	4940.10	4940.10	PM19002
		Generator 250 KVA	hour	1.333	1.333	1.333	3064.00	4084.31	4084.31	4084.31	PM22004

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Loader 3.1 cum capacity	hour	1.333	1.333	1.333	3523.00	4696.16	4696.16	4696.16	PM5001
		Transit Truck agitator									
		For transportation (6 cum capacity)	t.km.	300xL	300xL	300xL	10.87	3261.00	3261.00	3261.00	PM76001
		For Loading & unloading	hour	11.333	11.333	11.333	1992.00	22575.34	22575.34	22575.34	PM34001
		Shotcrete Machine @ 12 cum /hour	hour	10.000	10.000	10.000	1597.00	15970.00	15970.00	15970.00	PM59001
		Compressor 500 cfm	hour	10.000	10.000	10.000	1938.00	19380.00	19380.00	19380.00	PM15002
		c) Materials									
		Cement	Tonne	49.440	49.440	49.440	5762.00	284873.28	284873.28	284873.28	M-081
		Sand	Cum	86.850	86.850	86.850	612.90	53230.37	53230.37	53230.37	M-004*
		10mm to 4.76 mm Aggregate	Cum	52.080	52.080	52.080	631.69	32898.42	32898.42	32898.42	M-039
		Wire mesh (Including 10 % for lapping.)	Sqm	1320.000	1320.000	1320.000	101.54	134032.80	134032.80	134032.80	M-102
		Admixture @ 0.4 % of Cement	Kg	197.760	197.760	197.760	31.15	6160.22	6160.22	6160.22	M-182
		Micro Silica @ 6 % of Cement	Kg	2966.400	2966.400	2966.400	25.34	75168.58	75168.58	75168.58	M-226
		Accelerator @ 4.5 % of Cement	Kg	2224.800	2224.800	2224.800	31.15	69302.52	69302.52	69302.52	M-227
								734139.165	734139.165	734139.165	
		Add 20 Percent of cost of a+b+c for Wastage due to rebound.						146827.833	146827.833	146827.833	
		Total cost Without O.H.&C.P.						880966.998	880966.998	880966.998	
		d) Overhead charges on (a+b+c)		(@ 25%)	(@ 25%)	(@ 25%)		220241.750	220241.750	220241.750	
		e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		110120.875	110120.875	110120.875	
		Cost for 120 Cum =(a+b+c+d+e)						1211329.623	1211329.623	1211329.623	
		Rate per cum = (a+b+c+d+e) / 120						10094.414	10094.414	10094.414	
							Say	**10094.40**	**10094.40**	**10094.40**	
18.09	**2806 & 3200**	Providing and fixing 25 mm diameter 3 meter long steel rock bolts including drilling 45 mm dia holes, plate, nuts, cement grout, cost of all materials, machinery, labour, ventilation, lighting, drainage and all other ancillary operations etc. complete as per Drawing and Technical Specifications.									
		Unit=Number									
		Taking output=155 Nos									
		a) Labour									
		Mate	day	0.480	0.480	0.480	444.00	213.12	213.12	213.12	L-12
		Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
		Mason (IInd class)	day	4.000	4.000	4.000	541.00	2164.00	2164.00	2164.00	L-10
		b) Machinery									
		Single boom Hydraulic Drill Jumbo.	hour	25.833	25.833	25.833	4515.00	116636.00	116636.00	116636.00	PM54001
		c) Materials									
		3.7 m long extension rod.	Nos	1.011	1.011	1.011	INPUT	#VALUE!	#VALUE!	#VALUE!	M-219
		R32 shank adapter.	Nos	1.011	1.011	1.011	INPUT	#VALUE!	#VALUE!	#VALUE!	M-222
		45mm Dia cross bit.	Nos	3.577	3.577	3.577	INPUT	#VALUE!	#VALUE!	#VALUE!	M-223
		25mm Tor Steel (Including 2.5% Wastage)	Tonne	1.927	1.927	1.927	46087.50	88810.61	88810.61	88810.61	M-083

CHAPTER 18
Analysis of Rate
TUNNEL WORK

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
								#VALUE!	#VALUE!	#VALUE!	
		Add 15 % of cost of a+b+c towards cutting, making tip, Threading,nut,plate,grouting and bit sharpening etc..						#VALUE!	#VALUE!	#VALUE!	
		Total cost Without O.H.&C.P.						#VALUE!	#VALUE!	#VALUE!	
		d) Overhead charges on (a+b+c)		(@ 25%)	(@ 25%)	(@ 25%)		#VALUE!	#VALUE!	#VALUE!	
		e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
		Cost for 155 Nos =(a+b+c+d+e)						#VALUE!	#VALUE!	#VALUE!	
		Rate per Number = (a+b+c+d+e) /155						#VALUE!	#VALUE!	#VALUE!	
							Say	#VALUE!	#VALUE!	#VALUE!	
18.10	**2806 & 3200**	Providing and fixing 32 mm diameter 7 meter long steel rock bolts including drilling 51 mm dia holes, plate, nuts, cement grout, cost of all materials, machinery, labour, ventilation, lighting, drainage and all other ancillary operations etc. complete as per Drawing and Technical Specifications.									
		Unit=Number									
		Taking output=70 Nos									
		a) Labour									
		Mate	day	0.600	0.600	0.600	444.00	266.40	266.40	266.40	L-12
		Mazdoor	day	10.000	10.000	10.000	428.00	4280.00	4280.00	4280.00	L-13
		Mason (IInd class)	day	5.000	5.000	5.000	541.00	2705.00	2705.00	2705.00	L-10
		b) Machinery									
		Single boom Hydraulic	hour	17.500	17.500	17.500	4515.00	79012.50	79012.50	79012.50	PM54001
		c) Materials									
		3.7 m long extension rod.	Nos	1.065	1.065	1.065	INPUT	#VALUE!	#VALUE!	#VALUE!	M-219
		R32 shank adapter.	Nos	1.065	1.065	1.065	INPUT	#VALUE!	#VALUE!	#VALUE!	M-222
		32mm coupling sleeve	Nos	1.065	1.065	1.065	INPUT	#VALUE!	#VALUE!	#VALUE!	M-220
		51mm Dia button bit	Nos	3.769	3.769	3.769	INPUT	#VALUE!	#VALUE!	#VALUE!	M-224
		32mm Tor Steel (Including 2.5% Wastage)	Tonne	3.237	3.237	3.237	46087.50	149185.24	149185.24	149185.24	M-083
								#VALUE!	#VALUE!	#VALUE!	
		Add 15 % of cost of a+b+c towards cutting,making tip, Threading,nut,plate,grouting and bit sharpening etc..						#VALUE!	#VALUE!	#VALUE!	
		Total cost Without O.H.&C.P.						#VALUE!	#VALUE!	#VALUE!	
		d) Overhead charges on (a+b+c)		(@ 25%)	(@ 25%)	(@ 25%)		#VALUE!	#VALUE!	#VALUE!	
		e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
		Cost for 70 Nos =(a+b+c+d+e)						#VALUE!	#VALUE!	#VALUE!	
		Rate per Number = (a+b+c+d+e) / 70						#VALUE!	#VALUE!	#VALUE!	
							Say	**#VALUE!**	**#VALUE!**	**#VALUE!**	
18.11	**2806**	**Grouting with Cement**									

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Grouting cement slurry in grout holes under specified pressure for consolidation / contact grouting including cost of all materials, machinery, labour, predrilling wherever necessary, ventilation,lighting, drainage and other ancillary operations etc. complete as per Drawing and Technical Specifications.									
		Unit=Tonne									
		Taking output=1.5 Tonne									
		a) Labour									
		Mate	day	0.080	0.080	0.080	444.00	35.52	35.52	35.52	L-12
		Mazdoor	day	2.000	2.000	2.000	428.00	856.00	856.00	856.00	L-13
		b) Machinery									
		Grouting Machine @ 25 Bags Per Hours	hour	1.200	1.200	1.200	668.00	801.60	801.60	801.60	PM60001
		Pump 10 HP.	hour	1.200	1.200	1.200	235.00	282.00	282.00	282.00	PM61001
		Single boom Hydraulic .	hour	1.250	1.250	1.250	4515.00	5643.75	5643.75	5643.75	PM54001
		c) Materials									
		Cement (Including 1% Wastage)	Tonne	1.515	1.515	1.515	5762.00	8729.43	8729.43	8729.43	M-081
		Cost of Water (Water /Cement Ratio-0.4)	KL	0.606	0.606	0.606	63.20	38.30	38.30	38.30	M-191
		3.7 m long extension rod.	Nos	0.076	0.076	0.076	INPUT	#VALUE!	#VALUE!	#VALUE!	M-219
		R32 shank adapter.	Nos	0.076	0.076	0.076	INPUT	#VALUE!	#VALUE!	#VALUE!	M-222
		32mm coupling sleeve	Nos	0.076	0.076	0.076	INPUT	#VALUE!	#VALUE!	#VALUE!	M-220
		51mm Dia cross bit	Nos	0.269	0.269	0.269	INPUT	#VALUE!	#VALUE!	#VALUE!	M-224
								#VALUE!	#VALUE!	#VALUE!	
		Add 5 % of cost of a+b+c towards cutting,making tip, Threading,nut,plate,grouting and bit sharpening etc..						#VALUE!	#VALUE!	#VALUE!	
		Total cost Without O.H.&C.P.						#VALUE!	#VALUE!	#VALUE!	
		d) Overhead charges on (a+b+c)		(@ 25%)	(@ 25%)	(@ 25%)		#VALUE!	#VALUE!	#VALUE!	
		e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
		Cost for 1.5 Tonne =(a+b+c+d+e)						#VALUE!	#VALUE!	#VALUE!	
		Rate per Tonne = (a+b+c+d+e) /1.5						#VALUE!	#VALUE!	#VALUE!	
							Say	#VALUE!	#VALUE!	#VALUE!	
18.12	**1700**	**Furnishing and Placing Reinforced cement concrete in Tunnel Work as per drawing and Technical Specification**									
	A	**RCC Grade M 20**									
		Using Batching Plant ,Transit Mixer and Concrete Pump.									
		Unit=Cum									
		Taking output=120 Cum									

CHAPTER 18
Analysis of Rate
TUNNEL WORK

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		a) Material									
		Per Cum Basic Cost									
		(Rate taken from sub-analysis -21.05	cum	120.000	120.000	120.000	3399.00	407880.00	407880.00	407880.00	21.05
		Water for curing	KL	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
		b) Labour									
		For pouring and placing									
		Mate	day	0.232	0.232	0.232	444.00	103.01	103.01	103.01	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	4.300	4.300	4.300	428.00	1840.40	1840.40	1840.40	L-13
		c) Machinery									
		Transit Truck agitator									
		For Transportation (6 cum Capacity),L1-Lead in Kilometer.	t.km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
		For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
		Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
		Water tanker (Speed @ 20km /hour and return speed @ 30 km /hr.and 30 mins for unloading)									
		(i)12KL capacity.	hour	0.583xL1 +3.5	0.583xL1 +3.5	0.583xL1 +3.5	1030.00	4205.49	4205.49	4205.49	PM11002
		a+b+c=						437212.40	437212.40	437212.40	
		d) Formwork and staging 40 percent of (a+b+c)						174884.96	174884.96	174884.96	
		Total cost Without O.H.&C.P.						612097.36	612097.36	612097.36	
		e) Overhead charges on (a+b+c+d)		(@ 25%)	(@ 25%)	(@ 25%)		153024.34	153024.34	153024.34	
		f) Contractor's profit on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		76512.17	76512.17	76512.17	
		Cost for 120 cum =(a+b+c+d+e+f)						841633.87	841633.87	841633.87	
		Rate per cum = (a+b+c+d+e+f) /120						7013.62	7013.62	7013.62	
							Say	**7013.60**	**7013.60**	**7013.60**	
18.12	**1700 B**	**RCC Grade M 25**									
		Using Batching Plant ,Transit Mixer and Concrete Pump.									
		Unit = Cum									
		Taking output=120 Cum									
		a)Material									
		Per Cum Basic Cost									
		(Rate taken from sub-analysis -21.07	cum	120.000	120.000	120.000	3748.20	449784.00	449784.00	449784.00	21.07
		Water for curing	KL	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
		b) Labour									
		For pouring and placing									
		Mate	day	0.232	0.232	0.232	444.00	103.01	103.01	103.01	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Mazdoor	day	4.300	4.300	4.300	428.00	1840.40	1840.40	1840.40	L-13
		c) Machinery									
		Transit Truck agitator									
		For Transportation (6 cum Capacity),L1-Lead in Kilometer.	t.km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
		For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
		Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
		Water tanker (Speed @ 20km /hour and return speed @ 30 km /hr.and 30 mins for unloading)									
		(i)12KL capacity.	hour	0.583xL1 +3.5	0.583xL1 +3.5	0.583xL1 +3.5	1030.00	4205.49	4205.49	4205.49	PM11002
		a+b+c=						479116.40	479116.40	479116.40	
		d) Formwork and staging 40 percent of (a+b+c)						191646.56	191646.56	191646.56	
		Total cost Without O.H.&C.P.						670762.96	670762.96	670762.96	
		e) Overhead charges on (a+b+c+d)		(@ 25%)	(@ 25%)	(@ 25%)		167690.74	167690.74	167690.74	
		f) Contractor's profit on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		83845.37	83845.37	83845.37	
		Cost for 120 cum =(a+b+c+d+e+f)						**922299.07**	**922299.07**	**922299.07**	
		Rate per cum = (a+b+c+d+e+f) /120						7685.83	7685.83	7685.83	
							Say	**7685.80**	**7685.80**	**7685.80**	
18.12	**1700 C**	**RCC Grade M 30**									
		Using Batching Plant ,Transit Mixer and Concrete Pump.									
		Unit=Cum									
		Taking output=120 Cum									
		a) Material									
		Per Cum Basic Cost									
		(Rate taken from sub-analysis -21.09	cum	120.000	120.000	120.000	3781.30	453756.00	453756.00	453756.00	21.09
		Water for curing	KL	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
		b) Labour									
		For pouring and placing									
		Mate	day	0.232	0.232	0.232	444.00	103.01	103.01	103.01	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	4.300	4.300	4.300	428.00	1840.40	1840.40	1840.40	L-13
		c) Machinery									
		Transit Truck agitator									
		For Transportation (6 cum Capacity),L1-Lead in Kilometer.	t.km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
		For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
		Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001

