

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

ORIGINAL APPLICATION NO 238 OF 2024

IN THE MATTER OF:-

**NEWS ITEM TITLED "UP GIVES PERMISSION TO FELL
112000 TREES FOR ROAD ALONG UPPER GANGA
CANAL", APPEARING IN 'HINDUSTAN TIMES' DATED
01.02.2024**

**AFFIDAVIT OF SPECIAL SECRETARY, PUBLIC WORK
DEPARTMENT STATE OF UTTAR PRADESH, IN COMPLIANCE
OF ORDER DATED 31.05.2024 PASSED BY THIS HON'BLE
TRIBUNAL**

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Date:21.06.2024

Place: New Delhi



[Dr. Vijendra Singh Mahndiyan]

Advocate-on-record

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**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

ORIGINAL APPLICATION NO 238 OF 2024

IN THE MATTER OF :-

NEWS ITEM TITLED "UP GIVES PERMISSION TO FELL 112000 TREES FOR ROAD ALONG UPPER GANGA CANAL", APPEARING IN 'HINDUSTAN TIMES' DATED 01.02.2024

**ADDITIONAL AFFIDAVIT OF SPECIAL SECRETARY,
PUBLIC WORK DEPARTMENT STATE OF UTTAR
PRADESH, IN COMPLIANCE OF ORDER DATED
31.05.2024 PASSED BY THIS HON'BLE TRIBUNAL**

I, SHIRESHNATH....., aged about 27... years,
S/o Sh. Munnilal.....,
presently posted as Special Secretary, Public Works
Department State Of Uttar Pradesh, the deponent, do hereby
solemnly state and affirm as under:

[Signature]



1. That the deponent herein is posted as the Special Secretary, Public Work Department State Of Uttar Pradesh since and is swearing this affidavit in his official capacity as the Special Secretary.
2. That the instant is the petition arising out of *Suo Moto* registration taken up by this Hon'ble Tribunal on the basis of news item titled as **"UP GIVES PERMISSION TO FELL 112000 TREES FOR ROAD ALONG UPPER GANGA CANAL"** instituting an O.A. No. 238 of 2024. This Hon'ble Tribunal *vide* its order dated 13.03.2024 issued notices to Respondent. The answering respondent submitted a report on 18.05.2024 before this Hon'ble Tribunal. It is pertinent to mention that this Hon'ble Tribunal directed to disclose as to whether the nature of the road is of National Highway or State Highway or any other type of road and also to produce the material on the basis of which roads are classified as such.
3. That affidavit dated 24.05.2024 and 30.05.2024 was filed on behalf of the answering respondent before this Hon'ble



Tribunal it stood disclosed that the nature of the road in question is 'Other District Road' (hereinafter referred to 'ODR'). It is pertinent to mention that land width for different classes of roads has been provided under clause 6.1.1 of Geometric Design Standard for Rural (Non-Urban) Highways published by Indian Road Congress 73-1980 (hereinafter referred to 'IRC'). It is of further relevance that the desirable range of Right Of Way (ROW) prescribed by IRC for ODR is 15-25 meters and the road herein under construction is also of ROW 15-20 Meters.

4. That it is most respectfully submitted that a decision was taken by the State of Uttar Pradesh through the Hon'ble Chief Minister of the state vide communication dated 07.07.2017 whereby the instructions were issued by the Hon'ble chief Minister for constructing Two lane (7mtrs wide) painted surface road at the right side of the upper Ganga Canal. It was submitted that the said decision was taken after due deliberation and application of mind in a meeting conducted on 29.06.2017 under the chair of the Hon'ble Chief Minister of the State of UP and a specific order



was passed for the preparation of the detailed project report. This hon'ble tribunal vide its order dated 31.05.2024 directed to place on record the complete project report which will reflect the nature of the road, and also to disclose if any authority exist in the State which classifies/notifies/declared the roads within the state as State Highway, District road or other District Road and if such authority exists, whether it has taken any decision to declare the stretch of road under consideration as State Highway, District road or other District Road. Hence, a copy of the detailed preliminary estimate (May also be termed as complete project report/detailed project report) dated 24.12.2019 prepared by the Zonal chief engineer Meerut zone duly reflecting the nature of the road is attached herewith and marked as **ANNEXURE-R6/1**. It is pertinent to mention that the nature of the road stands reflected on page number 87 under design pavement and also the nature of the road is proposed as an ODR on page number 106 of the said detailed project report under the head of pavement design.



5. It is submitted respectfully that the said Detailed project report (Preliminary Estimate) is the complete project report prepared by due application of mind by the respective Chief Engineers of Meerut & Saharanpur zone and also there are three respective superintendent Engineers of Saharanpur, Meerut & Bulandshahr (Ghaziabad comes under Bulandshahar) who applied their technical due diligence and authenticated the road project in hand. The project has also been analysed and examined at its root by undertaking field study through respective executive engineers of Muzaffarnagar Meerut and Ghaziabad districts who signed the project report.
6. It is deposed that the traffic census conducted by PWD on the existing road at the left side of the canal is also one of the parameters duly tested on the anvil of the necessity of another road and the same is made as part of said detailed preliminary estimate (please see page no. **90-105**). It is submitted that 14512 is the Passenger Car Unit (PCU) offspringing from the traffic census and it may safely be presumed that half of it (PCU) i.e. 7256 vehicles will be



diverted to the road under construction at various intersections. Furthermore, the said PCU 7256 qualifies as per PWD norms for construction of a road of width 7 meters bituminous.

7. The cost-benefit analysis of the road in question has also been the prime consideration by the competent technical authorities concluding thereby that the savings from the construction of the proposed road may be Rs. 1391 .86 crores (pg no ~~---~~³⁸ of DPR) and hence it may safely be observed that the road is being constructed in public interest and for common good at large.

8. That state government, after examining the proposed DPR, took conscious decision vide letter dated 23.12.2020 and accorded its administrative and financial sanction for the construction of road on the right side of the Ganga Canal. It is also of relevance that the sanction has been issued after taking various aspects into consideration relating to public interest, financial viability, technical as well as traffic



census. It has been ensured that minimum number of tree/plants are cut and adequate compensatory afforestation is done and also eco balance is maintained.

9. It is humbly submitted that competent authority vide letter dated 10.09.2007 and 17.10.2007 decided that the authority to upgrade the roads to ODR is the Zonal Chief Engineer. It is further submitted that the ROW range from 15-25mtrs is mandatory to be followed without any deviation as it has specifically been clarified by the authority that the maintaining of the technical criteria for ODR as given in IRC 73-1980 is a mandatory requirement . It is also stated that the upgradation of the classification of the road into a State highway is approved by the Hon'ble governor of the state in aid with the recommendation of the State government. It is also relevant to state that the proposal for the upgradation/ classification of the road into a state highway is done by the zonal chief engineer and the same is further forwarded by the engineer in chief -HOD to the state govt after due scrutiny of the proposal. It is further submitted that the approval for classifying/upgrading the road as a



Major District Road (MDR) is accorded by the state govt in pursuance of the recommendation by the high-powered committee duly constituted by the state on this behalf. It is the state Govt./authorities to make conscious and considered decisions to propose as which kind of road or highway is to be constructed after considering various reports surveys and other aspects of necessity there above. A copy of the said letter dated 10.09.2007 and 17.10.2007 is annexed herewith and marked as **ANNEXURE-R6/2 (Colly)**.

10. It is most respectfully submitted that in terms of para 2 of the policy in vogue for construction of road provides that the upgradation Orders for ODR is to be issued by Zonal Chief Engineer. A copy of the policy letter dated 12.12.2023 is annexed herewith and marked as **ANNEXURE-R6/3**.

11. It is stated that the road in question being constructed from Purkaji to Muradnagar is divided into three stretches



as it runs into three separate districts. And this is the reason for which, the road identification code shall be issued in three parts relating to each district. The same procedure has been followed regarding the existing road which has been constructed on the left side of the canal. It is pertinent to mention that the road identification codes for the existing road on the left side are UP09OD0044, UP07OD0052 and UP02OD0082 in respect of districts Ghaziabad, Meerut and Muzaffarnagar respectively. Since, the authorities to undertake the DPR make separate parts for each district that is Muzaffarnagar (Ch. 51.91 to 108.75), Meerut (Ch. 108.75 to 151.05), and Ghaziabad (Ch. 151.05 to 163.40),. However, all the aforesaid districts have since come administratively under the State of UP, thus studies, sanctions, approvals and other considerations have been applied collectively.

12. As regards the state of U P, it is submitted that the traffic coming from Haridwar towards Muradnagar via the existing road on the left side shall be diverted to the road under construction on the right side through traffic crossing



more than 20 in numbers and as such the traffic on both sides of the canal may be set at ease.

13. It is reiterated that the proposed category of the road in question as ODR in terms of detailed preliminary estimate has been approved by the competent authorities by considering various study, survey and census conducted by the concerned authorities.
14. It is deposed that the identification of the road shall be issued separately by allotting separate ID No. for each district but after the completion of the construction of the road. It is further clarified that the reason for issuance of road identification code after construction is that the salient features and specifications/details at each kilometre are lineated only after the completion of the road.
15. It is submitted that the competent authorities has drawn the typical cross section for the new construction of the road. A copy of the Line diagram in respect of District Muzaffarnagar, Meerut & Ghaziabad along with a typical cross section for the existing road at the left side and the



road under construction is annexed herewith as
ANNEXURE R-6/4 (COLLY.).

16. That the deponent further undertakes before this Hon'ble Tribunal that the order passed by this Hon'ble Tribunal will be complied with in letter and spirit and will further undertake all such preventive measures to preserve the environment in the course of construction of the aforesaid project.



[Handwritten Signature]

DEPONENT

VERIFICATION:-

I, the above named deponent to hereby verify that the contents of this affidavit are true and correct to my knowledge, no para of it is false and nothing material has been concealed there from.

Verified by me on this the20th... day of June, 2024, at

...Lucknow...

[Handwritten Signature]

DEPONENT

कृपण सं० 0174754
द्वारा शपथ की गई शेषनाथ, विशेष सचिव, लोक निर्माण विभाग उ० प्रशासन ।
जिनका परिचय विनोद कुमार स.अ. " " " " " "
दिनांक 20.06.24 08:00 PM
वाच संख्या Original Application No. 238 of 2024
पत्रकार स्व. सज्जन
न्यायालय राष्ट्रीय हॉटेल न्यायाधिकरण नई दिल्ली ।
की फीस पत्तली नहीं

20.06.24
(विनोद कुमार)
समोक्षा अधिकारी,
लोक निर्माण विभाग

1-IDENTIFY THE DEPONENT
WHO HAS SIGNED BEFORE ME.

[Handwritten Signature]
20.06.24
ब्रह्मानन्द मिश्र
शपथ आयुक्त एवं अनुमान अधिकारी,
न्याय अनुसंधान-३
उत्तराखण्ड सरकार ।

कार्यालय मुख्य अभियन्ता मेरठ क्षेत्र, लोक निर्माण विभाग मेरठ।

E-mail : cewzpwdmrt@gmail.com

Phone : 0121-2647922, 2648556

पत्रांक :- 755 नि० / 01मे०क्ष०-(मा०मु०घो० कावड मार्ग) / 2019

दिनांक:- 24/12.2019

सेवा में,

मुख्य अभियन्ता (मु०-1)
कार्यालय प्रमुख अभियन्ता
उ०प्र० लो०नि०वि०, लखनऊ।

विषय:- मा० मुख्यमंत्री जी की घोषणा के कम्प्यूटर क्रमांक-GH11Y000154, घोषणा संख्या-Y.A.N.-17/2018 घोषणा दिनांक-28.05.2018 के जनपद मुजफ्फरनगर/गाजियाबाद/मेरठ में वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण कार्य (चैनेज 151.910 से 163.400) के प्रारम्भिक आगणन प्रेषण के सम्बन्ध में।

.....

महोदय,

उपरोक्त विषयक चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण कार्य (चैनेज 151.910 से 163.400) से सम्बन्धित कार्य का आगणन इस कार्यालय को उपलब्ध कराया है जो तीन-तीन प्रतियों में संलग्न कर अग्रिम आवश्यक कार्यवाही हेतु प्रेषित है :-

क्र० सं०	जनपद का नाम	कार्य का नाम	लम्बाई (कि०मी०)	दायी पटरी की लागत (लाख रू०)
1	मुजफ्फरनगर/मेरठ/गाजियाबाद	जनपद मुजफ्फरनगर/गाजियाबाद/मेरठ में वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण कार्य (चैनेज 151.910 से 163.400) कार्य	111.49	69478.54

संलग्न-आगणन तीन-तीन प्रतियों में।


(राजपाल सिंह)

मुख्य अभियन्ता (मे०क्ष०)
लोक निर्माण विभाग, मेरठ।

प्रतिलिपि अधीक्षण अभियन्ता मेरठ/बुलन्दशहर/सहारनपुर वृत्त लो०नि०वि०, मेरठ/बुलन्दशहर/सहारनपुर को उक्त के संदर्भ में सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।


मुख्य अभियन्ता (मे०क्ष०)
लोक निर्माण विभाग, मेरठ।

लोक निर्माण विभाग



मा० मुख्यमंत्री जी की घोषणा के कम्प्यूटर क्रमांक—GH11Y000154, घोषणा सं०—Y.A.N.-
17/2018 घोषणा दिनांक 28.05.2018

प्रारम्भिक आगणन

वर्ष 2019-20

कार्य का नाम :- कार्य का नाम :- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह
कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।

जिला	मार्ग की लम्बाई (कि०मी० में)	कार्य की लागत (रु० लाख में)
मुजफ्फरनगर (चै० 51.910 से 108.750)	56.840	32625.63 32332.21 34091.41
मेरठ (चै० 108.750 से 151.050)	42.300	25682.80 24307.54
गाजियाबाद (चै० 151.050 से 163.400)	12.350	9704.34 8902.70
योग	111.490	68012.78

Cost per km

587.87
610.035

69478.54 65542.45

चैकिंग परफोर्मा

PERFORMA FOR CHECKING OF ESTIMATE

1. **Report :**
 - a. Proper reference have been quoted and attached to the estimate with copies.
 - b. In case of revised Estimate the amount of excess has been given itemwise in the comparative statement with detailed reason.
 - c. Signature of A.E., E.E. and S.E. exists.
2. **Specifications :**
 - a. Detailed specifications for each item of work are included in the estimate.
 - b. Signature of A.E., E.E. and S.E. exists.
3. **Design :**
 - a. These have been prepared as per standard practice and CE's instructions.
 - b. Each design has been signed by A.E., E.E. and well as in the important designs by the S.E.
4. **Analysis of Rate :**
 - a. Rate for non schedule items have been based on the prevailing market rates and rate for schedule items are as per approved one.
 - b. Each analysis has been signed by the J.E., A.E., E.E. and S.E. in the end.
5. **Details of Measurements :**

Each page has been signed by the J.E. the signatures of A.E., E.E. exist in end of each set.
6. **Bill of Quantities :**

Each page bears signature of J.E., A.E., E.E. and S.E. at the end of each set.
7. **Summary of Estimate Cost :**

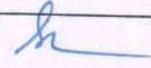
These have been signed by the J.E., A.E., E.E. and S.E.
8. **Plans :**

This has been signed by J.E., A.E., E.E. and S.E.
9. **General :**
 - a. Names designation should exist below all signatures and corrections initiated.
 - b. Each page of design analysis of rate detail of measurements bill of quantity and summary of estimated cost should be certified, checked and corrected by Divisional and Circle Office, Computer with the signature and seal.
 - c. The signature of local head of deptt. should exist on report specification summary of estimated cost and plans.

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	Details of Measurement	
	Bill of Quantity	
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8(B) (Meerut)	Analysis of Rate	
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अधिकारियों की सूची

क्र० सं०	अधिकारियों के नाम	पदनाम	हस्ताक्षर
1	इ० आर०के० नौटियाल इ० विकास कुमार इ० रूपेन्द्र सिंह इ० संजय कुमार इ० प्रवीण कुमार	अवर अभियन्ता	  
2	इ० विजय कुमार इ० प्रवीण कुमार	सहायक अभियन्ता	
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कार्य का नाम :-

जनपद मुजफ्फरनगर, मेरठ एवं गाजियाबाद में वित्तीय वर्ष 2019-20 में अपर गंगनहर की दांयी पटरी मार्ग का निर्माण का कार्य (चैनेज 51.910 से 163.400 तक, कुल लम्बाई 111.490 किमी०)।

मार्ग की कुल लम्बाई	-	111.490 कि०मी०
मार्ग की प्रस्तावित लम्बाई	-	111.490 कि०मी०
मार्ग की श्रेणी	-
विगत नवीनीकरण का वर्ष	-
मार्ग का यूनिंक कोड	-

सन्दर्भ:-

मा० मुख्यमंत्री जी की घोषणा के कम्प्यूटर क्रमांक-GH11Y000154, घोषणा सं०-Y.A.N.-17/2018 घोषणा दिनांक 28.05.2018 एवं उ०प्र० शासन, लोक निर्माण अनुभाग-11 का पत्र सं०-1664ई०/23-11-2019 लखनऊ : दिनांक 26 नवम्बर, 2019

कार्य की उपयोगिता-

उपरोक्त मार्ग निर्माण कार्य का प्रारम्भिक आगणन मा० मुख्यमंत्री जी द्वारा काँवड नहर पटरी के दांयी और मार्ग निर्माण के सम्बन्ध में की गई घोषणा एवं उपरोक्त संदर्भित पत्रों के अनुपालन में गठित किया गया है।

पूर्व में उपरोक्त मार्ग का आगणन प्रमुख अभियन्ता, लोक निर्माण विभाग, लखनऊ के पत्रांक-1518नि०/116-01नि०/19-20 दिनांक 08.07.2019 के द्वारा शासन को दांयी पटरी पर वर्म (डोला) से 2.00 मी० छोड़कर 2 लेन मार्ग के निर्माण का आगणन प्रेषित किया गया था। उक्त परियोजना के सम्बन्ध में प्रमुख सचिव, लोक निर्माण विभाग की अध्यक्षता में दिनांक 19.07.2019 को हुई बैठक में सिंचाई विभाग एवं लोक निर्माण विभाग मुख्यालय के अधिकारियों के मध्य चर्चा में आया कि यदि नहर के दाहिनी ओर पर प्रस्तुत आगणन के अनुसार मार्ग का निर्माण किया जाता है तो अपर गंग नहर की शिल्ट सफाई हेतु पर्याप्त सर्विस रोड उपलब्ध न होने के कारण उक्त मार्ग क्षतिग्रस्त हो सकता है। सिंचाई विभाग द्वारा यह भी अवगत कराया गया कि अपर गंगनहर की दांयी ओर 60 मी० भूमि उपलब्ध है। पुनः प्रमुख सचिव, लोक निर्माण विभाग की अध्यक्षता में दि० 09.10.2019 को हुई बैठक में सिंचाई विभाग के प्रतिनिधि द्वारा अवगत कराया गया है कि दांयी पटरी पर 7.00 मी० सिंचाई विभाग की भूमि को छोड़कर निर्माण कार्य कराया जा सकता है।

उक्त के सम्बन्ध में युटिलिटी शिपिंग, बाधक वृक्षों के पातन, वृक्षारोपण, वृक्षों के छपान एवं प्रस्तावित भूमि के गैर वानिकी प्रयोग हेतु भूमि अधिग्रहण हेतु सम्बन्धित विभागों को डोले की टो से 7.00 मी० छोड़कर आगणन प्रेषित करने हेतु अनुरोध किया गया था।

प्रमुख अभियन्ता (विकास) एवं विभागाध्यक्ष, लोक निर्माण विभाग, लखनऊ के पत्रांक-2965नि०/सी० सामान्य/19-20 दिनांक 04.12.2019 के द्वारा दिये गये निर्देशों के क्रम में दिनांक 06.12.2019 से 12.12.2019 तक गंगनहर की बांयी पटरी पर पुनः यातायात गणना सम्पूर्ण वीडियोग्राफी सहित कराया गया।

अपर गंग नहर उत्तराखण्ड राज्य के जनपद हरिद्वार के बैराज स्थल से निकलकर जनपद मुजफ्फरनगर के पुरकाजी, जौली, खतौली, जनपद मेरठ के सरधना, जानी एवं जनपद गाजियाबाद के मुरादनगर होते हुए बुलन्दशहर की तरफ को जाती है। वर्तमान में काँवड नहर पटरी के बाईं ओर 7.00 मी० चौड़ाई में मार्ग निर्मित है। इस मार्ग का उपयोग राष्ट्रीय मार्ग-58 के वैकल्पिक मार्ग के रूप में होता है, साथ ही प्रत्येक वर्ष इस मार्ग से श्रावण मास में काँवड यात्रा के दौरान लाखों कावडियों/श्रद्धालुओं के द्वारा पैदल तथा हल्के वाहनों के द्वारा हरिद्वार से चलकर इस मार्ग से होते हुए अपने गन्तव्य स्थान दिल्ली, हरियाणा, राजस्थान व उत्तर प्रदेश के विभिन्न ग्रामों व शहरों को गंगाजल ले जाकर शिवालयों में जलाभिषेक करते हैं। काँवड यात्रा के समय कावडियों के आवागमन के दृष्टिगत बांयी पटरी पर सामान्य यातायात पूर्ण रूप से बन्द हो जाता है। राष्ट्रीय

मार्ग-58 पर यातायात के दबाव को कम करने के लिए अपर गंग नहर की दायी पटरी पर 7.00 मी0 चौड़े पक्के मार्ग का निर्माण कार्य कराया जाना नितान्त आवश्यक हो गया है। मार्ग निर्माण से श्रावण मास में तथा अन्य पर्वों पर काँवडियों/श्रद्धालुओं तथा अपर गंग नहर के दोनो तरफ पड़ने वाले अनेकों ग्रामवासियों एवं एन0एच0-58 पर गुजरने वाले यातायात को भी सुविधा होगी। गंगनहर की बांयी पटरी पर उत्तराखण्ड की सीमा पर जनपद मुजफ्फरनगर में 1.80 कि0मी0 लम्बाई में मार्ग का निर्माण शेष है, जिसका प्राविधान भी इस आगणन में कर लिया गया है।

प्रस्तावित मार्ग का विवरण

क्र0 सं0	जनपद का नाम	चैनेज		लम्बाई (कि0मी0 में)
		कहाँ से	कहाँ तक	
1	मुजफ्फरनगर	51.910	108.750	56.840
2	मेरठ	108.750	151.050	42.300
3	गाजियाबाद	151.050	163.400	12.350
	कुल लम्बाई (कि0मी0 में)			111.490
4	जनपद मुजफ्फरनगर की बांयी पटरी पर अवशेष लम्बाई में निर्माण	51.910	53.710	1.80

भूमि की उपलब्धता

— प्रस्तावित मार्ग की भूमि का स्वामित्व सिंचाई विभाग, मेरठ का है, जिसके सम्बन्ध में मुख्य अभियन्ता (गंगा), सिंचाई एवं जल संसाधन विभाग, उ0प्र0, मेरठ के पत्रांक-नि0 2616/मु0अ0गं0/कावंड सड़क दिनांक 21.12.2017 द्वारा डोले की टो से न्यूनतम 2.00 मी0 क्लीयर दूरी को छोड़कर अनापत्ति प्रमाण पत्र दिया गया है। सामान्यतः नहर के दांयी ओर लगभग 60.00 मी0 चौड़ाई में सिंचाई विभाग की भूमि उपलब्ध है, परन्तु एक स्थान पर फिर भी कुछ भाग में भूमि अधिग्रहण की आवश्यकता है। जिसका विवरण आगणन में दिया गया है।

वन विभाग सम्बन्धी आख्या—

प्रस्तावित मार्ग के संरक्षण में वन विभाग की संरक्षित भूमि पडती है। मार्ग के लिए आवश्यक बाधक वृक्षों के पातन एवं वृक्षारोपण आदि मदों का आगणन सम्बन्धित जनपदों के कार्यालय प्रभागीय निदेशक सामाजिक वानिकी प्रभाग से प्राप्त कर लिया गया है, जिसकी लागत रू0 4948.01 लाख है।

युटिलिटी शिफ्टिंग

— प्रस्तावित सड़क निर्माण हेतु विद्युत लाईन एवं पोल को शिफ्ट करने हेतु सम्बन्धित जनपदों के विद्युत विभाग से आगणन प्राप्त कर लिया गया है, जिसकी कुल लागत रू0 494.55 लाख है।

यातायात विवरण

— वर्तमान में मार्ग शून्य स्तर का मार्ग है। बांयी तरफ की पटरी पर किये गये यातायात गणना के अनुसार जनपद मुजफ्फरनगर में चैनेज 103.70 पर सी0सी0टी0वी0 लगाकर करायी गयी यातायात गणना अनुसार पी0सी0यू0-12702, सी0वी0पी0डी0-2023 आती है एवं जनपद मेरठ में चैनेज 124.800 पर पी0सी0यू0-16323, सी0वी0पी0डी0-2391 आती है। दोनों जनपद का औसत पी0सी0यू0-14512 एवं सी0वी0पी0डी0-2207 आता है। परिकल्पना में दांयी पटरी पर यातायात डिजाईन हेतु वर्तमान में बांयी पटरी पर यातायात गणना का 50 प्रतिशत (सी0वी0पी0डी0-1103) लिया गया है।

परिकल्पना – मिट्टी की सीबीआर (80th Percentile) 4.91 प्रतिशत है। मार्ग की डिजाइन लाइफ 15 वर्ष एवं यातायात 18.68 एम0एस0ए0 लेते हुए आई0आर0सी0-37, 2018 से प्रस्तावित मार्ग की परिकल्पना की गयी है। जिस आधार पर क्रस्ट विवरण निम्नवत है:-

जी0एस0बी0	-	200 एम0एम0
डब्लू0एम0एम0 सीमेन्टेड बेस (4% सीमेन्ट के साथ)-		100 एम0एम0
डब्लू0एम0एम0	-	100 एम0एम0
डी0जी0बी0एम0	-	50 एम0एम0
बी0सी0	-	30 एम0एम0
विशिष्टियाँ	-	MORTH के अनुसार

प्राविधान :- मार्ग की आवश्यकतानुसार नवनिर्माण हेतु इस प्रारम्भिक आगणन में न्यूनतम आवश्यकतानुसार निम्न प्राविधान किये गये है :-

1. तटबन्ध एवं पट्टी के निर्माण हेतु 3.00 कि0मी0 ढुलाई की मिट्टी का कार्य।
2. मार्ग की 7.30 मीटर चौड़ाई में 200 एम0एम0 मोटाई में जी0एस0बी0 का कार्य।
3. मार्ग की 7.00 मीटर चौड़ाई में 100 एम0एम0 मोटाई में डब्लू0एम0एम0 सीमेन्टेड बेस (4% सीमेन्ट के साथ) का कार्य।
4. मार्ग की 7.00 मीटर चौड़ाई में 100 एम0एम0 मोटाई में डब्लू0एम0एम0 का कार्य।
5. मार्ग की 7.00 मीटर चौड़ाई में 50 एम0एम0 मोटाई में डी0जी0बी0एम0 का कार्य।
6. मार्ग की 7.00 मीटर चौड़ाई में 30 एम0एम0 मोटाई में बी0सी0 का कार्य।
7. मार्ग के किनारे सिंचाई विभाग की 7.00 मी0 भूमि छोड़ते हुये पूर्ण लम्बाई में ड्रेन निर्माण का कार्य।
8. प्रत्येक कि0मी0 में आवश्यकतानुसार हयूम पाईप/आर0सी0सी0 कलवर्ट निर्माण का कार्य।

रोड सेफ्टी :- परिपत्र सं0 62 एवं 63 में निहित प्राविधानों के अनुसार रोड सेफ्टी हेतु इस आगणन में निम्न प्राविधान किये गये हैं :-

1. गंगनहर की प्रस्तावित दांयी पट्टी पर लेपित मार्ग के 3.00 मी0 से अधिक ऊँचाई के तटबन्ध पर डब्लू0बीम क्रैश बैरियर का कार्य।
2. गंग-नहर की बाईं पट्टी पर पूर्व निर्मित लेपित मार्ग की कैनाल की ओर अवशेष डब्लू0बीम क्रैश बैरियर का कार्य।
3. मार्ग पर आवश्यकतानुसार डेलीनेटर का कार्य।
4. मार्ग पर थर्मोप्लास्टिक पेन्ट से आवश्यकतानुसार रोड मार्किंग का कार्य।
5. मार्ग के आबादी भाग में ट्रैफिक कॉमिंग मेजर के अन्तर्गत स्पीड टेबिल, स्पीड लिमिट बोर्ड, रम्बल स्ट्रीप्स आदि का कार्य।
6. मार्ग पर आवश्यकतानुसार किलोमीटर एवं हैक्टोमीटर स्टोन का कार्य।
7. मार्ग पर आवश्यकतानुसार ओवर हैड, कैंटिलीवर बोर्ड एवं इन्फॉमेट्री साईन बोर्ड का कार्य।
8. मोडो पर आवश्यकतानुसार सेवरोन बोर्ड एवं कैट्स आईज आदि लगाने का कार्य।

अन्य विविध प्राविधान :- मार्ग की आवश्यकतानुसार अन्य विविध प्राविधान निम्नवत है :-

1. मार्ग के संरेखण में पड़ने वाले सिंचाई विभाग की पक्की संरचनाओं के पुनः निर्माण/विस्तारीकरण हेतु मुख्य अभियन्ता, सिंचाई एवं जल संसाधन, मेरठ के पत्रांक- नि01803 मुअगंगा/काव/हेवा दिनांक 24/11/19 के द्वारा कार्यों की कुल लागत ₹0 6514.46 लाख अवगत करायी गयी है, जिसका प्रस्तावित आगणन में समावेश कर लिया गया है।

2. मार्ग के संरक्षण में पड़ने वाले जनपद मुजफ्फरनगर में एन0एच0-58 बाईपास के ऊपर एवं रेलवे लाईन के ऊपर आर0ओ0वी0 निर्माण का कार्य एवं आयुक्त, मेरठ मण्डल, मेरठ द्वारा दिये गये निर्देशों के क्रम में गंगनहर बांयी पटरी को दांयी पटरी से जोड़ने वाले गंगनहर पर वर्तमान में संकरे/क्षतिग्रस्त एवं यातायात की दृष्टि से महत्वपूर्ण पुलों के नवनिर्माण के 9 सेतुओं के सम्बन्ध में उ0प्र0 राज्य सेतु निगम द्वारा कार्यों की लागत रू0 14913.23 लाख अवगत करायी गयी है, जिसका प्रस्तावित आगणन में समावेश कर लिया गया है।
3. मार्ग के संरक्षण में पड़ने वाले विद्युत लाईन, पोलों को शिफ्ट करने हेतु सम्बन्धित जनपदों के विद्युत विभाग से आगणन प्राप्त कर लिया गया है, जिसकी कुल लागत रू0 494.55 लाख है, जिसे प्रस्तावित आगणन में समावेश कर लिया गया है।
4. मार्ग के संरक्षण में पड़ने वाले बाधक वृक्षों के पातन एवं वृक्षारोपण आदि मदों का आगणन सम्बन्धित जनपदों के कार्यालय प्रभागीय निदेशक सामाजिक वानिकी प्रभाग से प्राप्त कर लिया गया है, जिसकी लागत रू0 4948.01 लाख है, जिसे प्रस्तावित आगणन में समावेश कर लिया गया है।
5. उपरोक्त कार्य वर्तमान में प्रचलित नवीनतम E.P.C. (Engineering Procurement and Construction) पद्धति पर कराया जाना प्रस्तावित है, जिस हेतु MORTH के मार्ग निर्देशक सिद्धान्तों के अनुरूप आगणन में प्राविधान किये गये हैं।

उक्त आगणन में अधीक्षण अभियन्ता, सहारनपुर वृत्त/मेरठ वृत्त/बुलदन्दशहर वृत्त, लो0नि0वि0, मेरठ/द्वारा अनुमोदित एवं प्रचलित नवीनतम वर्तमान एस0ओ0आर0 के अनुसार एवं प्रमुख अभियन्ता लो0नि0वि0 लखनऊ के पत्रांक-6521/एम0टी0/ 60एम0टी0/2012-13 दिनांक 27.07.2012 के अनुसार MORTH के आधार पर विश्लेषित दर प्रयुक्त की गयी है।

उपरोक्तानुसार यह प्रारम्भिक आगणन लम्बाई 111.490 किमी0 एवं लागत रू0

लाख का

गठित कर प्रशासनिक एवं वित्तीय स्वीकृति हेतु प्रेषित है।


सहायक अभियन्ता
निर्माण खण्ड-1 लो0नि0वि0,
मुजफ्फरनगर


सहायक अभियन्ता
निर्माण खण्ड (भवन) लो0नि0वि0,
मेरठ


सहायक अभियन्ता
निर्माण खण्ड-2 लो0नि0वि0,
गजियाबाद


(अजय भास्कर)
अधिसासी अभियन्ता
निर्माण खण्ड-1 लो0नि0वि0,
मुजफ्फरनगर


(सी0पी0 सिंह)
अधिसासी अभियन्ता
निर्माण खण्ड (भवन) लो0नि0वि0,
मेरठ


(मनीष वर्मा)
अधिसासी अभियन्ता
निर्माण खण्ड-2 लो0नि0वि0,
गजियाबाद


(संदीप कुमार)
अधीक्षण अभियन्ता
सहारनपुर वृत्त लो0नि0वि0,
सहारनपुर


(संजीव भारद्वाज)
अधीक्षण अभियन्ता
मेरठ वृत्त लो0नि0वि0
मेरठ


(अजय शंकर सिंह)
अधीक्षण अभियन्ता
बुलन्दशहर वृत्त लो0नि0वि0,
बुलन्दशहर


(राजपाल सिंह)
मुख्य अभियन्ता
सहारनपुर क्षेत्र, लो0नि0वि0
सहारनपुर


(राजपाल सिंह)
मुख्य अभियन्ता
मेरठ क्षेत्र, लो0नि0वि0
मेरठ

मार्ग निर्माण कार्यो से सम्बन्धित चेक लिस्ट

(प्रपत्र 1-क) 22

योजना का नाम	:-	
खण्ड/जनपद का नाम	:-	निर्माण खण्ड-1 लो0नि0वि0, मुजफ्फरनगर, निर्माण खण्ड (भवन) लो0नि0वि0, मेरठ एवं निर्माण खण्ड-2 गाजियाबाद।
कार्य का नाम	:-	वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।
प्रस्तावित कार्य की लम्बाई (कि0मी0)	:-	111.490 किमी0
मा0 मुख्यमंत्री जी की घोषणा (दिनांक/संख्या) घोषणा का विवरण (घोषणा को उद्धृत किया जाय)	:-	मा0 मुख्यमंत्री जी की घोषणा के कम्प्यूटर क्रमांक-GH11Y000154, घोषणा सं0-Y.A.N.-17/2018 घोषणा दिनांक 28.05.2018
मा0 मुख्यमंत्री जी का सन्दर्भ सन्दर्भ की स्थिति में सन्दर्भ संख्या एवं पत्र पर उल्लिखित निर्देश	:-	उ0प्र0 शासन, लोक निर्माण अनुभाग-11 का पत्र सं0-1664ई0/23-11-2019 लखनऊ : दिनांक 26 नवम्बर, 2019
प्रस्तावक का नाम	:-	मा0 मुख्यमंत्री जी, उ0प्र0
विधानसभा क्षेत्र का नाम	:-	पुरकाजी, खतौली सरधना, सिवालखास, मुरादनगर, मोदीनगर
संसदीय क्षेत्र का नाम	:-	मुजफ्फरनगर, बागपत, गाजियाबाद एवं बिजनौर
कार्य का औचित्य एवं महत्व (पृष्ठभूमि सहित प्राथमिकताये)	:-	-

प्रस्तावित मार्ग निर्माण कार्य का प्रारम्भिक आगणन मा0 मुख्यमंत्री जी द्वारा काँवड नहर पटरी के दायी और मार्ग निर्माण के निर्देशों एवं शासन के उपरोक्त संदर्भित पत्र के अनुपालन में गठित किया गया है। प्रस्तावित मार्ग की भूमि का स्वामित्व सिंचाई विभाग, मेरठ का है, जिसकी अनापत्ति प्राप्त है। अपर गंग नहर उत्तराखण्ड राज्य के जनपद हरिद्वार के बैराज स्थल से निकलकर जनपद मुजफ्फरनगर के पुरकाजी, जौली, खतौली, जनपद मेरठ के सरधना, जानी एवं जनपद गाजियाबाद के मुरादनगर होते हुए बुलन्दशहर की तरफ को जाता है। वर्तमान में काँवड नहर पटरी के बाईं ओर चौड़ीकरण एवं सुदृढीकरण का कार्य प्रगति में है। इस मार्ग का उपयोग राष्ट्रीय मार्ग-58 के वैकल्पिक मार्ग के रूप में होता है, साथ ही प्रत्येक वर्ष इस मार्ग से श्रावण मास में काँवड यात्रा के दौरान लाखों कावडियों/श्रद्धालुओं के द्वारा पैदल तथा हल्के वाहनों के द्वारा हरिद्वार से चलकर इस मार्ग से होते हुए अपने गन्तव्य स्थान दिल्ली, हरियाणा, राजस्थान व उत्तर प्रदेश के विभिन्न ग्रामों व शहरों को गंगाजल ले जाकर शिवालयों में जलाभिषेक करते हैं। काँवड यात्रा के समय यातायात पूर्ण रूप से बन्द हो जाता है। अतः यातायात के आवागमन को चालू रखने के लिए वैकल्पिक रूप में दुर्घटना घटित होने पर पर्याप्त सहायता/पुलिस बल को घटना स्थल पर पहुँचने में काफी समय लगता है। यातायात के दबाव को कम करने के लिए अपर गंग नहर की दायी पटरी पर 7.0मी0 चौड़े पक्के मार्ग का निर्माण कार्य कराया जाना नितान्त आवश्यक हो गया है। मार्ग निर्माण से श्रावण मास में तथा अन्य पर्वों पर काँवडियों/श्रद्धालुओं तथा अपर गंग नहर के दोनों तरफ पड़ने वाले अनेकों ग्रामवासियों एवं एन0एच0-58 पर गुजरने वालों को भी यातायात सुविधा होगी। दिल्ली से परतापुर मेरठ के मध्य रेपिड रेल ट्रांजिट सिस्टम का कार्य स्वीकृत हुआ है, जो दिल्ली मेरठ, अन्य जिला मार्ग (पूर्व एन0एच0-58) की सैन्टर वर्ज पर निर्माण किया जाना है। दिल्ली मेरठ मार्ग की सैन्टर वर्ज पर आर0आर0टी0एस0 के निर्माण के कारण यातायात को सुचारु रूप से चलाने के लिए काँवड नहर पटरी मार्ग का निर्माण किया जाना अति आवश्यक है।

प्रस्तावित कार्य का विवरण

- 1 मार्ग की श्रेणी :-
- 2 लो0नि0वि0 की सृष्टि वेबसाइट पर मार्ग की निर्धारित आई0डी0 सं0 (नव निर्माण हेतु आवश्यक नहीं)

नव निर्माण

Districts	चैनेज	लम्बाई	कि0मी0 (सं0)	चौड़ाई (मी0)	क्रस्ट (मिमी0)			सतह का प्रकार	नवीनीकरण का माह/वर्ष
					गैन्जुलर+स्टैबलाईज्ड गैन्जुलर	बिदुमिनस	योग		
Muzaffar nagar									
Meerut									
Gaziabad									

3 आगणन के प्राविधान :-

- 1) मार्ग पर यातायात गणना :- चैनेज-103.700 कि0मी0 (मु0नगर) CVPD- 2023 PCU-12702 अवधि दिनांक 06/12/19 से 12/12/19
चैनेज-124.800 कि0मी0 (मेरठ) CVPD- 2391 PCU-16323 अवधि दिनांक 06/12/19 से 12/12/19

- 2) अ) VDF:-3.90 Design Period:- 15 Years स) Design Traffic- msa:-18.68 msa
द) Lane Distribution Factor-0.5

- 4 मार्ग की मिट्टी की सी0बी0आर0/ (परिणाम संलग्न किया गया) 4.91%

क) आंकड़े का स्रोत :- क्षेत्रीय प्रयोगशाला, मेरठ

ख) विवरण :-

Km.	107	112	117	112	127	132
CBR	4.91%	5.62%	6.10%	5.73%	4.91%	4.75%
Design CBR	4.91%					

- 5 मार्ग की चौड़ाई (मी0) :-

वर्तमान	-
प्रस्तावित	7.00 mtr

- 6 मार्ग की लेपित सतह की चौड़ाई (मी0)

वर्तमान	-
प्रस्तावित	7.00 mtr

उपलब्ध क्रस्ट/मोटाई के सापेक्ष परिकल्पना के अनुसार प्रस्तावित क्रस्ट का बिन्दुवार (Stretchwise) विवरण

आई0आर0सी0 :-37-2018

Flexible Pavement

Composition of curst	Design Crust (mm)-I	Design Crust (mm)-II	Existing curst (mm)	Proposed Crust (mm)		Total (mm)	Justification
				Widening	Strengthening		
BC	30	-	-	-	30	30	-
DBM	50	-	-	-	50	50	-
WMM	100	-	-	-	100	100	-
CTB	100	-	-	-	100	100	-
GSB	200	-	-	-	200	200	-
Total	480	-	-	-	480	480	-

Rigid Pavement

Composition of curst	Design Crust (mm)	Existing curst (mm)	Proposed Crust (mm)		Total (mm)	Justification
			Widening	Strengthening		
PQC	-	-	-	-	-	-
DLC	-	-	-	-	-	-
Drainage layer (GSB)	-	-	-	-	-	-
Seperation layer (GSB)	-	-	-	-	-	-
Bituminous Layer	-	-	-	-	-	-
Granular Layer	-	-	-	-	-	-
Total						

7 नाली का विवरण :-

Km.	लम्बाई (कि०मी०)			
	Flexible Pavement के किनारे		Rigid Pavemnet के किनारे	
	Left	Right	Left	Right
-	-	-	-	-
-	-	-	-	-

8 दर विशलेषित करने वाले अधिकारी का नाम :-

अवर अमि०	सहा० अमि०	अधि०अमि०	अधी०अमि०

9 भूमि अधिग्रहण की आवश्यकता :-

	लम्बाई (कि०मी०)	क्षेत्रफल (हेक्टेअर)	सर्किल रेट
-	-	-	-

10 वन भूमि से सम्बन्धित विवरण :-

लम्बाई (कि०मी०)	संरक्षित	वन क्षेत्र	सामान्य भूमि
	-	-	-

13 प्रस्तावित कार्य की लागत का संक्षिप्त विवरण :-

Sl. No.	As per Mort&H	Ref. to Sl.No. of MORT&H	Item	Quantity	Unit	Rate	Amount
		(A)	मार्ग निर्माण की मुख्य मर्दे				
1			Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, upto a lead of 1000 m including removal and disposal of top organic soil not exceeding 150mm in thickness.				
			Muzaffar nagar	1101560.00	sqm	6.10	6719516.00
			Meerut	846000.00	sqm	6.10	5160600.00
			Gaziabad	247000.00	Sqm	6.10	1506700.00
2			Earth work in excavation in foundation in ordinary soil including lead upto 30mt lift. 1.5mt. Including all labour T&P etc. required for proper completion of work as per Sl.NO. 251				
			Muzaffar nagar	5771.52	Cum	82.00	473264.64
			Meerut	0.00	Cum	0.00	0.00
			Gaziabad	0.00	cum	0.00	0.00
3			For mechanically compacted (of Earth) to achieve 95% proctors density including arrangement of water, settlement and all T&P including roller and its fuel etc.				
			Muzaffar Nagar	5771.52	Cum	20.00	115430.40
			Meerut	0.00	Cum	0.00	0.00
			Gaziabad	0.00	cum	0.00	0.00

4		Construction of embankment/Patri with approved material obtained from borrow pits with all lifts (Distance 3 km) and all leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2. (Ref. to Mort&H Specification No.305) including cost of earth and royalty etc.				
		Muzaffar Nagar	2170693.90	Cum	142.10	308455603.19
		Meerut	2215335.85	Cum	143.90	318786828.82
		Gaziabad	801326.88	cum	143.90	115310938.03
5		Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401				
		Muzaffar Nagar	90540.91	Cum	2401.70	217452103.55
		Meerut	66017.16	Cum	3019.20	199319009.47
		Gaziabad	20587.62	cum	3199.30	65865972.67
6		Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC and 4% cement (OPC) in mechanical motar (Pug M) carriage of mixed Material by tipper to site, laying in uniform layers in sub- base / base course on well prepared sub base and compacting with smooth wheel roller 80 to 100kg weight to achieve the desired density including lighting, barricating and maintenance of diversion etc. as per table 400.11 & 400.12 and technical specification clause 400.				
		Muzaffar Nagar	43408.14	cum	3430.00	148889920.20
		Meerut	31714.20	cum	3866.70	122629297.14
		Gaziabad	9915.90	Cum	3907.50	38746379.25
7		Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.				
		Muzaffar Nagar	43408.14	Cum	2754.50	119567721.63
		Meerut	31714.20	Cum	3359.20	106534340.64
		Gaziabad	9915.90	Cum	3478.20	34489483.38
8		Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.65 kg/sqm using mechanical means.				
		Muzaffar Nagar	440966.40	sqm	25.60	11288739.84
		Meerut	317142.00	sqm	23.80	7547979.60
		Gaziabad	99159.00	sqm	23.80	2359984.20
9		Providing and applying tack coat with bitumen VG-10 using Bitumen pressure distributor at the rate of 0.25 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.				
		Muzaffar Nagar	0.00	sqm	0.00	0.00
		Meerut	317142.00	sqm	10.00	3171420.00
		Gaziabad	99159.00	sqm	10.00	991590.00

10		Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects.					
		Muzaffar Nagar	22048.32	Cum	7473.80	164784734.02	
		Meerut	15857.10	Cum	8095.00	128363224.50	
		Gaziabad	4957.95	Cum	8226.50	40786575.68	
11		Providing and applying tack coat with bitumen VG-10 using Bitumen pressure distributor at the rate of 0.2 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.					
		Muzaffar Nagar	440966.40	sqm	8.30	3660021.12	
		Meerut	317142.00	sqm	8.40	2663992.80	
		Gaziabad	99159.00	sqm	8.40	832935.60	
12		Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 509 complete in all respects					
		Muzaffar Nagar	13228.99	Cum	8181.40	108231658.79	
		Meerut	9514.26	Cum	8902.00	84695942.52	
		Gaziabad	2974.77	Cum	9036.40	26881211.63	
		Total (A)				2276715397.66	22767.154
	(B)	अन्य मर्दे					
	1	Dismantalling of old structure (Building/cross drainage)					
		Muzaffar Nagar					
		Meerut					
		Gaziabad					
	2	Extension of salb on head dys.					
		Muzaffar Nagar					
		Meerut					
		Gaziabad					
	3	Remdelling in inlet.					
		Muzaffar Nagar					
		Meerut					
		Gaziabad					
		Divider (Width of divider 1.2m/ 2.5m / 5.0m)					
		a) New Jersey type divider					
	8.1	b) C.C. Kerb type divider (PCC-M20-115x165x250mm) (Data Book Sr.no. 8.1)					
	8.2	K/C Drain (PCC-M20-Kerb 115x 165x 250 mm & Channel 300x50mm) (Data Book Sr.no. 8.2)					
		Inter locking tiles 80mm thick in built up areas.					
		U Type RCC Drain With 25% over (In Built up areas as mentioned at serial no. 15) Total Length.....km.					
		(230x230mm) (0 to 500m)					
		(450x450mm) (500 to 1000m)					
		(450x600mm) (1000 to 1500m)					
		(600x600mm) (1500 to 2000m)					
		Muzaffar Nagar	56840.00	Rm	2994.00	170178960.00	
		Meerut	42300.00	Rm	3371.00	142593300.00	
		Gaziabad	13350.00	Rm	3371.00	45002850.00	

		(600x450mm) (2000 to 2500m)					
		(600x900mm) (2500 to 3000m)					
		Others specify					
		Disposal drain of Corss Section.....					
		Widening of Humpe Pipe Culverts					
		(1000mm) (.....)					
		(900mm) (.....)					
		(600mm) (.....)					
		Muzaffar Nagar	227.00	Nos	109590.00	24876930.00	
		Meerut	168.00	Nos	113570.00	19079760.00	
		Gaziabad	48.00	Nos	113570.00	5451360.00	
		(350mm) (.....)					
		Widening of RCC Slab Culvert					
		Span (m.)					
		Width (m.)					
		a)					
		Construction of retaining wall on road side ponds					
		Muzaffar Nagar	0.00	Rm	0.00	0.00	
		Meerut	450.00	Rm	33517.00	15082650.00	
		Gaziabad	100.00	Rm	33517.00	3351700.00	
		Total (B)				425617510.00	4256.18
		Total (A+B)				2702332907.66	27023.33
		(C) रोड़ फनीचर एवं यातायात सुरक्षा हेतु प्राविधान					
14							
	1	Supply & Fixing of delinators along canal side 75mm dia. Circular.					
		Muzaffar Nagar	4369.20	No	1135.00	4959042.00	
		Meerut	5076.00	No	1135.00	5761260.00	
		Gaziabad	1482.00	No	1135.00	1682070.00	
	2	P/F of Km hectometer stone					
		Muzaffar Nagar	56.84	Km	5000.00	284200.00	
		Meerut	43.00	Km	5000.00	215000.00	
		Gaziabad	13.00	Km	5000.00	65000.00	
	3	S/F of overhead sign board					
		Muzaffar Nagar	2	No	246500	493000.00	
		Meerut	2	No	246500	493000.00	
		Gaziabad	1	No	246500	246500.00	
	4	S/F of Cantilever					
		Muzaffar Nagar	30	No	110000	3300000.00	
		Meerut	18	No	110000	1980000.00	
		Gaziabad	8	No	110000	880000.00	
	5	S/F of Cautionary board, Mandatory and Informatory board, village road (90x60)					
		Muzaffar Nagar	62	No	3830	237460.00	
		Meerut	40	No	3830	153200.00	
		Gaziabad	15	No	3830	57450.00	
	6	S/F of Cate eye.					
		Muzaffar Nagar	3564	No	415	1479060.00	
		Meerut	2010	No	415	834150.00	
		Gaziabad	13102	No	415	5437330.00	
	7	Retro reflective Infomatory singboard					
		Muzaffar Nagar	612	Sqm	6780	4149360.00	
		Meerut	510	Sqm	6780	3457800.00	
		Gaziabad	0	Sqm	0	0.00	
	8	P/F Retro Reflective Give Way					
		Muzaffar Nagar	30	No	6156	184680.00	
		Meerut	26	No	6156	160056.00	
		Gaziabad	0	No	0	0.00	

	8	Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fittings to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810.				
		Muzaffar Nagar	75620.00	Rm.	3471.00	262477020.00
		Meerut	66090.00	Rm.	3471.00	229398390.00
		Gaziabad	23430.00	Rm.	3471.00	81325530.00
	8	Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform a				
		Muzaffar Nagar	19842.12	Sqm	615.00	12202903.80
		Meerut	11130.24	Sqm	615.00	6845097.60
		Gaziabad	3165.31	Sqm	615.00	1946665.65
	9	Providing and laying of hot applied thermoplastic compound 5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform a (Repeated Bar)				
		Muzaffar Nagar	756.00	Sqm	1230.00	929880.00
		Meerut	226.80	Sqm	1230.00	278964.00
		Gaziabad	100.80	Sqm	1230.00	123984.00
	10	Cevron Board				
		Muzaffar Nagar	120.00	Nos	5176.00	621120.00
		Meerut	80.00	Nos	5176.00	414080.00
		Gaziabad	40.00	Nos	5176.00	207040.00
	11	Speed limit Board				
		Muzaffar Nagar	30.00	Nos	4889.00	146670.00
		Meerut	18.00	Nos	4889.00	88002.00
		Gaziabad	8.00	Nos	4889.00	39112.00
	12	Hezard marker Board				
		Muzaffar Nagar	518.00	Nos	4896.00	2536128.00
		Meerut	32.00	Nos	4896.00	156672.00
		Gaziabad	8.00	Nos	4896.00	39168.00
	13	Stop Board				
		Muzaffar Nagar	30.00	Nos	8257.00	247710.00
		Meerut	26.00	Nos	8257.00	214682.00
		Gaziabad	16.00	Nos	8257.00	132112.00
		Total (C)				636880549.05
		Total D (A+B+C) in Lacs				3339213456.71
	(E)	अन्य रोन्टेज चार्जज				
	1	Contingency and quality control @ 1%				333.92
						33726.06
	2	Add 12% GST				4047.13
	3	Add Labour Welfare Cess @ 1%				337.26
	4	Add Establishment Charges 6.875%				2318.67
	5	Add Depreciation cost 1.50%				505.89
		Total (A to E)				40935.00
	(F)	मार्ग कार्या के अतिरिक्त अन्य मदें				
	1	Land Acquisition				
		a) Urban				
		b) Rural				
		Muzaffar Nagar				178.86
		Meerut				
		Gaziabad				
	2	U.P. Bridge Corpotaion Sturcture				
		Muzaffar Nagar				10936.61
		Meerut				2114.08
		Gaziabad				1862.54

