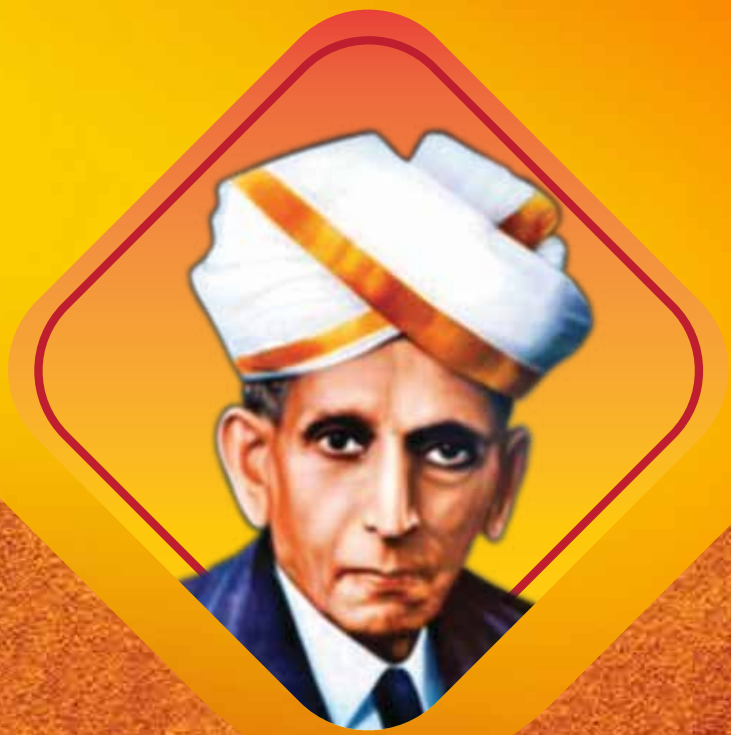
Public Works Department



ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ

ತಾಂತ್ರಿಕ ಇಲಾಖೆಗಳ ಏಕರೂಪ ದರಪಟ್ಟಿ 2023-2024

ಸಂಪುಟ 1

PUBLIC WORKS DEPARTMENT

COMMON SCHEDULE OF RATES

FOR ENGINEERING DEPARTMENTS 2023-2024

VOLUME 1

GOVERNMENT OF KARNATAKA

COMMON SCHEDULE OF RATES FOR ENGINEERING DEPARTMENTS 2023 - 2024

PUBLIC WORKS DEPARTMENT

VOLUME - 1

Tribute

M. Visvesvaraya

1861 - 1962

Sayings of Sir M.Visvesvaraya

- *It is better to Work out than Rust out.*
- *Every man who has become great owes achievement to incessant toil.*
- *An Engineer is a person who applies the skills and Knowledge of basic Science for the good of society.*
- *If you do not work, neither shall you eat – a slogan in the West.*

Secretary Message

ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ನಡವಳಿಗಳು

ವಿಷಯ :– ಎಸ್.ಆರ್. ದರಗಳನ್ನು ಪ್ರಕಟಿಸಲು **ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿ** ರಚಿಸುವ ಕುರಿತು.

ಒದಲಾಗಿದೆ – 1) ಸರ್ಕಾರದ ಸಮ ಸಂಖ್ಯೆ ಪತ್ರ ದಿನಾಂಕ 04–09–2018

2) ಮುಖ್ಯ ಇಂಜನಿಯರ್, ಸಂಕದ ಇವರ ಪತ್ರ ಸಂಖ್ಯೆ:ಮುಅ:ಸಂಕದ:ಸಾಕೋ: ಸಇ–4:2018–19 ದಿನಾಂಕ: 01–10–2018.

3) ಸರ್ಕಾರದ ಸಮ ಸಮಸಂಖ್ಯೆ ಪತ್ರ ದಿನಾಂಕ:–11–10–2018

*****

ಪ್ರಸ್ತಾವನೆ:

2018–19ನೇ ಸಾಲಿನ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯ ದರಪಟ್ಟಿಯನ್ನು ತಯಾರಿಸುವ ಕುರಿತು ಸರ್ಕಾರದ ಆದೇಶ ಸಮ ಸಂಖ್ಯೆ ದಿನಾಂಕ 26–03–2018ರಲ್ಲಿ ಸಮಿತಿಯನ್ನು ಸೃಜಿಸಲಾಗಿತ್ತು. ಸದರಿ ಸಮಿತಿಯು ನೀಡಿದ ವರದಿಯಂತೆ ಉಲ್ಲೇಖ–2ರ ಪತ್ರದಲ್ಲಿ ಮುಖ್ಯ ಇಂಜನಿಯರ್, ಸಂಕದ ಇವರು 2018–19ನೇ ಸಾಲಿನ ಬೆಂಗಳೂರು ವೃತ್ತದ ಕರಡು ದರಪಟ್ಟಿಯನ್ನು ಸರ್ಕಾರದ ಅನುಮೋದನೆಗಾಗಿ ಸಲ್ಲಿಸಿರುತ್ತಾರೆ. ಉಲ್ಲೇಖ–3ರ ಪತ್ರದಲ್ಲಿ ಮುಖ್ಯ ಇಂಜಿನಿಯರ್‌ರವರು ಸಲ್ಲಿಸಿರುವ ಬೆಂಗಳೂರು ವೃತ್ತದ 2018–19ನೇ ಸಾಲಿನ ದರಪಟ್ಟಿಯನ್ನು ಮತ್ತು ಉಳಿದ ಎಲ್ಲಾ ವೃತ್ತಗಳು ದಿನಾಂಕ 10–10–2018ರಂದ ಅನ್ವಯವಾಗುವಂತೆ ಪ್ರಕಟಿಸಲು ಸೂಚಿಸಲಾಯಿತು. ಈ ವಿಷಯವನ್ನು ಆರ್ಥಿಕ ಇಲಾಖೆಯ ಗಮನಕ್ಕೆ ತರಲಾಗಿ ಈ ಕೆಳಕಂಡ ಅಂಶಗಳ ಕುರಿತು ಅಗತ್ಯ ಕ್ರಮವಹಿಸುವಂತೆ ತಿಳಿಸಲಾಗಿದೆ.

I. ಪ್ರಸ್ತುತ ರಾಜ್ಯದಲ್ಲಿನ ಪ್ರಮುಖ ಇಲಾಖೆಗಳಾದ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ, ಜಲ ಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ನಗರಾಭಿವೃದ್ಧಿ, ವಸತಿ ಇಲಾಖೆ, ಇಂಧನ ಇಲಾಖೆ ಮುಂತಾದವುಗಳು ತಮ್ಮದೇ ಆದ ಅನುಸೂಚಿ ದರಗಳನ್ನು (ಎಸ್.ಆರ್.) ತಯಾರಿಸಿದ್ದು, ವಿವಿಧ ಕಾಮಗಾರಿಗಳ ಅಂದಾಜುಗಳ ತಯಾರಿಕೆಯಲ್ಲಿ ಬೇರೆ ಬೇರೆ ಇಲಾಖೆಗಳ ದರಗಳನ್ನು ಅಳವಡಿಸಿ ಅಂದಾಜುಗಳನ್ನು ತಯಾರಿಸಲಾಗಿರುತ್ತದೆ. ಪ್ರಸಕ್ತ ಪರಿಸ್ಥಿತಿಯಲ್ಲಿ ಅಂದರೆ, ಜಿ.ಎಸ್.ಟಿ. ಅನುಷ್ಠಾನವಾದ ನಂತರ ಅವಧಿಯಲ್ಲಿ ಒಂದು ಇಲಾಖೆಯಲ್ಲಿ ಜಿ.ಎಸ್.ಟಿ. ಪೂರ್ವ ದರಗಳಿದ್ದಲ್ಲಿ, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯಲ್ಲಿ ಜಿ.ಎಸ್.ಟಿ. ನಂತರದ ದರಗಳು ಅಸ್ತಿತ್ವದಲ್ಲಿವೆ. ಇದರಿಂದಾಗಿ ಅಂದಾಜುಗಳನ್ನು ತಯಾರಿಸಲು ಮತ್ತು ಟೆಂಡರುಗಳನ್ನು ಮೌಲ್ಯಮಾಪನ ಮಾಡುವಲ್ಲಿ ಅನೇಕ ಸಮಸ್ಯೆಗಳು ಉದ್ಭವವಾಗುತ್ತಿವೆ.

II. ಈ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ರಾಜ್ಯದಲ್ಲಿ ಏಕರೂಪದ ಸಮಗ್ರ ಅನುಸೂಚಿ ದರಗಳನ್ನು ತಯಾರಿಸಿ ಪ್ರಕಟಿಸುವುದು ಸೂಕ್ತವೆಂದು ಭಾವಿಸಲಾಗಿದೆ. ಇದಕ್ಕಾಗಿ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯನ್ನು ನೋಡಲ್ ಇಲಾಖೆಯನ್ನಾಗಿ ನೇಮಿಸಿ, ಎಲ್ಲಾ ಪ್ರಮುಖ ಇಲಾಖೆಗಳ ಪ್ರತಿನಿಧಿಗಳನ್ನೊಳಗೊಂಡ ಸಮಿತಿಯನ್ನು ರಚಿಸಿ, ಸದರಿ ಸಮಿತಿಯ ಮೂಲಕ ಸಮಗ್ರವಾದ ಅನುಸೂಚಿ ದರಗಳನ್ನು (ಎಸ್.ಆರ್) ತಯಾರಿಸಿ ರಸ್ತೆ, ಸೇತುವೆ ಮತ್ತು ಕಟ್ಟಡಗಳ ಕುರಿತಾದ ಎಲ್ಲ ಎಸ್.ಆರ್ ದರಗಳನ್ನು ಪ್ರಕಟಿಸುವುದು ಸೂಕ್ತವಾಗಿರುತ್ತದೆ.

ಮೇಲಿನ ಪ್ರಸ್ತಾವನೆಯಲ್ಲಿ ವಿವರಿಸಿದಂತೆ ರಾಜ್ಯದಲ್ಲಿ ಏಕರೂಪದ ಸಮಗ್ರ ಅನುಸೂಚಿ ದರಗಳನ್ನು ತಯಾರಿಸಲು ಈ ಕೆಳಕಂಡ ಸದಸ್ಯರುಗಳನ್ನೊಳಗೊಂಡಂತೆ ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿಯನ್ನು ರಚಿಸಲು ಕೆಳಕಂಡ ಆದೇಶ ಹೊರಡಿಸಲಾಗಿದೆ.

ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ ಪಿಡಬ್ಲ್ಯೂಡಿ 65 ಆರ್‌ಡಿಎಫ್ 2018 ದಿನಾಂಕ 04-04-2019

ಪ್ರಸ್ತಾವನೆಯಲ್ಲಿ ವಿವರಿಸಲಾದ ಅಂಶಗಳ ಹಿನ್ನೆಲೆಯಲ್ಲಿ, 2019-20ನೇ ಸಾಲಿನ ಏಕರೂಪ ದರಪಟ್ಟಿಯನ್ನು ತಯಾರಿಸಲು **"ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿ"**ಯನ್ನು ಕೆಳಕಂಡಂತೆ ಸೃಜಿಸಲಾಗಿದೆ.

ಕ್ರ ಸಂ	ಅಧಿಕಾರಿಗಳ ಹೆಸರು/ಪದನಾಮ	
1	ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಳನಾಡು ಜಲಸಾರಿಗೆ, ಇಲಾಖೆ	ಅಧ್ಯಕ್ಷರು
2	ಶ್ರೀ.ಕೃಷ್ಣ ಎನ್. ಬುಗಟ್ಯಾಗೋಳ, ವಿಶೇಷಾಧಿಕಾರಿ ಮತ್ತು ಪದನಿಮಿತ್ತ ಸರ್ಕಾರದ ಜಂಟಿ ಕಾರ್ಯದರ್ಶಿ, ಆರ್ಥಿಕ ಇಲಾಖೆ, ಲೋಕೋಪಯೋಗಿ ಆರ್ಥಿಕ ಕೋಶ	ಸದಸ್ಯರು
3	ಡಿ.ಜಗನ್ನಾಥ ಸಾಗರ, ಅಪರ ವಾಣಿಜ್ಯ ಆಯುಕ್ತರು	ಸದಸ್ಯರು
4	ಕೆ.ಜಿ.ಮಹೇಶ್, ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು, ಕೃಷ್ಣಾ ಭಾಗ್ಯ ಜಲ ನಿಗಮ	ಸದಸ್ಯರು
5	ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಮತ್ತು ಪಂಚಾಯತ್ ರಾಜ್ ಇಲಾಖೆಯ ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು ವೃಂದದ ಪ್ರತಿನಿಧಿ.	ಸದಸ್ಯರು
6	ಇಂಧನ ಇಲಾಖೆಯ ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರ ವೃಂದದ ಪ್ರತಿನಿಧಿ.	ಸದಸ್ಯರು
7	ವಸತಿ ಇಲಾಖೆಯ ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರ ವೃಂದದ ಪ್ರತಿನಿಧಿ.	ಸದಸ್ಯರು
8	ಬೆಂಗಳೂರು ಜಲ ಮಂಡಳಿಯ ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರ ವೃಂದದ ಪ್ರತಿನಿಧಿ	ಸದಸ್ಯರು
9	ಕೆ.ಯು.ಐ.ಡಿ.ಎಫ್.ಸಿ. ಸಂಸ್ಥೆಯ ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರ ವೃಂದದ ಪ್ರತಿನಿಧಿ.	ಸದಸ್ಯರು

ಕ್ರ ಸಂ	ಅಧಿಕಾರಿಗಳ ಹೆಸರು/ಪದನಾಮ	
10	ಸಣ್ಣ ನೀರಾವರಿ ಇಲಾಖೆಯ ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರ ವೃಂದದ ಪ್ರತಿನಿಧಿ.	ಸದಸ್ಯರು
11	ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆಯ ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರ ವೃಂದದ ಪ್ರತಿನಿಧಿ.	ಸದಸ್ಯರು
12	ಅರಣ್ಯ ಸಂರಕ್ಷಣಾಧಿಕಾರಿ (ಅಭಿವೃದ್ಧಿ), ಅರಣ್ಯ ಇಲಾಖೆ.	ಸದಸ್ಯರು
13	ಶ್ರೀ.ಕೆ.ಮೋಹನ್, ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು (ವಿನ್ಯಾಸ), ಮುಇಂರವರ ಕಛೇರಿ, ಸಂಕದ, ಬೆಂಗಳೂರು	ಸದಸ್ಯ ಕಾರ್ಯದರ್ಶಿ

(ಕ್ರಸಂ 5–11ರವರೆಗಿನ ಸದಸ್ಯರುಗಳನ್ನು ಸಂಬಂಧಪಟ್ಟ ಇಲಾಖೆ/ಮಂಡಳಿ/ಪಾಲಿಕೆ ಇವರು ಅಂತಿಮಗೊಳಿಸುವುದು.)

ಮೇಲಿನ ಸಮಿತಿಯು ಅನುಸೂಚಿ ದರಗಳ ತಯಾರಿಸುವ ಕಾರ್ಯವನ್ನು ದಿನಾಂಕ 01–06–2019ರ ಮುನ್ನು ಅಂತಿಮಗೊಳಿಸಿ **ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿಯ** ಅನುಮೋದನೆ ಪಡೆದು ಜಾರಿಗೊಳಿಸಲು ಕ್ರಮ ವಹಿಸುವುದು. ಈ ಆದೇಶವನ್ನು ಆರ್ಥಿಕ ಇಲಾಖೆಯ ಟಿಪ್ಪಣಿ ಸಂಖ್ಯೆ ಆಇ 259 ಆಕೋ–2/2018 ದಿನಾಂಕ: 14–03–2019ರನ್ವಯ ಹೊರಡಿಸಲಾಗಿದೆ.

ಕರ್ನಾಟಕ ರಾಜ್ಯಪಾಲರ ಆದೇಶಾನುಸಾರ
ಮತ್ತು ಅವರ ಹೆಸರಿನಲ್ಲಿ

04/04/2019
(ಕೆ.ಎಸ್.ಹರೀಶ್)
ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿ,
ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಜಸಾ
ಇಲಾಖೆ (ನಬಾರ್ಡ್)

ಇವರಿಗೆ:

1) ಸನ್ಮಾನ್ಯ ಲೋಕೋಪಯೋಗಿ ಸಚಿವರ ಸಂಸದೀಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ವಿಧಾನ ಸೌಧ.
2) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಆರ್ಥಿಕ ಇಲಾಖೆ, ವಿಧಾನ ಸೌಧ.
3) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಇಂಧನ ಇಲಾಖೆ, ಕೊಠಡಿ ಸಂಖ್ಯೆ:236, 2ನೇ ಮಹಡಿ, ವಿಕಾಸ ಸೌಧ, ಡಾ॥ ಅಂಬೇಡ್ಕರ್ ಬೀದಿ, ಬೆಂಗಳೂರು.
4) ವಾಣಿಜ್ಯ ತೆರಿಗೆ ಇಲಾಖೆಯ ಆಯುಕ್ತರು, ಗಾಂಧಿ ನಗರ, ಬೆಂಗಳೂರು.
5) ಪ್ರಧಾನ ಮುಖ್ಯ ಅರಣ್ಯ ಸಂರಕ್ಷಣಾಧಿಕಾರಿ, ಅರಣ್ಯ ಭವನ, 18ನೇ ಅಡ್ಡ ರಸ್ತೆ, ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು–560003

6) ವ್ಯವಸ್ಥಾಪಕ ನಿರ್ದೇಶಕರು, ಕರ್ನಾಟಕ ನಗರ ಮೂಲಸೌಕರ್ಯ ಅಭಿವೃದ್ಧಿ ಮತ್ತು ಹಣಕಾಸು ನಿಗಮ ನಿಯಮಿತ ನಗರಾಬಿವೃದ್ಧಿ ಭವನ,#22,17ನೇ 'ಎಫ್' ಕ್ರಾಸ್, ಓಲ್ಡ್ ಮದ್ರಾಸ ರಸ್ತೆ, ಇಂದಿರಾನಗರ 2ನೇ ಹಂತ, ಬಿಎಮ್‌ಟಿಸಿ ಬಸ್ ಡಿಪೋ ಹತ್ತಿರ, ಬೆಂಗಳೂರು–560038

7) ಮುಖ್ಯ ಇಂಜನಿಯರ್, ಕರ್ನಾಟಕ ಗೃಹ ಮಂಡಳಿ, ಕಾವೇರಿ ಭವನ, ಬೆಂಗಳೂರು.

8) ವ್ಯವಸ್ಥಾಪಕ ನಿರ್ದೇಶಕರು, ಕೃಷ್ಣಾ ಭಾಗ್ಯ ಜಲ ನಿಗಮ, ಬೆಂಗಳೂರು.

9) ಪ್ರಧಾನ ಅಭಿಯಂತರರು,ಬಿ.ಬಿ.ಎಂ,ಪಿ ಕೇಂದ್ರ ಕಛೇರಿ, ಅನೆಕ್ಸ್ ಕಟ್ಟಡ,1ನೇ ಮಹಡಿ ಎನ್.ಆರ್,ವೃತ್ತ, ಬೆಂಗಳೂರು.–560002

10) ಮುಖ್ಯ ಇಂಜನಿಯರ್, ಸಂಪರ್ಕ ಮತ್ತು ಕಟ್ಟಡಗಳು (ದಕ್ಷಿಣ),(ಉತ್ತರ) ಮತ್ತು (ಈಶಾನ್ಯ) ವಲಯಗಳು. ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಜಸಾ ಇಲಾಖೆ.

11) ಮುಖ್ಯ ಇಂಜನಿಯರ್, ಎಂ ಅಂಡ್ ಇ, ಜಲಸಂಪನ್ಮೂಲ ಅಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ಆನಂದರಾವ್ ವೃತ್ತ, ಬೆಂಗಳೂರು.

12) ಮು.ಇಂ. ಗ್ರಾಮ ಪಂಚಾಯತ್ ಮತ್ತು ಪಂಚಾಯತ್ ರಾಜ್ ಇಲಾಖೆ, ಆನಂದರಾವ್ ವೃತ್ತ, ಬೆಂಗಳೂರು.

13) ಮುಖ್ಯ ಇಂಜನಿಯರ್, ಬೆಂಗಳೂರು ನೀರು ಸರಬರಾಜು ಮತ್ತು ಒಳಚರಂಡಿ ಮಂಡಳಿ, ಕಾವೇರಿ ಭವನ, ಕೆಂಪೇಗೌಡ ರಸ್ತೆ, ಬೆಂಗಳೂರು.

14) ಮುಖ್ಯ ಇಂಜನಿಯರ್, ಸಣ್ಣ ನೀರಾವರಿ ಇಲಾಖೆ, ಕೆ.ಆರ್.ವೃತ್ತ, ಬೆಂಗಳೂರು.

15) ಸಮಿತಿ ಸದ್ಯಸರುಗಳಿಗೆ.

ಪ್ರತಿ:–

1) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿ, ಲೊಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಜಸಾ ಇಲಾಖೆ, ವಿಕಾಸ ಸೌಧ,

2) ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿ, ಲೊಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಜಸಾ ಇಲಾಖೆ, ವಿಕಾಸ ಸೌಧ,

3) ಶಾಖಾ ರಕ್ಷಣಾ ಕಡತ / ಹೆಚ್ಚುವರಿ ಪ್ರತಿಗಳು.

ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ನಡವಳಿಗಳು

ವಿಷಯ :– ಎಸ್.ಆರ್. ದರಗಳನ್ನು ಪ್ರಕಟಿಸಲು **ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿ** ರಚಿಸುವ ಕುರಿತು.

ಒದಲಾಗಿದೆ – 1) ಸರ್ಕಾರದ ಸಮ ಸಂಖ್ಯೆ ಪತ್ರ ದಿನಾಂಕ 04–09–2018

2) ಮುಖ್ಯ ಇಂಜನಿಯರ್, ಸಂಕದ ಇವರ ಪತ್ರ ಸಂಖ್ಯೆ:ಮುಅ:ಸಂಕದ:ಸಾಕೋ:ಸಇ–4:2018–19 ದಿನಾಂಕ: 01–10–2018.