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Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Water tanker (Speed @ 20km /hour and return speed @ 30 km /hr.and 30 mins for unloading)									
		(i)12KL capacity.	hour	0.583xL1 +3.5	0.583xL1 +3.5	0.583xL1 +3.5	1030.00	4205.49	4205.49	4205.49	PM11002
		a+b+c=						483088.40	483088.40	483088.40	
		d) Formwork and staging 40 percent of (a+b+c)						193235.36	193235.36	193235.36	
		Total cost Without O.H.&C.P.						676323.76	676323.76	676323.76	
		e) Overhead charges on (a+b+c+d)		(@ 25%)	(@ 25%)	(@ 25%)		169080.94	169080.94	169080.94	
		f) Contractor's profit on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		84540.47	84540.47	84540.47	
		Cost for 120 cum =(a+b+c+d+e+f)						929945.17	929945.17	929945.17	
		Rate per cum = (a+b+c+d+e+f) /120						7749.54	7749.54	7749.54	
							Say	**7749.50**	**7749.50**	**7749.50**	
18.12	**1700 D**	**RCC Grade M35**									
		Using Batching Plant ,Transit Mixer and Concrete Pump.									
		Unit=Cum									
		Taking output=120 Cum									
		a) Material									
		Per Cum Basic Cost									
		(Rate taken from sub-analysis -21.11)	cum	120.000	120.000	120.000	3884.60	466152.00	466152.00	466152.00	21.11
		Water for curing	KL	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
		b) Labour									
		For pouring and placing									
		Mate	day	0.232	0.232	0.232	444.00	103.01	103.01	103.01	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	4.300	4.300	4.300	428.00	1840.40	1840.40	1840.40	L-13
		c) Machinery									
		Transit Truck agitator									
		For Transportation (6 cum Capacity),L1-Lead in Kilometer.	t.km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
		For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
		Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
		Water tanker (Speed @ 20km /hour and return speed @ 30 km /hr.and 30 mins for unloading)									
		(i)12KL capacity.	hour	0.583xL1+ 3.5	0.583xL1+ 3.5	0.583xL1 +3.5	1030.00	4205.49	4205.49	4205.49	PM11002
		a+b+c=						495484.40	495484.40	495484.40	
		d) Formwork and staging 40 percent of (a+b+c)						198193.76	198193.76	198193.76	
		Total cost Without O.H.&C.P.						693678.16	693678.16	693678.16	
		e) Overhead charges on (a+b+c+d)		(@ 25%)	(@ 25%)	(@ 25%)		173419.54	173419.54	173419.54	

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		f) Contractor's profit on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		86709.77	86709.77	86709.77	
		Cost for 120 cum =(a+b+c+d+e+f)						953807.47	953807.47	953807.47	
		Rate per cum = (a+b+c+d+e+f) /120						7948.40	7948.40	7948.40	
							Say	**7948.40**	**7948.40**	**7948.40**	
18.12	**1700 E**	**RCC Grade M-40**									
		Using Batching Plant ,Transit Mixer and Concrete Pump.									
		Unit=Cum									
		Taking output=120 Cum									
		a) Material									
		Per Cum Basic Cost									
		(Rate taken from sub-analysis -21.12	cum	120.000	120.000	120.000	3985.50	478260.00	478260.00	478260.00	21.12
		Water for curing	KL	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
		b) Labour									
		For pouring and placing									
		Mate	day	0.232	0.232	0.232	444.00	103.01	103.01	103.01	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	4.300	4.300	4.300	428.00	1840.40	1840.40	1840.40	L-13
		c) Machinery									
		Transit Truck agitator									
		For Transportation (6 cum Capacity),L1-Lead in Kilometer.	t.km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
		For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
		Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
		Water tanker (Speed @ 20km /hour and return speed @ 30 km /hr.and 30 mins for unloading)									
		(i)12KL capacity.	hour	0.583xL1+3.5	0.583xL1+3.5	0.583xL1+3.5	1030.00	4205.49	4205.49	4205.49	PM11002
		a+b+c=						507592.40	507592.40	507592.40	
		d) Formwork and staging 40 percent of (a+b+c)						203036.96	203036.96	203036.96	
		Total cost Without O.H.&C.P.						710629.36	710629.36	710629.36	
		e) Overhead charges on (a+b+c+d)		(@ 25%)	(@ 25%)	(@ 25%)		**177657.34**	**177657.34**	**177657.34**	
		f) Contractor's profit on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		88828.67	88828.67	88828.67	
		Cost for 120 cum =(a+b+c+d+e+f)						977115.37	977115.37	977115.37	
		Rate per cum = (a+b+c+d+e+f) /120						8142.63	8142.63	8142.63	
							Say	**8142.60**	**8142.60**	**8142.60**	
18.12	**1700 F**	**RCC Grade M-45**									
		Unit=Cum									
		Taking output=120 Cum									
		a) Material									
		Per Cum Basic Cost									

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Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		(Rate taken from sub-analysis -21.13	cum	120.000	120.000	120.000	4012.30	481476.00	481476.00	481476.00	21.13
		Water for curing	KL	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
		b) Labour									
		For pouring and placing									
		Mate	day	0.232	0.232	0.232	444.00	103.01	103.01	103.01	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	4.300	4.300	4.300	428.00	1840.40	1840.40	1840.40	L-13
		c) Machinery									
		Transit Truck agitator									
		For Transportation (6 cum Capacity),L1-Lead in Kilometer.	t.km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
		For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
		Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
		Water tanker (Speed @ 20km /hour and return speed @ 30 km /hr.and 30 mins for unloading)									
		(i)12KL capacity.	hour	0.583xL1+ 3.5	0.583xL1+ 3.5	0.583xL1+ 3.5	1030.00	4205.49	4205.49	4205.49	PM11002
		a+b+c=						510808.40	510808.40	510808.40	
		d) Formwork and staging 40 percent of (a+b+c)						204323.36	204323.36	204323.36	
		Total cost Without O.H.&C.P.						715131.76	715131.76	715131.76	
		e) Overhead charges on (a+b+c+d)		(@ 25%)	(@ 25%)	(@ 25%)		**178782.94**	**178782.94**	**178782.94**	
		f) Contractor's profit on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		89391.47	89391.47	89391.47	
		Cost for 120 cum =(a+b+c+d+e+f)						983306.17	983306.17	983306.17	
		Rate per cum = (a+b+c+d+e+f) /120						8194.22	8194.22	8194.22	
							Say	**8194.20**	**8194.20**	**8194.20**	
18.12	**1700 G**	**RCC Grade M-50**									
		Unit=Cum									
		Taking output=120 Cum									
		a) Material									
		Per Cum Basic Cost									
		(Rate taken from sub-analysis -21.14	cum	120.000	120.000	120.000	4530.30	543636.00	543636.00	543636.00	21.14
		Water for curing	KL	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
		b) Labour									
		For pouring and placing									
		Mate	day	0.232	0.232	0.232	444.00	103.01	103.01	103.01	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	4.300	4.300	4.300	428.00	1840.40	1840.40	1840.40	L-13
		c) Machinery									
		Transit Truck agitator									
		For Transportation (6 cum Capacity),L1-Lead in Kilometer.	t.km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
		Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
		Water tanker (Speed @ 20km /hour and return speed @ 30 km /hr.and 30 mins for unloading)									
		(i)12KL capacity.	hour	0.583xL1+ 3.5	0.583xL1+ 3.5	0.583xL1+ 3.5	1030.00	4205.49	4205.49	4205.49	PM11002
		a+b+c=						572968.40	572968.40	572968.40	
		d) Formwork and staging 40 percent of (a+b+c)						229187.36	229187.36	229187.36	
		Total cost Without O.H.&C.P.						802155.76	802155.76	802155.76	
		e) Overhead charges on (a+b+c+d)		(@ 25%)	(@ 25%)	(@ 25%)		**200538.94**	**200538.94**	**200538.94**	
		f) Contractor's profit on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		100269.47	100269.47	100269.47	
		Cost for 120 cum =(a+b+c+d+e+f)						1102964.17	1102964.17	1102964.17	
		Rate per cum = (a+b+c+d+e+f) /120						9191.37	9191.37	9191.37	
							Say	**9191.40**	**9191.40**	**9191.40**	
18.12	**1700 H**	**RCC Grade M-55**									
		Unit=Cum									
		Taking output=120 Cum									
		a) Material									
		Per Cum Basic Cost									
		(Rate taken from sub-analysis -21.15)	cum	120.000	120.000	120.000	4603.40	552408.00	552408.00	552408.00	21.15
		Water for curing	KL	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
		b) Labour									
		For pouring and placing									
		Mate	day	0.232	0.232	0.232	444.00	103.01	103.01	103.01	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	4.300	4.300	4.300	428.00	1840.40	1840.40	1840.40	L-13
		c) Machinery									
		Transit Truck agitator									
		For Transportation (6cum Capacity),L1-Lead in Kilometer.	t.km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
		For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
		Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
		Water tanker (Speed @ 20km /hour and return speed @ 30 km /hr.and 30 mins for unloading)									
		(i)12KL capacity.	hour	0.583xL1+ 3.5	0.583xL1+ 3.5	0.583xL1+ 3.5	1030.00	4205.49	4205.49	4205.49	PM11002
		a+b+c=						581740.40	581740.40	581740.40	
		d) Formwork and staging 40 percent of (a+b+c)						232696.16	232696.16	232696.16	
		Total cost Without O.H.&C.P.						814436.56	814436.56	814436.56	
		e) Overhead charges on (a+b+c+d)		(@ 25%)	(@ 25%)	(@ 25%)		203609.14	203609.14	203609.14	
		f) Contractor's profit on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		101804.57	101804.57	101804.57	

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Analysis of Rate
TUNNEL WORK

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Cost for 120 cum =(a+b+c+d+e+f)						1119850.27	1119850.27	1119850.27	
		Rate per cum = (a+b+c+d+e+f) /120						9332.09	9332.09	9332.09	
							Say	**9332.10**	**9332.10**	**9332.10**	
18.12	**1700 I**	**RCC Grade M-60**									
		Unit=Cum									
		Taking output=120 Cum									
		a) Material									
		Per Cum Basic Cost									
		(Rate taken from sub-analysis -21.16)	cum	120.000	120.000	120.000	4752.60	570312.00	570312.00	570312.00	21.16
		Water for curing	KL	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
		b) Labour									
		For pouring and placing									
		Mate	day	0.232	0.232	0.232	444.00	103.01	103.01	103.01	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	4.300	4.300	4.300	428.00	1840.40	1840.40	1840.40	L-13
		c) Machinery									
		Transit Truck agitator									
		For Transportation (6 cum Capacity),L1-Lead in Kilometer.	t.km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
		For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
		Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
		Water tanker (Speed @ 20km /hour and return speed @ 30 km /hr.and 30 mins for unloading)									
		(i)12KL capacity.	hour	0.583xL1+ 3.5	0.583xL1+ 3.5	0.583xL1+ 3.5	1030.00	4205.49	4205.49	4205.49	PM11002
		a+b+c=						599644.40	599644.40	599644.40	
		d) Formwork and staging 40 percent of (a+b+c)						239857.76	239857.76	239857.76	
		Total cost Without O.H.&C.P.						839502.16	839502.16	839502.16	
		e) Overhead charges on (a+b+c+d)		(@ 25%)	(@ 25%)	(@ 25%)		209875.54	209875.54	209875.54	
		f) Contractor's profit on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		104937.77	104937.77	104937.77	
		Cost for 120 cum =(a+b+c+d+e+f)						1154315.47	1154315.47	1154315.47	
		Rate per cum = (a+b+c+d+e+f) /120						9619.30	9619.30	9619.30	
							Say	**9619.30**	**9619.30**	**9619.30**	
18.12	**1700 J**	**RCC Grade M-65**									
		Unit=Cum									
		Taking output=120 Cum									
		a) Material									
		Per Cum Basic Cost									
		(Rate taken from sub-analysis -21.17)	cum	120.000	120.000	120.000	4790.40	574848.00	574848.00	574848.00	21.17
		Water for curing	KL	63.000	63.000	63.000	63.20	3981.60	3981.60	3981.60	M-191
		b) Labour									