प्रेषक,

मुख्य अभियंता(गंगा),
सिंचाई एवं जल संसाधन विभाग
उत्तर प्रदेश मेरठ।

प्रेषित,

मुख्य अभियंता
लोक निर्माण विभाग

मेरठ।

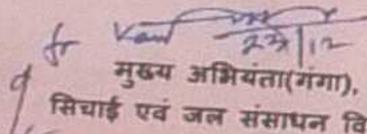
पत्रांक ¹⁹⁰³ अ-1903 मुअगंगा/कावर सेवा

दिनांक 24/12/2019

विषय: उपरी गंगा नहर के दाए बैंक पर दो लैन पक्का रोड बनने हेतु सिंचाई विभाग के पक्के कार्यों की परियोजना लागत रु0 6514.46 लाख प्रेषित करने के संबंध में।

महोदय,

कृपया उपरोक्त विषयक अधीक्षण अभियंता प्रथम मण्डल सिंचाई कार्य मेरठ के पत्रांक 10438/प्रथम/कावड सड़क दिनांक 23/12/2019 के माध्यम से प्राप्त उपरी गंगा नहर के दाए बैंक पर दो लैन पक्का रोड बनने हेतु सिंचाई विभाग के पक्के कार्यों की परियोजना लागत रु0 6514.46 लाख तीन प्रतियों में सलगन कर अग्रिम आवश्यक कार्यवाही हेतु प्रेषित है।
सलगनक-उपरोक्तानुसार तीन प्रतियों में।

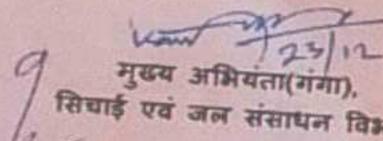

मुख्य अभियंता(गंगा),
सिंचाई एवं जल संसाधन विभाग

अ-1903

पत्रांक मुअगंगा/कावर सेवा/दिनांक 24/12/2019

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित है।

- 1- अधीक्षण अभियंता प्रथम मण्डल सिंचाई कार्य मेरठ को उनके पत्रांक 10438/प्रथम/कावड सड़क दिनांक 23/12/2019 के संदर्भ में।
- 2- अधिशासी अभियंता मेरठ खंड गंगा नहर मेरठ।


मुख्य अभियंता(गंगा),
सिंचाई एवं जल संसाधन विभाग



15.01.2018

मुजफ्फरनगर

मुजफ्फरनगर

मुजफ्फरनगर

मुजफ्फरनगर

मुजफ्फरनगर

उ० प्र० राज्य सेतु निगम लि०

सेतु निर्माण इकाई, मेरठ

CIN-143703UP197280C003672

GSTN-09AAACUJES1825ZA



उपपरियोजना प्रबंधक

उपपरियोजना प्रबंधक

सेतु निर्माण इकाई

मुजफ्फरनगर

मुजफ्फरनगर

मुजफ्फरनगर

मुजफ्फरनगर

मुजफ्फरनगर

पत्रांक - 1268/प्रारम्भिक विस्तृत आगम/बीसीयू मेरठ/2019

दिनांक - 21/12/2019

सेवा में

अभिशासी अभियन्ता,

निर्माण (खण्ड) मंचन,

लोक निर्माण विभाग, मेरठ।

विषय - निम्नानुसार 07 सेतुओं के प्रारम्भिक विस्तृत आगमन के सम्बन्ध में :-

संदर्भ - अधीक्षण अभियन्ता मेरठ कृत्, लो०नि०वि० मेरठ का पत्रांक 3937/836/836 डब्ल्यू/19 दिनांक 21.11.2019 एवं अधिशासी अभियन्ता, निर्माण खण्ड-1, लो०नि०वि०, मुजफ्फरनगर का पत्रांक 4127/1 सी कावड दिनांक 09.12.2019।

महोदय

उपरोक्त विषयक संदर्भित पत्र के क्रम में निम्नलिखित 07 सेतुओं के प्रारम्भिक विस्तृत आगमन (04-04 प्रतियों में) अधिम/आवश्यक कार्यवाही हेतु सलमन कर प्रेषित किये जा रहे हैं।

(A) जनपद मेरठ क्षेत्र :-

- 1- जनपद मेरठ में दोराडा-बरनावा (सिखना) मार्ग पर अपर गंगा कैनल के चैनल 120.119 पर सेतु का निर्माण (रु. 733.68 लाख)।
- 2- जनपद मेरठ में मोहिउददीनपुर-सिवाल खास मार्ग पर अपर गंगा कैनल के चैनल 144.530 पर सेतु का निर्माण (रु. 690.20 लाख)।
- 3- जनपद मेरठ में ग्राम खडौली-गोला सतावाई मार्ग पर अपर गंगा कैनल के चैनल 135.550 पर सेतु का निर्माण (रु. 690.20 लाख)।

(B) जनपद मुजफ्फरनगर क्षेत्र :-

- 1- जनपद मुजफ्फरनगर में ग्राम जीली-मुजफ्फरनगर मार्ग पर अपर गंगा कैनल के चांदेरा पुल के चैनल 81.150 पर सेतु का निर्माण (रु. 723.56 लाख)।
- 2- जनपद मुजफ्फरनगर में ग्राम मोपा (मुजफ्फरनगर-मोपा प्रमुख जिला मार्ग) पर अपर गंगा कैनल के चैनल 74.880 पर सेतु का निर्माण (रु. 680.15 लाख)।
- 3- जनपद मुजफ्फरनगर में ग्राम चरला-बसेडा मार्ग पर अपर गंगा कैनल के चैनल 68.350 निगराजनी झील पर सेतु का निर्माण (रु. 680.15 लाख)।
- 4- जनपद मुजफ्फरनगर में ग्राम सदडी (मिराना-खडौली राज्य मार्ग) पर अपर गंगा कैनल के चैनल 103.800 पर सेतु का निर्माण (रु. 680.15 लाख)।

सलमानक - उपरोक्तानुसार।

(के०वी० सिंह)

उप परियोजना प्रबंधक

प्रतिनिधि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :-

- (1) मुख्य अभियन्ता, मेरठ क्षेत्र, लोक निर्माण विभाग, मेरठ।
- (2) अधीक्षण अभियन्ता, मेरठ कृत्, लोक निर्माण विभाग, मेरठ।
- (3) महा प्रबंधक (गाजि०), उ० प्र० राज्य सेतु निगम लि०, गाजियाबाद को उनके निर्देशों के क्रम में।
- (4) अधिशासी अभियन्ता, प्रांतीय खण्ड, लोक निर्माण विभाग, मुजफ्फरनगर।
- (5) श्री रस०के० अग्रवाल, सहायक अभियन्ता(सि०), सेतु निर्माण इकाई, मेरठ।

उप परियोजना प्रबंधक



ISIRI 2001 / 2008

प्रमाणिका

सर्वोच्च न्यायालय द्वारा प्रमाणित

प्रमाणिका

सर्वोच्च न्यायालय द्वारा प्रमाणित

प्रमाणिका

उ० प्र० राज्य सेतु निगम लि०
सेतु निर्माण इकाई, मेरठ

CIN-1402012197251 (01/13)

GSTIN-15BAAAC1225K2A



उपरोक्त सेतु निर्माण प्रकल्प
के अंतर्गत सेतु निर्माण कार्य
के लिए आवश्यक कार्यवाही
के लिए निर्माण विभाग,
मेरठ क्षेत्रीय कार्यालय
सेतु निर्माण इकाई, मेरठ
पिन/फोन- 0121-2000000
Email - shanugupta@upscetco.com

पत्रांक - 1255 / प्रारम्भिक विस्तृत आगणन / बीसीयू मेरठ / 2019 दिनांक - 12 / 12 / 2019

समाप्त
अधिकासी अभियन्ता,
निर्माण (खण्ड) भवन,
लोक निर्माण विभाग, मेरठ।

विषय - निम्न सेतुओं के प्रारम्भिक विस्तृत आगणन के सम्बन्ध में :-

संदर्भ - अधिकासी अभियन्ता, निर्माण खण्ड-1, लो०नि०वि०, मुजफ्फरनगर का पत्रांक 4127/1 सी
कोवड दिनांक 09.12.2019।

महोदय

उपरोक्त विषयक संदर्भित पत्र के क्रम में निम्नलिखित 02 सेतुओं के प्रारम्भिक विस्तृत
आगणन (04-04 प्रतियों में) अग्रिम/ आवश्यक कार्यवाही हेतु संलग्न कर प्रेषित किये जा रहे
हैं।

- 1- जनपद मुजफ्फरनगर में गंग नहर किमी० 100 पर दाई पटरी पर पुराने चीतल रेस्टोरन्ट
के निकट रेलवे ट्रैक को क्रॉस करते हुये रेलवे उपरिगामी सेतु का निर्माण
(रु. 3979.40 लाख)।
- 2- जनपद मुजफ्फरनगर में गंग नहर की दाई पटरी किमी० 103 पर एन०एच०-58 को क्रॉस
करते हुये उपरिगामी सेतु का निर्माण (रु. 4193.20 लाख)।

संलग्नक:- उक्त आगणन 05-05 प्रतियों में।

(के०वी० सिंह)

उप परियोजना प्रबन्धक

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित:-

- (1) मुख्य अभियन्ता, मेरठ क्षेत्र, लोक निर्माण विभाग, मेरठ।
- (2) अधीक्षण अभियन्ता, मेरठ वृत्त, लोक निर्माण विभाग, मेरठ।
- (3) महा प्रबन्धक (राजि०), उ०प्र० राज्य सेतु निगम लि०, गाजियाबाद को उनके निर्देशों के
क्रम में।
- (4) अधिकासी अभियन्ता, निर्माण खण्ड-1, लोक निर्माण विभाग, मुजफ्फरनगर।
- (5) श्री एच०के० अग्रवाल, सहायक अभियन्ता(सि०), सेतु निर्माण इकाई मेरठ।

SE memok
Copy received
19.12.19

Recd 10/12/19

19/12/19 19-12-19

उप परियोजना प्रबन्धक

DOUBLE LANE ROAD PROJECT ON RIGHT BANK OF UPPER GANGA CANAL		
ABSTRACT OF COST FOR STRUCTURES ON CANAL SYSTEM		
S.No.	Details of Works	Cost(In Lacs)
District: Muzzafar Nagar		
1	Construction of Bridge at Left Basera Feeder Located at Km. 69.140 of Upper Ganga Canal with protection works of Bridge In feeder	108.69
2	Construction of Bridge at Belra Inlet Located at Km. 71.000 of Upper Ganga Canal with protection works of Bridge	95.58
3	Construction of Bridge at Right Jolly Dy. at Km. 76.400 of Upper Ganga Canal with protection works of Bridge	132.69
4	Construction of Bridge Work at Rajwaha Mansurpur Located at Km. 76.522 of Upper Ganga Canal with protection works of Bridge	95.58
5	Construction of Bridge on Chittoda Seepage Drain at Km. 89.950 of Upper Ganga Canal with protection works of Bridge	95.58
6	Construction of Bridge on drain of Moagpur Inlet located at Km. 94.400 of Upper Ganga Canal with protection works of Bridge	108.69
7	Construction of Bridge Work of Nona Inlet Located at Km. 96.550 of Upper Ganga Canal with protection works of Bridge	108.69
8	Construction of Bridge Work of Bhensi Inlet Located at Km. 97.850 of Upper Ganga Canal with protection works of Bridge	108.69
9	Construction of Bridge with 3 spans of 16.00 m each with protection works of Irrigation colony at Khatauli Escape at Km. 100.500 of Upper Ganga Canal	858.65
District: Meerut		
10	Construction of Bridge at Right Salawa Dy at Km. 108.890 of Upper Ganga Canal near Village Salwa	132.69
11	Construction of Bridge with 3 Spans of 16.00 M each at Rardhana Escape at Km. 113.00 of Upper Ganga Canal near Village Aterna	358.17
12	Construction of Bridge Work Located at Km. 115.937 of Upper Ganga Canal at Right Bank with protection works of Bridge	95.58
13	Construction of Bridge Work Located at Km. 116.945 of Upper Ganga Canal at Right Bank with protection works of Bridge	95.58
14	Construction of Bridge Work Located at Km. 121.650 of Upper Ganga Canal at Right Bank with protection works of Bridge	95.58
15	Restoration of Canal Sction at (Km.121.650) near Village Kamruddin Nagar by Steel Sheet Piles in a length of 375.00 M	811.77
16	Construction of Bridge at Right Bhola Dy. at Km. 134.530 of Upper Ganga Canal	85.78

17	Construction of Bridge at Jani Escape at Km. 135.406 of Upper Ganga Canal with Well foundation with 5 Spans of 12.00 M each	593.35
18	Construction of Bridge at Tikri Dy. At Km. 135.480 of Upper Ganga Canal	143.40
19	Construction of Bridge at Tikri Dy. At Km. 140.180 of Upper Ganga Canal	143.40
20	Construction of Bridge at Jani Escape at Km. 140.300 of Upper Ganga Canal with well foundation with 5 spans of 12.00 M each.	652.46
21	Construction of Bridge at Tikri Dy. At Km. 140.400 of Upper Ganga Canal	143.40
22	Construction of Bridge on Inlet at Km. 144.100 of Upper Ganga Canal with protection works	132.69
23	Construction of Bridge work on drain of Inlet Near Siwal Village at Km. 144 700 of Upper Ganga Canal including protection works of bridge	95.58
District: Ghaziabad		
24	Construction of Bridge on Inlet Located at Km. 150.400 of Upper Ganga Canal	117.05
25	Construction of Bridge on Inlet Located at Km. 151.800 of Upper Ganga Canal	117.05
26	Construction of Bridge on Inlet Located at Km. 154.900 of Upper Ganga Canal	117.05
27	Construction of Bridge & Head Regulator at Km. 159.600 of Upper Ganga Canal at Sonia Vihar	393.40
28	Construction of Bridge & Head Regulator at Km. 159.740 of Upper Ganga Canal at Bhagirathi Vihar	393.40
Sub-Total		6430.28
Add cost of Ring Bund during construction, Diversion of Channels & protection of Existing Structures @20%		1286.06
Sub-Total		7716.34
Add Contingency (2%)		154.33
TOTAL (In Rs.)		7870.66
Add 12% for G.S.T.		944.48
Add 6.875 % for Centage Charges		541.11
Add 1.5 % for Price Depreciation		118.06
GRAND TOTAL		9474.31
GRAND TOTAL (In Crores)		94.74
DISTRICT MUZAFFAR NAGAR		25.47
DISTRICT MEERUT		52.56
DISTRICT GHAZIABAD		16.71

Executive Engineer
M.D.G.C., Meerut

FORMAT FOR SUBMITTING BUDGET PROPOSALS FOR " "NEW SERVICE/NEW EXPENDITURE"

35

Department-PWD.....Financial Year 2019-20

Grant No. and Name.....

Plan/Non-Plan
(Amount in thousand rupees)

SI. NO.	QUESTION	ANSWER
(A)	Statement of Proposal	
1	Name of the Scheme	Construction of Ch. Charan Singh Kanwar Nahar Patri (Upper Gang Canal Right Bank).
2	Description of the Scheme and its Objects	
3	Justification for the Scheme and the details of the alternatives considered.	Cost benefit analysis of project attached.
4	(i) Description of the manner in which the scheme is proposed to be implemented including the mention of the agency through which the Scheme will be executed. (ii) Time Schedule of the Programme and target date of completion.	Development of Road Network from Utrakhnad Border to Muradnagar Ghaziabad. Two Years after sanction.
(B) 5	Financial Implication of the Proposal (a) Total Expenditure involved (Recurring and non-recurring to be shown separately), its broad item-wise. (b) Details and year-wise phasing : (c) Share of establishment expenditure in the total recurring expenditure be indicated (in percentage).	680.13 Crore I st Year- 40% II nd Year- 60% 6.875%
6	If the creation of posts is required, the number of posts (Statement of pay-scales and staffing norms be attached).	No
7	(a) If the expenditure is on works: the broad details thereof, their justification and basics of estimates. (b) Year-wise estimated expenditure on maintenance subsequent to the completion of work or/and subsequent to the expiry of warrantess period (if any) on equipment/machine.	376.09 Crore Detailed Estimate
8	Sources of fund for the Scheme- (i) Central Plan/Centrally Sponsored Scheme= Financing pattern be clearly mentioned. Position of funds receivable/received from the center be clarified. (ii) Schemes funded by various Financial institutions-Details be given according to (i) above (iii) Other-Details of Funds expected to be received for the scheme through dovetailing by convergence with a view to optimum utilization of the resources. (In case of the scheme being a Central Scheme/Centrally Sponsored scheme of funded by a Financial institution, the Central share or the share of the Financial institution and the State Share be given clearly)	NA NA NA

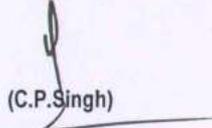
9	Details of Year-wise liabilities against the estimated cost of remaining works (including land-building, furnishing, machine, equipment, vehicle etc) of different programmers/Projects/scheme be given in prescribed form (Consoildated year-wise details can be given in Form B.M.-12a in respect of the works/schemes costing upto Rs. Five crore, but individual works/schemes of more than Rs. Five crore should be shown sprarately in Form B.M.-12B)	NIL	36
10	Other details required under the provision of the Chapter-VIII and XIX of the Uttar Pardesh Budget Manual.	NA	
11	Classification of the proposed budget estimate according to Heads of Accounts. (It should be clearly mentioned whether the proposed provision is for both, the Cental share the share of the financial institution and the State share or for State share only) Revenue Expenditure Total Revenue Expenditure Capital Expenditure Total Capital Expenditure	State share only NIL NIL 376.09 680.13 Crore	
12	Other Related Details (c) Supplementary information, If any (d) Points on which decision/santion are sougth.		



(Ajay Bhaskar)

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CD-1, PWD, Muzaffarnagar



Executive Engineer

CD(Bldg), PWD, Meerut

(Maneesh Verma)

Executive Engineer

CD-2, PWD, Ghaziabad

(Sandeep Kumar)

Superintendent Engineer

Saharanpur Circle, PWD,

Saharanpur

(Sanjeev Bhardwaj)

Superintendent Engineer

Meerut Circle, PWD, Meerut

(Ajay Shankar Singh)

Superintendent Engineer

Bulandsahar Circle, PWD, Bulandsahar

(Rajpal Singh)

Cheif Engineer

Saharanpur Circle, PWD,

Saharanpur

(Rajpal Singh)

Cheif Engineer

Meerut Circle, PWD,

Meerut

Annexure-A

POINTS TO BE SPECIFICALLY LOOKED INTO BY THE CONTROLLING OFFICERS WHILE PREPARING PROPOSALS FOR ESTIMATES OF "NEW SERVICE/NEW EXPENDITURE"

SL.	Points	Remark
1	Is it very necessary to implement the scheme/programme by the State Government given its limited resources.	Yes
2	Can the proposed scheme/programme be bot implemented by a non-government orgazization? If the Scheme can be implemented by incurring less expenditure (that is, by giving grant-in-laid to a non-government ororganization) by a private/non government organization, it will reduce the burden of expeniture on the State Government.	No
3	The Cost-benefit analysis of the proposed scheme/programme be carried out also keeping in view the extent to which the proposed expenditure will result in economic/social benefits.	Cost-benefit analysis attached
4	Can the proposed scheme/programme be taken up without incurring and additional expenditure by termination some continuing scheme/schemes ?	No
5	(a) What percent of the recurring expenditure on the proposed scheme/programme is on establishment ? (b) How much expenditure on the capital side is estimate on the creation of assets and the basis thereof ? (c) Has the cost of the scheme been determined on the basis of some standards ?	Nil 680.13 Crore Detailed estimate on PWD specification
6	The Departments should carry out "Zero-base review" of conitining schemes to ensure that items that have become irrelevant are not included. The department should list savings thus estimated.	NA
7	Have the projects/schemes been prioritized, and whether such project/schemes are proposed ot be included in the budget as are financially and economically viable and which entails better returns ? It is essentail to avoid excessive multiplicity of schemes with same or similar objectives in the budget so that the resources are not thinly spread over such schemes. Such schemens may be dovetailed (See Para-206)	Yes

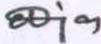
8	The Concept of "Value for money" should be borne in mind while assessing schemes.	It is a infrastructure developmental project which will help in development of society and will save time and running cost of road user.
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Cost Benefit Analysis

- 1 Length of proposed stretch = 111.49 Km.
 - 2 Length of Existing stretch form Utrtrkhand Border NH-58 to Muradnagar Ghazibad = 111.49 Km
 - 3 The saving in length = 123-111.49 = 11.51 Km.
 - 4 Anticipated PCU of proposed stretch = 7256 PCU
 - 5 Saving in cost of running of vechile per day = $7256 \times 11.51 \times 15 = 1252748$
 - 6 Saving in cost of running of vechile for 15 Years
 - 7 = $1252748 \times 15 \times 365 = 6858795300$
= 685.88
 - 8 Cost of Saving of time = $7256 \times 4 \text{ (Person)} \times 1 \text{ (hr)} @ 120 \times 15 \times 365 = 190687.69 \text{ Lacs}$
= 1906.88 Crore
- Hence Total proposed saving = $685.88 + 1906.88$
= 2592.76 Crore (X)

Expenditure-

- For development of project = 680.13 Crore
- For maintenance of project for 15 years = 520.77 Crore
- Total = $680.13 + 520.77 = 1200.90$ Crore**
- Hence proposed saving = $2592.76 - 1200.90 = 1391.86$ Crore

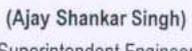

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Bulandsahar Circle, PWD, Bulandsahar


(Rajpal Singh)
Chief Engineer
Saharanpur Circle, PWD,
Saharanpur


(Rajpal Singh)
Chief Engineer
Meerut Circle, PWD,
Meerut

जनपद मुजफ्फरनगर/मेरठ/गाजियाबाद में चौधरी चरण सिंह कांवड मार्ग (गंग नहर की दांयी पटरी) के नव निर्माण का आगणन (चैनज 51.910 से 163.400) तक गठित किया गया है। प्रस्तावित चैनेज में लोक निर्माण विभाग/सिंचाई विभाग की भूमि की चौड़ाई का विवरण निम्न प्रकार है :-

1. लोक निर्माण विभाग की भूमि - 0.00 मी०
2. सिंचाई विभाग की भूमि - 60.00 मी०

यदि किसी विशेष परिस्थिति में भूमि अधिग्रहण की आवश्यकता हो तो निम्नानुसार प्रमाण-पत्र निर्गत किया जाए।

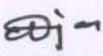
प्रमाण-पत्र

जनपद मुजफ्फरनगर/मेरठ/गाजियाबाद में चौधरी चरण सिंह कांवड मार्ग (गंग नहर की दांयी पटरी) के नव निर्माण का आगणन (चैनज 51.910 से 163.400) तक गठित किया गया है, जिसमें सिंचाई विभाग द्वारा उपलब्ध कराई गई सूचना के अनुसार औसत 60.00 मी० चौड़ाई में सिंचाई विभाग की भूमि उपलब्ध है। जनपद मुजफ्फरनगर में निरगामी झाल पर चैनेज 67.860 से 68.500 तक कुल 1.05 हैक्टैयर भूमि अधिग्रहण की आवश्यकता होगी। भूमि अधिग्रहण में लगभग रु० 178.86 लाख की आवश्यकता होगी।

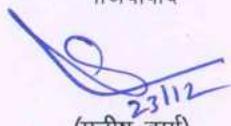

सहायक अभियन्ता
निर्माण खण्ड-1 लो०नि०वि०,
मुजफ्फरनगर

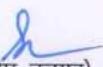
सहायक अभियन्ता
निर्माण खण्ड (भवन) लो०नि०वि०,
मेरठ


सहायक अभियन्ता
निर्माण खण्ड-2 लो०नि०वि०,
गजियाबाद

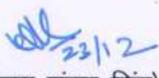

(अजय भास्कर)
अधिसासी अभियन्ता
निर्माण खण्ड-1 लो०नि०वि०,
मुजफ्फरनगर


(सी०पी० सिंह)
अधिसासी अभियन्ता
निर्माण खण्ड (भवन) लो०नि०वि०,
मेरठ


(मनीष वर्मा)
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निर्माण खण्ड-2 लो०नि०वि०,
गजियाबाद


(संदीप कुमार)
अधीक्षण अभियन्ता
सहारनपुर वृत्त लो०नि०वि०,
सहारनपुर


(संजीव भारद्वाज)
अधीक्षण अभियन्ता
मेरठ वृत्त लो०नि०वि०,
मेरठ


(अजय शंकर सिंह)
अधीक्षण अभियन्ता
बुलन्दशहर वृत्त लो०नि०वि०,
बुलन्दशहर


(राजपाल सिंह)
मुख्य अभियन्ता
सहारनपुर क्षेत्र, लो०नि०वि०
सहारनपुर


(राजपाल सिंह)
मुख्य अभियन्ता
मेरठ क्षेत्र, लो०नि०वि०
मेरठ

प्रमाण-पत्र

उ0प्र0 शासन के पत्रांक-1374ई0/23-11-06-5/1(53)/2005 दि0 24.05.2006 एवं प्रमुख अभियन्ता के पत्रांक-7399एम0टी0/सामान्य वर्ग/60एम0टी0/2008 दि0 16.09.2008 के अनुपालन में आगणन गठन हेतु वांछित प्रमाण पत्र।

1. यह कार्य किसी अन्य योजना में स्वीकृत नहीं है।
2. प्रस्ताव में मात्राओं का समावनेश न्यूनतम एवं अपरिहार्य आवश्यकतानुसार किया गया है।
3. निर्माण कार्य के पश्चात् इसका रख-रखाव लोक निर्माण विभाग द्वारा ही किया जायेगा।
4. आगणन में सभी सहारनपुर/मेरठ/बुलन्दशहर वृत्त लो0नि0वि0, द्वारा स्वीकृत दरे ही लगाई गई है। कोई भी एस्कलेटेड दर नहीं लगाई गई है।
5. मार्ग पर पिछले तीन वर्षों के दौरान कोई भी विशेष मरम्मत/सुदृढीकरण/चौड़ीकरण इत्यादि का कार्य नहीं कराया गया है।
6. आगणन में सभी प्राविधान प्रमुख अभियन्ता महोदय, लखनऊ के पत्रांक-7399एम0टी0/सामान्य वर्ग/60एम0टी0/2008 दिनांक 16.09.2008 के अनुसार किये गये है।
7. कार्य स्वीकृत होने के 2 वर्ष के अन्दर पूर्ण करा लिया जायेगा।
8. मार्ग के संरक्षण मे संरक्षित वन भूमि पड़ती है, जिसके हस्तान्तरण हेतु आवश्यक कार्यवाही की जानी है।

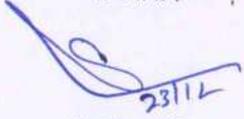

सहायक अभियन्ता
निर्माण खण्ड-1 लो0नि0वि0,
मुजफ्फरनगर


सहायक अभियन्ता
निर्माण खण्ड (भवन) लो0नि0वि0,
मेरठ


सहायक अभियन्ता
निर्माण खण्ड-2 लो0नि0वि0,
गजियाबाद

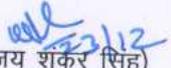

(अजय भास्कर)
अधिसासी अभियन्ता
निर्माण खण्ड-1 लो0नि0वि0,
मुजफ्फरनगर


(सी0पी0 सिंह)
अधिसासी अभियन्ता
निर्माण खण्ड (भवन) लो0नि0वि0,
मेरठ


(मनीष वर्मा)
अधिसासी अभियन्ता
निर्माण खण्ड-2 लो0नि0वि0,
गजियाबाद


(संदीप कुमार)
अधीक्षण अभियन्ता
सहारनपुर वृत्त लो0नि0वि0,
सहारनपुर


(संजीव शारदाज)
अधीक्षण अभियन्ता
मेरठ वृत्त लो0नि0वि0
मेरठ


(अजय शंकर सिंह)
अधीक्षण अभियन्ता
बुलन्दशहर वृत्त लो0नि0वि0,
बुलन्दशहर


(राजपाल सिंह)
मुख्य अभियन्ता
सहारनपुर क्षेत्र, लो0नि0वि0
सहारनपुर


(राजपाल सिंह)
मुख्य अभियन्ता
मेरठ क्षेत्र, लो0नि0वि0
मेरठ

संदर्भ

संख्या 348/23-11-2020

प्रेषक,

अभय कुमार,
संयुक्त सचिव,
उत्तर प्रदेश शासन।

सेवा में,

- 1- प्रमुख अभियंता (विकास) एवं विभागाध्यक्ष,
लोक निर्माण विभाग, लखनऊ।
- 2- मुख्य अभियन्ता (मु0-1),
लोक निर्माण विभाग, लखनऊ।

- 3- मुख्य अभियन्ता (मेरठ क्षेत्र),
लोक निर्माण विभाग, लखनऊ।

लोक निर्माण अनुभाग-11

लखनऊ: दिनांक 16 मार्च, 2020

विषय:-जनपद मुजफ्फरनगर, मेरठ एवं गाजियाबाद में चौ0 चरण सिंह कावंड मार्ग (गंग नहर की दांयी पटरी) का नवनिर्माण/चौड़ीकरण/सुदृढीकरण का कार्य के सम्बन्ध में।

महोदय,

उपर्युक्त विषय पर मुझे यह कहने का निदेश हुआ है कि विषयगत परियोजना हेतु उपलब्ध कराये गये प्री-कन्स्ट्रक्शन एक्टीविटी कार्य के आगणन पर आज दिनांक 16.03.2020 को सम्पन्न व्यय वित्त समिति की बैठक में विचार-विमर्श हुआ, जिसमें समिति द्वारा परियोजना के सम्पूर्ण कार्य हेतु आगणन गठित न किये जाने के कारण प्री-कन्स्ट्रक्शन एक्टीविटी कार्य के आगणन को आस्थगित कर दिया गया है।

अतः कृपया विषयगत परियोजना के सम्पूर्ण कार्य हेतु विस्तृत आगणन एवं परियोजना प्रस्ताव पर मा0 मंत्रि-परिषद् का अनुमोदन प्राप्त किये जाने हेतु टिप्पणी दिनांक 17.03.2020 को अपरान्ह 5:00 बजे तक प्रत्येक दशा में शासन को उपलब्ध कराने का कष्ट करें।

भवदीय

16.03.2020
(अभय कुमार)

संयुक्त सचिव।

(5)

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सं.सं. - 150/19 / 20-11-2019

प्रेषक,
अनम कुमार
उप सचिव
उत्तर प्रदेश शासन।

सेवा में,

1. प्रमुख अभियन्ता (विकास) एवं विभागाध्यक्ष,
लोक निर्माण विभाग,
उ०प्र० लखनऊ।
2. मुख्य अभियन्ता (मु०१)
लोक निर्माण विभाग,
उ०प्र० लखनऊ

192 नि०
27-11-19

लोक निर्माण विभाग-11

लखनऊ दिनांक 26 नवंबर 2019

विषय - भा० मुख्यमंत्री जी की घोषणा से आच्छादित जनपद मुजफ्फरनगर, मेरठ एवं गाजियाबाद में चौधरी चरण सिंह कांवड़ पथ (गंग नहर की दायी पटरी) के नवनिर्माण/चौड़ीकरण/सुदृढीकरण कार्य के सम्बन्ध में।

महोदय,

उपर्युक्त विषयक मुख्य अभियन्ता (मु०१) के पत्र संख्या-2637/नि०/110-01/नि०/2019-20 दिनांक 07.11.2019 का कृपया सन्दर्भ ग्रहण करने का कष्ट करें, जिसके द्वारा भा० मुख्यमंत्री जी की घोषणा (कम्प्यूटर क्रमांक-GH11Y000154, घोषणा सं०- Y.A.M.-17/2018, दिनांक 28-05-2018) से आच्छादित जनपद मुजफ्फरनगर, मेरठ एवं गाजियाबाद में चौधरी चरण सिंह कांवड़ पथ (गंग नहर की दायी पटरी) के नवनिर्माण/चौड़ीकरण/सुदृढीकरण कार्य के सम्बन्ध में मुख्य अभियन्ता, मेरठ क्षेत्र, लोक निर्माण विभाग, मेरठ के पत्र संख्या-257 कैम्प-2(कांवड़ पटरी) मु०अ०-मे०क्ष०/2014-19, दिनांक 05.11.2019 के माध्यम से प्राप्त आख्या उपलब्ध करायी गयी है।

2- इस सम्बन्ध में मुझे यह कहने का निर्देश हुआ है कि भा० मुख्यमंत्री जी की घोषणा से आच्छादित जनपद मुजफ्फरनगर, मेरठ एवं गाजियाबाद में चौधरी चरण सिंह कांवड़ पथ हेतु गंग नहर की दायी पटरी पर दो लेन मार्ग, जिसकी लागत मुख्य अभियन्ता, मेरठ क्षेत्र, लोक निर्माण विभाग, मेरठ के उक्त पत्र दिनांक 05.11.2019 में रु० 589.00 करोड़ (पचास अठारह करोड़ रुपये के रूप में) आंकलित की गयी है, उसे अनुत्तर कराये जाने का निर्णय लिया गया है।

अतः कृपया उपरोक्त के परिशेष में अपेक्षित कार्यवाही करते हुए प्रश्नगत परियोजना के सम्बन्ध में प्रस्ताव शासन को तत्काल उपलब्ध कराने कराने का कष्ट करें।

भवदीय

(अनम कुमार)
उप सचिव।

cc
14
03/11/2019

संख्या व दिनांक तदैव।

प्रतिलिपि मुख्य अभियन्ता, मेरठ क्षेत्र, लोक निर्माण विभाग, मेरठ को इस निर्देश के साथ प्रेषित कि कृपया प्रश्नगत परियोजना के सम्बन्ध में उपरोक्तानुसार कार्यवाही करते हुए प्रस्ताव शासन को तत्काल उपलब्ध कराने का कष्ट करें।

आज्ञा से

26.11.19
(अनम कुमार) AMAC (ET)
उप सचिव।

सहायक सचिव/सहायक

कार्यालय मुख्य अभियन्ता, मेरठ, उ०प्र० लखनऊ, मेरठ

दिनांक 27.11.2019

- पत्र सं०-192/नि०/18 मे०क्ष०(का०न०प०-दायी शोर)/13
- उपर्युक्त पत्र को प्रति निम्नलिखित को भेजा गया है कि शानुत्तर तत्काल आवश्यक कार्यवाही हेतु पश्चात्-
1. अधीक्षण अभियन्ता मेरठ/मुजफ्फरनगर/गाजियाबाद, लखनऊ, मेरठ/मुजफ्फरनगर/गाजियाबाद।
 2. अधीक्षक अभियन्ता प्रादेशीय/निर्माण खण्ड-2 (गंग) लोक निर्माण, मेरठ/मुजफ्फरनगर/गाजियाबाद।
 3. मुख्य अभियन्ता महोदय/श्री हेम प्रकाश (अवर अभियन्ता)।

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मुख्य अभियन्ता (मे०क्ष०),
लोक निर्माण विभाग, मेरठ।

27/11/19
3:22 PM

प्रपक.

डॉ० राजशेखर,
विशेष सचिव,
उत्तर प्रदेश शासन।

संवा नं.

प्रमुख अभियन्ता (विकास) एवं विभागाध्यक्ष,
लोक निर्माण विभाग, लखनऊ।

लोक निर्माण अनुभाग-11

लखनऊ : दिनांक 20 दिसम्बर, 2017

विषय:- जनपद मेरठ/मुजफ्फरनगर में कांवड़ के लिये अलग से पट्टी/मार्ग निर्माण के सम्बन्ध में।

महोदय,

उपर्युक्त विषय पर मुझे यह कहने का निदेश हुआ है कि आई०ए०एस० वीक के दौरान मण्डलायुक्त, मेरठ द्वारा अपर मुख्य सचिव, लोक निर्माण विभाग से भेंट कर मेरठ मण्डल के कतिपय लम्बित एवं महत्वपूर्ण कार्यों पर चर्चा की गयी तथा यह अवगत कराया गया कि जनपद मेरठ, मुजफ्फर नगर एवं गाजियाबाद में चौधरी चरण सिंह कांवड़ अपर गंग नहर की बाईं ओर पट्टी मार्ग (ओ०डी०आर०) के चौड़ीकरण एवं सुदृढीकरण का कार्य निर्माणाधीन है। इसी कांवड़ मार्ग के लिये गा० मुख्यामन्त्री जी द्वारा अलग से पट्टी/मार्ग निर्माण किये जाने की घोषणा की गयी है, जो अग्रतर कार्यवाही हेतु लम्बित है। इस सम्बन्ध में शीघ्र कार्यवाही कराये जाने का अनुरोध किया गया है।

2- अतः कृपया मेरठ, मुजफ्फर नगर एवं गाजियाबाद के संदर्भित कांवड़ मार्ग में अतिरिक्त पट्टी/मार्ग के निर्माण के सम्बन्ध में गा० मुख्यामन्त्री जी द्वारा की गयी घोषणा से सम्बन्धित सम्पूर्ण विवरण एवं अद्यावधिक प्रगति मुख्य अभियन्ता (मेरठ क्षेत्र), लोक निर्माण विभाग से प्राप्त कर संस्तुति सहित शासन को अविलम्ब उपलब्ध कराने का कष्ट करें।

भवदीय,

(डॉ० राजशेखर)
विशेष सचिव।

संख्या व दिनांक यथोक्त

प्रतिलिपि- निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

- 1- मुख्य अभियन्ता (मु०-1), लोक निर्माण विभाग, लखनऊ।
- 2- मुख्य अभियन्ता (मेरठ क्षेत्र), लोक निर्माण विभाग, मेरठ।

कैम्पा - मु० शांति (मु०-1) लोक निर्माण विभाग
डावर! संख्या (A.R. 21/12) F

SE(PJ) (C-1)

आज्ञा से,

19.12.2017
(अभय कुमार)
उप सचिव।

DE (BDD-11)

2451
23/12

E.F.
26/12/17

आपके द्वारा घोषणा से सम्बंधित अनिवार्य सूचनाओं को फीड नहीं किया गया है।

अद्यावधिक स्थिति :-

आगणन लागत/ अन्तर्ग्रस्त धनराशि (करोड़ में) :-

पी.एफ.ए.डी स्वीकृति की तिथि/ संभावित तिथि :-

ई.एफ.सी स्वीकृति की तिथि/ संभावित तिथि :-

आगणन स्वीकृति की तिथि :-

कार्य प्रारम्भ होने की तिथि/ संभावित तिथि :-

कार्य पूर्ण होने की संभावित तिथि :-

कार्यदायी संस्था का नाम :-

विभागीय नोडल/मुख्य उत्तरदायी अधिकारी का विवरण :-

कार्यदायी संस्था के नोडल/मुख्य उत्तरदायी अधिकारी का विवरण :-

15 - कम्प्यूटर संख्या : GH11Y000154, घोषणा संख्या Y.A.N.-17/2018, घोषणा दिनांक : 28/05/2018, घोषणा प्रकार : अपूर्ण
घोषणा का विवरण : उ०प्र० सरकार द्वारा हरिद्वार से लेकर गाजियाबाद तक गंग नहर के दोनों किनारों पर सड़क का निर्माण कराया जाएगा।
घोषणा से सम्बंधित जनपद :

समीक्षा पैठक के निर्देश :-

सम्बन्धित अधिकारी/विभाग घोषणा से सम्बंधित सूचनाएं/अद्यावधिक प्रगति की प्रविष्टि करने हेतु यहाँ क्लिक करें :

अद्यावधिक स्थिति :-

आगणन लागत/ अन्तर्ग्रस्त धनराशि (करोड़ में) :-

पी.एफ.ए.डी स्वीकृति की तिथि/ संभावित तिथि :-

ई.एफ.सी स्वीकृति की तिथि/ संभावित तिथि :-

आगणन स्वीकृति की तिथि :-

कार्य प्रारम्भ होने की तिथि/ संभावित तिथि :-

कार्य पूर्ण होने की संभावित तिथि :-

कार्यदायी संस्था का नाम :-

विभागीय नोडल/मुख्य उत्तरदायी अधिकारी का विवरण :-

कार्यदायी संस्था के नोडल/मुख्य उत्तरदायी अधिकारी का विवरण :-

46

प्रेषक,

अभय कुमार,
विशेष सचिव,
उत्तर प्रदेश शासन।

18

आ/सेवा में

प्रमुख अभियन्ता (विकास) एवं विभागाध्यक्ष,

लोक निर्माण विभाग, लखनऊ।

2018 लोक निर्माण अनुभाग-11

लखनऊ : दिनांक 12 जनवरी 2018

विषय:- जनपद मेरठ/मुजफ्फरनगर में कांवड़ के लिये अलग से पट्टी/मार्ग निर्माण के सम्बन्ध में।

महोदय,

उपर्युक्त विषयक शासन के पत्र संख्या-2180ई/23-11-2017, दिनांक 20-12-2017 का कृपया संदर्भ ग्रहण करने का कष्ट करें, जिसके द्वारा मेरठ, मुजफ्फर नगर एवं गाजियाबाद के संदर्भित कांवड़ मार्ग में अतिरिक्त पट्टी/मार्ग के निर्माण के सम्बन्ध में मा० मुख्यमंत्री जी द्वारा की गयी घोषणा से सम्बन्धित सम्पूर्ण विवरण एवं अद्यावधिक प्रगति मुख्य अभियन्ता (मेरठ क्षेत्र), लोक निर्माण विभाग से प्राप्त कर संस्तुति सहित शासन को अविलम्ब उपलब्ध कराये जाने की अपेक्षा की गयी है। वांछित आख्या अभी तक शासन में प्राप्त नहीं हुई है।

2- अतः इस सम्बन्ध में मुझे पुनः यह कहने का निदेश हुआ है कि कृपया मेरठ, मुजफ्फर नगर एवं गाजियाबाद के संदर्भित कांवड़ मार्ग में अतिरिक्त पट्टी/मार्ग के निर्माण सम्बन्ध में मा० मुख्यमंत्री जी द्वारा की गयी घोषणा से सम्बन्धित सम्पूर्ण विवरण एवं अद्यावधिक प्रगति अपनी संस्तुति सहित शासन को शीघ्र उपलब्ध कराने का कष्ट करें।

भवदीय,

(अभय कुमार)
उप सचिव।

संख्या व दिनांक यथोक्त

प्रतिलिपि- निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

- 1- मुख्य अभियन्ता (मु०-1), लोक निर्माण विभाग, लखनऊ।
- 2- मुख्य अभियन्ता (मेरठ क्षेत्र), लोक निर्माण विभाग, मेरठ।

आज्ञा से,

(अभय कुमार)
उप सचिव।

① CE(MR)
② SE(PJ)

AE I / AE II

SP

12/1/18
(ए. क. अभय कुमार)
मुख्य अभियन्ता (मु०-1)
लोक निर्माण विभाग, लखनऊ

कार्यालय प्रमुख अभियन्ता
लोक निर्माण विभाग, लखनऊ
(परियोजना वर्ग)

47

पत्रांक:- 454 /पी0जे0-11/40पी0जे0(मेरठ)/17

दिनांक:- 15 /01/2018

सेवा में,
मुख्य अभियन्ता,
परिचयी क्षेत्र,
लो0नि0वि0, मेरठ।

विषय:-जनपद मेरठ/मुजफ्फरनगर में कांवड़ के लिए अलग से पट्टी/मार्ग निर्माण के सम्बन्ध में।
सन्दर्भ:-शासन का पत्र संख्या-2180ई0/23-11-2017 दिनांक 20.12.2017।

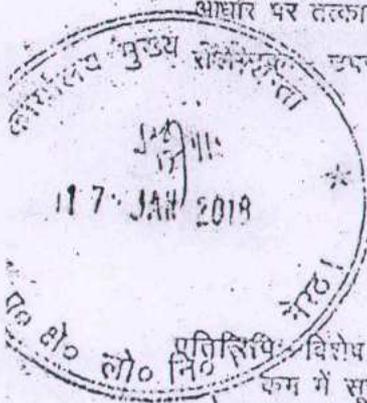
महोदय,

कृपया शासन के सन्दर्भित पत्र का अवलोकन करने का कष्ट करें, जिसके द्वारा अवगत कराया गया है कि आई0ए0एस0 वीक के दौरान मण्डलायुक्त, मेरठ द्वारा अपर मुख्य सचिव, लोक निर्माण विभाग से भेंट कर मेरठ मण्डल द्वारा जनपद मेरठ, मुजफ्फर नगर एवं गाजियाबाद में में चौदरी चरण सिंह कांवड़ अपर भंग नहर की सई ओर पट्टी मार्ग (ओ0डी0आर0) के चौड़ीकरण एवं सुदृढीकरण का कार्य निर्माणाधीन है। इसी कांवड़ मार्ग के लिए भा0 मुख्यमंत्री जी द्वारा अलग से पट्टी/मार्ग निर्माण किये जाने की घोषणा की गयी है, जो अग्रतर हेतु लक्षित है। इस सम्बन्ध में जनपद मेरठ, मुजफ्फर नगर एवं गाजियाबाद के सन्दर्भित कांवड़ मार्ग में अतिरिक्त पट्टी/मार्ग के निर्माण के सम्बन्ध में भा0 मुख्यमंत्री जी द्वारा गयी गयी घोषणा से सम्बन्धित सम्पूर्ण विवरण एवं अद्यावधिक प्रगति आपसे प्राप्त कर संस्तुति सहित शासन को उपलब्ध कराने के निर्देश दिए गए हैं।

अतः शासन के सन्दर्भित पत्र की छाया प्रति संलग्न कर इस निर्देश के साथ प्रेषित है कि जनपद मेरठ, मुजफ्फर नगर एवं गाजियाबाद के सन्दर्भित कांवड़ मार्ग में अतिरिक्त पट्टी/मार्ग के निर्माण के सम्बन्ध में भा0 मुख्यमंत्री जी द्वारा गयी गयी घोषणा से सम्बन्धित सम्पूर्ण विवरण एवं अद्यावधिक प्रगति आख्या प्राथमिकता के आधार पर तत्काल इस कार्रवाई को उपलब्ध कराना सुनिश्चित करें।

अपरोक्षतः।

554/17/1/18



भवदीय

(ए0जे0 अग्रवाल)
मुख्य अभियन्ता (मुख्यालय-1)
& लो0नि0वि0, लखनऊ

प्रतिष्ठित विशेष सचिव, लोक निर्माण विभाग-11, ए0आ0 शासन, लखनऊ को शासन के सन्दर्भित पत्र के क्रम में सूचनाएं पोषित।

दिनांक 17/1/18

मुख्य अभियन्ता (मुख्यालय-1)
लो0नि0वि0, लखनऊ

पत्रांक-2616/मु.अ.गं/कांवड सडक

दिनांक-2/12.2017

विषय : उ0प्र0 की सीमा में अपर गंगा नहर के दांये तट पर दां लेन लेपित मार्ग के निर्माण हेतु अनापत्ति प्रमाण-पत्र जारी करने के सम्बन्ध में।

मुख्य अभियन्ता, पश्चिम क्षेत्र, लोक निर्माण विभाग, मेरठ।

कृपया उपरोक्त विषयक अपने पत्रांक-5820 नि /18-प0क्ष0/17, दिनांक 04.08.2017 का अवलोकन करने का कष्ट करें, जिसके द्वारा मा0 मुख्यमंत्री जी की अध्यक्षता में दिनांक 29.08.2017 को कांवड यात्रा के सम्बन्ध में सम्पन्न बैठक में अपर गंगा नहर की दांयी पटरी को दां लेन लेपित मार्ग के निर्माण हेतु दिये गये निर्देशों के अनुपालन में अनापत्ति प्रमाण-पत्र निर्गत करने का अनुरोध किया गया है।

इस सम्बन्ध में इस संगठन के अधीनस्थ अधीक्षण अभियन्ता प्रथम मण्डल सिंचाई कार्य, मेरठ के पत्रांक-9510/प्रथम, दिनांक 20.12.2017 द्वारा उनके कार्यक्षेत्र में अपने दांये अधीशासी अभियन्ता, मेरठ खण्ड गंगा नहर, मेरठ एवं अधीशासी अभियन्ता, मुजफ्फरनगर खण्ड गंगा नहर, मुजफ्फर द्वारा उपलब्ध करायी गयी अपनी सरकारी के आधार पर निम्न शर्तों के साथ अनापत्ति प्रमाण-पत्र निर्गत किया जाता है -

1. भूमि का पूर्ण स्वामित्व सिंचाई विभाग का होगा।
2. भविष्य में यदि नहर का चौडीकरण अथवा नहर की किसी संरचना हेतु भूमि की आवश्यकता होती है तो लोक निर्माण विभाग को सडक शिफ्ट का कार्य अपने संसाधनों से करना होगा।
3. उक्त मार्ग पर आवागमन हेतु सिंचाई विभाग स्वतन्त्र होगा।
4. लेपित मार्ग का निर्माण नहर के दांये बैंक के डोले का स्लॉप 1.5 : 1 एवं डोले की टो से 02 मीटर न्यूनतम क्लीयर दूरी छोडते हुए किया जाये।
5. कार्य में प्रयुक्त होने वाली मिटटी विभागीय भूमि से नहीं उदायी जायेगी।
6. प्रस्तावित कार्य की ड्राईंग कार्य कराने से पूर्व सिंचाई विभाग से अनुमोदित करानी होगी।
7. सडक निर्माण के दौरान नहर संरचना को किसी प्रकार की कोई क्षति नहीं पहुंचनी चाहिये यदि नहरी संरचना को कोई क्षति पहुंचती है तो क्षतिपूर्ति लोक निर्माण विभाग से वसूली जायेगी।
8. कार्य के दौरान किसी भी प्रकार की असावधानी के कारण नहर के क्षतिग्रस्त होने की स्थिति में होने वाले जान-माल की क्षतिपूर्ति का पूर्ण दायित्व लोक निर्माण विभाग का होगा।
9. सडक के अनुरक्षण का दायित्व कार्यदायी संस्था का होगा अथवा की स्थिति में परियोजना की लागत का 30 प्रतिशत प्रति वर्ष अनुरक्षण हेतु सिंचाई विभाग को उपलब्ध कराया होगा।
10. नहर पर किसी भी प्रकार का अतिक्रमण मान्य नहीं होगा।

निः उपरोक्त प्रतिबंधों की अनुपालना न करने की दशा में उक्त अनुमति स्वतः ही निरस्त मानी जायेगी।

मुख्य अभियन्ता(पश्चिम),
सिंचाई एवं जल संसाधन विभाग,
उ0प्र0, मेरठ

पत्रांक- /मु.अ.गं/तदिनांक

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित है -

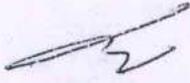
1. मुख्य अभियन्ता(पश्चिम), सिंचाई एवं जल संसाधन विभाग, उत्तर प्रदेश, मेरठ।
2. अधीक्षण अभियन्ता, प्रथम मण्डल सिंचाई कार्य, मेरठ के सम्बन्ध पत्रांक-9510/प्रथम, दिनांक 20.12.2017 के संदर्भ में।

मुख्य अभियन्ता(गंगा)
सिंचाई एवं जल संसाधन विभाग,
उ0प्र0, मेरठ

भूमि उपलब्धता
का प्रमाण पत्र

विशिष्टियां

सम्बन्धित सभी कार्य लोक निर्माण विभाग एवं सड़क परिवहन एवं राजमार्ग मंत्रालय, भारत सरकार की विस्तृत पुनरीक्षित दिशिष्टियों एवं समय-समय पर प्रसारित परिवर्तित परिपत्रों में निहित निर्देशों के आधार पर सम्पादित कराये जायेगे।



Asst. Engineer



Executive Engineer



Superintendent Engineer

चेक-लिस्ट

चेक-लिस्ट

परिपत्र संख्या - 61

ग्रामीण मार्गों का निर्माण MORD तथा अन्य राज्य/प्रमुख/महत्वपूर्ण जिला मार्गों/शहरी मार्गों का निर्माण MORTH की विशिष्टियों के अनुरूप किया जाय। कार्यों की गुणवत्ता सुनिश्चित करने के लिए निम्नानुसार महत्वपूर्ण टेस्ट किये जायें एवं इंगित संख्या के टेस्ट रिजल्ट कार्यों की मांग के साथ भी संलग्न किये जायें।

Soil (CBR/Subgrade)

CBR

California Bearing Ratio is a penetration test used to evaluate mechanical strength of soil. CBR टेस्ट के लिए अनुमोदित/चयनित संरक्षण से मिट्टी लेकर optimum moisture content पर mould तैयार कर चार दिन तक पानी में सोख करने के उपरान्त CBR प्राप्त की जाये। विभिन्न श्रेणी के मार्गों की परिकल्पना में निम्नानुसार CBR ली जाये -

SH	90 th percentile
MDR/ODR	80 th percentile

90th percentile means that 90% CBR values are greater than this value.

Test	Min. Frequency		For utilisation certificate
	MORD	MORTH	
CBR for exiting soil	1 set of 3 test / km	1 set of 3 test / km	-

Sub-Grade

Sub-grade is the portion below pavement up to 500 mm in case of SH/MDR/ODR and 300 mm for VR.

1. Standard Proctor Density - Maximum Dry Density (MDD) at Optimum Moisture Content (OMC) using 2.5 Kg Rammer, 25 blows per layer, in 3 Layers.
2. Modified Proctor Density - Maximum Dry Density (MDD) at Optimum Moisture Content (OMC) using 4.5 Kg Rammer, 25 blows per layer, in 5 Layers.

Test	Min. Frequency		For utilisation certificate
	MORD *	MORTH **	
Density	1 no / km	1 set of 10 density/ 2000 m ²	3 nos / km *

- * Density should not be less than 100% of maximum laboratory dry density (Standard proctor density).
- ** Density should not be less than 97% of maximum laboratory dry density (Modified proctor density).