3) ಸರ್ಕಾರದ ಸಮ ಸಮಸಂಖ್ಯೆ ಪತ್ರ ದಿನಾಂಕ:– 11–10–2018

*****

ಪ್ರಸ್ತಾವನೆ:

2018–19ನೇ ಸಾಲಿನ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯ ದರಪಟ್ಟಿಯನ್ನು ತಯಾರಿಸುವ ಕುರಿತು ಸರ್ಕಾರದ ಆದೇಶ ಸಮ ಸಂಖ್ಯೆ ದಿನಾಂಕ 26–03–2018ರಲ್ಲಿ ಸಮಿತಿಯನ್ನು ಸೃಜಿಸಲಾಗಿತ್ತು. ಸದರಿ ಸಮಿತಿಯು ನೀಡಿದ ವರದಿಯಂತೆ ಉಲ್ಲೇಖ–2ರ ಪತ್ರದಲ್ಲಿ ಮುಖ್ಯ ಇಂಜನಿಯರ್, ಸಂಕದ ಇವರು 2018–19ನೇ ಸಾಲಿನ ಬೆಂಗಳೂರು ವೃತ್ತದ ಕರಡು ದರಪಟ್ಟಿಯನ್ನು ಸರ್ಕಾರದ ಅನುಮೋದನೆಗಾಗಿ ಸಲ್ಲಿಸಿರುತ್ತಾರೆ. ಉಲ್ಲೇಖ–3ರ ಪತ್ರದಲ್ಲಿ ಮುಖ್ಯ ಇಂಜಿನಿಯರ್‌ರವರು ಸಲ್ಲಿಸಿರುವ ಬೆಂಗಳೂರು ವೃತ್ತದ 2018–19ನೇ ಸಾಲಿನ ದರಪಟ್ಟಿಯನ್ನು ಮತ್ತು ಉಳಿದ ಎಲ್ಲಾ ವೃತ್ತಗಳು ದಿನಾಂಕ 10–10–2018ರಂದ ಅನ್ವಯವಾಗುವಂತೆ ಪ್ರಕಟಿಸಲು ಸೂಚಿಸಲಾಯಿತು. ಈ ವಿಷಯವನ್ನು ಆರ್ಥಿಕ ಇಲಾಖೆಯ ಗಮನಕ್ಕೆ ತರಲಾಗಿ ಈ ಕೆಳಕಂಡ ಅಂಶಗಳ ಕುರಿತು ಅಗತ್ಯ ಕ್ರಮವಹಿಸುವಂತೆ ತಿಳಿಸಲಾಗಿದೆ.

I. ಪ್ರಸ್ತುತ ರಾಜ್ಯದಲ್ಲಿನ ಪ್ರಮುಖ ಇಲಾಖೆಗಳಾದ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ, ಜಲ ಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ನಗರಾಭಿವೃದ್ಧಿ, ವಸತಿ ಇಲಾಖೆ, ಇಂಧನ ಇಲಾಖೆ ಮುಂತಾದವುಗಳು ತಮ್ಮದೇ ಆದ ಅನುಸೂಚಿ ದರಗಳನ್ನು (ಎಸ್.ಆರ್.) ತಯಾರಿಸಿದ್ದು, ವಿವಧ ಕಾಮಗಾರಿಗಳ ಅಂದಾಜುಗಳ ತಯಾರಿಕೆಯಲ್ಲಿ ಬೇರೆ ಬೇರೆ ಇಲಾಖೆಗಳ ದರಗಳನ್ನು ಅಳವಡಿಸಿ ಅಂದಾಜುಗಳನ್ನು ತಯಾರಿಸಲಾಗಿರುತ್ತದೆ. ಪ್ರಸಕ್ತ ಪರಿಸ್ಥಿತಿಯಲ್ಲಿ ಅಂದರೆ, ಜಿ.ಎಸ್.ಟಿ. ಅನುಷ್ಟಾನವಾದ ನಂತರ ಅವಧಿಯಲ್ಲಿ ಒಂದು ಇಲಾಖೆಯಲ್ಲಿ ಜಿ.ಎಸ್.ಟಿ. ಪೂರ್ವ ದರಗಳಿದ್ದಲ್ಲಿ, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯಲ್ಲಿ ಜಿ.ಎಸ್.ಟಿ. ನಂತರದ ದರಗಳು

ಅಸ್ತಿತ್ವದಲ್ಲಿವೆ. ಇದರಿಂದಾಗಿ ಅಂದಾಜುಗಳನ್ನು ತಯಾರಿಸಲು ಮತ್ತು ಟೆಂಡರುಗಳನ್ನು ಮೌಲ್ಯಮಾಪನ ಮಾಡುವಲ್ಲಿ ಅನೇಕ ಸಮಸ್ಯೆಗಳು ಉದ್ಭವವಾಗುತ್ತಿವೆ.

II. ಈ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ರಾಜ್ಯದಲ್ಲಿ ಏಕರೂಪದ ಸಮಗ್ರ ಅನುಸೂಚಿ ದರಗಳನ್ನು ತಯಾರಿಸಿ ಪ್ರಕಟಿಸುವುದು ಸೂಕ್ತವೆಂದು ಭಾವಿಸಲಾಗಿದೆ. ಇದಕ್ಕಾಗಿ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯನ್ನು ನೋಡಲ್ ಇಲಾಖೆಯನ್ನಾಗಿ ನೇಮಿಸಿ, ಎಲ್ಲಾ ಪ್ರಮುಖ ಇಲಾಖೆಗಳ ಪ್ರತಿನಿಧಿಗಳನ್ನೊಳಗೊಂಡ ಸಮಿತಿಯನ್ನು ರಚಿಸಿ, ಸದರಿ ಸಮಿತಿಯ ಮೂಲಕ ಸಮಗ್ರವಾದ ಅನುಸೂಚಿ ದರಗಳನ್ನು (ಎಸ್.ಆರ್) ತಯಾರಿಸಿ ಹಾಗೂ ರಸ್ತೆ, ಸೇತುವೆ ಮತ್ತು ಕಟ್ಟಡಗಳ ಕುರಿತಾದ ಎಲ್ಲಾ ಎಸ್.ಆರ್ ದರಗಳನ್ನು ಪ್ರಕಟಿಸುವುದು ಸೂಕ್ತವಾಗಿರುತ್ತದೆ.

III. ದರಪಟ್ಟಿಯ ತಯಾರಿಸುವ ಬಗ್ಗೆ ಸೃಜಿಸಲಾಗಿರುವ ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿಯು ತಯಾರಿಸಿರುವ ದರಪಟ್ಟಿಯನ್ನು ಪರಿಶೀಲಿಸಿ ಅಂತಿಮಗೊಳಿಸಲು, **"ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿ"**ಯನ್ನು ರಚಿಸುವುದು.

ಮೇಲಿನ ಪ್ರಸ್ತಾವನೆಯಲ್ಲಿ ವಿವರಿಸಿರುವಂತೆ **"ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿ"**ಯನ್ನು ರಚಿಸಲು ಕೆಳಕಂಡ ಆದೇಶ ಹೊರಡಿಸಲಾಗಿದೆ.

ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ ಪಿಡಬ್ಲ್ಯುಡಿ 65 ಆರ್‌ಡಿಎಫ್ 2018 ದಿನಾಂಕ 04-04-2019

ಪ್ರಸ್ತಾವನೆಯಲ್ಲಿ ವಿವರಿಸಲಾದ ಅಂಶಗಳ ಹಿನ್ನೆಲೆಯಲ್ಲಿ, ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿಯು ತಯಾರಿಸುವ 2019-20ನೇ ಸಾಲಿನ ಏಕರೂಪ ದರಪಟ್ಟಿಯನ್ನು ಪರಿಶೀಲಿಸಲು **"ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿ"**ಯನ್ನು ಕೆಳಕಂಡಂತೆ ಸೃಜಿಸಲಾಗಿದೆ.

ಕ್ರ ಸಂ	**ಅಧಿಕಾರಿಗಳ ಹೆಸರು/ಪದನಾಮ**	
1	ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಳನಾಡು ಜಲಸಾರಿಗೆ, ಇಲಾಖೆ	ಅಧ್ಯಕ್ಷರು
2	ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ/ ಕಾರ್ಯದರ್ಶಿ, ಇಂಧನ ಇಲಾಖೆ	ಸದಸ್ಯರು
3	ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ/ ಕಾರ್ಯದರ್ಶಿ, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ	ಸದಸ್ಯರು
4	ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ / ಕಾರ್ಯದರ್ಶಿ, ಅರಣ್ಯ, ಪರಿಸರ ಮತ್ತು ಜೀವಿಶಾಸ್ತ್ರ ಇಲಾಖೆ.	ಸದಸ್ಯರು

ಕ್ರ ಸಂ	ಅಧಿಕಾರಿಗಳ ಹೆಸರು/ಪದನಾಮ	
5	ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ/ ಕಾರ್ಯದರ್ಶಿ, ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ	ಸದಸ್ಯರು.
6	ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ/ ಕಾರ್ಯದರ್ಶಿ, ವಸತಿ ಇಲಾಖೆ	ಸದಸ್ಯರು
7	ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ (ವೆಚ್ಚ), ಆರ್ಥಿಕ ಇಲಾಖೆ	ಸದಸ್ಯರು
8	ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ, ಜಲ ಸಂಪನ್ಮೂಲ ಇಲಾಖೆ	ಸದಸ್ಯರು
9	ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ, ಸಣ್ಣ ನೀರಾವರಿ ಮತ್ತು ಅಂತರ್ಜಲ ಅಭಿವೃದ್ಧಿ ಇಲಾಖೆ	ಸದಸ್ಯರು
10	ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ	ಸದಸ್ಯ ಕಾರ್ಯದರ್ಶಿ

ಈ ಸಮಿತಿಯು ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿಯು ತಯಾರಿಸುವ ದರಪಟ್ಟಿಯನ್ನು ಪರಿಶೀಲಿಸಿ ದಿನಾಂಕ 01-06-2019ರಿಂದ ಕಡ್ಡಾಯವಾಗಿ ಜಾರಿಗೊಳಿಸಲು ಕ್ರಮ ವಹಿಸುವುದು. ಈ ಆದೇಶವನ್ನು ಆರ್ಥಿಕ ಇಲಾಖೆಯ ಟಿಪ್ಪಣಿ ಸಂಖ್ಯೆ ಆಇ 259 ಆಕೋ-2/2018 ದಿನಾಂಕ: 14-03-2019ರನ್ವಯ ಹೊರಡಿಸಲಾಗಿದೆ.

ಕರ್ನಾಟಕ ರಾಜ್ಯಪಾಲರ ಆದೇಶಾನುಸಾರ
ಮತ್ತು ಅವರ ಹೆಸರಿನಲ್ಲಿ

(ಕೆ.ಎಸ್.ಹರೀಶ್) 04/04/2019
ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿ,
ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಜಸಾ
ಇಲಾಖೆ (ನಬಾರ್ಡ್)

ಇವರಿಗೆ:

1) ಸನ್ಮಾನ್ಯ ಲೋಕೋಪಯೋಗಿ ಸಚಿವರ ಸಂಸದಿಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ವಿಧಾನ ಸೌಧ.
2) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಆರ್ಥಿಕ ಇಲಾಖೆ, ವಿಧಾನ ಸೌಧ.
3) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಇಂದನ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
4) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
5) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಅರಣ್ಯ, ಪರಿಸರ ಮತ್ತು ಜೀವಿಶಾಸ್ತ್ರ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.

6) ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ/ ಕಾರ್ಯದರ್ಶಿಗಳು, ಗ್ರಾಮೀಣ ಅಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
7) ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ, ವಸತಿ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
8) ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ, ಜಲ ಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
9) ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ, ಸಣ್ಣ ನೀರಾವರಿ ಮತ್ತು ಅಂತರ್ಜಲ ಅಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ವಿಕಾಸ ಸೌಧ, ಬೆಂಗಳೂರು.

ಪ್ರತಿ:-
1) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿ, ಲೊಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಜಸಾ ಇಲಾಖೆ, ವಿಕಾಸ ಸೌಧ, ಬೆಂಗಳೂರು.
2) ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿ, ಲೊಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಜಸಾ ಇಲಾಖೆ, ವಿಕಾಸ ಸೌಧ, ಬೆಂಗಳೂರು.
3) ಶಾಖಾ ರಕ್ಷಣಾ ಕಡತ / ಹೆಚ್ಚುವರಿ ಪ್ರತಿಗಳು.

ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ನಡವಳಿಗಳು

ವಿಷಯ: 2023-24ನೇ ಸಾಲಿನ ಏಕರೂಪ ಅನುಸೂಚಿ ದರಪಟ್ಟಿಗಳನ್ನು ಪರಿಷ್ಕರಿಸಿ ತಯಾರಿಸಲು ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡವನ್ನು (Technical Working Group) ಪುನರ್ ರಚಿಸುವ ಬಗ್ಗೆ.

ಉಲ್ಲೇಖ 1. ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: ಲೋಇ 65 ಆರ್‌ಡಿಎಫ್ 2018, ದಿನಾಂಕ: 04.04.2019.

2. ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: ಆಇ 259 ಆಕೋ-2/2018, ದಿನಾಂಕ: 17.02.2020.

3. ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: ಲೋಇ 51 ಆರ್‌ಡಿಎಫ್ 2019,ಬೆಂಗಳೂರು, ದಿನಾಂಕ:18.03.2022, 25-03-2022 ಮತ್ತು 31-03-2022.

ಪ್ರಸ್ತಾವನೆ:

ಮೇಲೆ (1)ರಲ್ಲಿ ಒದಲಾದ ಸರ್ಕಾರದ ಆದೇಶದಲ್ಲಿ ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿಯಿ ತಯಾರಿಸುವ 2019-20ನೇ ಸಾಲಿನ ಏಕ ರೂಪ ದರಪಟ್ಟಿಯನ್ನು ಪರಿಶೀಲಿಸಲು "**ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿ**"ಯನ್ನು ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ ಇವರ ಅಧ್ಯಕ್ಷತೆಯಲ್ಲಿ ವಿವಿಧ ಇಲಾಖೆಗಳ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು / ಕಾರ್ಯದರ್ಶಿಗಳ ಸದಸ್ಯರುಗಳನ್ನು ಒಳಗೊಂಡು ಸೃಜಿಸಲಾಗಿರುತ್ತದೆ. ಈ ಸಮಿತಿಯು ಏಕರೂಪ ದರಪಟ್ಟಿಯ ರಚನಾ ಸಮಿತಿಯು ತಯಾರಿಸುವ ದರಪಟ್ಟಿಗಳನ್ನು ಪರಿಶೀಲಿಸಿ ಜಾರಿಗೊಳಿಸಲು ಕ್ರಮವಹಿಸಲು ಆರ್ಥಿಕ ಇಲಾಕೆಯ ಟಿಪ್ಪಣಿ ಸಂಖ್ಯೆ ಆಇ 259 ಆಕೋ-2/2018, ದಿನಾಂಕ:14.03.2019ರನ್ವಯ ಆದೇಶ ಹೊರಡಿಸಲಾಗಿರುತ್ತದೆ.

ಮೇಲೆ (2)ರಲ್ಲಿ ಒದಲಾದ ಸರ್ಕಾರದ ಆದೇಶದಲ್ಲಿಏಕರೂಪ ಅನುಸೂಚಿ ದರಗಳನ್ನು ತಯಾರಿಸಲು "**ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡ** " (**Technical Working Group**) ರಚಿಸಿ ವಿವಿಧ ಇಲಾಖೆಗಳೊಂದಿಗೆ ಸಭೆಯನ್ನು ನಡೆಸಿ ಮಾರ್ಚ್-2020ರ ಮಾಹೆಯೊಳಗೆ ಏಕರೂಪ ದರಪಟ್ಟಿಯನ್ನು ಸರ್ಕಾರಕ್ಕೆ ಮುಂದಿನ ಕ್ರಮಕ್ಕಾಗಿ ಸಲ್ಲಿಸುವಂತೆ ಆದೇಶ ಹೊರಡಿಸಲಾಗಿರುತ್ತದೆ.

ಮೇಲೆ (3)ರಲ್ಲಿ ಒದಲಾದ ಸರ್ಕಾರದ ಆದೇಶಗಳಲ್ಲಿ ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡದ ಮಾರ್ಗದರ್ಶನದಲ್ಲಿ ವಿವಿಧ ಇಲಾಖೆಗಳು ತಯಾರಿಸಿರುವ ಕೆಳಕಂಡ 2021-22ನೇ ಸಾಲಿನ ಅನುಸೂಚಿತ ಏಕರೂಪ ದರಪಟ್ಟಿಗಳ ಸಂಪುಟಗಳನ್ನು ಮುಂದಿನ ಆದೇಶದವರೆಗೆ ಜಾರಿಗೆ ತರಲಾಗಿದೆ.

ಕ್ರ.ಸಂ	ಇಲಾಖೆಗಳು	ನೋಡಲ್ ಇಲಾಖೆಗಳು	ಏಕರೂಪ ದರಪಟ್ಟಿಯ ಸಂಪುಟ ಸಂಖ್ಯೆ
1	PWD, & PRED(Including Buildings*)	PWD	I, II & III
2	WRDO, MI & KPCL	WRDO	IV
3	BWSSB /KUWS&DB /RWS	BWSSB	V
4	KPTCL, ESCOMS, PWD ELECTRICAL	BESCOM	VI
5	PORTS & IWTD	PORTS	VII
6	FOREST, WATERSHED & HORTICULTURE	FOREST	VIII

ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: ಆಇ 259 ಆಕೋ-/2018, ದಿನಾಂಕ:17.02.2020. ಆದೇಶದಂತೆ ಹಾಗೂ ಉಲ್ಲೇಖ(3)ರಲ್ಲಿ ಈಗಾಗಲೇ ಪ್ರಕಟಿಸಿರುವ **2021-22ನೇ**

ಸಾಲಿನ ಏಕರೂಪ ದರಪಟ್ಟಿಗಳ ಸಂಪುಟಗಳನ್ನು ಪರಿಷ್ಕರಿಸಿ **2023-24ನೇ** ಸಾಲಿನ ಏಕರೂಪ ದರಪಟ್ಟಿಗಳನ್ನು ತಯಾರಿಸಲು ಕ್ರಮ ವಹಿಸಬೇಕಾಗಿರುವ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ಈ ಕೆಳಕಂಡಂತೆ ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡವನ್ನು (Technical Working Group) ಪುನರ್ ರಚಿಸಲು ನಿರ್ಧರಿಸಲಾಗಿದೆ.

ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ ಲೋಇ 86 ಆರ್‌ಡಿಎಫ್ 2022, ಬೆಂಗಳೂರು, ದಿನಾಂಕ: 13.02.2023

ಪ್ರಸ್ತಾವನೆಯಲ್ಲಿ ವಿವರಿಸಲಾದ ಅಂಶಗಳ ಹಿನ್ನೆಲೆಯಲ್ಲಿ, **2023-24ನೇ** ಸಾಲಿನ ರಾಜ್ಯವ್ಯಾಪಿ ಏಕರೂಪ ದರಪಟ್ಟಿ ಸಂಪುಟ-I ರಿಂದ VIII ಪರಿಷ್ಕರಿಸಲು ಈ ಕೆಳಕಂಡ ಸದಸ್ಯರುಗಳನ್ನೊಳಗೊಂಡಂತೆ ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡವನ್ನು (Technical Working Group) ಪುನರ್ ರಚಿಸಿ ಆದೇಶಿಸಿದೆ.

ಕ್ರ. ಸಂ	**ಶ್ರೀಯುತ/ಅಧಿಕಾರಿಗಳು**	
1.	ಆರ್. ಜೈಪ್ರಸಾದ್, ನಿವೃತ್ತ ಪ್ರಧಾನ ಇಂಜನಿಯರ್	ಅಧ್ಯಕ್ಷರು
2.	ಬಿ. ಗುರುಪ್ರಸಾದ್, ನಿವೃತ್ತ ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ ಮತ್ತು ಪ್ರಧಾನ ಇಂಜನಿಯರ್, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ	ಸದಸ್ಯರು
3.	ಕೆ. ಮೋಹನ್ ನಿವೃತ್ತ ಮುಖ್ಯ ಇಂಜನಿಯರ್, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ.	ಸದಸ್ಯರು
4.	ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಗ್ರಾಮೀಣ ನೀರು ಸರಬರಾಜು ಇಲಾಖೆ, ಕಾವೇರಿ ಭವನ, ಕೆಜಿ ರಸ್ತೆ, ಬೆಂಗಳೂರು.	ಸದಸ್ಯರು
5.	ರಮೇಶ್ ಹೆಚ್.ಜಿ. ಜನರಲ್ ಮ್ಯಾನೇಜರ್, Quality Standard and Safety, BESCOM , ಬೆಂಗಳೂರು	ಸದಸ್ಯರು
6.	ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಬೆಂಗಳೂರು ನಗರ ನೀರು ಸರಬರಾಜು ಮತ್ತು ಒಳಚರಂಡಿ ಮಂಡಳಿ	ಸದಸ್ಯರು
7.	ರವಿಕುಮಾರ, ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್ (ನಿವೃತ್ತ) ಗ್ರಾಮೀಣಾಬಿವೃದ್ಧಿ ಮತ್ತು ಪಂಚಾಯತ್ ರಾಜ್ ಇಲಾಖೆ	ಸದಸ್ಯರು
8.	ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್, ಬೆಂಗಳೂರು ವೃತ್ತ, ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಮತ್ತು ಪಂಚಾಯತ್ ರಾಜ್ ಇಲಾಖೆ	ಸದಸ್ಯರು
9.	ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್, ಬೆಂಗಳೂರು ವೃತ್ತ, ಸಣ್ಣ ನೀರಾವರಿ ಇಲಾಖೆ, ಜಯನಗರ, ಬೆಂಗಳೂರು	ಸದಸ್ಯರು
10.	ತಾರಾನಾಥ್ ಎಸ್. ರಾಥೋಡ್, ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್, ಕರ್ನಾಟಕ ಜಲ ಸಾರಿಗೆ ಮಂಡಳಿ, ಕಾರವಾರ	ಸದಸ್ಯರು
11.	ರಾಜೇಶ್, ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್ (ವಿದ್ಯುತ್ ವಿಭಾಗ) ಲೋಇ ಬೆಂಗಳೂರು	ಸದಸ್ಯರು
12.	ಶ್ರೀಮತಿ ಪವಿತ್ರ, ಉಪ ಮುಖ್ಯ ಇಂಜಿನಿಯರ್ ಕೆಯುಡಬ್ಲ್ಯುಎಸ್‌ಎಸ್‌ಬಿ, ಬೆಂಗಳೂರು.	ಸದಸ್ಯರು