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		For pouring and placing									
		Mate	day	0.232	0.232	0.232	444.00	103.01	103.01	103.01	L-12
		Mason	day	1.500	1.500	1.500	541.00	811.50	811.50	811.50	L-10
		Mazdoor	day	4.300	4.300	4.300	428.00	1840.40	1840.40	1840.40	L-13
		c) Machinery									
		Transit Truck agitator									
		For Transportation (6cum Capacity),L1-Lead in Kilometer.	t.km	300xL1	300xL1	300xL1	10.87	3261.00	3261.00	3261.00	PM76001
		For unloading	hour	2.600	2.600	2.600	1992.00	5179.20	5179.20	5179.20	PM34001
		Hydraulic Boom placer pump	hour	2.600	2.600	2.600	3827.00	9950.20	9950.20	9950.20	PM36001
		Water tanker (Speed @ 20km /hour and return speed @ 30 km /hr.and 30 mins for unloading)									
		(i)12KL capacity.	hour	0.583xL1+ 3.5	0.583xL1+ 3.5	0.583xL1+ 3.5	1030.00	4205.49	4205.49	4205.49	PM11002
		a+b+c=						604180.40	604180.40	604180.40	
		d) Formwork and staging 40 percent of (a+b+c)						241672.16	241672.16	241672.16	
		Total cost Without O.H.&C.P.						845852.56	845852.56	845852.56	
		e) Overhead charges on (a+b+c+d)		(@ 25%)	(@ 25%)	(@ 25%)		211463.14	211463.14	211463.14	
		f) Contractor's profit on (a+b+c+d+e)		(@ 10%)	(@ 10%)	(@ 10%)		105731.57	105731.57	105731.57	
		Cost for 120 cum =(a+b+c+d+e+f)						**1163047.27**	**1163047.27**	**1163047.27**	
		Rate per cum = (a+b+c+d+e+f) /120						9692.06	9692.06	9692.06	
							Say	**9692.10**	**9692.10**	**9692.10**	
18.13	**1600**	**Supplying, Fitting and placing HYSD bar reinforcement in Tunnel Work complete as per drawing and technical specifications.**									
		Unit=MT									
		Taking out put =8 MT									
		a) Material									
		HYSD bars including 5 % overlaps and Wastage	Tonne	8.400	8.400	8.400	46087.5	387135.0	387135.0	387135.0	M-083
		Binding wire	Kg	48.000	48.000	48.000	49.41	2371.7	2371.7	2371.7	M-072
		b) Labour for straightening,cutting,bending, shifting to site ,tying and placing in position.									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Blacksmith	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-25
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Cutting Machine	hour	8.000	8.000	8.000	414.00	3312.00	3312.00	3312.00	PM43001
		Bending Machine	hour	8.000	8.000	8.000	414.00	3312.00	3312.00	3312.00	PM43001
		Electric Generator 15 KVA	hour	8.000	8.000	8.000	300.00	2400.00	2400.00	2400.00	PM22009
		Tipper									

CHAPTER 18
Analysis of Rate
TUNNEL WORK

Sr. No	Ref.to M	Description	Unit	Quantity as per Project Category			Rate (₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Tipper forTtransportation									
		(i) 14 cum capacity	t.km	8xL	8xL	8xL	5.71	45.68	45.68	45.68	PM73001
		Loading and Unloading Time									
		(i) 14 cum capacity	hour	2.000	2.000	2.000	2108.00	4216.00	4216.00	4216.00	PM6002
		Light weight Crane									
		At cutting bending yard	hour	2.000	2.000	2.000	860.00	1720.00	1720.00	1720.00	PM63001
		At site	hour	2.000	2.000	2.000	860.00	1720.00	1720.00	1720.00	PM63001
		Total cost Without O.H.&C.P .						408128.40	408128.40	408128.40	
		d) Overhead charges on (a+b+c)		(@ 25%)	(@ 25%)	(@ 25%)		102032.10	102032.10	102032.10	
		e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		51016.05	51016.05	51016.05	
		Cost for 8MT =(a+b+c+d+e)						561176.55	561176.55	561176.55	
		Rate per MT = (a+b+c+d+e) / 8						70147.07	70147.07	70147.07	
							Say	**70147.10**	**70147.10**	**70147.10**	

CHAPTER- 19

ENVIRONMENTAL & SAFETY MANAGEMENT AND BIO ENGINEERING

CHAPTER-19

ENVIRONMENTAL & SAFETY MANAGEMENT AND BIO ENGINEERING

PREAMBLES :

1 The items of Bio-Engineering comprising Bamboo crib wall, Fascines, Brush Layers, Palisades in Rills & Slopes, Seeding and Mulching have been included in the chapter to stabilize hill slopes.

2 Seeding and mulching has been included as earth work to stabilize the cut and fill slope in plane.

3 To attenuate the environmental pollution generated during construction and operation stage, three type of preventive measures have been provided.

a) Dust suppression

b) Noise Barrier

c) Silt fencing

The selection of the attenuation factor will be based on site situation and the sensitive receptors.

4 The analysis of rates for Environmental Monitoring-Air, Water, Noise & Soil has been included to cater with the compliance submission to SPCB & MoEF&CC.

5 The rates for consent approval from SPCB & CPCB for Consent to Establish (CtE) and Consent to Operate (CtO) for setting of Plant has been estimate and considered.

6 The cost of Environment and Social Workshops to create awareness to the locals, NGOs, etc. has been evaluated.

7 The estimates for compensatory afforestation though proposed by the forest authority and those planted in the median by contractor has been analysed and included in rate list.

8 The overhead charges will be applicable of Road Works for this chapter.

9 The cost of maintenance for plantation has been considered and included for the purpose of estimation.

CHAPTER:19
Summary of Rate Analysis
ENVIRONMENTAL & SAFETY MANAGEMENT AND BIO ENGINEERING

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
19.01 Suggestive	Noise Barriers				
(i)	Masonry wall	Cum	6526.50	6651.90	6794.10
(ii)	Galvanized steel plain sheet	Sqm	112.40	114.40	116.50
(iii)	Acrylic noise barrier sheet	Sqm	798.20	813.00	827.70
19.02 Suggestive	Construction of bamboo crib wall complete as per drawing and additional Technical specification.	RM	#VALUE!	#VALUE!	#VALUE!
19.03 Suggestive	Construction of Fascines with a bundle of sticks complete as per drawing and additional Technical specification.	RM	#VALUE!	#VALUE!	#VALUE!
19.04 Suggestive	Contraction and laying of brush layers across the slope complete as per drawing and additional Technical specification.	Sqm	#VALUE!	#VALUE!	#VALUE!
19.05 Suggestive	Construction of vegetative Palisades in Rills using hard wood cutting complete as per drawing and additional Technical specification.	RM	#VALUE!	#VALUE!	#VALUE!
19.06 Suggestive	Laying of Palisades in Slopes complete as per drawing and additional Technical specification.	Sqm	#VALUE!	#VALUE!	#VALUE!
19.07 Suggestive	Dust suppression (Sprinkling of water in the settlement and working area as per instruction of Engineer.)	6 KL	1259.40	1282.70	1306.00
19.08 Suggestive	Water Quality Monitoring (Grab Sample as per the monitoring locations mention in the EIA/EMP report or one sample/ 10km length)	No.	#VALUE!	#VALUE!	#VALUE!
19.09 Suggestive	Soil Quality Monitoring (Grab Sample as per the monitoring locations mention in the EIA/EMP report or one sample/10 km length	No.	#VALUE!	#VALUE!	#VALUE!
19.10 Suggestive	Ambient Air Quality Monitoring 24 hrs continuous for location as mention in the EIA/EMP report or one monitoring location within 10 km radius	No.	#VALUE!	#VALUE!	#VALUE!
19.11 Suggestive	Ambient Noise Monitoring 24 hour continuous (To be carried out as per the location mention in the EIA/EMP report	No.	#VALUE!	#VALUE!	#VALUE!

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Summary of Rate Analysis
ENVIRONMENTAL & SAFETY MANAGEMENT AND BIO ENGINEERING

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
19.12 Suggestive	Consent Approvals (Once)				
	(i)	No.	#VALUE!	#VALUE!	#VALUE!
	(ii)	No.	#VALUE!	#VALUE!	#VALUE!
19.13 Suggestive	Compliance submission for Consent Approvals (Half Yearly)				
	(i)	No.	#VALUE!	#VALUE!	#VALUE!
	(ii)	No.	#VALUE!	#VALUE!	#VALUE!
19.14 Suggestive	Environmental Clearance Compliance (Half Yearly)	No.	#VALUE!	#VALUE!	#VALUE!
19.15 Suggestive	Environmental Workshops (Half Yearly)	No.	#VALUE!	#VALUE!	#VALUE!
19.16 Suggestive	Pollution prevention (Silt fencing on either side of the streams and rivers including erection and maintenance for entire construction phase.)	RM	#VALUE!	#VALUE!	#VALUE!
19.17	Road Safety Audit during Construction Period & Maintenance Period (Road Safety Audit during Construction Period & Maintenance Period including collection of Road accident data and analysis of fatal and grievously injured accident with black spot identification report, submission of GAP report, Road Safety Audit Reports on all activities which were planned, actually executed and planned for the next quarter report, Submission of audit report of work zone safety, workshop report and Final Safety report complete as per IRC-SP-88 and directed by engineer)				
A	Upto 50.00 Kilometer	Km	#VALUE!	#VALUE!	#VALUE!
B	Between 50.00 Km. to 100.00 Km.	Km	#VALUE!	#VALUE!	#VALUE!
C	More than 100 Km.	Km	#VALUE!	#VALUE!	#VALUE!

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Summary of Rate Analysis
ENVIRONMENTAL & SAFETY MANAGEMENT AND BIO ENGINEERING

Item No.	Description	Unit	Rate as per project category (₹)		
			Large	Medium	Small
19.18	Road Safety Audit during Maintenance Period (Road Safety Audit during Maintenance Period including collection of Road accident data and analysis of fatal and grievously injured accident with black spot identification report, submission of GAP report, Road Safety Audit Reports on all activities which were planned, actually executed and planned for the next quarter report, Submission of audit report of work zone safety (Maintenance work), workshop report and Final Safety report complete as per IRC-SP-88 and directed by engineer)				
A	Upto 50.00 Kilometer	Km	#VALUE!	#VALUE!	#VALUE!
B	Between 50.00 Km. to 100 Km.	Km	#VALUE!	#VALUE!	#VALUE!
C	More than 100 Km.	Km	#VALUE!	#VALUE!	#VALUE!

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
19.01	Suggestive		**Noise Barriers**									
		(i)	**Masonry wall**									
			Unit = cum									
			Taking output= 5 cum									
			a) Material									
			Brick 1st class	each	2500.000	2500.000	2500.000	6.620	16550.00	16550.00	16550.00	M-079
			Cement mortar 1:3 (Rate as sub analysis)	cum	1.200	1.200	1.200	4019.00	4822.80	4822.80	4822.80	21.01(A)
			water for curing	KL	2.415	2.415	2.415	63.20	152.63	152.63	152.63	M-191
			b) Labour									
			Mate	day	0.480	0.480	0.480	444.00	213.12	213.12	213.12	L-12
			Mason	day	4.000	4.000	4.000	541.00	2164.00	2164.00	2164.00	L-10
			Mazdoor	day	8.000	8.000	8.000	428.00	3424.00	3424.00	3424.00	L-13
			c) Machinery									
			Water tanker (speed @ 20km/hr and return speed @ 30km/hr and 30 mins for unloading)									
			(i) 16KL capacity	hour	0.017xL1 +0.101			1204.00	142.07			PM11001
			(ii) 12 KL capacity	hour		0.022xL1 +0.134		1030.00		160.68		PM11002
			(iii) 6 KL capacity	hour			0.045xL1 +0.268	789.00			246.96	PM11003
			Total cost without OH & CP						27468.62	27487.23	27573.51	
			d) Overhead charges on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		2197.49	2748.72	3308.82	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		2966.61	3023.60	3088.23	
			Cost for 5 Cum=a+b+c+d+e						32632.72	33259.55	33970.56	

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Analysis of Rate

ENVIRONMENTAL & SAFETY MANAGEMENT AND BIO ENGINEERING

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Rate per Cum= (a+b+c+d+e)/5						6526.54	6651.91	6794.11	
								Say	**6526.50**	**6651.90**	**6794.10**	
		(ii)	**Galvanized steel plain sheet**									
			Unit= sqm									
			Taking output= 100 sqm									
			a) Labour									
			Mate	day	0.060	0.060	0.060	444.00	26.64	26.64	26.64	L-12
			Blacksmith	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-25
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			b) Material									
			Galvanized steel plain sheet (5 mm) including 5% wastage	kg	3.150	3.150	3.150	49.937	157.30	157.30	157.30	M181 /1000
			MS Angle	kg	154.500	154.500	154.500	49.937	7715.22	7715.22	7715.22	M181/1000
			Add 10 percent of cost of (a+b) towards of drilling, nut & bolt etc.						859.77	859.77	859.77	
			Total cost without OH & CP						9457.42	9457.42	9457.42	
			c) Overhead charges on (a+b)		(@ 8%)	(@ 10%)	(@ 12%)		756.59	945.74	1134.89	
			d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		1021.40	1040.32	1059.23	
			Cost for 100 sqm=a+b+c+d						11235.42	11443.48	11651.54	
			Rate per sqm= (a+b+c+d)/100						112.35	114.43	116.52	
								Say	**112.40**	**114.40**	**116.50**	
		Note:	Rate for excavation, cement concrete M-25 and painting may be taken from respective chapters.									
		(iii)	**Acrylic noise barrier sheet**									
			Unit= sqm									

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Taking output= 100 sqm									
			a) Labour									
			Mate	day	0.060	0.060	0.060	444.00	26.64	26.64	26.64	L-12
			Blacksmith	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-25
			Mazdoor	day	1.000	1.000	1.000	428.00	428.00	428.00	428.00	L-13
			b) Material									
			Acrylic noise barrier sheet (3 mm) including 5% wastage	sqm	105.000	105.000	105.000	501.32	52638.60	52638.60	52638.60	M-294
			MS Angle	kg	154.500	154.500	154.500	49.937	7715.22	7715.22	7715.22	M181/1000
			Add 10 percent of cost of (a+b) towards of drilling, nut & bolt etc.						6107.90	6107.90	6107.90	
			Total cost without OH & CP						67186.85	67186.85	67186.85	
			c) Overhead charges on (a+b)		(@ 8%)	(@ 10%)	(@ 12%)		5374.95	6718.68	8062.42	
			d) Contractor's profit on (a+b+c)		(@ 10%)	(@ 10%)	(@ 10%)		7256.18	7390.55	7524.93	
			Cost for 100 sqm=a+b+c+d						79817.98	81296.09	82774.20	
			Rate per sqm= (a+b+c+d)/100						798.18	812.96	827.74	
								Say	**798.20**	**813.00**	**827.70**	
		Note:	Rate for excavation, cement concrete M-25 and painting may be taken from respective chapters.									
19.02	**Suggestive**		**Construction of bamboo crib wall complete as per drawing and additional Technical specification.**									
			Unit= Rm									
			Taking output= 1 Rm									
			a) Labour									