Sub-Base**Granular Sub-base (GSB)****55**

Granular Sub-base (GSB) is a well graded material compacted on prepared sub-grade. अनुमोदित क्वैरी से सैम्पल प्राप्त कर प्रतिष्ठित संस्थानों/कालेजों/क्वालिटी प्रमोशन सेल/अन्वेषणालय से Job mix एवं maximum dry density प्राप्त की जाये एवं अधीक्षण अभियन्ता से अनुमोदित करायी जाय।

1. Impact value- Maximum 40
2. Gradation of Mix as per Table 400-1.
3. Density of compacted layer as per job mix

Test	Min. Frequency (As per MORTH)	For utilisation certificate
Gradation	1 no / 400 m ³	1 no / km *
Density *	1 no / 1000 m ²	4 nos / km *

* Density should not be less than 97% of maximum laboratory dry density (Modified proctor density).

* 97% (Mpd)

Cementitious Sub-base (CTSB)

It consist of coarse graded aggregate mix, modified with 2% cement. Seven days UCS of CTSB varies from 1.5 to 3 MPa.

150 mm cubic specimen cured and tested for 7 days UCS

Test	Min. Frequency (As per MORTH)/IRC 37 : 2018	For utilisation certificate
Gradation	1 no / 400 m ³	1 no / km *
UCS *	3 test / 400 ton	2 nos / km *

* 7 days UCS shall not be less than 2 MPa.

Base**Wet Mix Macadam (WMM)**

Wet Mix Macadam (WMM) is a clean, crushed, graded aggregate, premixed with water is laid as base course. The thickness of a single layer shall not be less than 75 mm. अनुमोदित क्वैरी से सैम्पल प्राप्त कर प्रतिष्ठित संस्थानों/कालेजों/क्वालिटी प्रमोशन सेल/अन्वेषणालय से Job mix एवं maximum dry density प्राप्त की जाये एवं अधीक्षण अभियन्ता से अनुमोदित करायी जाय।

1. Impact value- Maximum 30
2. Gradation of Mix as per Table 400-13.
3. Density of compacted layer as per job mix

Test	Min. Frequency (As per MORTH)	For utilisation certificate
Impact value	1 no / 1000 m ³	1 no / 5 km *
Gradation	1 no / 200 m ³	1 no / km *
Density ^a	1 set of 3 test / km	2 nos / km *

^a Density shall not be less than 98% of maximum dry density (Modified Proctor density).

Cementitious Base (CTB)

It consist of coarse graded aggregate mix, modified with 4% cement. Its elastic modulus (E) is determined from the Unconfined Compressive Strength (UCS) of the material, which is equal to 1000 times the UCS. The seven days UCS of CTB varies from 4.5 to 7 MPa.

1. Impact value- Maximum 30
2. Gradation of Mix as per Table 400-14
3. 150 mm cubic specimen cured and tested for 7 days UCS

Test	Min. frequency		For utilisation certificate
	MORD	MORTH/IRC 37 : 2018	
Impact value	1 test / km	1 no / 1000 m ³	1 no / 5 km *
Gradation	1 test / day	1 no / 200 m ³	1 no / km *
UCS ^a	-	3 test / 400 ton	2 nos / km *

^a 7 days UCS shall not be less than 5 MPa

Aggregate Stabilized with Emulsion/Foamed Bitumen

It consists of fresh aggregate or milled material from reclaimed asphalt pavements treated with foamed bitumen or emulsion (3.5%) along with Cement (1%).

1. Impact value- Maximum 30
2. Gradation of Mix as per Table 400-14
3. Indirect tensile strength (ITS)

Determined by testing Marshall mould prepared with the mix, tested under peripheral loading.

Test	Min. Frequency (As per MORTH)/IRC 37 : 2018	For utilisation certificate
Impact value	1 no / 1000 m ³	1 no / 5 km *
Gradation	1 no / 200 m ³	1 no / km *
Indirect tensile strength *	3 test / 400 ton	2 no / km *

^a Specified minimum ITS Should be > 225 KPa

Dense Graded Bituminous Macadam (DBM)

57

The thickness of Dense Bituminous Macadam a single layer shall be 50 mm to 100 mm. अनुमोदित क्वैरी से सैम्पल प्राप्त कर प्रतिष्ठित संस्थानों/कालेजों/क्वालिटी प्रमोशन सेल/अन्वेषणालय से Job mix एवं maximum dry density प्राप्त की जाये एवं अधीक्षण अभियन्ता से अनुमोदित करायी जाय।

50mm to 100mm

1. Gradation
2. Density
3. Bitumen Content

$$\text{Bulk specific Gravity} = \frac{A}{D-E-\frac{D-A}{F}}$$

Where : A = mass of dry specimen in air, g,
D = mass of dry, wax coated specimen, g,
E = mass of wax coated specimen under water,
F = specific gravity of wax at 25° C (0.900)

Test	Min. Frequency (As per MORTH)	For utilisation certificate
Gradation	1 set / 400 ton	1 no / km *
Density *	1 test / 700 m ²	4 no / km *
% of Bitumen **	1 set / 400 ton	2 no / km *

* - Mean value of the density should not be less than :

km ✗ 92 % of theoretical maximum specific gravity of mix + $\left[1.65 - \frac{1.65}{(\text{No. of samples})^{0.5}}\right]$ times the standard deviation

- To fulfil above criterion, the measurements shall be taken at each lane for a minimum completed length of one km.

- At any place value should not be less than 95 % of job mix bulk density.

** As per job-mix

↳ Any density ✗ $d_{\text{mean}} = \frac{d_1 + d_2 + \dots + d_n}{n}$
Always d place > 95% of Job Mix den

Bituminous Concrete (BC)

BC is used in wearing courses. Laid in single layer which may be 30mm/40mm/50mm thick. अनुमोदित क्वैरी से सैम्पल प्राप्त कर प्रतिष्ठित संस्थानों/कालेजों/क्वालिटी प्रमोशन सेल/अन्वेषणालय से Job mix एवं maximum dry density प्राप्त की जाये।

1. Gradation
2. Density
3. Bitumen Content

$$\text{Bulk specific Gravity} = \frac{A}{D-E-\frac{D-A}{F}}$$

Where : A = mass of dry specimen in air, g,
D = mass of dry, wax coated specimen, g,
E = mass of wax coated specimen under water,
F = specific gravity of wax at 25° C (0.900)

Test	Minimum frequency (As per MORTH)	For utilisation certificate
Gradation	1 set / 400 ton	1 no / km *
Density *	1 test / 700 m ²	4 no / km *
% of Bitumen **	1 set / 400 ton	1 no / km *

- Mean value of the density should not be less than : d_m ✗
- 92 % of theoretical maximum specific gravity of mix + $\left[1.65 - \frac{1.65}{(\text{No. of samples})^{0.25}}\right]$ times the standard deviation **58**
- To fulfil above criterion, the measurements shall be taken at each lane for a minimum completed length of one km.
- At any place value should not be less than 95 % of job mix bulk density,

Dry Lean Concrete (DLC)

निर्माण के समय 150 mm के क्यूब कास्ट किए जाए एवं उनके ऊपर दिनांक भी अंकित किए जाय।

Test	Min. Frequency (As per MORTH)	For utilisation certificate
Compressive strength [■]	3 nos / 1000 m ²	2 nos / km *

[■] As per characteristic strength.

Pavement Quality Concrete (PQC)

प्रतिष्ठित संस्थानों/कालेजों/क्वालिटी प्रमोशन सेल/अन्वेषणालय से Job mix कराया जाए एवं अधीक्षण अभियन्ता से अनुमोदित कराया जाय। निर्माण के समय 150 mm के क्यूब कास्ट किए जाए एवं उनके ऊपर दिनांक भी अंकित किए जाय।

Test	Min. Frequency (As per MORTH)	For utilisation certificate
Compressive strength [■]	2 nos / 150 m ³	2 nos / km *

[■] As per job mix.

Note : * For Single/double lane

- एक किलोमीटर से अधिक ग्रामीण मार्ग निर्माण के लिए निविदा आमंत्रित करते समय सेटोवेटर की अनिवार्यता बिड डाक्यूमेंट में रखी जाय।
- 5 करोड़ से अधिक लागत के समस्त कार्यों में निविदा आमंत्रण के समय प्रत्येक कार्य की साइट पर एक कोर कटिंग मशीन, सीमेन्ट से एग्रीगेट के स्टेबिलाइजेशन कार्य एवं सी0सी0 मार्ग निर्माण के कार्य में 15 mould एवं Compressive strength checking equipment की अनिवार्यता बिड डाक्यूमेंट में रखी जाय।
यदि एग्रीगेट का स्टेबिलाइजेशन इम्पल्शन से प्रस्तावित हो तो निविदा आमंत्रण के समय प्रत्येक कार्य की साइट पर एवं मार्शल मोल्ड टेस्टिंग मशीन की अनिवार्यता रखी जाय। (Marshall Mould testing)
- प्रत्येक खण्ड में 2 कोर कटिंग मशीन, एक मार्शल मोल्ड टेस्टिंग मशीन, 15 mould, 2 Sand replacement testing Apparatus एवं Compressive strength checking equipment अलग-अलग उपलब्ध इन चाहिए। इसकी आपूर्ति बड़े कार्यों में उपलब्ध कॉन्ट्रैक्टरों से की जाय।
- प्रत्येक वृत्त में न्यूक्लियर टेस्टिंग गेज मशीन शीघ्र क्रय की जाय। इसकी आपूर्ति अधीक्षण अभियन्ता, लखनऊ वृत्त के माध्यम से की जानी प्रस्तावित है।
- प्रत्येक ऐसे मण्डल में जहाँ मण्डलीय लैब है वहाँ Felling weight deflecometer क्रय किये जाय, जिसके लिए आवश्यक धनराशि की मांग मुख्यालय से की जाय।
- सभी कार्यों के टेस्ट रिजल्ट घणव्य साफ्टवेयर पर अपलोड किए जाय।

पूर्व निर्गत परिपत्रों को उपरोक्तानुसार उल्लेखित सीमा तक संशोधित माना जाय।

H0/-

(वी0 के0 सिंह)

प्रमुख अभियन्ता (निकास)

विभागाध्यक्ष

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :-

59

1. प्रमुख सचिव, लो0नि0वि0/नियोजन विभाग/ग्राम्य विकास विभाग, उ0प्र0 शासन, लखनऊ।
2. प्रमुख सचिव आवास, उ0प्र0 शासन, लखनऊ।
3. सचिव, लो0नि0वि0, उ0प्र0 शासन, लखनऊ।
4. प्रमुख अभियन्ता (परिकल्प/नियोजन)/(ग्रामीण सड़क), लो0नि0वि0, लखनऊ।
5. प्रमुख अभियन्ता, सिंचाई विभाग, कैंट रोड लखनऊ।
6. प्रबन्ध निदेशक उ0प्र0, रा0नि0नि0लि0/उ0प्र0, राज्य सेतु निगम लि0, लखनऊ।
7. मुख्य प्राविधिक परीक्षक, लोक निर्माण विभाग/सिंचाई विभाग, लखनऊ।
8. महालेखाकार, वर्क्स, उ0प्र0, इलाहाबाद।
9. समस्त मुख्य अभियन्ता, लो0नि0वि0, उ0प्र0।
10. निदेशक एवं मुख्य अभियन्ता, ग्रामीण अभियंत्रण विभाग, जवाहर भवन, लखनऊ।
11. निदेशक, मण्डी परिषद, किसान मण्डी भवन, विभूतिखण्ड, गोमतीनगर, लखनऊ।
12. निदेशक, गन्ना परिषद, 11 तिलक मार्ग, लखनऊ।
13. निदेशक, पंचायती राज, निकट पुरनियां चौराहा, लोहिया भवन, लखनऊ।
14. निदेशक, प्रायोजना रचना एवं मूल्यांकन प्रभाग, योजना भवन, उ0प्र0 लखनऊ।
15. मुख्यालय स्थित समस्त वरिष्ठ स्टाफ आफिसर/अधीक्षण अभियन्ता, लो0नि0वि0, लखनऊ।
16. निदेशक, अन्वेषणालय/उप निदेशक, क्यू0पी0सी0, लो0नि0वि0, लखनऊ।
17. समस्त अधीक्षण अभियन्ता/अधिसासी अभियन्ता, लो0नि0वि0, उ0प्र0 (ईमेल द्वारा)।

प्रमुख अभियन्ता (विकास) एवं
विभागाध्यक्ष

लोक निर्माण विभाग
कार्यालय प्रमुख अभियन्ता (विकास)

60

पत्रांक : 879 एम0टी0 / सामान्य वर्ग / 60 एम0टी0 / 2019 दिनांक-16.01.2019

परिपत्र संख्या - 62

अच्छे मार्गों के निर्माण के साथ सुरक्षित मार्ग निर्माण का दायित्व भी निर्माण एजेंसी का है। मार्ग समस्त प्रकार के यातायात विशेषतया Vulnerable Road Users (Pedestrians, Cyclist, Motor Cyclists) की सुरक्षा सुनिश्चित करते हुए बनाये जाये।

“Road safety is the in built safety features in the road from all the road users point view at any stage.” मार्ग को यातायात हेतु सुरक्षित प्रमाणित करने के लिये Road Safety Audit किया जाना आवश्यक है। “Road safety audit is the process to check potential crash worthiness of any road (weather it is new road or widened road, or any link, or any traffic management scheme). Road safety audit is proactive approach, before any crashes happens.” Road safety audit is done at following stage -

Planning Stage
Design Stage
Construction Stage
Pre opening Stage
Maintenance and operational Stage

Important Pillars of Road Safety -

Road safety management
Build safer roads
Build/Manufacture safer vehicles
Safe user behaviour
Improve post crash care

लोक निर्माण विभाग में मार्गों के चौड़ीकरण/सुदृढ़ीकरण के आगमन बनाने, मार्ग/सेतुओं के निर्माण एवं मरम्मत के अन्तर्गत मार्गों पर सुरक्षा के दृष्टिगत निम्नानुसार आदेश किये जाते हैं।

1. Planning and Design Stage

Improvement of Alignment/Curves

डी0पी0आर0 में Typical cross Section/ Strip plan लगाया जाये। यदि वर्तमान जगामितीय में सुधार की आवश्यकता है अर्थात् Improvement of Intersection, Construction of Rotary, Improvement of

Horizontal/Vertical Curves के सुधार निर्माण की आवश्यकता हो तो 61st एन एवं L-Section लगाये जायें। यह कार्य आउटसोर्सिंग के माध्यम से भी कराया जा सकता है, जिसका वहन मार्ग निर्माण की स्वीकृति होने के उपरान्त उसकी कन्टीजेसी से किया जाये।

विभिन्न श्रेणी के मार्गों (SH/MDR/ODR) पर Design speed के अनुसार मोड़ों का सुधार, अतिरिक्त चौड़ाई, सुपर ऐलीवेशन प्रदान किया जाये।

Design Speed

SH	100 Km/hr
MDR	80 Km/hr
ODR	65 Km/hr

Operating Speed

85th percentile speed is taken as operating speed. 85th percentile speed means 85 percent of all vehicles are observed to travel. 15th percentile speed is used as minimum speed.

Widening at Curves

item	Radius of Curve (M)				
	Upto 20 m	21-60 m	More than 60 m	75-100 m	101-300 m
Single Lane Road	0.9 m	0.6 m	Nil		
Two Lane Road	-	-	-	0.9 m	0.6 m

सामान्यतया अतिरिक्त चौड़ाई कर्व के आउटर साइड में दी जाये।

Improvement of Curves

यदि भूमि अनुपलब्धता के कारण ज्यामितीय सुधार सम्भव न हो तो, मोड़ के दोनों ओर गति सीमा का साईन बोर्ड लगाया जाये। गति सीमा निर्मानुसार निर्धारित करें:-

$$e + f = \frac{V_a^2}{127R}$$

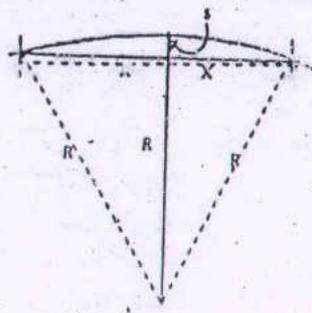
$$V_a = \sqrt{127.5 \cdot R \cdot (e + f)}$$

Where :

- e = Super Elevation (maximum 7%)
- f = Friction (0.15)

- उदाहरणतया:-
- Super Elevation 'e' (max) = 7%
 - Friction 'f' = 0.15
 - Radius 'R' = 20 m
 - Speed 'Va' = 24 km/hr

वर्तमान मार्ग पर मोड़ की Radius निर्मानुसार निकाली जा सकती है:-



- X = Chord length, measured by tape
- S = Offset from the chord to the point of curve
- R = Radius

$$R^2 = (R - S)^2 + X^2$$

$$= R^2 + S^2 - 2RS + X^2$$

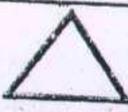
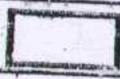
$$R = \frac{S^2 + X^2}{2S}$$

Road Signs

62

किलोमीटर वार चैनज अंकित करते हुए रोड साईनेज का प्राविधान IRC:67 के अनुसार किया जाये।

Road Signs

Type of signs	Shape	Example	Remarks
Mandatory/ Regulatory Signs		 	Blue Circles give a positive instruction (what must be done)
			Red circles give a negative instruction (what must not be done)
Cautionary/Warning Signs		 	Triangular signs warn
Informatory Signs		 	Rectangular signs give information and directions

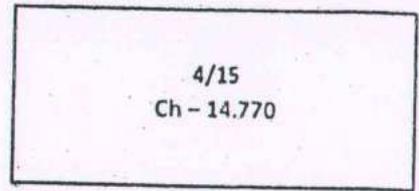
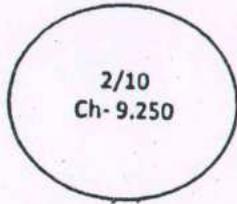
Type of signs	Speed	Diameter of sign in mm	Minimum distance from the object in meters	Font size in mm
Mandatory/ Regulatory Signs	65	600	250	125
	81-100	900	350	150

Type of signs	Speed	Triangle size in mm	Minimum distance from the object in meters
Cautionary/ Warning signs	65	900	110
	≥80	1200	180

Type of signs	Speed	Minimum height of letters in mm	Minimum clear visibility in meters
Informatory signs	Place Identification	65	75
		80-100	105
	Cantilever/Over head	65	150
		80-100	200

Type eleven reflective sheet shall be used for state Highway and for rest of the road categories type four sheeting shall be used.

Every board should be given an identification no. & an inventory of the same should be maintained at the divisional office. Identification no. shall be marked in the center of board on the back side as follows: **63**

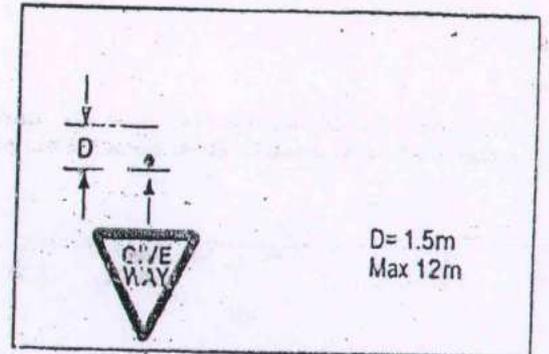


Board no. 2 in Km 10 at chainage 9.250

Board no. 4 in Km 15 at chainage 14.770

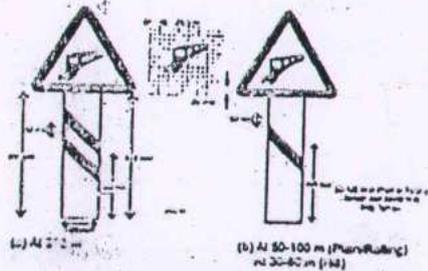


Stop Sign at Minor Road

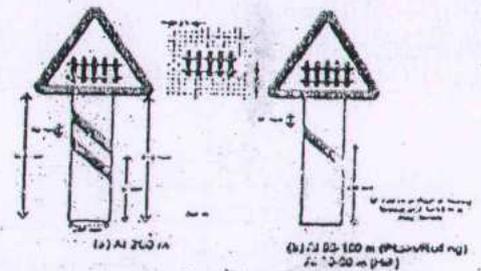


Give-Way Sign at Minor Road

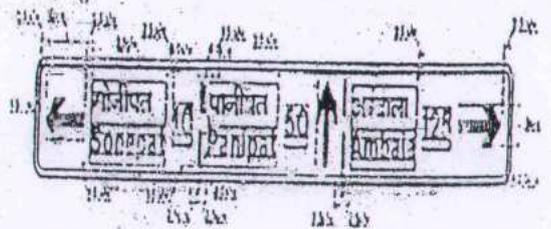
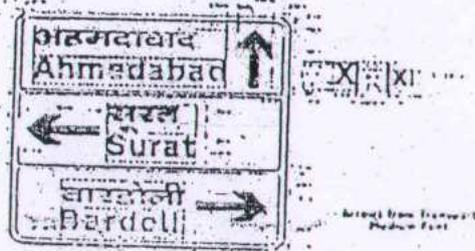
Note : Only one sign either stop or Give way is to be placed on minor road. For less visibility stop sign should be preferred.

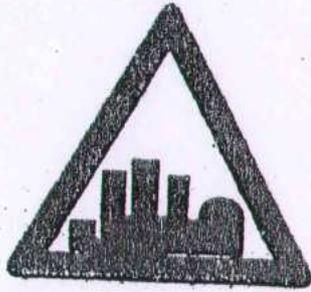


Unguarded Railway Crossing

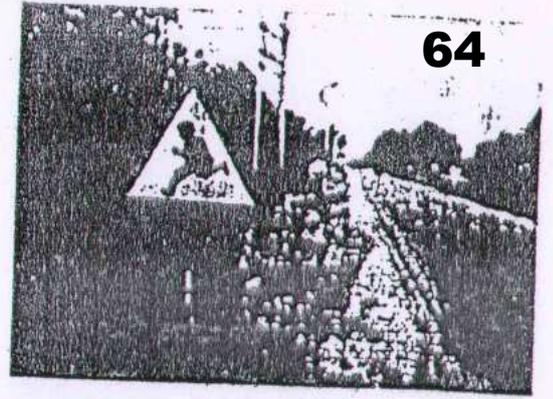


Guarded Railway Crossing



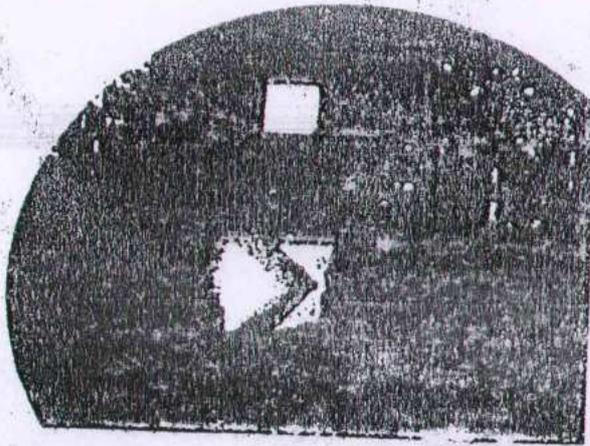


For Built Up Area

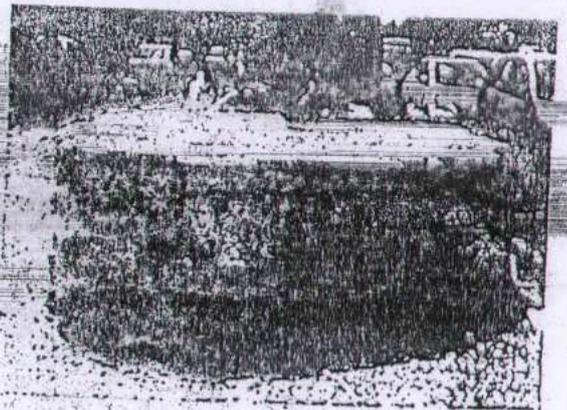
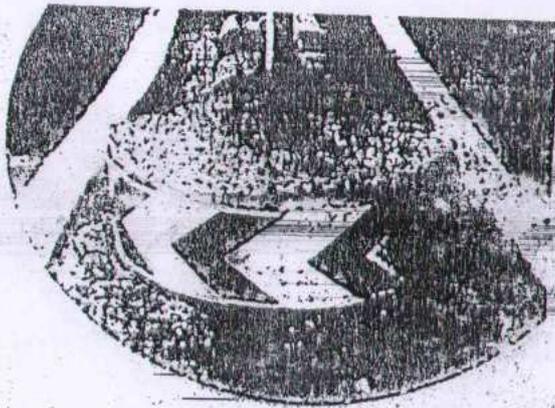


64

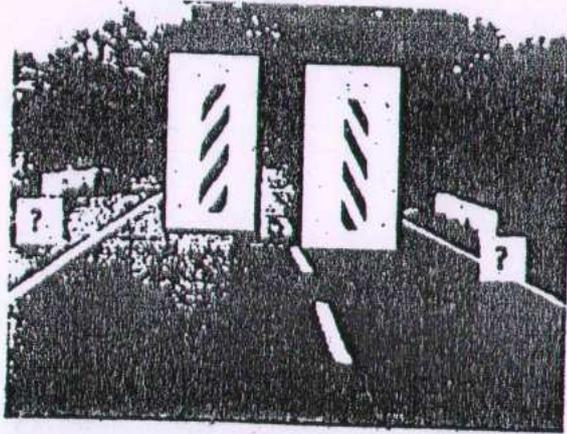
Warning can be given by signs, pavement markings or rumble strip. The message should be clear and simple.



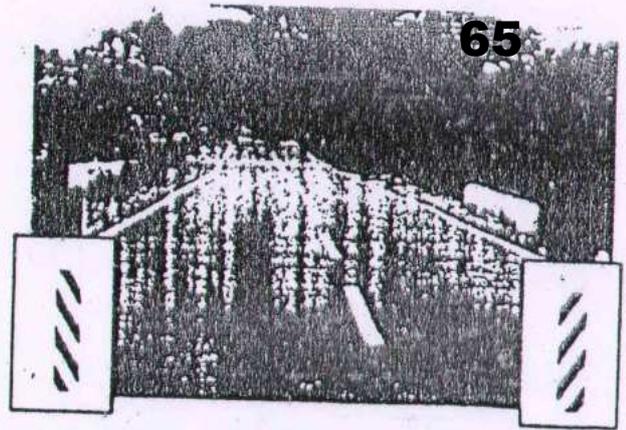
Tree Plates



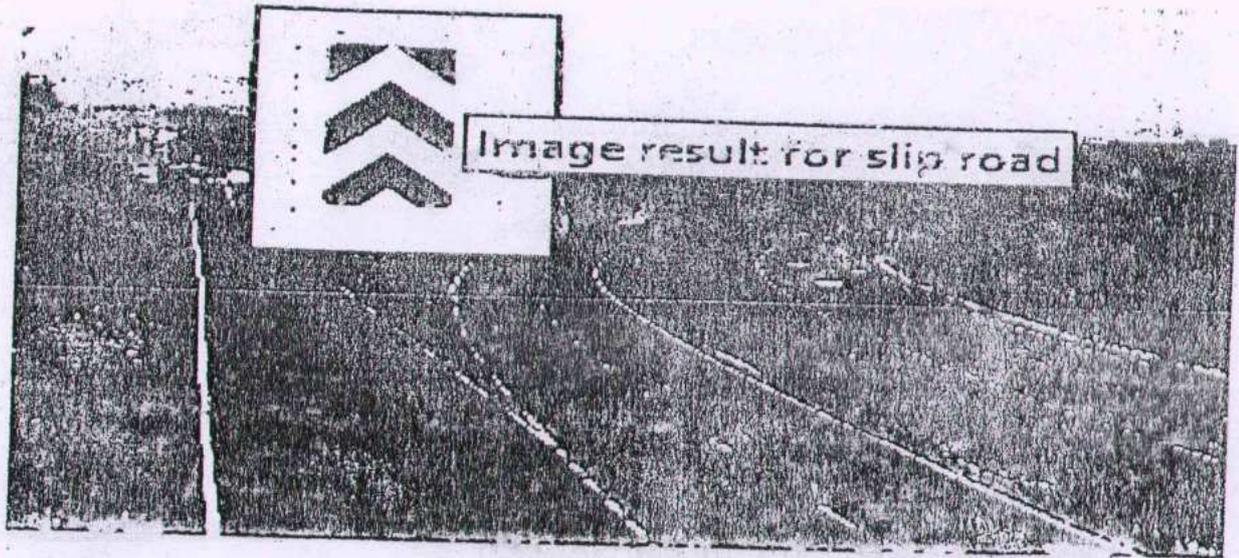
IDS (Linear Delineation System) for better and raising of divider



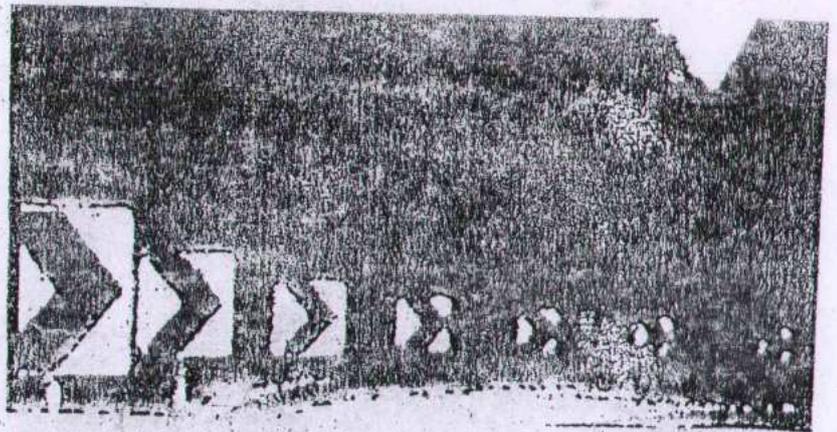
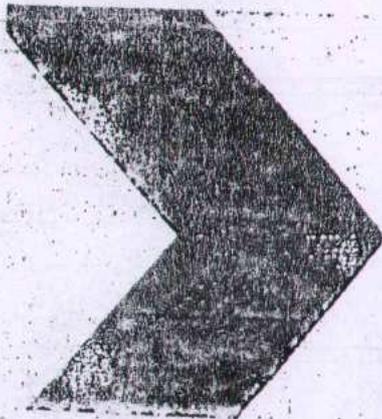
Wrong placing of Hazard Marker



Correct placing of Hazard Marker

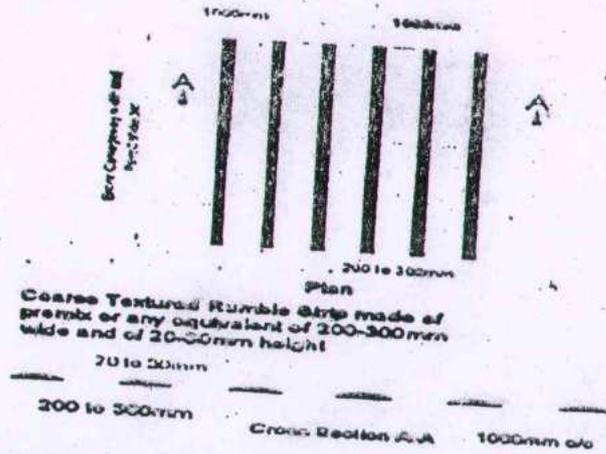


Hazard Marker for diverging route

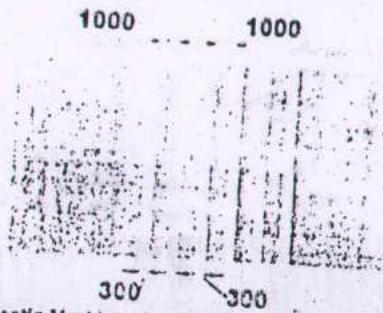


Chevrons should be placed at 20 m spacing on outer edge of curve for radius upto 200 m and at an interval of 40 m apart before the curve. For more details refer IRC : 67

As per IRC:99 following Traffic Calming Measures are used.

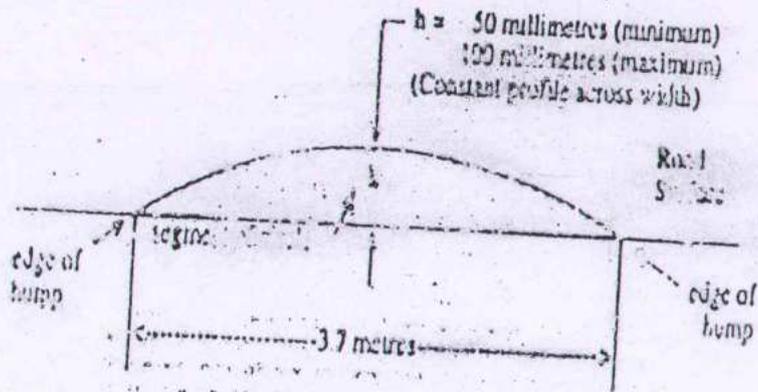


Rumble Strip with Bituminous material at minor roads



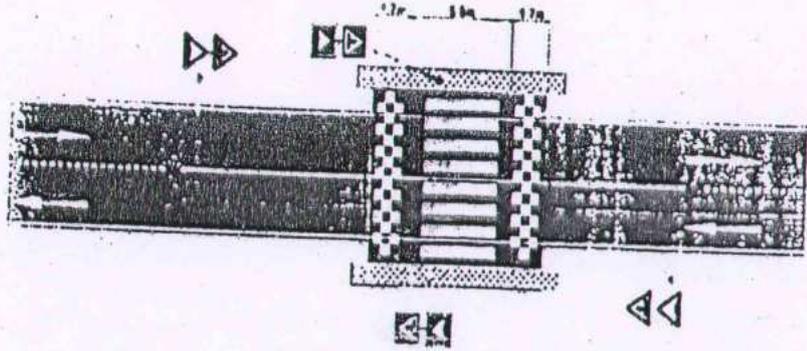
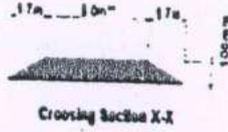
Thermoplastic Marking of 300 mm wide and 15 mm height, at 1000 mm apart (one set is of 2 Sides). 15 mm height is achieved through the application of thermoplastic, applied at an interval of less than 1 hour after the previous layer gets solidified. The material used is US Asphalt or any equivalent material which has a depth of 15 mm high.

Repeated Bars with Thermoplastic Paint at major roads



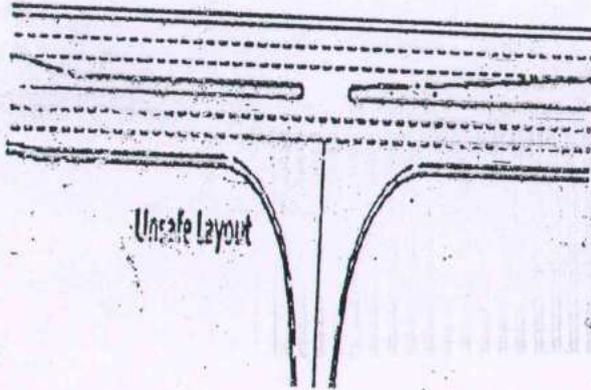
Details of circular hump at minor roads

Length of flat top shall be increased to full wheel base of a bus to reduce passenger discomfort to a minimum

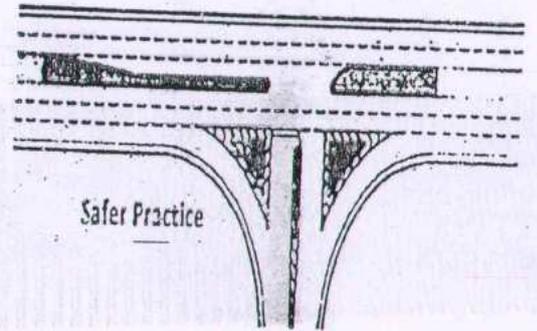


Speed Table on major road in city portion

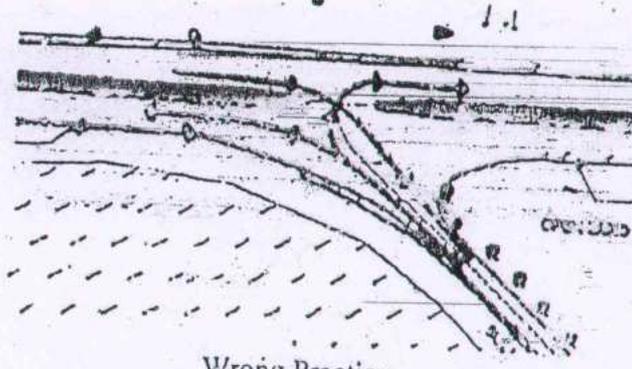
Improvement of Junctions



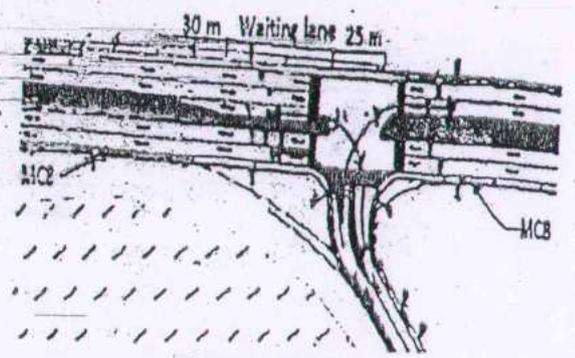
Unsafe Layout



Safer Practice



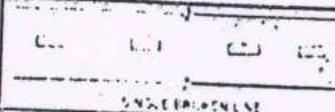
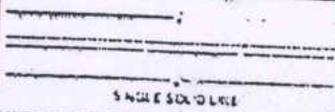
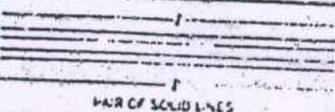
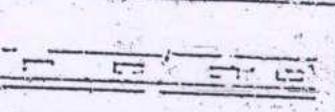
Wrong Practice



Correct practice

Road marking shall be done as per IRC:35

Road Markings

Type of line	Figure	Description
Broken line		Broken lines are permissive in character and may be crossed with discretion, if traffic permits
Solid lines		Solid lines are restrictive in character and indicate that crossing is not permitted except for entry or exit from a side road.
Double solid lines		Double solid lines indicate maximum restrictions and are not to be crossed except in emergent usage
Combination of broken and solid lines		In a combination of broken and solid lines, a solid line may be crossed, with discretion, if the broken line is nearer to the direction of travel. Vehicle from the opposite directions are not permitted to cross the solid line

The edge line is placed 15 cm inside from the edge.

Colour Pattern for Markings

The general colour pattern followed for road marking and various background surfaces are given below:

White

Because of the visibility and good contrast against the road surface, the white colour should be widely used for road markings.

Yellow

The longitudinal marking in yellow colour should be used to convey message where it is not permitted to cross the markings. Yellow colour is also used to show parking restrictions and to impose other traffic control.

Blue

The blue colour shall be used to indicate dedicated bus lanes in the Bus Rapid Transit (BRT) corridor on urban streets.

Green

The green colour should be deployed to distinguish the bicycle and non-motorised transport facilities provided on the road.

Permanent markings are broadly classified as follows:-

- I. Longitudinal Marking (LM)
- II. Transverse Marking (TM)

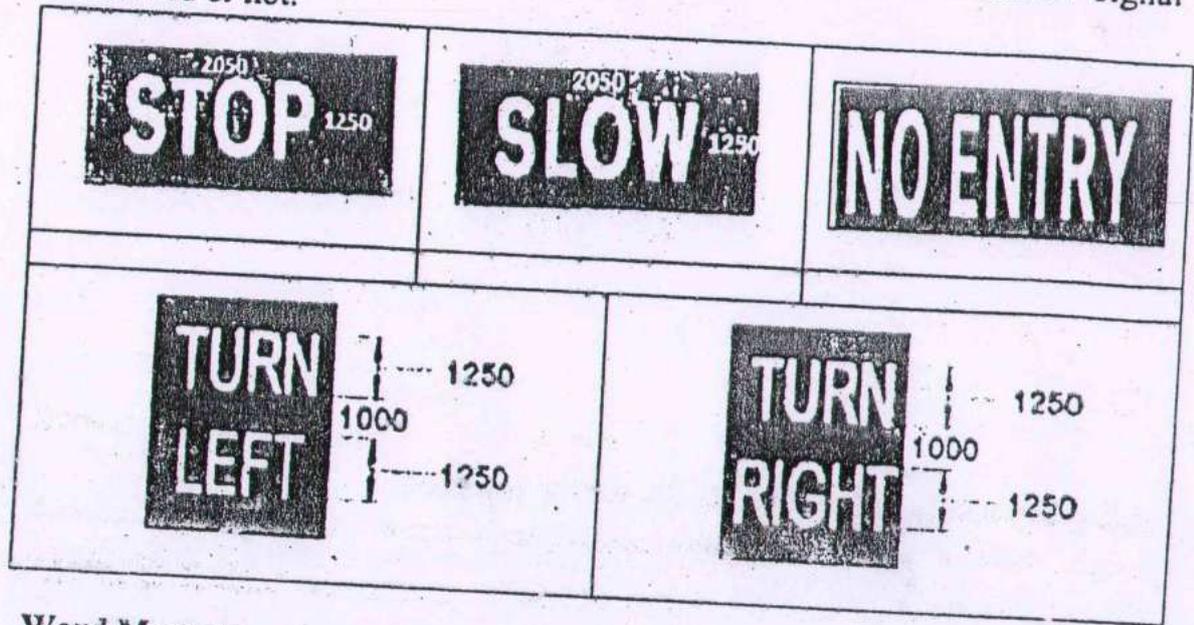
- III. Hazard Marking (HM)
- IV. Block Marking (BM)
- V. Arrow Marking (AM)
- VI. Directional Marking (DM)
- VII. Facility Marking (FM)

Marking Abbreviation	Type	Segment length (in cm)	Length of Gap (in cm)	Width (in cm)	Colour	Place Pattern
LM	Broken	300	600	10	White	Lane marking (can be crossed)
LM	Continuous	-	-	15	White	
LM	Continuous (Two lines)	Two solid lines separated by 10 cm	-	10	White	At the edge of carriage way and at edge (shall not be crossed)
LM	Continuous	-	-	15	Yellow	
LM	Continuous & Broken	Continuous and broken separated by 10 cm	-	Each line 10 cm	White	Marking provided is strictly prohibited
TM	Bar Marking (On set)	Across full carriage way	-	Strips of 300 wide 5mm high & 600 mm apart	Yellow	
	Straight Arrow				White	
	Left Arrow				White	
	Right Arrow				White	
	Straight & Left Arrow				White	
	Straight & Right Arrow				White	

Direction Information

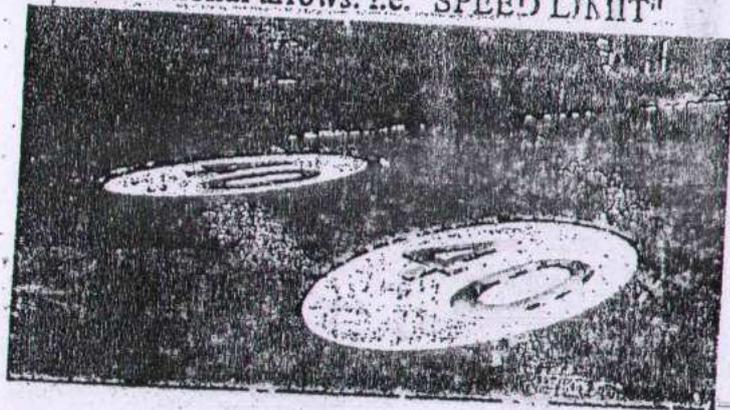
70

Directional arrows should be used in advance to guide drivers to correct lane when approaching busy intersections whether signal controlled or not.



Word Message

The general information to guide, warn or regulate traffic may also be conveyed by inscription of word message on road surface in capital letter in addition to directional arrows. i.e. "SPEED LIMIT"



Parking

The limits of the designated parking places should also be indicated by informative parking signs mounted on the kerb side in accordance with IRC:67-(2012)

Kerbs of all islands, dividers, concrete, barriers on bridges & flyovers located in the line of traffic flow shall be painted with black & white stripes of 500 mm width. The sections where some restriction like 'No Parking', 'No Stopping' is in vogue, the Kerb of footpath shall be painted in yellow.

For further detail refer IRC:35

Road Studs

White Colour

White road studs are to indicate traffic lane line and centre of carriage way.

Red Colour

Red road studs are to be used to indicate a line which should not be crossed (Left/Right edge).

Yellow Colour

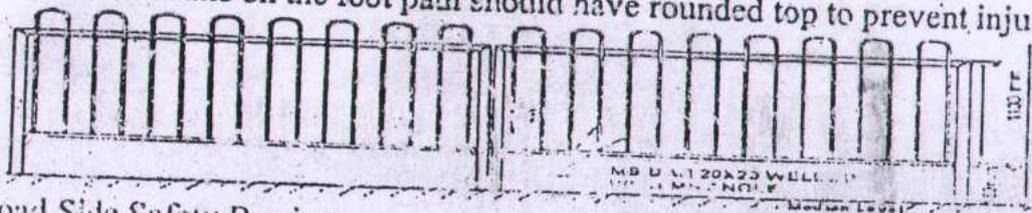
Yellow road studs are to be again deployed to indicate a line which should not be crossed.

Road Studs are placed outside the edge line.

Description	Spacing in meters		
	Centre line	Edge line	Lane line
Two lane Road	18 (White)	18 (Red)	-
Two lane paved shoulder	18 (White)	18 (Red)	-
Four lane divided carriage way	At 18m on shoulder side edge (Red) At 18m on median side edge (Yellow) At 9m for traffic lane (White)		

Guard Rail

Guard rails on the foot path should have rounded top to prevent injuries

**Road Side Safety Barriers**

These are three types of longitudinal road side safety barriers viz -

- Semi-rigid type like
 - W-beam type steel barriers
 - Three beam type steel barriers
- Rigid type (like concrete crash barriers)
- Flexible type (like wire rope fencing)

Invariable w-beam and wire rope barrier shall not be installed upon a structure. For further details refer IRC SP 84.

2. Construction Stage

Following are important Guide lines to be followed during construction-

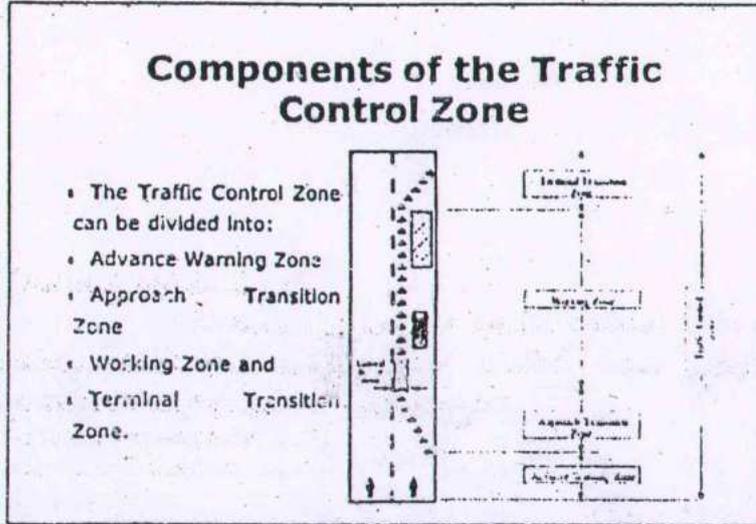
- To the road user clearly and sufficiently far in advance
- Provide safe and clearly marked lanes for guiding road users
- Provide safe and clearly marked buffer and work zones
- Provide suitable measures to control driver's behaviour through construction zones.

Traffic Control Zone

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At construction site traffic control zone should be define for safety, efficient movement of traffic, rapid progress and safety of construction equipment and workers.

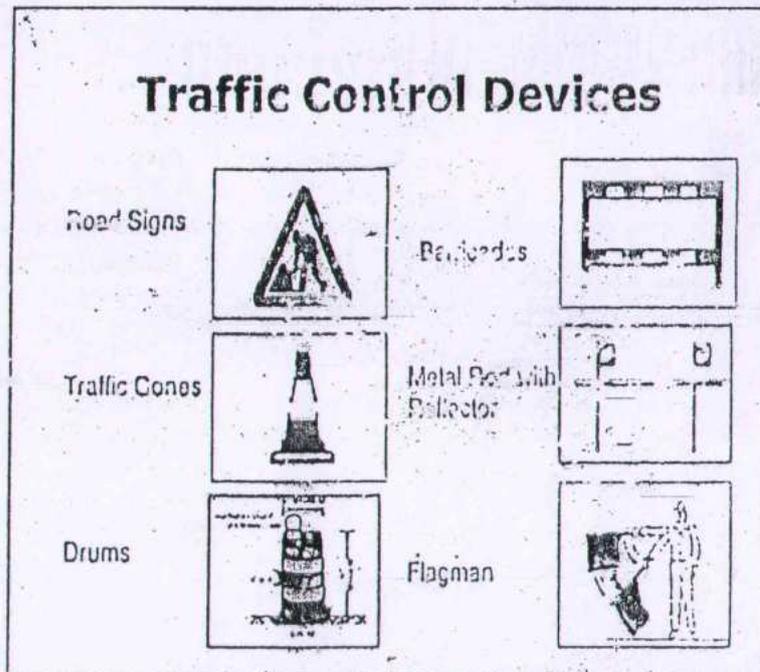
- Advance warning zone
- Approach Transition zone
- Working Zone
- Terminal Transition Zone



For construction of structures like RCB, Fly over New jersey Type Barrier should be placed at the outer edge of working zone and lateral clearance should be 2 to 3 m.

Traffic Control Device

Traffic Control device should be put at appropriate places



Safety of Workmen

Overview

- Workmen must be trained in use of tools and plant.
- Gum boots, spectacles, etc. must be given to persons handling bitumen.
- First-aid training be provided to all workmen and enough safety kits should be available at the site and
- Workers required on site during night hours must be provided with fluorescent yellow jackets with reflective tapes.



3. Pre-opening Stage

To ensure that completed project has addressed all safety concerns.
 To check any other hazardous condition which have been overlooked before.
 To spot mistakes in signs and road marking.