ಕ್ರ. ಸಂ	ಶ್ರೀಯುತ/ಅಧಿಕಾರಿಗಳು	
13.	ಕೃಷ್ಣರಾವ್, ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್, ಕೆಇಆರ್ಎಸ್, ಮೈಸೂರು	ಸದಸ್ಯರು
14.	ಶ್ರೀನಿವಾಸ್, ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್, ಎಂ & ಇ ವಿಭಾಗ, ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ಬೆಂಗಳೂರು	ಸದಸ್ಯರು
15.	ಕೆ.ವಿ. ಗೋಪಾಲಕೃಷ್ಣ, ನಿವೃತ್ತ ಕಾರ್ಯಪಾಲಕ ಇಂಜನಿಯರ್, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ	ಸದಸ್ಯರು
16.	ಎನ್. ಬಿ. ಅನ್ವರ್ ಪಾಷ, ನಿವೃತ್ತ ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್,	ಸದಸ್ಯರು
17.	ಅರಣ್ಯ ಸಂರಕ್ಷಣಾಧಿಕಾರಿ, ಅರಣ್ಯ ಇಲಾಖೆ.	ಸದಸ್ಯರು
18.	ಶ್ರೀಮತಿ ದಿವ್ಯ, ಸಹಾಯಕ ನಿರ್ದೇಶಕರು, ತೋಟಗಾರಿಗೆ ಇಲಾಖೆ	ಸದಸ್ಯರು
19.	ಅಧಿಕ್ಷಕ ಅಭಿಯಂತರರು, ಲೋಕೋಪಯೋಗಿ ವೃತ್ತ, ಬೆಂಗಳೂರು.	ಸದಸ್ಯ ಕಾರ್ಯದರ್ಶಿ/ ಸಮನ್ವಯಾಧಿಕಾರಿ

i) ಈ ತಂಡವು ವಿವಿಧ ಇಲಾಖೆಗಳ ಸದಸ್ಯರೊಂದಿಗೆ ಸಭೆಯನ್ನು ನಡೆಸಿ ಏಪ್ರಿಲ್-2023ರ ಅಂತ್ಯದೊಳಗೆ ವಿವಿಧ ಇಲಾಖೆಗಳ ಏಕರೂಪ ದರಪಟ್ಟಿಯನ್ನು ಪರಿಷ್ಕರಿಸಿ ಸಲ್ಲಿಸುವುದು.

ii) ವಿವಿಧ ಇಲಾಖೆಗಳ ಸದಸ್ಯರು ಏಕರೂಪ ದರಪಟ್ಟಿಯ ತಯಾರಿಕೆ, ವಿಶಿಷ್ಟ ವಿವರಣೆ ಹಾಗೂ ಡೇಟಾ ವಿಶ್ಲೇಷನೆ ಮುಂತಾದ ವಿವರಗಳನ್ನು ತಾಂತ್ರಿಕ ತಂಡದೊಂದಿಗೆ ಚರ್ಚಿಸಿ ಅಂತಿಮಗೊಳಿಸುವುದು ಹಾಗೂ ಪರಿಷ್ಕರಿಸಿದ ಕರಡು ಏಕರೂಪ ದರಪಟ್ಟಗಳಿಗೆ ಆಯಾ ಇಲಾಖೆಯ ಸಕ್ಷಮ ಪ್ರಾಧಿಕಾರದ ಅನುಮೋದನೆ ಪಡೆದು ಸಲ್ಲಿಸುವುದು.

iii) ಮೇಲ್ಕಂಡ ತಂಡದ ಅಧಿಕಾರೇತರ ಸದಸ್ಯರುಗಳಿಗೆ ಸೇವಾ ಶುಲ್ಕವನ್ನು ನೀಡುವ ಕುರಿತಂತೆ ಸಮನ್ವಯಾಧಿಕಾರಿಯಾಗಿರುವ ಅಧೀಕ್ಷಕ ಇಂಜನಿಯರ್, ಲೋಕೋಪಯೋಗಿ ವೃತ್ತ, ಬೆಂಗಳೂರು ಇವರು ಕ್ರಮ ವಹಿಸುವುದು.

iv) ಈ ಕಾರ್ಯವನ್ನು ನಿರ್ವಹಿಸಲು ಅಗತ್ಯವಿರುವ ಕಛೇರಿಯ ಸ್ಥಳಾವಕಾಶವನ್ನು ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಸಂಪರ್ಕ ಮತ್ತು ಕಟ್ಟಡಗಳು (ದಕ್ಷಿಣ) ಕಛೇರಿಯ 3ನೇ ಮಹಡಿಯಲ್ಲಿ ಸಭಾಂಗಣ ಮತ್ತು ಪೀಠೋಪಕರಣ, ಲೇಖನ ಸಾಮಗ್ರಿಗಳು ಹಾಗೂ ಇತರೆ ಅಗತ್ಯ ಸೌಕರ್ಯಗಳನ್ನು ಒದಗಿಸುವುದು.

v) ಈ ಏಕರೂಪ ದರಪಟ್ಟಿಗಳ ಪರಿಷ್ಕರಣೆಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ಸಂಬಂಧಪಟ್ಟ ಇಲಾಖೆಗಳ ಮುಖ್ಯ ಇಂಜಿನಿಯರ್/ ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್‌ಗಳು ಸೂಕ್ತ ಸಲಹೆ ಮತ್ತು ಅಭಿಪ್ರಾಯಗಳನ್ನು ಕಾರ್ಯ ನಿರತ ತಂಡದ ಮಾಹಿತಿಗೆ ಸಲ್ಲಿಸುವುದು.

vi) ತಾಂತ್ರಿಕ ಕಾರ್ಯ ನಿರತ ತಂಡವು 2023-24ನೇ ಸಾಲಿನ ಎಲ್ಲ ಸಂಪುಟಗಳ ಪರಿಷ್ಕರಣೆಯನ್ನು **ಏಪ್ರಿಲ್-23ರ** ಅಂತ್ಯದೊಳಗೆ ಪೂರ್ಣಗೊಳಿಸಿ ಸಕ್ಷಮ ಪ್ರಾಧಿಕಾರಕ್ಕೆ ಸಲ್ಲಿಸುವುದು.

ಕರ್ನಾಟಕ ರಾಜ್ಯಪಾಲರ ಆದೇಶಾನುಸಾರ
ಮತ್ತು ಅವರ ಹೆಸರಿನಲ್ಲಿ

13/02/2023

(ಕೆ.ಎಸ್. ಹರೀಶ್)
ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿ,
ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ (ನಬಾರ್ಡ್)

ಇವರಿಗೆ:

1. ಮಹಾಲೇಖಪಾಲರು, (ಲೆಕ್ಕ ಪರೀಕ್ಷೆ-II), ಕರ್ನಾಟಕ, ಬೆಂಗಳೂರು.
2. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಆರ್ಥಿಕ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
3. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ.
4. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಇಂಧನ ಇಲಾಖೆ, ಬೆಂಗಳೂರು
5. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
6. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಅರಣ್ಯ, ಪರಿಸರ ಮತ್ತು ಜೀವಿಶಾಸ್ತ್ರ, ಇಲಾಖೆ, ಬೆಂಗಳೂರು. ಬಹುಮಹಡಿ ಕಟ್ಟಡಗಳು, ಬೆಂಗಳೂರು
7. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಮತ್ತು ಪಂಚಾಯತ್ ರಾಜ್ ಇಲಾಖೆ, ಬಹುಮಹಡಿ ಕಟ್ಟಡಗಳು, ಬೆಂಗಳೂರು
8. ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ, ವಸತಿ ಇಲಾಖೆ.
9. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, ಆರ್ಥಿಕ ಇಲಾಖೆ (ವೆಚ್ಚ), ಬೆಂಗಳೂರು.
10. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ಬೆಂಗಳೂರು
11. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, ಸಣ್ಣನೀರಾವರಿ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
12. ವ್ಯವಸ್ಥಾಪಕ ನಿರ್ದೇಶಕರು, ಬೆಸ್ಕಾಂ, ಬೆಂಗಳೂರು
13. ವ್ಯವಸ್ಥಾಪಕ ನಿರ್ದೇಶಕರು, ಕೆಪಿಟಿಸಿಎಲ್, ಬೆಂಗಳೂರು
14. ಮುಖ್ಯ ಅರಣ್ಯ ಸಂರಕ್ಷಣಾಧಿಕಾರಿ, ಅರಣ್ಯ ಭವನ, ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು
15. ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಸಂಪರ್ಕ ಮತ್ತು ಕಟ್ಟಡಗಳು (ದಕ್ಷಿಣ), (ಉತ್ತರ), (ಈಶಾನ್ಯ) ಮತ್ತು ಕೇಂದ್ರ ವಲಯಗಳು, ಬೆಂಗಳೂರು, ಧಾರವಾಡ, ಕಲಬುರಗಿ, ಶಿವಮೊಗ್ಗ.
16. ಮುಖ್ಯ ಇಂಜಿನಿಯರ್‌ಗಳು, ಇತರೆ ಇಲಾಖೆಗಳು.
17. ಎಲ್ಲಾ ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್‌ಗಳು, ಲೋಇ ಮತ್ತು ಇತರೆ ಇಲಾಖೆಗಳು.
18. ಎಲ್ಲಾ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್‌ಗಳು, ಲೋಇ ಮತ್ತು ಇತರೆ ಇಲಾಖೆಗಳು.

ಪ್ರತಿ ಮಾಹಿತಿಗಾಗಿ.

1. ಶ್ರೀ ಆರ್. ಜೈಪ್ರಸಾದ್, ನಿವೃತ್ತ ಪ್ರಧಾನ ಇಂಜಿನಿಯರ್,
2. ಶ್ರೀ. ಬಿ. ಗುರುಪ್ರಸಾದ್, ನಿವೃತ್ತ ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ ಮತ್ತು ಪ್ರಧಾನ ಇಂಜನಿಯರ್,
3. ಕಾರ್ಯ ನಿರತ ತಂಡದ ಎಲ್ಲ ಸದಸ್ಯರು

******

FOREWORD

Recommendations of the Technical Working Group

R Jaiprasad
Chairman, Technical Working Group

INDEX

i. International System of Units (SI)

- Basic units: * meter (length) * kilogram (mass) * second (time) * Ampere (electric current) * degrees Celsius (temperature) * (luminous intensity)
- It is equal to a Newton per square meter and corresponds to the familiar pounds per square inch (psi): 1 psi = 6.89 kilopascal.
- The following are some of the common conversion factors for SI Unit conversions.

Quantity or Test	Value in Trade or Customary Unit	X	Conversion Factor	=	Value in SI Unit	Symbol
Area	square inches		6.45		square centimeters	cm^2
	square feet		0.0929		square meters	m^2
	square yards		0.836		square meters	m^2
	acres		0.405		hectares	ha
Basis Weight* or	lb (17x22-500)		3.760		grams per square meter	g/m^2
Substance	lb (24x36-500)		1.627		grams per square meter	g/m^2
(500-sheet ream) or	lb (25x38-500)		1.480		grams per square meter	g/m^2
Grammage* when	lb (25x40-500)		1.406		grams per square meter	g/m^2
expressed in g/m^2	pounds per 1000 sq ft (Paperboard)		4.882		grams per square meter	g/m^2
Breaking Length	meters		0.001		kilometers	km
Burst Index	g/cm^2		0.0981		kilopascals	$KPa.m^2/g$
	g/m^2				grams per square meter	g/m^2
Bursting Strength	pounds per square inch		6.89		kilopascals	kPa
Caliper	mils		0.0254		millimeters	mm
Concora Crush	pounds		4.45		newtons	N
Edge Crush	pounds per inch		0.175		kilonewtons per meter	kN/m
Energy	British thermal units (Btu)		1055		joules	J
Flat Crush	pounds per square inch		6.89		kilopascals	kPa
Force	kilograms		9.81		newtons	N
	pounds		4.45		newtons	N
Length	angstroms		0.1		nanometers	nm
	microns		1		micrometers	µm
	mils		0.0254		millimeters	mm
	feet		0.305		meters	m
Mass	tons (2000 lbs.)		0.907		metric tons	t
	pounds		0.454		kilograms	kg
	ounces (avd p)		28.3		grams	g
Mass per Unit Volume	ounces per gallon		7.49		kilograms per cubic meter	kg/m^3
	pounds per cubic foot		1.60		kilograms per cubic meter	kg/m^3
Puncture Resistance	foot pounds		1.36		joules	J
Ring Crush	pounds (for a 6" length)		0.0292		kilonewtons per meter	KN/m
Stiffness (Taber)	gram centimeters (Taber Units)		0.0981		millinewton meters	mN• m
Tear Strength	grams		9.81		millinewtons	mN
Tensile Breaking Load	pounds per inch		0.175		kilonewtons per meter	kN/m
	kilograms per 15 millimeters		0.654		kilonewtons per meter	kN/m
Volume, Fluid	ounces (US Fluid)		29.6		milliliters	mL
	gallons		3.79		liters	L
Volume, Solid	cubic inches		16.4		cubic centimeters	Cm^3
	cubic feet		0.0283		cubic meters	m^3
	cubic yards		0.765		cubic meters	m^3

ii. Market Rate of Common Materials

- The important material components listed are common to all Engineering Departments.
- The material components are listed for the preparation of Rate Analysis only and cannot be used for direct payments.

Sl No.	Material Component	Unit	HSN Code	GST	Basic Rate (Excl GST) in Rs.
1	2	3	4	5	6
	Granular Aggregates				
1	06mm downsize	m^3	2517	5%	1410.00
2	10mm downsize	m^3	2517	5%	1362.00
3	12mm downsize	m^3	2517	5%	1333.00
4	20mm downsize	m^3	2517	5%	1333.00
5	25mm downsize	m^3	2517	5%	1333.00
6	30mm downsize	m^3	2517	5%	1238.00
7	40mm downsize	m^3	2517	5%	1190.00
8	53mm downsize	m^3	2517	5%	1190.00
9	100mm downsize	m^3	2517	5%	1143.00
10	Acetylene gas	m^3	2803	18%	403.00
11	Autoclaved Aerated Concrete blocks 100mm th.	each	6810	18%	59.00
12	Autoclaved Aerated Concrete blocks 150mm th.	each	6810	18%	85.00
13	Autoclaved Aerated Concrete blocks 200mm th.	each	6810	18%	102.00
14	Bitumen VG 40	t	2714	18%	
15	Bitumen VG 30	t	2714	18%	
16	Bitumen VG 10	t	2714	18%	
17	Bitumen Emulsion	t	2714	18%	
18	Brick - Table Moulded Bricks	each	6904	5%	8.00
19	Brick - Wire Cut Bricks	each	6904	5%	18.00

20	Brick Perforated Clay bricks 300x25x25 mm	each	6904	5%	24.00
21	Brick Perforated Clay bricks 300x50x25 mm	each	6904	5%	29.00
22	Brick Perforated Clay bricks 300x150x25 mm	each	6904	5%	33.00
23	Brick Porotherm 100 mm	each	6904	5%	48.00
24	Brick Porotherm 150 mm	each	6904	5%	57.00
25	Brick Porotherm 200 mm	each	6904	5%	67.00
26	Bricks (Modular)	each	6904	5%	10.00
27	Bricks (Non – Modular)	each	6904	5%	8.00
28	Cement – White Cement	kg	2523	28%	20.00
29	Cement (OPC/PPC/PSC)	bag	2523	28%	332.00
30	Curing compound	l	3824	18%	212.00
31	Flowering plants	each	6	5%	3.00
32	Fly ash Bricks	each	6904	5%	7.00
33	Flyash as per IS 3812	t	2621	5%	381.00
34	Geotextile 200gsm	m^2	5911	12%	223.00
35	Geotextile 250gsm	m^2	5911	12%	232.00
36	Gravel 2.36mm downsize	m^3	2517	5%	288.00
37	Ground Granulated Blast furnace Slag (GGBS)	t	2621	5%	3810.00
38	Hedge plant	10 No	6	5%	33.00
39	Hot applied thermoplastic compound	l	3208	18%	169.00
40	Ordinary Earth	m^3	2517	5%	231.00
41	RCC NP 2 1200mm dia	m	6810	18%	4322.00
42	RCC NP 2 250mm dia	m	6810	18%	381.00
43	RCC NP 2 450mm dia	m	6810	18%	1017.00
44	RCC NP 2 600mm dia	m	6810	18%	1610.00
45	RCC NP 2 750mm dia	m	6810	18%	1653.00
46	RCC NP 2 900mm dia	m	6810	18%	2542.00
47	RCC NP 3 1200mm dia	m	6810	18%	6610.00

48	RCC NP 3 300mm dia	m	6810	18%	1059.00
49	RCC NP 3 450mm dia	m	6810	18%	1864.00
50	RCC NP 3 600mm dia	m	6810	18%	2415.00
51	RCC NP 3 750mm dia	m	6810	18%	2627.00
52	RCC NP 3 900mm dia	m	6810	18%	4237.00
53	RCC NP 4 1200mm dia	m	6810	18%	8466.00
54	RCC NP 4 900mm dia	m	6810	18%	5085.00
55	Oxygen gas	m^3	2804	5%	86.00
56	Paver blocks 60mm th.	m^2	6810	18%	339.00
57	Paver blocks 75mm th.	m^2	6810	18%	487.00
58	Pesticide	l	3808	18%	212.00
59	Quick setting compound	kg	3824	18%	127.00
60	Recycled Concrete Aggregate 20mm downsize	m^3	-	5%	1143.00
61	Recycled Concrete Aggregate 10mm downsize	m^3	-	5%	1190.00
62	Red Oxide	kg	7210	0%	85.00
63	Reflectorising glass beads	kg	7018	18%	55.00
64	Sand - M-Sand	m^3	2517	5%	1476.00
65	Saplings 2m high	each	6	5%	7.00
66	Seeds	kg	-	0%	150.00
67	Shrubs	each	6	5%	2.00
68	Solid Concrete Blocks (100mm thickness)	each	6810	18%	34.00
69	Solid Concrete Blocks (150mm thickness)	each	6810	18%	42.00
70	Solid Concrete Blocks (200mm thickness)	each	6810	18%	47.00
71	Steel Fe 550 / 550 D	t	7213	18%	64831.00
72	Steel Mild Steel (Flats, Bars, Rods, Channels)	kg	7217	18%	59.00
73	Steel Mild Steel (Anchors, Angles, H Beams, I Beams, Tees)	kg	7216	18%	59.00
74	Steel Mild Steel sheets 3mm	kg	7216	18%	59.00

75	Steel Mild Steel sheets 4mm	kg	7216	18%	64.00
76	Steel Mild Steel sheets 5mm	kg	7216	18%	66.00
77	Steel Mild Steel Tubes 14 guage	kg	7216	18%	61.00
78	Steel Structural Steel	kg	7208	18%	68.00
79	Stone – Size stone 200x200x230mm	each	2516	5%	14.00
80	Stone Boulders 300m	m^3	2516	5%	667.00
81	Stone crusher dust finer than 3mm	m^3	8474	18%	1237.00
82	Superplasticizer as per IS 9103	kg	3824	18%	191.00
83	Through & bond stone 200mm	each	2516	5%	27.00
84	Zigzag Paver blocks 60mm th.	m^2	6810	18%	347.00
85	Zigzag Paver blocks 75mm th.	m^2	6810	18%	373.00

iii. Usage Charges of Machinery

- The machinery rates are adopted from MoRTH standard data book 2019 as reference with the current fuel prices updated by National Highways Zone.
- The rates include crew charges, operational & maintenance charges such as cost of fuel, lubricants, stores, establishments, and depreciation & interest charges on hypothecation.
- In special cases, if any machinery / machinery components are supplied by the Department, the working cost of the machinery / machinery components shall be recovered from the contractor.
- The outputs mentioned for the below mentioned equipments are for the compacted quantities and shall not be paid for loose quantities.

Usage charges of machinery with or without operator attract 18% GST under Services Accounting Code 997313.

Sl. No.	Description	Unit	Operating Cost (Rs.)Excluding GST
1	**2**	**3**	**4**
1	Air Compressor -250 cfm	hr	458.00
2	Air Compressor -500 cfm	hr	1709.00
3	Automatic Vehicle Counter Classifier (ATCC) System	hr	74.00
4	Backhoe-loader 1 m3 bucket capacity	hr	1361.00
5	Bar Bending & Cutting Machine	hr	376.00
6	Batching and Mixing Plant - 120 m3 Capacity	hr	3676.00
7	Batching and Mixing Plant - 240 m3 Capacity	hr	5758.00
8	Bitumen Boiler Oil Fired	hr	548.00
9	Bitumen Pressure Distributor	hr	1289.00
10	Boat to carry atleast 20 persons	hr	774.00
11	Boom Placer	hr	3717.00
12	Cement spreader	hr	6821.00
13	Centrifugal water pump	hr	271.00
14	Cold in Situ recycling of bitumen's pavement with foam bitumen technology	hr	27112.00

15	Concrete Bucket	hr	124.00
16	Concrete cutting machine	hr	194.00
17	Concrete Mixer - 0.4/0.28 m3	hr	369.00
18	Concrete Mixer - 1 m3	hr	396.00
19	Concrete Pump	hr	1073.00
20	Crane with grab 0.75 m3 capacity	hr	802.00
21	Crawler mounted Crane 35 t capacity	hr	5463.00
22	Crawler mounted Crane 100 t capacity	hr	8580.00
23	Crawler mounted Crane 80 t capacity	hr	5537.00
24	Dewatering Pump 10 HP	hr	230.00
25	Dozer - 175 HP	hr	4193.00
26	Dozer - 240 HP	hr	5418.00
27	Dozer - 90 HP	hr	2944.00
28	Emulsion Pressure Distributor	hr	1289.00
29	Epoxy Injection gun	hr	260.00
30	Falling weight deflectometer (FWD) Equipment with SUV	hr	2913.00
31	Front End loader 2.1 m3 bucket capacity	hr	1987.00
32	Front End loader 3.1 m3 bucket capacity	hr	3336.00
33	Generator 100 KVA	hr	1218.00
34	Generator 125 KVA	hr	1413.00
35	Generator 15 KVA	hr	278.00
36	Generator 250 KVA	hr	2662.00
37	Generator 33 KVA	hr	469.00
38	Generator 400 KVA	hr	3783.00
39	Generator 500 KVA	hr	4679.00
40	Generator 62.5 KVA	hr	793.00
41	Generator 725 KVA	hr	6758.00

42	Grouting machine	hr	633.00
43	Hot in place recycling	hr	102458.00
44	Hotmix Plant - 40/60 TPH capacity	hr	10800.00
45	Hotmix Plant - 100 TPH capacity	hr	15340.00
46	Hotmix Plant - 120 TPH capacity	hr	23128.00
47	Hydraulic Chip Spreader	hr	1572.00
48	Hydraulic Excavator of 0.9 m3 bucket	hr	1350.00
49	Hydraulic Excavator of 1.1 m3 bucket	hr	1550.00
50	Hydraulic Excavator of 1.2 m3 bucket	hr	1800.00
51	Hydraulic Rock bolt drill	hr	6688.00
52	In situ stabilisation of WMM/GSB/Sub grade	hr	23831.00
53	Induction, deinduction and erection of plant and equipment including all components and accessories for pneumatic method of well sinking.	hr	8945.00
54	Integrated Stone Crusher Stone (3 Stage) 250 TPH	hr	13945.00
55	Jack for Lifting 40 t lifting capacity.	hr	272.00
56	Jack Hammer (attachment of Hydraulic Excavator)	hr	206.00
57	Jack Hammer for air compressor	hr	11.00
58	Joint Cutting Machine	hr	360.00
59	Kerb Casting Machine	hr	1594.00
60	Mastic Cooker	hr	520.00
61	Mechanical Broom Hydraulic	hr	770.00
62	Milling Machine with 1 meter Drum Width	hr	4006.00
63	Milling Machine with 1.2 m Drum Width	hr	4659.00
64	Milling Machine With 1.3 m Drum Width	hr	6690.00
65	Milling Machine With 2 m Drum Width	hr	9707.00
66	Mini Tandem Roller	hr	1107.00
67	Mobile Bridge Inspection Unit (MBIU)	hr	6545.00
68	Mobile cold recycling mixing plant	hr	20357.00