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Analysis of Rate

ENVIRONMENTAL & SAFETY MANAGEMENT AND BIO ENGINEERING

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Mate	day	0.016	0.016	0.016	444.00	7.10	7.10	7.10	L-12
			Mazdoor skilled	day	0.100	0.100	0.100	541.00	54.10	54.10	54.10	L-15
			Mazdoor	day	0.300	0.300	0.300	428.00	128.40	128.40	128.40	L-13
			b) Machinery						0.00	0.00	0.00	
			Water tanker 6 KL capacity	hour	0.008	0.008	0.008	789.00	6.31	6.31	6.31	PM11003
			c) Materials									
			Bamboos (For Horizontal Beam)	Rm	4.000	4.000	4.000	15.05	60.20	60.20	60.20	M-229
			Live stake stump/ Bamboos (vertical)	Rm	1.500	1.500	1.500	INPUT	#VALUE!	#VALUE!	#VALUE!	M-230
			Live Stake Stump/ Bamboos (Horizontal)	Rm	1.000	1.000	1.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-230
			Binding Material	Rm	2.000	2.000	2.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-235
			Cost of water	KL	0.050	0.050	0.050	63.20	3.16	3.16	3.16	M-191
			Grass	Kg	1.500	1.500	1.500	5.68	8.52	8.52	8.52	M-112
			Total cost without OH & CP						#VALUE!	#VALUE!	#VALUE!	
			d) Overhead charges on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Cost for 1 Rm=a+b+c+d+e						#VALUE!	#VALUE!	#VALUE!	
			Rate per Rm= (a+b+c+d+e)					**Say**	#VALUE!	#VALUE!	#VALUE!	
19.03	**Suggestive**		**Construction of Fascines with a bundle of sticks complete as per drawing and additional Technical specification.**									
			Unit= Rm									
			Taking output= 10 Rm									

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			a) Labour									
			Mate	day	0.100	0.100	0.100	444.00	44.40	44.40	44.40	L-12
			Mazdoor skilled	day	0.500	0.500	0.500	541.00	270.50	270.50	270.50	L-15
			Mazdoor	day	2.000	2.000	2.000	428.00	856.00	856.00	856.00	L-13
			b) Machinery									
			Tractor-trolley	hour	1.000	1.000	1.000	717.00	717.00	717.00	717.00	PM12001
			c) Material									
			Hard wood sticks	Nos	8.000	8.000	8.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-231
			Binding Material	Rm	5.000	5.000	5.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-235
			Total cost without OH & CP						#VALUE!	#VALUE!	#VALUE!	
			d) Overhead charges on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Cost for 10 Rm=a+b+c+d+e						#VALUE!	#VALUE!	#VALUE!	
			Rate per Rm= (a+b+c+d+e)/10						#VALUE!	#VALUE!	#VALUE!	
								Say	#VALUE!	#VALUE!	#VALUE!	
19.04	**Suggestive**		**Contraction and laying of brush layers across the slope complete as per drawing and additional Technical specification.**									
			Unit= sqm									
			Taking output= 100 sqm									
			a) Labour									
			Mate	day	0.120	0.120	0.120	444.00	53.28	53.28	53.28	L-12
			Mazdoor for preparation of ground	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			b) Machinery									
			Water tanker 6KL capacity including watering for 3 months	hour	2.000	2.000	2.000	789.00	1578.00	1578.00	1578.00	PM11003
			Tractor-trolley	hour	0.500	0.500	0.500	717.00	358.50	358.50	358.50	PM12001

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ENVIRONMENTAL & SAFETY MANAGEMENT AND BIO ENGINEERING

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			c) Material									
			Live Sods (0.6m length)	Nos.	1000.000	1000.000	1000.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-232
			Farm yard manure @ 0.18 cum per 100 sqm at site of work	cum	0.180	0.180	0.180	552.10	99.38	99.38	99.38	M-168
			Cost of water	KL	12.000	12.000	12.000	63.20	758.40	758.40	758.40	M-191
			Grass	kg	100.000	100.000	100.000	5.68	568.00	568.00	568.00	M-111
			Total cost without OH & CP						#VALUE!	#VALUE!	#VALUE!	
			d) Overhead charges on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Cost for 100 sqm=a+b+c+d+e						#VALUE!	#VALUE!	#VALUE!	
			Rate per sqm = (a+b+c+d+e)/100						#VALUE!	#VALUE!	#VALUE!	
								Say	#VALUE!	#VALUE!	#VALUE!	
19.05	**Suggestive**		**Construction of vegetative Palisades in Rills using hard wood cutting complete as per drawing and additional Technical specification.**									
			Unit= Rm									
			Taking output= 2 Rm									
			a) Labour									
			Mate	day	0.012	0.012	0.012	444.00	5.33	5.33	5.33	L-12
			Mazdoor skilled	day	0.100	0.100	0.100	541.00	54.10	54.10	54.10	L-15
			Mazdoor	day	0.200	0.200	0.200	428.00	85.60	85.60	85.60	L-13
			b) Machinery									
			Tractor-trolley	hour	0.250	0.250	0.250	717.00	179.25	179.25	179.25	PM12001
			c) Material									
			Horizontal Live Sods (2M Length)	Nos.	2.000	2.000	2.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-233
			Vertical Live Sods (2M Length)	Nos.	40.000	40.000	40.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-233

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Cost of water	KL	0.100	0.100	0.100	63.20	6.32	6.32	6.32	M-191
			Binding Material	Rm	5.000	5.000	5.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-235
			Total cost without OH & CP						#VALUE!	#VALUE!	#VALUE!	
			d) Overhead charges on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Cost for 2 Rm=a+b+c+d+e						#VALUE!	#VALUE!	#VALUE!	
			Rate per Rm= (a+b+c+d+e)/2						#VALUE!	#VALUE!	#VALUE!	
								Say	#VALUE!	#VALUE!	#VALUE!	
19.06	**Suggestive**		**Laying of Palisades in Slopes complete as per drawing and additional Technical specification.**									
			Unit= sqm									
			Taking output= 100 sqm									
			a) Labour									
			Mate	day	0.120	0.120	0.120	444.00	53.28	53.28	53.28	L-12
			Mazdoor for preparation of ground	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
			b) Machinery									
			Water tanker 6KL including watering for 3 months	hour	2.000	2.000	2.000	789.00	1578.00	1578.00	1578.00	PM11003
			Tractor-trolley	hour	0.500	0.500	0.500	717.00	358.50	358.50	358.50	PM12001
			c) Material									
			Live Sods (0.6m length)	Nos.	1000.000	1000.000	1000.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-232
			Farm yard manure @ 0.18 cum per 100 sqm at site of work	cum	0.180	0.180	0.180	552.10	99.38	99.38	99.38	M-168
			Cost of water	KL	12.000	12.000	12.000	63.20	758.40	758.40	758.40	M-191
			Grass	kg	100.000	100.000	100.000	5.68	568.00	568.00	568.00	M-111
			Total cost without OH & CP						#VALUE!	#VALUE!	#VALUE!	

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ENVIRONMENTAL & SAFETY MANAGEMENT AND BIO ENGINEERING

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			d) Overhead charges on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Cost for 100 sqm=a+b+c+d+e						#VALUE!	#VALUE!	#VALUE!	
			Rate per sqm = (a+b+c+d+e)/100						#VALUE!	#VALUE!	#VALUE!	
								Say	#VALUE!	#VALUE!	#VALUE!	
19.07	**Suggestive**		**Dust suppression**									
			Sprinkling of water in the settlement and working area as per instruction of Engineer.									
			Unit= 6 KL									
			Taking output= 6 KL									
			a) Labour									
			Mate	day	0.008	0.008	0.008	444.00	3.55	3.55	3.55	L-12
			Mazdoor	day	0.200	0.200	0.200	428.00	85.60	85.60	85.60	L-13
			b) Machinery									
			Water tanker 6 KL capacity	hour	0.750	0.750	0.750	789.00	591.75	591.75	591.75	PM11003
			c) Materials									
			Cost of Water	KL	6.000	6.000	6.000	63.20	379.20	379.20	379.20	M-191
			Total cost without OH & CP						1060.10	1060.10	1060.10	
			d) Overhead charges on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		84.81	106.01	127.21	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		114.49	116.61	118.73	
			Cost for 6 KL =a+b+c+d+e						1259.40	1282.72	1306.05	
								Say	**1259.40**	**1282.70**	**1306.00**	
19.08	**Suggestive**		**Water Quality Monitoring**									
			(Grab Sample as per the monitoring locations mention in the EIA/EMP report or one sample/ 10km length)									
			Unit=Number									
			Taking output= One Number									

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			a) Cost of Water Quality monitoring	Nos.	1.000	1.000	1.000	INPUT	#VALUE!	#VALUE!	#VALUE!	MR46
			b) Overhead charges on (a)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate per number = a+b+c					Say	#VALUE!	#VALUE!	#VALUE!	
19.09	Suggestive		Soil Quality Monitoring (Grab Sample as per the monitoring locations mention in the EIA/EMP report or one sample/10 km length									
			Unit=Number									
			Taking output= One Number									
			a) Cost of Soil Quality monitoring	Nos.	1.000	1.000	1.000	INPUT	#VALUE!	#VALUE!	#VALUE!	MR47
			b) Overhead charges on (a)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate per number = a+b+c					Say	#VALUE!	#VALUE!	#VALUE!	
19.10	Suggestive		Ambient Air Quality Monitoring 24 hrs continuous for location as mention in the EIA/EMP report or one monitoring location within 10 km radius									
			Unit=Number									
			Taking output= One Number									
			a) Cost of Ambient Air Quality	Nos.	1.000	1.000	1.000	INPUT	#VALUE!	#VALUE!	#VALUE!	MR48
			b) Overhead charges on (a)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate per number = a+b+c					Say	#VALUE!	#VALUE!	#VALUE!	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
19.11	Suggestive		Ambient Noise Monitoring 24 hour continuous (To be carried out as per the location mention in the EIA/EMP report									
			Unit=Number									
			Taking output= One Number									
			a) Cost of Ambient Noise Monitoring 24 hour continuous	Nos.	1.000	1.000	1.000	INPUT	#VALUE!	#VALUE!	#VALUE!	MR49
			b) Overhead charges on (a)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate per number = a+b+c					Say	#VALUE!	#VALUE!	#VALUE!	
19.12	Suggestive		Consent Approvals (Once)									
			Unit=Number									
			Taking output= One Number									
19.12		(i)	a) Consent to Establish (CTE)	Nos.	1.000	1.000	1.000	INPUT	#VALUE!	#VALUE!	#VALUE!	MR50
			b) Overhead charges on (a)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate per number = a+b+c					Say	#VALUE!	#VALUE!	#VALUE!	
19.12		(ii)	a) Consent to Operate (CTO)	Nos.	1.000	1.000	1.000	INPUT	#VALUE!	#VALUE!	#VALUE!	MR51
			b) Overhead charges on (a)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate per number = a+b+c					Say	#VALUE!	#VALUE!	#VALUE!	

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
19.13	Suggestive		Compliance submission for Consent Approvals (Half Yearly)									
			Unit=Number									
			Taking output= One Number									
19.13		(i)	a) compliance submission for Consent to Establish (CTE)	Nos.	1.000	1.000	1.000	INPUT	#VALUE!	#VALUE!	#VALUE!	MR52
			b) Overhead charges on (a)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate per number = a+b+c					Say	#VALUE!	#VALUE!	#VALUE!	
19.13		(ii)	a) compliance submission for Consent to Operate (CTO)	Nos.	1.000	1.000	1.000	INPUT	#VALUE!	#VALUE!	#VALUE!	MR53
			b) Overhead charges on (a)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate per number = a+b+c					Say	#VALUE!	#VALUE!	#VALUE!	
19.14	Suggestive		Environmental Clearance Compliance (Half Yearly)									
			Unit=Number									
			Taking output= One Number									
			a) Cost of Workshop	Nos.	1.000	1.000	1.000	INPUT	#VALUE!	#VALUE!	#VALUE!	MR54
			b) Overhead charges on (a)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate per number = a+b+c					Say	#VALUE!	#VALUE!	#VALUE!	
19.15	Suggestive		Environmental Workshops (Half Yearly)									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Unit=Number									
			Taking output= One Number									
			a) Cost of Workshop	Nos.	1.000	1.000	1.000	INPUT	#VALUE!	#VALUE!	#VALUE!	MR54
			b) Overhead charges on (a)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			c) Contractor's profit on (a+b)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate per number = a+b+c					**Say**	#VALUE!	#VALUE!	#VALUE!	
19.16	**Suggestive**		**Pollution prevention**									
			Silt fencing on either side of the streams and rivers including erection and maintenance for entire construction phase.									
			Unit= Rm									
			Taking output= 100 Rm									
			a) Labour									
			Mate	day	0.080	0.080	0.080	444.00	35.52	35.52	35.52	L-12
			Mazdoor	day	2.000	2.000	2.000	428.00	856.00	856.00	856.00	L-13
			b) Machinery									
			Tractor-trolley	hour	2.000	2.000	2.000	717.00	1434.00	1434.00	1434.00	PM12001
			c) Materials									
			Silt Fence Sheet	Sqm	100.000	100.000	100.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-295
			Hard wood sticks	Nos	34.000	34.000	34.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-231
			Total cost without OH & CP						#VALUE!	#VALUE!	#VALUE!	
			d) Overhead charges on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Cost for 100 Rm=a+b+c+d+e						#VALUE!	#VALUE!	#VALUE!	
			Rate per Rm= (a+b+c+d+e)/100						#VALUE!	#VALUE!	#VALUE!	