Following point should be checked

Drainage
 Safety Barriers and Fences
 Bridge parapets
 Visibility
 Road Interfaces
 Markings
 Signal
 Pedestrians
 Cyclists

Typical point of observations

- End Treatment of W-Beam Barriers at culverts and Bridges
- Rigid concrete barrier and W-beam barrier should be joined evenly at inner face
- Rigid concrete barrier should be provided with typical Hazard Marker (parapet)
- End of W-beam barrier to be anchored to ground as per standard
- Minor road cross major road hazardously may be converted into staggered intersections
- Wide junction (too wide) may be provided with ghost islands
- School children/village crossing are not adequately catered in the design
- Placement of signs improper / stop signs should be installed at 2m to 4m from stop line
- Provide chevron signs on curve so as to view at least 2 nos of chevron at given instance of viewing

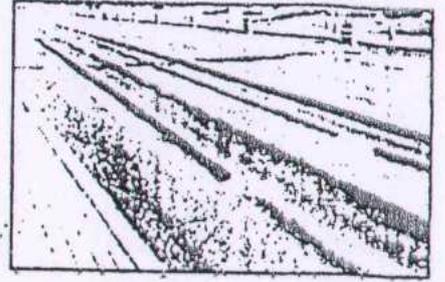
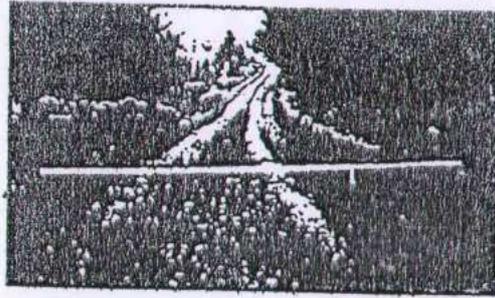
4. Maintenance Stage

Parameters that affect road safety

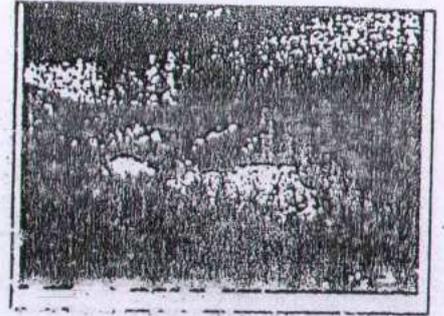
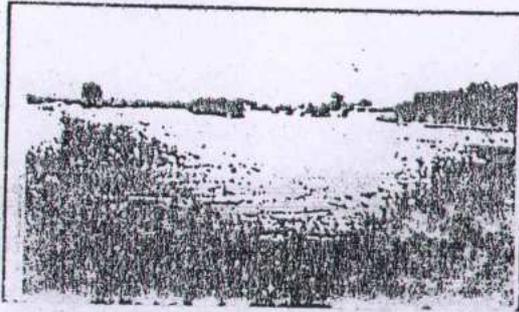
Surface Texture and Friction
 Roughness
 Rut Depth
 Potholes
 Shoulder Conditions
 Edge Break/Edge Drop
 Full Depth Corner Cracks
 Blow up at Joint

Failure in Pavement

Following are the normal pavement failures

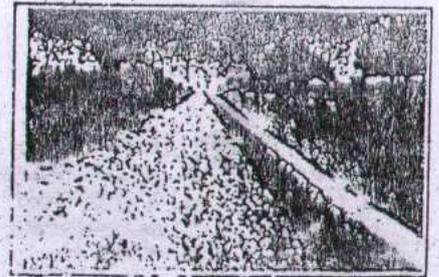
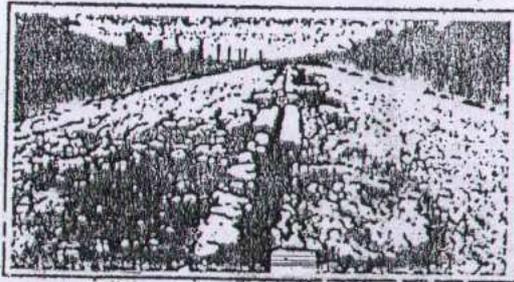


Rutting



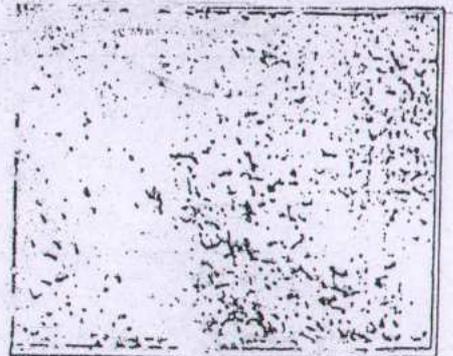
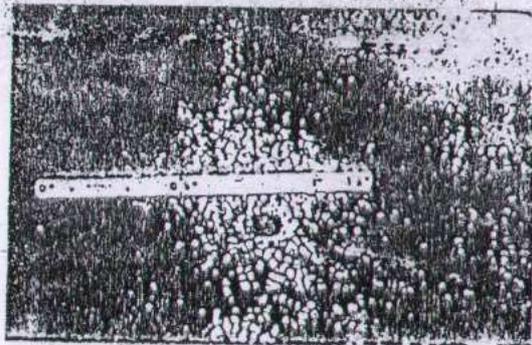
Block Cracking

Pot Hole

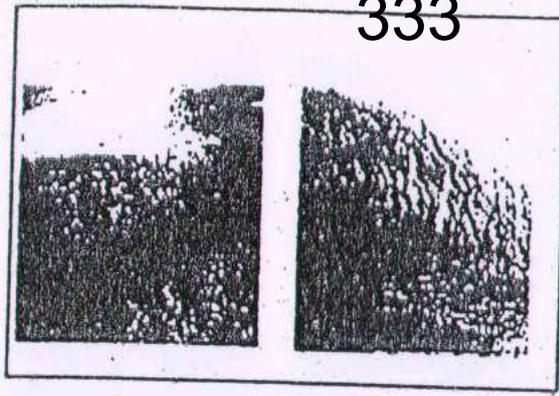


Fatigue Cracking

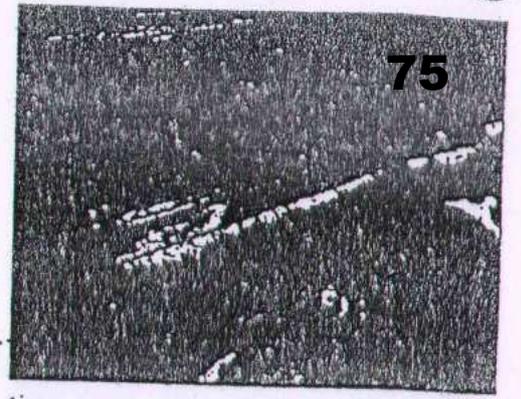
Edge Drop



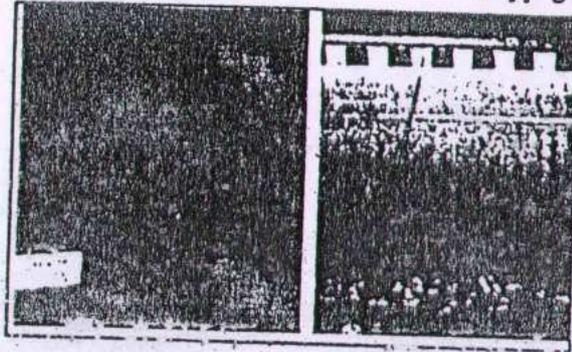
Ravelling



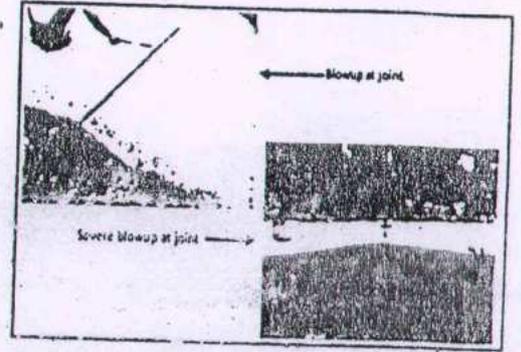
Slippage Cracks



75



Full Depth Corner Cracks



Blowup at Joint

ह०/-

(वी० के० सिंह)

प्रमुख अभियन्ता (विकास)
विभागाध्यक्ष

- प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :-
1. प्रमुख सचिव, लो०नि०वि०, नियोजन विभाग/ग्राम्य विकास विभाग, उ०प्र० शासन, लखनऊ।
 2. प्रमुख सचिव आवासा, उ०प्र० शासन, लखनऊ।
 3. स.स.देव, लो०नि०वि०, उ०प्र० शासन, लखनऊ।
 4. प्रमुख अभियन्ता (परिकल्प/नियोजन)/ग्रामीण सड़क, लो०नि०वि०, लखनऊ।
 5. प्रमुख अभियन्ता, सिंचाई विभाग, कैंट रोड लखनऊ।
 6. प्रबन्ध निदेशक उ०प्र०, रा०नि०वि०/उ०प्र०, राज्य सेतु निगम लि०, लखनऊ।
 7. मुख्य प्राविधिक परीक्षक, लोक निर्माण विभाग/सिंचाई विभाग, लखनऊ।
 8. महालेखाकार, एक्स०, उ०प्र०, इलाहाबाद।
 9. समस्त मुख्य अभियन्ता, लो०नि०वि०, उ०प्र०।
 10. निदेशक एवं प्रमुख अभियन्ता, ग्रामीण अभियंत्रण विभाग, जवाहर भवन, लखनऊ।
 11. निदेशक, मण्डी परिषद, किसान मण्डी भवन, विभूतिखण्ड, गोमतीनगर, लखनऊ।
 12. निदेशक, मन्ना परिषद, 11 तिलक मार्ग, लखनऊ।
 13. निदेशक, पंचायती राज, निकट पुरनियाँ चौराहा, रोहिया भवन, लखनऊ।
 14. निदेशक, प्रायोजना रचना एवं मूल्यांकन प्रभाग, योजना भवन, उ०प्र० लखनऊ।
 15. मुख्यालय स्थित समस्त वरिष्ठ इलाक़ ऑफिसर/अधीक्षण अभियन्ता, लो०नि०वि०, लखनऊ।
 16. निदेशक, अन्वेषणालय/उप निदेशक, वयू०पी०सी०, लो०नि०वि०, लखनऊ।
 17. समस्त अधीक्षण अभियन्ता/अधिसारी अभियन्ता, लो०नि०वि०, उ०प्र० (ई०एल द्वारा)।

प्रमुख अभियन्ता (विकास) एवं
विभागाध्यक्ष

334 निर्माण विभाग
कार्यालय प्रमुख अभियन्ता (विकास)

76

पत्रांक : 878 एम0टी0 / सामान्य वर्ग / 60 एम0टी0 / 2019 दिनांक-16.01.2019

परिपत्र संख्या - 63

मार्ग निर्माण, चौड़ीकरण एवं सुदृढ़ीकरण हेतु विभिन्न आई0आर0सी0 कोड, समय-समय पर निर्गत प्रमुख अभियन्ता परिपत्रों के अनुरूप आगणनों में एकरूपता लाने के उद्देश्य से निम्न आदेश निर्गत किए जाते हैं :-

1. आगणन गठन

टाइटिल पेज

(टाइटिल पेज पर मार्ग का नाम, मार्ग का यूनिक कोड नंबर, वृत्त का नाम, खण्ड का नाम, योजना का नाम, मार्ग की लम्बाई, मार्ग की कुल लागत एवं प्रति कि0मी0 लागत अंकित की जाये।)

चेक लिस्ट

इन्डेक्स

प्रतिवेदन

आगणन के प्रतिवेदन में निम्नानुसार सचहेड अंकित किए जाये :-
कार्य का विवरण

कार्य की उपयोगिता

भूमि की उपलब्धता

वन भूमि संबंधी आख्या

यूटिलिटी शिफ्टिंग

यातायात विवरण

परिकल्पना

रोड सेपटी

विशिष्टियाँ

लागत का सारांश

विशिष्टियाँ

आगणन HORD\MCP&HPWD की विशिष्टियों के अनुसार गठित किया जाये।

भूमि उपलब्धता

का प्रमाणपत्र

सन्दर्भ

अधिकतम एक पत्रांक

परिपत्र

परिपत्र संख्या-61, 62, 63 एवं कार्यालय
ज्ञाप संख्या 47 संलग्न किये जायें।

Design Parameters

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- 1- Name of work:- =
- 2- CBR (in %) =
- 90th percentile CBR (in %) for SH =
- 80th percentile CBR (in %) for MDR / ODR =
- Source =

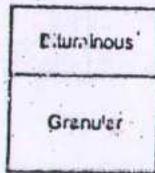
3- Traffic Data (Average for one day)

Motorised Traffic					Non-Motorised Traffic			
Cars, Jeep, Vans, Three Wheelers	Mortorised Two Wheelers	Light Commercial Vehicle	Trucks	Agricultural Tractors/ Trailers	Buses	Cycles	Cycle Rickshaw	Animal Drawn Vehicle

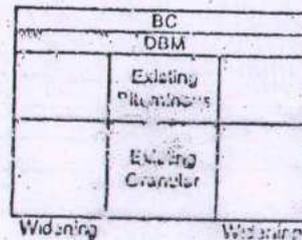
- PCU =
- CVPD =
- Source of traffic census = Conducted by PWD officers
- Duration of Traffic census =
- Name of AE 1 = Sri.....
- Name of AE 2 = Sri.....
- Name of JE 1 = Sri.....
- Name of JE 2 = Sri.....
- Name of JE 3 = Sri.....

4- Design Parameters

- JRC Code =
- Category of roads =
- Design life =
- Lane distribution factor =
- Period of construction =
- VDF =
- MSA =
- 5- Existing carriage way width =
- 6- Proposed carriage way width =
- 7- Existing and proposed crust composition



Existing Module

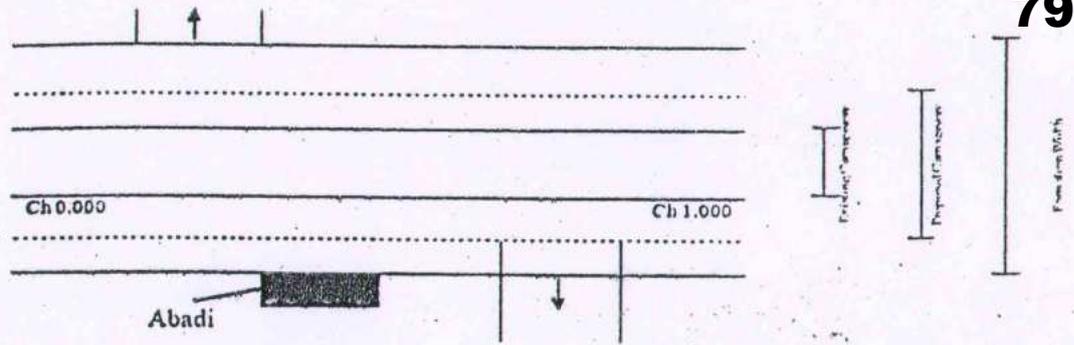


Widening Widening

Proposed Module

क्रस्ट का विवरण

KM.	Carriage Way (m)		Crust (cm)						Last year of renewal
	Existing	Proposed	Existing			Proposed			
			Granular	Bituminous	CC	Granular	Bituminous	CC	



Item	Nos
Horizontal Curves	12
Vertical Curves	1
Culverts	28
Bridges (Minor)	—
Bridges (Major)	—

रोड साईनेज

Items	Sign	Nos
Hump		—
Round Strip		—
Chevron		240
Hazard		82
Stop		72
Give way		—
Speed Limit		46
T-Junction		—
Name of Abadi		—
Built up		—

Hospital		— 80
School		—
Petrol Pump		—
Police Station		—
Guarded Railway Level Crossing		—
Crash Barrier		245635.00 RM
Speed Table		—
Cantilever		412
Overhead		05

उपरोक्तानुसार प्रत्येक टाईटिल के बाद एक रंगीन सेपरेटर लगाया जाये एवं प्रत्येक पृष्ठ पर क्रमांक अंकित करते हुये इन्स्ट्रक्स में भी विवरण अंकित किया जाय।

2. मानक

ग्रामीण मार्ग की परिकल्पना

Tentative Minimum Crust Thickness in mm for Preliminary Estimation*

CBR in %	ESAL upto 1 Lakh	
	New Construction	BOE to painting
Upto 2.5 (Black cotton soil)	Stabilized Subgrade* = 300	GSB (widening)* = 110
	CTSB = 100	GSB = 100
	CTB = 140	CTB = 120
	PC = 20	PC = 20
	Stabilized Shoulder = 260	Stabilized Shoulder = 260
Upto 3.5 (No black cotton soil)	Stabilized Subgrade* = 300	GSB (widening)* = 110
	CTSB = 100	GSB = 100
	CTB = 140	CTB = 120
	PC = 20	PC = 20
3.5 - 5	CTSB = 100	GSB (widening)* = 110
	CTB = 140	GSB = 100
	PC = 20	CTB = 120
		PC = 20
5 - 8	CTSB = 100	GSB (wid)* = 110
	CTB = 100	GSB = 100
	PC = 20	CTB = 75
		PC = 20

For detail design refer IRC SP : 72 - 2015

* Subgrade should be stabilized with 2% OPC cement upto 300 mm depth.

* In widening if required

CTSB = Cement treated sub-base, CTB = Cement treated base, ESAL = Equivalent standard axle load

विशिष्टियाँ

Carriage way	3.75 m
Formation	7.5 m
Camber	2.5%
Super elevation	≤ 7%
Slope of Embankment	1:2

यदि मार्ग निर्माण हेतु पर्याप्त चौड़ाई में भूमि उपलब्ध नहीं है एवं मार्ग पर आंकलित यातायात अत्यन्त कम हो, तो कैरिजवे की चौड़ाई में परिवर्तन मुख्य अभियन्ता के लिखित आदेश के बाद 3.00 मी० तथा तटबंध की चौड़ाई 6.00 मी० की जा सकती है।

मार्ग निर्माण से पूर्व स्थानीय कृषकों से निःशुल्क भूमि उपलब्ध कराने की सहमति प्राप्त की जाये।

दो लेन मार्ग

Carriage way	7 m
Formation	12 m
Camber	2.5%
Super elevation	≤ 7%
Paved Shoulder	

मार्ग के दोनों ओर घनी आबादी में पेव्ड शोल्डर का निर्माण किया जाये। (1.5 m each side)

चार लेन मार्ग

Carriage way	$2 \times (7+1.5+0.5) = 18 \text{ m}$
Formation	27 m
Camber	2.5%
Super elevation	≤ 7%

डिजाइनिंग स्पीड

SH	100 Km/hr
MDR	80 Km/hr
ODP	65 Km/hr

मोड़ों पर अतिरिक्त चौड़ाई

Item	Radius of Curve (M)				
	Upto 20 m	21-60 m	More than 60 m	75-100 m	101-300 m
Shoulder Road	0.9 m	0.9 m	Nil	-	-
Total Lane Road	-	-	-	0.9 m	0.9 m

समान्यतया अतिरिक्त चौड़ाई कर्व के आउटर साईट में दी जाये।

मोड़ों का सुधार

भूमि की उपलब्धता के अनुसार मोड़ों का सुधार किया जाये। सुधार प्रस्तावित करने की स्थिति में स्थल का Plain Table/Total Station एवं L-Section लगाया जाये।

फुटपाथ/पट्टिलिटी डकट

समान्यतया भूमि की उपलब्धता के अनुसार फुटपाथ 1.5 मी० से 2.5 मी० चौड़ा फुटपाथ निर्माण कराया जाये जिसकी ऊंचाई 15 सेमी से रखी जाये एवं मार्ग के दोनों ओर भूमि उपलब्धता के अनुसार पट्टिलिटी डकट का भी निर्माण किया जाये।

मीडियन की चौड़ाई

Open area	5m
Builtup area	2.5m
Builtup area (restricted)	1.5m/New Jersey type

मीडियन गैप

Open area	2 to 5 Km
Builtup area	500m/(मुख्य अभियन्ता की लिखित अनुमति से कम किया जा सकता है।)
Width of gap	20 से 30 m

क्रैश बैरियर

मीडियन की चौड़ाई—5 मी० से कम होने पर (in open area) एवं तटबन्ध की ऊँचाई—3 मी० या उससे अधिक होने पर क्रैश बैरियर लगाया जाये।

रोड साईनेज

किलोमीटर वार मैनेज अंकित किये हुए रोड साईनेज का प्राविधान IRC:67 के अनुसार किया जाये।

रोड मार्किंग

रोड मार्किंग के अन्तर्गत सेंट्रल लाईन, लेन लाईन, एज लाईन, जेब्रा क्रॉसिंग इत्यादि का प्राविधान IRC:35 के अनुसार किया जाये।

Parameters for Pavement design

For detailed project report, design should be checked with IIT Pave for Following strains

- Fatigue strain at bottom of bituminous layer
- Fatigue strain at top of the subgrade
- Fatigue strain in CTB accounting for load spectrum
- Available strain from adopted modulus should be at least 10% less than the permissible strain
- VG-40 should be used for traffic of 50 MSA or more
- Modulus of different layers should be as follows unless available from known sources

VG 40	=	3000 MPa
VG 30	=	1700 MPa
Existing bituminous layer in good condition	=	750 MPa
Existing bituminous layer in poor condition	=	450 MPa
Existing bituminous layer in very poor condition	=	300 MPa
RAP	=	600 MPa
Fresh WMM stabilized with emulsion	=	600 MPa
Fresh WMM existing sub-base/base/subgrade	=	300 to 450 MPa
Cement Treated Base (CTB)	=	5000 MPa
Cement Treated Sub-base (CTSB)	=	2000 MPa

पूर्व निर्माण परिपत्रों को उपरोक्तानुसार उल्लेखित सीमा तक संशोधित माना जाये।

ह०/-

(वी० के० सिंह)

मुख्य अभियन्ता (विकास) एवं
निर्माणाध्यक्ष

प्रतिलिपि निम्नलिखित को सूचना एवं आवश्यक कार्यवाही हेतु प्रेषित :-

1. प्रमुख सचिव, लो0नि0वि0/नियोजन विभाग/ग्राम्य विकास विभाग, उ0प्र0 शासन, लखनऊ।
2. प्रमुख सचिव आवास, उ0प्र0 शासन, लखनऊ।
3. सचिव, लो0नि0वि0, उ0प्र0 शासन, लखनऊ।
4. प्रमुख अभियन्ता (परिकल्प/नियोजन)/(ग्रामीण सड़क), लो0नि0वि0, लखनऊ।
5. प्रमुख अभियन्ता, सिंचाई विभाग, कैंट रोड लखनऊ।
6. प्रबन्ध निदेशक उ0प्र0, रा0नि0नि0लि0/उ0प्र0, राज्य सेतु निगम लि0, लखनऊ।
7. मुख्य प्राविधिक परीक्षक, लोक निर्माण विभाग/सिंचाई विभाग, लखनऊ।
8. महालेखाकार, वर्क्स, उ0प्र0, इलाहाबाद।
9. समस्त मुख्य अभियन्ता, लो0नि0वि0, उ0प्र0।
10. निदेशक एवं मुख्य अभियन्ता, ग्रामीण अभियंत्रण विभाग, जवाहर भवन, लखनऊ।
11. निदेशक, सण्डी परिषद, किसान सण्डी भवन, विभूतिखण्ड, गोमतीनगर, लखनऊ।
12. निदेशक, गन्ना परिषद, 11 तिलक मार्ग, लखनऊ।
13. निदेशक, पंचायती राज, निकट पुरनियां चौराहा, लोहिया भवन, लखनऊ।
14. निदेशक, प्रागोजना रचना एवं मूल्यांकन प्रभाग, योजना भवन, उ0प्र0 लखनऊ।
15. मुख्यालय स्थित सगस्त दरिष्ठ स्टाफ आफिसर, अधीक्षण अभियन्ता, लो0नि0वि0, लखनऊ।
16. निदेशक, अन्वेषणालय/उप निदेशक, क्यू0पी0सी0, लो0नि0वि0, लखनऊ।
17. समस्त अधीक्षण अभियन्ता/अधिराशी अभियन्ता, लो0नि0वि0, उ0प्र0 (ईमेल द्वारा)।

प्रमुख अभियन्ता (विकास) एवं
विभागाध्यक्ष

यातायात गणना

यातायात गणना

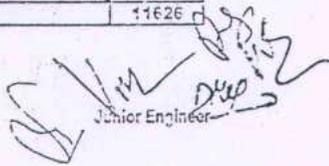
TRAFFIC CENSUS
WEEKLY TRAFFIC SUMMARY

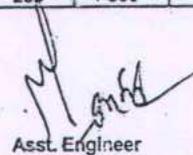
मार्ग का नाम :- जनपद मुजफ्फरनगर/मेरठ/गाजियाबाद में त्रितीय वर्ष 2018-19 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण/चौडीकरण /सुदृढीकरण का कार्य (कैनेज 51.910 से 165.930)।

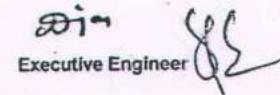
Ref : IRC : 9-1972 & IRC : 64-1990

At Km- 125

PERIOD				FAST VEHICLES							SLOW VEHICLES					Total Slow		
FROM		TO		MOTOR CYCLES & SCOOTER	PASSENGER CAR, PICKUP	LIGHT COMMERCIAL VEHICLE	AGRICULTURAL		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE		OTHER SPECIFY M/TROLL A/More	BULOCK CART
DATE	HOUR	DATE	HOUR				WITHOUT TRAILOR	WITH TRAILOR		MCV/HCV	TRAILOR					13		
21-Apr-19	8:00 AM	22-Apr-19	8:00 AM	1973	4538	344	193	117	34	656	414	530	0	0	0	8	69	607
22-Apr-19	8:00 AM	23-Apr-19	8:00 AM	1812	4815	332	166	112	29	680	469	568	0	0	0	12	85	665
23-Apr-19	8:00 AM	24-Apr-19	8:00 AM	1802	5018	331	184	101	35	693	425	561	0	0	0	13	92	666
24-Apr-19	8:00 AM	25-Apr-19	8:00 AM	1863	4440	324	169	101	42	653	393	569	0	0	0	9	86	664
25-Apr-19	8:00 AM	26-Apr-19	8:00 AM	1847	4279	349	173	116	38	683	437	573	0	0	0	6	66	645
26-Apr-19	8:00 AM	27-Apr-19	8:00 AM	1918	4582	321	170	121	36	600	458	581	0	0	0	5	72	658
27-Apr-19	8:00 AM	28-Apr-19	8:00 AM	1930	4393	340	152	110	38	700	480	587	0	0	0	9	80	676
Total for the week				17345	32065	2341	1207	778	252	4665	3076	3969	0	0	0	62	550	4581
Average daily traffic for the week				1914	4581	334	172	111	36	666	439	567	0	0	0	9	79	654
PCU FACTOR				0.5	1	1.5	1.5	4.5	3	3	4.5	0.5		4		1.5	6	
PCU VALUE				932	4581	501	258	500	108	1998	1976	284	0	0	0	14	474	11626
CVPD (Commercial Vehicals Per Day)				1150														
PCU				11626														


Junior Engineer


Asst. Engineer


Executive Engineer

डिजाईन
पैरामीटर

345 Design Parameters

87

- 1 CBR (in %) = 4.75%, 4.91%, 4.91%, 5.62%, 5.73%, 6.10%
- 90th percentage CBR (in %) for SH =
- 80th percentage CBR (in %) for MDR/ODR = 4.91%
- Source = क्षेत्रीय प्रयोगशाला, पञ्जो लोडिंगवि, मेरठ

2 **Traffic Data**

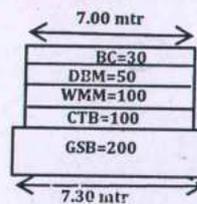
Location/Cahina ge	Fast Vehicles					Slow Vehicles		Other Specify Trola (More than 3.00 M.T.)
	Cars, Jeep, Vans, Three Wheelers	Buses	LCV	Truck	Motar Cycle & Scooter	Animal Drawn Vehicle	Cycles	
103.700 (Muzaffar Nagar)	6862	37	1489	498	2108	7	39	30
124.800 (Meerut)	8600	104	778	1509	2290	5	47	0

- Average PCU of Muzaffarnagar and Meerut** = $(12702+16323)/2= 14512$
- 50% of Average PCU=** 7256
- Average CVPD of Muzaffarnagar and Meerut** = $(2023+2391)/2=2207$
- 50% of Average CVPD=** 1103
- Source of traffic census** = Conducted by PWD Officers on Left Side of Canal
- Name of AE (Muzaffar Nagar)** = Vijay kumar
- Name of AE (Meerut)** = Shakir Rao
- Name of AE (Ghaziabad)** = J K Sharma
- Name of JE (Muzaffar Nagar)** = R.K.Notiyal/Manoj kumar
- Name of JE (Meerut)** = Md. Asif/ Ehtesham Anwar/K G Sharma/Sandeep Sharma/Devendra kumar
- Name of AE (Ghaziabad)** = Vishal Hatwal/Sa:endra kumar
- Duration of traffic census** = 06-12-2019 to 12-12-2019
- 3 **IRC code** = IRC:37-2018
- 4 **Design parameters**
- Category of roads = **ODR Proposed**
- Design life = 15 Years
- Lane distribution Factor = 0.50
- Time of construction = Two Years
- VDF = 3.90
- MSA = 18.68
- 5 **Existing width** = Nil
- 6 **Proposed width** = 7.00 Mtr.
- 7 **Existing and proposed crust composition** =

Existing

.....Nil.....

Proposed Crust



(Signature)
(Ajay Bhaskar)
Executive Engineer
CD-1, PWD, Muzaffaranagar

(Signature)
(C P Singh)
Executive Engineer
CD-(B), PWD, Meerut

(Signature)
(Maneesh Verma)
Executive Engineer
CD-2, PWD, Ghaziabad

(Signature)
(Sandeep Kumar)
Supritending Engineer
Saharanpur Circle, PWD, Saharanpur

(Signature)
(Sanjeev Bhardwaj)
Supritending Engineer
Meerut Circle, PWD, Meerut

(Signature)
(Ajay Shankar Singh)
Supritending Engineer
Eulandshar Circle, PWD, Bulandsh.

(Signature)
(Rajpal Singh)
Chief Engineer
Saharanpur Zone, PWD, Saharnapur

(Signature)
(Rajpal Singh)
Chief Engineer
Meerut Zone, PWD, Meerut

सी०बी०आर०

सी०बी०आर०

EXECUTIVE ENGINEER, CD-1, MUZAFFARNAGAR

Classified Traffic Volume Count Survey for Left Side of Upper Ganga Canal

PCUs 0.5 1 1 1.5 3 1.5 3 3 4.5 4.5 1.5 4.5 0.5 2 6 3 1
 Location : Lift Side of Upper Ganga Road
 Direction : Ghaziabad To : Haridwar Ch. 103.700

Date	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	Total Nos. (vehicles)	Total Nos. (PCUs)	CVPD
				Mini Bus	Standard Bus		2-Axle	3-Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer								
06.12.2019	1020	4	3184	18	12	645	105	92	90	4	4	75	27	6	3	0	12	5301	6142	948
07.12.2019	1070	2	3923	15	17	624	63	64	89	0	10	60	11	0	3	0	19	5970	6579	857
08.12.2019	1079	4	3974	9	28	689	77	118	119	0	4	49	11	0	2	0	21	6184	7034	1031
09.12.2019	1090	7	3512	18	7	770	74	100	74	0	7	67	24	7	2	1	18	5778	6493	1025
10.12.2019	1080	8	3464	32	7	848	61	81	60	0	5	55	17	0	0	0	6	5744	6339	1057
11.12.2019	1165	9	3794	28	29	831	111	92	93	10	3	55	31	14	4	7	7	6283	7191	1166
12.12.2019	913	2	3319	12	26	739	80	68	72	1	10	50	7	0	2	0	20	5321	6030	986
ADT	1060	5	3599	19	18	735	82	88	85	2	6	59	18	4	2	1	15	5797	6542	1010

Location : Lift Side of Upper Ganga Road
 Direction : Haridwar To : Ghaziabad Ch. 103.700

Date	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	Total Nos. (vehicles)	Total Nos. (PCUs)	CVPD
				Mini Bus	Standard Bus		2-Axle	3-Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer								
06.12.2019	932	6	2717	13	4	666	58	70	68	3	5	78	28	5	1	2	14	4670	5332	869
07.12.2019	1008	7	3623	13	18	705	60	68	63	0	7	62	13	2	1	0	30	5690	6274	914
08.12.2019	1198	14	3565	23	25	787	123	87	95	3	8	33	26	13	1	0	29	6030	6774	1120
09.12.2019	1123	19	3025	33	14	834	102	69	83	3	3	65	10	13	1	2	4	5404	6197	1105
10.12.2019	1134	10	3454	9	16	771	97	84	80	0	14	58	24	20	2	3	1	5777	6508	1048
11.12.2019	1064	19	3351	23	32	840	95	54	68	4	8	59	18	5	8	0	3	5651	6411	1093
12.12.2019	879	3	2997	13	23	671	82	96	67	0	6	41	14	1	3	0	27	4925	5624	941
ADT	1048	11	3247	18	10	753	88	76	75	2	7	57	20	8	2	1	15	5450	6160	1013

Location : 12.12.2019
 Direction : Both

Date	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	Total Nos. (vehicles)	Total Nos. (PCUs)	CVPD
				Mini Bus	Standard Bus		2-Axle	3-Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer								
06.12.2019	1952	10	5901	31	16	1311	163	162	158	7	9	153	55	11	4	2	26	9971	11473	1817
07.12.2019	2078	9	7546	28	35	1329	123	132	152	0	17	122	34	2	4	0	49	11660	12852	1771
08.12.2019	2277	18	7539	32	53	1476	200	205	214	3	12	82	37	13	3	0	50	12214	13808	2151
09.12.2019	2213	26	6537	51	21	1604	176	169	157	3	10	133	34	20	3	3	22	11182	12690	2130
10.12.2019	2214	18	6936	41	23	1619	158	165	140	0	19	113	41	20	2	3	7	11521	12847	2105
11.12.2019	2229	28	7145	51	61	1671	206	146	161	14	11	114	49	19	12	7	10	11934	13592	2259
12.12.2019	1792	5	6316	25	42	1410	162	166	139	1	16	91	21	1	5	0	47	10246	11654	1927
ADT	2108	16	6846	37	37	1489	170	164	160	4	13	115	39	12	5	2	30	11247	12702	2023

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JR

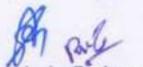
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TRAFFIC CENSUS
WEEKLY TRAFFIC SUMMARY

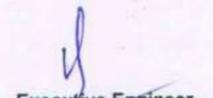
कार्य का नाम:- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कॉवड़ मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।

Location:- Chainage- 124.800 (Meerut) (On Left Side Existing Gang Nahar Patri)

PERIOD				FAST VEHICLES								SLOW VEHICLES					Total Slow	
FROM		TO		MOTOR, CYCLES & SCOOTERS	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW	LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE	OTHER SPECIFY MTRILLA (More than 3.0MT)		BULOCK CART
DATE	HOUR	DATE	HOUR				WITHOUT TRAILOR	WITH TRAILOR		MCV/HCV	TRAILOR							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6-Dec-19	8:00 AM	7-Dec-19	8:00 AM	2332	9303	721	20	78	73	1450	171	54	38	0	0	0	0	92
7-Dec-19	8:00 AM	8-Dec-19	8:00 AM	2012	9111	705	16	55	97	1036	182	53	41	0	0	0	4	98
8-Dec-19	8:00 AM	9-Dec-19	8:00 AM	2107	9060	596	25	62	133	1106	164	56	30	0	0	0	10	96
9-Dec-19	8:00 AM	10-Dec-19	8:00 AM	2847	8146	717	20	55	88	1037	153	61	34	0	0	0	0	95
10-Dec-19	8:00 AM	11-Dec-19	8:00 AM	2291	8080	956	61	8	82	1484	164	44	21	0	0	0	3	68
11-Dec-19	8:00 AM	12-Dec-19	8:00 AM	2694	8722	813	58	18	150	1830	207	37	24	0	0	0	5	66
12-Dec-19	8:00 AM	13-Dec-19	8:00 AM	1748	7776	937	79	9	107	1348	233	26	22	0	0	0	12	60
Total for the week				16031	60198	5445	279	285	730	9291	1274	331	210	0	0	0	34	575
Average daily traffic for the week				2290	8600	778	40	41	104	1327	182	47	30	0	0	0	5	82
PCU FACTOR				0.5	1	1.5	1.5	4.5	3	3	4.5	0.5		4		1.5	6	
PCU VALUE				1145	8600	1137	60	185	312	3981	819	24	0	0	0	0	30	16323
CVPD (Commercial Vehicals Per Day)			2391															
PCU			16323															


Junior Engineer


Asst. Engineer

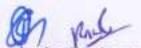

Executive Engineer

कार्य का नाम:- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कॉवड़ मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।

Date 06-12-2019

Direction Haridwar to Muradnagar

		FAST VEHICLES							SLOW VEHICLES						Total Slow	
HOUR FROM	HOUR TO	MOTOR, CYCLES & SCOOTERS	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW	LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE	OTHER SPECIFY MTROLLA (More than 3.0MT)		BULLOCK CART
					WITH TRAILOR	WITHOUT TRAILOR		MCV/HCV	TRAILOR							
2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8:00 AM	9:00 AM	39	238	16	1	5	4	21	6	3	4					7
9:00 AM	10:00 AM	68	209	12		3	3	10	5	2	2					4
10:00 AM	11:00 AM	94	240	17	1		4	17	6	6	2					8
11:00 AM	12:00 PM	64	252	15	2	6	4	15	4	3	2					5
12:00 PM	1:00 PM	92	304	14	1	3	3	13	8	6						6
1:00 PM	2:00 PM	75	250	17		4	5	11	5	1	2					3
2:00 PM	3:00 PM	66	245	16	1	2	6	10	6	3	3					6
3:00 PM	4:00 PM	90	297	20	2	4	2	13	9	1	1					2
4:00 PM	5:00 PM	126	335	19			5	13	3	1	3					4
5:00 PM	6:00 PM	70	310	17				15		2						2
6:00 PM	7:00 PM	44	290	12	1			30			1					1
7:00 PM	8:00 PM	11	310	5	1	2	1	44								0
8:00 PM	9:00 PM	15	219	10				50	2							0
9:00 PM	10:00 PM	17	210	10				85	5							0
10:00 PM	11:00 PM	16	170	5				72	1							0
11:00 PM	12:00 AM	15	75	2			1	87	2							0
12:00 AM	1:00 AM	14	65	1			1	61	1							0
1:00 AM	2:00 AM	12	12	1				71								0
2:00 AM	3:00 AM	16	10	2				68								0
3:00 AM	4:00 AM	18	8				1	40								0
4:00 AM	5:00 AM	13	7	3				44								0
5:00 AM	6:00 AM	11	13		1			16								0
6:00 AM	7:00 AM	17	45	1				15	6	1						1
7:00 AM	8:00 AM	14	97	2			1	16								0
		1017	4211	217	11	29	41	837	69	29	20	0	0	0	0	49


Junior Engineer

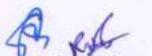

Asst. Engineer

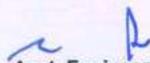
Executive Engineer

Date 06-12-2019

Direction Muradnagar to Haridwar

		FAST VEHICLES							SLOW VEHICLES						Total Slow	
HOUR FROM	HOUR TO	MOTOR, CYCLES & SCOOTER S	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW	LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE	OTHER SPECIFY METROLLA (More than 3.0MT)		BULLOCK CART
					WITH TRAILOR	WITHOUT TRAILOR		MCV/HCV	TRAILOR							
2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8:00 AM	9:00 AM	37	235	19	2	4	2	18	6	1						1
9:00 AM	10:00 AM	61	367	18		5		17	6	2	2					4
10:00 AM	11:00 AM	138	395	25	2	5	2	19	8	1						1
11:00 AM	12:00 PM	180	315	30		7	4	13	6	1	1					2
12:00 PM	1:00 PM	72	348	25			3	17	5	1	4					5
1:00 PM	2:00 PM	85	337	19	2	1	2	18	4	5	4					9
2:00 PM	3:00 PM	110	360	20	2	8	2	22	3		1					1
3:00 PM	4:00 PM	103	395	16	1	7	2	17	5	2	2					4
4:00 PM	5:00 PM	3	289	19		4	3	21	8	2						2
5:00 PM	6:00 PM	58	335	6				11	3	4						4
6:00 PM	7:00 PM	55	230	14			1	20		5	3					8
7:00 PM	8:00 PM	41	293	16			1	18		1	1					2
8:00 PM	9:00 PM	23	260	13			1	26	7							0
9:00 PM	10:00 PM	32	198	17			1	18	10							0
10:00 PM	11:00 PM	25	118	21			1	32	6							0
11:00 PM	12:00 AM	23	99	30				31	12							0
12:00 AM	1:00 AM	22	66	86			1	52	8							0
1:00 AM	2:00 AM	35	55	3				65								0
2:00 AM	3:00 AM	23	33	3		1	3	66								0
3:00 AM	4:00 AM	35	22	2				48								0
4:00 AM	5:00 AM	32	64	55			2	32								0
5:00 AM	6:00 AM	45	13	12		4		8	2							0
6:00 AM	7:00 AM	32	85	12		1		7	1							0
7:00 AM	8:00 AM	45	180	23		2	1	17	2							0
		1315	5092	504	9	49	32	613	102	25	18	0	0	0	0	43


 Junior Engineer


 Asst. Engineer

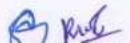
Executive Engineer

कार्य का नाम:- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कॉवड़ मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।

Date 07-12-2019

Direction Haridwar to Muradnagar

		FAST VEHICLES								SLOW VEHICLES						Total Slow
HOUR FROM	HOUR TO	MOTOR, CYCLES & SCOOTERS	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW	LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE	OTHER SPECIFY MTRolla (More than 3.0MT)	BULLOCK CART	
					WITH TRAILOR	WITHOUT TRAILOR		MCV/HCV	TRAILOR							
2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8:00 AM	9:00 AM	38	215	13		6	4	10	2	2	1					3
9:00 AM	10:00 AM	66	235	25		5	5	12	2	1	4					5
10:00 AM	11:00 AM	55	294	10	1	4	4	9	1	3	4					7
11:00 AM	12:00 PM	91	317	15	1	6	2	13	2	3	2				1	6
12:00 PM	1:00 PM	81	315	14		2	3	13	4	2	2					4
1:00 PM	2:00 PM	75	287	20	1	3	3	14	4		6					6
2:00 PM	3:00 PM	52	238	5	1	4	2	2	6		3					3
3:00 PM	4:00 PM	68	235	15	1	3	2	5	3		1					1
4:00 PM	5:00 PM	32	320	10		2	5	18	7	1	2				1	4
5:00 PM	6:00 PM	54	330	20		3	5	9		4	1				1	6
6:00 PM	7:00 PM	41	420	8			1	7	5							0
7:00 PM	8:00 PM	30	375	36		1	5	45	3							0
8:00 PM	9:00 PM	15	105	30				59	10							0
9:00 PM	10:00 PM	16	89	29	1	3		53	10							0
10:00 PM	11:00 PM	12	45	30				31								0
11:00 PM	12:00 AM	12	40	29		1		44	4							0
12:00 AM	1:00 AM		29	41				25	1							0
1:00 AM	2:00 AM	1	12	35				20	2							0
2:00 AM	3:00 AM	5	15	5				30	2							0
3:00 AM	4:00 AM	1	27	6				36	2							0
4:00 AM	5:00 AM	5	23	5			11	38	2							0
5:00 AM	6:00 AM	1	27	2				26								0
6:00 AM	7:00 AM	8	27	3				18	1							0
7:00 AM	8:00 AM	17	60	4				8	2		1					1
		776	4080	410	6	43	52	545	75	16	27	0	0	0	3	46



Junior Engineer



Asst. Engineer

Executive Engineer

कार्य का नाम:- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कॉवड़ मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।

Date 07-12-2019
Direction Muradnagar to Haridwar

		FAST VEHICLES								SLOW VEHICLES						Total Slow
HOUR FROM	HOUR TO	MOTOR, CYCLES & SCOOTERS	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW	LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE	OTHER SPECIFY MTRILLA (More than 3.0MT)	BULLOCK CART	
					WITH TRAILOR	WITHOUT TRAILOR		MCV/HCV	TRAILOR							
2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8:00 AM	9:00 AM	51	310	19	1	5	3	5	8	5						5
9:00 AM	10:00 AM	88	465	18	1	1	1	9	7	6						6
10:00 AM	11:00 AM	85	411	7		1	4	3	4	3	4				1	8
11:00 AM	12:00 PM	134	407	15			4	14	4	17	1					18
12:00 PM	1:00 PM	140	397	11	1	2	2	15	3	2	2					4
1:00 PM	2:00 PM	133	355	9			3	9	3							0
2:00 PM	3:00 PM	135	330	8			2	4	4	1	4					5
3:00 PM	4:00 PM	90	280	6	1		3	12		2	1					3
4:00 PM	5:00 PM	120	244	13	1			3	4	1	1					2
5:00 PM	6:00 PM	75	240	10	1		3	10	4		1					1
6:00 PM	7:00 PM	76	380	5	1	1		4	3							0
7:00 PM	8:00 PM	20	115	9	1		4	25	3							0
8:00 PM	9:00 PM	22	77	10			1	19	3							0
9:00 PM	10:00 PM	16	332	17	1		5	25	8							0
10:00 PM	11:00 PM	6	140	22				35	4							0
11:00 PM	12:00 AM	6	105	21				38	5							0
12:00 AM	1:00 AM	1	53	11			2	28	11							0
1:00 AM	2:00 AM	5	41	27				28	12							0
2:00 AM	3:00 AM		25	10			1	35								0
3:00 AM	4:00 AM		40	6			3	80	6							0
4:00 AM	5:00 AM		20	7				29	5							0
5:00 AM	6:00 AM	3	43	5				30								0
6:00 AM	7:00 AM	3	66	11		2	2	21	1							0
7:00 AM	8:00 AM	27	155	18	1		2	10	5							0
		1236	5031	295	10	12	45	491	107	37	14	0	0	0	1	52


Junior Engineer


Asst. Engineer

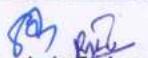
Executive Engineer

कार्य का नाम:- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कॉवड़ मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।

Date 08-12-2019

Direction Haridwar to Muradnagar

		FAST VEHICLES							SLOW VEHICLES						Total Slow	
HOUR FROM	HOUR TO	MOTOR, CYCLES & SCOOTERS	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW	LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE	OTHER SPECIFY MTROLLA (More than 3.0MT)		BULLOCK CART
					WITH TRAILOR	WITHOUT TRAILOR		MCV/HCV	TRAILOR							
2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8:00 AM	9:00 AM	26	117	10	2	4		27	7	5	6					11
9:00 AM	10:00 AM	63	244	12	1	6	4	25	5	6	5					11
10:00 AM	11:00 AM	90	350	6	6	9	11	28	7	8	4				1	13
11:00 AM	12:00 PM	90	307		1		6	27	4	8	3				1	12
12:00 PM	1:00 PM	109	282	10		4	4	19	5	2					3	5
1:00 PM	2:00 PM	100	141			2		24								0
2:00 PM	3:00 PM	120	340	19	1		1	30	10	2						2
3:00 PM	4:00 PM	100	260	6				17	2		1				1	2
4:00 PM	5:00 PM	93	360	12	1	2	4	10	6	2						2
5:00 PM	6:00 PM	131	445	12	2		7	10	6	4					1	5
6:00 PM	7:00 PM	80	518	18	3	5	7	28	4		1					1
7:00 PM	8:00 PM	26	216	13	1		4	32	1							0
8:00 PM	9:00 PM	4	202	26			4	26	3							0
9:00 PM	10:00 PM	9	124	32			1	40	3							0
10:00 PM	11:00 PM		87	35			1	40	3							0
11:00 PM	12:00 AM	1	41	38			1	34	1							0
12:00 AM	1:00 AM		28	33			1	27								0
1:00 AM	2:00 AM		40	20			4	45	4							0
2:00 AM	3:00 AM	1	30	1			5	26								0
3:00 AM	4:00 AM		21	5	1		3	27								0
4:00 AM	5:00 AM	4	25					28								0
5:00 AM	6:00 AM	12	34	5				25	3							0
6:00 AM	7:00 AM	15	102	6	1		1	24	2							0
7:00 AM	8:00 AM	38	169	5	2		4	5	2	1						1
		1112	4483	324	22	32	73	624	78	38	20	0	0	0	7	65


Junior Engineer

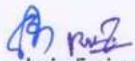

Asst. Engineer

Executive Engineer

कार्य का नाम:- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कॉवड़ मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।

Date 08-12-2019
Direction Muradnagar to Haridwar

		FAST VEHICLES								SLOW VEHICLES						Total Slow
HOUR FROM	HOUR TO	MOTOR, CYCLES & SCOOTERS	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW	LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE	OTHER SPECIFY MTRILLA (More than 3.0MT)	BULOCK CART	
					WITH TRAILOR	WITHOUT TRAILOR		MCV/HCV	TRAILOR							
2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8:00 AM	9:00 AM	43	290	19		4	5	11	4	2						2
9:00 AM	10:00 AM	75	328	10	1	13	7	14	3	2	1					3
10:00 AM	11:00 AM	90	285	10		5	4	14	5		1				1	2
11:00 AM	12:00 PM	85	217	6		2	2	17	1							0
12:00 PM	1:00 PM	105	380	18	1	2	6	25		1	1				1	3
1:00 PM	2:00 PM	120	452	14			5	14	4	1	4					5
2:00 PM	3:00 PM	83	276	2			1	22	4		2					2
3:00 PM	4:00 PM	93	180	9			3	8	2	5	1					6
4:00 PM	5:00 PM	95	200	7				8	1	2						2
5:00 PM	6:00 PM	85	350	21	1		1	14	1	1						1
6:00 PM	7:00 PM	40	105	3			3	8		1						1
7:00 PM	8:00 PM	9	190	3			2	9								0
8:00 PM	9:00 PM	19	425	17			7	17	3	1						1
9:00 PM	10:00 PM	9	145	15			1	23	16							0
10:00 PM	11:00 PM	6	67	18				13	5							0
11:00 PM	12:00 AM		60	17			1	28	17							0
12:00 AM	1:00 AM	4	133	20			2	17	10							0
1:00 AM	2:00 AM		55	21			8	20	5						1	1
2:00 AM	3:00 AM	1	40	10				40	1							0
3:00 AM	4:00 AM		26	5			1	55	2							0
4:00 AM	5:00 AM		35	5				45	2							0
5:00 AM	6:00 AM	1	33					33								0
6:00 AM	7:00 AM	15	85	10		1	1	20		1						1
7:00 AM	8:00 AM	17	220	12		3		7		1						1
		995	4577	272	3	30	60	482	86	18	10	0	0	0	3	31



Junior Engineer



Asst. Engineer

Executive Engineer

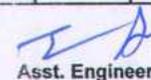
कार्य का नाम:- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कॉवड़ मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।

Date 09-12-2019

Direction Haridwar to Muradnagar

		FAST VEHICLES								SLOW VEHICLES						Total Slow
1	2	3	4	5	6		8	9		11	12	13	14	15	16	
					MOTOR, CYCLES & SCOOTERS	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW		LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR							
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
8:00 AM	9:00 AM	175	220	4	1	4	4	13		10	2					12
9:00 AM	10:00 AM	107	280	8	1	6	2	12	2	6	3					9
10:00 AM	11:00 AM	115	348	8	2	5	2	13	4	4	3					7
11:00 AM	12:00 PM	113	280	4	1	3	3	18	8	4	4					8
12:00 PM	1:00 PM	185	320	9	1		6	15	8	2						2
1:00 PM	2:00 PM	190	315	16		1	4	20	8	2	4					6
2:00 PM	3:00 PM	135	315	22			1	14	12	3	4					7
3:00 PM	4:00 PM	132	443	17			1	18	6		4					4
4:00 PM	5:00 PM	149	330	8			5	44								0
5:00 PM	6:00 PM	185	286	8			12	34	4	7	1					8
6:00 PM	7:00 PM	143	230	16			6	25		1						1
7:00 PM	8:00 PM	8	190	8			4	16	1							0
8:00 PM	9:00 PM	9	195	57	2		3	35	3							0
9:00 PM	10:00 PM	6	59	29				20	2							0
10:00 PM	11:00 PM	2	39	37				20	3							0
11:00 PM	12:00 AM	1	21	40				27	2							0
12:00 AM	1:00 AM	1	39	65				24	10							0
1:00 AM	2:00 AM		11	11			1	75	1							0
2:00 AM	3:00 AM		15	5				50	6							0
3:00 AM	4:00 AM		15	7				42								0
4:00 AM	5:00 AM		11	1				40	6							0
5:00 AM	6:00 AM	4	10	8				14	1	1						1
6:00 AM	7:00 AM	9	17	6		2		8	1							0
7:00 AM	8:00 AM	19	62	3				6	2	1						1
		1688	4051	397	8	21	54	603	90	41	25	0	0	0	0	66


Junior Engineer


Asst. Engineer

Executive Engineer

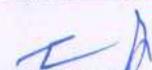
कार्य का नाम:- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कॉवड़ मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।

Date 09-12-2019

Direction Muradnagar to Haridwar

		FAST VEHICLES							SLOW VEHICLES						Total Slow	
HOUR FROM	HOUR TO	MOTOR, CYCLES & SCOOTERS	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW	LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE	OTHER SPECIFY MTROLLA (More than 3.0MT)		BULLOCK CART
					WITH TRAILOR	WITHOUT TRAILOR		MCV/HCV	TRAILOR							
2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8:00 AM	9:00 AM	117	325	12	2	10	1	7		7						7
9:00 AM	10:00 AM	94	300	14	1	8	2	4	1	2	1					3
10:00 AM	11:00 AM	95	278	8	2	12	4	5	2	1	1					2
11:00 AM	12:00 PM	97	235	11	1	2	1									0
12:00 PM	1:00 PM	105	222	13	1		3	11	1	1						1
1:00 PM	2:00 PM	118	375	12	1	1	1	5	2	4	1					5
2:00 PM	3:00 PM	90	445	9	1		6	12	2	2	2					4
3:00 PM	4:00 PM	75	282	10				5	2	2	2					4
4:00 PM	5:00 PM	100	250	9	1		4	11	2	1	1					2
5:00 PM	6:00 PM	97	304	13			4	15								0
6:00 PM	7:00 PM	111	143	4				2								0
7:00 PM	8:00 PM	17	148	10			2	5	1							0
8:00 PM	9:00 PM	8	175	20			1	23								0
9:00 PM	10:00 PM	12	93	15			1	20	5							0
10:00 PM	11:00 PM	4	70	26				20	4							0
11:00 PM	12:00 AM	2	72	27				28	13							0
12:00 AM	1:00 AM	4	43	24				22	3							0
1:00 AM	2:00 AM		40	14			2	50	6							0
2:00 AM	3:00 AM		40	7				50	2							0
3:00 AM	4:00 AM		16	6				45	1							0
4:00 AM	5:00 AM	1	20	8			1	55	6							0
5:00 AM	6:00 AM		18	15				17	2							0
6:00 AM	7:00 AM	5	48	19	1		1	5	6		1					1
7:00 AM	8:00 AM	7	153	14	1	1		17	2							0
		1159	4095	320	12	34	34	434	63	20	9	0	0	0	0	29


Junior Engineer


Asst. Engineer

Executive Engineer

कार्य का नाम:- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कौवड़ मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।

Date 10-12-2019

Direction Haridwar to Muradnagar

		FAST VEHICLES							SLOW VEHICLES						Total Slow	
HOUR FROM	HOUR TO	MOTOR, CYCLES & SCOOTERS	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW	LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE	OTHER SPECIFY MTRILLA (More than 3.0MT)		BULLOCK CART
					WITH TRAILOR	WITHOUT TRAILOR		MCV/HCV	TRAILOR							
2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8:00 AM	9:00 AM	50	176	6	2	0	3	12	0	1	2					3
9:00 AM	10:00 AM	66	249	15	4	1	2	15	1	3	1	0	0		1	5
10:00 AM	11:00 AM	70	266	5	4	0	0	15	0	1	6					7
11:00 AM	12:00 PM	100	380	1	3		1	7		2						2
12:00 PM	1:00 PM	97	258	12	5		1	18	5	1	1					2
1:00 PM	2:00 PM	99	263	185	1	1	4	18	2	3	2				1	6
2:00 PM	3:00 PM	165	345	12	1		1	17	3		1					1
3:00 PM	4:00 PM	165	295	10			1	7	1	3	1					4
4:00 PM	5:00 PM	154	424	15	1	1	1	15	2	1	2					3
5:00 PM	6:00 PM	83	330	32	3			3	1							0
6:00 PM	7:00 PM	45	249	15			4	26	2	3						3
7:00 PM	8:00 PM	6	165	32			2	37	1							0
8:00 PM	9:00 PM	1	106	28	8		1	29								0
9:00 PM	10:00 PM	5	86	32			1	32	3							0
10:00 PM	11:00 PM	3	63	44	1			35	5							0
11:00 PM	12:00 AM		30	18				35	4							0
12:00 AM	1:00 AM		60	40			11	85	17							0
1:00 AM	2:00 AM		25	25				80	5							0
2:00 AM	3:00 AM		36	17				62	1							0
3:00 AM	4:00 AM		30	20				70								0
4:00 AM	5:00 AM		27	15				63								0
5:00 AM	6:00 AM		11	8	2	1		8								0
6:00 AM	7:00 AM	6	30	5		1	1	21	1	1						1
7:00 AM	8:00 AM	13	120	17			1	32	3		1					1
		1128	4024	609	35	5	35	742	57	19	17	0	0	0	2	38