69	Mobile Concrete Batching / Mixing Plant	hr	649.00
70	Mobile Hydraulic Crane 10 t capacity	hr	925.00
71	Mobile Hydraulic Crane 15 t capacity	hr	959.00
72	Mobile Hydraulic Crane 20 t capacity	hr	1132.00
73	Mobile Hydraulic Crane 3 t capacity	hr	793.00
74	Mobile Hydraulic Crane 5 t capacity	hr	828.00
75	Mobile Hydraulic Crane 35 t capacity	hr	1706.00
76	Mobile Slurry Seal Equipment	hr	3438.00
77	Motor Grader 4.3 m blade	hr	5438.00
78	Motor Grader 3.35 m blade	hr	4427.00
79	Motor Grader 3.7 m blade	hr	4980.00
80	Needle Vibrator	hr	411.00
81	Network Survey Vehicle (NSV) With SUV	hr	6070.00
82	Paver Finisher Concrete with 118 HP Motor	hr	3780.00
83	Paver Finisher Concrete with 241 HP Motor	hr	16543.00
84	Paver Finisher Concrete with 300 HP Motor	hr	25848.00
85	Paver Finisher Hydrostatic with sensor control -170 HP	hr	6335.00
86	Paver Finisher Hydrostatic with sensor control -240 HP	hr	8005.00
87	Paver Finisher Mechanical	hr	2089.00
88	Piling Rig with Bentonite Pump	hr	16731.00
89	Plate Compactor	hr	422.00
90	Pneumatic Road Roller	hr	1984.00
91	Pneumatic Sinking Plant	hr	5094.00
92	Pot-Hole Repair Machine	hr	1218.00
93	Pre heater unit for hot in place recycling	hr	674.00
94	Prestressing Jack with Pump & Access	hr	445.00

95	Retroreflectometer testing equipment with Vehicle With SUV	hr	1523.00
96	Ripper	hr	21.00
97	Road marking machine	hr	1287.00
98	Rotating Telehandlers	hr	911.00
99	Rotavator	hr	17.00
100	Shotcrete Machine	hr	1601.00
101	Shredding Machine	hr	458.00
102	Single boom Hydraulic Drill Jumbo	hr	4502.00
103	Smooth Wheeled Roller 8 t	hr	1536.00
104	Sport utility vehicle (SUV)	hr	970.00
105	Tandem Roller	hr	1995.00
106	Texture Curing Machine (TCM) - upto 18 m	hr	4375.00
107	Texture Curing Machine (TCM) - upto 9 m	hr	3402.00
108	Three boom Hydraulic Drill Jumbo	hr	9843.00
109	Tipper -10 m3 (Surface Road)	per t km	6.83
110	Tipper -10 m3 (Katcha Track)	per t km	16.61
111	Tipper -10 m3 (UnsurfacedGravelled Road)	t.km	8.30
112	Tipper -14 m3 (Surface Road)	per t km	5.47
113	Tipper -14 m3 (Katcha Track)	per t km	13.29
114	Tipper -14 m3 (Unsurfaced Gravel Road)	t.km	6.64
115	Tipper 18 m3 (Surface Road)	per t km	4.74
116	Tipper- 5.5 m3 (Surface Road)	per t km	9.69
117	Tipper- 5.5 m3 (Katcha Track)	per t km	23.54
118	Tipper- 5.5 m3 (UnsurfacedGravelled Road)	per t km	11.76
119	Tipper-10 m3	hr	1793.00
120	Tipper-14 m3	hr	1993.00
121	Tipper-18 m3	hr	2211.00

122	Tipper-18 m3 (Katcha Track)	per t km	11.52
123	Tipper-18 m3 (UnsurfacedGravelled Road)	t.km	5.76
124	Tipper-5.5 m3	hr	1412.00
125	Tractor-Trolley	hr	659.00
126	Transit Mixer - 6 m3	hr	1882.00
127	Transit Mixer - 6 m3	per t km	10.45
128	Two boom Hydraulic Drill Jumbo	hr	6762.00
129	Vibrating Pile driving hammer complete with power unit and accessories.	hr	15610.00
130	Vibratory Soil Compactor (10 t)	hr	2005.00
131	Water Tanker (12 KL)	hr	945.00
132	Water Tanker (16 KL)	hr	1119.00
133	Water Tanker (6 KL)	hr	725.00
134	Wet Mix Plant - 100 TPH Capacity	hr	363.00
135	Wet Mix Plant - 200 TPH Capacity	hr	388.00
136	Wet Mix Plant - 250 TPH Capacity	hr	683.00

iv. Wages to Labour

- The wages given below as per GoK Labour department circular vide KAE 83 LMW 2022 dated 13-01-2023 wef 01-04-2023 are listed. The Zone-II rates rounded off to next higher value is considered for preparation of Rate analysis.
- These rates are exclusive of GST, labour cess, Contractor's profit & Overhead expenses but inclusive of weekly rest.

LABOUR RATES FOR THE PREPARATION OF UNI SR
ZONE I :: Notified areas of Bruhat Bengaluru Mahanagara Palike & Agglomeration Areas.
ZONE II :: Notified areas of all the Corporations in the state other than BBMP and Agglomeration.
ZONE III :: All district head quarters other than places mentioned in Zone I & II
ZONE IV :: All other places of the state other than places mentioned in Zone I, II & III

SCHEDULE						
Sl. No.	**Class of Employment**				**Minimum Rates of Wages per Month**	
1	Engineering Graduate Employee				Basic	27864.76
					VDA	1113.60
					Total	28978.36
2	Diploma in Engineering Employee				Basic	22199.76
					VDA	1113.60
					Total	23313.36
Sl. No.	**Class of Employment**	**Minimum Rates of Wages per Day**				
			Zone-1	**Zone-2**	**Zone-3**	**Zone-4**
I	**Highly Skilled:**					
	Literate Labourer	Basic	647.15	588.32	534.84	481.35
		VDA	42.83	42.83	42.83	42.83
		Total	689.98	631.15	577.67	524.18

II	**Skilled:**					
	Blacksmith, Stone cutting, Mason or Brick Layer Class I Carpenter Class I Plumber Tin smith Foreman, Sarang, Painter, Fitter Class I Mechanic Class I Pneumatic drilled, Engine Driver, Gas or Electric welder, Gauge Repairer, Laboratory Assistant, Machine Operator, Turner, Welder, Crane Driver, Stone Crusher, Jack Hammer driver, Blaster, Stone Cristler, Floor polisher, Riveter, Mason, Pump Driver, Stone Polisher, Bar Bender, Stone Revetment Builder, Electrician, Maistry or Supervisor/CIerk Grade.I, Horticulture Supervisor, Shovel and Scraper.	Basic VDA Total	633.84 42.83 676.67	576.22 42.83 619.05	523.84 42.83 566.67	471.45 42.83 514.28
III	**Semi-Skilled:**					
	Cleaner, Asphalt sprayer, Driller, Savgani or chavli, White Washer, Colour Washer, Sawyer, Helper to Fitter, Gardener, Cook, Dhobi, Care taker, Hammer man, Lift Operator, Bamboo maker, Helper to Carpenter, Gang man, Boatman, Jumper man, Brick molder, Asphalt Boiler Attendant, Limestone Burner, Mason & Brickler class-II, Carpernter Class -II, Fitter class-II, Mechanic class-II, Stone Voddar, Diesel Compressor Operator, Fireman in Bricks Plant, Trained Mali with Certificate, Bisti with water bag, Horticulture Gardener, Glayer, Patkaries, Tile Layer (Glazed Mosaic Tiles etc.), Mess man, Tracer (Certificate holder).	Basic VDA Total	613.88 42.83 656.71	558.07 42.83 600.90	507.34 42.83 550.17	456.60 42.83 499.43

IV	Un-Skilled					
	Unskilled (Heavy work), Unskilled (Light Work), Watch man, Sweeper, Billover, Blue Printer, Chief Mazdoor, Blue Printer	Basic VDA Total	600.57 42.83 643.40	545.97 42.83 588.80	496.34 42.83 539.17	446.70 42.83 489.53
Office staff and Drivers						
1	Manager/ Personal officer, Marketing Manager / Office Supervisor and similar post	Basic VDA Total	679.48 2.83 722.31	619.21 42.83 662.04	564.41 42.83 607.24	509.62 42.83 552.45
2	Assistant Manager/ Assistant Personal Manager/ Senior Accountant & other Equivalent jobs	Basic VDA Total	656.85 42.83 699.68	598.64 42.83 641.47	545.71 42.83 588.54	492.79 42.83 535.62
3	Senior CIerk, Cashier, Judgement, Writer, Sonographer, Store Keeper, Receptionist & other Equivalent jobs	Basic VDA Total	631.56 42.83 674.39	575.65 42.83 618.48	524.81 42.83 567.64	473.98 42.83 516.81
4	Junior Clerk, Booking Clerk, Computer operator, Typist, Telephone Operator, Data Entry operator and Other equivalent Jobs.	Basic VDA Total	615.59 42.83 658.42	561.13 42.83 603.96	511.61 42.83 554.44	462.10 42.83 504.93
5	Office Boy, Watchman, Lift Operated, Poen, Attender,HeIper, Mazdoor, Sweeper & other Equivalent jobs.	Basic VDA Total	569.01 42.83 611.84	518.78 42.83 561.61	473.11 42.83 515.94	427.45 42.83 470.28
6	Heavy Vehicle Driver, Tractor Driver, Multi-axle and Large Vehicle Driver, Earth movers, Crane Drivers, Road rollers, & road construction vehicle drivers, Hospital Vehicle Drivers.	Basic VDA Total	631.56 42.83 674.39	575.65 42.83 618.48	524.81 42.83 567.64	473.98 42.83 516.81
7	Car Driver, Jeep Driver, Light Vehicle Driver, Turn-turn, three wheeler Drivers.	Basic VDA Total	615.59 42.83 658.42	561.13 42.83 603.96	511.61 42.83 554.44	462.10 42.83 504.93

v. Royalty

ಕರ್ನಾಟಕ ಸರ್ಕಾರ

ಸಂಖ್ಯೆ: ಗಭೂಇ/ಡಿಸಿಬಿ/2020–21

ನಿರ್ದೇಶಕರ ಕಛೇರಿ,
ಗಣಿ ಮತ್ತು ಭೂವಿಜ್ಞಾನ ಇಲಾಖೆ,
ನಂ. 49, ಖನಿಜ ಭವನ, ರೇಸ್ ಕೋರ್ಸ್ ರಸ್ತೆ,
ಬೆಂಗಳೂರು – 560001, ದಿನಾಂಕ : 03.07.2020
e-mail : dcbdmg@gmail.com

ಸುತ್ತೋಲೆ

ವಿಷಯ: ಕರ್ನಾಟಕ ಉಪ ಖನಿಜ ರಿಯಾಯಿತಿ ತಿದ್ದುಪಡಿ ನಿಯಮಾವಳಿಗಳು 2020 ರನ್ವಯ ದಿನಾಂಕ: 30.06.2020 ರಿಂದ ಜಾರಿಗೆ ಬರುವಂತೆ ಉಪ ಖನಿಜಗಳ ರಾಜಧನ ದರಗಳನ್ನು ಪರಿಷ್ಕರಿಸಿರುವ ಕುರಿತು.

ಉಲ್ಲೇಖ: ಸರ್ಕಾರದ ಅಧಿಸೂಚನೆ ಸಂಖ್ಯೆ: ಸಿಐ 115 ಎಂಎಂಎನ್ 2019 ದಿನಾಂಕ: 30.06.2020

* * * * *

ಮೇಲ್ಕಂಡ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ, ಉಲ್ಲೇಖಿತ ಸರ್ಕಾರದ ಅಧಿಸೂಚನೆ ಪತ್ರರಲ್ಲಿ ದಿನಾಂಕ: 30.06.2020 ರಿಂದ ಜಾರಿಗೆ ಬರುವಂತೆ ಕರ್ನಾಟಕ ಉಪ ಖನಿಜ ರಿಯಾಯಿತಿ ತಿದ್ದುಪಡಿ ನಿಯಮಾವಳಿಗಳು 2020 ರನ್ವಯ ಉಪ ಖನಿಜಗಳ ಮೇಲೆ ರಾಜಧನ ದರಗಳನ್ನು ಪರಿಷ್ಕರಿಸಲಾಗಿದೆ. ವಿವರಗಳು ಕೆಳಕಂಡಂತಿರುತ್ತದೆ.

ಕ್ರ. ಸಂ.	ಉಪ ಖನಿಜ	ರಾಜಧನ ಪ್ರತಿ ಮೆಟ್ರಿಕ್ ಟನ್ ಗೆ	ಪರಿವರ್ತನ ಕೋಷ್ಟಕ ಕ್ಯೂಬಿಕ್ ಮೀಟರ್ ನಂತೆ	ರಾಜಧನ ಪ್ರತಿ ಕ್ಯೂಬಿಕ್ ಮೀಟರ್ ಗೆ
1	ಕಟ್ಟಡ ಕಲ್ಲು	ರೂ. 70	1 ಕ್ಯೂಬಿಕ್ ಮೀಟರ್ ಗೆ = 2.63 ಟನ್	ರೂ. 184
2	ಲ್ಯಾಟರೈಟ್ ಸ್ಟೋನ್	ರೂ. 60	1 ಕ್ಯೂಬಿಕ್ ಮೀಟರ್ ಗೆ = 1.80 ಟನ್	ರೂ. 108
3	ಜಲ್ಲಿ/ಮೆಟಲ್ ಎಲ್ಲಾ ವಿಧವಾದ (ಪುಡಿ ಗ್ರಾನೈಟ್/ಕ್ವಾಜೈಟ್)	ರೂ. 70	1 ಕ್ಯೂಬಿಕ್ ಮೀಟರ್ ಗೆ = 1.80 ಟನ್	ರೂ. 126
4	ಮರಳು	ರೂ. 80	1 ಕ್ಯೂಬಿಕ್ ಮೀಟರ್ ಗೆ = 1.72 ಟನ್	ರೂ. 138
5	ಗ್ರಾವೇಲ್ (ಮುರಂ)	ರೂ. 40	1 ಕ್ಯೂಬಿಕ್ ಮೀಟರ್ ಗೆ = 1.50 ಟನ್	ರೂ. 60
6	ಮಣ್ಣು (ಎಲ್ಲಾ ತರಹದ ಹೆಂಚು ಮತ್ತು ಇಟ್ಟಿಗೆ ತಯಾರಿಕೆಗಾಗಿ)	ರೂ. 60	1 ಕ್ಯೂಬಿಕ್ ಮೀಟರ್ ಗೆ = 1.50 ಟನ್	ರೂ. 90

ಸದರಿ ತಿದ್ದುಪಡಿ ಅಧಿಸೂಚನೆ ಪ್ರತಿಯನ್ನು ಮಾಹಿತಿಗಾಗಿ ಈ ಪತ್ರದೊಂದಿಗೆ ಲಗತ್ತಿಸಿದೆ.

ಸಹಿ/–
ನಿರ್ದೇಶಕರು

vi. Area Specific Loading

Sl. No	Category	Additional Loading charges
1	Tier I city -Bruhat Bangaluru Mahanagara palike Limits (BBMP) and BDA developed and notified areas.	10%
1a	BMRDA and Ramanagara District.	3%
2	Corporation limits of Tier II cities	5%
3	Other Cities, Municipal Limits/Corporation Limits	3%
4	Kalyana Karnataka	5%
5	Restricted areas - Jails/ Forest/ Sewerage Works / Works under unhygienic / hazardous conditions	12%
6	Major Irrigation command area / Mining Area/ Major Industries	5%
7	Coastal Area (upto 25 km from coast), Tidal wave area, Heavy Rainfall area 1600 mm and above	12%
8	Hilly Terrain above 300 m from the nearest town/city	12%
9	Works in other States	Adopt SR of that State (City/Circle)

*Note: *Anyone Area Specific loading shall be operated in a particular instance.*

"Sourceas Bengaluru". Bengaluru being the metropolitan city is the epicenter of the state for large logistic supplies. Many construction materials are being supplied to the state fromthe city from different sources. The material rates available in the Bengaluru city are consideredin the preparation of Common SR. The important items are Cement, Steel, Aggregates & Masonryunits which are commonly available in the entire state. However, certain items such as Long steelproducts, Masonry units, by products of aggregates, finished products involving cement are to besupplied directly through a common source of Bengaluru which involves additional costs on thematerial rates, additional costs in transportation, labour, loading & unloading charges. Due to thenon-availability of certain material items in the other parts of the State like PVC products, chemi-cals, admixtures, the materials involving processed clay & cement and which requires specializedtechnology in manufacturing process are to be supplied from the source of Bengaluru which has construction items manufacturing hubs in Bengaluru rural area surroundings and vast scale of logistic service with the supply from other states.

The Bitumen rates of MRPL are widely considered in the state and certain private companies which supply by products of Crude Bitumen are operating in the coastal areas. But the

transportation of the same in the rolling, rough and hilly terrain saddsto the cost compared to the plain terrains.

Considering the above ,the source of materials as Bengaluru Rural is worked out and considered in the Rate Analysis. The mathematical & empirical relations are established in the Technical working Group and the concept is finalized and the are as pecific loading over the finish edit em rates considering all lead & lifts are recommended. This kind of practice is even followed in other neighbouring states. “Work in Urban Areas”. The cost of work on urban roads in habited are a will becomparatively higher due to following reasons.

a) There is mixed traffic on urban roads like slow moving hand and animal driven carts cyclerickshaws, two/three wheeler apart from the usual vehicular traffic resulting in trafic jams This causes loss of working time which may be in the range of 10-15 percent.

b) There is considerable disruption of traffic adversely affecting the efficiency of the working parties including machineries due to conjestion caused by pedestrain traffic local road side vendor sparking of vehicles on roadside, encroachment of berms of the road in front of these shops and unauthorised conversion of road berms into minilocal market. The out put of manpower and machinery reduces due to these factors subsantially.

c) Cost of living in urban are as is comparatively more resulting in higher wages.

d) At times, work is executed during night time due to heavy traffic during day time. Thisinvolves extra expenditure by way of making arrangement for lighting and special transport for working in odd hours.

e) The population of Bengaluru city has increased substantially over the decade with extension of metropolis.

f) Construction Labour Productivity (CLP) is pivotal to ensure the output of the work. However, over the years the CLP is reduced substantially & the mechanization hastaken place in generating the required output. The mechanization further demands higher costs.

In the light of the above, the area specific loading for Urban areas are recommended.

TECHNICAL SPECIFICATION

IMPORTANCE OF SAFETY IN CONSTRUCTION

For any construction activity to begin, the first and the foremost thing to be given importance is the Safety in Construction. The contractor shall employ only such methods of construction, tools and plant as are appropriate for the type of work or as approved by the Executive Engineer.

The contractor shall take all precautions and measures to ensure safety of works and workmen and shall be fully responsible for the same. Safety pertaining to construction works such as excavation, centering and shuttering, trenching, blasting, demolition, electric connections, scaffolds, ladders, working platforms, gangway, mixing of bituminous materials, electric and gas welding, use of hoisting and construction machinery shall be governed by the relevant safety codes and as per the direction of the Executive Engineer.

CHAPTER -1 : EARTH WORK EXCAVATION

CLASSIFICATION OF SOILS

The Earthwork shall be classified under the following categories and measured separately for each category:

- All kind of soils: Generally any strata, such as sand, gravel, loam, clay, mud, black cotton soil, moorum, shingle, river or nallah bed boulders, shoulder of roads, paths and hard core, macadam surface of any description (water bound, grouted tarmac), lime concrete, mud concrete and their mixtures which for excavation needs to application of picks, showels, jumper, scarifiers, ripper and other manual digging implements.
- **Ordinary rock**: Generally any rock which can be excavated by splitting with crow bars or picks and does not require blasting, wedging or similar means for excavation such as lime stone, sand stone, hard laterite, hard conglomerate and un-reinforced cement concrete below ground level.
- If required light blasting may be resorted to for loosening the materials but this will not in any way entitle the material to be classified as 'Hard rock'.
- **Hard rock**: Generally any rock or boulder for the excavation of which blasting is required such as quartzite, granite, basalt, reinforced cement concrete (reinforcement to be cut through but not separated from concrete) below ground level and the like.
- **Hard rock (blasting prohibited**): Hard rock requiring blasting but where the blasting is prohibited for any reason and excavation has to be carried out by chiseling, wedging, use of rock hammers and cutters or any other agreed method.

As explained above, the various classifications of the Soil at site are to be excavated considering the following aspects by the departmental Engineers.

- Before the earthwork is started, the whole area where the work is to be done shall be cleared of grass, roots of trees and other organic matter. Site preparation shall consist of clearing grubbing and removal of any and all inappropriate materials.
- The excavation shall be carried out in accordance with the dimension shown on the sanctioned drawings. If the soil at the specified depth is found to be unsuitable, then it shall be dug toa depth at which a stratum of good hard soil is found as directed by the Quality control authorites. Besides digging the earth, the word excavation signifies all the works related such as dressing of the sides, ramming of bottom, disposing of any soil not required out of site and keeping the outer edge of excavation. Sides of the trenches shall be vertical and its bottom shall be perfectly levelled, both longitudinally and transversely. The Contractor shall dispose off allsurplus excavated soil at his own cost as directed by the Executive Engineer. Materials deemed not necessary or appropriate for the project shall be removed at the time of excavation. No material excavated from foundation trenches, shall be placed nearer than 1m to the outer edge of the excavation.
- The excavation shall be carefully executed as per the dimensions and elevations on sanctioned drawing and the established 'Benchmark' at the site. The contractor accepts full responsibility to align the building and slabs in reference to these given elevations. If any of the excavation be taken below the specified levels, the Contractor shall fill such excavation at his own expense with concrete well rammed in position until it is brought upto the proper levels; filling in with excavated materials will not be allowed for this purpose.If foundations are made broader or longer than directed, the extra length and breadth shall be filled in after the foundations are built with earth rammed and compacted, at the Contractor's expense.
- If the excavation is in earth, the bottom of the trenches shall be sprinkled with sufficient water to bring the soil to its optimum moisture and compacted to meet stated percentage ofcompaction. Any excess digging or any patches of bad soils or hollows shall be removed by placing concrete or shall be subject to any other special treatment as per the decision of the Executive Engineer.
- If the soil is soft, loose or slushy the trench shall be widened for allowing steps on either sides or the sides sloped or shored up. During excavation if rocks or rocky soils are found, (if approved as suitable for foundation), those shall be leveled as far as possible andthe small spaces which are difficult to level shall be filled in with Controlled Low Strength Material (CLSM).
- Water in trenches must be bailed or pumped out and where it is apprehended that the sides may slip down arrangements shall be made for adequate shoring. The Contractor shall at his own expense, make provision for all extra excavation in slope, pumping, dredging or bailing out water from the trenches and keep free of water duringthe

laying of foundation works. When it is specified that the work is to be carried out without removing pipes, cables, sewers etc. all of them shall be temporarily shored and saved from any damage. The materials or valuables found during excavation shall be the property of the Public Works Department, Government of Karnataka. The cost of all materials and labour required for fencing and protection against risk of accidents due to open excavation shall be borne by the contractor. Care shall be taken in the disposal of water from the excavation to limit any damage to existing infrastructures or adjoining properties.