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
								Say	#VALUE!	#VALUE!	#VALUE!	
19.17	IRC-SP-88		**Road Safety Audit during Construction Period & Maintenance Period**									
			Road Safety Audit during Construction Period & Maintenance Period including collection of Road accident data and analysis of fatal and grievously injured accident with black spot identification report, submission of GAP report, Road Safety Audit Reports on all activities which were planned, actually executed and planned for the next quarter report, Submission of audit report of work zone safety, workshop report and Final Safety report complete as per IRC-SP-88 and directed by engineer								
			Unit= Kilometer									
19.17		A	**Upto 50.00 Kilometer**									
			a) Experts/ key Personnel									
			Sr. Road Safety/ Auditor / Team Leader	Month	4	4	4	INPUT	#VALUE!	#VALUE!	#VALUE!	M-312
			Traffic Planner	Month	6	6	6	INPUT	#VALUE!	#VALUE!	#VALUE!	M-313
			b) Boarding & Loading									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Boarding & Loading and Per Diem for Site Visits	Days	90.000	90.000	90.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-314
			Transportation at site and Head Office	No. of Trip	20.000	20.000	20.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-315
			Duty travel to Site	Days	90.000	90.000	90.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-316
			c) Reports and Documents Cost									
			Collection of Road accident data and analysis of fatal and grievously injured accident with black spot identification	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-317
			Submission of GAP report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-318
			Road Safety Audit Reports on all activities which were planned, actually executed and planned for the next quarter.	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-319
			Submission of audit report of work zone safely	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-320
			workshop report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-321
			Final safety report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-322

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Add 10 percent of cost of a+b+c as Miscellaneous work						#VALUE!	#VALUE!	#VALUE!	
			Total cost without OH & CP						#VALUE!	#VALUE!	#VALUE!	
			d) Overhead charges on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate for upto 50.00 kilometer = (a+b+c+d+e)					**Say**	#VALUE!	#VALUE!	#VALUE!	
19.17		**B**	**Between 50.00 Km. to 100.00 Km.**									
			a) Experts/ key Personnel									
			Sr. Road Safety/ Auditor / Team Leader	Month	6	6	6	INPUT	#VALUE!	#VALUE!	#VALUE!	M-312
			Traffic Planner	Month	8	8	8	INPUT	#VALUE!	#VALUE!	#VALUE!	M-313
			b) Boarding & Loading									
			Boarding & Loading and Per Diem for Site Visits	Days	126.000	126.000	126.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-314
			Transportation at site and Head Office	No. of Trip	20.000	20.000	20.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-315
			Duty travel to Site	Days	126.000	126.000	126.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-316
			c) Reports and Documents Cost									
			Collection of Road accident data and analysis of fatal and grievously injured accident with black spot identification	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-317

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Submission of GAP report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-318
			Road Safety Audit Reports on all activities which were planned, actually executed and planned for the next quarter.	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-319
			Submission of audit report of work zone safely	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-320
			workshop report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-321
			Final safety report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-322
			Add 10 percent of cost of a+b+c as Miscellaneous work						#VALUE!	#VALUE!	#VALUE!	
			Total cost without OH & CP						#VALUE!	#VALUE!	#VALUE!	
			d) Overhead charges on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate for 50.00 to 100.00 kilometer = (a+b+c+d+e)						#VALUE!	#VALUE!	#VALUE!	
19.17		**C**	**More than 100 Km.**									
			a) Experts/ key Personnel									
			Sr. Road Safety/ Auditor / Team Leader	Month	8	8	8	INPUT	#VALUE!	#VALUE!	#VALUE!	M-312
			Traffic Planner	Month	10	10	10	INPUT	#VALUE!	#VALUE!	#VALUE!	M-313

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			b) Boarding & Loading									
			Boarding & Loading and Per Diem for Site Visits	Days	162.000	162.000	162.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-314
			Transportation at site and Head Office	No. of Trip	20.000	20.000	20.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-315
			Duty travel to Site	Days	162.000	162.000	162.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-316
			c) Reports and Documents Cost									
			Collection of Road accident data and analysis of fatal and grievously injured accident with black spot identification	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-317
			Submission of GAP report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-318
			Road Safety Audit Reports on all activities which were planned, actually executed and planned for the next quarter.	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-319
			Submission of audit report of work zone safely	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-320
			workshop report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-321
			Final safety report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-322
			Add 10 percent of cost of a+b+c as Miscellaneous work						#VALUE!	#VALUE!	#VALUE!	

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Total cost without OH & CP						#VALUE!	#VALUE!	#VALUE!	
			d) Overhead charges on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate for more than 100.00 kilometer = (a+b+c+d+e)					**Say**	#VALUE!	#VALUE!	#VALUE!	
19.18	**IRC-SP-88**		**Road Safety Audit during Maintenance Period**									
			Road Safety Audit during Maintenance Period including collection of Road accident data and analysis of fatal and grievously injured accident with black spot identification report, submission of GAP report, Road Safety Audit Reports on all activities which were planned, actually executed and planned for the next quarter report, Submission of audit report of work zone safety (Maintenance work), workshop report and Final Safety report complete as per IRC-SP-88 and directed by engineer								
			Unit= Kilometer									
19.18		**A**	**Upto 50.00 Kilometer**									
			a) Experts/ key Personnel									

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Sr. Road Safety/ Auditor / Team Leader	Month	2	2	2	INPUT	#VALUE!	#VALUE!	#VALUE!	M-312
			Traffic Planner	Month	3	3	3	INPUT	#VALUE!	#VALUE!	#VALUE!	M-313
			b) Boarding & Loading									
			Boarding & Loading and Per Diem for Site Visits	Days	45.000	45.000	45.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-314
			Transportation at site and Head Office	No. of Trip	20.000	20.000	20.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-315
			Duty travel to Site	Days	45.000	45.000	45.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-316
			c) Reports and Documents Cost									
			Collection of Road accident data and analysis of fatal and grievously injured accident with black spot identification	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-317
			Submission of GAP report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-318
			Road Safety Audit Reports on all activities which were planned, actually executed and planned for the next quarter.	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-319
			Submission of audit report of work zone safely	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-320
			workshop report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-321

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Final safety report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-322
			Add 10 percent of cost of a+b+c as Miscellaneous work						#VALUE!	#VALUE!	#VALUE!	
			Total cost without OH & CP						#VALUE!	#VALUE!	#VALUE!	
			d) Overhead charges on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate for upto 50.00 kilometer = (a+b+c+d+e)					**Say**	#VALUE!	#VALUE!	#VALUE!	
19.18		**B**	**Between 50.00 Km. to 100 Km.**									
			a) Experts/ key Personnel									
			Sr. Road Safety/ Auditor / Team Leader	Month	3	3	3	INPUT	#VALUE!	#VALUE!	#VALUE!	M-312
			Traffic Planner	Month	4	4	4	INPUT	#VALUE!	#VALUE!	#VALUE!	M-313
			b) Boarding & Loading									
			Boarding & Loading and Per Diem for Site Visits	Days	45.000	45.000	45.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-314
			Transportation at site and Head Office	No. of Trip	20.000	20.000	20.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-315
			Duty travel to Site	Days	45.000	45.000	45.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-316
			c) Reports and Documents Cost									

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Collection of Road accident data and analysis of fatal and grievously injured accident with black spot identification	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-317
			Submission of GAP report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-318
			Road Safety Audit Reports on all activities which were planned, actually executed and planned for the next quarter.	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-319
			Submission of audit report of work zone safety (Maintenance Work)	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-320
			workshop report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-321
			Final safety report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-322
			Add 10 percent of cost of a+b+c as Miscellaneous work						#VALUE!	#VALUE!	#VALUE!	
			Total cost without OH & CP						#VALUE!	#VALUE!	#VALUE!	
			d) Overhead charges on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate for 50.00 to 100.00 kilometer = (a+b+c+d+e)					**Say**	#VALUE!	#VALUE!	#VALUE!	
19.18		**C**	**More than 100 Km.**									
			a) Experts/ key Personnel									

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Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Sr. Road Safety/ Auditor / Team Leader	Month	4	4	4	INPUT	#VALUE!	#VALUE!	#VALUE!	M-312
			Traffic Planner	Month	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-313
			b) Boarding & Loading									
			Boarding & Loading and Per Diem for Site Visits	Days	45.000	45.000	45.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-314
			Transportation at site and Head Office	No. of Trip	20.000	20.000	20.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-315
			Duty travel to Site	Days	45.000	45.000	45.000	INPUT	#VALUE!	#VALUE!	#VALUE!	M-316
			c) Reports and Documents Cost									
			Collection of Road accident data and analysis of fatal and grievously injured accident with black spot identification	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-317
			Submission of GAP report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-318
			Road Safety Audit Reports on all activities which were planned, actually executed and planned for the next quarter.	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-319
			Submission of audit report of work zone safety (Maintenance Work)	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-320
			workshop report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-321

Sr No	Ref. to M.		Description	Unit	Quantity as per project category			Rate (₹)	Amount (₹)			Input_Ref
					Large	Medium	Small		Large	Medium	Small	
			Final safety report	No. of Copies	5	5	5	INPUT	#VALUE!	#VALUE!	#VALUE!	M-322
			Add 10 percent of cost of a+b+c as Miscellaneous work						#VALUE!	#VALUE!	#VALUE!	
			Total cost without OH & CP						#VALUE!	#VALUE!	#VALUE!	
			d) Overhead charges on (a+b+c)		(@ 8%)	(@ 10%)	(@ 12%)		#VALUE!	#VALUE!	#VALUE!	
			e) Contractor's profit on (a+b+c+d)		(@ 10%)	(@ 10%)	(@ 10%)		#VALUE!	#VALUE!	#VALUE!	
			Rate for more than 100.00 kilometer = (a+b+c+d+e)					**Say**	#VALUE!	#VALUE!	#VALUE!	

SUB-ANALYSIS OF CONCRETE/MORTAR RATE (Excluding O.H&C.P)

CHAPTER-21

Summary of Sub - Analysis

SUB-ANALYSIS OF CONCRETE / MORTAR RATE(Excluding O.H&C.P)

Sl No.	Ref.to M.	Description	Unit	Rate as per project category (₹)		
				Large	Medium	Small
21.01		(A) Cement Mortar 1:3 (1 cement: 3 sand)	cum	4019.00	4019.00	4019.00
21.01		(B) Cement Mortar 1:2 (1 cement: 2 sand)	cum	4890.20	4890.20	4890.20
21.01		(C) Cement Mortar 1:4 (1 cement: 4 sand)	cum	3437.90	3437.90	3437.90
21.01		(D) Cement Mortar 1:6 (1 cement: 6 sand)	cum	2900.50	2900.50	2900.50
21.02		PCC 1:3:6 using batching plant				
		Plain Cement concrete 1:3:6 nominal mix with crushed stone aggregate 40 mm nominal size mechanically mixed	cum	2990.00	2990.00	2990.00
21.03		Plain/Reinforced cement concrete complete as per Drawing and Technical specefication.				
		PCC Grade M15 Using Batching Plant	cum	3034.40	3034.40	3034.40
21.04		PCC Grade M20 Using Batching Plant	cum	3416.10	3416.10	3416.10
21.05		RCC Grade M20 Using Batching Plant	cum	3399.00	3399.00	3399.00
21.06		PCC Grade M25 Using Batching Plant	cum	3737.70	3737.70	3737.70
21.07		RCC Grade M25 Using Batching Plant	cum	3748.20	3748.20	3748.20
21.08		PCC Grade M30 Using Batching Plant	cum	3769.10	3769.10	3769.10
21.09		RCC Grade M30 Using Batching Plant	cum	3781.30	3781.30	3781.30
21.10		PCC Grade M35 Using Batching Plant	cum	3853.90	3853.90	3853.90
21.11		RCC GradeM35 Using Batching plant	cum	3884.60	3884.60	3884.60
21.12		RCC Grade M40 Using Batching Plant	cum	3985.50	3985.50	3985.50
21.13		RCC Grade M45 Using Batching Plant	cum	4012.30	4012.30	4012.30
21.14		RCC Grade M50 Using Batching Plant	cum	4530.30	4530.30	4530.30
21.15		RCC Grade M55 Using Batching Plant	cum	4603.40	4603.40	4603.40
21.16		RCC Grade M60 Using Batching Plant	cum	4752.60	4752.60	4752.60
21.17		RCC Grade M65 Using Batching Plant	cum	4790.40	4790.40	4790.40
21.18	601	(A) DLC Using Batching Plant -240 cum capacity Plant	cum	2149.00	2149.00	2149.00
21.18	601	(B) Dry Lean Concrete Sub -base Fly ash (Using Batching Plant) -240 cum capacity Plant	cum	2025.00	2025.00	2025.00
21.18	601	© DLC Using Batching Plant -120 cum capacity Plant	cum	2175.10	2175.10	2175.10
21.18	601	(D) Dry Lean Concrete Sub -base Fly ash (Using Batching Plant) -120 cum capacity Plant	cum	2051.10	2051.10	2051.10
21.19	602	(A) PQC M 35 grade Using Batching Plant-240 cum capacity plant	cum	3667.10	3667.10	3667.10
21.19	602	(B) PQC M 35 grade Using Batching Plant-240 cum capacity(Cement-Fly ash)	cum	3280.10	3280.10	3280.10
21.19	602	© PQC M 35 grade Using Batching Plant-120 cum capacity	cum	3704.20	3704.20	3704.20
21.19	602	(D) PQC M 35 grade Using Batching Plant-120 cum capacity(Cement-Fly ash)	cum	3306.60	3306.60	3306.60
21.20	409	PCC Grade M15 grade Using Batching Plant for Kerb	cum	3034.40	3034.40	3034.40
21.21	409	PCC Grade M20 grade Using Batching Plant for Kerb	cum	3416.10	3416.10	3416.10
21.22		Cost of water	KL	63.20	63.20	63.20