Junior Engineer



Asst. Engineer

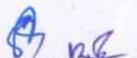
Executive Engineer

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Date 10-12-2019

Direction Muradnagar to Haridwar

		FAST VEHICLES						SLOW VEHICLES						Total Slow		
HOUR FROM	HOUR TO	MOTOR, CYCLES & SCOOTERS	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW	LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE	OTHER SPECIFY MTRILLA (More than 3.0MT)	BULLOCK CART	19
					WITH TRAILOR	WITHOUT TRAILOR		MCV/HCV	TRAILOR							
2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8:00 AM	9:00 AM	82	288	1	2	2		8	1	3						3
9:00 AM	10:00 AM	81	280	7	1		2	8	5	1						1
10:00 AM	11:00 AM	83	250	10	1			10	3	2					1	3
11:00 AM	12:00 PM	84	310	19	3		4	11	3	3						3
12:00 PM	1:00 PM	110	275	14	4		2	8	2	1	2					3
1:00 PM	2:00 PM	77	175	10	3	1	5	14	4	1						1
2:00 PM	3:00 PM	85	217	12	3		8	26	3	5	1					6
3:00 PM	4:00 PM	80	195	20	1		2	17	4	1	1					2
4:00 PM	5:00 PM	100	204	9				11	5							0
5:00 PM	6:00 PM	142	359	22	2		1	14	2	2						2
6:00 PM	7:00 PM	160	345	21			11	32	7	6						6
7:00 PM	8:00 PM	20	288	20	3	0	1	25	2	0	0	0				0
8:00 PM	9:00 PM	7	145	18			2	15	1							0
9:00 PM	10:00 PM	7	95	16			3	34	6							0
10:00 PM	11:00 PM	4	67	25			2	21	4							0
11:00 PM	12:00 AM	1	54	33				29	13							0
12:00 AM	1:00 AM	1	80	10				85	7							0
1:00 AM	2:00 AM		40	7			2	95	1							0
2:00 AM	3:00 AM	2	28	5				89	6							0
3:00 AM	4:00 AM		52	10				81	15							0
4:00 AM	5:00 AM	6	32	13				50	5							0
5:00 AM	6:00 AM	3	23	5				11	3							0
6:00 AM	7:00 AM	11	79	17	1			25								0
7:00 AM	8:00 AM	17	175	23	2		2	23	5							0
		1163	4056	347	26	3	47	742	107	25	4	0	0	0	1	30


Junior Engineer

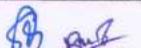

Asst. Engineer

Executive Engineer

कार्य का नाम:- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कॉवड़ मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।

Date 11-12-2019
Direction Haridwar to Muradnagar

		FAST VEHICLES								SLOW VEHICLES						Total Slow
HOUR FROM	HOUR TO	MOTOR, CYCLES & SCOOTERS	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW	LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE	OTHER SPECIFY MTROLLA (More than 3.0MT)	BULLOCK CART	19
					WITH TRAILOR	WITHOUT TRAILOR		MCV/HCV	TRAILOR							
2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8:00 AM	9:00 AM	48	151				2	18	2	1	1					2
9:00 AM	10:00 AM	85	225	10			1	13	4	1	2				1	4
10:00 AM	11:00 AM	100	276	6	2		1	10	1		3					3
11:00 AM	12:00 PM	113	309	10	4	1	2	11	0	0	1				1	2
12:00 PM	1:00 PM	107	240	1	2		2	4			2					2
1:00 PM	2:00 PM	98	203	4	4		5	2	2	2	1					3
2:00 PM	3:00 PM	109	408	21			4	23	4	2	1				1	4
3:00 PM	4:00 PM	130	411	17	5		3	15	13	2	1					3
4:00 PM	5:00 PM	120	352	12	3	1	8	11	3	1	2					3
5:00 PM	6:00 PM	112	300	14			1	11	3	5					1	6
6:00 PM	7:00 PM	41	249	10	1	1	7	13	1	2						2
7:00 PM	8:00 PM	11	146	24	1		3	54	2							0
8:00 PM	9:00 PM	11	117	30	2		3	39	12							0
9:00 PM	10:00 PM	5	100	31				45	2							0
10:00 PM	11:00 PM	63	36					36		2						2
11:00 PM	12:00 AM	1	34	44			1	37	5	2						2
12:00 AM	1:00 AM	1	81	55			5	138	10							0
1:00 AM	2:00 AM	1	61	27			3	75	10							0
2:00 AM	3:00 AM		35	15	2	2		95	3							0
3:00 AM	4:00 AM	5	35	12				87	5							0
4:00 AM	5:00 AM	3	45	30	5		3	85	5							0
5:00 AM	6:00 AM	4	40	26				39								0
6:00 AM	7:00 AM	9	50	11				7	8	1	1					2
7:00 AM	8:00 AM	13	141	8	1		2	10	6		1					1
		1190	4045	418	32	5	56	878	101	21	16	0	0	0	4	41



Junior Engineer



Asst. Engineer

Executive Engineer

Date 11-12-2019

Direction Muradnagar to Haridwar

		FAST VEHICLES							SLOW VEHICLES						Total Slow	
HOUR FROM	HOUR TO	MOTOR, CYCLES & SCOOTERS	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW	LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE	OTHER SPECIFY MTRILLA (More than 3.0MT)	BULLOCK CART	19
					WITH TRAILOR	WITHOUT TRAILOR		MCV/HCV	TRAILOR							
2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8:00 AM	9:00 AM	41	278	19	3		2	4	3	3	2					5
9:00 AM	10:00 AM	88	307	7	2	1	1	8	1	4	1					5
10:00 AM	11:00 AM	101	324	12	3	2	3	7	2						1	1
11:00 AM	12:00 PM	110	280	17	2	1	3	8	2	1	2					3
12:00 PM	1:00 PM	124	295	8	2	1	5	11	2		1					1
1:00 PM	2:00 PM	98	385	24	2	0	11	16	6	1	0	0	0	0		1
2:00 PM	3:00 PM	90	270	9	1		6	15	4	1	1					2
3:00 PM	4:00 PM	100	227	19		1	3	11	6	3						3
4:00 PM	5:00 PM	168	313	11	1		4	12	2	1						1
5:00 PM	6:00 PM	288	456	22			29	32	12							0
6:00 PM	7:00 PM	204	370	20		7	10	22	7							0
7:00 PM	8:00 PM	21	198	19			4	24								0
8:00 PM	9:00 PM	23	120	40			1	50	2							0
9:00 PM	10:00 PM	4	16				1	40	5							0
10:00 PM	11:00 PM	2	86	11	1			36	7							0
11:00 PM	12:00 AM	3	53	22			1	36	10							0
12:00 AM	1:00 AM	2	105	25			2	172	4							0
1:00 AM	2:00 AM	1	62	10	1		2	114	12							0
2:00 AM	3:00 AM		62	15			1	102	15							0
3:00 AM	4:00 AM	2	62	13	2			106		2						2
4:00 AM	5:00 AM	1	50	20			1	60	1							0
5:00 AM	6:00 AM	2	70	16			1	52	1							0
6:00 AM	7:00 AM	3	85	22	2		2	4	1							0
7:00 AM	8:00 AM	28	203	14	4		1	10	1		1					1
		1504	4677	395	26	13	94	952	106	16	8	0	0	0	1	25


Junior Engineer


Asst. Engineer

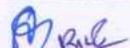
Executive Engineer

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Date 12-12-2019

Direction Haridwar to Muradnagar

		FAST VEHICLES								SLOW VEHICLES						Total Slow	
2	4	MOTOR, CYCLES & SCOOTERS	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW	LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE	OTHER SPECIFY MTROLLA (More than 3.0MT)	BULLOCK CART	18	19
					WITH TRAILOR	WITHOUT TRAILOR		MCV/HCV	TRAILOR								
8:00 AM	9:00 AM	57	167	7	4	2	3	11	1	1	1				1	3	
9:00 AM	10:00 AM	60	217	10	4		2	12		1	1				1	3	
10:00 AM	11:00 AM	86	295	6	4		5	15	2	1	4					5	
11:00 AM	12:00 PM	86	309	20	4	2	2	18	5	4						4	
12:00 PM	1:00 PM	86	258	14	1		3	20	3	1	3					4	
1:00 PM	2:00 PM	65	291	14	1		2	9	1		1				5	6	
2:00 PM	3:00 PM	81	356	10	2		2	14	9		1				1	2	
3:00 PM	4:00 PM	71	330	5			3	8	5							0	
4:00 PM	5:00 PM	101	289	20	1		3	8	12		2					2	
5:00 PM	6:00 PM	51	245	13	2		3	11	3	3	1					4	
6:00 PM	7:00 PM	31	345	50	3		4	66	10						1	1	
7:00 PM	8:00 PM	13	187	28	1		2	25	4							0	
8:00 PM	9:00 PM	2	102	16	1		1	39	5							0	
9:00 PM	10:00 PM	2	57	17			3	25	3	2						2	
10:00 PM	11:00 PM		30	21	1			30	6							0	
11:00 PM	12:00 AM		56	29		1		79	6	2						2	
12:00 AM	1:00 AM		37	30	1		2	32	10							0	
1:00 AM	2:00 AM		20	20				100	5							0	
2:00 AM	3:00 AM		40	20			5	100	15							0	
3:00 AM	4:00 AM		35	10				45	3							0	
4:00 AM	5:00 AM		60	32			1	65	14							0	
5:00 AM	6:00 AM		57	25				40	8							0	
6:00 AM	7:00 AM	10	48	34				31	7							0	
7:00 AM	8:00 AM		13	96	21		2	38	4							0	
		802	3844	547	51	5	48	841	141	15	14	0	0	0	9	38	


Junior Engineer


Asst. Engineer

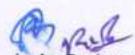
Executive Engineer

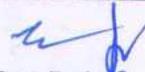
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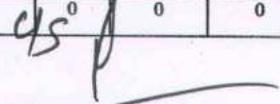
Date 12-12-2019

Direction Muradnagar to Haridwar

HOUR FROM	HOUR TO	FAST VEHICLES								SLOW VEHICLES						Total Slow
		MOTOR, CYCLES & SCOOTERS	PASSENGER CAR, PICKUP VAN OR AUTO RICKSHAW	LIGHT COMMERCIAL VEHICLE (L.C.V.)	AGRICULTURAL TRACTOR		BUSES	TRUCK		CYCLES	CYCLES RICKSHAW	HAND CART	HORSE DRAWN VEHICLE	OTHER SPECIFY MTROLLA (More than 3.0MT)	BULOCK CART	
					WITH TRAILOR	WITHOUT TRAILOR		MCV/HCV	TRAILOR							
2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8:00 AM	9:00 AM	55	280	31	4		6	12	1	3	1					4
9:00 AM	10:00 AM	64	325	10	3		1	5	2	2					1	3
10:00 AM	11:00 AM	81	317	11		1	2	6	1							0
11:00 AM	12:00 PM	73	316	19	3		2	7	7	1	1					2
12:00 PM	1:00 PM	65	335	15		1	2	8	3	1					1	2
1:00 PM	2:00 PM	105	265	14	1		2	9	2		4					4
2:00 PM	3:00 PM	110	263	14	2		3	20	7	2	1				1	4
3:00 PM	4:00 PM	113	298	20		1	4	10	5							0
4:00 PM	5:00 PM	80	265	17	1		3	10	7	2	1					3
5:00 PM	6:00 PM	63	209	9	2	1		11	2							0
6:00 PM	7:00 PM	33	165	7			5	14	4							0
7:00 PM	8:00 PM	16	112	10	1		2	11	5							0
8:00 PM	9:00 PM	12	187	13	0	0	1	19	0	0	0	0				0
9:00 PM	10:00 PM	7	90	17			2	3	4							0
10:00 PM	11:00 PM	3	120	13			2	13	5							0
11:00 PM	12:00 AM	2	88	23			2	33	13							0
12:00 AM	1:00 AM		2	55	10		1	22	10							0
1:00 AM	2:00 AM		81	25			2	111								0
2:00 AM	3:00 AM	1	76	10			4	112	5							0
3:00 AM	4:00 AM	35	25				1	32	1							0
4:00 AM	5:00 AM	20	18				10	3								0
5:00 AM	6:00 AM	1	20	11	1			15	3							0
6:00 AM	7:00 AM	7	75	45			2	20	5							0
7:00 AM	8:00 AM			1				1								0
		946	3932	390	28	4	59	507	92	11	8	0	0	0	3	22


Junior Engineer

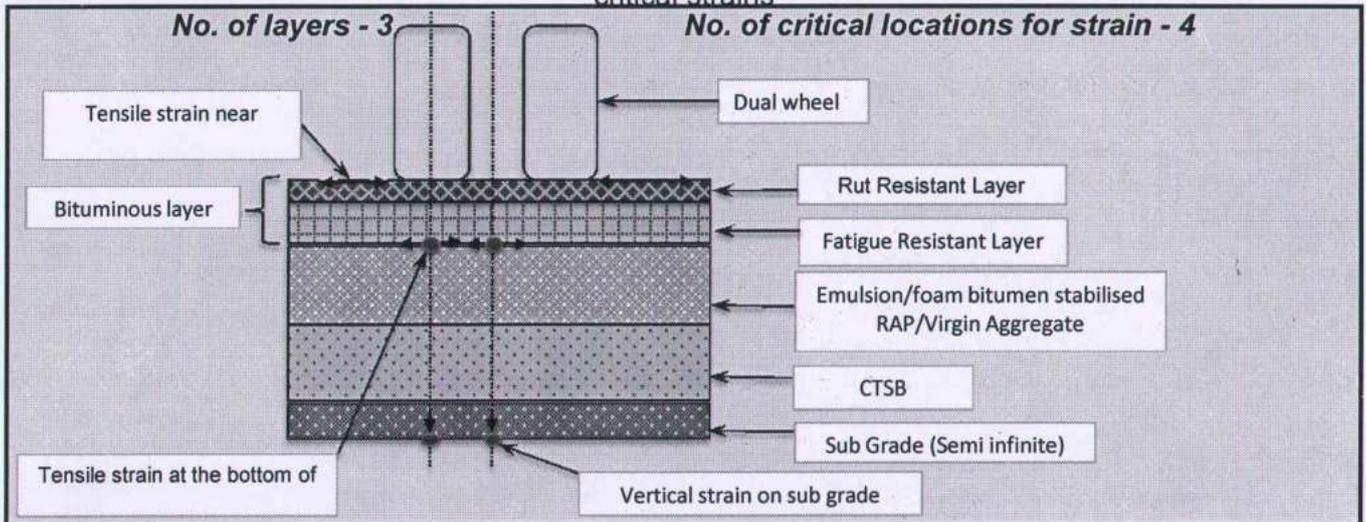

Asst. Engineer


Executive Engineer

PAVEMENT DESIGN

Ref : IRC:37- 2018 GUIDELINES FOR THE DESIGN OF FLEXIBLE PAVEMENTS

Fig 3.4 : Pavement Composition Type - 1. A pavement section with bituminous layer(s), emulsion/foam bitumen stabilised RAP/virgin aggregate layer and CTSB showing the locations of critical strains



COMPUTATION OF DESIGN TRAFFIC

Sl. No.	Item	Nomenclature	Figure/No.	Unit
1	Category of road (EW / NH / SH / UR / MDR / ODR)		ODR	
2	Type of carriageway proposed (SINGLE / DUAL)		SINGLE	
3	No. of proposed lanes/carriageway (1 / 1.5 / 2 / 3 / 4)		2	No.
4	Type of terrain (PLAIN / ROLLING / HILLY)		PLAIN	
5	Traffic census (Total of both direction)			
	CVPD		1103	No.
	PCU		7256	No.
6	No. of years between the last count and the year of completion of construction	x	2	Years
7	Lane distribution factor (As per Clause 4.5.1 of IRC :37-2018)	D	0.50	No.
	Type of carriageway proposed	No. of proposed lanes/ carriageway	Lane distribution factor	
	Single	1	1.00	
	Single	1.5	0.75	
	Single	2	0.50	
	Single	4	0.40	
	Dual	2	0.75	
	Dual	3	0.60	
	Dual	4	0.45	
8	Annual growth rate of commercial traffic (As per Clause 4.2.2 of IRC:37-2018)	r	5	%
9	Design period in years (As per Clause 4.3.1 of IRC:37-2018)	n	15	Years
10	Vehicle damage factor (Number of standard axles per commercial vehicle - As per Clause 4.4.6 of IRC:37-2018)	F	3.9	No.
	Initial Traffic Volume in CVPD	No. of proposed		
		Plain/Rolling	Hilly	
	0-150	1.7	0.6	
	150-1500	3.9	1.7	
	>1500	5.0	2.8	
11	Number of commercial vehicles per day per carriageway at last count (CVPD/carriageway)	P	1103	No.

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The design traffic in terms of cumulative number of standard axles to be carried during the design period of the

$$N_{Des} = \frac{365 \left[\left(1 + r \right)^n - 1 \right] \times A \times F \times D}{r}$$

Where

- N_{Des} = cumulative number of standard axles to be catered for during the design period of 'n' years
 A = initial traffic (commercial vehicles per day) in the year of completion of construction
 D = lane distribution factor
 F = vehicle damage factor (number of standard axles per commercial vehicle)
 n = design period in years
 r = annual growth rate of commercial traffic

The traffic in the year of completion is estimated using the following formula.

- Where
- $A = P \left(1 + r \right)^x$
 P = Number of commercial vehicles per day as per last count
 x = Number of years between the last count and the year of completion of construction

$$A = 1103 \left(1 + 0.05 \right)^2$$

$$A = 1216 \text{ CVPD}$$

And

$$N_{Des} = \frac{365 \left[\left(1 + 0.05 \right)^{15} - 1 \right] \times 1216 \times 0.50 \times 3.9}{0.05}$$

Thus

$$N_{Des} = 18675988 \quad \text{or} \quad 18.68 \quad \text{msa}$$

COMPUTATION OF DESIGN CBR

Sl. No.	Km	Average CBR
1		5.00
2		
3		4.91
4		
5		4.91
6		
7		5.62
8		
9		
10		
11		5.73
12		
13		6.10
14		
15		
The 80th Percentile CBR		4.91

RESILIENT MODULUS OF VARIOUS LAYERS SUBGRADE SOIL

$$M_{RS} = 10.0 \times \text{CBR} \quad \text{For CBR} \leq 5\% \quad (\text{Equation 6.1})$$

$$M_{RS} = 17.6 \times \text{CBR}^{0.64} \quad \text{For CBR} > 5\% \quad (\text{Equation 6.2})$$

Where,

M_{RS} = Resilient modulus of sub grade soil in Mpa and

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CBR = California bearing ratio in %

DESIGN CBR = 4.91

Thus, $M_{R\text{Subgrade}} = 49.1 \text{ MPa}$

Resilient Modulus of Existing LAYERS

Where, $M_{R\text{GRAN}} = 0.2 \times (h)^{0.45} \times M_{R\text{SUPPORT}}$ (Equation 7.1)

h = Thickness of granular layer in mm
 $M_{R\text{GRAN}}$ = Resilient modulus of the granular layer (MPa)
 $M_{R\text{SUPPORT}}$ = (effective) Resilient modulus of the supporting layer (MPa)

$M_{R\text{Existing}} = 0.2 \times 0^{0.45} \times 49 = 0 \text{ MPa}$

ALLOWABLE LONGITUDINAL STRAIN IN BITUMINOUS LAYER FATIGUE ANALYSIS

COMPUTATION OF ALLOWABLE HORIZONTAL TENSILE STRAIN AT THE BOTTOM OF BITUMINOUS LAYER

Sl. No.	8	Nomenclature	Figure/No.	Unit
1	Thickness of DBM		100	mm
2	No. of layers		2	
3	Grade of BC	VG-30		
4	Volume of air	V_a	4.5%	%
5	Volume of bitumen	V_b	10.5%	%

From Equation 3.4 (for 80% reliability)

$$N_f = 1.6064 \times C \times 10^{-4} \times \left[\frac{1}{\epsilon_t} \right]^{3.89} \times \left[\frac{1}{M_{Rm}} \right]^{0.854}$$

$$C = 10^M$$

$$M = 4.84 \times \left(\frac{V_{be}}{V_a + V_{be}} - 0.69 \right)$$

Where

V_a = per cent volume of air void in the mix used in the bottom bituminous layer

V_{be} = per cent volume of effective bitumen in the mix used in bottom bituminous layer

N_f = fatigue life of bituminous layer (cumulative equivalent number of 80kN standard

ϵ_t = maximum horizontal tensile strain at the bottom of bottom bituminous layer (DBM) calculated using linear elastic layered theory by applying standard axle load at the surface of the selected pavement system

M_{Rm} = resilient modulus (Mpa) of bituminous mix used in the bottom bituminous layer

Therefore

$$M = 4.84 \times \left(\frac{0.105}{0.045 + 0.105} - 0.69 \right)$$

$$M = 0.05$$

$$C = 10^{0.05}$$

$$C = 1.12$$

Or

From Equation 3.4

$$N_f = 1.6064 \times C \times 10^{-4} \times \left[\frac{1}{\epsilon_t} \right]^{3.89} \times \left[\frac{1}{M_R} \right]^{0.854}$$

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0.854

$$\begin{aligned}\epsilon_t &= 1.6064 \times \frac{1.12 \times 10^{-4} \times \left[\frac{1}{M_R} \right]}{N_f} \\ &= \left[\frac{1.6064 \times 1.12 \times 10^{-4} \times \left[\frac{1}{2000} \right]^{0.854}}{18680000} \right]^{1/3.89} \\ &= 0.00027755 \quad \text{Or } 278 \times 10^{-6}\end{aligned}$$

ALLOWABLE VERTICAL STRAIN AT SUBGRADE RUTTING ANALYSIS

COMPUTATION OF ALLOWABLE COMPRESSIVE VERTICAL STRAIN ON SUBGRADE

From Equation 3.1

(for 80% reliability)

$$N_R = 4.1656 \times 10^{-8} \times \left[\frac{1}{\epsilon_v} \right]^{4.5337}$$

Where

N_R = No. of cumulative standard axles and

ϵ_v = Vertical strain in the subgrade

$$\begin{aligned}\epsilon_v &= \left[\frac{4.1656 \times 10^{-8}}{N} \right]^{4.5337} \\ &= \left[\frac{4.1656 \times 10^{-8}}{18680000} \right]^{4.5337}\end{aligned}$$

$$= 0.000586501 \quad \text{Or } 587 \times 10^{-6}$$

ALLOWABLE LONGITUDINAL AND VERTICAL STRAIN IN VARIOUS LAYERS

Sl. No.	Type of material	Type of analysis	Allowable strain(E-06)	Reference
1	Bituminous Layer	Fatigue	278	Equation 3.3/3.4
2	Sub Grade	Rutting	587	Equation 3.1/3.2

Table 11.1 Recommended material properties for structural layers

Material Type	Elastic/Resilient modulus (Mpa)	Poisson's ratio
Bituminous layer with VG-40 or Modified bitumen	3000	0.35
Bituminous layer with VG-30	2000	0.35
Cement treated base	5000	0.25
Cold recycled base	800	0.35
Granular interlayer	450	0.35
Cement treated sub base	600	0.25
Unbound granular layers	700	0.35
Unbound granular base over CTSS sub base		
a) For natural gravel	300	0.35
b) For crushed aggregated	350	0.35
Subgrade	Use eq. 6.1 or 6.2	0.35

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No. of layers 5
 E values (MPa) 2000.00 250.00 5000.00 125.00 49.10
 Mu values 0.350.350.250.350.35
 thicknesses (mm) 80.00 100.00 100.00 200.00
 single wheel load (N) 20000.00
 tyre pressure (MPa) 0.56

Dual Wheel

Z	R	SigmaZ	SigmaT	SigmaR	TaoRZ	DispZ	epZ	epT	epR
80.00	0.00	-0.3006E+00	0.5367E+00	0.4449E+00	-0.2034E-01	0.5420E+00	-0.3221E-03	0.2431E-03	0.1811E-03
80.00L	0.00	-0.3006E+00	-0.7452E-01	-0.8600E-01	-0.2034E-01	0.5420E+00	-0.9775E-03	0.2431E-03	0.1811E-03
80.00	155.00	-0.1774E+00	0.1998E+00	-0.3762E+00	-0.9480E-01	0.5280E+00	-0.5784E-04	0.1968E-03	-0.1920E-03
80.00L	155.00	-0.1774E+00	-0.5861E-01	-0.1306E+00	-0.9480E-01	0.5280E+00	-0.4448E-03	0.1968E-03	-0.1920E-03
480.00	0.00	-0.2095E-01	0.1752E-01	0.1411E-01	-0.3201E-02	0.4140E+00	-0.2561E-03	0.1593E-03	0.1225E-03
480.00L	0.00	-0.2095E-01	0.3439E-04	-0.1304E-02	-0.3201E-02	0.4140E+00	-0.4176E-03	0.1593E-03	0.1225E-03
480.00	155.00	-0.2253E-01	0.1895E-01	0.1643E-01	-0.4643E-02	0.4252E+00	-0.2794E-03	0.1687E-03	0.1415E-03
480.00L	155.00	-0.2253E-01	0.7824E-04	-0.9118E-03	-0.4643E-02	0.4252E+00	-0.4530E-03	0.1687E-03	0.1415E-03

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 Mu values 0.350.350.250.350.35
 thicknesses (mm) 50.00 100.00 125.00 200.00
 single wheel load (N) 20000.00
 tyre pressure (MPa) 0.56

Dual Wheel

Z	R	SigmaZ	SigmaT	SigmaR	TaoRZ	DispZ	epZ	epT	epR
50.00	0.00	-0.4419E+00	0.5297E+00	0.4842E+00	-0.6347E-02	0.5007E+00	-0.3984E-03	0.2574E-03	0.2267E-03
50.00L	0.00	-0.4419E+00	-0.1420E+00	-0.1477E+00	-0.6347E-02	0.5007E+00	-0.1362E-02	0.2574E-03	0.2267E-03
50.00	155.00	-0.1619E+00	0.1113E-01	-0.7770E+00	-0.7634E-01	0.4408E+00	0.5306E-04	0.1699E-03	-0.3621E-03
50.00L	155.00	-0.1619E+00	-0.7491E-01	-0.1734E+00	-0.7634E-01	0.4408E+00	-0.3001E-03	0.1699E-03	-0.3621E-03
475.00	0.00	-0.1623E-01	0.1037E+00	0.9087E-01	-0.2412E-02	0.3633E+00	-0.1405E-03	0.1293E-03	0.1004E-03
475.00L	0.00	-0.1624E-01	0.4573E-03	-0.5909E-03	-0.2412E-02	0.3633E+00	-0.3297E-03	0.1293E-03	0.1004E-03
475.00	155.00	-0.1731E-01	0.1114E+00	0.1015E+00	-0.3567E-02	0.3711E+00	-0.1530E-03	0.1365E-03	0.1144E-03
475.00L	155.00	-0.1731E-01	0.5577E-03	-0.2460E-03	-0.3573E-02	0.3711E+00	-0.3547E-03	0.1365E-03	0.1144E-03

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 Mu values 0.350.350.250.350.35
 thicknesses (mm) 80.00 100.00 100.00 200.00
 single wheel load (N) 20000.00
 tyre pressure (MPa) 0.56

Dual Wheel

Z	R	SigmaZ	SigmaT	SigmaR	TaoRZ	DispZ	epZ	epT	epR
80.00	0.00	-0.3074E+00	0.5299E+00	0.4405E+00	-0.1299E-01	0.4672E+00	-0.3235E-03	0.2417E-03	0.1813E-03
80.00L	0.00	-0.3074E+00	-0.7860E-01	-0.8978E-01	-0.1299E-01	0.4672E+00	-0.9940E-03	0.2417E-03	0.1813E-03
80.00	155.00	-0.1854E+00	0.1911E+00	-0.3830E+00	-0.8218E-01	0.4481E+00	-0.5915E-04	0.1950E-03	-0.1925E-03
80.00L	155.00	-0.1854E+00	-0.6348E-01	-0.1352E+00	-0.8218E-01	0.4481E+00	-0.4636E-03	0.1950E-03	-0.1925E-03
480.00	0.00	-0.1682E-01	0.1075E+00	0.9362E-01	-0.2577E-02	0.3650E+00	-0.1454E-03	0.1344E-03	0.1031E-03
480.00L	0.00	-0.1682E-01	0.4816E-03	-0.6547E-03	-0.2578E-02	0.3650E+00	-0.3414E-03	0.1344E-03	0.1031E-03
480.00	155.00	-0.1802E-01	0.1159E+00	0.1054E+00	-0.3824E-02	0.3734E+00	-0.1591E-03	0.1422E-03	0.1186E-03
480.00L	155.00	-0.1802E-01	0.5775E-03	-0.2807E-03	-0.3823E-02	0.3734E+00	-0.3691E-03	0.1422E-03	0.1186E-03

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<input checked="" type="checkbox"/> VIEW HERE									
BACK TO EDIT					HOME				
No. of layers	5								
E values (MPa)	2000.00	800.00	250.00	125.00	49.10				
Mu values	0.350.350.350.350.35								
thicknesses (mm)	90.00	75.00	100.00	200.00					
single wheel load (N)	20000.00								
tyre pressure (MPa)	0.56								
Dual Wheel									
Z	R	SigmaZ	SigmaT	SigmaR	TaoRZ	DispZ	epZ	epT	epR
90.00	0.00	-0.2849E+00	0.2864E+00	0.2228E+00	-0.3541E-01	0.6069E+00	-0.2316E-03	0.1541E-03	0.1112E-03
90.00L	0.00	-0.2849E+00	0.2252E-01	-0.2909E-02	-0.3541E-01	0.6069E+00	-0.3647E-03	0.1541E-03	0.1112E-03
90.00	155.00	-0.1204E+00	0.1878E+00	-0.1088E+00	-0.2152E+00	0.6148E+00	-0.7403E-04	0.1340E-03	-0.6622E-04
90.00L	155.00	-0.1204E+00	0.3624E-01	-0.8244E-01	-0.2152E+00	0.6148E+00	-0.1303E-03	0.1340E-03	-0.6622E-04
465.00	0.00	-0.2525E-01	0.2848E-01	0.2378E-01	-0.4393E-02	0.4578E+00	-0.3484E-03	0.2320E-03	0.1812E-03
465.00L	0.00	-0.2522E-01	0.2939E-02	0.1076E-02	-0.4393E-02	0.4578E+00	-0.5422E-03	0.2320E-03	0.1807E-03
465.00	155.00	-0.2709E-01	0.3066E-01	0.2707E-01	-0.6358E-02	0.4711E+00	-0.3784E-03	0.2454E-03	0.2066E-03
465.00L	155.00	-0.2709E-01	0.3187E-02	0.1774E-02	-0.6353E-02	0.4711E+00	-0.5872E-03	0.2454E-03	0.2065E-03

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उत्तर प्रदेश



लोक निर्माण विभाग

जनपद मुजफ्फरनगर
निर्माण खण्ड-1 लोक निर्माण विभाग, मुजफ्फरनगर
वृत्त : सहारनपुर वृत्त, लो०नि०वि०, सहारनपुर

प्रारम्भिक आगणन

कार्य का नाम

वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।

(जनपद मुजफ्फरनगर चै० 51.910 से 108.750 किमी०)

मार्ग की प्रस्तावित लम्बाई	:	56.840 किमी०
कार्य की अनुमानित लागत	:	32625.64 लाख

विशिष्ट्यां

Specifications

All the work shall be carried out as per U.P. P.W.D. detailed specifications and latest circulars issued by Engineer in Chief, U.P. P.W.D. Lucknow.


Assistant Engineer
C.D.-1, P.W.D.,
Muzaffarnagar


Executive Engineer
C.D.-1, P.W.D.,
Muzaffarnagar


SECSRE)

Location Name	ft Side of Uppar Ganga Ro	TVC-01
Chainage:	Ch. 103.700	

Direction	From	To
	Ghaziabad	Haridwar
	Haridwar	Ghaziabad

Date of Survey		
1st Day	06.12.2019	Friday
2nd Day	07.12.2019	Saturday
3rd Day	08.12.2019	Sunday
4th Day	09.12.2019	Monday
5th Day	10.12.2019	Tuesday
6th Day	11.12.2019	Wednesday
7th Day	12.12.2019	Thursday

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ER

EXECUTIVE ENGINEER , CD-1 , MUZAFFARNAGAR
Classified Traffic Volume Count Survey for Left Side of Uppar Ganga Canal

Location : Lift Side of Uppar Ganga Road
 Direction : Ghaziabad

TVC-01 Ch. 103.700
 To : Haridwar

DATE : 06.12.2019
 DAY : Friday

Time Period	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	E-Rickshaw
				Mini Bus	Standard Bus		2-Axle	3-Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer						
08:00-09:00	31	0	154	4	0	27	1	1	2	0	0	7	3	0	0	0	0	0
09:00-10:00	57	0	258	0	2	32	1	2	2	0	0	7	4	0	0	0	2	0
10:00-11:00	104	0	298	2	1	25	11	4	4	0	0	2	1	0	0	0	2	0
11:00-12:00	103	0	245	0	1	28	6	5	4	0	0	0	4	0	0	0	1	0
12:00-13:00	99	0	226	3	2	26	7	1	6	1	1	8	4	2	0	0	0	0
13:00-14:00	71	0	236	2	0	21	0	3	0	3	0	12	6	1	0	0	1	0
14:00-15:00	107	1	211	1	0	17	1	4	0	0	2	6	0	0	1	0	0	0
15:00-16:00	119	2	258	0	0	27	5	8	3	0	1	6	1	0	1	0	1	0
16:00-17:00	127	0	221	1	0	21	6	1	4	0	0	3	1	0	1	0	0	0
17:00-18:00	100	0	201	0	1	23	1	1	2	0	0	2	2	1	0	0	1	2
18:00-19:00	41	0	135	2	0	19	3	0	1	0	0	2	0	1	0	0	1	0
19:00-20:00	13	0	138	0	0	11	4	1	1	0	0	0	0	0	0	0	0	0
20:00-21:00	10	0	105	1	1	34	10	5	8	0	0	0	0	0	0	0	0	0
21:00-22:00	4	0	76	0	0	23	9	7	5	0	0	2	0	0	0	0	0	0
22:00-23:00	2	0	102	0	0	24	3	7	11	0	0	0	0	0	0	0	0	0
23:00-00:00	0	0	70	0	0	25	7	7	4	0	0	6	0	0	0	0	0	0
00:00-01:00	0	0	47	0	0	47	5	8	11	0	0	0	0	0	0	0	0	0
01:00-02:00	2	0	14	1	0	19	3	4	2	0	0	0	0	0	0	0	0	0
02:00-03:00	2	0	38	1	1	40	8	13	7	0	0	6	0	0	0	0	1	0
03:00-04:00	2	0	25	0	0	28	3	4	7	0	0	2	0	0	0	0	0	0
04:00-05:00	0	0	15	0	2	41	5	1	2	0	0	1	0	0	0	0	0	0
05:00-06:00	0	0	3	0	0	24	2	3	1	0	0	1	0	0	0	0	0	0
06:00-07:00	4	0	24	0	0	31	1	0	1	0	0	2	0	0	0	0	2	0
07:00-08:00	22	1	84	0	1	32	3	2	2	0	0	0	1	1	0	0	0	0
Daily Total	1020	4	3184	18	12	645	105	92	90	4	4	75	27	6	3	0	12	2

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 PE

Location : Lift Side of Uppar Ganga Road TVC-01 Ch. 103.700
 Direction : Haridwar To : Ghaziabad

Date : 06.12.2019
 Day : Friday

Time Period	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	E-Rickshaw
				Mini Bus	Standard Bus		2-Axle	3-Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer						
08:00-09:00	26	1	131	1	0	22	3	3	5	0	0	3	4	3	0	0	0	0
09:00-10:00	60	0	172	0	0	17	0	0	1	0	2	1	3	0	0	0	3	0
10:00-11:00	108	0	218	0	0	20	2	1	0	0	0	0	3	0	0	0	7	0
11:00-12:00	81	0	205	0	0	25	5	4	3	0	0	0	2	0	0	0	2	0
12:00-13:00	120	1	198	0	0	35	2	3	1	2	0	3	2	0	0	0	0	0
13:00-14:00	81	0	277	0	0	37	1	0	0	0	0	1	0	1	0	2	0	0
14:00-15:00	110	1	275	1	1	23	2	1	0	1	1	5	0	0	1	0	0	0
15:00-16:00	89	1	307	2	3	36	2	4	0	0	0	4	1	1	0	0	1	1
16:00-17:00	81	0	182	1	0	30	3	2	0	0	0	7	3	0	0	0	0	0
17:00-18:00	83	1	218	1	0	29	1	3	1	0	0	4	5	0	0	0	1	0
18:00-19:00	40	0	169	2	0	34	5	1	2	0	2	12	0	0	0	0	0	0
19:00-20:00	29	0	101	0	0	41	3	2	7	0	0	5	1	0	0	0	0	0
20:00-21:00	10	0	51	1	0	49	2	9	2	0	0	2	3	0	0	0	0	0
21:00-22:00	0	0	59	0	0	48	2	4	7	0	0	6	0	0	0	0	0	0
22:00-23:00	0	1	24	0	0	33	7	6	9	0	0	5	0	0	0	0	0	0
23:00-00:00	1	0	19	1	0	46	2	8	7	0	0	1	0	0	0	0	0	0
00:00-01:00	2	0	19	1	0	32	4	8	2	0	0	1	0	0	0	0	0	0
01:00-02:00	0	0	1	0	0	22	0	1	1	0	0	3	0	0	0	0	0	0
02:00-03:00	1	0	8	1	0	16	2	4	5	0	0	0	0	0	0	0	0	0
03:00-04:00	1	0	6	0	0	19	1	1	2	0	0	4	0	0	0	0	0	0
04:00-05:00	0	0	6	0	0	16	4	1	2	0	0	5	0	0	0	0	0	0
05:00-06:00	1	0	3	0	0	8	1	2	1	0	0	0	1	0	0	0	0	0
06:00-07:00	1	0	11	0	0	3	0	0	6	0	0	3	0	0	0	0	0	0
07:00-08:00	7	0	57	1	0	25	4	2	4	0	0	3	0	0	0	0	0	0
Daily Total	932	6	2717	13	4	666	58	70	68	3	5	78	28	5	1	2	14	1

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EXECUTIVE ENGINEER , CD-1 , MUZAFFARNAGAR
Classified Traffic Volume Count Survey for Left Side of Uppar Ganga Canal

Location : Lift Side of Uppar Ganga Road
 Direction : Ghaziabad

TVC-01 Ch. 103.700
 To : Haridwar

DATE : 07.12.2019
 DAY : Saturday

Time Period	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	E-Rickshaw
				Mini Bus	Standard Bus		2-Axle	3- Axle	MAV	Artic /Semi Artic	Tractor	Tractor Trailer						
08:00-09:00	27	0	188	4	0	41	5	2	4	0	0	2	2	0	0	0	1	0
09:00-10:00	74	0	305	1	0	29	2	3	2	0	0	3	2	0	2	0	1	3
10:00-11:00	91	0	459	2	1	21	1	0	2	0	4	9	2	0	0	0	3	0
11:00-12:00	125	0	368	0	3	18	0	0	3	0	0	3	1	0	0	0	1	0
12:00-13:00	110	0	322	2	1	22	1	4	1	0	0	2	0	0	0	0	2	0
13:00-14:00	121	0	305	0	0	17	0	2	3	0	1	4	0	0	0	0	1	0
14:00-15:00	90	0	260	0	1	23	0	1	1	0	3	1	2	0	0	0	1	0
15:00-16:00	82	0	217	1	2	29	1	1	2	0	0	9	0	0	0	0	1	0
16:00-17:00	120	2	250	0	3	12	1	0	4	0	0	12	0	0	0	0	3	0
17:00-18:00	108	0	301	3	0	39	2	4	2	0	0	2	2	0	1	0	0	0
18:00-19:00	53	0	308	0	0	24	2	4	2	0	1	4	0	0	0	0	2	0
19:00-20:00	9	0	152	0	2	28	1	3	5	0	1	1	0	0	0	0	0	0
20:00-21:00	12	0	56	0	0	21	1	2	4	0	0	1	0	0	0	0	0	0
21:00-22:00	13	0	67	0	2	29	3	1	4	0	0	1	0	0	0	0	0	0
22:00-23:00	4	0	88	0	0	31	1	1	10	0	0	0	0	0	0	0	0	0
23:00-00:00	7	0	29	0	0	29	0	6	6	0	0	0	0	0	0	0	0	0
00:00-01:00	7	0	30	0	0	23	5	5	7	0	0	0	0	0	0	0	0	0
01:00-02:00	5	0	24	0	0	20	5	5	6	0	0	0	0	0	0	0	0	0
02:00-03:00	2	0	23	0	0	22	4	4	6	0	0	0	0	0	0	0	0	0
03:00-04:00	1	0	26	0	0	20	6	6	8	0	0	0	0	0	0	0	0	0
04:00-05:00	3	0	12	0	0	34	10	3	4	0	0	3	0	0	0	0	0	0
05:00-06:00	2	0	9	0	0	42	5	0	0	0	0	2	0	0	0	0	0	0
06:00-07:00	0	0	36	1	1	29	4	6	2	0	0	1	0	0	0	0	0	0
07:00-08:00	4	0	88	1	1	21	3	1	1	0	0	0	0	0	0	0	0	0
Daily Total	1070	2	3923	15	17	624	63	64	89	0	10	60	11	0	3	0	19	3

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Location : Lift Side of Uppar Ganga Road
 Direction : Haridwar

TVC-01 Ch. 103.700
 To : Ghaziabad

Ch. 103.700

Date : 07.12.2019
 Day : Saturday

Time Period	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	E-Rickshaw
				Mini Bus	Standard Bus		2-Axle	3- Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer						
08:00-09:00	60	0	92	0	0	23	6	0	4	0	0	2	4	0	0	0	3	0
09:00-10:00	63	0	163	1	2	29	2	0	0	0	2	3	1	0	0	0	3	0
10:00-11:00	72	0	271	3	3	21	1	2	1	0	0	2	2	0	0	0	2	2
11:00-12:00	105	1	200	0	1	25	4	3	2	0	0	5	0	0	0	0	5	0
12:00-13:00	125	0	303	0	2	26	4	3	1	0	0	3	0	0	0	0	3	0
13:00-14:00	111	2	337	1	2	37	1	4	4	0	1	1	2	0	1	0	4	0
14:00-15:00	69	1	479	0	0	31	3	0	3	0	0	2	3	0	0	0	3	0
15:00-16:00	119	0	313	3	0	40	2	3	2	0	0	3	1	2	0	0	3	0
16:00-17:00	109	1	276	0	1	52	1	1	1	0	1	6	1	0	0	0	1	0
17:00-18:00	79	2	291	0	0	33	2	1	0	0	0	3	1	0	0	0	2	0
18:00-19:00	33	0	282	0	3	23	2	0	0	0	0	2	0	0	0	0	1	0
19:00-20:00	23	0	132	0	1	39	2	2	14	0	1	2	3	0	0	0	0	0
20:00-21:00	10	0	67	0	0	43	2	1	2	0	0	4	0	0	0	0	0	0
21:00-22:00	4	0	61	1	0	43	3	14	5	0	0	5	0	0	0	0	0	0
22:00-23:00	0	0	38	0	1	34	4	8	6	0	1	0	0	0	0	0	0	0
23:00-00:00	0	0	80	2	0	42	4	3	3	0	1	1	0	0	0	0	0	0
00:00-01:00	0	0	35	0	0	38	2	3	4	0	0	1	0	0	0	0	0	0
01:00-02:00	1	0	20	0	1	32	2	3	2	0	0	0	0	0	0	0	0	0
02:00-03:00	0	0	15	0	0	23	1	0	3	0	0	0	0	0	0	0	0	0
03:00-04:00	1	0	16	0	1	9	5	2	1	0	0	4	0	0	0	0	0	0
04:00-05:00	0	0	10	0	0	8	1	4	0	0	0	2	0	0	0	0	0	0
05:00-06:00	1	0	14	0	0	10	2	2	2	0	0	3	0	0	0	0	0	0
06:00-07:00	4	0	54	2	0	31	3	7	1	0	0	4	0	0	0	0	0	0
07:00-08:00	19	0	74	0	0	13	1	2	2	0	0	4	5	0	0	0	0	0
Daily Total	1008	7	3623	13	18	705	60	68	63	0	7	62	23	2	1	0	30	2

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EXECUTIVE ENGINEER , CD-1 , MUZAFFARNAGAR
Classified Traffic Volume Count Survey for Left Side of Uppar Ganga Canal

Location : Lift Side of Uppar Ganga Road
 Direction : Ghaziabad

TVC-01 Ch. 103.700
 To : Haridwar

DATE : 08.12.2019
 DAY : Sunday

Time Period	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	E-Rickshaw
				Mini Bus	Standard Bus		2-Axle	3- Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer						
08:00-09:00	40	0	274	0	2	41	3	2	1	0	0	0	1	0	0	0	0	0
09:00-10:00	69	0	315	0	4	23	2	0	6	0	0	5	0	0	0	0	0	0
10:00-11:00	96	2	298	0	1	22	1	0	5	0	1	3	1	0	1	0	3	0
11:00-12:00	160	0	247	1	2	24	1	5	2	0	0	1	3	0	0	0	4	0
12:00-13:00	139	1	280	1	1	31	1	0	3	0	1	2	3	0	0	0	1	0
13:00-14:00	100	0	163	0	0	21	0	0	0	0	1	2	0	0	0	0	5	0
14:00-15:00	92	0	254	0	0	22	1	0	1	0	0	1	2	0	0	0	1	0
15:00-16:00	69	0	271	1	0	16	3	0	1	0	0	2	0	0	0	0	0	0
16:00-17:00	107	0	229	1	2	32	1	2	5	0	0	9	0	0	0	0	4	0
17:00-18:00	87	0	297	0	3	25	1	1	2	0	0	2	1	0	0	0	1	0
18:00-19:00	35	0	136	0	5	36	1	1	2	0	0	1	0	0	1	0	0	0
19:00-20:00	11	0	143	1	0	25	1	0	3	0	0	0	0	0	0	0	2	0
20:00-21:00	16	0	171	2	2	40	0	4	1	0	0	0	0	0	0	0	0	0
21:00-22:00	2	0	200	0	5	10	9	3	17	0	0	0	0	0	0	0	0	0
22:00-23:00	2	0	105	1	0	39	2	2	22	0	0	1	0	0	0	0	0	0
23:00-00:00	2	0	52	0	0	23	7	8	16	0	0	0	0	0	0	0	0	0
00:00-01:00	2	0	65	0	0	22	6	5	15	0	0	0	0	0	0	0	0	0
01:00-02:00	0	0	64	1	0	37	1	8	2	0	0	1	0	0	0	0	0	0
02:00-03:00	0	0	18	0	0	20	2	14	0	0	0	0	0	0	0	0	0	0
03:00-04:00	14	0	110	0	0	55	5	17	7	0	0	15	0	0	0	0	0	0
04:00-05:00	0	0	18	0	0	23	7	13	0	0	0	0	0	0	0	0	0	0
05:00-06:00	0	1	44	0	1	26	4	14	0	0	0	0	0	0	0	0	0	0
06:00-07:00	1	0	30	0	0	29	8	16	3	0	0	2	0	0	0	0	0	0
07:00-08:00	35	0	190	0	0	47	10	3	5	0	1	2	0	0	0	0	0	0
Daily Total	1079	4	3974	9	28	689	77	118	119	0	4	49	11	0	2	0	21	0

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Location : Lift Side of Uppar Ganga Road
 Direction : Haridwar

TVC-01
 To :

Ch. 103.700
 Ghaziabad

Ch. 103.700

Date : 08.12.2019
 Day : Sunday

Time Period	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	E-Rickshaw
				Mini Bus	Standard Bus		2-Axle	3-Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer						
08:00-09:00	45	1	143	0	0	25	3	2	1	0	0	4	4	1	0	0	1	0
09:00-10:00	43	0	142	0	0	62	11	0	22	0	0	0	1	0	0	0	0	0
10:00-11:00	86	0	160	0	1	26	4	0	3	0	1	2	2	3	0	0	3	0
11:00-12:00	77	2	244	2	5	18	1	0	4	0	0	2	2	5	0	0	4	0
12:00-13:00	109	0	286	2	4	22	0	2	3	0	0	1	0	0	0	0	4	0
13:00-14:00	130	1	283	2	1	39	0	4	4	0	0	2	6	0	0	0	3	0
14:00-15:00	100	0	217	0	1	33	4	2	3	0	2	0	0	0	0	0	1	0
15:00-16:00	96	3	229	0	0	31	6	3	1	0	1	0	0	0	0	0	0	0
16:00-17:00	125	1	272	1	0	17	3	0	3	0	0	1	1	0	0	6	1	0
17:00-18:00	125	2	319	1	1	39	5	2	2	0	1	4	2	0	0	0	0	0
18:00-19:00	117	1	232	3	2	33	2	1	0	0	2	1	3	0	0	0	1	0
19:00-20:00	55	0	235	4	3	24	5	3	6	0	0	0	0	0	0	0	0	0
20:00-21:00	36	0	180	1	4	66	12	12	0	0	0	2	1	0	0	0	0	0
21:00-22:00	16	0	165	0	0	75	2	10	0	1	0	0	0	0	0	0	0	0
22:00-23:00	12	0	58	0	0	35	7	8	3	0	0	1	0	0	0	0	0	0
23:00-00:00	1	0	74	1	0	41	4	3	8	0	0	1	0	0	0	0	0	0
00:00-01:00	0	0	37	2	0	28	8	7	3	0	0	1	0	0	0	0	0	0
01:00-02:00	0	0	36	0	1	24	21	5	7	0	0	2	0	0	1	0	0	0
02:00-03:00	0	0	31	1	1	19	2	2	2	0	0	1	0	0	0	0	0	0
03:00-04:00	0	0	26	0	1	18	3	13	0	0	0	3	0	0	0	0	0	0
04:00-05:00	0	0	48	0	0	33	6	5	19	0	0	0	0	0	0	0	0	0
05:00-06:00	3	0	37	2	0	29	3	1	0	0	0	0	1	2	0	0	6	0
06:00-07:00	7	3	43	0	0	27	6	1	0	2	0	3	3	1	0	0	0	2
07:00-08:00	15	0	68	1	0	23	5	1	1	0	1	2	0	1	0	0	5	0
Daily Total	1198	14	3565	23	25	787	123	87	95	3	8	33	26	13	1	0	29	2

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7/12

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AB

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RB

EXECUTIVE ENGINEER , CD-1 , MUZAFFARNAGAR
Classified Traffic Volume Count Survey for Left Side of Uppar Ganga Canal

Location : Lift Side of Uppar Ganga Road
 Direction : Ghaziabad

TVC-01 Ch. 103.700
 To : Haridwar

DATE : 09.12.2019
 DAY : Monday

Time Period	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	E-Rickshaw
				Mini Bus	Standard Bus		2-Axle	3- Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer						
08:00-09:00	56	0	245	2	0	26	2	0	1	0	3	1	3	0	0	0	0	0
09:00-10:00	66	1	204	1	0	30	0	1	0	0	0	2	2	1	0	0	0	0
10:00-11:00	95	0	208	0	0	28	3	2	4	0	1	3	1	0	0	0	5	0
11:00-12:00	102	1	179	0	0	41	1	4	0	0	0	6	2	0	0	0	1	0
12:00-13:00	121	2	177	0	0	34	1	1	6	0	0	5	4	0	0	0	2	0
13:00-14:00	68	0	308	1	0	38	2	4	1	0	1	9	0	0	0	0	5	0
14:00-15:00	90	0	306	2	1	34	1	0	6	0	1	4	1	1	0	0	1	0
15:00-16:00	126	0	321	3	0	52	0	2	2	0	1	3	1	0	0	0	4	0
16:00-17:00	125	0	345	3	0	27	2	3	7	0	0	3	4	2	2	0	0	0
17:00-18:00	128	1	200	1	4	24	2	7	0	0	0	4	3	1	0	0	0	0
18:00-19:00	54	2	235	1	0	40	1	5	1	0	0	5	0	1	0	0	0	0
19:00-20:00	22	0	130	1	0	19	1	1	0	0	0	3	0	0	0	0	0	0
20:00-21:00	6	0	183	0	0	44	0	3	0	0	0	0	0	0	0	0	0	0
21:00-22:00	3	0	122	1	1	44	8	8	2	0	0	3	0	0	0	0	0	0
22:00-23:00	0	0	69	0	0	22	5	4	4	0	0	0	0	0	0	0	0	0
23:00-00:00	1	0	52	0	0	26	7	7	11	0	0	2	0	0	0	0	0	0
00:00-01:00	0	0	38	0	0	34	5	9	6	0	0	0	0	0	0	0	0	0
01:00-02:00	1	0	40	1	0	26	12	14	14	0	0	0	0	0	0	0	0	0
02:00-03:00	0	0	22	1	1	30	3	9	2	0	0	7	0	0	0	0	0	0
03:00-04:00	0	0	16	0	0	58	2	8	2	0	0	1	0	0	0	0	0	0
04:00-05:00	0	0	10	0	0	20	5	0	4	0	0	1	0	0	0	0	0	0
05:00-06:00	7	0	12	0	0	36	9	6	0	0	0	1	1	0	0	0	0	0
06:00-07:00	6	0	17	0	0	17	2	0	0	0	0	2	0	1	0	0	0	0
07:00-08:00	13	0	73	0	0	20	0	2	1	0	0	2	2	0	0	1	0	0
Daily Total	1090	7	3512	18	7	770	74	100	74	0	7	67	24	7	2	1	18	0