- The Contractor shall also at his own cost remove such portions of boulders or rocks and the remains of the old dismantled structures to make the bottom of the trench horizontal and level. If unseen underground structures, high strength concrete, are encountered, extra payment shall be provided to the contractor with negotiations and actual calculations. If during excavation, exceptional conditions are encountered that the contractor deems outside of "normal" materials for excavation, the work shall not cease butdocumentation of the conditions shall be done immediately.
- The contractor needs to submit the purposed plan and schedule methodology. Before implementation of the work, the materials required, the equipmentsto be used need to be properly verified. Since the safety factor is directly related to the excavation, the contractor need to finish the job within the allocated period of time until and unless the contractor can provide a valid reason. As the excavation phase offers many hazards, the contractor shall have on site all needed materials barricading, caution lights & boards to protect the open excavation and warn any persons in or near the excavated areas before any excavation work shall commence.
- The Royalty charges are included in the material rates of Earth. Unless specified separately, the charges need not be paid extra. (To refer Part - I unit V)

1. ***Shoring and Protection****:* The contractor shall be responsible for all needed protection of adjacent structures. Installation and design shall be his sole responsibility. The Executive Engineer shall assist as needed but implementation and protection shall be with the contractor. Any verifiable facilities initiated out of this work shall be rectified at the contractors own expense.

It is advisable for the contractors that they maintain a record and photos of all the existing surrounding buildings in the area. It would be very useful, in-case certain claims occurs for the damage of the neighbouring building during the excavation of the site. Executive Engineer shall assist as needed as per requirement for the unnecessary claims, if proper management records are maintained. The contractor accepts sole responsibility for damages if any to adjoining properties incurred in the performance of the work. It is highly recommended that a record of all adjoining properties be maintained at site (photos and brief written descriptions).

When the depth of foundation is below 3.5 m, and where shoring is necessary, all the aspect shall depend upon the type of soil; the Contractor shall be responsible for the designof shoring for proper excavation. Shoring shall be of sufficient strength to resist side pressure ensuring safety from slippage, preventing damage to work and property and injury to persons. It shall be metal sheet piling or any other approved means strong enoughto retain the earth and protect the existing structures against any damages. The contractorshall prepare and submit the method, details and process of such shoring to the consultantbefore starting earthwork for the basement or as per the specification. It shall be removed as directed after all the items for which it is required are completed. Foundation pits, well pits and similar excavation shall be securely fenced and marked with red lights at night and be in charge of watchmen to avoid accidents. Adequate protective measures shall be taken to see that the foundation excavations do not affect or damage adjoining structures.

All measures required for the safety of the excavation, the people working in and near the foundation trenches, property and the people in the vicinity should be the responsibility of the Contractor. The Contractor shall be entirely responsible for any injury to life and damage to property caused by his negligence or accidents due to his construction operations. The work will be in two stages: This includes excavation of the basement and earth filling works. The contractor will ensure that for both stages all safety measures for the excavated areas with necessary fencing, lighting etc are provided on instruction and approval of the consultant. No extra shall be paid in this connection unless otherwise specified. Any excavation deeper than 3.5 m shall be deemed as mandatory for placement of properly designed shoring to protect workers and work at the perimeter of the excavation, any other areas found to be unstable, shall at the request of the Executive Engineer be stabilized with properly designed shoring. Design and methods shall be approved as per the stated criteria by the Superintending Engineer prior to any further work in those areas.

2. ***De-watering:*** The Contractor shall not be paid extra for bailing out or pumping out of water which may accumulate in the excavation during the progress of the work either from seepage, springs, rain, from neighboring properties or any other source: Any equipment shall be removed after their purpose is served. Any soils deemed saturated and unfit to support foundation shall be removed and replaced with appropriate materials to support the structure. Placement shall be as per requirements to bear / with stand the weight of the structure and minimize future settlement. The act of dewatering shall in no way be a determent to the community at large or inflict any undue stress on the communities infrastructure.

Pumping water from any foundation enclosure or trenches shall be generally in such a manner as to preclude the possibility of any damage to the foundation trenches, concrete or masonry or any adjacent structure and pumped water to be bailedout to nearby drain depending on the quantity of water. The excavation shall be kept free from water (i) during inspection and measurement, (ii) when concrete and/or masonry works are in progress and until

they come above the natural water level and (iii) until the Executive Engineer considers that the concrete/mortar is sufficiently set.

3. ***Trimming and levelling****:* The bottom of all foundation should be trimmed and levelled in accordance with the sanctioned drawings. The bottom of the foundation shall be rammed and watered before concrete is deposited. The term "watered" shall be deemed to mean a condition of water content giving optimum consolidation of the soil in the compaction process, it shall not mean a condition reflecting total saturation of the soil, or flooding.

Measurement:

For Earthwork measurements, the detailed procedures enumerated in the IS 1200-1992 (Fourth revision) to be referred & followed.

Other necessary information on Earthwork Excavation & Back filling:

Black cotton soil or any other inappropriate materials shall not be used for the backfilling works. The contractor and Executive Engineer shall confer as to the appropriateness of the material to be used. If other material must be brought from outside to the site, the Executive Engineer shall give an approval prior to bring on site.

The openings around the foundation, pipes and drains in trenches shall be cleared of all debris, brick-bats. The fillings shall be done in layers, not exceeding 150 mm each layer. Each layer shall be watered, rammed and consolidated before the succeeding one is laid. Earth shall be rammed with proper compaction machine, as required by the site condition. Special care shall be taken that no damage is caused to the pipes, drains and masonry in the trenches below underneath.

All lines and levels for excavation, filling and backfilling work shall be based on the consultant's benchmark or reference point and survey work shall be done under the direction of Engineer or surveyor retained by the contractor.

During filling of earth, the contractor needs to make necessary arrangements such that earth is properly consolidated. The contractor need to ensure that adequate amount of water is left on top of the daily filled earth so that proper consolidation occurs.

The contractor shall test the compacted earth if desired by the Executive Engineer. For Buildings, filling of water and use of plate compactor & mini roller can be used to achieve required density.

The density for the back fill earth shall not be less than 95% of the proctor density to the originalearth unless specified in the BOQ.

CHAPTER 2 : REINFORCED CONCRETE WORKS

The main components of this chapter are ***Cement, Steel & Aggregates***. Following are the references and practices to be followed during construction.

CEMENT : The cement used for PCC/Reinforced concrete works shall be OPC/PPC/PSC of approved brand by the Executive Engineer and shall comply in all respects as per relevant IS Codes. The contractor shall use only one brand of cement for the structural portion of the building, therefore arrangements shall be completed at the time of commencement of work to have a continual supply of that brand from start to finish. Other brands will be acceptable for other phases of work (i.e. plastering, screed, punning). Again mixing of different brands of cement in phases such as plastering shall not be allowed. Each phase of work shall be limited to a single brand.

It shall be delivered to the site in packages (bags) with an unbroken seal fixed by the makers and plainly marked with the name of the brand and the date of manufacture. The contractor shall weigh the cement bought at site as per the random selection from the Engineer in charge.The weight of the cement shall be 50 kg net and shall be fresh. The cement shall be stored in stacks on raised platforms, dry and impervious to water with at least 300 mm clearance from any wall/floor. The cement shall be in regular piles not exceeding ten bags high and in such a manner that it will be protected from moisture and contamination. Consignments received shall be used in the order in which they are received. The stores for the cement shall be inspected and approved by Executive Engineer prior to stacking. Where bulk handling of cement is undertaken, protective masks shall be provided for the workmen. Set cement shall immediately removed from the site and replaced by the contractor at his own expense. If desired, tests shall be made by taking samples from stores or elsewhere from the works. The selection of samples and procedure for testing shall comply with the appropriate I.S. codes. Should the contractor deem it necessary or advantageous to use multiple brands, each brand shall be stored in a separate facility to eliminate confusion and inadvertent mixing of brands during the work. Division of a single facility shall not be acceptable, as monitoring becomes difficult.

The minimum compressive strength of ordinary Portland cement shall be as per I.S. 269. The initial setting time should not be less than 30 minutes and the final setting time should not be more than 10 hours.

FINE AGGREGATE : The fine aggregate (sand) shall conform to either I.S. 383-2015 or It shall be clean, sharp, heavy and gritty to touch. Sand should be free from clay, mica, vegetable and organic matter or any other foreign matter. River and pit sand should be used as this does not contain common salt in large quantities. Sand should be perfectly dry before it is used, otherwise the bulking effect of sand must be taken into account.

Sand must be cleaned by screening before its use. If a sample of sand contains more than 4 to 5 percent of clay, it should be washed thoroughly before use. The percentage of clay

lumps shall be determined by examining the various fractions that remain after the material has been tested for grading. Any particles that can be broken with fingers shall be classified as clay lumps and the total percentage of clay lumps shall be determined on the basis of the total original weight of the sample.

Sand for all cement concrete works must satisfy grade I, II, III gradation as per IS-383:2016. It should not pass through I.S. sieve No.480 (approximately 4.75 mm) and retained on No. 15 sieve (5.5 mm). The fineness modulusof coarse sand shall be determined by taking 500 g of it from a representative sample of sand and passing it successively through I.S. sieves No. 4.75mm, 2.36 mm, 1.18 mm, 600 micron, 380 micron, 150 micron & 75 micron. Sand used in cement shall be from an approved pit. River sand is not appropriate as the water action on the grains round the edges reduce the gripping hold of the particle. The pit sand used must be properly washed and free from any kind of mud & clay components.

Medium sand may be used in cement mortar for masonry, plastering, pointing etc. and bituminous works of road. Sand filling in plinth, where specified may be done with fine sand. The fineness modulus of fine sand should not be less than one.

Fine aggregate shall be preferably stacked in regular stacks on hard surface or platform so as to prevent mixing of clay, vegetable and other foreign matter. The contractor shallbe using different sieve size sand for different purposes such as structural and non- structural component. It is advised that the contractor maintain a proper storage place for different type of sand, in quality such as sieve sizes, origin etc. This shall be advantageous to eliminate confusion and inadvertent mixing during the work. Division of a single facility shall not be acceptable, as monitoring becomes difficult

COARSE AGGREGATE : Aggregate, shall conform to IS 383, most of which is retained on 4.75 mm I.S. sieve and containing only so much finer material as is permitted for the various types described below.

Quality of Aggregates: Aggregate shall consist of gravel or stone, crushed or uncrushed, or a combination thereof. It shall be hard, strong, dense, durable, clean and free from adherent coatings. As far as possible, flaky and elongated pieces should be avoided. It shall be obtained from approved quarry.

Deleterious Materials: Aggregate shall not contain any harmful material, such as coal, mica, laminated material, clay, alkali, soft fragments, sea-shells, organic impurities etc, in such quantity as it affect the strength or durability of the concrete or in addition to the above for reinforced concrete, any materials which might affect the reinforcement. Aggregates which are chemically reactive with the alkalies or cement are harmful, as cracking of concrete may take place.

1. ***Mechanical Properties of Aggregate:*** The aggregate crushing value, when determined in accordance with I.S. 2386 (Part IV), mechanical properties shall not exceed 45 per cent for

aggregate used for concrete other than for wearing surfaces and 30 percent for concrete for wearing surfaces such as runways, roads and pavements.

2. ***Size and Grading of Aggregate:*** When coarse aggregate brought to the site is ungraded, single size coarse aggregates of different nominal sizes, conforming to the requirements vide, table given below, shall be mixed at site. Ungraded materials shall not be placed on site, unless prior-approval is issued by the field engineer. Any such materials brought to the site shall be placed in a segregated area so that their accidental incorporation in cement does not happen.

Designation	**All in aggregate grading percentage passing**	
	40 mm nominal size	**20 mm nominal size**
80 mm	100	-
40 mm	95-100	100
20 mm	45-75	95-100
4.75 mm	25-45	30-50
600 micron	8-30	10-35
150 micron	0-6	0-6

3. ***Storage:*** The contractor shall provide means of storing the aggregates at each point where the concrete is such that (a) each nominal size of coarse aggregate and the fineaggregate shall be kept separated at all times (b) contamination of the aggregates by the ground or other foreign matter shall be effectively prevented at all times and (c) each heapof aggregate shall be capable of freely being drained. The contractor shall ensure that the graded coarse aggregates are tipped, stored and removed from the stock yard in manner that does not cause segregation.

The contractor shall make available to the Engineer incharge such samples of aggregates, as required. Such samples shall be collected at the point of discharge of the aggregate to the batching plant. If any such sample doesn't conform with the specification, the aggregate shall be promptly removed from the site and the contractor shall carry out such modification to the storage arrangements as may be necessary to secure compliance with the specification.

STEEL : The reinforcement shall be of mild steel and medium steel wire, conforming to I.S. 432-1960 or TMT bars conforming to I.S. 1786-2008 or deformed steel bars conforming to I.S.1139 with up-to-date modification. Bar reinforcement described as "mild steel" shall be plain round hot rolled steel bars. Bar reinforcement shall be Fe550. With respect to manufacture, quality, physical properties and related requirements, reinforcement bars of the foregoing description shall comply with appropriate parts of IS Standards 432 (part I).

All reinforcement shall be clean and free from loose mill scales, dust and coats of paint, oil, rust or other coatings which may destroy or reduce bond. The steel bar shall be round and capable of being bent (doubled over) without fracture. Joint in the bars should be avoided as far as possible, when joints have to be made an overlap of 45-60 times diameter of the bar shall be given with proper hooks at ends and joints should be staggered.

CEMENT CONCRETE WORKS

Materials: All the materials used in the cement concrete such as cement, sand (fine aggregate), coarse aggregate, water, and reinforcement shall be as per the relevant I.S. Codes and/or as per the individual specification presented.

Proportion: The proportion of the concrete shall be as mentioned in the Bill of Quantities, Working Drawings etc. The minimum compressive strength for the cement concrete shall be in accordance with IS-456 upto date revision.

The aggregates, both coarse and fine shall be measured by volume with boxes. Cement need not be measured by box; one bag of cement (50 kg) should be considered. Size of measuring box may be 30 cm x 30 cm x 38 cm or equivalent volume. All materials shall be dry, if damp sand is used, compensation shall be made by adding additional sand to the extent required for the bulking of damp sand. Mixing shall be of machine mixing. For small works hand mixing by batches may be allowed but about 10% extra cement need to be added as compensation. Work shall be planned to minimize hand mixing. Hand mixing shall be limited to minor repair works and incidental occasions. A box shall be kepton site with the capacity of 10% of a sack of cement (5kg) and used any time hand mixing is being done to meet the requirements for hand mixing.

Besides that, for the first batch of mixing for the day, an extra bag of cement is added to the first mix. It is assumed that this shall compensate all the cement being connected to the equipments such as mixture machines, batching trolleys etc.

1. ***Machine mixing:*** The mixer drum shall be flushed clean with water. Measured quantity of dry coarse aggregate shall be placed first; this shall be followed with measured quantity of fine aggregates and then cement. Aggregates, sand and cement shall be put into the cement concrete mixer to have required proportion as per the Bill of Quantities, working Drawings, etc. The machine shall then be revolved to mix materials dry and then water shall be added gradually at required quantity, 20 to 28 litres, per bag of cement to have the required water cement ratio. The mixing should be thorough to have plastic mix of uniform colour. It requires 11/2 to 2 minutes' revolution for thorough mixing.

Approximate quantity of water required for cement concrete may be taken as 30% by weight of cement plus 5% by weight of total aggregate. For the concrete compacted by mechanical vibrators the quantity of water shall be reduced by 20%.

2. ***Slump:*** Regular slump test should be carried out to control the addition of water and to maintain the required consistency. A slump of 25 mm to 100 mm may be allowed for the building. Slump tests shall be done on a regular basis during batching and placing of concrete, or as directed by the Executive Engineer.

3. ***Formwork:*** Formwork, centering and shuttering preferably shall be provided with MS Sheet as required, i.e., standard specifications as per IS 1200 Part V, before lying concrete to confine, to support or to keep the concrete in position. The inner surface of the shuttering shall be oiled to prevent concrete sticking to it. The base and formwork over which concrete to be laid shall be wetted by sprinkling water before the concrete is laid. Forms shall be removed as specified. Formwork shall be removed slowly and carefully without disturbing and damaging concrete. Upon removal of forms any minor voids shall be repaired immediately, deeper voids (min. 12mm to max 25mm) shall have a proper patch administered as per the instruction of the Executive Engineer, to seal and protect the reinforcement.

4. ***Laying:*** Concrete work shall not be started until written permission from the Executive Engineer is issued to the contractor. Concrete shall be laid gently (not thrown) in layers not exceed 15 cm and compacted with mechanical vibrating machine until dense concrete is obtained. Over-vibration which will separate coarse aggregate from concrete should be avoided. After removal of the formwork in due time, the concrete surface shall be free from honey combing, air holes or any other defect. The contractor need to use vibrator as per the recommendation of the consultant no matter what the volume of the concrete for a day shall be done.

Concrete shall be laid continuously. If laying is suspended for rest or for the following day, the end shall be sloped at an angel of 300 and made rough for future jointing. When the work is resumed, the previous sloped portion shall be roughened, cleaned and watered and a grout of neat cement (thick cement slurry) shall be applied and fresh concrete shall be laid. For successive layer the upper layer shall be laid before the lower layer has set. Every effort shall be made to minimize "cold"/ construction joints. Work shall be planned and reviewed with the site engineer prior to commencing and the contractor shall be prepared to extend the labour and site supervision to accomplish pouring in such a fashion.

For the special areas where mentioned in the sanctioned drawings, where there shall be no further finishing, the contractor shall take further precautions as is required to finish in compliance with the drawings and clients wishes, or as specified by Executive Enigneer, without any additional cost. The contractor's failure to comply with the Executive Engineers stated expectation of finishing shall open themselves to having the pour rejected and loss of payment or removal and replacement in compliance with the finish required. Neat cement punning on the surface is not an option for consideration. It is highly recommended that the contractor to use power trowels in the area of basement where there is no other finishes. This shall assist the work to be completed in faster rate and in satisfaction to the client's expectation. The contractor shall manage his staff and materials to guarantee compliance with the approved schedule and amount of work to be accomplished on a daily basis, yet maintaining the desired quality.

In the specified areas such as ramp, external courtyard, etc., the contractor shall at completion of the concrete placement begin the finishing process which shall at completion render a “broom finish”. The specific broom need to be utilized to complete the specified broom finish required by Executive Engineer. "Broom finish" here implies a non-skid concrete surface without application of any kind of additional surface on top of the concrete. The contractor needs to produce the "broom finish" with the application of broom just after the completion of concreting before the concrete is hardened. The contractor may propose alternative methods to accomplish this surface texture, but must receive prior approval from the Eecutive Engineer before commencing the work.

5. **Control of Concrete:** The contractor shall be called upon to submit representative samples of material to be used for concrete in order that they may be tested at a laboratory and the suitability of materials established. All expenses in connection with the above material tests shall be borne by the contractor.

During the progress of the work 15 cm cubes shall be made as per I.S. 456-2000 (Revision) as necessary and tested in accordance with I.S. 516-reaffirmed 2018. A minimum of three cubes shall come from various batches or individual days. The concrete used in the project, from these batches, shall be recorded and properly maintained. The cubes shall be tested for 7 days, 14 days, and 28 days unless directed by Executive Engineer. The test results shall meet the minimum compressive strength mentioned in the structural drawings or specified by the IS Code standard so that the field concrete work has the strength required as per the code or standard for stipulated time period, i.e. for concrete work of M20, the strength must be minimum 23 MPa in 28 days as per IS-456:2000 Amendment 4/2013. All such testing shall be done in presence of Executive Engineer or his representative. The test result conducted in absence of Executive Engineer or his representative shall not be accepted or deemed valid.

6. ***Curing:*** Freshly laid concrete shall be protected from rain. The work should be protected from damage and rain during construction. After about two hours of laying, when concrete has begun, to harden, it shall be kept damp by covering with wet gunny bags for 7 days continuously 24 hours. After the 7th day, the contractor needs to make sure that the concrete remains wet during the hot days upto 7 days of casting. If specified curing may be done by covering concrete with special type of waterproof paper so as to prevent water escaping or evaporating. Curing and strength development is an important part of the construction process and failure to maintain the concrete as per the stated parameters shall result in rejection and loss of time. As no time extension shall be administered for removal and replacement of any rejected work which could have been prevented with proper administration of the contract.

Executive Engineer reserves the full right to hold the concreting works if proper curing managementis not performed before the concreting. Executive Engineer holds the total control for curing and has full authority to hold the concreting work using the past curing works as an example. The contractor needs to allocate a separate staff for curing of the concrete for at least 14 days.

7. ***Repairing Honeycomb:*** Immediately after stripping the formwork, minor defects and honey combed area shall be patched and the holes filled before the concrete is thoroughly dry. Patch areas shall be chipped away to a 25 mm depth, with regular edges perpendicular to the surface.

The contractor needs to mobilize personnel to rectify the honey combing as the formworks are being stripped off the concrete surface. The contractor needs to make necessary arrangement prior to the removal of formwork and needs to complete the work when the concrete is green.

Test of Structure: Executive Engineer shall instruct for a proper testing mechanism on the works or any part there of if in the opinion such a test be deemed necessary for one or more of the following reasons:

- The site-made concrete test cubes failing to attain the specified strength.
- The shuttering being prematurely removed.
- Concrete improperly cured.