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
21.01		**(A) Cement Mortar 1:3 (1 cement: 3 sand)**									
		Unit =cum									
		Taking output =1 cum									
		a) Materials									
		Cement	tonne	0.510	0.510	0.510	5762.00	2938.62	2938.62	2938.62	M-081
		Coarse sand	cum	1.050	1.050	1.050	612.90	643.545	643.545	643.545	M-004*
		Cost of water	KL	0.255	0.255	0.255	63.20	16.12	16.12	16.12	M-191
		b) Labour									
		Mate	day	0.036	0.036	0.036	444.00	15.984	15.984	15.984	L-12
		Mazdoor	day	0.900	0.900	0.900	428.00	385.2	385.2	385.2	L-13
		c)Machinery									
		Water tanker 12 KL capacity (speed @20 km /hr and return speed @ 30 km / hr and 30 mins for unloading)	hour	0.019	0.019	0.019	1030.00	19.57	19.57	19.57	PM11002
		Rate per cum= (a+b+c)						4019.04	4019.04	4019.04	
							Say	**4019.00**	**4019.00**	**4019.00**	
21.01		**(B) Cement Mortar 1:2 (1 cement: 2 sand)**									
		Unit =cum									
		Taking output =1 cum									
		a) Materials									
		Cement	tonne	0.672	0.672	0.672	5762.00	3872.064	3872.064	3872.064	M-081
		Coarse sand	cum	0.930	0.930	0.930	612.90	569.997	569.997	569.997	M-004*
		Cost of water	KL	0.336	0.336	0.336	63.20	21.24	21.24	21.24	M-191
		b) Labour									
		Mate	day	0.036	0.036	0.036	444.00	15.98	15.98	15.98	L-12
		Mazdoor	day	0.900	0.900	0.900	428.00	385.20	385.20	385.20	L-13
		c) Machinery									
		Water tanker 12 KL capacity (speed @20 km / hr and return speed @ 30 km / hr and 30 mins for unloading)	hour	0.025	0.025	0.025	1030.00	25.75	25.75	25.75	PM11002
		Rate per cum= (a+b+c)						4890.23	4890.23	4890.23	
							Say	**4890.20**	**4890.20**	**4890.20**	

CHAPTER-21

Analysis of Rate

SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
21.01		**(C) Cement Mortar 1:4 (1 cement: 4 sand)**									
		Unit =cum									
		Taking output =1 cum									
		a) Materials									
		Cement	tonne	0.403	0.403	0.403	5762.00	2322.086	2322.086	2322.086	M-081
		Coarse sand	cum	1.120	1.120	1.120	612.90	686.448	686.448	686.448	M-004*
		Cost of water	KL	0.202	0.202	0.202	63.20	12.77	12.77	12.77	M-191
		b) Labour									
		Mate	day	0.036	0.036	0.036	444.00	15.984	15.984	15.984	L-12
		Mazdoor	day	0.900	0.900	0.900	428.00	385.2	385.2	385.2	L-13
		c)Machinery									
		Water tanker 12 KL capacity (speed @20 km / hr and return speed @ 30 km /hr and 30 mins for unloading)	hour	0.015	0.015	0.015	1030.00	15.45	15.45	15.45	PM11002
		Rate per cum= (a+b+c)						3437.93	3437.93	3437.93	
							Say	**3437.90**	**3437.90**	**3437.90**	
21.01		**(D) Cement Mortar 1:6 (1 cement: 6 sand)**									
		Unit =cum									
		Taking output =1 cum									
		a) Materials									
		Cement	tonne	0.288	0.288	0.288	5762.00	1659.456	1659.456	1659.456	M-081
		Coarse sand	cum	1.337	1.337	1.337	612.90	819.4473	819.4473	819.4473	M-004*
		Cost of water	KL	0.144	0.144	0.144	63.20	9.10	9.10	9.10	M-191
		b) Labour									
		Mate	day	0.036	0.036	0.036	444.00	15.98	15.98	15.98	L-12
		Mazdoor	day	0.900	0.900	0.900	428.00	385.20	385.20	385.20	L-13
		c)Machinery									
		Water tanker 12 KL capacity (speed @20 km / hr and return speed @ 30 km /hr and 30 mins for unloading)	hour	0.011	0.011	0.011	1030.00	11.33	11.33	11.33	PM11002
		Rate per cum= (a+b+c)						2900.52	2900.52	2900.52	
							Say.	**2900.50**	**2900.50**	**2900.50**	

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
21.02		**PCC 1:3:6 using batching plant**									
		Plain Cement concrete 1:3:6 nominal mix with crushed stone aggregate 40 mm nominal size mechanically mixed									
		Unit =cum									
		Taking output =15 cum									
		a) Labour									
		Mate	day	0.320	0.320	0.320	444.00	142.08	142.08	142.08	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	7.000	7.000	7.000	428.00	2996.00	2996.00	2996.00	L-13
		b) Materials									
		40 mm Aggregate	cum	13.500	13.500	13.500	1061.46	14329.71	14329.71	14329.71	M-054
		Coarse sand	cum	6.750	6.750	6.750	612.90	4137.075	4137.075	4137.075	M-004*
		Cement	tonne	3.450	3.450	3.450	5762.00	19878.9	19878.9	19878.9	M-081
		Cost of water	KL	1.380	1.380	1.380	63.20	87.22	87.22	87.22	M-191
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	0.167	0.167	0.167	3706.00	618.90	618.90	618.90	PM19002
		Generator 250 KVA	hour	0.167	0.167	0.167	3064.00	511.69	511.69	511.69	PM22004
		Loader 3.1cum capacity	hour	0.362	0.362	0.362	3523.00	1275.33	1275.33	1275.33	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	0.167	0.167	0.167	1992.00	332.66	332.66	332.66	PM34001
								44850.56	44850.56	44850.56	
		Rate per cum= (a+b+c) /15						2990.04	2990.04	2990.04	
							Say	**2990.00**	**2990.00**	**2990.00**	
	Note	Vibrator is part of minorT& P which is already included in overhead charges of the contractor.									
21.03		**Plain/Reinforced cement concrete complete as per Drawing and Technical specefication.**									
		PCC Grade M15 Using Batching Plant									

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Unit= cum									
		Taking output= 360 cum									
		a) Materials									
		Cement	tonne	99.000	99.000	99.000	5762.00	570438	570438	570438	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		40 mm Aggregate	cum	194.400	194.400	194.400	1061.46	206347.824	206347.82	206347.824	M-054
		20 mm Aggregate	cum	97.200	97.200	97.200	1294.56	125831.232	125831.23	125831.232	M-052
		10 mm Aggregate	cum	32.400	32.400	32.400	631.69	20466.756	20466.756	20466.756	M-050
		Cost of water (Water /cement Ratio-0.4)	KL	39.600	39.600	39.600	63.20	2502.72	2502.72	2502.72	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1092396.49	1092396.5	1092396.49	
		Per cum Basic cost of Labour, Material & Machinery (a+b+c)/360						3034.43	3034.43	3034.43	
							Say	**3034.40**	**3034.40**	**3034.40**	
21.04		**PCC Grade M20 Using Batching Plant**									
		Unit = cum									
		Taking output = 360 cum									
		a) Materials									
		Cement	tonne	123.840	123.840	123.840	5762.00	713566.08	713566.08	713566.08	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		40 mm Aggregate	cum	129.600	129.600	129.600	1061.46	137565.216	137565.22	137565.216	M-054

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		20 mm Aggregate	cum	129.600	129.600	129.600	1294.56	167774.976	167774.98	167774.976	M-052
		10 mm Aggregate	cum	64.800	64.800	64.800	631.69	40933.512	40933.512	40933.512	M-050
		Cost of water (Water /cement Ratio-0.4)	KL	49.536	49.536	49.536	63.20	3130.6752	3130.6752	3130.6752	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1229780.42	1229780.42	1229780.42	
		Per cum Basic cost of Labour, Material & Machinery (a+b+c)/360						**3416.06**	**3416.06**	**3416.06**	
							Say	**3416.10**	**3416.10**	**3416.10**	
21.05		**RCC Grade M20 Using Batching Plant**									
		Unit= cum									
		Taking output= 360 cum									
		a) Materials									
		Cement	tonne	124.980	124.980	124.980	5762.00	720134.76	720134.76	720134.76	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		20 mm Aggregate	cum	194.400	194.400	194.400	1294.56	251662.464	251662.46	251662.464	M-052
		10 mm Aggregate	cum	129.600	129.600	129.600	631.69	81867.024	81867.024	81867.024	M-050
		Cost of water	KL	49.952	49.952	49.952	63.20	3156.9664	3156.9664	3156.9664	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.0	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1223631.17	1223631.17	1223631.17	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						3398.98	3398.98	3398.98	
							Say	**3399.00**	**3399.00**	**3399.00**	
21.06		**PCC Grade M25 Using Batching Plant**									
		Unit= cum									
		Taking output= 360 cum									
		a) Materials									
		Cement	tonne	143.850	143.850	143.850	5762.00	828863.7	828863.7	828863.7	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		40 mm Aggregate	cum	129.600	129.600	129.600	1061.46	137565.216	137565.22	137565.216	M-054
		20 mm Aggregate	cum	129.600	129.600	129.600	1294.56	167774.976	167774.98	167774.976	M-052
		10 mm Aggregate	cum	64.800	64.800	64.800	631.69	40933.512	40933.512	40933.512	M-050
		Cost of water	KL	57.540	57.540	57.540	63.20	3636.528	3636.528	3636.528	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1345583.89	1345583.9	1345583.89	

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						3737.73	3737.73	3737.73	
							Say	**3737.70**	**3737.70**	**3737.70**	
21.07		**RCC Grade M25 Using Batching Plant**									
		Unit= cum									
		Taking output= 360 cum									
		a) Materials									
		Cement	tonne	145.140	145.140	145.140	5762.00	836296.68	836296.68	836296.68	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		20 mm Aggregate	cum	194.400	194.400	194.400	1294.56	251662.464	251662.46	251662.464	M-052
		10 mm Aggregate	cum	129.600	129.600	129.600	631.69	81867.024	81867.024	81867.024	M-050
		Admixture **@ 0.2**% of cement	kg	290.280	290.280	290.280	31.15	9042.222	9042.222	9042.222	M-182
		Cost of water	KL	58.056	58.056	58.056	63.20	3669.1392	3669.1392	3669.1392	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1349347.49	1349347.49	1349347.49	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						3748.19	3748.19	3748.19	
							Say	**3748.20**	**3748.20**	**3748.20**	
21.08		**PCC Grade M30 Using Batching Plant**									
		Unit= cum									
		Taking output= 360 cum									

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		a) Materials									
		Cement	tonne	145.800	145.800	145.800	5762.00	840099.6	840099.6	840099.6	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		40 mm Aggregate	cum	129.600	129.600	129.600	1061.46	137565.216	137565.22	137565.216	M-054
		20 mm Aggregate	cum	129.600	129.600	129.600	1294.56	167774.976	167774.98	167774.976	M-052
		10 mm Aggregate	cum	64.800	64.800	64.800	631.69	40933.512	40933.512	40933.512	M-050
		Cost of water	KL	58.320	58.320	58.320	63.20	3685.824	3685.824	3685.824	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1356869.09	1356869.09	1356869.09	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						3769.08	3769.08	3769.08	
							Say	**3769.10**	**3769.10**	**3769.10**	
21.09		**RCC Grade M30 Using Batching Plant**									
		Unit= cum									
		Taking output= 360 cum									
		a) Materials									
		Cement	tonne	146.400	146.400	146.400	5762.00	843556.8	843556.8	843556.8	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		20 mm Aggregate	cum	194.400	194.400	194.400	1294.56	251662.464	251662.46	251662.464	M-052
		10 mm Aggregate	cum	129.600	129.600	129.600	631.69	81867.024	81867.024	81867.024	M-050
		Admixture @ **0.3**% of cement	kg	439.200	439.200	439.200	31.15	13681.08	13681.08	13681.08	M-182
		Cost of water	KL	58.560	58.560	58.560	63.20	3700.992	3700.992	3700.992	M-191