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 JB

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 ER

Location : Lift Side of Uppar Ganga Road TVC-01 Ch. 103.700 Date : 09.12.2019
 Direction : Haridwar To : Ghaziabad Ch. 103.700 Day : Monday

Time Period	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	E-Rickshaw
				Mini Bus	Standard Bus		2-Axle	3- Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer						
08:00-09:00	37	2	161	0	0	58	5	0	4	0	0	3	0	0	0	0	0	0
09:00-10:00	84	3	203	1	0	30	4	1	0	0	0	2	0	4	0	0	0	0
10:00-11:00	129	1	263	0	1	23	2	1	3	0	0	5	4	4	1	0	0	0
11:00-12:00	133	0	243	0	0	17	3	1	6	0	0	0	2	1	0	0	0	0
12:00-13:00	95	2	269	6	3	36	1	1	0	0	0	3	0	2	0	0	0	0
13:00-14:00	101	4	205	1	1	29	3	2	0	0	0	4	0	0	0	0	0	0
14:00-15:00	105	1	258	4	1	23	10	3	4	0	1	6	0	0	0	0	0	0
15:00-16:00	109	1	257	2	1	23	2	0	1	0	1	4	2	0	0	0	4	0
16:00-17:00	121	0	232	8	3	36	6	1	3	0	0	5	0	0	0	0	0	0
17:00-18:00	76	0	287	1	2	34	4	1	0	0	0	2	1	0	0	0	0	0
18:00-19:00	88	0	177	4	0	40	4	5	2	0	1	3	0	0	0	0	0	0
19:00-20:00	8	0	127	4	0	44	3	8	0	0	0	2	0	0	0	0	0	0
20:00-21:00	9	0	76	1	0	51	4	5	3	0	0	1	0	0	0	0	0	0
21:00-22:00	9	0	47	1	0	55	4	8	5	0	0	4	0	0	0	0	0	0
22:00-23:00	1	0	31	0	0	39	3	7	12	0	0	1	0	0	0	0	0	0
23:00-00:00	0	0	17	0	0	53	7	5	10	0	0	1	0	0	0	0	0	0
00:00-01:00	0	0	16	0	0	56	11	8	11	0	0	2	0	0	0	0	0	0
01:00-02:00	1	0	10	0	1	28	6	3	5	0	0	4	0	0	0	0	0	0
02:00-03:00	0	0	8	0	0	20	8	4	3	0	0	1	0	0	0	0	0	0
03:00-04:00	0	0	4	0	0	21	5	3	1	3	0	8	0	0	0	0	0	0
04:00-05:00	0	0	14	0	0	36	4	0	3	0	0	0	0	0	0	0	0	0
05:00-06:00	2	0	10	0	0	15	0	0	3	0	0	1	0	0	0	0	0	0
06:00-07:00	3	3	30	0	0	37	1	1	3	0	0	2	0	1	0	2	0	0
07:00-08:00	12	2	80	0	1	30	2	1	1	0	0	2	1	1	0	0	0	0
Daily Total	1123	19	3025	33	14	834	102	69	83	3	3	66	10	13	1	2	4	0

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AR

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ER

EXECUTIVE ENGINEER , CD-1 , MUZAFFARNAGAR
Classified Traffic Volume Count Survey for Left Side of Uppar Ganga Canal

Location : Lift Side of Uppar Ganga Road
 Direction : Ghaziabad

TVC-01 Ch. 103.700
 To : Haridwar

DATE : 10.12.2019
 DAY : Tuesday

Time Period	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	E-Rickshaw
				Mini Bus	Standard Bus		2-Axle	3- Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer						
08:00-09:00	38	2	188	4	0	30	3	3	1	0	0	2	1	0	0	0	0	0
09:00-10:00	90	0	239	0	0	37	2	2	5	0	1	3	0	0	0	0	0	0
10:00-11:00	100	1	266	4	0	24	2	2	2	0	0	3	1	0	0	0	0	0
11:00-12:00	113	1	309	1	0	31	1	2	2	0	1	3	2	0	0	0	0	0
12:00-13:00	122	0	325	2	2	43	2	1	2	0	0	1	5	0	0	0	0	0
13:00-14:00	103	1	230	1	1	31	2	7	2	0	1	3	0	0	0	0	0	0
14:00-15:00	144	2	218	4	2	38	2	7	4	0	0	6	1	0	0	0	0	0
15:00-16:00	83	0	195	2	0	29	3	7	2	0	0	6	0	0	0	0	2	0
16:00-17:00	83	0	205	0	0	26	5	4	1	0	0	7	0	0	0	0	0	0
17:00-18:00	89	0	235	4	0	31	2	2	2	0	1	3	0	0	0	0	0	0
18:00-19:00	49	0	194	2	0	35	3	3	1	0	0	1	0	0	0	0	0	0
19:00-20:00	13	1	254	1	2	41	5	6	3	0	0	1	0	0	0	0	1	0
20:00-21:00	11	0	154	1	0	40	3	3	1	0	1	3	1	0	0	0	0	0
21:00-22:00	13	0	38	1	0	40	3	3	2	0	0	0	0	0	0	0	0	0
22:00-23:00	4	0	36	1	0	52	2	5	3	0	0	3	0	0	0	0	0	0
23:00-00:00	0	0	34	1	0	48	4	5	4	0	0	0	0	0	0	0	0	0
00:00-01:00	0	0	34	0	0	47	2	2	2	0	0	0	0	0	0	0	0	0
01:00-02:00	0	0	31	0	0	34	3	2	2	0	0	0	0	0	0	0	0	0
02:00-03:00	0	0	17	0	0	23	5	4	4	0	0	0	0	0	0	0	0	0
03:00-04:00	0	0	15	1	0	44	2	3	3	0	0	0	0	0	0	0	0	0
04:00-05:00	0	0	42	0	0	41	2	3	5	0	0	5	0	0	0	0	0	0
05:00-06:00	3	0	58	0	0	34	1	2	3	0	0	1	2	0	0	0	1	0
06:00-07:00	6	0	70	0	0	37	2	2	2	0	0	2	3	0	0	0	1	0
07:00-08:00	16	0	97	2	0	12	0	1	2	0	0	2	1	0	0	0	1	0
Daily Total	1080	8	3484	32	7	848	61	81	60	0	5	55	17	0	0	0	6	0

Handwritten signature/initials

Handwritten initials

Handwritten initials

Location : Lift Side of Uppar Ganga Road
 Direction : Haridwar

TVC-01
 To :

Ch. 103.700
 Ghaziabad

Ch. 103.700

Date : 10.12.2019
 Day : Tuesday

Time Period	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	E-Rickshaw
				Mini Bus	Standard Bus		2-Axle	3- Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer						
08:00-09:00	36	0	139	0	1	41	2	0	0	0	0	0	5	1	0	0	1	0
09:00-10:00	78	2	215	0	0	36	4	1	0	0	2	4	0	4	0	0	0	0
10:00-11:00	105	2	195	0	1	32	4	0	0	0	1	3	2	2	1	0	0	0
11:00-12:00	104	0	207	1	0	38	3	1	0	0	0	6	4	2	0	0	0	0
12:00-13:00	94	0	213	0	1	40	1	2	4	0	0	1	2	0	0	0	0	0
13:00-14:00	109	2	232	2	2	42	3	3	1	0	3	5	0	3	0	0	0	0
14:00-15:00	100	1	228	1	2	31	2	4	2	0	0	2	8	6	0	1	0	0
15:00-16:00	109	0	254	2	0	26	2	0	0	0	1	4	2	2	0	0	0	0
16:00-17:00	133	0	253	0	2	36	0	0	1	0	2	3	0	0	0	0	0	0
17:00-18:00	124	0	231	1	0	41	1	3	3	0	3	3	1	0	1	1	0	0
18:00-19:00	31	2	207	1	1	55	0	2	4	0	0	1	0	0	0	1	0	0
19:00-20:00	19	0	128	0	1	42	2	5	0	0	0	3	0	0	0	0	0	0
20:00-21:00	19	1	163	0	0	27	5	4	5	0	0	4	0	0	0	0	0	0
21:00-22:00	19	0	136	1	5	24	3	2	5	0	0	2	0	0	0	0	0	0
22:00-23:00	5	0	123	0	0	26	5	5	4	0	0	3	0	0	0	0	0	0
23:00-00:00	4	0	92	0	0	23	4	5	5	0	2	0	0	0	0	0	0	0
00:00-01:00	2	0	72	0	0	23	4	7	6	0	0	0	0	0	0	0	0	0
01:00-02:00	3	0	62	0	0	29	5	9	8	0	0	0	0	0	0	0	0	0
02:00-03:00	3	0	41	0	0	44	14	9	6	0	0	0	0	0	0	0	0	0
03:00-04:00	2	0	25	0	0	25	6	6	7	0	0	0	0	0	0	0	0	0
04:00-05:00	1	0	34	0	0	20	11	3	5	0	0	4	0	0	0	0	0	0
05:00-06:00	7	0	59	0	0	29	7	5	4	0	0	4	0	0	0	0	0	0
06:00-07:00	8	0	88	0	0	26	5	4	5	0	0	3	0	0	0	0	0	0
07:00-08:00	19	0	57	0	0	15	4	4	5	0	0	3	0	0	0	0	0	0
Daily Total	1134	10	3454	9	16	771	97	84	80	0	14	58	24	20	2	3	1	0

Handwritten signature and initials

Handwritten initials

Handwritten initials

EXECUTIVE ENGINEER , CD-1 , MUZAFFARNAGAR
Classified Traffic Volume Count Survey for Left Side of Uppar Ganga Canal

Location : Lift Side of Uppar Ganga Road
 Direction : Ghaziabad

TVC-01 Ch. 103.700
 To : Haridwar

DATE : 11.12.2019
 DAY : Wednesday

Time Period	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	E-Rickshaw
				Mini Bus	Standard Bus		2-Axle	3- Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer						
08:00-09:00	51	1	260	5	0	37	7	1	0	0	0	4	3	3	0	0	0	0
09:00-10:00	88	3	259	1	0	31	0	0	0	0	1	1	2	0	1	0	0	0
10:00-11:00	97	2	246	0	1	26	3	0	1	3	0	2	5	0	1	0	0	0
11:00-12:00	70	1	284	0	0	27	3	1	2	5	0	1	1	2	0	0	0	0
12:00-13:00	115	1	255	0	3	34	2	2	1	0	0	5	3	0	1	0	0	0
13:00-14:00	98	0	215	0	3	25	0	0	3	0	1	2	7	1	0	2	1	0
14:00-15:00	109	0	215	1	4	35	0	3	8	0	0	4	1	0	0	2	0	0
15:00-16:00	137	0	326	2	1	45	2	5	7	0	0	10	1	3	0	1	0	0
16:00-17:00	151	0	315	5	1	40	5	1	3	0	1	3	4	4	0	1	3	0
17:00-18:00	134	0	291	4	3	38	5	1	2	0	0	0	2	1	1	1	0	0
18:00-19:00	44	0	256	1	2	35	2	3	0	0	0	1	0	0	0	0	0	0
19:00-20:00	18	1	145	2	2	35	0	5	0	0	0	2	0	0	0	0	0	0
20:00-21:00	9	0	122	0	0	32	2	7	2	0	0	0	0	0	0	0	0	0
21:00-22:00	5	0	85	1	0	34	1	4	4	0	0	0	0	0	0	0	0	0
22:00-23:00	2	0	77	1	0	17	6	5	11	0	0	0	0	0	0	0	0	0
23:00-00:00	2	0	44	0	0	21	9	7	10	0	0	4	0	0	0	0	0	0
00:00-01:00	4	0	37	1	1	52	14	6	11	2	0	0	0	0	0	0	0	0
01:00-02:00	1	0	34	1	3	50	9	10	5	0	0	6	0	0	0	0	0	0
02:00-03:00	0	0	24	1	1	33	7	19	7	0	0	2	0	0	0	0	0	0
03:00-04:00	1	0	33	0	2	44	9	5	5	0	0	1	0	0	0	0	0	0
04:00-05:00	0	0	13	0	1	37	9	4	5	0	0	1	0	0	0	0	0	0
05:00-06:00	1	0	28	1	0	41	11	3	3	0	0	0	0	0	0	0	0	0
06:00-07:00	0	0	60	1	1	28	4	0	3	0	0	4	1	0	0	0	2	0
07:00-08:00	28	0	170	0	0	34	1	0	0	0	0	2	1	0	0	0	1	0
Daily Total	1165	9	3794	28	29	831	111	92	93	10	3	55	31	14	4	7	7	0

Handwritten signature and initials
 J.R.

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 A.R.

Handwritten signature and initials
 E.R.

Location : Lift Side of Uppar Ganga Road
 Direction : Haridwar

TVC-01
 To : Ghaziabad

Ch. 103.700
 Ch. 103.700

Date : 11.12.2019
 Day : Wednesday

Time Period	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	E-Rickshaw
				Mini Bus	Standard Bus		2-Axle	3- Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer						
08:00-09:00	58	0	148	1	0	15	7	0	1	1	1	2	5	1	1	0	1	0
09:00-10:00	84	0	198	3	2	26	1	0	0	1	1	2	3	3	3	0	1	4
10:00-11:00	80	1	177	0	1	21	3	4	0	1	0	4	1	1	2	0	0	0
11:00-12:00	75	0	175	1	1	24	2	0	0	1	0	3	1	0	1	0	0	2
12:00-13:00	92	2	289	2	3	30	1	4	0	0	0	1	4	0	0	0	0	1
13:00-14:00	108	7	316	2	1	47	3	0	0	0	3	2	0	0	0	0	0	0
14:00-15:00	97	0	255	3	1	37	1	0	8	0	0	4	0	0	1	0	0	0
15:00-16:00	130	3	333	3	3	42	0	0	3	0	1	1	0	0	0	0	0	0
16:00-17:00	89	4	283	3	5	51	1	2	0	0	0	1	0	0	0	0	0	0
17:00-18:00	117	1	284	1	2	34	2	3	0	0	0	5	0	0	0	0	0	0
18:00-19:00	83	1	239	2	1	49	5	4	0	0	0	3	0	0	0	0	0	0
19:00-20:00	13	0	120	0	2	46	1	4	4	0	0	2	0	0	0	0	0	0
20:00-21:00	10	0	108	0	0	66	6	1	6	0	2	0	0	0	0	0	0	0
21:00-22:00	4	0	88	1	1	60	9	2	5	0	0	2	0	0	0	0	0	0
22:00-23:00	3	0	58	1	0	57	10	6	0	0	0	5	0	0	0	0	0	0
23:00-00:00	1	0	25	0	2	44	2	6	8	0	0	0	0	0	0	0	0	0
00:00-01:00	1	0	18	0	1	33	13	3	14	0	0	0	0	0	0	0	0	0
01:00-02:00	0	0	23	0	3	36	10	4	2	0	0	0	0	0	0	0	0	0
02:00-03:00	1	0	9	0	0	20	6	4	5	0	0	1	0	0	0	0	0	0
03:00-04:00	0	0	8	0	0	15	2	2	5	0	0	3	0	0	0	0	0	0
04:00-05:00	0	0	14	0	2	14	8	1	0	0	0	8	0	0	0	0	0	0
05:00-06:00	0	0	17	0	0	23	0	1	2	0	0	1	0	0	0	0	0	0
06:00-07:00	4	0	51	0	1	31	1	2	3	0	0	4	0	0	0	0	0	0
07:00-08:00	14	0	115	0	0	19	1	1	2	0	0	5	4	0	0	0	1	0
Daily Total	1064	19	3351	23	32	840	95	54	68	4	8	59	18	5	8	0	3	7

Handwritten signature/initials

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Handwritten signature/initials

EXECUTIVE ENGINEER , CD-1 , MUZAFFARNAGAR
Classified Traffic Volume Count Survey for Left Side of Uppar Ganga Canal

Location : Lift Side of Uppar Ganga Road
 Direction : Ghaziabad

TVC-01 Ch. 103.700
 To : Haridwar

DATE : 12.12.2019
 DAY : Thursday

Time Period	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	E-Rickshaw
				Mini Bus	Standard Bus		2-Axle	3-Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer						
08:00-09:00	47	0	226	4	2	41	4	2	0	0	0	3	1	0	0	0	0	0
09:00-10:00	77	0	340	1	1	39	2	5	2	0	0	1	0	0	0	0	0	0
10:00-11:00	139	0	306	0	3	39	0	2	1	0	3	3	1	0	0	0	0	0
11:00-12:00	127	2	261	6	6	46	1	0	0	0	2	2	0	0	0	0	0	0
12:00-13:00	83	0	258	0	0	20	1	2	4	0	0	1	0	0	0	0	2	0
13:00-14:00	74	0	237	0	6	50	0	2	1	0	0	5	2	0	0	0	1	0
14:00-15:00	65	0	174	0	0	18	5	2	2	0	0	8	1	0	0	0	5	0
15:00-16:00	72	0	128	0	0	9	1	1	1	0	1	4	0	0	0	0	0	0
16:00-17:00	90	0	192	0	1	20	1	2	3	0	1	2	1	0	0	0	3	0
17:00-18:00	71	0	146	0	3	26	1	1	0	0	0	2	1	0	1	0	1	0
18:00-19:00	48	0	240	1	0	37	10	3	10	0	0	1	0	0	0	0	3	0
19:00-20:00	11	0	97	0	0	27	0	1	6	0	0	0	0	0	1	0	0	0
20:00-21:00	2	0	85	0	1	18	3	2	4	0	1	4	0	0	0	0	2	0
21:00-22:00	0	0	84	0	1	25	6	3	3	0	2	1	0	0	0	0	0	0
22:00-23:00	1	0	86	0	0	27	0	2	5	0	0	0	0	0	0	0	0	0
23:00-00:00	0	0	43	0	0	30	3	0	4	0	0	1	0	0	0	0	0	0
00:00-01:00	0	0	37	0	0	26	7	9	7	0	0	3	0	0	0	0	0	0
01:00-02:00	0	0	36	0	0	25	7	12	5	0	0	3	0	0	0	0	0	0
02:00-03:00	0	0	28	0	0	35	8	8	7	0	0	2	0	0	0	0	0	0
03:00-04:00	0	0	40	0	0	39	4	4	2	1	0	0	0	0	0	0	0	0
04:00-05:00	1	0	66	0	0	37	6	2	1	0	0	0	0	0	0	0	0	0
05:00-06:00	0	0	33	0	0	30	4	2	1	0	0	0	0	0	0	0	0	0
06:00-07:00	5	0	50	0	1	43	4	0	2	0	0	1	0	0	0	0	0	0
07:00-08:00	0	0	126	0	1	32	2	1	1	0	0	3	0	0	0	0	3	0
Daily Total	913	2	3319	12	26	739	80	68	72	1	10	50	7	0	2	0	20	0

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Location : Lift Side of Uppar Ganga Road
 Direction : Haridwar

TVC-01
 To : Ghaziabad

Ch. 103.700

Ch. 103.700

Date : 12.12.2019
 Day : Thursday

Time Period	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	E-Rickshaw
				Mini Bus	Standard Bus		2-Axle	3-Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer						
08:00-09:00	50	0	126	0	0	14	7	0	1	0	1	1	3	0	1	0	1	0
09:00-10:00	91	0	232	2	1	41	0	0	2	0	0	2	0	0	0	0	2	0
10:00-11:00	103	1	214	1	2	38	4	8	1	0	0	3	1	0	0	0	1	0
11:00-12:00	76	0	287	1	2	17	4	2	1	0	0	5	0	0	0	0	1	0
12:00-13:00	83	0	280	1	1	17	3	1	0	0	0	4	1	0	1	0	1	0
13:00-14:00	66	0	261	1	4	28	0	4	0	0	0	1	4	0	0	0	0	0
14:00-15:00	84	0	231	0	0	29	1	3	11	0	0	1	0	1	0	0	5	0
15:00-16:00	82	0	286	2	2	36	0	6	0	0	1	2	2	0	0	0	4	0
16:00-17:00	92	2	241	1	1	36	2	8	2	0	2	2	1	0	0	0	4	0
17:00-18:00	79	0	226	0	3	32	1	5	0	0	0	1	1	0	1	0	2	0
18:00-19:00	41	0	181	0	1	32	2	3	3	0	0	4	1	0	0	0	4	0
19:00-20:00	9	0	94	0	1	27	2	7	3	0	0	2	0	0	0	0	2	0
20:00-21:00	6	0	60	0	2	45	3	7	7	0	1	7	0	0	0	0	0	0
21:00-22:00	6	0	38	3	0	41	4	5	4	0	0	1	0	0	0	0	0	0
22:00-23:00	0	0	24	0	0	55	3	3	1	0	0	0	0	0	0	0	0	0
23:00-00:00	0	0	18	0	1	32	4	6	2	0	0	1	0	0	0	0	0	0
00:00-01:00	0	0	12	0	0	26	12	4	7	0	0	1	0	0	0	0	0	0
01:00-02:00	0	0	15	0	1	19	12	8	6	0	0	1	0	0	0	0	0	0
02:00-03:00	1	0	19	0	0	24	3	6	5	0	0	0	0	0	0	0	0	0
03:00-04:00	0	0	8	0	0	13	4	1	2	0	0	0	0	0	0	0	0	0
04:00-05:00	0	0	17	0	0	23	2	2	2	0	0	0	0	0	0	0	0	0
05:00-06:00	1	0	11	0	1	14	2	6	2	0	1	0	0	0	0	0	0	0
06:00-07:00	2	0	22	0	0	7	1	1	1	0	0	0	0	0	0	0	0	0
07:00-08:00	7	0	94	1	0	25	6	2	4	0	0	2	0	0	0	0	0	0
Daily Total	879	3	2997	13	23	671	82	98	67	0	6	41	14	1	3	0	27	0

AB
 32

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AB

EXECUTIVE ENGINEER , CD-1 , MUZAFFARNAGAR

Classified Traffic Volume Count Survey for Left Side of Upper Ganga Canal

PCUs 0.5 1 1 1.5 3 1.5 3 3 4.5 4.5 1.5 4.5 0.5 2 6 3 1
 Location : Lift Side of Upper Ganga Road TVC-01
 Direction : Ghaziabad To : Haridwar Ch. 103.700

Date	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	Total Nos. (vehicles)	Total Nos. (PCUs)	CVPD
				Mini Bus	Standard Bus		2-Axle	3-Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer								
06.12.2019	1020	4	3184	18	12	645	105	92	90	4	4	75	27	6	3	0	12	5301	6142	945
07.12.2019	1070	2	3923	15	17	624	63	64	89	0	10	60	11	0	3	0	19	5970	6579	857
08.12.2019	1079	4	3974	9	28	689	77	118	119	0	4	49	11	0	2	0	21	6184	7034	1031
09.12.2019	1090	7	3512	18	7	770	74	100	74	0	7	67	24	7	2	1	18	5778	6493	1025
10.12.2019	1080	8	3484	32	7	848	61	81	60	0	5	55	17	0	0	0	6	5744	6339	1057
11.12.2019	1165	9	3794	28	29	831	111	92	93	10	3	55	31	14	4	7	7	6283	7161	1166
12.12.2019	913	2	3319	12	26	739	80	68	72	1	10	50	7	0	2	0	20	5321	6030	986
ADT	1060	5	3599	19	18	735	82	88	85	2	6	59	18	4	2	1	15	5797	6542	1010

Location : Lift Side of Upper Ganga Road TVC-01
 Direction : Haridwar To : Ghaziabad Ch. 103.700

Date	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	Total Nos. (vehicles)	Total Nos. (PCUs)	CVPD
				Mini Bus	Standard Bus		2-Axle	3-Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer								
06.12.2019	932	6	2717	13	4	666	58	70	68	3	5	78	28	5	1	2	14	4670	5332	889
07.12.2019	1008	7	3623	13	18	705	60	68	63	0	7	62	23	2	1	0	30	5690	6274	914
08.12.2019	1198	14	3565	23	25	787	123	87	95	3	8	33	26	13	1	0	29	6030	6774	1120
09.12.2019	1123	19	3025	33	14	834	102	69	83	3	3	66	10	13	1	2	4	5404	6197	1105
10.12.2019	1134	10	3454	9	16	771	97	84	80	0	14	58	24	20	2	3	1	5777	6508	1048
11.12.2019	1064	19	3351	23	32	840	95	54	68	4	8	59	18	5	8	0	3	5651	6411	1093
12.12.2019	879	3	2997	13	23	671	82	98	67	0	8	41	14	1	3	0	27	4925	5624	941
ADT	1048	11	3247	18	19	753	88	76	75	2	7	57	20	8	2	1	15	5450	6160	1013

Location : 12.12.2019
 Direction : Both

Date	2-Wheeler	3-Wheeler (Pass.&Goods)	Car / Jeep/Van	Bus		LCV	Truck				Tractor		Cycle	Cycle Rickshaw	Animal Drawn Vehicles	Hand-Cart	Other	Total Nos. (vehicles)	Total Nos. (PCUs)	CVPD
				Mini Bus	Standard Bus		2-Axle	3-Axle	MAV	Artic / Semi Artic	Tractor	Tractor Trailer								
06.12.2019	1952	10	5901	31	16	1311	163	162	158	7	9	153	55	11	4	2	26	9971	11473	1817
07.12.2019	2078	9	7546	28	35	1329	123	132	152	0	17	122	34	2	4	0	49	11660	12852	1771
08.12.2019	2277	18	7539	32	53	1476	200	205	214	3	12	82	37	13	3	0	50	12214	13808	2151
09.12.2019	2213	26	6537	51	21	1604	176	169	157	3	10	133	34	20	3	3	22	11182	12690	2130
10.12.2019	2214	18	6938	41	23	1619	158	165	140	0	19	113	41	20	2	3	7	11521	12847	2105
11.12.2019	2229	28	7145	51	61	1671	206	146	161	14	11	114	49	19	12	7	10	11934	13592	2259
12.12.2019	1792	5	6316	25	49	1410	162	166	139	1	16	91	21	1	5	0	47	10246	11654	1927
ADT	2108	16	6846	37	37	1489	170	164	160	4	13	115	39	12	5	2	30	11247	12702	2023

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आर० एम० आर०

कार्य का नाम :-

वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य। (जनपद मुजफ्फरनगर चौ 51.910 से 108.750 किमी०)

134

76 km

KM	Name of quarry	Quarry rate	Deduction of Loading & Unloading of UK	Deduct Royalty	Carrey Rate l/c Loading at UK & Unloading at UP	Distance from Crusher (Km. 195 NH58)	Cost of Cartage with out loading & Unloading	Cost of Cartage With out C.P.	Stacking	Total	Total round to 10np
1	2	3	4	5	6	9	10	11	12	13	14
							0.00				
		37.5-9.5 mm, -4.75mm, 4.75-2.36mm, 9.50-2.36mm, 26.5-4.75mm & 26.5-9.50 mm for GSB									
	Haridwar	881.00	-53	-160	668.00	76.00	881.00	800.90	0.00	1468.90	1468.90
		2.36 mm and below for GSB									
	Haridwar	642.00	-53	-160	429.00	76.00	881.00	800.90	0.00	1229.90	1229.90
		90-45 mm gauge stone ballast									
	Haridwar	642.00	-53	-160	429.00	76.00	881.00	800.90	0.00	1229.90	1229.90
		63-45 mm gauge stone ballast									
	Haridwar	688.00	-53	-160	475.00	76.00	881.00	800.90	0.00	1275.90	1275.90
		53-22.4mm gauge stone ballast									
	Haridwar	743.00	-53	-160	530.00	76.00	881.00	800.90	0.00	1330.90	1330.90
		Crushed Stone aggregate (2.36-75 micron for WMM), 37.5-25mm, 25-10mm, 10-5mm, 5mm & below for DBM), (13.2-10.5mm, 10-5mm, 5mm & below for BC, Screening material Type A & B Grit all size dust									
	Haridwar	945.00	-53	-160	732.00	76.00	881.00	800.90	0.00	1532.90	1532.90

Stone Ballast from Haridwar Quarry :

Quarry to NH 58 Km. 195	0
NH 58 Km. 195 to Km. 151	44
Km. 151 to Site	32
Total	76

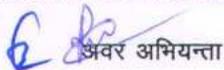
Cost of carriage For Grit/Aggregate

Km	@	
Up to 75 Km		873.00
From 75 to 76	8.00	8.00
Total		881.00

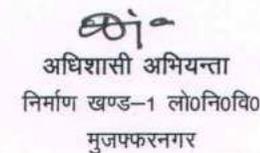
Total 881.00
After Less 10% C.P. 800.90

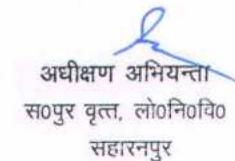
Certified that

1. All the distances has been taken from shortest possible route.
2. All the rates has been taken from latest schedule of rates.


अवर अभियन्ता


सहायक अभियन्ता


अधिसासी अभियन्ता
निर्माण खण्ड-1 लो०नि०वि०
मुजफ्फरनगर


अधीक्षण अभियन्ता
स०पुर वृत्त, लो०नि०वि०
सहारनपुर

ANALYSIS OF RATES As on 16-12-2019**Material:****Bitumen 80 / 100 (VG-10)**

Basic rate (Panipat Refinery)

28140.00

Cartage (2X122 Km) @ 1.58 per Km per MT

385.52

Refinery to Plant site = 122 Km.

Total

28525.52

0.00

G.Total

28525.52

Say

28526.00 Per MT**Bitumen 60 / 70 (VG-30)**

Basic rate (Mathura Refinery)

28940.00

Cartage (2X122 Km) @ 1.58 per Km per MT

385.52

Refinery to Plant site = 122 Km.

Total

29325.52

0.00

G.Total

29325.52

Say

29326.00 Per M.T**Bitumen Emulsion (S.S. Type): Bulk**

Basic rate (Bhadurgarh Hinkol)

29182.00

Cartage (2X158 Km) @ 1.58 per Km per MT

499.28

Refinery to Plant site = 516 Km.

Total

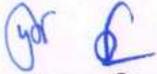
29681.28

G.Total

29681.28

Say

29681.00 Per M.T


अवर अभियन्ता


सहायक अभियन्ता


अधिशाली अभियन्ता
नि०ख०-१ लो०नि०वि०
मु०नगर


अधीक्षण अभियन्ता
स०पुर वृत्त, लो०नि०वि०,
सहारनपुर

दर - विश्लेषण

CHAPTER-2
SITE CLEARANCE

137

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
2.3	201	Cutting of Trees, including cutting of Trunks, Branches and Removal					
		Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.					
		<i>Unit = Hectare</i>					
		<i>Taking output = 1 Hectare</i>					
		(i) By Manual Means:-					
		A In area of light jungle					
		a) Labour					
		Mate	day	6.000	370.00	2220.00	L-12
		Mazdoor	day	150.000	340.00	51000.00	L-13
		b) Machinery					
		Tractor-trolley	hour	1.000	234.00	234.00	P&M-053
		Add excalation 85%				198.90	
		c) Overhead charges @ 4% on (a+b)				2146.12	
		d) Contractor's profit @ 10% on (a+b+c)				5579.90	
		Rate per Sqm. = a+b+c+d				61378.92	
					say	<u>6.10</u>	Per Sqm.

E. S. J. K.
JK

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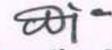
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SECRET

Analysis of Rate

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
3.3	301	Excavation in Soil with Dozer with lead upto 100 metres					
		Excavation for road way in soil by mechanical means including cutting and pushing the earth to site of embankment upto a distance of 100 metres (average lead 50 metres), including trimming bottom and side slopes in accordance with requirements of lines, grades and cross sections.					
		Unit = cum					
		Taking output = 360 cum					
		a) Labour					
		Mate	day	0.080	370.00	29.60	L-12
		Mazdoor	day	2.000	340.00	680.00	L-13
		b) Machinery					
		Dozer, 80 HP @ 30 cum per hour	hour	6.000	840.00	5040.00	P&M-014
		Add for Escalation @ 85%				4284.00	
		c) Overhead charges @ 4% on (a+b)				401.34	
		d) Contractor's profit @ 10% on (a+b+c)				1043.49	
		Cost for 360 cum = a+b+c+d				11478.44	
		Rate per cum = (a+b+c+d)/360				31.88	
					Total	31.80	
					say	31.80	Per Cum.


Junior Engineer


Assistant Engineer

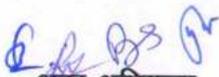

Executive Engineer


अधीक्षण अभियन्ता
स०पुर वृत्त, लो०नि०वि०, सहारनपुर

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
3.16	305	Construction of Embankment with Material obtained from Borrowpits				
		Construction of embankment with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2. Cartage 3 Km.				
		Unit = cum				
		Taking output = 100 cum				
		a) Labour				
		Mate	day	0.04	370.00	14.80
		Mazdoor	day	1.00	340.00	340.00
		b) Machinery				
		Hydraulic Excavator 1 cum bucket capacity @ 60 cum per hour	hour	1.67	840.00	1402.80
		Tipper 10 tonne capacity	tonne.k m	160 x 3	1.58	758.40
		Add 10 per cent of cost of carriage to cover cost of loading and unloading				75.84
		Dozer 80 HP for spreading @ 200 cum per hour	hour	0.50	1423.00	711.50
		Motor grader for grading @ 100 cum per hour	hour	0.50	1545.00	772.50
		Water tanker 6 KL capacity	hour	4.00	195.00	780.00
		Vibratory roller 8 -10 tonnes @ 100 cum per hour	hour	1.00	994.00	994.00
		Add:- 85% Escalation				4670.78
		c) Material				
		Cost of water	KL	24.00	50.00	1200.00
		Cost of Earth	cum	100.00	7.00	700.00
		d) Overhead charges @ 4% on (a+b+c)				496.82
		e) Contractor's profit @ 10% on (a+b+c+d)				1291.74
		Cost for 100 cum = a+b+c+d+e				14209.19
		Rate per cum = (a+b+c+d+e)/100				142.09
					say	142.10

प्रमाणित किया जाता है कि 3 किमी० से कम दूरी पर मिट्टी उपलब्ध नहीं है।

Per Cum.

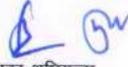

अवर अभियन्ता


सहायक अभियन्ता

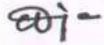

अधिसासी अभियन्ता
नि०ख०-१, लो०नि०वि०,
मुजफ्फरनगर


अधीक्षण अभियन्ता
सहारनपुर वृत्त, लो०नि०वि०,
सहारनपुर

EARTH WORK/SUB-BASE/BASE							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
4.1	401	Granular Sub-Base By Mix in Place Method					
		Construction of granular sub-base by providing close graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401 By Mix in Place Method					
		<i>Unit = cum</i>					
		<i>Taking output = 300 cum</i>					
		a) Labour					
		Mate	day	0.480	370.00	177.60	L-12
		Mazdoor skilled	day	2.000	340.00	680.00	L-15
		Mazdoor	day	10.000	340.00	3400.00	L-13
		b) Machinery					
		Mortar Grader 110 HP @ 50 cum per hour	hour	6.000	1545.00	9270.00	
		Vibratory roller 8 -10 tonne	hour	6.000	994.00	5964.00	
		Tractor-Rotavator (234+11 = 245)	hour	12.000	245.00	2940.00	
		Water tanker 6 KL capacity	hour	3.000	195.00	585.00	
		Add extra @85% for Escalation base yr 01-02				15945.15	
		c) Material					
		For Close graded Granular sub-base					
		For grading-I Material					
		53 mm to 9.5 mm @ 50 per cent	cum	192.000	1330.90	255532.80	P&M-032
		9.5 mm to 2.36 mm @ 20 per cent	cum	76.000	1468.90	111636.40	P&M-059
		2.36 mm below @ 30 per cent	cum	115.200	1468.90	169217.28	
		Cost of water	KL	18.000	50.00	900.00	
		d) Overhead charges @ 4% on (a+b+c)				23049.93	
		e) Contractor's profit @ 10 % on (a+b+c+d)				59929.82	
		Add royalty		383.200	160.00	61312.00	
		Cost for 300 cum = a+b+c+d+e				720539.98	
		Rate per cum = (a+b+c+d+e)/300				2401.80	
					Total	2401.70	
					say	2401.70	Cum


अवर अभियन्ता


सहायक अभियन्ता


अधिसारी अभियन्ता


अधीशान अभियन्ता
स०पुर वृत्त, लो०नि०वि०, स०हरनपुर

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
EARTH WORK/SUB-BASE/BASE							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
4.1	401	Cemented base WMM (GSB+4% OPC Cement)					
		Providing, laying and spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the material with water at OMC & 4% cement (OPC) in mechanical motar (pugmil) mix plant carriage of mixed Material by tipper to site, laying in unoiform layers in sub-base /base course on well prepared sub base and compacting with the smooth wheeled road roller 80-100 km to achieve the desire density including lighting barricketing and maintenance of diverson etc. as per table 400.11 and 400.12 and technical specification clause 400.					
		By macanical means with 1 Km lead.					
		Unit = cum					
		Taking output = 100 cum (220 tonne)					
		a) Labour					
		Mate	day	0.400	370.00	148.00	L-12
		Dressar (Skilled) for aliment	day	8.000	340.00	2720.00	L-15
		Mazdoor Skilled	day	2.000	340.00	680.00	L-13
		b) Machinery					
		Front end loader 1 cum cap.	hour	4.000	520.00	2080.00	
		Wet mix plant (Pugmil)	hour	4.000	777.00	3108.00	
		Tipper / Dumper (10.1 Capacity)	Tonne / Km.	495X56/4	1.58	10949.40	
		Motar Grader @50 cum / hour	hour	2.000	1545.00	3090.00	
		Water tanker 6 KL capacity (including curing)	hour	1.600	195.00	312.00	
		3 Wheeld statick roller 80/100 kn @16 cum / hour	hour	6.250	297.00	1856.25	
		Add extra @85% for Escalation base yr 01-02				18186.30	
		c) Material					
		For grading-I Material					
		Cement (OPC& 4% by weight of aggregets (220t)	Tonne	8.800	5000.00	44000.00	P&M-032
		Coarse aggregates 45 mm to 22.4 mm @ 30 per cum.	cum	39.900	1532.90	61162.71	P&M-059
		Aggregates 22.4 mm to 2.30 mm @ 40 per cum	cum	53.200	1532.90	81550.28	
		Fine aggregares crushed sand 2.36 mm to 75 cum @ 26 per cum	cum	32.950	1532.90	50509.06	
		Cost of water including curing	KL	14.000	50.00	700.00	
		d) Overhead charges @ 4% on (a+b+c)				11242.08	
		e) Contractor's profit @ 10 % on (a+b+c+d)				29229.41	
		Add royalty		134.850	160.00	21576.00	
		Cost for 100 cum = a+b+c+d+e				343099.49	
		Rate per cum = (a+b+c+d+e)/100				3430.99	
					Total	3430.90	
					say	3430.00	Cum


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CHAPTER - 4

SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
4.12	406	Wet Mix Macadam				
		Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.				
		<i>Unit = cum</i>				
		<i>Taking output = 225 cum (495 tonnes)</i>				
		a) Labour				
		Mate	day	0.480	370.00	177.60
		Mazdoor skilled	day	2.000	340.00	680.00
		Mazdoor	day	10.000	340.00	3400.00
						4257.60
		b) Machinery				
		Wet mix plant of 75 tonne hourly	hour	6.600	777.000	5128.20
		Electric generator 125 KVA	hour	6.000	450.000	2700.00
		Front end loader 1 cum capacity	hour	6.000	520.000	3120.00
		Paver finisher	hour	6.000	629.000	3774.00
		Vibratory roller 8 - 10 tonne	hour	6x0.65	994.000	3876.60
		Proposed Section				
		Smooth 3 wheeled steel roller @ 8-10 tonnes.	hour	12.000		
		Water tanker 6 KL capacity	hour	3.000	195.00	585.00
	56	Tipper	tonne.k	95 x 56.84/4	1.58	10949.40
		Add 10 per cent of cost of carriage to cover cost of loading and unloading				1094.94
						31228.14
		Add price exclamation from Yr. 2001-2002 to 2019-20	85%			26543.92
						57772.06
		c) Material (Table 400-11)				
		53 mm to 22.4 mm @ 30 per cent	cum	89.100	1330.90	118583.19
		22.4 mm to 2.36 mm @ 40 per cent	cum	118.800	1532.90	182108.52
		2.36 mm to 75 micron @ 30 per cent	cum	89.100	1532.90	136581.39
		Cost of water	KL	18.000	50.00	900.00
						438173.10
					G. Total (a+b+c)	500202.76
		d) Overhead charges @ 4 % (a+b+c)				20008.11
		e) Contractor's profit @ 10% (a+b+c+d)				52021.09
		f) Add Royalty @ 160 x (89.1+118.8+89.1) =				47520.00
		Cost for 225 cum = a+b+c+d+e+f				619751.96
		Rate per cum = (a+b+c+d+e+f)/225				2754.45
					<i>say</i>	<u>2754.50</u>

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मुजफ्फरनगरअधीक्षण अभियन्ता
सहारनपुर वृत्त, लो०नि०वि०,
सहारनपुर

BASES AND SURFACE COURSES (BITUMINOUS)

401

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Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	
5.1	502	Primer Coat Providing and applying primer coat with bitumen emulsion (SS) on prepared surface of granular Base including cleaning of road surface and spraying primer at the rate of 0.70 kg/sqm using mechanical means. (Ref. to Mort&H Specification No. 502) Unit = sqm Taking output = 3500 sqm					
		a) Labour					
		Mate	day	0.080	370.00	29.60	
		Mazdoor	day	2.000	340.00	680.00	
					Total	709.60	
		b) Machinery					
		Mechanical broom @ 1250 sqm per hour	hour	2.800	230.00	644.00	
		Air compressor 250 cfm	hour	2.800	206.00	576.80	
		Emlusion pressure distributor @ 1750 sqm per hour	hour	2.000	516.00	1032.00	
		Water tanker 6 KL capacity @ 1 trip per hour	hour	1.000	195.00	195.00	
						2447.80	
		Add 85% escalation on Machinery				2080.63	
					Total	4528.43	
		c) Material					
		Bitumen emulsion SS Type @ 0.70 kg per sqm	tonne	2.450	29681.00	72718.45	
		Cost of water	KL	6.000	50.00	300.00	
					Total	73018.45	
		d) Overhead charges @ 4 %on (a+b+c)				78256.48	
		g) Contractor's profit @ 10% on (a+b+c+d+e+f)				3130.26	
		Cost for 3500 sqm = a+b+c+d+e+f+g				8138.67	
		Rate per sqm = (a+b+c+d+e+f+g)/3500				89525.41	
						25.58	
					Total say	25.60	Per Sqm.
5.2	503	Tack Coat Providing and applying tack coat with bitumen VG-10 using bitumen pressure distributor at the rate of 0.25 kg per sqm on the prepared Bituminous surface cleaned with mechanical broom.(Ref. to Mort&H Specification No.503) Unit = sqm Taking output = 3500 sqm					
		a) Labour					
		Mate	day	0.080	370.00	29.60	
		Mazdoor	day	2.000	340.00	680.00	
					Total	709.60	
		b) Machinery					
		Mechanical broom @ 1250 sqm per hour	hour	2.800	230.00	644.00	
		Air compressor 250 cfm	hour	2.800	206.00	576.80	
		Bitumen pressure distributor @ 1750 sqm per hour	hour	2.000	692.00	1384.00	
						2604.80	
	85%	Add 85 % on b for escalation				2214.08	
					Total	4818.88	
		c) Material					
		Bitumen VG-10 @ 0.25 kg per sqm	tonne	0.875	28526.00	24960.25	
		d) Overhead @ 4 % on (a+b+c)				1219.55	
		g) Contractor's profit @ 10% on (a+b+c+d+e+f)				3170.83	
		Cost for 3500 sqm = a+b+c+d+e+f+g				34879.11	
		Rate per sqm = (a+b+c+d+e+f+g)/3500				9.97	
					Total say	9.90	Per Sqm.

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5.2	503	Tack Coat			
		Providing and applying tack coat with bitumen VG-10 using bitumen pressure distributor at the rate of 0.20 kg per sqm on the prepared Bituminous surface cleaned with mechanical broom.(Ref. to Mort&H Specification No.503)			
		Unit = sqm			
		Taking output = 3500 sqm			
		a) Labour			
		Mate	day	0.080	370.00
		Mazdoor	day	2.000	340.00
					680.00
					Total
					709.60
		b) Machinery			
		Mechanical broom @ 1250 sqm per hour	hour	2.800	230.00
		Air compressor 250 cfm	hour	2.800	206.00
		Bitumen pressure distributor @ 1750 sqm per hour	hour	2.000	692.00
					2604.80
	85%	Add 85 % on b for escalation			2214.08
					Total
					4818.88
		c) Material			
		Bitumen VG-10 @ 0.20 kg per sqm	tonne	0.700	28526.00
					19968.20
		d) Overhead @ 4% on (a+b+c)			
				0.04	25496.68
					1019.87
		e) Contractor's profit @ 10% on (a+b+c+d)			
					2651.65
		Cost for 3500 sqm = a+b+c+d+e			29168.20
		Rate per sqm = (a+b+c+d+e)/3500			8.33
					say
					8.30


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Dense Graded Bituminous Macadam (Grading-I)
 Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates from approved quarry of specified grading, premixed with bituminous binder (VG-30) @ 4.50 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction (Ref. to Mort&H Specification No. 507) Adjustment for bitumen shall be done as per job mix formula and e-in-c latter No 2651 Dt 27-07-12

403

145

Unit = cum

Taking output = 195 cum (450 tonnes)

a) Labour

Mate	day	0.840	370.00	310.80
Mazdoor working with HMP, mechanical broom, paver, roller, asphalt cutter and assistance for setting out lines, levels and layout of construction	day	14.000	340.00	4760.00
Skilled mazdoor for checking line & levels	day	5.000	340.00	1700.00
				6770.80

b) Machinery

Batch mix HMP @ 75 tonne per hour	hour	6.000	11167.00	67002.00
Paver finisher hydrostatic with sensor control @ 75 cum per hour	hour	6.000	629.00	3774.00
Generator 250 KVA	hour	6.000	450.00	2700.00
Front end loader 1 cum bucket capacity	hour	6.000	520.00	3120.00
Tipper 10 tonne capacity	tonne.k m	450 x 14	1.58	9954.00

14

l=14
km

Add 10 per cent of cost of carriage to cover cost of loading and unloading
 smooth wheeled roller 8-10 tonnes for initial break down rolling.
 Vibratory roller 8 tonnes for intermediate rolling.
 Finish rolling with 6-8 tonnes smooth wheeled tandem roller.

hour	6.00x0.65*	297.00	1158.30
hour	6.00x0.65*	994.00	3876.60
hour	6.00x0.65*	738.00	2878.20

95458.50

Add 80 % on b) for escalation

76366.80

c) Materials

4.50

i) Bitumen (VG-30) @ 4.5 per cent of mix

tonne	20.250	29326.00	593851.50
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ii) Aggregate

Total weight of mix = 450 tonnes
 Weight of bitumen = 20.25 tonnes
 Weight of aggregate = 450 - 20.25 = 429.75 tonnes

Taking density of aggregate = 1.5 ton/cum

Volume of aggregate = 286.5 cum

Grading - II 19 mm (Nominal Size)

25 - 10 mm 30 per cent
 10 - 5 mm 28 per cent
 5 mm and below 40 per cent
 Filler @ 2 per cent of weight of aggregates.

cum	85.950	1532.90	131752.76
cum	87.220	1532.90	133699.54
cum	114.600	1532.90	175670.34
cum	5.730	1532.90	8783.52

1043757.65

d) Overhead charges @ .04% on (a+b+c)

1222353.8 59856.33

e) Contractor's profit @ 10 % on (a+b+c+d)

128221.01

Add Royalty

293.500 160.00 46960.00

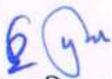
Cost for 195 cum = a+b+c+d+e

1457391.09

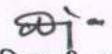
Rate per cum = (a+b+c+d+e)/195 (For Grading-I)

7473.80

say 7473.80 cum


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Bituminous Concrete

Providing and laying bituminous concrete in 100:20 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates from approved quarry of specified grading, premixed with bituminous binder (VG-30) @ 5.40 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction (Ref. to Mort&H Specification No. 509) Adjustment for bitumen shall be done as per job mix formula and F-in-C letter No 2651 Dt 27-07-12

Unit = cum

Taking output = 191 cum (450 tonnes)

a) Labour

Mate	day	0.840	370.00	310.80
Mazdoor working with HMP, mechanical broom, paver, roller, asphalt cutter and assistance for setting out lines, levels and layout of construction	day	14.000	340.00	4760.00
Skilled mazdoor for checking line & levels	day	5.000	340.00	1700.00
			Total	6770.80

b) Machinery

Batch mix HMP @ 75 tonne per hour	hour	6.000	11167.00	67002.00
Paver finisher	hour	6.000	629.00	3774.00
Generator 250 KVA	hour	6.000	450.00	2700.00
Front end loader 1 cum bucket capacity	hour	6.000	520.00	3120.00
Tipper 10 tonne capacity	tonne.k m	450 x14	1.58	9954.00 l=14km

Add 10 per cent of cost of carriage to cover cost of loading and unloading

Smooth wheeled roller 8-10 tonnes for initial break down rolling.	hour	6.00x0.65*	297.00	1158.30
Vibratory roller 8 tonnes for intermediate rolling.	hour	6.00x0.65*	994.00	3876.60
Finish rolling with 6-8 tonnes smooth wheeled tandem roller.	hour	6.00x0.65*	738.00	2878.20

Add 80 % on b) for escalation

Total 171825.30

c) Material

i) Bitumen VG-30 @ 5.4 % of mix	tonne	24.300	29326.00	712621.80
---------------------------------	-------	--------	----------	-----------

ii) Aggregate

Total weight of mix = 450 tonnes

Weight of bitumen = 24.3 tonnes

Weight of aggregate = 450 - 24.3 = 425.7 tonnes

Taking density of aggregate = 1.5 ton/cum

Volume of aggregate = 283.8 cum

Grading - II-13 mm (Nominal Size)

13.2 - 10 mm 30 per cent	cum	85.140	1532.90	130511.11
10 - 5 mm 25 per cent	cum	70.950	1532.90	108759.26
5 mm and below 43 per cent	cum	122.034	1532.90	187065.92
Filler @ 2 per cent of weight of aggregates.	cum	5.676	1532.90	8700.74

Total 1147658.82

5.8

for Grading-II(13 mm nominal size)

d) Overhead charges @ 4% on (a+b+c)

1326254.920 53050.20

e) Contractor's profit @ 10 % on (a+b+c+d)

137930.51

Add royalty

283.800 160.00 45408.00

Cost for 191 cum = a+b+c+d+e+f

1562643.63

Rate per cum = (a+b+c+d+e)/191 (For Grading-II)

8181.38

say 8181.40

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स०पुर वृत्त, लो०नि०वि०, सहारनपुर

ANALYSIS OF RATES

वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य। (जनपद मुजफ्फरनगर चौ 51.910 से 108.750 किमी०)

1	Providing 600 mm dia NP-3 S/S type hume pipe i/c supply of all materials,labour and T&P etc. required for proper completion of work as per direction of engineer-in-charge	Unit	Quantity	Rate	Amount
	Unit = Rm				
a.	Cost of 600 mm dia NP-3 S/S type Hume Pipe	Rm	1.00	1906.00	1906.00
b.	Transportation charges @ 18% on (a.) up to 100 Km.	Rm	1906.00	0.18	343.08
				G.Total	2249.08
	Rate per Rm = (a+b)/1.00				2249.08
				SAY	2249.00

Per RM



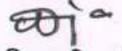
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निर्माण खण्ड-1, लो०नि०वि०,
मुजफ्फरनगर



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निर्माण खण्ड-1, लो०नि०वि०,
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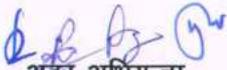
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सहारनपुर

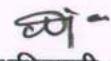
Analysis of Rate

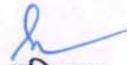
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
9.2	2900	Laying Reinforced Cement Concrete Pipe NP3 / Prestressed Concrete Pipe on First Class Bedding in Single Row .				
		Laying Reinforced cement concrete pipe NP4/prestressed concrete pipe for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets .				
		Unit = metre				
		Taking output = 12.5 metres (5 pipes of 2.5 m length each)				
	A	600 mm dia				
		a) Labour				
		Mate	day	0.180	370.00	66.60
		Mason	day	0.500	450.00	225.00
		Mazdoor	day	4.000	340.00	1360.00
		b) Material				
		coarse Sand /stone dust	cum	0.070	1532.90	107.30
		Cement	tonne	0.050	5000.00	250.00
		RCC pipe NP-3 /prestressed concrete pipe including collar at site 600 mm dia.	metre	12.500	2249.00	28112.50
		Granular material passing 5.6 mm sieve for bedding	cum	4.500	2401.70	10807.65
		c) Overhead charges @ 4% on (a+b)				1637.16
		d) Contractor's profit @ 0.10 on (a+b+c)				4256.62
		Cost for 12.5 metres = a+b+c+d				46822.84
		Rate per metre = (a+b+c+d)/12.5				3745.83
					say	3745.80

Per Rm.