If the contractor is instructed to conduct testing of concrete already placed for any of the previously stated reasons it shall be accomplished at his expense. If the member shows evident failure, changes as are necessary to make the structure adequately strong shall be made free of cost. The entire cost of testing shall be borne by the contractor. If in the course of dismantling, any damage is done to the embedded items and or other adjacent structures, the same shall be made good free of charge by the contractor to the satisfactionof Executive Engineer.

If the results of the tests are not to satisfaction, Executive Engineer shall instruct the loading test of the entire structure. If such testing is required by Executive Engineer, the member under consideration shall be subjected to a superimposed load equal to one and a quarter ($1^1/_4$) times the specified superimposed load used for design and this load shall be maintained for a period of 24 hours before removal. The detail procedure of the test is to be decided by Executive Engineer even after these tests the results obtained are not satisfactory to Executive Engineer, the part of the works concerned shall be taken down or removed and reconstructed to comply with the specification or such other remedial measures shall be taken as to make the works secure. The contractor needs to bear all the cost for taking out and other remedial works.

8. ***Water Proofing Compound:*** For those areas, such as shear walls of the water tanks, terrace slabs, the contractor needs to mix the water proofing compound of IS, ASTM & BS standards within the concrete itself for the extra protection. The contractor needs to get approval of the specification and the brand of the water proofing compound likely to be used prior to the application. Once the water proofing compound is approved, the contractor needs to apply the mix, proportion as per the manufacturer's specification. The contractor holds full responsibility for the water proofing compound in concrete.

FORMWORK

Formwork shall be designed and constructed so that concrete can be properly placed and thoroughly compacted. Formwork shall be firmly supported and adequately strutted, braced, or tied. It shall be capable of adjustment to the lines and dimensions of the finished concrete and it shall be sufficiently strong to resist without distortion, the pressure of concrete during its placing and compaction and other loads to which it may be subjected. It shall not be liable to suffer distortion under the influence of the weather. When concrete is to be vibrated, special care shall be taken to ensure that the formwork will remain stable and joints tight, gaps in form panels greater than 5mm shall not be acceptable. The safety and adequacy of centering and shuttering shall be the sole responsibility of the contractor.

Formwork shall include all forms or moulds required for forming the concrete which iscast-in-situ,togetherwithalltemporaryconstructionrequiredfortheirsupport.

Materials for Formwork: Form work shall be made of Mild Steel or metallic sheets in general unless otherwise specified. It shall be stiff and strong enough to avoid un due deflection when loaded and not liable to warp when exposed to sun and rain or wetted during casting of concrete.

Formwork shall be of rigid construction true to shape and dimensions. It shall be strong enough to withstand the dead and live loads and forces caused by ramming and vibrations of concrete and other incidental loads imposed upon it during and after casting of concrete. It shall be made sufficiently rigid by using adequate number of braces and ties. To make up any settlement in the formwork either before or during the placing of concrete, hardwood wedges shall be provided where required. Error upto 10 mm shall be under tolerance, so the contractor needs to maintain the materials as well as the workmanship upto the perfect expectation.

All formwork shall be so constructed as to be removable in section in the desired sequence, without damaging the surface of concrete or disturbing other sections. Forms should be easy to strip after connecting and no piece should be keyed into the concrete. The completed form work shall be approved after inspection by Executive Engineer.

Propping and Centering: Props used for centering shall be of steel unless otherwise specified. All props shall further be provided with double wedges so as to facilitate tightening and easing of shuttering without causing shock to the concrete.

In case as pan exceeding 4.5 m and height exceeds 3.5 m suitable horizontal as well as vertical and/or diagonal bracings shall be provided after accounting for all forces including action of wind which may produce lateral forces. In case the height of centering exceeds 3.5 meters, the props may be provided in multi-stages. The detail of splicing the props at each stage shall be as per approved drawing. The vertical props shall be erected in spacing of 750-900 mm centre to centre.

The erecting of the props for any structural elements directly on the ground will not be accepted. They shall be erected on wooden beams or any approved base on the ground. The horizontal bracing shall be at a spacing of 1000 mm centre to centre vertically.

Before the casting of concrete is commenced, the props and wedges shall be thoroughly checked to see that they are intact, in line & level, and plumb. While the casting of concrete is in progress, at least one carpenter shall keep a constant watch on the props and take immediate remedial measures, as soon as any of the m gets loosened.

***Shuttering*:** The shuttering shall be of Mild steel boards to give a smooth and even surface and the joints shall not permit leakage of cement grout. It shall be free from loose knots, projected nails, splits, adhering grout or other defects that may mar the cement surface of concrete. It shall not be green or wet as to shrink after erection. Species of timber which are not affected appreciably by its contact with water shall be used. When metal forms are used, all bolts and nuts shall be counter sunk and well ground to provide a smooth plain surface. Opening for fan clamps and other fittings connected with services shall be provided in the shuttering as directed by Executive Engineer.

The surfaces of shuttering that would come in contact with concrete shall be thoroughly cleaned and well wetted and coated with soap solution, raw linseed oil, or form oil of approved manufacture, or any other approved material such as polythene sheets, to prevent adhesive of concrete to formwork. Executive Engineer shall inspect and accept the formwork as to its strength, alignment and general fitness before placing any concrete in the forms. But such inspection shall not relieve the contractor of his responsibility for safety of men, machinery, materials and for results obtained.

Suitable camber shall be provided in horizontal members of structures especially in long members to counteract the effects of deflection. The camber for beams and slabs shall be 4mm per meter i.e. 1 in 250 and for cantilevers, at free end shall be $1/50^{th}$ of the projected length or as directed by Executive Engineer. In case of beams and shear walls, the shuttering shall be tied with nut bolts system @ 750 mm centre to centre vertically and horizontally unless instructed by Executive Engineer.

1. Off-form finish: The concrete shall be an off form finish, which means that the formwork itself shall be of a good finish to achieve the off form concrete surface smooth and even, free from all board marks, projections, pits and honey combing etc and all arises shall be square, straight and true. The contractor shall especially see that the finished exposed surface be smooth and even so that no rendering or plastering is required.

2. Removal of Formwork: The form work shall be removed avoiding shock or vibration that may cause any damage to concrete. In slab and beam construction, sides of beam shall be stripped first; then the undersides of slab and lastly the underside of the beam. The period that shall elapse after the concrete has been laid before undertaking the work of easing and removal of centering and shuttering shall be as per according to I.S. 456-2000 revision.

In case of cantilever slabs and beams, the centering shall remain till structures for bearing down have been erected and have sufficient strength.

Measurement:

Measurement for payment shall be done on the area of which centering shuttering has been carried out. Rate shall include centering and shuttering including propping, strutting etc. and removal of forms, including applying form oil to shuttering. The rate also includes removal of the form as per the specified time.

Nothing extra shall be paid for any kind of curved surfaces, small offsets, decorative designs etc. unless otherwise specified. All these decorative designs and offsets shall be measured accordingly as mentioned earlier and no special provision shall be applied to these measurements. The contractor needs to produce off form finish concrete as much as possible. Nothing extra shall be provided to the contractor for this account. The formwork & Concrete combined to be paid for payment as specified in the appendix.

Cement Mortar : Cement Mortar with fine and coarse sand 1:1 to 1:6 is considered as material component in the SR.

PART - II

Chapter - I

EARTH WORK

CHAPTER 1

EARTH WORK

Sl. No	Description of item	Unit	Rate ₹
	Manual Means		
1.1	Earth work in surface excavation for stripping, seating of bund, Road way, by manual means for lowering & leveling the ground for all works other than foundation & depth in all kinds of soil not exceeding 300mm as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage & other appurtenances required to complete the work.	**m^2**	**91.00**
1.2	Earth work in surface excavation for stripping, seating of bund, Road way by manual means for lowering & levelling the ground for all works other than foundation & depth in Ordinary rock and soft rock upto 300mm depth as per drawing and technical specifications, including setting out, barricading, caution lights, including dressing of excavated surfaces, disposing off or levelling the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage& other appurtenances required to complete the work.	**m^3**	**575.00**
1.3	Earth work in surface excavation by manual means for lowering & levelling the ground by chiselling and wedging in Hard rock for all works other than foundation & depth not exceeding 100 mm as per drawing and technical specifications, including setting out, barricading, caution lights, dressing of excavated surfaces, disposing off the excavated spalls/stuff & stacking the selected spall/ stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage & other appurtenances required to complete the work.	**m^2**	**177.00**
1.4	Earth work excavation by manual means for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work.		
1.4.1	**In all kinds of soils Depth upto 1.5 m**	**m^3**	**242.00**
	Note: *Cost of De-watering upto 5 % may be added, where required assessment for dewatering shall be made as per site condition*		
1.4.2	**Depth exceeding 1.5m, but not exceeding 3 m**	**m^3**	**259.00**
	Note: Cost of De-watering upto 10 % may be added , where required assessment for dewatering shall be made as per site condition		

Sl. No	Description of item	Unit	Rate ₹
1.4.3	**Depth exceeding 3m, but not exceeding 4.5 m**	**m^3**	**376.00**
	Note: *Cost of De-watering upto 10 % may be added, where required assessment for dewatering shall be made as per site condition*		
	Note: *Add 5% per m^3 for every additional 1.50m depth or part thereoff beyod initial 1.50 m depth if shoring and strutting is provided*		
1.5	Earth work excavation by manual means for drains,canals, waste weir draft, approach channels, key trench, foundation of Bridges and such similar works, as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, excavated surface leveled and sides neatly dressed disposing off or leveling the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage & other appurtenances required to complete the work.		
1.5.1	**In ordinary/soft rock without blasting upto 1.5 m depth**	**m^3**	**299.00**
	Note: Cost of De-watering upto 5 % may be added , where required assessment for dewatering shall be made as per site condition		
1.5.2	**Depth exceeding 1.5m, but not exceeding 3 m**	**m^3**	**445.00**
	Note: *Cost of De-watering upto 7.5 % may be added , where required assessment for dewatering shall be made as per site condition*		
1.5.3	**Depth exceeding 3m, but not exceeding 4.5 m**	**m^3**	**590.00**
	Generally going 3 m in hard rock is not in practise except for tunnelling. It is desirable to stop at 3 m and add additionality for every 1.5 m		
	Note: Cost of De-watering upto 10 % may be added , where required assessment for dewatering shall be made as per site condition		
	Add 5% per m^3 for works under foul & sullage situation		
1.6	Earth work excavation for pipelines/cables by Manual means upto 600 mm trench width, as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, including dressing of excavated surfaces, disposing off or leveling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m. Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering and lift upto 1.5 m including cost of labour, tools, usage& other appurtenances required to complete the work.		
1.6.1	**In all kinds of soils. Depth upto 1.50m**	**m**	**545.00**
	Details of laying of cost for 60m length of a pipe of an average dia. say 450mm. Slope assumed 1 in 200. Earth work and filling - Minimum depth of trench 0.75+0.45 = 1.20m, Average depth = (1.50+1.20)/2 = 1.35, Width = 0.40 + 0.45 = 0.85 m, 60x0.85x1.35 = 68.85 m^3, 5% for collars = 3.44 m^3, Total = 72.29m^3 Rate as per item no. 1.4.1		

Sl. No	Description of item	Unit	Rate ₹
	Filling available excavated earth in trenches Rate as per item 1.10		
1.6.2	Extra for excavating trenches for pipes, cables and similar works in all kinds of soil where excavation width is upto 600 mm for depth exceeding 1.5 m, but not exceeding 3 m. add 20 % extra (Rate is over corresponding basic item for depth upto 1.5 m).		
1.6.3	Extra for excavating trenches for pipes, cables and similar works in all kinds of soil where excavation width is upto 600 mm for depth exceeding 3.0 m, but not exceeding 4.5 m. add 50 % extra (Rate is over corresponding basic item for depth upto 1.5 m).		
	Note: 1. *Additional rates for quantities of works, executed in or under water and /or liquid mud, including pumping water as required cost of 1 m depth 20% of the rate of the item)*		
	Note: 2. *Additional rates for quantities of works, executed in or under foul position,including pumping water as required cost of 1 m depth 25% of the rate of the item)*		
	Note: 3. *If the width of excavation is less than 0.60 m, Add 25% extra / m^3 for the above rates.*		
1.7	Construction of Embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded with desired compaction.	**m^3**	
1.8	Construction of Embankment by excavating the available approved Gravel/Murrum deposited at a place or borrow pits during or prior excavation with all lifts and lead, transportation to site, spreading, grading to required slope and compacting to meet the requirement complete as per specifications, including cost of labour,rolling,water,all materials,usage& all other appurtenaces required to complete the work.	**m^3**	**474.00**
	If the height of embankment construction is more than 1.50 m add 5% per m^3 for every 1.50 m height or part there off		
	Deduct 5% per m^3 if rollers are not used and tamping is done manually		
	Add 8% per m^3 for works under foul & sullage situation		
1.9	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations and other similar works etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	**m^3**	
1.10	Refilling available earth around trenches/pipelines, cables in layers not exceeding 20 cms in depth, compacting each deposited layer by ramming after watering with a lead upto 50 m, and lift upto 1.5 m. Including cost of all labour complete as per specifications	**m^3**	
1.11	Filling approved earth (excluding rock) in trenches, plinth, sides of foundations and other similar works etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	**m^3**	**433.00**

Sl. No	Description of item	Unit	Rate ₹
	Mechanical Means		
1.12	Earth work in surface excavation by mechanical means for lowering & leveling the ground for all works other than foundation in all kinds of soils & upto depth not exceeding 300mm as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenances required to complete the work.		
	In all kinds of soils upto 300 mm depth	**m^3**	**95.00**
1.13	Earth work in surface excavation by mechanical means for lowering & leveling the ground without blasting for all works other than foundation in Ordinary/Soft rock & depth not exceeding 300mm as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenances required to complete the work		
	In Ordinary/Soft rock upto 300 mm depth	**m^3**	**362.00**
1.14	Earth work excavation for Foundation by mechanical means for all works & depth upto 3 m, as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenaces required to complete the work		
1.14.1	**In all kinds of soils Depth upto 3 m**	**m^3**	**102.00**
	Note: *Cost of De-watering upto 5 % of (A+B) may be added, where required assessment for dewatering shall be made as per site condition*		
1.14.2	**Depth 3 m to 6 m**	**m^3**	**117.00**
	Note: *Cost of dewatering upto 7.5 % of (A+B) may be added, where required assessment for dewatering shall be made as per site condition*		
1.14.3	**Depth above 6 m**	**m^3**	**144.00**
	Note: *Cost of dewatering upto 10 % of (A+B) may be added, where required assessment for dewatering shall be made as per site condition*		
1.15.1	**In ordinary/soft rock without blasting upto 1.5 m depth**	**m^3**	**363.00**
	Note: *Cost of De-watering upto 5 % of (A+B) may be added, where required assessment for dewatering shall be made as per site condition.*		

Sl. No	Description of item	Unit	Rate ₹
1.15.2	**Depth exceeding 1.5 m, but not exceeding 3 m**	**m^3**	**425.00**
	Note: *Cost of De-watering upto 7.5 % of (A+B) may be added, where required assessment for dewatering shall be made as per site condition*		
1.15.3	**Depth exceeding 3m, but not exceeding 4.5m**	**m^3**	**463.00**
	Note: 1. *Cost of De-watering upto 10 % of (A+B) may be added, where required assessment for dewatering shall be made as per site condition*		
	Note: 2. *Extra rates for quantities of works, executed in or under foul position, including pumping water as required cost of 1 m depth 25% of the rate of the item)*		
	Note: 3. *Add 5% per m3 for every additional 1.50m depth or part thereoff beyond 4.50 m depth is provided*		
	Note: 4. *Add 5% per m3 for every additional 1.50m depth or part thereoff beyond initial 1.50 m depth if shoring and strutting is provided*		
1.16	Earth work excavation for FOUNDATION by Mechanical means depth upto 1.50m, as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, including cost of explosives, dressing of excavated surfaces, disposing off or levelling the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, blasting materials, tools, usage of Machinery & all other appurtenaces required to complete the work		
1.16.1	**In Hard Rock (requiring blasting) Depth upto 1.50m**	**m^3**	**554.00**
	Note: *Cost of De-watering upto 5 % of (A+B) may be added, where required assessment for dewatering shall be made as per site condition*		
1.16.2	**Depth exceeding 1.5 m, but not exceeding 3 m**	**m^3**	**623.00**
	Note: *Cost of De-watering upto 7.5 % of (A+B) may be added, where required assessment for dewatering shall be made as per site condition*		
1.16.3	**Depth exceeding 3m, but not exceeding 4.5m**	**m^3**	**711.00**
	Note: 1. *Cost of De-watering upto 10 % of (A+B) may be added, where required assessment for dewatering shall be made as per site condition*		
	Note: 2. *Extra rates for quantities of works, executed in or under foul position,including pumping water as required cost of 1 m depth 25% of the rate of the item*		
	Note: 3. *Add 5% per m^3 for every additional 1.50 m depth or part there-off beyond 4.50 m depth is provided*		
	Note: 4. *Add 3% per m^3 for every additional 1.50 m depth or part there-off beyond initial 1.50 m depth if shoring and strutting is provided*		

Sl. No	Description of item	Unit	Rate ₹
1.17	Earth work excavation for pipeline trenches in all kinds of soils by mechanical means as per drawing and technical specifications, including setting out, construction of shoring, strutting, barricading, caution lights, bracing, using sight rails & boning rods at every 100 mm whevere necessary as directed, removal of stumps and other deleterious matter, dressing of sides and levelling the bottom of trench to the extent required , utilising the available excavated earth locally for the work etc., and all other appurtenances complete in the following strata.		
1.17.1	**All kinds of soils. Depth upto 1.50 m**	**m^3**	**262.00**
1.17.2	**Depth exceeding 1.5 m, but not exceeding 3 m**	**m^3**	**331.00**
1.17.3	**Depth exceeding 3.0 m, but not exceeding 4.50 m**	**m^3**	**480.00**
1.18	**Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials.**	**m^3**	**87.00**
1.19	Earth work excavation for pipeline trenches in all kinds of by mechanical means as per drawing and technical specifications, including setting out, construction of shoring, strutting, barricading, caution lights, bracing, using sight rails & bonding rods at every 100 mm whevere necessary as directed, removal of slumps and other deleterious matter, dressing of sides and levelling the bottom of trench to the extent required , utilising the available excavated earth locally for the work and all other appurtenances to complete in the following strata.		
1.19.1	**Ordinary/soft rock (without requiring blasting) Depth upto 1.50 m**	**m^3**	**454.00**
1.19.2	**Depth exceeding 1.5 m, but not exceeding 3 m**	**m^3**	**557.00**
1.19.3	**Depth exceeding 3 m, but not exceeding 4.50 m**	**m^3**	**633.00**
	Note: *Add 5% per m^3 for every additional 1.50m depth or part thereoff beyod 4.50 m depth*		
1.20	**Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials.**	**m^3**	**156.00**
1.21	Earth work excavation for pipeline trenchesby mechanical means as per drawing and technical specification, including setting out, construction of shoring, strutting, cost of blastingmaterials,barricading, caution lights, bracing, using sight rails & boning rods at every 100 mm whevere necessary as directed, removal of slumps and other deleterious matter, dressing of sides and levelling the bottom of trench to the extent required , utilising the available excavated earth locally for the work and all other appurtenances to complete in the following strata.		
1.21.1	**Hard rock (requiring blasting) Depth upto 1.50 m**	**m^3**	**669.00**
1.21.2	**Depth exceeding 1.5 m, but not exceeding 3 m**	**m^3**	**752.00**
1.21.3	**Depth exceeding 3 m, but not exceeding 4.50 m**	**m^3**	**830.00**

Sl. No	Description of item	Unit	Rate ₹
	Note Add 5% per m³ for evey additional 1.50 m depth or part thereoff beyod 4.50 m depth		
1.21.4	**Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials.**	**m³**	**156.00**
1.21.5	**Hard rock (blasting prohibited) Depth upto 1.50 m**	**m³**	**1014.00**
1.21.6	**Depth exceeding 1.5 m, but not exceeding 3 m**	**m³**	**1120.00**
1.21.7	**Depth exceeding 3 m, but not exceeding 4.50 m**	**m³**	**1196.00**
	Note: 1. *Add 5% per m³ for every additional 1.50m depth or part there-off beyod 4.50 m depth*		
	Note: 2. *Additional rates for quantities of works, executed in or under water and /or liquid mud, including pumping water as required cost of 1 m depth 20% of the rate of the item*		
	Note: 3. *Additional rates for quantities of works, executed in or under foul position,including pumping water as required cost of 1 m depth 25% of the rate of the item)*		
1.22	**Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials**	**m³**	**156.00**
	Note: 1. *Extra rates for quantities of works, executed in or under water and /or liquid mud, including pumping water as required cost of 1 m depth 20% of the rate of the item)*		
	Note: 2. *Extra rates for quantities of works, executed in or under foul position, including pumping water as required cost of 1 m depth 25% of the rate of the item)*		

Note : *For (A+B) refer rate analysis.*

Chapter - II

CONCRETE WORKS

- The rates are excluding the cost of steel and formwork.
- Percentage as per Appendix-I to be adopted in case formwork is considered.