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1361278.32	1361278.32	1361278.32	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						3781.33	3781.33	3781.33	
							Say	**3781.30**	**3781.30**	**3781.30**	
21.10		**PCC Grade M35 Using Batching Plant**									
		Unit= cum									
		Taking output= 360 cum									
		a) Materials									
		Cement	tonne	150.840	150.840	150.840	5762.00	869140.08	869140.08	869140.08	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		20 mm Aggregate	cum	194.400	194.400	194.400	1294.56	251662.464	251662.46	251662.464	M-052
		10 mm Aggregate	cum	129.600	129.600	129.600	631.69	81867.024	81867.024	81867.024	M-050
		Admixture @ **0.3**% of cement	kg	452.520	452.520	452.520	31.15	14095.998	14095.998	14095.998	M-182
		Cost of water	KL	60.336	60.336	60.336	63.20	3813.2352	3813.2352	3813.2352	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1387388.76	1387388.76	1387388.76	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						3853.86	3853.86	3853.86	
							Say	**3853.90**	**3853.90**	**3853.90**	
21.11		**RCC GradeM35 Using Batching plant**									
		Unit= cum									
		Taking output= 360 cum									
		a) Materials									
		Cement	tonne	151.920	151.920	151.920	5762.00	875363.04	875363.04	875363.04	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		20 mm Aggregate	cum	194.400	194.400	194.400	1294.56	251662.464	251662.46	251662.464	M-052
		10 mm Aggregate	cum	129.600	129.600	129.600	631.69	81867.024	81867.024	81867.024	M-050
		Admixture @ **0.4**% of cement	kg	607.680	607.680	607.680	31.15	18929.232	18929.232	18929.232	M-182
		Cost of water	KL	60.768	60.768	60.768	63.20	3840.5376	3840.5376	3840.5376	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1398472.25	1398472.25	1398472.25	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						3884.65	3884.65	3884.65	

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
							Say	**3884.60**	**3884.60**	**3884.60**	
21.12		**RCC Grade M40 Using Batching Plant**									
		Unit= cum									
		Taking output= 360 cum									
		a) Materials									
		Cement	tonne	154.800	154.800	154.800	5762.00	891957.6	891957.6	891957.6	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		20 mm Aggregate	cum	194.400	194.400	194.400	1294.56	251662.464	251662.46	251662.464	M-052
		10 mm Aggregate	cum	129.600	129.600	129.600	631.69	81867.024	81867.024	81867.024	M-050
		Admixture @ **0.8**% of cement	kg	1238.400	1238.400	1238.400	31.15	38576.16	38576.16	38576.16	M-182
		Cost of water	KL	61.920	61.920	61.920	63.20	3913.344	3913.344	3913.344	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /cum	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1434786.55	1434786.55	1434786.55	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						3985.52	3985.52	3985.52	
							Say	**3985.50**	**3985.50**	**3985.50**	
21.13		**RCC Grade M45 Using Batching Plant**									
		Unit= cum									
		Taking output= 360 cum									
		a) Materials									

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Cement	tonne	154.800	154.800	154.800	5762.00	891957.6	891957.6	891957.6	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		20 mm Aggregate	cum	194.400	194.400	194.400	1294.56	251662.464	251662.46	251662.464	M-052
		10 mm Aggregate	cum	129.600	129.600	129.600	631.69	81867.024	81867.024	81867.024	M-050
		Admixture **@ 1** % of cement	kg	1548.000	1548.000	1548.000	31.15	48220.2	48220.2	48220.2	M-182
		Cost of water	KL	61.920	61.920	61.920	63.20	3913.344	3913.344	3913.344	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1444430.59	1444430.59	1444430.59	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						4012.31	4012.31	4012.31	
							Say	**4012.30**	**4012.30**	**4012.30**	
21.14		**RCC Grade M50 Using Batching Plant**									
		Unit= cum									
		Taking output=360 cum.									
		a) Materials									
		Cement	tonne	154.800	154.800	154.800	5762.00	891957.6	891957.6	891957.6	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		20 mm Aggregate	cum	194.400	194.400	194.400	1294.56	251662.464	251662.46	251662.464	M-052
		10 mm Aggregate	cum	129.600	129.600	129.600	631.69	81867.024	81867.024	81867.024	M-050
		Admixture **@ 0.8** % of cement	kg	1238.400	1238.400	1238.400	31.15	38576.16	38576.16	38576.16	M-182
		Silica Fume @ 5% of cement	kg	7740.000	7740.000	7740.000	25.34	196131.6	196131.6	196131.6	M-199
		Cost of water	KL	61.920	61.920	61.920	63.20	3913.344	3913.344	3913.344	M-191

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1630918.15	1630918.15	1630918.15	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						4530.33	4530.33	4530.33	
							Say	**4530.30**	**4530.30**	**4530.30**	
21.15		**RCC Grade M55 Using Batching Plant**									
		Unit= cum									
		Taking output= 360 cum									
		a) Materials									
		Cement	tonne	158.400	158.400	158.400	5762.00	912700.8	912700.8	912700.8	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		20 mm Aggregate	cum	194.400	194.400	194.400	1294.56	251662.464	251662.46	251662.464	M-052
		10 mm Aggregate	cum	129.600	129.600	129.600	631.69	81867.024	81867.024	81867.024	M-050
		Admixture @ 1 % of cement	kg	1267.200	1267.200	1267.200	31.15	39473.28	39473.28	39473.28	M-182
		Silica Fume @ 5% of cement	kg	7920.000	7920.000	7920.000	25.34	200692.800	200692.8	200692.8	M-199
		Cost of water	KL	63.360	63.360	63.360	63.20	4004.352	4004.352	4004.352	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1657210.68	1657210.68	1657210.68	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						4603.36	4603.36	4603.36	
							Say	**4603.40**	**4603.40**	**4603.40**	
21.16		**RCC Grade M60 Using Batching Plant**									
		Unit= cum									
		Taking output= 360 cum									
		a) Materials									
		Cement	tonne	160.200	160.200	160.200	5762.00	923072.4	923072.4	923072.4	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		20 mm Aggregate	cum	194.400	194.400	194.400	1294.56	251662.464	251662.46	251662.464	M-052
		10 mm Aggregate	cum	129.600	129.600	129.600	631.69	81867.024	81867.024	81867.024	M-050
		Admixture **@ 1** % of cement	kg	1281.600	1281.600	1281.600	31.15	39921.84	39921.84	39921.84	M-182
		Silica Fume @ 5% of cement	kg	9612.000	9612.000	9612.000	25.34	243568.08	243568.08	243568.08	M-199
		Cost of water	KL	64.080	64.080	64.080	63.20	4049.856	4049.856	4049.856	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1710951.62	1710951.62	1710951.62	

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Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						4752.64	4752.64	4752.64	
							Say	**4752.60**	**4752.60**	**4752.60**	
21.17		**RCC Grade M65 Using Batching Plant**									
		Unit= cum									
		Taking output= 360 cum									
		a) Materials									
		Cement	tonne	162.000	162.000	162.000	5762.00	933444	933444	933444	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		20 mm Aggregate	cum	194.400	194.400	194.400	1294.56	251662.464	251662.46	251662.464	M-052
		10 mm Aggregate	cum	129.600	129.600	129.600	631.69	81867.024	81867.024	81867.024	M-050
		Admixture **@ 1** % of cement	kg	1296.000	1296.000	1296.000	31.15	40370.40	40370.40	40370.40	M-182
		Silica Fume @ 5% of cement	kg	9720.000	9720.000	9720.000	25.34	246304.80	246304.80	246304.80	M-199
		Cost of water	KL	64.800	64.800	64.800	63.20	4095.36	4095.36	4095.36	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1724554.01	1724554.01	1724554.01	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						4790.43	4790.43	4790.43	
							Say	**4790.40**	**4790.40**	**4790.40**	
21.18	**601**	**A) DLC Using Batching Plant -240 cum capacity Plant.**									

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Unit= cum									
		Taking output= 450 cum									
		a) Materials									
		Cement @150 kg /cum of concrete	tonne	67.500	67.500	67.500	5762.00	388935	388935	388935	M-081
		Coarse sand as per IS: 383 @0.45 cum /cum of concrete	cum	202.500	202.500	202.500	612.90	124112.25	124112.25	124112.25	M-004*
		Crushed stone Coarse aggregate of 25 mm and 12.5 mm nominal sizes graded as per table600-1@0.90cum/cum of concrete conforming to clause602.2.6	cum	405.000	405.000	405.000	963.12	390063.6	390063.6	390063.6	M-045
		Cost of water(Water /cement Ratio -0.4)	KL	27.000	27.000	27.000	63.20	1706.4	1706.4	1706.4	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 240 cum /hour	hour	2.500	2.500	2.500	5782.00	14455.00	14455.00	14455.00	PM19001
		Generator 250 KVA	hour	2.500	2.500	2.500	3064.00	7660.00	7660.00	7660.00	PM22004
		Loader 3.1cum capacity	hour	10.848	10.848	10.848	3523.00	38217.50	38217.50	38217.50	PM5001
								967045.794	967045.79	967045.794	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/450						2148.99	2148.99	2148.99	
							Say	**2149.00**	**2149.00**	**2149.00**	
21.18	**601**	**B) Dry Lean Concrete Sub -base Fly ash (Using Batching Plant) -240 cum capacity Plant**									
		Unit= cum									
		Taking output= 450 cum									
		a) Materials									

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Cement @129 kg /cum of concrete	tonne	57.860	57.860	57.860	5762.00	333389.32	333389.32	333389.32	M-081
		Coarse sand as per IS: 383 @0.45 cum /cum of concrete	cum	202.500	202.500	202.500	612.90	124112.25	124112.25	124112.25	M-004*
		Crushed stone Coarse aggregate of 25 mm and 12.5 mm nominal sizes graded as per table600-1@0.90cum/cum of concrete conforming to clause602.2.6	cum	405.000	405.000	405.000	963.12	390063.6	390063.6	390063.6	M-045
		Fly ash conforming to IS:3812-1966 (Part -I)	cum	9.640	9.640	9.640	0.00	0	0	0	M-010
		Cost of water(Water /cement Ratio -0.4)	KL	23.144	23.144	23.144	63.20	1462.7008	1462.7008	1462.7008	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 240 cum /hour	hour	2.500	2.500	2.500	5782.00	14455.00	14455.00	14455.00	PM19001
		Generator 250 KVA	hour	2.500	2.500	2.500	3064.00	7660.00	7660.00	7660.00	PM22004
		Loader 3.1cum capacity	hour	10.848	10.848	10.848	3523.00	38217.50	38217.50	38217.50	PM5001
								911256.415	911256.415	911256.415	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/450						2025.01	2025.01	2025.01	
							Say	**2025.00**	**2025.00**	**2025.00**	
	Note	Quantity provided for aggregate is for estimating purpose. Exact quantity shall be as per mix design.									
		***Calculation of cement and fly ash**									
		Cement @ 150 /kg cum= 450x150 =67.500 tonnes									

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SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		20 percent of cement to be replaced by fly ash =13.50 tonnes									
		Balance cement =54.0 tonnes									
		Quantity of fly ash =13.50x specific gravity of fly ash /specific gravity of cement =13.50x 2.25/3.15 =9.64 tonnes									
21.18	**601**	**C) DLC Using Batching Plant -120 cum capacity Plant**									
		Unit= cum									
		Taking output= 450 cum									
		a) Materials									
		Cement @150 kg /cum of concrete	tonne	67.500	67.500	67.500	5762.00	388935	388935	388935	M-081
		Coarse sand as per IS: 383 @0.45 cum /cum of concrete	cum	202.500	202.500	202.500	612.90	124112.25	124112.25	124112.25	M-004*
		Crushed stone Coarse aggregate of 25 mm and 12.5 mm nominal sizes graded as per table600-1@0.90 cum/cum of concrete conforming to clause602.2.6	cum	405.000	405.000	405.000	963.12	390063.6	390063.6	390063.6	M-045
		Cost of water(Water /cement Ratio -0.4)	KL	27.000	27.000	27.000	63.20	1706.4	1706.4	1706.4	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	5.000	5.000	5.000	3706.00	18530.00	18530.00	18530.00	PM19002
		Generator 250 KVA	hour	5.000	5.000	5.000	3064.00	15320.00	15320.00	15320.00	PM22004

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SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Loader 3.1cum capacity	hour	10.848	10.848	10.848	3523.00	38217.50	38217.50	38217.50	PM5001
								978780.794	978780.79	978780.794	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/450						2175.07	2175.07	2175.07	
							Say	**2175.10**	**2175.10**	**2175.10**	
21.18	**601**	**D) Dry Lean Concrete Sub -base Fly ash (Using Batching Plant) -120 cum capacity Plant**									
		Unit= cum									
		Taking output= 450 cum									
		a) Materials									
		Cement @150 kg /cum of concrete	tonne	57.860	57.860	57.860	5762.00	333389.32	333389.32	333389.32	M-081
		Coarse sand as per IS: 383 @0.45 cum /cum of concrete	cum	202.500	202.500	202.500	612.90	124112.25	124112.25	124112.25	M-004*
		Crushed stone Coarse aggregate of 25 mm and 12.5 mm nominal sizes graded as per table600-1@0.90 cum/cum of concrete conforming to clause602.2.6	cum	405.000	405.000	405.000	963.12	390063.6	390063.6	390063.6	M-045
		Fly ash conforming to IS:3812-1966 (Part -I)	cum	9.640	9.640	9.640	0.00	0	0	0	M-010
		Cost of water(Water /cement Ratio -0.4)	KL	23.144	23.144	23.144	63.20	1462.70	1462.70	1462.70	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	5.000	5.000	5.000	3706.00	18530.00	18530.00	18530.00	PM19002
		Generator 250 KVA	hour	5.000	5.000	5.000	3064.00	15320.00	15320.00	15320.00	PM22004
		Loader 3.1cum capacity	hour	10.848	10.848	10.848	3523.00	38217.50	38217.50	38217.50	PM5001
								922991.415	922991.415	922991.415	