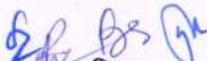

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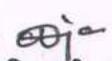

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मुजफ्फरनगर


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CHAPTER-12							
FOUNDATIONS							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
12.4	2100	PCC 1:3:6 in Foundation					
		Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.					
		Unit = cum					
		Taking output = 15 cum					
		a) Labour					
		Mate	day	0.64	370.00	236.80	L-12
		Mason	day	1.00	450.00	450.00	L-11
		Mazdoor	day	15.00	340.00	5100.00	L-13
		b) Material					
		40 mm Aggregate	cum	13.50	1275.90	17224.65	M-055
		coarse Sand /stone dust	cum	6.75	1532.90	10347.08	M-005
		cement	tonne	3.45	5000.00	17250.00	M-081
		Cost of water	KL	18.00	50.00	900.00	M-189
		c) Machinery					
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	150.00	900.00	P&M-009
		Generator 33 KVA	hour	6.00	240.00	1440.00	P&M-079
		Water tanker 6 KL capacity	hour	2.00	195.00	390.00	P&M-060
		Escalation 85%				2320.50	
		d) Overhead charges @ 4% on (a+b+c)				2262.36	
		e) Contractor's profit @ 10% on (a+b+c+d)				5882.14	
		Add royalty		20.25	160.00	3240.00	
		Cost for 15 cum = a+b+c+d+e				67943.52	
		Rate per cum = (a+b+c+d+e)/15				4529.57	
					say	4530.00	Per Cum

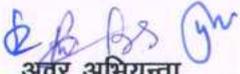

अकर अभियन्ता


सहायक अभियन्ता


अधिशाली अभियन्ता
निर्माण खण्ड-1, लो०नि०वि०,
मुजफ्फरनगर


अधीक्षण अभियन्ता
सहारनपुर वृत्त, लो०नि०वि०,
सहारनपुर

CHAPTER-12							
FOUNDATIONS							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
12.4	2100	PCC 1:2:4 M15 Grade					
		Plain cement concrete 1:2:4 nominal mix in grade leveling course complete as per drawing and Technical Specification					
		Unit = cum					
		Taking output = 15 cum					
		a) Labour					
		Mate	day	0.86	370.00	318.20	L-12
		Mason	day	1.50	450.00	675.00	L-11
		Mazdoor	day	20.00	340.00	6800.00	L-13
		b) Material					
		40 mm Aggregate	cum	8.10	1275.90	10334.79	M-055
		20 mm Aggregate	cum	4.05	1275.90	5167.40	M-055
		10 mm Aggregate	cum	1.35	1275.90	1722.47	M-055
		coarse Sand / Stone Dust	cum	6.75	1275.90	8612.33	M-005
		cement	tonne	4.13	5000.00	20650.00	M-081
		Cost of Water	KL	18.00	50.00	900.00	M-081
		c) Machinery					
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	150.00	900.00	P&M-009
		Generator 33 KVA	hour	6.00	240.00	1440.00	P&M-079
		Water tanker 6 KL capacity	hour	2.00	195.00	390.00	P&M-060
		Escalation 85%				2320.50	
		d) Overhead charges @ 4% on (a+b+c)				2409.23	
		e) Contractor's profit @ 10% on (a+b+c+d)				6263.99	
		Add royalty		20.25	160.00	3240.00	
		Cost for 15 cum = a+b+c+d+e				72143.89	
		Rate per cum = (a+b+c+d+e)/15				4809.59	
					say	4810.00	Per Cum.


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 निर्माण खण्ड-1, लो०नि०वि०,
 मुजफ्फरनगर

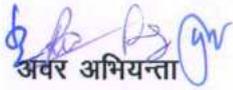

 अधिशासी अभियन्ता
 निर्माण खण्ड-1, लो०नि०वि०,
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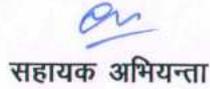

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 सहारनपुर वृत्त, लो०नि०वि०,
 सहारनपुर

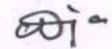
Analysis of Rate

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
12.6	Sub-analysis	(A)	Cement Mortar 1:3 (1 cement : 3 sand)				
			<i>Unit = 1 cum</i>				
			<i>Taking output = 1 cum</i>				
			a) Materials				
			Cement	tonne	0.51	5000.00	2550.00
			Coarse Sand /stone dust	cum	1.05	1532.90	1609.55
			b) Labour				
			Mate	day	0.04	370.00	14.80
			Mazdoor	day	0.90	340.00	306.00
			Add Royalty		1.05	160.00	168.00
			Total Material and Labour = (a+b)			say	4648.00

Per Cum.


अवर अभियन्ता


सहायक अभियन्ता

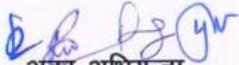

अधिशाली अभियन्ता
निर्माण खण्ड-1, लो०नि०वि०,
मुजफ्फरनगर


अधीक्षण अभियन्ता
सहारनपुर वृत्त, लो०नि०वि०,
सहारनपुर

Analysis of Rate

Sr No	Ref. to MoRTH Spec.	Description	Unit	Qty	Rate Rs	Cost Rs
13.2	1300 & 2200	Pointing with cement mortar (1:3) on brick work in substructure as per Technical Specifications				
		Unit = 10 sqm				
		Taking output = 10 sqm				
		a) Material				
		Cement mortar 1:3 (Rate as in Item 12.6)	cum	0.03	4648.00	139.44
		b) Labour				
		Mate	day	0.04	370.00	14.80
		Mason	day	0.50	450.00	225.00
		Mazdoor	day	0.50	340.00	170.00
		c) Overhead charges @ 4% on (a+b)				21.97
		d) Contractor's profit @ 10% on (a+b+c)				57.12
		Rate per cum (a+b+c+d)				628.33
		Rate per sqm				62.83
					say	62.80

Per Sqm.


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अधिसासी अभियन्ता
निर्माण खण्ड-1, लो0नि0वि0,
मुजफ्फरनगर


अधीक्षण अभियन्ता
सहारनपुर वृत्त, लो0नि0वि0,
सहारनपुर

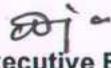
Muzaffarnagar

Rate of TOR STEEL / TMT as per SAIL at SITE

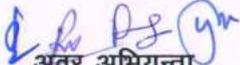
S.No.	Particular	TMT BAR 12 mm Dia
1	Basic Rate of SAIL Ghaziabad	45224.00
	Cartage as per SI No. 232(a) per Km/per Ton Distance from SAIL office Muzaffarnagar to site up to 8 Km. Without C.P.	140.91
	Less GST @ 18% on No. 1	38325.42
	Total	38466.33
	Say Rs.	38466.00
		Per Ton


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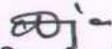

Assistant Engineer


Executive Engineer

CHAPTER-14							
SUPER-STRUCTURE							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
14.2	1600	Supplying, fitting and placing HYSD bar reinforcement in super-structure complete as per drawing and technical specifications					
		Unit = 1 MT					
		Taking output = 1 MT					
		a) Material					
		HYSD bars including 5 per cent for laps and wastage	tonne	1.05	38466.00	40389.30	M-082
		Binding wire	Kg	8.00	52.00	416.00	M-072
		b) Labour for cutting, bending, tying and placing in position					
		Mate	day	0.44	370.00	162.80	L-12
		Blacksmith	day	3.00	450.00	1350.00	L-02
		Mazdoor	day	8.00	340.00	2720.00	L-13
		c) Overhead charges @ 4% on (a+b)				1801.52	
		d) Contractor's profit @ 10% on (a+b+c)				4683.96	
		Rate per MT = a+b+c+d				51523.59	
					say	<u>51524.00</u>	Per M.T.


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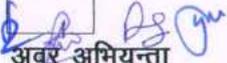

सहायक अभियन्ता

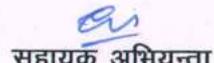

अधिसासी अभियन्ता
निर्माण खण्ड-1, लो0नि0वि0,
मुजफ्फरनगर

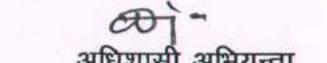

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सहारनपुर वृत्त, लो0नि0वि0,
सहारनपुर

CHAPTER-13
SUB-STRUCTURE

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
13.1	1300 & 2200	Brick masonry work in 1:3 in sub-structure complete excluding pointing and plastering, as per drawing and Technical Specifications					
		Unit = cum					
		Taking output = 1 cum					
		a) Material					
		Bricks 1st class	each	500.00	4.70	2350.00	M-079
		Cement mortar 1:3 (Rate as in Item 12.6 A sub-analysis)	cum	0.24	4648.00	1115.52	Item 12.6 (A)
		b) Labour					
		Mate	day	0.06	370.00	22.20	L-12
		Mason	day	0.80	450.00	360.00	L-11
		Mazdoor	day	0.80	340.00	272.00	L-13
		Add for scaffolding @ 5 per cent of cost of material and labour				205.99	
		c) Overhead charges @ 4% on (a+b)				173.03	
		d) Contractor's profit @ 10% on (a+b+c)				449.87	
		Rate per cum (a+b+c+d)				4948.61	
					say	4948.00	

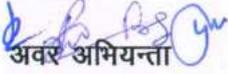

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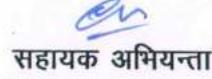

सहायक अभियन्ता

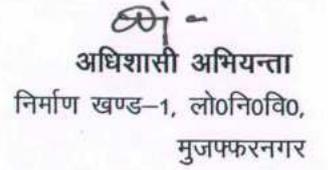

अधिशासी अभियन्ता
निर्माण खण्ड-1, लो0नि0वि0,
मुजफ्फरनगर

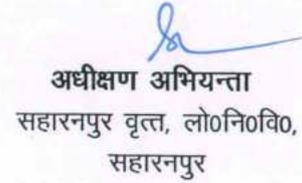

अधीक्षण अभियन्ता
सहारनपुर वृत्त, लो0नि0वि0,
सहारनपुर

CHAPTER-13							
SUB-STRUCTURE							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
13.3	1300 & 2200	Plastering with cement mortar (1:3) on brick work in sub-structure as per Technical Specifications					
		Unit = 10 sqm					
		Taking output = 10 sqm					
		a) Material					
		Cement mortar 1:3 (Rate as in Item 12.6)	cum	0.144	4648.00	669.31	Item 12.6 (A)
		b) Labour					
		Mate	day	0.04	370.00	14.80	L-12
		Mason	day	0.50	450.00	225.00	L-11
		Mazdoor	day	0.50	340.00	170.00	L-13
		c) Overhead charges @ 4% on (a+b)				43.16	
		d) Contractor's profit @ 10 % on (a+b+c)				112.23	
		Rate per 10 sqm (a+b+c+d)				1234.50	
		Rate per sqm			say	123.00	Per Sqm.

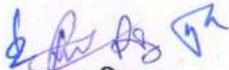

अवर अभियन्ता


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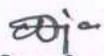

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निर्माण खण्ड-1, लो०नि०वि०,
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अधीक्षण अभियन्ता
सहारनपुर वृत्त, लो०नि०वि०,
सहारनपुर

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
14.1	1500 & 1600 & 1700	Furnishing and Placing Reinforced/ Prestressed cement concrete in super-structure as per drawing and Technical Specification RCC Grade M20 Using Concrete Mixer Unit = 1 cum Taking output = 15 cum					
		a) Material					
		Cement	tonne	5.12	5000.00	25600.00	M-081
		Coarse sand / stone dust	cum	6.75	1532.90	10347.08	M-005
		20 mm Aggregate	cum	8.10	1275.90	10334.79	M-053
		10 mm Aggregate	cum	5.40	1275.90	6889.86	M-051
		b) Labour					
		Mate	day	0.86	370.00	318.20	L-12
		Mason	day	1.50	450.00	675.00	L-11
		Mazdoor	day	20.00	340.00	6800.00	L-13
		c) Machinery					
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	150.00	900.00	P&M-009
		Generator 33 KVA	hour	6.00	240.00	1440.00	P&M-079
		Add 85% Excalation				1989.00	
		Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum		65294.00			
		For formwork and staging add the following: For solid slab super-structure, 20-30 per cent of (a+b+c) Height upto 5m Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				65294.00	
		d) Formwork and staging 20 per cent of (a+b+c)		20.00		13058.80	
		e) Overhead charges @ 4% on (a+b+c+d)				3134.11	
		f) Contractor's profit @ 10% on (a+b+c+d+e)				8148.69	
		Add royalty		20.25	160.00	3240.00	
		Cost for 15 cum = a+b+c+d+e+f				92875.60	
		Rate per cum = (a+b+c+d+e+f)/15				6191.71	
					say	6191.70	Per Cum


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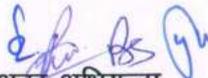

सहायक अभियन्ता


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निर्माण खण्ड-1, लो0नि0वि0,
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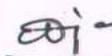

अधीक्षण अभियन्ता
सहारनपुर वृत्त, लो0नि0वि0,
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ANALYSIS OF RATES
CONSTRUCTION OF R.C.C. DRAIN 60x60

Sl. No.	Item	Quantity	Unit	Rate	Amount
1	Excavation in foundation in ordinary soil (Loam, clay or sand) including lift upto 1.50M. and lead upto 30M. and including filling watering and ramming of excavated earth into the trenches or into the space between the building and the sides of foundation trenches or into the plinth and removal and disposal of surplus earth as directed by the E/I upto a distance of 30 M. from the foundation trenches. As per SI No. 251A 1.00 1.00 1.00 0.800 0.80	0.80	Cum	82.00	65.60
2	Cement Concrete with 4 cm. gauge approved stone ballast, coarse sand & cement in the proportion of 6:3:1 including supply of all materials, labour, Tools & plants etc. required for proper completion of the work. As per SI No. 281 1.00 1.00 1.00 0.100 0.10 0.10	0.10	Cum	4530.00	453.00
3	R.C.C. Work with cement approved coarse sand & 2 cm gauge approved stone grit in proportions of 1:1½:3 in lintels of door & windows excluding supply of reinforcement and its bending, but including its fixing and binding the same with 24 B.W. G.G.I., binding wire and including necessary centering and shuttering etc. and supply of all materials labour, Tools & plants etc. required for proper completion of the work, including cost of binding wire. The rate excludes making of drip course which shall be paid extra. As per SI No. 283 A For base 1.00 1.00 0.80 0.10 0.08 For Wall 2.00 1.00 0.10 0.60 0.12 0.200	0.200	Sqm	6191.70	1238.34
5	M.S.(tor steel or plain) in Plain work such as R.C.C. or R.B. work including bending for proper shape and including supply of steel & its wastage, bend, hooks and authorised overlapping shall be measured and including cost of binding wire. As per SiNo.504 0.200 1.50% 7845.00 23.54 23.54 23.54	0.24	Qtl	5152.40 Total Say Rs. 2993.52 2994.00	1236.56 1236.56 2994.00 Per R.M.


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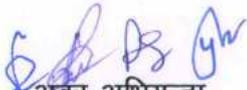
ANALYSIS OF RATES

वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य (जनपद मुजफ्फरनगर चौ 51.910 से 108.750 किमी०)

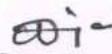
Name of Work : C/o 600mm dia NP-3 class R.C.C. humepipes culvert

SI.	Item of works	No.	L	B	H	Qty		Rate	Amount
1	Excavation in foundation in hard soil SI N. 251a								
	(i) For Parapets	2	3.00	0.90	1.20	6.48			
	(ii) For Hume Pipe	1	10.70	1.05	0.50	5.62			
						12.10	cum	82.00	992.00
2	C.C. in foundation in 1:4:8 in cement, coarse sand and 4cm gauge stone ballast								
	(i) For Parapets	2	3.00	0.90	0.15	0.81			
	(ii) For Hume Pipe	1	10.70	1.05	0.10	1.12			
	(iii) Sides of Hume Pipe	1	10.70	1.05	0.25	2.81			
						4.74	cum	4100.00	19443.23
3	M-150 Class B/W in 1:4 cement & coarse sand mortar SI No. 307								
	Ist Step	2	3.00	0.81	0.15	0.73			
	IInd Step	2	3.00	0.69	0.30	1.24			
	IIIrd Step	2	3.00	0.58	0.45	1.57			
	Pipe Level	2	3.00	0.58	0.75	2.61			
	Above H.P.	2	3.00	0.46	0.75	2.07			
	Above H.P.	2	3.00	0.35	0.30	0.63			
						8.85			
	Deduction for Hume Pipe								
	2 x 3.14 x (0.75)2 / 4 x 0.58					-0.51			
						8.34	cum	3900.00	32514.30
4	Providing and laying Hume Pipe 600mm dia NP-3 class R.C.C.	6	2.50			15.00	RM	3745.80	56187.00
5	Cement pointing in 1:2 cement & fine sand Mortar SI No. 574								
	Wall faces Wall faces	2	3.00	0.95		5.70			
	Wall Sides 2 x 2 x (0.35 x 0.30)					0.42			
	2 x 2 x (0.46 x 0.45)					0.83			
						6.95			
	Deduct for Hume Pipe								
	2 x 3.14 x (0.75)2 / 4					-0.88			
						6.07	sqm	62.80	381.07
6	12mm Thick Plaster with cement & fine sand mortar 1:3								
	Sides	2 x 2	0.35	0.30		0.42	sqm	123.00	51.66
7	2.5cm Thick 1:2:4 C.C. on the top of parapets SI No. 279a 2 x (3.00) x 0.35 x 0.0025								
						0.01	cum	4810.00	25.25
	Total								109594.50

Say Rs. 109590.00


अवर अभियन्ता


सहायक अभियन्ता

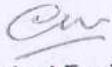

अधिशसी अभियन्ता
निर्माण खण्ड-1, लो०नि०वि०,
मुजफ्फरनगर

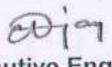

अधीक्षण अभियन्ता
स०पुर वृत्त, लो०नि०वि०, सहासनपुर

Analysis of Land Acquisition

S. No.	Item	Length	Width	Area	Rate Per Hec.	Amount
	Ch. Charan Singh Kawar Nahar ki Right Patri at Nirgajni Village					
	जिलाधिकारी मुजफ्फरनगर द्वारा निर्धारित एव दिनांक 01.08.2017 से प्रभावी कृषक भूमि की सर्किल रेट की दर गणना मूल प्रतिकर					
a	Rate Per Hec. As per Current DM Circle Rate for Aggreiculture land Effective from Dt. 01 Aug. 2017				3800000.00	
b	भूमि अर्जन अधिनियम 2013 की धारा 46 के अन्तर्गत आपसी सहमति के आधार पर भूमि अधिग्रहण हेतु जारी शासनादेश सं० 2/2015/215/एक-13-2015-20(48)/2011 दिनांक 19.03.2015 की धारा 5(6) के अनुसार सर्किल दरों का 4 गुणा देय है।			4 X	3800000.00	15200000.00
c	कुल योग (b)					15200000.00
d	पंजीकरण चार्ज, टाईपिंग चार्ज, आदि			@1%	15200000.00	1520000.00
	Total (c+d)					15352000.00

153.52
Lacs per Hec.


Assistant Engineer


Executive Engineer

420

Bill of Quantity (Land Acquisition)

वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य। (जनपद मुजफ्फरनगर चौ0 51.910 से 108.750 किमी0) **162**

S. No	Item of work	Quantity	Unit	Rates	Amount
1	2	3	4	5	6
1	Land Acquisition				
	Land Acquisition at Nirgajani Jhall				
		1.05	Hec.	15352000.00	16119600.00
				Total	16119600.00

Say Rs, 161.20
In Lacs


JE


Assistant Engineer


Executive Engineer

Suprentending Engineer
SRE Cir. PWD,Shaharanpur

421
DETAIL OF MEASUREMENT

वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।
(जनपद गुजफ्फरनगर चौ 51.910 से 108.750 किमी०)

163

S. No	Item of work	No	L	B	D	Qty.	Unit
1	2	3	4	5	6	7	8
1	Land Acquisition Land Acquisition at Nirgajani Jhall Ch. 67.800 to 68.500	1 x 1	700.00	15.00		10500.00	Sq 1.05 Hec.

अवर अभियन्ता

सहायक अभियन्ता

अधिशारी अभियन्ता

पत्रांक - 1052/संव्यवस्था
दिनांक 1/8/2017



उ०प्र० स्टाम्प (सम्पत्ति का मूल्यांकन)
(द्वितीयसंशोधन) नियमावली 2013 के नियम
4 के अन्तर्गत वार्षिक मूल्यांकन दर सूची

प्रभावी दिनांक- 01 अगस्त 2017

क्षेत्राधिकारान्तर्गत
कार्यालय उप निबंधक, जानसठ
जनपद-मुजफ्फरनगर

(सुनील कुमार सिंह)
अरप कलेक्टर (वि०/रा०)
मुजफ्फरनगर

(जी०एस०प्रियदर्शी)
जिलाधिकारी/कलेक्टर
मुजफ्फरनगर

नगरीय एवं अर्द्धनगरीय क्षेत्र में मोहल्ले या राजस्वग्राम की अकृषक भूमि की न्यूनतम दरें प्रतिवर्गमीटर व कृषि भूमि की दरें प्रति हेक्टर लाख रूपये में।											
प्रारूप -1 में आबंटित किया गया वीथी कोड	राजस्व ग्राम या मोहल्ले का नाम	श्रेणी अर्द्धनगरीय या ग्रामीण	अकृषक भूमि की न्यूनतम दर		राजस्व ग्रामों में कृषक भूमि की दरें प्रति हेक्टर (लाख रु० में)						
			05 मीटर से अधिक व 09 मी० चौड़े रास्ते तक	09 मीटर से अधिक चौड़े रास्ते पर	राष्ट्रीय/राज्य ग्राम पर स्थित भूमि	राष्ट्रीय/राज्य मार्ग से सटे खोनो के पीछे 200 मी० की गहराई तक	जनपदीय मार्ग पर स्थित भूमि	जनपदीय मार्ग से सटे खोनो के पीछे 200मी० की गहराई तक	लिंग मार्ग पर स्थित भूमि	आवादी से सटी हुई भूमि	कृषि (लाख रु० में) प्रति हे०
01	02	03	04	05	06	07	08	09	10	11	12
1092.	नसीरपुर	ग्रामीण क्षेत्र	1100	1200	52	45	46	38	33	33	26
0039.	नवाब पट्टी	अर्द्धनगरीय क्षेत्र	5800	6000	0	0	0	0	0	0	0
1091.	नवलपुर	ग्रामीण क्षेत्र	1100	1200	44	39	39	33	28	28	22
0022.	नेहरू बोक	अर्द्धनगरीय क्षेत्र	6400	6500	0	0	0	0	0	0	0
1173.	नन्हेडी	ग्रामीण क्षेत्र	1200	1300	76	67	67	57	48	48	38
1172.	नन्हेडा	ग्रामीण क्षेत्र	1200	1300	76	67	67	57	48	48	38
1095.	नूनीखेडा	ग्रामीण क्षेत्र	1100	1200	70	61	61	53	44	44	35
1175.	निरगाजनी	ग्रामीण क्षेत्र	1300	1400	76	67	67	57	48	48	38
1094.	नित्यानंदपुर	ग्रामीण क्षेत्र	1100	1200	48	42	42	38	30	30	24
1093.	निजामपुर	ग्रामीण क्षेत्र	1200	1300	70	61	61	53	44	44	35
0025.	पठनान पश्चिमी	अर्द्धनगरीय क्षेत्र	3200	3500	0	0	0	0	0	0	0
0024.	पठनान पूर्वी	अर्द्धनगरीय क्षेत्र	3200	3500	0	0	0	0	0	0	0
1096.	पुरखोल्तापुर	ग्रामीण क्षेत्र	1100	1200	56	49	49	42	35	35	29
1097.	पुट्टी इम्राहिमपुर	ग्रामीण क्षेत्र	1300	1400	110	90	85	75	56	56	45
1041.	पिमोडा	ग्रामीण क्षेत्र	1200	1300	80	70	70	60	50	50	40
1098.	फरीदपुर	ग्रामीण क्षेत्र	1100	1200	52	46	46	39	33	33	26
1176.	फिरोजपुर खादर	ग्रामीण क्षेत्र	3200	3500	90	75	70	60	50	50	40
1177.	फिरोजपुर बांगर	ग्रामीण क्षेत्र	1600	1800	95	85	77	66	55	55	44
1179.	बरुकी	ग्रामीण क्षेत्र	1100	1200	76	67	67	57	48	48	38

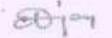
(सुनील कुमार सिंह)
अपर कलेक्टर (वि०/रा०)
मुजफ्फरनगर।

(जी०एस० प्रियदर्शी)
जिलाधिकारी/कलेक्टर
मुजफ्फरनगर।

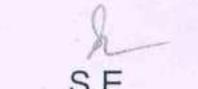
1 Dist Muzaffar Nagar	P-	101412000.00
	P-	65834424.00
Van Nigam (Tree cutting, Chhapan, Kataan and Dulaai and uprooting the roots etc.) Charges	L.S	6000000.00
	Total	173246424.00
		Say Rs. 1732.46 Lacs
2 Distt. Meerut	P-	273055182.40
		Say Rs. 2730.55 Lacs
3 Distt. Ghaziabad	L.S.	58512033.54
		Say Rs. 585.12 Lacs


J.E


A.E.


E.E


S.E
MEERUT


S.E
Saharanpur

कार्यालय प्रभागीय निदेशक सामाजिक वानिकी प्रभाग मुजफ्फरनगर।
पत्रांक :- 1894 / 14-1 मुजफ्फरनगर दिनांक, 28-11-2019 ।
सेवा में,

अधिसासी अभियन्ता,
निर्माण खण्ड-1,
लोक निर्माण विभाग,
मुजफ्फरनगर।

विषय:- चौधरी चरण सिंह कावड नहर पटरी के दायीं ओर मार्ग बनाने हेतु डोले से 7 मीटर की दूरी छोड़कर 19 मीटर की चौड़ाई में वृक्षों के पातन की लागत के संबंध में।

संदर्भ:- आपका पत्रांक 3988 / 1-सी, दिनांक 25.11.2019 ।
महोदय,

कृपया अपने कार्यालय के उपरोक्त संदर्भित पत्र दिनांक 25.11.2019 का अवलोकन करने का कष्ट करें। उक्त पत्र के माध्यम से अपर गंगा नहर की दायीं पटरी पर चौधरी चरण सिंह कावड मार्ग निर्माण हेतु डोले से 07 मीटर छोड़कर 19 मीटर की चौड़ाई में कुल-56.840 कि०मी० लम्बाई में आर रहे वृक्षों पातन हेतु क्षतिपूरक वनीकरण एवं वन भूमि के शुद्ध वर्तमान मूल्य तथा वृक्षों के छपान, बांस कोठी को हटाने की लागत, वृक्षों कटान, ढुलाई व जड खुदान हेतु आने वाले अनुमानित व्यय को अवगत कराने की अपेक्षा की गयी है।

विषयक क्रम में आपको अवगत कराना है कि शासन की विज्ञप्ति संख्या- 4041 / XIV दिनांक-15.10.1954 द्वारा अपर गंगा कैनाल की पटरियां संरक्षित वन क्षेत्र घोषित है। उक्त नहर की पटरी पर सडक निर्माण हेतु वन (संरक्षण) अधिनियम 1980 के प्राविधानों के अन्तर्गत पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार की वेबसाईट www.forestclearance.nic.in पर फॉर्म-1 पर ऑनलाईन प्रस्ताव प्रेषित कर गैर वानिकी कार्य करने की अनुमति लिये जाने का प्राविधान है एवं भारत सरकार द्वारा प्रदत्त सैद्धान्तिक स्वीकृति (Prior Approval) में दी गयी शर्तों के अनुरूप याचक विभाग / प्रयोक्ता अभिकरण से धनराशि की मांग की जाती है। जिसमें सामान्यतः प्रस्तावित वन भूमि के दो गुने क्षेत्रफल में क्षतिपूरक वनीकरण मय 10 वर्षों के रखरखाव व्यय सहित धनराशि, परियोजना में प्रभावित वन भूमि का शुद्धवर्तमान मूल्य (NPV) की धनराशि, परियोजना के आस-पास रिक्त क्षेत्रों में वनीकरण की 10 वर्षों तक रखरखाव सहित धनराशि को याचक विभाग / प्रयोक्ता अभिकरण से जमा कराये जाने की शर्त होती है। इसके अतिरिक्त बाधक वृक्षों के पातन / कटान / ढुलान का व्यय याचक विभाग को उत्तर प्रदेश वन निगम को भुगतान करना होता है।

उक्त के क्रम में आपके द्वारा वांछित आंगणन निम्नानुसार प्रेषित है।

1- प्रस्तावित 108.00 है० संरक्षित वन भूमि का शुद्धवर्तमान मूल्य @ 9,39,000.00 प्रति है०
= 10,14,12,000.00 ✓
(रूपये दस करोड़ चौदह लाख बारह हजार मात्र)

क्रमशः2

-2-

- 2- प्रस्तावित 108.00 है० संरक्षित वन भूमि के दो गुने क्षेत्र अर्थात् 216.00 है० क्षेत्र में क्षतिपूरक वनीकरण एवं आगामी 10 वर्षों तक रखरखाव हेतु आवश्यक धनराशि @ 3,04789.00 प्रति है०
= 6,58,34,424.00 ✓

(छः करोड़ अठ्ठावन लाख, चौतीस हजार, चार सौ चौबीस मात्र)

(मुख्य वन संरक्षक/ नोडल अधिकारी, उत्तर प्रदेश लखनऊ के पत्रांक-526/11-सी-क्षतिपूरक वनीकरण दिनांक 09.09.2016 के द्वारा निर्धारित दरों के अनुसार)

3- इसके अतिरिक्त परियोजना में बाधक वृक्षों के छपान की धनराशि एवं उत्तर प्रदेश वन निगम द्वारा कटान, ढुलान की धनराशि भी याचक विभाग से प्राप्त की जाती है। इसकी सूचना प्रस्तावित मार्ग निर्माण में बाधक वृक्षों की मौके पर संयुक्त गणना करने के उपरान्त ही वृक्षों की संख्या उनमें सम्भावित उत्पादित होने वाले प्रकाष्ठ की मात्रा के आधार पर क्षेत्रीय प्रबन्धक, वन निगम, पल्लवपुरम मेरठ द्वारा दी जा सकती है। इस हेतु बाधक वृक्षों की संयुक्त गणना (वन विभाग एवं प्रयोक्ता अभिकरण द्वारा) किया जाना आवश्यक है।

उपरोक्त वर्णित धनराशि नितान्त अनुमानित है। वास्तविक धनराशि की मांग भारत सरकार द्वारा प्रदत्त सैद्धान्तिक स्वीकृति में दी गयी शर्तों एवं राज्य सरकार द्वारा उक्त के क्रम में निर्गत शासनादेश में उल्लिखित शर्तों के अनुरूप तात्कालिक श्रमिक एवं सामग्री दरों के अनुरूप की जाती है।

आपके द्वारा संदर्भित पत्र में अवगत कराया गया है कि उक्त कार्य मा० मुख्य मंत्री जी की प्राथमिकता सूची में है। अतः उक्त मार्ग निर्माण हेतु प्रस्ताव पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार की वेबसाईट www.forestclearance.nic.in पर पार्ट-1 पर अपलोड कर इसकी छः प्रति इस कार्यालय को एवं एक प्रति जिलाधिकारी महोदय के कार्यालय में प्रेषित करने का कष्ट करें, ताकि प्रकरण में आवश्यक कार्यवाही की जा सके।


28/11/18
(सूरज)

प्रभागीय निदेशक,
सामाजिक वानिकी प्रभाग
मुजफ्फरनगर।

संख्या — / — दिनांकित ।

प्रतिलिपि- निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।
1-वन संरक्षक/क्षेत्रीय निदेशक, सहारनपुर वृत्त, सहारनपुर।
2-जिलाधिकारी महोदय, मुजफ्फरनगर।

(सूरज)

प्रभागीय निदेशक,
सामाजिक वानिकी प्रभाग
मुजफ्फरनगर।

FAX No. 0131- 2620710
TEL.No. 9131-2620810
MAIL - eeddmznr@gmail.com



कार्यालय अधिशासी अभियन्ता
विद्युत वितरण खण्ड-प्रथम
मुजफ्फरनगर

पत्रांक...5817.../वि0वि0ख0प्र0/मु0नगर/

दिनांक: 25.11.2019

विषय:- राज्य योजनान्तर्गत जनपद मुजफ्फरनगर में चौ0 चरण सिंह कांवड़ मार्ग (गंग नहर दायी पटरी) के नवनिर्माण/चौडीकरण/सुदृढीकरण हेतु विद्युत लाईनो को शिफ्ट करने हेतु (चौ0 51.910 से 111.280)।

अधिशासी अभियन्ता,
लोक निर्माण खण्ड-1,
लोक निर्माण विभाग,
मुजफ्फरनगर।

उपरोक्त विषयक कार्यालय पत्रांक 3952/1सी दिनांक 22.11.2019 के सन्दर्भ में आपको अवगत कराना है कि राज्य योजनान्तर्गत जनपद मुजफ्फरनगर में चौ0 चरण सिंह कांवड़ मार्ग (गंग नहर दायी पटरी) के नवनिर्माण/चौडीकरण/सुदृढीकरण हेतु विद्युत लाईनो को शिफ्ट करने हेतु (चौ0 51.910 सं 111.280) स्वीकृत प्रांकलन (संशोधित) रू0 28383952/- (दो करोड़ तिरासी लाख तिरासी हजार नौ सौ बावन रू0 मात्र) एवं जी0एस0टी0 के मद में रू0 5109111/- (इक्यावन लाख नौ हजार एक सौ ग्यारह) अद्योहस्ताक्षरकर्ता कार्यालय में जमा कराने का कष्ट करें। ताकि समयानुसार समस्त विभागीय औपचारिकताएं पूर्ण करते हुए कार्य पूर्ण कराया जा सकें।

संलग्नक :- उपरोक्तानुसार।

पत्रांक...../वि0वि0ख0प्र0/मु0नगर/

(यतेन्द्र कुमार)
अधिशासी अभियन्ता
दिनांक: .11.2019

प्रतिलिपी अधीक्षण अभियन्ता विद्युत वितरण मण्डल-प्रथम, मुजफ्फरनगर को सूचनार्थ प्रेषित।

(यतेन्द्र कुमार)
अधिशासी अभियन्ता

ESTIMATE

428

कार्य का नाम - प्राक्कलन गंग नहर पटरी की दाई तरफ मोडीकरण/निर्माण कार्य में बाधक बने विद्युत पोलों को मानकों के अनुरूप पीछे हटाने हेतु।

170

पूर्ण जमा योजनान्तर्गत (चौधरी चरण सिंह कावड मार्ग अन्तर्गत जनपद-मुजफ्फरनगर सीमा)।

Sr.No.	Particulars	Unit	Rate	Qty.	Amt. (Rs.)
1	2	3	4	5	6
1	S.T. POLE 13 MTR SP-70	NO	20798	213	4429974
2	S.T. POLE 11 MTR SP-55	NO	15049	185	2784065
3	MS CHANNEL 100X50 MM	KG	60	3600	216000
4	MS ANGLE 65X65X6 MM	KG	60	7200	432000
5	33 KV POLYMERIC DISC INSULATOR WITH FITTING	NO	709	240	170160
6	33 KV POLYMERIC PIN INSULATOR	NO	488	647	315736
7	11 KV POLYMERIC DISC INSULATOR WITH FITTING	NO	264	270	71280
8	11 KV POLYMERIC PIN INSULATOR	NO	196	780	152880
9	GI WIRE 10SWG FOR GUARDING	KG	64.09	2560	164070.4
10	GI WIRE 8SWG FOR GUARDING	KG	60.26	1840	110878.4
11	EARTHING COMPLETE	NO	838	388	325144
12	33 KV STAY SET COMPLETE	NO	2061	41	84501
13	11 KV STAY SET COMPLETE	NO	1361	115	156515
14	ACSR DOG CONDUCTOR	MTR	79	23000	1817000
15	ACSR RABBIT CONDUCTOR	MTR	39.67	37000	1467790
16	33 KV X-ARM V TYPE	NO	914	184	168176
17	33 KV X-ARM CLAMP	NO	304	184	55936
18	11 KV X-ARM V TYPE	NO	744	250	186000
19	11 KV X-ARM CLAMP	NO	304	250	76000
20	33 KV D/P CLAMP	NO	269	100	26900
21	11 KV D/P CLAMP	NO	269	166	44654
22	LT CLAMP WITH SACHKLE INSULATOR	NO	269	18	4842
23	POLE GROUTTING	NO	856	398	340688
24	NUT & BOLTS	KG	196	470	92120
25	CLAMPS	KG	269	456	122664
26	TREE CUTTING	JOB	300000	1	300000
27	SUNDREY ITEAM IF REUIRED		L/S		400000
TOTAL-A					14515973.8
CARTAGE & LABOUR CHARGE NEW LINE / DISMENTLING OF OLD LINES			L/S		5500000
TOTAL-B					20015973.8
TAX ON MATERIAL@18%			18%	20015973.8	3602875.284
TOTAL-C					23618849.08
CONTEGENCY & T&P CHARGES			4.50%	23618849.08	1062848.209
TOTAL-D					24681697.29
SUPERVISION CHARGES			15.00%	24681697.29	3702254.594
TOTAL-E					28383951.89
SAY AS					28383952
NOTE:-	GST	18%	28383952		5109111.34
GRAND TOTAL					33493063

EXECUTIVE ENGINEER
EDD-I
MUZAFFARNAGAR

SUB-DIVISION OFFICER
EDSD-III
MUZAFFARNAGAR

JUNIOR ENGINEER
33/11 KV MAKHYALI/B
MUZAFFARNAGAR

माप का विवरण

DETAIL OF MEASUREMENT

वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य। (जनपद मुजफ्फरनगर चौ 51.910 से 108.750 किमी0)

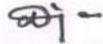
S. No	Item of work	No	L	B	D	Qty.	Unit
1	2	3	4	5	6	7	8
A-Civil Work							
1	Site Clearance Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness. Ch. 51.910 to 108.750 RHS Ch. 51.910 to 53.710 LHS	1 x 1 1 x 1	56840.00 1800.00	19.00 12.00		1079960.00 21600.00 1101560.00	Sqm.
2	Earth Work in Excavation in Foundation Excavation in trenches in ordinary soil (Loam, clay or sand) including lift upto 1.50 m and lead upto 30 M and including filling watering and ramming of excavated earth into the trenches and removal and disposal of surplus earth as directed by the Engineer in Charge up to distance 30m. SI No. 251(a) LHS Ch. 51.910 to 53.710	1 x 1	1800.00	6.68	0.48	5771.52 TOTAL 5771.52	Cum
3	Construction of embankment /Patri with material obtained form boropit cartage 3 Km. Construction of subgrade & shoulders with approved material obtained from borrow pits with 97% proctor density including all lifts and leads upto 3.00km from the site, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2. In Chanage 51.910 - 108.75 As per Survey Sheet Attached In LHS in LHS Patri In Ch. 51.910 to 108.75 as per survey sheet attached E/w at improvement of junctions of main road Patries RHS Patries LHS Add 2% Extra for curves Deduction for Drain	1 x 1 1 x 1 2 x 13 1 x 1 1 x 1 1 x 1	1800.00 1800.00 120.00 56840.00 56840.00 56840.00	8.000 2.980 7.000 (2.5+3.46)/2 (3.5+4.46)/2 0.800	1.000 0.480 1.800 0.480 0.480 0.800	1473203.40 14400.00 2574.72 444414.40 39312.00 81303.94 108587.14 43275.91 -36377.60 TOTAL 2170693.90	Cum
4	For mechanically compacted (of Earth) to achieve 97% proctors density including arrangement of water, settlement and all T&P including roller and its fuel etc.			Qty same as Item No 3		5771.52 TOTAL 5771.52	Cum
5	GSB Construction of granular sub-base by providing close graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401 By Mix In Place Method E/w at improvement of junctions of main road Add 2% Extra for curves	1 x 1 1 x 1 2 x 13	56840.00 1800.00 120.00	7.300 3.40 7.300	0.200 0.200 0.200	82986.40 1224.00 4555.20 1775.31 TOTAL 90540.91	Cum
6	Cemented base WMM (GSB+4% OPC Cement) Providing, laying and spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the material with water at OMC & 4% cement (OPC) in mechanical motar (pugmill) mix plant carriage of mixed Material by tipper to site, laying in unioform layers in sub-base /base course on well prepared sub base and compacting with the smooth wheeled road roller 80-100 km to achieve the desire density including lighting barricketing and maintenance of diversion etc. as per table 400.11 and 400.12 and technical specification clouse 400. In Chanage 51.910 - 108.75 improvement of junctions of main road Add 2% for curves	1 x 1 1 x 1 2 x 13	56840.00 1800.00 120.00	7.00 3.25 7.00	0.100 0.100 0.100	39788.00 585.00 2184.00 851.14 TOTAL 43408.14	Cum
7	Wet Mix Macadam Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density. In Chanage 51.910 - 108.75 improvement of junctions of main road Add 2% for curves	1 x 1 1 x 1 2 x 13	56840.00 1800.00 120.00	7.00 3.25 7.00	0.100 0.100 0.100	39788.00 585.00 2184.00 851.14 TOTAL 43408.14	Cum
8	Primer Coat Providing and applying primer coat with bitumen emulsion (SS) on prepared surface of granular Base including cleaning of road surface and spraying primer at the rate of 0.70 kg/sqm using mechanical means. (Ref. to Mori&H Specification No. 502) In strengthening Ch. 51.910 to 108.750 improement of junctions of main road Add 2% for curves	1 x 1 1 x 1 2 x 13	56840.00 1800.00 120.00	7.00 7.00 7.00		397880.00 12600.00 21840.00 8646.40 TOTAL 440966.40	Sqm.

Primer
JE

S. No.	Item of work	No	L	B	D	173	Qty	Unit
8	DBM Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates from approved quarry of specified grading, premixed with bituminous binder (VG-30) @ 4.50 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction (Ref. to Mort&H Specification No. 507) Adjustment for bitumen shall be done as per job mix formula and e-in-c: letter No 2651 Dt 27-07-12 In strengthening Ch. 51.910 to 108.750 improvement of junctions of main road Add 2% for curves	1 x 1 1 x 1 2 x 13	56840.00 1800.00 120.00	7.00 7.00 7.00	0.050 0.050 0.050		19894.00 630.00 1092.00 432.32	Cum
						TOTAL	22048.32	
9	Tack coat with Bitumin VG-10 @ 0.20 Kg /sqm Providing and applying tack coat with bitumen VG-10 using bitumen pressure distributor at the rate of 0.20 kg per sqm on the prepared Bituminous surface cleaned with mechanical broom.(Ref. to Mort&H Specification No.503) In strengthening Ch. 51.910 to 108.750 improvement of junctions of main road Add 2% for curves	1 x 1 1 x 1 2 x 13	56840.00 1800.00 120.00	7.00 7.00 7.00			397880.00 12600.00 21840.00 8546.40	sqm
						TOTAL	440966.40	
10	Bituminous Concrete with bitumin VG-30 @ 5.4% Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates from approved quarry of specified grading, premixed with bituminous binder (VG-30) @ 5.40 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction (Ref. to Mort&H Specification No. 509) Adjustment for bitumen shall be done as per job mix formula and E-in-C: letter No 2651 Dt 27-07-12. In strengthening Ch. 51.910 to 108.750 improvement of junctions of main road Add 2% for curves	1 x 1 1 x 1 2 x 13	56840.00 1800.00 120.00	7.00 7.00 7.00	0.03 0.03 0.03		11936.40 378.00 655.20 259.39	Cum
						TOTAL	13228.99	
11	Construction of drain Construction of RCC Drain of Size 600X600 mm as per drawing	1 x 1	56840.00				56840.00	Rm.
12	Construction of Hume pipe Culvert Construction of RCC Hume pipe culvert for cross drainage as per drawing	1 x 4	56.84				227.36	No.
						TOTAL	227.00	
13	Land Acquisition Land Acquisition at Nirgajani Jhall Ch. 67.800 to 68.500	1 x 1	700.00	15.00			10500.00 1.05	Sqm. Hec.
14	Cost of Deforestation							
a	Net cost of protective forest land & Cost of new Forestation & maintenance for 10 years Cost As per Forest Department Muzaffarnagar.	1 x 1						1 Job
b	Cost of Tree Cutting of Forest Nigam including chapam, katan, dulahi & uprooting the trees roots etc.	1 x 1						1 Job
15	Utility Shifting (Shifting of Electric Line & poll etc.) As per UPPCL Estimated cost.	1 x 1						1 Job


अवर अभियन्ता


सहायक अभियन्ता


अधिशारी अभियन्ता

DETAIL OF MEASUREMENT

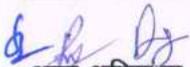
वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य। (जनपद मुजफ्फरनगर चौ 51.910 से 108.750 किमी०)

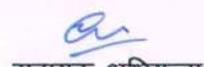
S. No	Item of work	No	L	B	D	Qty.	Unit
1	2	3	4	5	6	7	8
	B-Road Safety Works						
(a)	Supply & Fixing of delinators along canal side 75mm dia Circular. (56.84-20.43)	1 x 120	36.41			4369	Nos
(b)	P/F of Km, Hectometer Stone	1 x 1	56.84			56.84	Km
(c)	S/F of overhead sign board (Span 12 Mtr)	1 x 2				2	Nos
(d)	S/F of Cantilever	2 x 15				30	Nos
(e)	S/F of Cautionary board, Mandatory and informatory board, village road (90x60)	1 x 62				62	Nos
(f)	S/F of Cate eye. At Zebra Crossing At Curve Edges At Center Line	30 x 56 6 x 2 6 x 1	90.00 134.00			1680 1080 804	Nos
					TOTAL	3564	Nos
(g)	Retro reflective Infomatory singboard						
	For overhead signboard	2 x 2	12.00	1.50		72.00	
	For Cantilever signboard	2 x 30	6.00	1.50		540.00	
					TOTAL	612.00	sqm
(h)	Providing and laying Road Marking as per IRC:35-1997 using Thermoplastic (Hot Application) colour white/yellow by indigenous manually propelled road marking machine with single coat of 2.5mm thick as directed by Engineer-In-Charge including cost of conveyance all in gradients such as Binders,Glass beads, Titanium-di-oxides, Calcuim - carbonate pigments as per MORT&H specification of clause-803.4.1.2 for the prepration of Thermoplastic requirement for Glass beads shall be table No.803.4.1.3 of MORT&H specification including cost of all materils, labour,T&P and hire charges etc.required for proper completion of work at site.New item No.6 of Chapt-27						
	Edge Line	1 x 2 1 x 2	56840.00 1800.00	0.15 0.15		17052.00 540.00	
	Centre Line	0.33 x 1 0.33 x 1	56840.00 1800.00	0.10 0.10		1875.72 59.40	
	Zebra crossings.	30 x 7	3.00	0.50		315.00	
					TOTAL	19842.12	Sqm.
i	Providing and laying Road Marking as per IRC:35-1997 using Thermoplastic (Hot Application) colour white/yellow by indigenous manually propelled road marking machine with single coat of 5mm thick as directed by Engineer-In-Charge including cost of conveyance all in gradients such as Binders,Glass beads, Titanium-di-oxides, Calcuim - carbonate pigments as per MORT&H specification of clause-803.4.1.2 for the prepration of Thermoplastic requirement for Glass beads shall be table No.803.4.1.3 of MORT&H specification including cost of all materils, labour,T&P and hire charges etc.required for proper completion of work at site.New item No.6 of Chapt-27 (Repeated Bar)						
	At Crossing	30 x 12	7.00	0.30		756.00	
					TOTAL	756.00	Sqm.
j	P/F Retro Reflective Cheveron Board	6 x 20				120.00	No.