CHAPTER 2

CONCRETE WORKS

(PLAIN & REINFORCED CEMENT CONCRETE)

Item No.	Description of Item	Unit	Rate ₹
2.1	Providing and laying in position Cement Concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications.		
2.1.1	Mix 1:5:10 Using 40 mm nominal size graded crushed coarse aggregates	**m^3**	**5463.00**
2.1.2	Mix 1:4:8 Using 40 mm nominal size graded crushed coarse aggregates	**m^3**	**5832.00**
2.1.3	Mix 1:3:6 Using 40 mm nominal size graded crushed coarse aggregates	**m^3**	**6201.00**
2.1.4	Mix 1:3:6 Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**6429.00**
2.1.5	Mix 1:2:4 Using 40 mm nominal size graded crushed coarse aggregates	**m^3**	**6388.00**
2.1.6	Mix 1:2:4 Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**6474.00**
2.2	Providing and laying in position Cement Concrete for all Foundation works. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticizers laid in finished layers, well compacted using needle vibrators, including all lead & lifts, cost of all materials, quality confirming to the requirements of relevant IS codes , labour, Usage charges of machinery, curing and all the other appurtenances required to complete the work as per technical specifications.		
2.2.1.1	M20 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**6595.00**
2.2.1.2	M20 Design Mix Using 20 mm nominal size graded crushed coarse aggregates with 20% partial replacement with Recycled concrete aggregate (RCA)	**m^3**	**6556.00**
2.2.2.1	M25 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**6504.00**
2.2.2.2	M25 Design Mix Using 20 mm nominal size graded crushed coarse aggregates with 20% partial replacement with Recycled concrete aggregate (RCA)	**m^3**	**6463.00**

Item No.	Description of Item	Unit	Rate ₹
2.2.3.1	M30 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**6846.00**
2.2.4.1	M35 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**7120.00**
2.2.5.1	M 40 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**7394.00**
2.3	Providing and laying in Cement Concrete for all Basement & surface level works, return walls, retaining walls, sunken floors etc. The granite/ trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications.		
2.3.1	M20 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**6631.00**
2.3.2	M25 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**6505.00**
2.3.3	M30 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**6951.00**
2.3.4	M 35 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**7382.00**
2.3.5	M 40 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**7665.00**
2.4	Providing and laying in position Cement Concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/ basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications.		
2.4.1	Mix 1:2:4 (M15) Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**6636.00**
2.4.2	M20 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**6631.00**
2.4.3	M25 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**6521.00**

Item No.	Description of Item	Unit	Rate ₹
2.4.4	M30 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**7088.00**
2.4.5	M35 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**7459.00**
2.4.6	M40 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**7685.00**
2.5	Providing and laying in position Cement Concrete for all Super structures of building , Road works, Water works, Irrigation works & super structure works of bridges upto 3.50 m height. The granite/trap/ basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers laid in layers, well compacted using needle vibrators. The cost includes all lead & lifts, cost of all materials, quality confirming to the requirements of relevant IS codes , labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications.		
2.5.1	M20 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**6904.00**
2.5.2	M25 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**6777.00**
2.5.3	M30 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**7353.00**
2.5.4	M 35 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**7627.00**
2.5.5	M 40 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	**m^3**	**7926.00**
2.6	**Formwork For Staging**		
2.6.1	*For Height upto 5 m rates, adopt Formwork percentage as per Appendix-I for item no 2.5.1 to 2.5.5*		
2.6.2	beyond 5 m upto 10 m add 12% extra on formwork for staging & base preparation		
2.6.3	beyond 10 m upto 15 m add 14% extra on formwork for staging & base preparation		
2.6.4	beyond 15 m upto 20 m add 16% extra on formwork for staging & base preparation		
2.6.5	beyond 20 m upto 25 m add 18% extra on formwork for staging & base preparation		
2.6.6	beyond 25 m add 20% extra on formwork for staging & base preparation		

Item No.	Description of Item	Unit	Rate ₹
2.7	Providing waterproofing & durability enhancing admixture with approval from MORT&H for use on road & bridge projects with IRC accreditation. & shall possess CE approval. The Dosage should be at 0.8% by weight of cement + cementitious material (or such dosage as desired to meet durability criteria) as per technical specification.	**kg**	**292.00**
2.8	Supply and placing the Design Mix of M-30 Grade for Self Compacting Concrete corresponding to IS 456-2000 (Re-affirmed 2021) and relevant IS codes using Batching plant, Transit mixer and concrete pump with 12.5 mm size graded machine crushed hard metal (coarse aggregate) from approved quarry including cost and conveyance of all materials like cement, cement substitutes like fly ash, GGBS, etc., fine aggregate (sand), coarse aggregate, Admixture, water etc., to site inclduding and sales and other taxes on all materials including all opertational incidental and labour charges, but excluding cost of steel and its fabrication & formwork charges for finished item of work with minimum cement content as per IS code including pumping & curing etc complete for finished item of work (RCC slabs, Beams, Columns, Lintels, Water Tanks, RCC Walls in Buildings).		
2.8.1	Upto 5m height	**m^3**	**8489.00**
2.8.2	Add extra 3% on form work for staging for 0 to 5 m		
2.8.3	Add extra 5% on form work for staging for 5 to 10 m		
2.8.4	Add extra 5 % on form work for staging beyond 10 m		
2.9	Applying stamping finish on M30 grade concrete on PCC sub grade, applying and finishing with stamp/stencil of approved pattern and color in accordance with Engineers instructions & approved drawings with use of any approved brand of color hardener of 4.5 kg/m2, including floating of color hardener over the concrete surface with different types of floaters, application of release agent of 0.12 to 0.13kg/m2 depending on matching combination of selected color, stamping over the concrete surface with stamping tools , cleaning of surface with water and groove cutting of finished concrete and application of acrylic based sealer for final finish. Coverage of sealer should be 0.30litre/m2 per coat. The cost is inclusive of manpower, cutting machine, sprayer and all tools tackles for all activities and complete smooth and finish as per technical specifications. (The cost of Concrete shall be paid separately)	**m^2**	**440.00**

Item No.	Description of Item	Unit	Rate ₹
2.10	**Ready Mix Concrete (RMC) with Cement & Cementitious Materials.**		
	Providing and laying in position Ready Mixed or Batch Mixed concrete as per IS 10262 mix design procedure for Cement Concrete works in all types of Structures other than Road works, using coarse aggregate and fine aggregate derived from natural sources, Ordinary Portland Cement (OPC) @ 75% & GGBS @ 25% proportion, admixtures to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the Engineer-in-charge.		
a.	RMC M10 Grade	**m^3**	**6145.00**
b.	RMC M20 Grade	**m^3**	**6392.00**
c.	RMC M25 Grade	**m^3**	**6516.00**
d.	RMC M30 Grade	**m^3**	**6948.00**
e.	RMC M35 Grade	**m^3**	**7071.00**
f.	RMC M40 Grade	**m^3**	**7318.00**

Note :

1. The cost of concrete is inclusive of lead but exclusive of lift.
2. The items of concrete with grade M40 and above shall be produced in RMC batching plants of higher capacity. The cost shall be workedout based on approved mix designs.
3. The usage charges for machinery means the cost inclusive of operating charges. i.e separate cost for crew & fuel shall not be paid unless specified in extra ordinary cases.
4. Additionalities
   - 1% of the finished cost shall be paid extra for every subsequent floors for heights 3.6 m and above.
   - 5% of the finished cost of concrete shall be paid extra for concreting in foul conditions.
   - 5% of the finished cost of concrete shall be paid extra for concreting in under water conditions.
5. The vibrators for concrete used shall conform to IS 3558 (1983) reffirmed 2004.
6. The height of the Buidling shall be considered as 3.6 m per floor as per NBC 2016 for calculation of lifts.
7. The finished cost of concrete are exclusive of Steel (Re-inforcement) & formwork charges.

8. Necessary over head charges shall be add for Bridge works as per table below :

Bridge Works

For Bridge works, following additional overhead charges to be considered in the rate analysis.

Sl. No.	Description	Additional Overhead charges to be considered
1.	Minor Bridges	10%
2.	Bridge cum Barrage	15%
3.	Major Bridges	20%
4.	Bridge Works (Rehabilitation)	30%

Chapter - III

MORTAR

- The items in this chapter are exclusive of Contractor's profit and Overhead charges.

CHAPTER 3

MORTAR

Item No.	Description of Item	Unit	Rate ₹
3.1	Providing Cement mortar 1:1 (1 cement : 1 fine sand) including cost of all materials, labour and usage charges of machinery complete as per the direction of engineer incharge of work.	**m^3**	**8676.00**
3.2	Providing Cement mortar 1:2 (1 cement : 2 fine sand) including cost of all materials, labour and usage charges of machinery complete as per the direction of engineer incharge of work.	**m^3**	**6769.00**
3.3	Providing Cement mortar 1:3 (1 cement : 3 fine sand) including cost of all materials, labour and usage charges of machinery complete as per the direction of engineer incharge of work.	**m^3**	**5818.00**
3.4	Providing Cement mortar 1:4 (1 cement : 4 fine sand) including cost of all materials, labour and usage charges of machinery complete as per the direction of engineer incharge of work.	**m^3**	**4955.00**
3.5	Providing Cement mortar 1:5 (1 cement : 5 fine sand) including cost of all materials, labour and usage charges of machinery complete as per the direction of engineer incharge of work.	**m^3**	**4490.00**
3.6	Providing Cement mortar 1:6 (1 cement : 6 fine sand) including cost of all materials, labour and usage charges of machinery complete as per the direction of engineer incharge of work.	**m^3**	**4091.00**
3.7	Providing Cement mortar 1:2 (1 cement : 2 coarse sand) including cost of all materials, labour and usage charges of machinery complete as per the direction of engineer incharge of work.	**m^3**	**6769.00**
3.8	Providing Cement mortar 1:3 (1 cement : 3 coarse sand) including cost of all materials, labour and usage charges of machinery complete as per the direction of engineer incharge of work.	**m^3**	**5818.00**
3.9	Providing Cement mortar 1:4 (1 cement : 4 coarse sand) including cost of all materials, labour and usage charges of machinery complete as per the direction of engineer incharge of work.	**m^3**	**4955.00**
3.10	Providing Cement mortar 1:5 (1 cement : 5 coarse sand) including cost of all materials, labour and usage charges of machinery complete as per the direction of engineer incharge of work.	**m^3**	**4490.00**
3.11	Providing Cement mortar 1:6 (1 cement : 6 coarse sand) including cost of all materials, labour and usage charges of machinery complete as per the direction of engineer incharge of work.	**m^3**	**4091.00**
3.12	Providing Cement mortar 1:2 (1 cement : 2 stone dust) including cost of all materials, labour and usage charges of machinery complete as per the direction of engineer incharge of work.	**m^3**	**6542.00**

Item No.	Description of Item	Unit	Rate ₹
3.13	Providing Mud mortar including cost of all materials, labour and usage charges of machinery complete as per the direction of engineer incharge of work.	**m^3**	
	Note : *The items in this chapter are exclusive of Contractor's profit and Overhead charges.*		

Rate Analysis for

EARTH WORK

APPENDIX

Appendix I – Additionalities for Formwork, Centering & Scaffolding

Following additional percentage to be added to the finished rates of concrete of Buildings, Irrigation works, Water supply works, Roads & Bridges depending upon the type of structure. These percentages are worked out based on empirical mathematical approaches & exhaustive studies on the common standard sizes of the type of the structure of Buildings, Irrigation works, Bridges, Water works etc. The use rate of shuttering material is considered at 40 repetitions and type of material to be used is steel centering.

For irrigation works, the cost of formwork is worked out based on theoretical computations on m^2 basis per m^3 of concrete and the percentage additionality on finished rate of concrete is arrived.

The percentages can be varied if the work involves extra ordinary conditions other than specified below subject to approval by the Superintending Engineer.

For fast paced monolithic constructions, the Mivan Shuttering (Aluminium formwork) shall be preferred.

Sl No.	Type of structure	Percentage on finished rate of concrete per m^3
1.	Foundation upto Plinth	-
	a. Isolated	8%
	b. All other types	3%
1a.	Plinth Beams of Buildings	50%
2.	Foundation, Sub structure of Cross drainages	5%
2a.	Cement Concrete Drains	35%
3.	Open Foundation	4%
4.	Well Foundation	20%
5.	Road medians, Traffic Separators, Dividers etc	5%
6.	Culverts (Head walls)	8%
7.	Columns of Buildings	70%
8.	Piers & Abutments	10%
9.	Earth retaining structures	10%
10.	Canal lining (only verticle sections)	10%

11.	Dam & Allied works	12%
12.	Beams & Lintels of Building	60%
13.	Roof Slabs of Buildings & Others structures	50%
14.	Staircase	
15.	Painting of old external walls above floor 2	20%
16.	Architectural projection of major sections	30%
17.	Chejjas, Canopy & Other Architectural projections of minor sections	45%

Bridges

Sl No.	Type of structure	Percentage on finished rate of concrete per m^3
1.	Solid Slab Super Structure	20%
2.	T-Beam & Slab	25%
3.	Box Girder & Balanced Cantilever	40%
4.	Cast insitu Box girder & Segmental construction	40%
5.	For T-beam & slab, including launching of precast girders by launching truss upto 40 m span	20%
6.	Box Culverts	20%

Note : The above percentages are applicable for Bridge works for 0 to 5 m heights. For different heights, the percentages shall be adopted for form work and staging including base preparation as per Item No. 2.6

Appendix II - Additional Specifications to be Included in General Conditions of Contract for use of Manufactured Sand / Artificial Sand / Fine Aggregates

1. Crushed Sand / Artificially Manufactured Sand/ Fine Aggregates hereinafter referred for as “Manufactured Sand” shall be as defined under CL 3.1.2 of IS 383-2016

2. The properties of “Manufactured Sand” shall confirm to the provisions of IS 383·2016.

3. The “Manufactured Sand” shall be free of dust and other Deleterious material.

4. The “Manufactured Sand" shall be manufactured using “Automatic Vertical Shaft Impactor” type Crusher only.

5. The quantity of Microfines (Particles below 75 microns) in “Manufactured Sand” shall not be more than 7 %.

7. Each Load of Manufactured Sand whenever brought on site shall be tested for "Fineness modulus”. Fineness modulus shall be within permissible limits. If it doesn't fall within acceptable limits, it shall be rejected.

8. The Test of Compressive Strength of concrete / Mortar using "Manufactured Sand” shall be carried out in presence of Department's Engineer as per Quality Assurance Programme approved by Quality Assurance Authorities.

9. The Flakiness Index and Elongation index tests shall be within permissible limits.

11. As far as possible freshly produced “Manufactured Sand'" shall be used, Stored “Manufactured Sand” shall not be used.

12. For Plastering purpose, if the use of Manufactured Sand is proposed it shall be used with addition of super plasticisers at the rate of 100 ml / Bag of Cement without extra cost to Government.

13. The following tests shall be carried out for the use of “Manufactured Sand” at the site.

    a) Sieve analysis

    b) Specific Gravity

    c) Water absorption

    d) Bulk density

    e) Alkali Aggregate Reaction

    f) Soundness

g) Deleterious Material

h) Organic Impurities

i) Micro fines Content

j) Test for silt and clay

k) Fineness Modulus test

15. Grading Zone II mentioned under Clause 6.3 table 9 of fine aggregates is IS 383:2016 shall only be used for Concreting.

Sl No.	**IS Sieve Designation**	**Percentage Passing**			
		Gr. Zone - 1	**Gr. Zone - 2**	**Gr. Zone - 3**	**Gr. Zone - 4**
1.	10 mm	100	100	100	100
2.	4.75 mm	90 - 100	90 - 100	90 - 100	90 - 100
3.	2.36 mm	60 - 95	75 - 100	85 - 100	95 - 100
4.	1.18 mm	30 - 70	55 - 90	75 - 100	90 - 100
5.	600 micron	15 - 34	35 - 59	60 - 79	80 - 100
6.	300 micron	5 - 20	8 - 30	12 - 40	15 - 50
7.	150 micron	0 - 10	0 - 10	0 - 10	0 - 15

16. All in Aggregate grading shall be as per clause 6.4 IS 383 : 2016.

Appendix III – Criteria for approval of Reinforcement bars

Sl. No.	Type of Steel Bars	IS Code : reference
1.	Mild Steel	IS432
2.	TMT Fe 550	IS1786 –2008
3.	TMT Fe 550D	
4.	Fe 600	

Thermo-Mechanically treated bars of grade 500 & above shall conform to IS 1786-2008 with satisfactory range of values as specified for physical & chemical characteristics.

Physical Properties :

Sl No.	Property	Fe550	Fe550D
1.	0.2% Proofstress, Yield stress Min : N/mm^2	550	600
2.	TS / YS ratio N/mm^2	≥1.06	≥1.10
3.	Ultimate tensile strength N/mm^2	585	565
4.	Elongation % Min	10	16

Chemical Properties :

SlNo.	Constitent	% Maximum	
		Fe550	Fe550D
1.	Carbon	0.30	0.25
2.	Sulphur	0.055	0.040
3.	Phosphorous	0.050	0.040
4.	Sulphur & Phosphorous	0.100	0.075

The criteria for selection of the Mild steel & TMT bars shall be as per Ministry of Road Transport & Highways circular dated 12-02-2021.

Appendix – IV Classification of Class A, B & C for procurement of New Furnitures

Appendix – IV Classification of Class A, B & C for procurement of New Furnitures

Sl No	Class Designation	City	Range of Furniture Rs.	Designations
1.	Class A	Tier I	Upto 10 lakhs	Ministerial Posts, VVIPs, VIPs, ACS, High Court Judges & Principal secretaries.
2.	Class A	Tier I	Upto 5 lakhs	Other Judges, Secretaries & Class I Officers.
3.	Class A	Tier II & III	Upto 3 lakhs	Other Class I designated officers.
4.	Class B	Tier I	Upto 2 lakhs	Class II designated officers.
5.	Class B	Tier II & III	Upto 1.5 lakhs	Class II designated officers.
6.	Class C	Tier I	Upto 1.0 lakhs	Class III designated officials.
7.	Class C	Tier II & III	Upto 0.75 lakh	Class III designated officials.
8.	Others	Tier I	Upto 0.50 lakh	-
9.	Others	Tier II & III	Upto 0.40 lakh	-

Appendix – V Quality Control Lab Testing Rates

Sl No.	Material	Tests	Rate Rs.	Quantity of samples required for test**
1	Aggregate Coarse	Sieve Analysis	190.00	30-40 Kgs
		Specific Gravity	480.00	
		Bulk Density		
		Impact Value	360.00	
		Abrasion Value	460.00	
		Crushing Value	460.00	
		10% Fines Value	460.00	
		Partical finer than 75 microns	190.00	
		Stripping Value	190.00	
2	Aggregate Fine	Sieve Analysis	210.00	20- Kgs
		Specific Gravity	480.00	
		Bulk Density		
		Bulking & Moisture Content		
		Water Absorption		
		Partical finer than 75 microns	210.00	
		Fineness Modulus	190.00	
		Silt Content	190.00	
3	Bitumen	Specific Gravity	490.00	3 Kgs
		Flash point	490.00	
		Fire point		
		Softening Point	490.00	
		Penetration	490.00	
		Ductility	605.00	

4	Bitumenious Concrete / Mix	Job mix (BM/DBM/BC/ SDBC)	5470.00	Bitumen 5 kg Aggregate each 1 bag
		Sieve Analysis	190.00	
		Impact Value	360.00	
		Abrasion Value	460.00	
		Flakiness & Elongation Index	480.00	
		Water Absorption		
		Density		
		Stripping Value	190.00	
5	Bricks	Water Absorption	180.00	1 No for each test
		Compressive Strength	450.00	
		Efflorescence	210.00	
		Dimensional Analysis	100.00	
6	Cement			
		Consistency	220.00	10 kgs
		Initial & Final Setting time	360.00	
		Fineness	150.00	
		Soundness	220.00	
		Compressive Strength	1000.00	
7	Cement Mortar	Proportion / Cement Content	415.00	2 kgs
8	Concrete Cubes	Compressive Strength	415.00	set of 3 nos
9	Concrete Blocks (Solid/Hollow)	Compressive Strength	600.00	1 No for each test
		Water Asorption	250.00	
10	Concrete Core	Concrete core extraction including Profometer test	1300.00	1 No

		Concrete core extraction without Profometer test	1000.00	1 No
		Compressive Strength with capping	750.00	1 No
11	Concrete Design Mix	Concrete Mix Design (Curing Method)	5400.00	Cement 1 bag Aggregate each 2 bags, Admixure 500ml
		Accelarated Curing Test (ACT Method)	6700.00	
13	Granular Sub Base (GSB)	GSB Mix design	3185.00	20 kgs
		Sieve Analysis	575.00	
		Water Absorption	3185.00	
		10% Fines Value		
		Liquid & Plastic limits		
		Impact Value		
		Abrasion Value		
		Modified Compaction		
		Soaked CBR		
16	Non Destructive Testing	Ultrasonic pulse velocity test	450.00	For 10 members (LS)
		Ultrasonic pulse velocity test	450.00	Additional per member Beyond 10 members
		Rebound Hammer	300.00	For 10 members (LS)
		Rebound Hammer	300.00	Additional per member Beyond 10 members
17	Pavers Block	Water Absorption	160.00	6 Nos
		Compressive Strength	200.00	

18	Reinforcing Steel	Physical properties up to 20mm	650.00	3 Nos of 1 mtr length
		Physical properties Mora than 20mm	700.00	
21	Soil Test (LAB)	Sieve Analysis	335.00	25 Kgs
		Liquid & Plastic limits	605.00	
		Standard Compaction (OMC&MDD)	400.00	
		Modified Compaction (OMC&MDD)	400.00	
		Soaked CBR	950.00	
		Specific gravity	270.00	
		Field Density test (Core cutter)	335.00	
		Field Density test (Sand Replacement)	335.00	
		Differential free swell Index	200.00	
		Hydrometer	505.00	
		Unconfined Compressive Strength (UCC)	-	
		Permeability	975.00	
		Direct Shear Test	-	
		Shrinkage Limit	605.00	
		Swelling Pressure	800.00	
		Triaxial Shear test	1860.00	
		Consolidation	805.00	
25	Tiles-Clay	Breaking Load	380.00	1 No for each test
		Water Absorption	180.00	
26	Wet Mix Macadam (WMM)	WMM Mix design	2595.00	20 kgs
		Sieve Analysis	575.00	

		Water Absorption	2595.00	
		Impact Value		
		Abrasion Value		
		Liquid & Plastic limits		
		Flakiness & Elongation Index		
		Modified Compaction		
27	Water Bound Macadam (WBM)	Sieve Analysis	575.00	20 kgs
		Impact Value	360.00	
		Abrasion Value	460.00	
		Liquid & Plastic limits	-	
		Water Absorption	480.00	
28	Wood	Moisture Content	-	1 No
29	Water	Drinking purpose	200.00	2 Ltr
30	Mineral Admixtures / Cement Substitutes	Consistency Fineness Soundness Slag Activity Index Glass Content	2500.00	1 No
31	Initial Vertical Pile Load Test	For 1000mm dia. Pile, having pile capacity of 550 t Reaction load -1719 t	7,50,000.00	
		For 1200mm dia. Pile, having pile capacity of 750 t, Reaction load -2344 t	8,50,000.00	
		For 1500mm dia. Pile, having pile capacity of 1000 t, Reaction load - 3125 t	10,00,000.00	

32	Initial lateral Pile load test	For 1000mm dia. Pile, having pile capacity of 30 t	50,000.00	
		For 1200mm dia. Pile, having pile capacity of 40 t	50,000.00	
		For 1500mm dia. Pile, having pile capacity of 65 t	65,000.00	
33	Initial pullout test of pile	Per test	2,40,000.00	
34	Static routine vertical Pile load test	For 1000mm dia Pile, having pile capacity of more than 400 t upto 1030 t	7,50,000.00	
		For 1200mm dia Pile, having pile capacity of more than 500 t upto 1406 t	8,50,000.00	
		For 1500mm dia Pile, having pile capacity of more than 800 t upto 1875 t	10,00,000.00	
35	Static routine lateral Pile load test	For 1000mm dia. Pile, having pile capacity of 20 t to 30 t	50,000.00	
		For 1200mm dia. Pile, having pile capacity of 25 t to 40 t	50,000.00	
		For 1500mm dia. Pile, having pile capacity of 45 t to 65 t	65,000.00	
36	Dynamic Pile load test	For 1000mm dia. Pile as per ASTM 4945 Section 08	1,00,000.00	
		For 1200mm dia. Pile as per ASTM 4945 Section 08	1,00,000.00	
		For 1500mm dia. Pile as per ASTM 4945 Section 08	1,00,000.00	