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Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/450						2051.09	2051.09	2051.09	
							Say	**2051.10**	**2051.10**	**2051.10**	
	Note	Quantity provided for aggregate is for estimating purpose. Exact quantity shall be as per mix design.									
		***Calculation of cement and fly ash**									
		Cement @ 150 /kg cum 450x150 =67.500 tonnes									
		20 percent of cement to be replaced by fly ash =13.50 tonnes									
		Balance cement =54.0 tonnes									
		Quantity of fly ash =13.50x specific gravity of fly ash /specific gravity of cement =13.50x 2.25/3.15 =9.64 tonnes									
21.19	**602**	**A) PQC M 35 grade Using Batching Plant-240 cum capacity plant**									
		Unit= cum									
		Taking output= 900 cum									
		a) Materials									
		Cement @400 kg /cum of concrete	tonne	360.000	360.000	360.000	5762.00	2074320	2074320	2074320	M-081
		Coarse sand as per IS: 383 and conforming to clause 602.2.6. @0.45 cum /cum of concrete	cum	405.000	405.000	405.000	612.90	248224.5	248224.5	248224.5	M-004*
		Crushed stone Coarse aggregate of 25 mm and 12.5 mm nominal size @0.90 cum/cum of concrete conforming to clause 602.2.6	cum	810.000	810.000	810.000	963.12	780127.2	780127.2	780127.2	M-045
		Admixture @ 0.5% of cement	kg	1800.000	1800.000	1800.000	31.15	56070.00	56070.00	56070.00	M-182
		Cost of water	KL	144.000	144.000	144.000	63.20	9100.8	9100.8	9100.8	M-191

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Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 240 cum /hour	hour	5.000	5.000	5.000	5782.00	28910.00	28910.00	28910.00	PM19001
		Generator 250 KVA	hour	5.000	5.000	5.000	3064.00	15320.00	15320.00	15320.00	PM22004
		Loader 3.1cum capacity	hour	21.696	21.696	21.696	3523.00	76435.01	76435.01	76435.01	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	5.000	5.000	5.000	1992.00	9960.00	9960.00	9960.00	PM34001
								3300363.55	3300363.55	3300363.55	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/900						3667.07	3667.07	3667.07	
							Say	**3667.10**	**3667.10**	**3667.10**	
21.19	**602**	**B) PQC M 35 grade Using Batching Plant-240 cum capacity(Cement-Fly ash)**									
		Unit= cum									
		Taking output= 900 cum									
		a) Material									
		Cement	tonne	306.000	306.000	306.000	5762.00	1763172	1763172	1763172	M-081
		Fly ash conforming to IS 3812(Part-I)	tonne	93.000	93.000	93.000	0.00	0	0	0	M-010
		Coarse sand	cum	364.500	364.500	364.500	612.90	223402.05	223402.05	223402.05	M-004*
		Crushed stone Coarse aggregate of 25 mm and 12.5 mm nominal size @0.90 cum/cum of concrete conforming to clause 602.2.6.	cum	810.000	810.000	810.000	963.12	780127.2	780127.2	780127.2	M-045
		Admixture @ 0.5% of cement	kg	1530.000	1530.000	1530.000	31.15	47659.50	47659.50	47659.50	M-182
		Cost of water	KL	122.400	122.400	122.400	63.20	7735.68	7735.68	7735.68	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12

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Analysis of Rate

SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 240 cum /hour	hour	5.000	5.000	5.000	5782.00	28910.00	28910.00	28910.00	PM19001
		Generator 250 KVA	hour	5.000	5.000	5.000	3064.00	15320.00	15320.00	15320.00	PM22004
		Loader 3.1cum capacity	hour	20.973	20.973	20.973	3523.00	73887.88	73887.88	73887.88	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	5.000	5.000	5.000	1992.00	9960.00	9960.00	9960.00	PM34001
								2952070.35	2952070.35	2952070.35	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/900						3280.08	3280.08	3280.08	
							Say	**3280.10**	**3280.10**	**3280.10**	
	Note	1.The quantities for cement ,Coarse aggregate and fine aggregates are for estimating only. The exact quantities will be as per mix design.									
		2.IRC: 68 may be referred for guidelines on the design of cement-fly ash concrete rigid pavement construction.									
		***Calculation of cement and fly ash**									
		Cement @ 400 kg /cum= 900x 400=360 tonnes.									
		15 percent of cement to be replaced by fly ash 54.0 tonnes									
		Balance cement =306.00 tonnes.									
		Quantity of fly ash =54.000x specific gravity of fly ash /specific gravity of cement =54.00x 2.25/3.15 =38.571 tonnes.									
		Sand @0.45 cum /of concrete =900x0.45 =405x1.6 =648 tonnes.10 percent to be replaced by Fly ash									

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Balanced sand = 648x0.9=583.2 tonnes =583.2/1.6=364.5cum									
		Quantity of fly ash =(648-583.2) x specific gravity of fly ash /specificgravity of sand=64.8 x 2.687 =54.26 tonnes.									
		Total fly ash=38.571+54.26=92.831 tonnes.(Say 93 tonnes)									
21.19	**602**	**C) PQC M 35 grade Using Batching Plant-120 cum capacity**									
		Unit= cum									
		Taking output= 900 cum									
		a) Materials									
		Cement @400 kg /cum of concrete	tonne	360.000	360.000	360.000	5762.00	2074320	2074320	2074320	M-081
		Coarse sand as per IS:383 and conforming to clause 602.2.6 @ 0.45cum/cum of concrete.	cum	405.000	405.000	405.000	612.90	248224.5	248224.5	248224.5	M-004*
		Crushed stone Coarse aggregate of 25 mm and 12.5 mm nominal size @0.90 cum/cum of concrete conforming to clause 602.2.6.	cum	810.000	810.000	810.000	963.12	780127.2	780127.2	780127.2	M-045
		Admixture @ 0.5% of cement	kg	1800.000	1800.000	1800.000	31.15	56070.00	56070.00	56070.00	M-182
		Cost of water	KL	144.000	144.000	144.000	63.20	9100.8	9100.8	9100.8	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	10.000	10.000	10.000	3706.00	37060.00	37060.00	37060.00	PM19002
		Generator 250 KVA	hour	10.000	10.000	10.000	3064.00	30640.00	30640.00	30640.00	PM22004
		Loader 3.1cum capacity	hour	21.696	21.696	21.696	3523.00	76435.01	76435.01	76435.01	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	10.000	10.000	10.000	1992.00	19920.00	19920.00	19920.00	PM34001

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Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
								3333793.55	3333793.55	3333793.55	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/900						3704.22	3704.22	3704.22	
							Say	**3704.20**	**3704.20**	**3704.20**	
21.19	**602**	**D) PQC M 35 grade Using Batching Plant-120 cum capacity(Cement-Fly ash)**									
		Unit= cum									
		Taking output= 900 cum									
		a) Materials									
		Cement	tonne	306.000	306.000	306.000	5762.00	1763172	1763172	1763172	M-081
		Fly ash conforming to IS :3812(Part-I)	tonne	93.000	93.000	93.000	0.00	0	0	0	M-010
		Coarse sand	cum	364.500	364.500	364.500	612.90	223402.05	223402.05	223402.05	M-004*
		Crushed stone Coarse aggregate of 25 mm and 12.5 mm nominal size @0.90 cum/cum of concrete conforming to clause 602.2.6	cum	810.000	810.000	810.000	963.12	780127.2	780127.2	780127.2	M-045
		Admixture @ 0.4% of cement	kg	1224.000	1224.000	1224.000	31.15	38127.6	38127.6	38127.6	M-182
		Cost of water	KL	122.400	122.400	122.400	63.20	7735.68	7735.68	7735.68	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	10.000	10.000	10.000	3706.00	37060.00	37060.00	37060.00	PM19002
		Generator 250 KVA	hour	10.000	10.000	10.000	3064.00	30640.00	30640.00	30640.00	PM22004
		Loader 3.1cum capacity	hour	20.973	20.973	20.973	3523.00	73887.88	73887.88	73887.88	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	10.000	10.000	10.000	1992.00	19920.00	19920.00	19920.00	PM34001
								2975968.45	2975968.45	2975968.45	

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/900						3306.63	3306.63	3306.63	
							Say	**3306.60**	**3306.60**	**3306.60**	
	Note	1.The quantities for cement ,Coarse aggregate and fine aggregate are for estimating only. The exact quantities will be as per mix design.									
		2.IRC: 68 may be referred for guidelines on the design of cement -fly ash concrete for rigid pavement construction.									
		***Calculation of cement and fly ash**									
		Cement @ 400 kg /cum= 900x 400 =360 tonnes.									
		15 percent of cement to be replaced by fly ash =54.0 tonnes									
		Balance cement =306.00 tonnes.									
		Quantity of fly ash =54.000x specific gravity of fly ash /specific gravity of cement =54.000x 2.25/3.15 =38.571 tonnes.									
		Sand @0.45 cum /cum of concrete =900x0.45 =405x1.6 =648 tonnes.									
		10 percent to be replaced by Fly ash.									
		Balance sand = 648x0.9=583.2. tonnes =583.2/1.6 =364.5 cum.									
		Quantity of fly ash =(648-583.2)x specific gravity of fly ash /specfic gravity of sand =64.8x2.25/2.687=54.26 tonnes									
		Total fly ash =38.571+54.26= 92.831 tonnes.(Say 93tonnes)									

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
21.20	**409**	**PCC Grade M15 grade Using Batching Plant for Kerb**									
		Unit= cum									
		Taking output= 360 cum									
		a) Materials									
		Cement	tonne	99.000	99.000	99.000	5762.00	570438	570438	570438	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		40 mm Aggregate	cum	194.400	194.400	194.400	1061.46	206347.824	206347.82	206347.824	M-054
		20 mm Aggregate	cum	97.200	97.200	97.200	1294.56	125831.232	125831.23	125831.232	M-052
		10 mm Aggregate	cum	32.400	32.400	32.400	631.69	20466.756	20466.756	20466.756	M-050
		Cost of water (Water /cement Ratio-0.4)	KL	39.600	39.600	39.600	63.20	2502.72	2502.72	2502.72	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /hour	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1092396.49	1092396.49	1092396.49	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						3034.43	3034.43	3034.43	
							Say	**3034.40**	**3034.40**	**3034.40**	
21.21	**409**	**PCC Grade M20 grade Using Batching Plant for Kerb**									
		Unit= cum									
		Taking output= 360 cum									

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		a) Materials									
		Cement	tonne	123.840	123.840	123.840	5762.00	713566.08	713566.08	713566.08	M-081
		Coarse sand	cum	162.000	162.000	162.000	612.90	99289.8	99289.8	99289.8	M-004*
		40 mm Aggregate	cum	129.600	129.600	129.600	1061.46	137565.216	137565.22	137565.216	M-054
		20 mm Aggregate	cum	129.600	129.600	129.600	1294.56	167774.976	167774.98	167774.976	M-052
		10 mm Aggregate	cum	64.800	64.800	64.800	631.69	40933.512	40933.512	40933.512	M-050
		Cost of water (Water /cement Ratio-0.4)	KL	49.536	49.536	49.536	63.20	3130.6752	3130.6752	3130.6752	M-191
		b) Labour									
		Mate	day	0.160	0.160	0.160	444.00	71.04	71.04	71.04	L-12
		Skilled Mazdoor	day	1.000	1.000	1.000	541.00	541.00	541.00	541.00	L-15
		Mazdoor	day	3.000	3.000	3.000	428.00	1284.00	1284.00	1284.00	L-13
		c) Machinery									
		Batching plant of capacity 120 cum /cum	hour	4.000	4.000	4.000	3706.00	14824.00	14824.00	14824.00	PM19002
		Generator 250 KVA	hour	4.000	4.000	4.000	3064.00	12256.00	12256.00	12256.00	PM22004
		Loader 3.1cum capacity	hour	8.679	8.679	8.679	3523.00	30576.12	30576.12	30576.12	PM5001
		Transit truck agitator									
		For loading & unloading time	hour	4.000	4.000	4.000	1992.00	7968.00	7968.00	7968.00	PM34001
								1229780.42	1229780.42	1229780.42	
		Per cum Basic cost of Labour,Material& Machinery(a+b+c)/360						3416.06	3416.06	3416.06	
							Say	**3416.10**	**3416.10**	**3416.10**	
21.22		**Cost of water**									
		Unit =KL									
		Taking output= 12 KL									
		a) Labour									
		Mate	day	0.005	0.005	0.005	444.00	2.22	2.22	2.22	L-12
		Mazdoor	day	0.133	0.133	0.133	428.00	56.92	56.92	56.92	L-13
		b) Machinery									
		Centrifugal water pump (600LMP)	hour	0.533	0.533	0.533	281.00	149.77	149.77	149.77	PM78001

CHAPTER-21
Analysis of Rate
SUB-ANALYSIS OF CONCERTE /MORTAR RATE

Sr. No	Ref. to M.	Description	Unit	Quantity as per project category			Rate(₹)	Amount (₹)			Remarks
				Large	Medium	Small		Large	Medium	Small	
		Water tanker 12 KL	hour	0.533	0.533	0.533	1030.00	548.99	548.99	548.99	PM11002
		Cost for 12 KL =a+b						757.91	757.91	757.91	
		Rate per KL= (a+b) /12						63.16	63.16	63.16	
							Say	**63.20**	**63.20**	**63.20**	

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह– अभियंता
प्रमुख, भवन निर्माण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, लघु जल संसाधन विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–मुख्य अभियंता
(असैनिक) बिहार स्टेट पावर होल्डिंग
कंपनी लि०, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (विद्युत) भवन
निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–अभियंता
प्रमुख, तकनीकी परीक्षक कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण
समिति–सह–अभियंता प्रमुख (मु०)
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, मुख्यालय जल
संसाधन विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख, ग्रामीण कार्य
विभाग, बिहार, पटना।

संयोजक
राज्य स्तरीय अनुसूचित दर
निर्धारण समिति–सह–
अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।



Kacchi Dargaah-Bidupur-6 Lane New Ganga Bridge