37	Ultrasonic Cross Hole Test on pile	Per test	6,000.00	
38	Integrity testing of Pile	Per test	1,000.00	
39	Plate load test	Per test	55,000.00	
1	** Minimum number of samples required for each test, refer sampling criteria as per Indian Standards			
2	*All rates are exclusive of GST.*			

Appendix – VI Surveying

Sl. No.	Description	Unit	Rate ₹
1	Fixing chainage Stone /Bench mark Stone / Center Stone / Apex Stone in earth and all sorts of soil and soft murum including conveying excavated material, fixing stone, including paintaining lettering numbers and back filling etc. complete.	Nos.	175.00
2	Taking the trial pit for roads, alignment, C.D. Works in earth soil of all sorts, sands gravel or soft murum, including stacking the excavated material including all lifts and necessary back filling upto depth 1.5 m	m^3	450.00
3	Taking the trial pit for roads, alignment, C.D. Works in earth soil of all sorts, sands gravel, or soft murum, including stacking the excavated material including all lifts and necessary back filling upto depth 3.0 m	m^3	490.00
4	Taking the trial pit for roads, alignment, C.D. Works in Hard murum, including stacking the excavated material including all lifts and necessary back filling upto depth 1.5 m	m^3	590.00
5	Taking the trial pit for roads, alignment, C.D. Works in Hard murum, including stacking the excavated material including all lifts and necessary back filling upto depth 3.0 m	m^3	660.00
6	Taking the trial pit for roads, alignment, C.D. Works in Hard murum, and Boulders including stacking the excavated material including all lifts and necessary back filling upto depth 1.5 m	m^3	730.00
7	Taking the trial pit for roads, alignment, C.D. Works in Hard murum, and Boulders including stacking the excavated material including all lifts and necessary back filling upto depth 3.0 m	m^3	930.00
8	Fixing survey pegs in earth and all sorts Soil, Sand, Gravel, Soft Murum, etc. including conveying, fixing etc. complete.	Nos.	10.00
9	Reconnaisance Survey of Road alignment in plain country including taking three dimensions of apexes, verification of type of land etc. alongwith the alignment etc. complete (Without Chaining).	km	2000.00

Sl. No.	Description	Unit	Rate ₹
10	Reconnaisance Survey of Road alignment in plain country including taking three dimensions of apexes, verification of type of land etc. alongwith the alignment etc. complete (With Chaining).	km	5100.00
11	Reconnaissance Survey of a road alignment for new hilly road utilising exsisting forest cart tracks with use of ghat tracer (if found necessary), taking three dimensions of apexes including verification of type of land etc. complete. (Without Chaining)	km	5420.00
12	Reconnaissance Survey of road alignment for new hilly road utilising exsisting forest cart tracks with use of ghat tracer (if found necessary), taking three dimensions of apexes including verification of type of land etc. complete. (With Chaining)	km	5200.00
13	Reconnaissance Survey of road alignment in hilly road utilising exsisting forest cart tracks with use of ghat tracer (if found necessary), taking three dimensions of apexes including verification of type of land etc. complete. (Without Chaining) .	km	2880.00
14	Reconnaissance Survey of road alignment in hilly road utilising existing forest cart tracks with use of ghat tracer (if found necessary), taking three dimensions of apexes including verification of type of land etc. complete. (With Chaining) .	km	5570.00
15	Detailed survey of road in plain country including chaining and levelling with cross sections at every two chains inclusive of closing of survey each day.	km	6090.00
16	Detailed survey of road length where earthwork is partly done including chaining and levelling with cross sections at every two chains inclusive of closing survey each day.	km	5850.00
17	Detailed survey of road through hilly country taking cross section at every chains or as required including chaining, levelling and closing survey each day.	km	9340.00
18	Detailed survey of road through hilly country taking cross section at every chains as desired including chaining, levelling and closing survey each day utilising existing cart track.	km	7400.00

Sl. No.	Description	Unit	Rate ₹
19	Providing and Fixing Wooden survey pegs including White washing etc. complete.	km	45.00
20	Carrying out catchment area traverse survey of minor stream (not traceable in toposheet) below 100 acres	km	3310.00
21	Cutting down branches of trees, bushes etc. stacking the material neatly as directed (For Motarable Road)	km	7640.00
22	Providing detailed layout plan of area in scale 1:500 including carrying out contour survey and detailed Engineering plane table Survey with the help of 24 Alidade. The dolomite area measurement of the plot and structures, trees, over head line and under ground service amenities within the area, with triangular method and giving detailes of the structures, such as total area, type of building and distance from all corners taking trial pit 0.5x0.5x2.00 m.-2 Nos. per acre and collection of record from city survey / D.I.L.R. authorities and authentication. The plan shall be traced on 75 micron polyster film and shall be submitted along with three Amonia prints. The contour levels shall be marked at 0.5 m intervals. Note:- The items includes- 1)Traversing work with theodolite and steel tape. 2) Levelling Grid Work of the terrain. 3)Detailed Engineering Survey and contouring work of the terrain. 4) Plotting work. 5) Collection of Record. a) up to 1 Acre	h	8400.00
23	Providing detailed layout plan of area in scale 1:500 including carrying out contour survey and detailed Engineering plane table Survey with the help of 24' Alidade. The dolomite area measurement of the plot and structures, trees, over head line and under ground service amenities within the area, with triagular method and giving detailes of the structures, such as total area, type of building and distance from all corners taking trial pit 0.5x0.5x2.00 m.-2Nos. per acre and collection of record from city survey / D.I.L.R. authorities and authentication. The plan shall be traced on 75 micron polyster film and shall be submitted along with three Amonia prints. The contour levels shall be marked at 0.5 Meter intervals. Note:- The items includes- 1)Traversing work with theodolite and steel tape. 2) Levelling Grid Work of the terrain. 3)Detailed Engineering Survey and contouring work of the terrain. 4)Plotting work. 5) Collection of Record. b) Above 1 Acre	h	8500.00

Sl. No.	Description	Unit	Rate ₹
24	Reconnaisance survey including study of sheets, maps etc. for alignment including 3 dimension of apexes, fixing pegs, chain and compass or cross staff survey with L-Section and cross section of alignment at every 30 m or at every change of deviation whichever is less including fly levels at closing of day, fixing apex and B.M. stones of size 0.20*0.20*0.75 m in 1:2:4 C.C. at every 200 m and preparation of alignment plans and all type of compliance if required from department.	km	28000.00
25	Preparation of detailed Plans and Estimates of road including typing in 5 copies, ammonia prints, with colouring of plans, proper filing, indexing and paging etc. complete and all types of compliance, if required from Department.	km	15400.00
26	Survey of C.D. works including taking L-section of Road, catchment area plan by Traverse method and taking trial pits of size 1.00x1.00x1.50 m including preparation of detailed Plans and Estimates in 5 copies and all types of compliance if required from the Department.	Nos.	15500.00
27	Survey of Minor bridge including taking L section of existing road and two defined cross sections ,one of U/s and one of D/s, one vergin cross section on alternate proposed cross sections and bed slope of stream upto sufficient long distance as required with chain and compass. Taking three trial pits of size 1.00x1.00x3.0 m and collecting samples of materials at site for ascertaining the silt factor, unit weight test, specific gravity from Govt. approved laboratories(testing charges to be borne by the agency) and preparation of detailed survey data, submission of the project duly typed and colouring of the ammonia prints, site plan and other drawings etc. complete if required from the Department.	Nos.	59000.00
28	Survey of major bridge including taking L-section of existing road two defined cross -sections (one at U/S and one at D/s) and one vergin cross section on alternate proposed cross sections and bed slope of stream upto sufficient long distance as required with chain and compass.Taking 5 trial pits, three in bed, two on banks of size 2.00x2.00x3.00 m for collecting samples of materials at site for ascertaining the silt factor, unit weight test, specific gravity from Govt. approved laboratories (testing charges to be borne by the agency) and preparation of detailed survey data, submission of the	m	1800.00

Sl. No.	Description	Unit	Rate ₹
	project duly typed and colouring of ammonia prints, site plan and other drawings etc.complete and all types of compliance if required from Department. (Excluding taking trial bores and contouring)		
29	Contour Survey of stream U/S and D/S of proposed bridge site including levelling at every 30 X 30 m preparing contour map with Autocad prints etc.complete in 5 sets.	m^2	98000.00
30	Survey of raised Causeway including reconnaissance, taking L section of existing road one defined one vergin one alternate proposed cross section and stream upto sufficient lengths with chain and compass taking two trial pits of size 2.00x2.00x3.00 m. collecting samples at site ascertaining silt factor and preparation of detailed survey data,submission of the project duly typed colouring of the ammonia prints,site plan and other drawing etc.complete if required from Deparetment.	Nos.	40000.00
31	Preparation of detailed plans and estimates of Raise Causeway on the basis of the approved detailed survey data by competent authority including typing in 5 copies ammonia prints site plan other drawings with colouring of plans proper filling indexing and paging etc.complete and all types of compliance if required from Department.	Nos.	9880.00
32	Complete survey of stream having catchment area upto 1 sq. mile including catchment survey taking necessary L.S./C.S. and other details etc. complete.	Nos.	8600.00
33	Complete survey of stream having catchment area above 1 sq. Mile and upto 5 sq. Miles including taking necessary L.S./C.S. and other details etc. complete.	Nos.	17950.00
34	Reconnaissance survey of alignment in plain country for approaches to the bridge including taking three dimensions of apexes. (Without chaining)	km	2155.00
35	Fly levelling for carrying out bench mark.	km	1740.00
36	Detailed survey of approaches including Chain and Compass survey along bridge alignment and approaches including closing each day work.	km	4440.00

Sl. No.	Description	Unit	Rate ₹
37	Taking longitudinal section of streams extending upstream and downstream side of the bridge site, requisite number of cross section of the stream on either sides block contouring and other details etc. complete. (Length of L.S. and C.S. for contouring to be worked out)	km	5370.00
38	Demarcation of right of way (ROW) as per design using total station including calculation of co-ordinates of 30 Meter interval on both sides of road.	km	9580.00
39	Preparation of Land Acquisition proposal including collection of 7/12 and 8/A documents marking alignment on village maps , area calculation, preparation of proposal, printing,binding, etc. complete and submission of 5 sets more ever liasoning and coordination with revenue authorities with compliance if any until finalisation of award including Joint measurement of the alignment. (For new alignment)	km	17900.00
40	Preparation of Land Acquisition proposal including collection of 7/12 and 8/A documents marking alignment on village maps , area calculation, preparation of proposal, printing,bindind, etc. complete and submission of 5 sets more ever liasoning and coordination with revenue authorities with compliance if any until finalisation of award including Joint measurement of the alignment. For existing alignment.	km	17450.00
41	Carrying of detailed topographic survey by using total station along the existing or new road including taking L-section and cross section at every 30 meter ROW ,taking at least 10 spot levels per cross section, picking up all existing details inside the Row like electric telephone line , encroachments, structures etc. connecting all the primary total station control points by G.I.S.Bench marks level or whichever available with department using auto level and preparing Auto CAD plan by using above data taking out 1 set of black and white printout on 50 micron polyster film sheet A2 size and 2 sets of coloured printout on A2 size submitting soft copy all data on CD. (Plain Terrain New Alignment)	km	45000.00
42	Carrying of detailed topographic survey by using total station along the existing or new road including taking L-section and cross section at every 30 meter ROW, taking	km	42000.00

Sl. No.	Description	Unit	Rate ₹
	at least 10 spot levels per cross section, picking up all existing details inside the Row like electric telephone line, encroachments, structures etc. connecting all the primary total station control points by G.I.S.Bench marks level or whichever available with department using auto level and preparing Auto CAD plan by using above data taking out 1 set of black and white printout on 50 micron polyster film sheet A2 size and 2 sets of coloured printout on A2 size submitting soft copy all data on CD. Plain Terrain Existing Alignment.		
43	Demarcation of Road boundry (ROW) including fixing the boundry stones of standard size and shape including fixing in block of standard size of C.C. of 1:4:8 white washing at 30 M interval on both sides	km	39400.00
44	Taking trial bores 75 to 100 mm for 53.0 to 88.9 mm core dia over burden (by diamond drilling machine) such as soil of all sorts, soft murum,hard murum and boulders and in soft rock including all materials such as casing pipes and accessories oil, grease, steel, rods, and such other materials as required (including conveying the material to site of work) . Preserving the loose sample in glass jar and core sample serially on site of work and conveying the same to HQ of concerning office as directed. a) over burden 0 to 50 m.	m	2085.00
45	Taking trial bores 75 to 100 mm for 53.0 to 88.9 mm core dia in rocks as specified below including all necessary materials such as oil, grease, steel boostan and such other materials as required (including conveying the material to site of work) and Preserving the core sample serially on site of work and conveying the same to HQ of concernring office as directed. Quartzite with diamond drill with Nx Bit 0 to 50 m.	m	6780.00
46	Taking trial bores 75 to 100 mm for 53.0 to 88.9 mm core dia in rocks as specified below including all necessary materials such as oil,grease,steel boostan and such other materials as required (including conveying the material to site of work) and Preserving the core sample serially on site of work and conveying the same to HQ of concernring office as directed. Quartzite with diamond drill with Ax Bit 0 to 50 m.	m	4090.00

Sl. No.	Description	Unit	Rate ₹
47	Taking trial bores 75 to 100 mm for 53.0 to 88.9 mm core dia in rocks as specified below including all necessary materials such as oil,grease,steel boostan and such other materials as required (including conveying the material to site of work) and Preserving the core sample serially on site of work and conveying the same to HQ of concernring office as directed. Other Rock with diamond drill. 0 to 50 m.	m	3880.00
48	Providing tun tappa core boxes of jungle wood of size1.25mx 0.35x 0.15m for preserving core sample with all fixtures and fastening handles including locking arrangment etc . complete.	Nos.	5205.00
49	Providing and maintaining temparory platform of bore location in river bed in upto 1M of standing water and of size 3.50 x 4.00 m by using sand bags in layer for platform including all required materials labours etc. complete.	Nos.	12290.00
50	Providing and maintaining temporary platform for erecting boring machined in river bed to the depth of standing water 1m to 2m and of size 3.50 x 4.00 M by using 20 Nos. of M.S. empty barrels in M.S. frame made of M.S. angle size 50 x 50 x 5 mm with fabrication and over it a jungle wood planks platform of size 3.50 x 4.00 x 0.03 m size including supplying of nylon rope 24 mm dia. for anchoring platform include passage platform and enganging a labour etc. complete. 1 m to 2 m	Nos.	20000.00
51	Providing and maintaining temparory platform for erecting boring machined in river bed to the depth of standing water 2 m and above and of size 3.50 x 4.00 M by using 20 Nos. of M.S. empty barrels in M.S. frame made of M.S. angle size 50 x 50 x 5 mm with fabrication and over it a jungle wood planks platform of size 3.50 x 4.00 x 0.03 m size including supplying of nylon rope 24 mm dia. for anchoring platform include passage platform and enganging a labour etc. complete. 2 m and Above.	Nos.	20600.00

Sl. No.	Description	Unit	Rate ₹
52	Providing and maintaining temparory platform for inspection from one bank to another bank of bore location in river bed in all depth of standing water of size 1.30 x 2.00 M by using 4 Nos. of M.S. empty barrels in M.S. frame made of M.S. angle size 50 x 50 x 5 mm with fabrication and over it a jungle wood planks platform of size 1.30 x 2.00 x 0.03 m size including supplying of nylon rope 24 mm dia. and 300 M length of movement of platform enganging a labour on inspection days etc. complete.	Nos.	19200.00
53	Conveying the boring machine and engine and all its accessories etc. to the site of the work and back including loading unloading etc. complete. (Note - Distance to be measured from the station of boring machine engine etc. of district head quarters to site of the work by short route).	km	80.00
54	Shifting boring plant with all its components and reinstalling the same at the directed place including all its charges etc. complete.	Shift	8500.00
55	Providing detailed reports of the inspection logging of drilled hole by observing visual description of data as per depth, thickness of layer, type of sample, wash sample, bore recovery type of drill etc. complete.	Nos.	9600.00
56	Providing detailed geological reports of proposed site by maintaining geotechnical investigation of structure stratification collecting soil, rock and ground water samples for laboratory tests to arrive the foundation design parameters. Rock properties such as type of rock, jointing fractures, etc. complete with suggestion about the site foundation and remedies.	Report	38720.00
57	Geometrical design of road horizontal and vertical curves for design speed specified by IRC including carrying out trail for optimising of civil cost minimising land acquisition and maximum use of existing facility and preparation of widening arrangement drawing for insisting structures stake out date for horizontal alignment and working levels including super elevation effect etc. complete.	km	12300.00

Sl. No.	Description	Unit	Rate ₹
58	Transfering and taking out design on coordinates of baseline on ground using nails for exsisting road surfaces and survey pegs for new alignments including taking out coordinates for horizontal curves at required interval of 50 m etc. complete. (Extra line such as right of way median edges to toe line not included).	km	12400.00
59	Preparation of roadway, drawing (Plan And Profile) on computer by using Autocad of required scale showing all topo feature and proposed construction details such as carriage way, median service road, toe line, retaining walls, cross drainage works, major structures, etc. complete. Including indexing, level tables, legend, basic information of project and design details etc.	km	10400.00
60	Preparation of Engineering drawing as strip plan, widening scheme, index / key map, typical cross section, retaining walls, road furniture, general arrangement drawings for bus bays / truck lay-bays / rest areas / toll plaza / booths / and type drawing of pipe/ slab drains etc. on computer using Auto CAD.	km	9300.00
61	Survey of C.D. works including taking L-Section of road, catchment area plan by Traverse method and taking trial pits of size 1.50 x 1.50 x 1.50 m including preparation of detailed plans and estimates in 5 copies and all types of compliance if required from the department.	Nos.	9500.00
62	Design of junctions including detail layout of traffic signs, informatory boards traffic islands. Breaks in median verge including working levels at junctions as per IRC standards etc. complete. a) Major Junction	Nos.	28700.00
63	Design of junctions including detail layout of traffic signs, informatory boards traffic islands. Breaks in median verge including working levels at junctions as per IRC standards etc. complete. b) Minor Junction	Nos.	16300.00
64	Preparaion of initial design of flyovers with preparing General Arrangement drawing with dimensions etc. complete and preparation of rough estimate for all components of bridge. Including supplying four copies of coloured drawings and copy of drawing on C.D. (excluding geotechnical and structural design part.)	m	770.00

Sl. No.	Description	Unit	Rate ₹
65	Preparation of draft / Final Report comprising of technical, financial economic feasibility and environmental aspects of the project including executive summary and detailed chapters on necessity and introduction of project existing and future traffic, design philosophy scope of work, summary of available cost estimates justification for rates adopted, key points of execution, salient features of the project, location of toll plaza, toll rate / policy to be adopted and specification of major construction items etc. in 8 copies having attractive cover and binding s directed by engineer in charge etc. complete.	Nos.	279000.00
66	Preparation of Autocad drawing with colour print for Building / Bridge / Road/ CD Works in required size etc. complete. - A-0 Size	Nos.	4700.00
67	Preparation of Autocad drawing with colour print for Building / Bridge / Road/ CD Works in required size etc. complete. A-1 Size	Nos.	3800.00
69	Preparation of Autocad drawing with colour print for Building / Bridge / Road/ CD Works in required size etc. complete. A-2 Size	Nos.	2900.00
70	Autocad drawing with colour print out for Building / Bridge / Road/ CD Works in required size etc. complete. A-0 Size	Nos.	145.00
71	Autocad drawing with colour print out for Building / Bridge / Road/ CD Works in required size etc. complete. A-1 Size	Nos.	100.00
72	Autocad drawing with colour print out for Building / Bridge / Road/ CD Works in required size etc. complete. A-2 Size	Nos.	45.00
73	Autocad drawing with colour print out for Building / Bridge / Road/ CD Works in required size etc. complete. A-3 Size	Nos.	20.00
74	Autocad drawing with colour print out for Building / Bridge / Road/ CD Works in required size etc. complete. A-4 Size	Nos.	10.00

Sl. No.	Description	Unit	Rate ₹
75	Deploying Automated Traffic Count and classification system on Road (Two Lane) in both direction at designated traffic count post by using High Definition Cameras..Collecting the Non Editable Data In DVR System with necessary electronic and electrical arrangements or inventor of required capacity Classification of data as per vehicle category as required with the help of software and submitting the the reports to the concerned department in hard copies as well as in soft copy, including using necessary technical manpower etc. complete. A) Up to 7 Days (Two Lane)	day	33500.00
76	Providing of Jeep/vehicle for conveying survey material, Engineers, labours etc. complete	day	3500.00
77	Scanning, digitisation & Geo-referencing of Cadastral/revenus maps and interpretation of all existing features like building, water bodies, rivers, agricultural fields etc to generate map. Creation of G/S plat form by using Ortho redified images nd revenu date by linking of textual date.	km^2	4000.00
78	**Drone Survey charges** **(Approved as per Letter No. PWD:104:PRAMC:2022-23:73:DATED 19-05-2023)**		

Sl No	Stage of Work	Description of Work	Unit	Price Rs.
1	**Drone Technology Charges**	Running Charges for LiDAR	1	8000.00
2		Running Charges for RGB	1	4000.00
3		Pilot Operational cost	1	200.00
4		Technical Charges	1	100.00
5		Maintenance Charges	1	700.00
6		Servicing Charges	1	150.00
7		Insurance & Coverage	1	10.00
			A	**13160.00**

Sl No	Stage of Work	Description of Work	Unit	Price Rs.
1	**Drone Data Processing Charges**	Processing Software	1	1700.00
2		Hardware & server storage cost	1	1500.00
3		Data Engineer for Processing the drone data and Digitizing Revenue data	1	900.00
4		Engineer for Geo-referencing & ground work	1	550.00
5		Printing & Paper Tariff (Including printing in A3 size paper)	1	19.00
			B	**4669.00**
1	**DGPS Equipment Charges**	Equipment Running Charges	1	1750.00
2		Technical Staff for the operation of DGPS	1	96.00
3		DGPS Processing Charges	1	190.00
			C	**2036.00**
1	**Transportation Charges**	Vehicle Rental charges	1	25.00
2		Driver Charges	1	10.00
			D	**35.00**
		Cost per km (A+B+C+D)		**19900.00**

ACKNOWLEDGEMENT

R Jaiprasad
Chairman, Technical Working Group