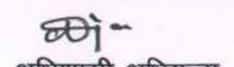
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S. No	Item of work	No	L	B	D	Qty.	Unit
k	P/F Retro Reflective Speed Limit Board	15 x 2				30.00	No.
L	P/F Retro Reflective Hazard Marker Board	227 x 2 21 x 2 11 x 2				454.00 42.00 22.00	
					TOTAL	518.00	No.
m	P/F Retro Reflective Stop Board	15 x 2				30.00	No
n	P/F Retro Reflective Give Way	15 x 2				30.00	No
o	Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810. High Embankment & Crossings.						
	Crossings						
	Km. 55	1 x 1	200.00			200.00	
	Km. 62	1 x 1	200.00			200.00	
	Km. 66	1 x 2	200.00			400.00	
	Km. 68	1 x 1	200.00			200.00	
	Km. 71	1 x 2	200.00			400.00	
	Km. 76	1 x 2	200.00			400.00	
	Km. 85	1 x 1	200.00			200.00	
	Km. 89	1 x 2	200.00			400.00	
	Km. 90	1 x 1	200.00			200.00	
	Km. 96	1 x 2	200.00			400.00	
	Km. 102	1 x 1	200.00			200.00	
	Km. 104	1 x 2	200.00			400.00	
	High Embankment						
	Ch. 54.120 - 62.200	1 x 1	8080.00			8080.00	
	Ch. 66.50 - 68.150	1 x 1	1650.00			1650.00	
	Ch. 85.000 to 91.000	1 x 1	6000.00			6000.00	
	Ch. 101.000 to 104.500	1 x 1	3500.00			3500.00	
	Left Side Patri on Canal Side	1 x 1	52790.00			52790.00	
					TOTAL	75620.00	R.m


अवर अभियन्ता


सहायक अभियन्ता


अधिसासी अभियन्ता

बिल ऑफ
क्वान्टिटी

435

Bill of Quantity

177

वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य। (जनपद मुजफ्फरनगर चौ 51.910 से 108.750 किमी०)

S. No	Item of work	Quantity	Unit	Rates	Amount
1	2	3	4	5	6
1	Site Clearance Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	1101560.00	Sqm.	6.10	6719516.00
2	Earth Work in Excavation in Foundation Excavation in trenches in ordinary soil (Loam, clay or sand) including lift upto 1.50 m and lead upto 30 M and including filling watering and ramming of excavated earth into the trenches and removal and disposal of surplus earth as directed by the Engineer in Charge up to distance 30m. SI No. 251(a)	5771.52	Cum	82.00	473264.64
3	Construction of embankment /Patri with material obtained form boropit cartage 3 Km. Construction of subgrade & shoulders with approved material obtained from borrow pits with 97% proctor density including all lifts and leads upto 3.00km from the site, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2.	2170693.90	cum	142.10	308455603.74
4	For mechanically compacted (of Earth) to achieve 97% proctors density including arrangement of water, settlement and all T&P including roller and its fuel etc.	5771.52	Cum	20.00	115430.40
5	GSB Construction of granular sub-base by providing close graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401 By Mix in Place Method	90540.91	Cum	2401.70	217452108.35
6	Cemented base WMM (GSB+4% OPC Cement) Providing, laying and spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the material with water at OMC & 4% cement (OPC) in mechanical motar (pugmil) mix plant carriage of mixed Material by tipper to site, laying in unioform layers in sub-base /base course on well prepared sub base and compacting with the smooth wheeled road roller 80-100 km to achieve the desire density including lighting barricketing and maintenance of diverson etc. as per table 400.11 and 400.12 and technical specification clouse 400.	43408.14	Cum	3430.00	148889920.20
6	Wet Mix Macadam Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.	43408.14	Cum	2754.50	119567721.63
7	Primer Coat Providing and applying primer coat with bitumen emulsion (SS) on prepared surface of granular Base including cleaning of road surface and spraying primer at the rate of 0.70 kg/sqm using mechanical means. (Ref. to Mort&H Specification No. 502)	440966.40	Sqm.	25.60	11288739.84

By
JE

No	Item of work	Quantity	Unit	Rates	Amount
8	DBM Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates from approved quarry of specified grading, premixed with bituminous binder (VG-30) @ 4.50 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction (Ref. to Mort&H Specification No. 507) Adjustment for bitumen shall be done as per job mix formula and e-in-c letter No 2651 Dt 27-07-12	22048.32	Cum	7473.80	164784734.02
9	Tack coat with Bitumin VG-10 @ 0.20 Kg /sqm Providing and applying tack coat with bitumen VG-10 using bitumen pressure distributor at the rate of 0.20 kg per sqm on the prepared Bituminous surface cleaned with mechanical broom.(Ref. to Mort&H Specification No.503)	440966.40	sqm	8.30	3660021.12
10	Bituminous Concrete with bitumin VG-30 @ 5.4% Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates from approved quarry of specified grading, premixed with bituminous binder (VG-30) @ 5.40 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction (Ref. to Mort&H Specification No. 509) Adjustment for bitumen shall be done as per job mix formula and E-in-C letter No 2651 Dt 27-07-12.	13228.99	Cum	8181.40	108231675.15
11	Construction of drain Construction of RCC Drain of Size 600X600 mm as per drawing	56840.00	Rm.	2994.00	170178960.00
12	Construction of Hume pipe Culvert Construction of RCC Hume pipe culvert for cross drainage as per drawing	227.00	No.	109590.00	24876930.00
				Total	1165126903.46
	Land Acquisition				1284694825.0
	Land Acquisition at Nirgajani Jhall	1.05	Hec.	17034000.00	17885700.00
14	Cost of Deforestation				
a	Net cost of protective forest land	1.00	Job	167246424	167246424.00
b	Cost of Tree Cutting of Forest Nigam including chapam, katan, dulahi & uprooting the trees roots etc.	1	Job	6000000.00	6000000.00
				Total	173246424.00
15	Utility Shifting (Shifting of Electric Line & poll etc.) As per UPPCL Estimated cost.	1	Job	33493063.00	33493063.00

JE

Assistant Engineer

Executive Engineer

Suprentending Engineer
SRE Cir. PWD,Shaharanpur



ISO-9001 : 2008

मुख्यालय :-

सेतु भवन, 16 मदन मोहन मालवीय मार्ग,

लखनऊ - 226001

फोन : 0522-2205815, 2205807

फैक्स : 0522 - 2209798

उ० प्र० राज्य सेतु निगम लि०

सेतु निर्माण इकाई, मेरठ

CIN-U45203UP1972SGC003623

GSTN - 09AAACU3258KSZA



179

कार्यालय उप परियोजना प्रबन्धक

उ० प्र० राज्य सेतु निगम लि०

सेतु निर्माण इकाई,

पी० डब्लू० डी० कालोनी,

निकट सरधना बस स्टैण्ड,

सिविल लाईन्स, मेरठ - 250003

फैक्स / फोन:- 0121-2645102

E-mail :- bcumeerut.sbc@gmail.com

पत्रांक :- 1268 / प्रारम्भिक विस्तृत आग० / बीसीयू मेरठ / 2019 दिनांक:- 21 / 12 / 2019
सेवा में,

अधिशाली अभियन्ता,
निर्माण (खण्ड) भवन,
लोक निर्माण विभाग, मेरठ।

विषय:- निम्नानुसार 07 सेतुओं के प्रारम्भिक विस्तृत आगणन के सम्बन्ध में :-

संदर्भ:- अधीक्षण अभियन्ता मेरठ वृत्त, लो०नि०वि०, मेरठ का पत्रांक 4937डब्लू/536 डब्लू/मे०वृ०/19 दिनांक 21.11.2019 एवं अधिशाली अभियन्ता, निर्माण खण्ड-1, लो०नि०वि०, मुजफ्फरनगर का पत्रांक 4127/1 सी कावड़ दिनांक 09.12.2019।

महोदय,

उपरोक्त विषयक संदर्भित पत्र के क्रम में निम्नलिखित 07 सेतुओं के प्रारम्भिक विस्तृत आगणन (04-04 प्रतियों में) अग्रिम/ आवश्यक कार्यवाही हेतु संलग्न कर प्रेषित किये जा रहे हैं।

(A) जनपद मेरठ क्षेत्र :-

- 1-जनपद मेरठ में दौराला-बरनावा (सरधना) मार्ग पर अपर गंगा कैनल के चैनेज 120.119 पर सेतु का निर्माण (रु. 733.68 लाख)।
- 2-जनपद मेरठ में मोहिउद्दीनपुर-सिवाल खास मार्ग पर अपर गंगा कैनल के चैनेज 144.530 पर सेतु का निर्माण(रु. 690.20 लाख)।
- 3-जनपद मेरठ में ग्राम खडौली-भोला-सतवाई मार्ग पर अपर गंगा कैनल के चैनेज 135.550 पर सेतु का निर्माण(रु. 690.20 लाख)।

(B) जनपद मुजफ्फरनगर क्षेत्र :-

- 1-जनपद मुजफ्फरनगर में ग्राम जौली-मुजफ्फरनगर मार्ग पर अपर गंगा कैनल के नौदेरा पुल के चैनेज 81.150 पर सेतु का निर्माण (रु. 723.56 लाख)।
- 2-जनपद मुजफ्फरनगर में ग्राम भोपा (मुजफ्फरनगर-भोपा प्रमुख जिला मार्ग) पर अपर गंगा कैनल के चैनेज 74.860 पर सेतु का निर्माण(रु. 680.15 लाख)।
- 3-जनपद मुजफ्फरनगर में ग्राम बरला-बसेडा मार्ग पर अपर गंगा कैनल के चैनेज 68.350 निगराजनी झाल पर सेतु का निर्माण(रु. 680.15 लाख)।
- 4-जनपद मुजफ्फरनगर में ग्राम सटेडी (कैराना-खतौली राज्य मार्ग) पर अपर गंगा कैनल के चैनेज 103.800 पर सेतु का निर्माण(रु.680.15 लाख)।

संलग्नक:- उपरोक्तानुसार।

(के०वी० सिंह)

उप परियोजना प्रबन्धक

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित:-

- (1) मुख्य अभियन्ता, मेरठ क्षेत्र, लोक निर्माण विभाग, मेरठ।
- (2) अधीक्षण अभियन्ता, मेरठ वृत्त, लोक निर्माण विभाग, मेरठ।
- (3) महा प्रबन्धक (गाजि०), उ० प्र० राज्य सेतु निगम लि०, गाजियाबाद को उनके निर्देशों के क्रम में।
- (4) अधिशाली अभियन्ता, प्रान्तीय खण्ड, लोक निर्माण विभाग, मुजफ्फरनगर।
- (5) श्री एस०के० अग्रवाल, सहायक अभियन्ता(सि०), सेतु निर्माण इकाई मेरठ।

AED IV

उप परियोजना प्रबन्धक

ISO 9001 : 2008

मुख्यालय -

सेतु नगर, 25 मदन मोहन मालवीय मार्ग,

अगणन - 226001

फोन : 0522-2209815, 2209807

फैक्स : 22021 - 2209799

सेतु निर्माण इकाई मेरठ

CIN-0423007197250001821

GSTIN-09AAAGU258K37A



विशेष प्रमाण, निरु - 220001
 फोन/फैक्स - 0522-2209815
 Email - seetu@up.gov.in

पत्रांक - 1255 / प्रारम्भिक विस्तृत आगणन / बीसीयू मेरठ / 2019 दिनांक - 12 / 12 / 2019

सेवा में,

अधिसासी अभियन्ता,

निर्माण (खण्ड) भवन,

लोक निर्माण विभाग, मेरठ।

विषय- निम्न सेतुओं के प्रारम्भिक विस्तृत आगणन के सम्बन्ध में :-

संदर्भ- अधिसासी अभियन्ता, निर्माण खण्ड-1, लो0नि0वि0, मुजफ्फरनगर का पत्रांक 4127/1 सी कावड़ दिनांक 09.12.2019।

महोदय,

उपरोक्त विषयक संदर्भित पत्र के क्रम में निम्नलिखित 02 सेतुओं के प्रारम्भिक विस्तृत आगणन (04-04 प्रतियों में) अग्रिम/ आवश्यक कार्यवाही हेतु संलग्न कर प्रेषित किये जा रहे हैं।

- 1- जनपद मुजफ्फरनगर में गंग नहर किमी0 100 पर दांयी पटरी पर पुराने चीतल रेस्टोरन्ट के निकट रेलवे ट्रैक को क्रॉस करते हुये रेलवे उपरिगामी सेतु का निर्माण (रु. 3979.40 लाख)।
- 2- जनपद मुजफ्फरनगर में गंग नहर की दाईं पटरी किमी0 103 पर एन0एच0-58 को क्रॉस करते हुये उपरिगामी सेतु का निर्माण (रु. 4193.20 लाख)।

संलग्नक:- उक्त आगणन 05-05 प्रतियों में।

(के0वी0 सिंह)

उप परियोजना प्रबन्धक

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित:-

- (1) मुख्य अभियन्ता, मेरठ क्षेत्र, लोक निर्माण विभाग, मेरठ।
- (2) अधीक्षण अभियन्ता, मेरठ वृत्त, लोक निर्माण विभाग, मेरठ।
- (3) महा प्रबन्धक (गाजि0), उ0प्र0 राज्य सेतु निगम लि0, गाजियाबाद को उनके निर्देशों के क्रम में।
- (4) अधिसासी अभियन्ता, निर्माण खण्ड-1, लोक निर्माण विभाग, मुजफ्फरनगर।
- (5) श्री एस0के0 अग्रवाल, सहायक अभियन्ता(सि0), सेतु निर्माण इकाई मेरठ।

उप परियोजना प्रबन्धक

Recd 10/12/19

19/12/19

19-12-19

SE Memo
 copy received
 K. K.
 19.12.19

वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य। (जनपद मुजफ्फरनगर चौ 51.910 से 108.750 किमी०)

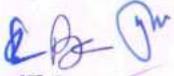
S. No	Item of work	Quantity	Unit	Rates	Amount
1	2	3	4	5	6
	B-Road Safety Works				
a	Supply & Fixing of delinators along canal side 75mm dia Circular. (56.84-20.43)	4369.20	Nos	1135.00	4959042.00
b	P/F of Km, Hectometer Stone	56.84	Km	5000.00	284200.00
c	S/F of overhead sign board (Span 12 Mtr)	2.00	Nos	246500.00	493000.00
d	S/F of Cantilever	30.00	Nos	110000.00	3300000.00
e	S/F of Cautionary board, Mandatory and infromatory board, village road (90x60)	62.00	Nos	3830.00	237460.00
f	S/F of Cate eye.	3564.00	Nos	415.00	1479060.00
g	Retro reflective Infomatory singboard	612.00	sqm	6780.00	4149360.00
h	Providing and laying Road Marking as per IRC:35-1997 using Thermoplastic (Hot Application) colour white/yellow by indigenous manually propelled road marking machine with single coat of 2.5mm thick as directed by Engineer-In-Charge including cost of conveyance all in gradients such as Binders,Glass beads, Titanium-di-oxides, Calcuim - carbonate pigments as per MORT&H specification of clause-803.4.1.2 for the prepration of Thermoplastic requirement for Glass beads shall be table No.803.4.1.3 of MORT&H specification including cost of all materils, labour,T&P and hire charges etc.required for proper completion of work at site.New item No.6 of Chapt-27	19842.12	Sqm.	615.00	12202903.80
i	Providing and laying Road Marking as per IRC:35-1997 using Thermoplastic (Hot Application) colour white/yellow by indigenous manually propelled road marking machine with single coat of 5mm thick as directed by Engineer-In-Charge including cost of conveyance all in gradients such as Binders,Glass beads, Titanium-di-oxides, Calcuim - carbonate pigments as per MORT&H specification of clause-803.4.1.2 for the prepration of Thermoplastic requirement for Glass beads shall be table No.803.4.1.3 of MORT&H specification including cost of all materils, labour,T&P and hire charges etc.required for proper completion of work at site.New item No.6 of Chapt-27 (Repeated Bar)	756.00	Sqm.	1230.00	929880.00
j	P/F Retro Reflective Cheveron Board	120.00	No.	5176.00	621120.00
k	P/F Retro Reflective Speed Limit Board	30.00	No.	4889.00	146670.00
l	P/F Retro Reflective Hazard Marker Board	518.00	No.	4896.00	2536128.00
m	P/F Retro Reflective Stop Board	30.00	No	8257.00	247710.00
n	P/F Retro Reflective Give Way	30.00	No	6156.00	184680.00

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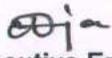
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AB

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BB

S. No	Item of work	Quantity	Unit	Rates	182 Int
o	Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810. High Embankment & Crossings.	75620.00	R.m	3471.00	262477020.00
				Total	294248233.80


JE


Assistant Engineer


Executive Engineer


Suptending Engineer
SRE Cir. PWD,Shaharanpur

**लागत का
सारांश**

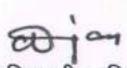
वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य। (जनपद मुजफ्फरनगर चौ 51.910 से 108.750 किमी०)

S. No.	Name of work	(Amount in Lac)
1	2	3
B	वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।	
1	Civil Work (Part-A)	11651.27 12846.95
2	Road Safety (Part-B)	2942.48
	Total (A+B)	14593.75 15789.43
3	Contingency and quality control @ 1%	145.94 157.89
	Total	14739.69 15947.32
4	Add 12% GST	1768.76 1913.68
5	Add Labour Welfare Cess @ 1%	147.40 159.47
6	Add Establishment Charges 6.875%	1013.35 1096.38
7	Add Depreciation cost 1.50%	221.10 239.21
	Total	17890.30 19356.06
8	Land Acquisition	178.86
9	Irrigation Structures	1552.48
10	Bridge corporation structures (on Upper Ganga Canal)	10936.61
11	Forest Deptt.	1732.46
12	Utility Shifting (Electrical)	334.93
	Total	32625.64

34091.41


सहायक अभियन्ता


अधीक्षण अभियन्ता
स०पुर वृत्त, लो०नि०वि० सहारनपुर


अधिशारी अभियन्ता
नि० ख०-1 लो०नि०वि० मु०नगर

मुख्य अभियन्ता
स०पुर क्षेत्र, लो०नि०वि० सहारनपुर

		PART - 1						PART - 2											185	
CAINA GE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	QUANTITY	remarks	
	0 Mtr OFFSET	7 Mtr OFFSET		MEAN DEPTH	LENGTH	WIDTH	QUANTITY	13.5 Mtr OFFSET	20 Mtr OFFSET	25 Mtr OFFSET	AVARAGE DEPTH	MEAN DEPTH	DEPTH AT 25 Mtr OFFSET	TOP WIDTH	BOTTOM WIDTH	MEAN WIDTH	LENGTH	QUANTITY		
											$E(H+I+J)/3$		A - J		$(Q \times 1)+N$	$(R+S)/2$		$L \times P \times Q$		
0	234.908	234.132	0.775					233.419	232.561	231.607	2.379		3.301	13.000	19.601	16.301	50.000			
50																				
100	235.187	234.342	0.845	0.810	50.000	7.000	283.587	233.592	232.787	232.340	2.281	2.330	2.847	13.000	18.693	15.847	50.000	1845.829		
150	235.295	233.956	1.339	1.092	50.000	7.000	382.200	233.062	232.704	232.414	2.568	2.424	2.881	13.000	18.761	15.881	50.000	1925.090		
200	235.255	234.188	1.067	1.203	50.000	7.000	420.933	233.316	232.474	232.098	2.625	2.597	3.157	13.000	19.313	16.157	50.000	2097.809		
250	235.102	234.204	0.898	0.982	50.000	7.000	343.817	233.332	232.409	232.068	2.499	2.562	3.034	13.000	19.068	16.034	50.000	2054.089		
300	234.984	234.115	0.869	0.884	50.000	7.000	309.283	232.885	232.326	232.025	2.572	2.535	2.959	13.000	18.918	15.959	50.000	2023.158		
350	235.132	233.633	1.499	1.184	50.000	7.000	414.517	233.150	232.433	232.100	2.571	2.571	3.032	13.000	19.064	16.032	50.000	2061.270		
400	235.161	233.851	1.310	1.405	50.000	7.000	491.692	232.892	232.483	232.136	2.657	2.614	3.025	13.000	19.050	16.025	50.000	2094.601		
450	235.077	233.864	1.213	1.262	50.000	7.000	441.642	233.070	232.436	232.121	2.535	2.596	2.956	13.000	18.913	15.956	50.000	2071.265		
500	235.016	233.801	1.215	1.214	50.000	7.000	424.958	233.202	232.417	232.130	2.433	2.484	2.886	13.000	18.772	15.886	50.000	1973.085		
550	234.983	233.963	1.020	1.118	50.000	7.000	391.125	232.859	232.402	232.151	2.512	2.473	2.831	13.000	18.663	15.831	50.000	1957.193		
600	235.011	233.752	1.259	1.140	50.000	7.000	398.883	233.065	232.345	232.046	2.526	2.519	2.965	13.000	18.930	15.965	50.000	2010.659		
650	235.050	234.376	0.673	0.966	50.000	7.000	338.217	233.475	232.423	231.937	2.438	2.482	3.112	13.000	19.225	16.112	50.000	1999.317		
700	235.041	234.084	0.957	0.815	50.000	7.000	285.308	233.509	232.775	232.289	2.183	2.311	2.752	13.000	18.504	15.752	50.000	1819.750		

750	235.070	234.243	0.827	0.892	50.000	7.000	312.258	233.174	232.635	232.419	2.328	2.255	2.652	13.000	18.303	15.652	50.000	1765.073
800	235.157	234.520	0.637	0.732	50.000	7.000	256.200	233.456	232.650	232.306	2.353	2.340	2.851	13.000	18.701	15.851	50.000	1854.660
850	235.102	233.921	1.181	0.909	50.000	7.000	318.092	234.337	233.104	232.518	1.782	2.068	2.584	13.000	18.169	15.584	50.000	1611.030
900	235.081	234.051	1.030	1.106	50.000	7.000	386.983	233.395	233.012	232.399	2.146	1.964	2.682	13.000	18.365	15.682	50.000	1540.179
950	235.075	234.253	0.822	0.926	50.000	7.000	324.217	233.439	232.571	232.291	2.308	2.227	2.784	13.000	18.569	15.784	50.000	1757.673
1000	235.165	234.872	0.293	0.558	50.000	7.000	195.125	233.429	233.975	232.353	1.913	2.110	2.812	13.000	18.624	15.812	50.000	1668.430
1050	235.073	234.420	0.653	0.473	50.000	7.000	165.550	233.540	231.872	232.124	2.561	2.237	2.949	13.000	18.898	15.949	50.000	1783.807
1100	235.011	234.476	0.535	0.594	50.000	7.000	207.958	233.476	232.742	232.324	2.164	2.363	2.687	13.000	18.375	15.687	50.000	1853.153
1150	235.134	234.476	0.658	0.597	50.000	7.000	208.833	233.249	232.732	232.411	2.337	2.250	2.723	13.000	18.446	15.723	50.000	1769.187
1200	235.117	234.058	1.059	0.859	50.000	7.000	300.592	233.445	232.653	232.456	2.266	2.302	2.662	13.000	18.323	15.662	50.000	1802.310
1250	235.158	234.229	0.929	0.994	50.000	7.000	347.958	233.823	233.675	233.634	1.447	1.857	1.524	13.000	16.048	14.524	50.000	1348.392
1300	235.081	234.257	0.825	0.877	50.000	7.000	306.892	233.529	233.696	234.075	1.315	1.381	1.007	13.000	15.013	14.007	50.000	967.199
1350	235.211	234.566	0.644	0.735	50.000	7.000	257.075	233.387	233.725	233.694	1.609	1.462	1.517	13.000	16.034	14.517	50.000	1061.031
1400	235.009	234.046	0.963	0.804	50.000	7.000	281.283	233.858	233.619	233.542	1.336	1.472	1.467	13.000	15.935	14.467	50.000	1065.117
1450	234.908	233.868	1.040	1.001	50.000	7.000	350.525	233.161	233.580	233.324	1.553	1.444	1.584	13.000	16.167	14.584	50.000	1053.265
1500	235.024	233.754	1.270	1.155	50.000	7.000	404.192	233.194	233.427	233.402	1.683	1.618	1.622	13.000	16.243	14.622	50.000	1182.771
1550	235.182	234.301	0.881	1.076	50.000	7.000	376.425	233.086	233.266	233.392	1.934	1.809	1.790	13.000	16.581	14.790	50.000	1337.416

1600	235.448	234.494	0.954	0.918	50.000	7.000	321.183	233.403	233.132	233.132	2.184	2.059	2.190	13.000	17.380	15.190	50.000	1563.684
1650	235.428	234.241	1.187	1.070	50.000	7.000	374.617	233.651	233.037	233.137	2.153	2.168	2.291	13.000	17.581	15.291	50.000	1657.678
1700	235.362	234.105	1.257	1.222	50.000	7.000	427.583	233.424	233.101	233.027	2.178	2.166	2.335	13.000	17.671	15.335	50.000	1660.433
1750	235.519	234.408	1.110	1.184	50.000	7.000	414.225	233.542	233.175	232.913	2.309	2.243	2.606	13.000	18.212	15.606	50.000	1750.560
1800	235.524	234.679	0.846	0.978	50.000	7.000	342.300	233.505	233.135	232.882	2.350	2.330	2.642	13.000	18.285	15.642	50.000	1822.028
1850	235.452	234.542	0.910	0.878	50.000	7.000	307.242	233.734	233.065	232.860	2.232	2.291	2.591	13.000	18.183	15.591	50.000	1786.117
1900	235.572	234.706	0.866	0.888	50.000	7.000	310.858	234.237	233.234	233.088	2.053	2.142	2.485	13.000	17.969	15.485	50.000	1658.623
1950	235.409	234.519	0.890	0.878	50.000	7.000	307.300	233.849	233.455	233.034	1.963	2.008	2.375	13.000	17.749	15.375	50.000	1543.446
2000	235.362	234.545	0.817	0.854	50.000	7.000	298.725	234.081	233.700	232.932	1.791	1.877	2.430	13.000	17.861	15.430	50.000	1448.137
2050	235.357	234.512	0.845	0.831	50.000	7.000	290.908	233.931	233.773	232.994	1.791	1.791	2.363	13.000	17.727	15.363	50.000	1375.915
2100	235.331	234.557	0.774	0.809	50.000	7.000	283.267	233.840	234.286	233.335	1.510	1.651	1.996	13.000	16.991	14.996	50.000	1237.726
2150	235.525	234.452	1.073	0.923	50.000	7.000	323.167	234.323	234.399	233.604	1.416	1.463	1.921	13.000	16.843	14.921	50.000	1091.744
2200	235.696	234.728	0.968	1.020	50.000	7.000	357.117	234.330	234.732	234.120	1.302	1.359	1.576	13.000	16.153	14.576	50.000	990.664
2250	235.740	235.108	0.632	0.800	50.000	7.000	279.883	235.215	234.941	234.020	1.015	1.159	1.720	13.000	16.441	14.720	50.000	852.716
2300	235.494	234.567	0.927	0.779	50.000	7.000	272.708	234.091	233.407	234.455	1.509	1.262	1.039	13.000	15.078	14.039	50.000	885.978
2350	235.355	234.426	0.929	0.928	50.000	7.000	324.742	234.927	235.889	235.408	-0.053	0.728	-0.053	13.000	12.894	12.947	50.000	471.379
2400	235.418	234.664	0.754	0.841	50.000	7.000	294.467	235.000	234.977	235.314	0.321	0.134	0.104	13.000	13.208	13.104	50.000	87.797

2450	235.499	234.659	0.840	0.797	50.000	7.000	278.950	233.837	234.386	235.343	0.977	0.649	0.156	13.000	13.313	13.156	50.000	427.069
2500	235.543	234.780	0.763	0.802	50.000	7.000	280.583	234.282	233.778	234.317	1.418	1.198	1.226	13.000	15.453	14.226	50.000	851.802
2550	235.584	234.859	0.725	0.744	50.000	7.000	260.458	233.942	233.409	234.520	1.627	1.523	1.065	13.000	15.129	14.065	50.000	1070.712
2600	235.641	234.826	0.815	0.770	50.000	7.000	269.558	233.972	233.468	234.365	1.706	1.667	1.276	13.000	15.552	14.276	50.000	1189.706
2650	235.699	234.882	0.817	0.816	50.000	7.000	285.600	234.284	233.962	233.897	1.652	1.679	1.803	13.000	16.605	14.803	50.000	1242.602
2700	235.709	234.819	0.890	0.853	50.000	7.000	298.667	234.422	233.958	233.513	1.745	1.698	2.196	13.000	17.392	15.196	50.000	1290.267
2750	235.633	234.977	0.656	0.773	50.000	7.000	270.550	234.400	233.984	233.157	1.786	1.765	2.476	13.000	17.951	15.476	50.000	1365.900
2800	235.517	234.969	0.548	0.602	50.000	7.000	210.700	233.964	234.045	233.262	1.760	1.773	2.255	13.000	17.509	15.255	50.000	1352.157
2850	235.821	234.701	1.121	0.834	50.000	7.000	291.958	234.100	233.046	232.674	2.548	2.154	3.147	13.000	19.294	16.147	50.000	1738.852
2900	236.194	234.963	1.231	1.176	50.000	7.000	411.483	233.771	232.550	232.150	3.370	2.959	4.044	13.000	21.088	17.044	50.000	2521.707
2950	236.900	234.970	1.930	1.580	50.000	7.000	553.117	234.098	232.785	232.160	3.886	3.628	4.740	13.000	22.480	17.740	50.000	3217.937
3000	236.755	236.097	0.658	1.294	50.000	7.000	452.958	235.486	234.250	233.659	2.290	3.088	3.096	13.000	19.193	16.096	50.000	2485.140
3050	235.340	234.829	0.511	0.585	50.000	7.000	204.633	233.554	233.161	232.960	2.115	2.203	2.380	13.000	17.760	15.380	50.000	1693.723
3100	235.803	234.623	1.180	0.846	50.000	7.000	295.925	233.812	234.108	233.900	1.863	1.989	1.903	13.000	16.806	14.903	50.000	1482.062
3150	235.475	234.640	0.835	1.008	50.000	7.000	352.625	234.263	233.863	233.643	1.552	1.707	1.832	13.000	16.663	14.832	50.000	1266.254
3200	235.429	234.821	0.608	0.722	50.000	7.000	252.525	234.120	234.314	234.118	1.244	1.398	1.310	13.000	15.621	14.310	50.000	1000.451
3250	235.596	234.802	0.795	0.701	50.000	7.000	245.467	234.330	233.996	233.822	1.547	1.396	1.775	13.000	16.549	14.775	50.000	1031.067

3300	235.568	234.847	0.722	0.758	50.000	7.000	265.358	234.302	233.962	233.746	1.565	1.556	1.823	13.000	16.645	14.823	50.000	1153.203
3350	235.447	234.835	0.611	0.666	50.000	7.000	233.275	234.438	234.029	233.810	1.354	1.460	1.637	13.000	16.274	14.637	50.000	1068.257
3400	235.413	234.733	0.680	0.646	50.000	7.000	225.983	234.328	233.944	233.748	1.406	1.380	1.665	13.000	16.330	14.665	50.000	1012.089
3450	234.368	234.662	-0.294	0.193	50.000	7.000	67.608	234.334	233.958	233.755	0.352	0.879	0.613	13.000	14.225	13.613	50.000	598.390
3500	235.467	234.840	0.627	0.167	50.000	7.000	58.333	234.089	234.006	233.959	1.449	0.901	1.508	13.000	16.015	14.508	50.000	653.208
3550	235.686	234.899	0.787	0.707	50.000	7.000	247.508	234.355	233.897	233.654	1.717	1.583	2.032	13.000	17.064	15.032	50.000	1189.825
3600	235.863	234.969	0.894	0.841	50.000	7.000	294.233	234.113	233.476	233.401	2.200	1.959	2.462	13.000	17.925	15.462	50.000	1514.149
3650	235.676	234.799	0.877	0.885	50.000	7.000	309.867	234.419	233.940	233.632	1.679	1.939	2.044	13.000	17.088	15.044	50.000	1458.808
3700	235.843	234.772	1.071	0.974	50.000	7.000	340.842	234.324	233.855	233.694	1.885	1.782	2.149	13.000	17.299	15.149	50.000	1349.932
3750	235.777	234.892	0.885	0.978	50.000	7.000	342.300	234.278	233.964	233.885	1.735	1.810	1.892	13.000	16.783	14.892	50.000	1347.654
3800	235.737	234.667	1.070	0.977	50.000	7.000	342.067	234.070	233.926	233.875	1.780	1.757	1.862	13.000	16.724	14.862	50.000	1305.833
3850	235.747	234.750	0.997	1.033	50.000	7.000	361.667	234.090	233.869	233.907	1.792	1.786	1.840	13.000	16.681	14.840	50.000	1325.242
3900	235.393	234.639	0.754	0.876	50.000	7.000	306.425	234.287	234.274	234.233	1.128	1.460	1.160	13.000	15.319	14.160	50.000	1033.656
3950	235.213	234.307	0.906	0.830	50.000	7.000	290.500	234.268	234.227	234.205	0.980	1.054	1.008	13.000	15.016	14.008	50.000	738.105
4000	236.011	234.964	1.047	0.976	50.000	7.000	341.717	234.209	234.044	234.078	1.900	1.440	1.933	13.000	16.866	14.933	50.000	1075.217
4050	235.997	234.911	1.086	1.067	50.000	7.000	373.275	234.494	234.097	233.969	1.810	1.855	2.028	13.000	17.056	15.028	50.000	1394.139
4100	235.951	235.030	0.921	1.004	50.000	7.000	351.225	234.675	234.221	233.971	1.662	1.736	1.980	13.000	16.960	14.980	50.000	1300.389

13500	238.578	238.044	0.534	0.481	50.000	7.000	168.175	237.643	237.605	237.513	0.991	0.838	1.065	13.000	15.130	14.065	50.000	589.206
13550	238.400	237.562	0.837	0.686	50.000	7.000	239.983	237.569	237.436	237.344	0.950	0.970	1.056	13.000	15.112	14.056	50.000	682.028
13600	238.014	236.980	1.034	0.936	50.000	7.000	327.425	237.275	237.273	237.178	0.772	0.861	0.836	13.000	14.672	13.836	50.000	595.678
13650	238.030	237.515	0.516	0.775	50.000	7.000	271.133	237.088	237.124	237.050	0.943	0.858	0.980	13.000	14.961	13.980	50.000	599.407
13700	237.975	237.467	0.508	0.512	50.000	7.000	179.142	237.354	237.082	236.916	0.858	0.900	1.059	13.000	15.119	14.059	50.000	632.943
13750	237.800	237.227	0.573	0.540	50.000	7.000	189.117	236.981	236.720	236.568	1.044	0.951	1.232	13.000	15.465	14.232	50.000	676.629
13800	237.434	236.683	0.751	0.662	50.000	7.000	231.700	236.737	236.042	236.299	1.075	1.059	1.135	13.000	15.271	14.135	50.000	748.701
13850	237.166	235.905	1.261	1.006	50.000	7.000	352.158	235.354	235.872	236.174	1.366	1.220	0.992	13.000	14.984	13.992	50.000	853.745
13900	237.594	236.921	0.673	0.967	50.000	7.000	338.392	236.516	236.076	235.890	1.433	1.400	1.704	13.000	16.407	14.704	50.000	1028.930
13950	237.940	237.309	0.631	0.652	50.000	7.000	228.142	236.913	236.519	236.621	1.256	1.345	1.319	13.000	15.638	14.319	50.000	962.714
14000	238.193	237.663	0.530	0.581	50.000	7.000	203.233	237.336	237.166	237.353	0.908	1.082	0.840	13.000	14.681	13.840	50.000	748.877
14050	238.446	237.795	0.651	0.591	50.000	7.000	206.792	237.709	237.509	237.369	0.917	0.913	1.077	13.000	15.155	14.077	50.000	642.552
14100	238.541	237.904	0.637	0.644	50.000	7.000	225.400	237.733	237.571	237.437	0.961	0.939	1.104	13.000	15.208	14.104	50.000	662.261
14150	238.233	237.764	0.469	0.553	50.000	7.000	193.492	237.665	237.660	237.534	0.613	0.787	0.699	13.000	14.398	13.699	50.000	539.094
14200	238.348	237.656	0.692	0.580	50.000	7.000	203.175	237.575	237.694	237.633	0.714	0.664	0.715	13.000	14.430	13.715	50.000	455.109
14250	238.557	237.692	0.865	0.778	50.000	7.000	272.417	237.613	237.732	237.722	0.868	0.791	0.835	13.000	14.670	13.835	50.000	547.174
14300	238.504	237.861	0.643	0.754	50.000	7.000	263.783	237.661	237.780	237.792	0.759	0.814	0.711	13.000	14.423	13.711	50.000	557.785

14350	238.462	238.010	0.453	0.548	50.000	7.000	191.683	237.862	237.828	237.861	0.612	0.686	0.601	13.000	14.202	13.601	50.000	466.212
14400	238.484	237.707	0.777	0.615	50.000	7.000	215.192	237.917	237.884	237.933	0.573	0.592	0.551	13.000	14.102	13.551	50.000	401.260
14450	238.506	237.812	0.694	0.736	50.000	7.000	257.425	237.790	237.911	237.992	0.609	0.591	0.514	13.000	14.029	13.514	50.000	399.048
14500	238.600	238.061	0.540	0.617	50.000	7.000	215.892	237.962	237.906	238.001	0.644	0.626	0.599	13.000	14.199	13.599	50.000	425.848
14550	238.988	238.006	0.982	0.761	50.000	7.000	266.350	237.937	237.972	238.012	1.015	0.829	0.976	13.000	14.953	13.976	50.000	579.552
14600	239.573	237.956	1.616	1.299	50.000	7.000	454.767	237.953	237.997	238.026	1.581	1.298	1.547	13.000	16.093	14.547	50.000	943.836
14650	239.371	238.583	0.788	1.202	50.000	7.000	420.700	237.956	238.017	238.037	1.367	1.474	1.334	13.000	15.667	14.334	50.000	1056.391
14700	238.853	238.284	0.569	0.678	50.000	7.000	237.417	237.988	238.030	238.048	0.831	1.099	0.805	13.000	14.610	13.805	50.000	758.700
14750	238.611	238.070	0.541	0.555	50.000	7.000	194.308	238.067	238.051	238.068	0.549	0.690	0.543	13.000	14.087	13.543	50.000	467.358
14800	238.556	238.162	0.394	0.468	50.000	7.000	163.683	238.151	238.082	238.042	0.465	0.507	0.514	13.000	14.029	13.514	50.000	342.551
14850	238.673	238.287	0.386	0.390	50.000	7.000	136.558	238.195	238.081	237.946	0.600	0.532	0.728	13.000	14.455	13.728	50.000	365.194
14900	239.288	238.491	0.797	0.591	50.000	7.000	207.025	238.454	238.364	238.315	0.910	0.755	0.973	13.000	14.945	13.973	50.000	527.313
14950	239.386	238.581	#####	120.092	50.000	7.000	42032.025	238.492	238.489	238.470	0.903	0.906	0.916	13.000	14.833	13.916	50.000	630.642
15000	239.347	238.565	0.782	120.084	50.000	7.000	42029.517	238.488	238.583	238.521	0.817	0.860	0.827	13.000	14.653	13.827	50.000	594.355
15050	239.195	238.619	0.576	0.679	50.000	7.000	237.708	238.460	238.448	238.390	0.763	0.790	0.806	13.000	14.611	13.806	50.000	545.170
15100	239.011	238.289	0.722	0.649	50.000	7.000	227.208	238.345	238.302	238.316	0.690	0.727	0.695	13.000	14.391	13.695	50.000	497.521
15150	238.935	238.424	0.511	0.617	50.000	7.000	215.775	238.384	238.360	238.381	0.560	0.625	0.554	13.000	14.107	13.554	50.000	423.552

15200	238.876	238.435	0.441	0.476	50.000	7.000	166.600	238.492	238.451	238.455	0.411	0.485	0.423	13.000	13.847	13.423	50.000	325.740
15250	238.931	238.429	0.502	0.472	50.000	7.000	165.083	238.474	238.505	238.512	0.434	0.423	0.419	13.000	13.838	13.419	50.000	283.476
15300	239.106	238.335	0.771	0.637	50.000	7.000	222.775	238.438	238.503	238.536	0.614	0.524	0.570	13.000	14.139	13.570	50.000	355.374
15350	239.259	238.585	0.674	0.722	50.000	7.000	252.817	238.502	238.548	238.572	0.718	0.666	0.687	13.000	14.373	13.687	50.000	455.614
15400	239.400	238.615	0.785	0.729	50.000	7.000	255.267	238.495	238.590	238.613	0.834	0.776	0.787	13.000	14.575	13.787	50.000	535.063
15450	239.395	238.633	0.762	0.774	50.000	7.000	270.783	238.658	238.531	238.206	0.930	0.882	1.189	13.000	15.378	14.189	50.000	625.853
15500	239.411	238.838	0.573	0.668	50.000	7.000	233.683	238.708	238.176	237.878	1.157	1.044	1.533	13.000	16.067	14.533	50.000	758.317
15550	239.402	238.892	0.510	0.541	50.000	7.000	189.525	238.410	237.907	238.270	1.206	1.182	1.132	13.000	15.265	14.132	50.000	835.064
15600	239.376	238.666	0.710	0.610	50.000	7.000	213.500	238.086	237.672	238.358	1.337	1.272	1.018	13.000	15.036	14.018	50.000	891.428
15650	239.415	238.818	0.597	0.654	50.000	7.000	228.725	238.124	238.097	238.328	1.232	1.285	1.087	13.000	15.175	14.087	50.000	904.876
15700	239.343	238.595	0.747	0.672	50.000	7.000	235.258	238.235	238.163	238.318	1.104	1.168	1.025	13.000	15.049	14.025	50.000	819.079
15750	239.234	238.329	0.904	0.826	50.000	7.000	289.042	238.481	238.297	238.305	0.873	0.988	0.929	13.000	14.857	13.929	50.000	688.308
15800	239.806	239.092	0.714	0.809	50.000	7.000	283.267	238.943	238.755	238.429	1.097	0.985	1.377	13.000	15.755	14.377	50.000	708.084
15850	239.880	239.132	0.748	0.731	50.000	7.000	255.908	238.222	238.437	238.420	1.521	1.309	1.460	13.000	15.921	14.460	50.000	946.469
15900	239.510	238.693	0.816	0.782	50.000	7.000	273.758	238.282	238.193	238.112	1.314	1.417	1.398	13.000	15.795	14.398	50.000	1020.395
15950	239.347	238.903	0.444	0.630	50.000	7.000	220.617	238.683	238.099	238.163	1.032	1.173	1.184	13.000	15.367	14.184	50.000	831.872
16000	239.528	238.916	0.612	0.528	50.000	7.000	184.858	238.707	238.498	238.234	1.048	1.040	1.294	13.000	15.588	14.294	50.000	743.367

16050	239.868	239.003	0.865	0.739	50.000	7.000	258.533	238.668	238.490	238.401	1.348	1.198	1.467	13.000	15.935	14.467	50.000	866.875
16100	239.990	239.176	0.814	0.840	50.000	7.000	293.883	238.582	238.492	238.444	1.484	1.416	1.546	13.000	16.091	14.546	50.000	1029.874
16150	239.953	239.261	0.692	0.753	50.000	7.000	263.550	238.759	238.593	238.523	1.328	1.406	1.430	13.000	15.861	14.430	50.000	1014.412
16200	240.015	239.387	0.628	0.660	50.000	7.000	230.942	239.013	238.754	238.711	1.189	1.258	1.304	13.000	15.607	14.304	50.000	900.018
16250	240.000	239.256	0.744	0.686	50.000	7.000	239.983	238.999	238.818	238.694	1.163	1.176	1.306	13.000	15.611	14.306	50.000	840.975
16300	239.851	239.151	0.700	0.722	50.000	7.000	252.642	238.710	238.360	238.288	1.398	1.280	1.563	13.000	16.125	14.563	50.000	932.294
16350	239.774	239.111	0.663	0.682	50.000	7.000	238.583	238.959	238.718	238.610	1.012	1.205	1.164	13.000	15.329	14.164	50.000	853.401
16400	239.879	239.242	0.637	0.650	50.000	7.000	227.617	238.840	238.495	238.431	1.290	1.151	1.448	13.000	15.896	14.448	50.000	831.643
16450	239.858	239.304	0.554	0.595	50.000	7.000	208.425	238.850	238.541	238.255	1.309	1.300	1.603	13.000	16.206	14.603	50.000	949.114
16500	239.804	239.274	0.530	0.542	50.000	7.000	189.583	238.405	238.215	238.096	1.565	1.437	1.708	13.000	16.415	14.708	50.000	1056.950
16550	239.996	239.279	0.717	0.624	50.000	7.000	218.225	239.120	238.561	238.344	1.321	1.443	1.652	13.000	16.305	14.652	50.000	1057.329
16600	240.188	239.471	0.717	0.717	50.000	7.000	251.008	239.072	238.904	238.536	1.351	1.336	1.652	13.000	16.304	14.652	50.000	978.754
16650	240.258	239.579	0.679	0.698	50.000	7.000	244.242	239.078	238.889	238.624	1.394	1.372	1.634	13.000	16.268	14.634	50.000	1004.258
16700	240.343	239.355	0.988	0.833	50.000	7.000	291.725	238.739	238.616	238.602	1.691	1.543	1.742	13.000	16.483	14.742	50.000	1137.033
16750	240.575	239.829	0.746	0.867	50.000	7.000	303.450	239.296	238.821	238.812	1.599	1.645	1.763	13.000	16.526	14.763	50.000	1214.134
16800	240.849	240.263	0.586	0.666	50.000	7.000	233.042	239.250	239.112	239.237	1.649	1.624	1.611	13.000	16.223	14.611	50.000	1186.319
16850	241.164	240.467	0.697	0.642	50.000	7.000	224.583	240.147	239.739	238.934	1.557	1.603	2.230	13.000	17.460	15.230	50.000	1220.854

16900	241.410	240.871	0.539	0.618	50.000	7.000	216.358	240.313	239.522	238.855	1.847	1.702	2.555	13.000	18.110	15.555	50.000	1323.731
16950	241.547	240.713	0.834	0.687	50.000	7.000	240.333	240.218	239.429	238.906	2.030	1.938	2.641	13.000	18.282	15.641	50.000	1515.656
17000	242.033	241.151	0.882	0.858	50.000	7.000	300.300	240.366	239.576	238.895	2.420	2.225	3.138	13.000	19.275	16.138	50.000	1795.271
17050	242.255	241.151	1.104	0.993	50.000	7.000	347.550	240.142	239.625	238.824	2.725	2.572	3.431	13.000	19.861	16.431	50.000	2113.349
17100	242.228	241.228	1.000	1.052	50.000	7.000	368.258	240.249	239.629	239.246	2.520	2.622	2.982	13.000	18.963	15.982	50.000	2095.374
17150	242.129	241.178	0.951	0.976	50.000	7.000	341.483	240.655	239.813	239.334	2.195	2.358	2.796	13.000	18.591	15.796	50.000	1862.046
17200	241.770	240.960	0.810	0.881	50.000	7.000	308.292	240.345	239.607	239.202	2.052	2.124	2.568	13.000	18.136	15.568	50.000	1653.192
17250	241.781	240.922	0.859	0.835	50.000	7.000	292.192	240.040	239.422	239.078	2.268	2.160	2.703	13.000	18.406	15.703	50.000	1695.880
17300	241.813	240.825	0.988	0.924	50.000	7.000	323.342	240.164	239.315	238.970	2.330	2.299	2.843	13.000	18.687	15.843	50.000	1821.235
17350	241.846	240.741	1.105	1.047	50.000	7.000	366.333	239.939	239.254	238.871	2.491	2.411	2.975	13.000	18.949	15.975	50.000	1925.613
17400	241.865	241.033	0.832	0.969	50.000	7.000	339.033	240.055	239.371	239.059	2.370	2.431	2.806	13.000	18.613	15.806	50.000	1921.040
17450	241.658	240.548	1.110	0.971	50.000	7.000	339.908	239.803	239.170	238.945	2.352	2.361	2.713	13.000	18.427	15.713	50.000	1855.134
17500	241.717	240.751	0.965	1.038	50.000	7.000	363.183	240.050	239.422	239.084	2.198	2.275	2.633	13.000	18.265	15.633	50.000	1778.303
17550	241.691	240.667	1.024	0.995	50.000	7.000	348.075	240.036	239.458	239.122	2.152	2.175	2.569	13.000	18.138	15.569	50.000	1693.258
17600	241.850	240.916	0.934	0.979	50.000	7.000	342.592	240.044	239.495	238.771	2.413	2.283	3.079	13.000	19.158	16.079	50.000	1835.329
17650	241.845	240.865	0.980	0.957	50.000	7.000	334.950	240.281	239.238	239.115	2.300	2.357	2.730	13.000	18.459	15.730	50.000	1853.566
17700	241.991	240.806	1.185	1.082	50.000	7.000	378.817	240.205	239.591	239.048	2.376	2.338	2.942	13.000	18.885	15.942	50.000	1863.703

17750	242.295	241.206	1.089	1.137	50.000	7.000	397.892	240.426	239.526	239.106	2.609	2.493	3.189	13.000	19.378	16.189	50.000	2017.599
17800	242.318	241.252	1.065	1.077	50.000	7.000	377.008	240.343	239.614	239.236	2.587	2.598	3.082	13.000	19.163	16.082	50.000	2088.919
17850	242.252	241.113	1.139	1.102	50.000	7.000	385.817	240.398	239.710	239.335	2.438	2.512	2.917	13.000	18.835	15.917	50.000	1999.482
17900	241.976	240.981	0.996	1.067	50.000	7.000	373.625	240.401	239.719	239.340	2.156	2.297	2.637	13.000	18.273	15.637	50.000	1796.045
17950	242.269	241.014	1.255	1.126	50.000	7.000	393.925	240.560	240.038	239.592	2.206	2.181	2.677	13.000	18.354	15.677	50.000	1709.707
18000	242.370	241.463	0.907	1.081	50.000	7.000	378.408	240.622	240.134	239.878	2.159	2.182	2.492	13.000	17.984	15.492	50.000	1690.392
18050	242.475	241.506	0.969	0.938	50.000	7.000	328.300	240.597	239.891	239.891	2.349	2.254	2.584	13.000	18.168	15.584	50.000	1756.057
18100	242.521	241.593	0.928	0.948	50.000	7.000	331.917	240.441	239.794	239.795	2.511	2.430	2.726	13.000	18.451	15.726	50.000	1910.406
18150	242.538	241.348	1.190	1.059	50.000	7.000	370.592	240.458	239.717	239.726	2.571	2.541	2.812	13.000	18.624	15.812	50.000	2008.651
18200	242.351	241.064	1.287	1.239	50.000	7.000	433.533	240.375	239.712	239.662	2.435	2.503	2.689	13.000	18.378	15.689	50.000	1963.217
18250	242.142	240.891	1.251	1.269	50.000	7.000	444.150	240.287	239.681	239.596	2.287	2.361	2.546	13.000	18.093	15.546	50.000	1835.288
18300	242.162	240.991	1.171	1.211	50.000	7.000	423.733	240.343	239.663	239.547	2.311	2.299	2.615	13.000	18.229	15.615	50.000	1795.036
18350	242.181	240.978	1.203	1.187	50.000	7.000	415.450	240.255	239.640	239.504	2.382	2.346	2.678	13.000	18.355	15.678	50.000	1839.252
18400	242.155	240.847	1.308	1.256	50.000	7.000	439.483	240.057	239.485	239.250	2.558	2.470	2.905	13.000	18.809	15.905	50.000	1963.961
18450	242.161	240.372	1.789	1.549	50.000	7.000	541.975	239.770	239.229	239.222	2.754	2.656	2.939	13.000	18.878	15.939	50.000	2116.522
18500	242.179	241.090	1.089	1.439	50.000	7.000	503.650	240.060	239.437	239.278	2.588	2.671	2.901	13.000	18.803	15.901	50.000	2123.491
18550	242.307	241.379	0.928	1.009	50.000	7.000	352.975	240.591	239.629	239.284	2.472	2.530	3.023	13.000	19.046	16.023	50.000	2026.910

18600	242.459	241.503	0.956	0.942	50.000	7.000	329.758	240.409	239.748	239.253	2.656	2.564	3.206	13.000	19.413	16.206	50.000	2077.742
18650	242.483	241.411	1.072	1.014	50.000	7.000	355.017	240.439	239.627	239.239	2.715	2.685	3.244	13.000	19.488	16.244	50.000	2181.028
18700	242.446	241.305	1.141	1.107	50.000	7.000	387.333	240.639	239.516	239.245	2.646	2.680	3.201	13.000	19.403	16.201	50.000	2171.294
18750	242.511	241.597	0.914	1.027	50.000	7.000	359.567	240.872	239.508	239.247	2.635	2.640	3.263	13.000	19.527	16.263	50.000	2147.167
18800	242.672	241.877	0.795	0.854	50.000	7.000	299.017	240.713	239.504	239.244	2.852	2.743	3.428	13.000	19.857	16.428	50.000	2253.465
18850	242.834	241.734	1.100	0.948	50.000	7.000	331.625	240.553	239.500	239.240	3.070	2.961	3.594	13.000	20.188	16.594	50.000	2456.465
18900	243.013	241.658	1.355	1.228	50.000	7.000	429.625	240.394	239.497	239.236	3.304	3.187	3.777	13.000	20.554	16.777	50.000	2673.275
18950	242.611	240.951	1.660	1.507	50.000	7.000	527.625	240.172	239.578	239.307	2.925	3.115	3.304	13.000	19.607	16.304	50.000	2538.979
19000	242.700	241.676	1.024	1.342	50.000	7.000	469.700	240.639	239.847	239.608	2.669	2.797	3.092	13.000	19.184	16.092	50.000	2250.332
19050	242.662	241.725	0.937	0.981	50.000	7.000	343.175	240.590	239.830	239.586	2.660	2.664	3.076	13.000	19.152	16.076	50.000	2141.546
19100	242.717	241.438	1.279	1.108	50.000	7.000	387.858	240.601	239.807	239.488	2.752	2.706	3.229	13.000	19.459	16.229	50.000	2195.739
19150	242.764	241.651	1.113	1.196	50.000	7.000	418.658	240.620	239.750	239.395	2.843	2.797	3.369	13.000	19.738	16.369	50.000	2289.341
19200	242.759	241.618	1.141	1.127	50.000	7.000	394.450	240.713	239.703	239.320	2.847	2.845	3.439	13.000	19.878	16.439	50.000	2338.219
19250	242.682	242.186	0.495	0.818	50.000	7.000	286.358	240.861	239.688	239.304	2.731	2.789	3.378	13.000	19.755	16.378	50.000	2283.684
19300	242.850	241.619	1.231	0.863	50.000	7.000	302.167	240.479	239.400	239.154	3.173	2.952	3.696	13.000	20.393	16.696	50.000	2464.101
19350	242.590	241.853	0.737	0.984	50.000	7.000	344.458	240.488	239.284	239.077	2.974	3.073	3.513	13.000	20.025	16.513	50.000	2537.263
19400	242.667	241.856	0.811	0.774	50.000	7.000	270.900	240.851	239.696	239.102	2.784	2.879	3.565	13.000	20.130	16.565	50.000	2384.348

19450	242.657	241.736	0.921	0.866	50.000	7.000	303.042	240.746	239.991	239.560	2.625	2.704	3.297	13.000	19.594	16.297	50.000	2203.626
19500	242.653	241.643	1.010	0.965	50.000	7.000	337.925	240.606	239.798	239.337	2.740	2.682	3.316	13.000	19.633	16.316	50.000	2188.111
19550	242.382	241.910	0.472	0.741	50.000	7.000	259.408	240.544	239.153	238.909	2.846	2.793	3.473	13.000	19.945	16.473	50.000	2300.362
19600	242.331	241.146	1.185	0.829	50.000	7.000	289.975	240.077	239.140	238.892	2.962	2.904	3.440	13.000	19.879	16.440	50.000	2387.040
19650	242.344	241.429	0.915	1.050	50.000	7.000	367.558	240.251	239.342	239.031	2.803	2.882	3.313	13.000	19.627	16.313	50.000	2351.069
19700	242.453	241.484	0.969	0.942	50.000	7.000	329.758	240.448	239.471	239.163	2.759	2.781	3.290	13.000	19.580	16.290	50.000	2265.215
19750	242.417	241.289	1.128	1.049	50.000	7.000	366.975	240.615	239.798	239.251	2.529	2.644	3.166	13.000	19.331	16.166	50.000	2137.056
19800	242.585	241.720	0.865	0.997	50.000	7.000	348.775	240.232	239.312	239.004	3.069	2.799	3.581	13.000	20.163	16.581	50.000	2320.512
19850	242.848	241.649	1.199	1.032	50.000	7.000	361.142	240.503	239.534	239.019	3.163	3.116	3.829	13.000	20.659	16.829	50.000	2622.010
19900	242.690	241.793	0.897	1.048	50.000	7.000	366.800	240.533	239.897	239.412	2.743	2.953	3.278	13.000	19.556	16.278	50.000	2403.401
19950	242.783	242.006	0.777	0.837	50.000	7.000	293.008	240.671	239.884	239.538	2.752	2.747	3.245	13.000	19.490	16.245	50.000	2231.657
20000	242.840	242.253	0.588	0.682	50.000	7.000	238.817	241.088	239.985	239.615	2.611	2.682	3.225	13.000	19.451	16.225	50.000	2175.412
20050	243.057	242.346	0.711	0.649	50.000	7.000	227.208	240.769	240.075	239.805	2.841	2.726	3.252	13.000	19.504	16.252	50.000	2214.967
20100	242.989	241.914	1.075	0.893	50.000	7.000	312.492	240.723	240.284	240.053	2.636	2.738	2.936	13.000	18.872	15.936	50.000	2181.683
20150	243.129	242.229	0.900	0.987	50.000	7.000	345.625	240.990	240.556	240.391	2.483	2.559	2.738	13.000	18.476	15.738	50.000	2013.983
20200	243.036	241.718	1.318	1.109	50.000	7.000	388.208	240.942	240.753	240.741	2.224	2.354	2.295	13.000	17.591	15.295	50.000	1800.048
20250	243.027	241.855	1.172	1.245	50.000	7.000	435.750	241.120	240.934	240.817	2.070	2.147	2.210	13.000	17.419	15.210	50.000	1632.715

20300	242.855	242.081	0.774	0.973	50.000	7.000	340.550	240.904	240.702	240.600	2.118	2.094	2.249	13.000	17.499	15.249	50.000	1596.436
20350	242.591	241.826	0.766	0.770	50.000	7.000	269.500	241.031	240.532	240.468	1.914	2.016	2.123	13.000	17.247	15.123	50.000	1524.474
20400	242.853	241.857	0.996	0.881	50.000	7.000	308.350	240.496	240.488	240.523	2.351	2.132	2.330	13.000	17.660	15.330	50.000	1634.519
20450	242.768	241.726	1.043	1.020	50.000	7.000	356.825	240.769	240.670	240.512	2.118	2.234	2.256	13.000	17.512	15.256	50.000	1704.349
20500	242.704	241.695	1.009	1.026	50.000	7.000	359.100	240.189	240.471	240.559	2.298	2.208	2.145	13.000	17.291	15.145	50.000	1672.003
20550	242.706	241.360	1.347	1.178	50.000	7.000	412.300	240.452	240.525	240.506	2.212	2.255	2.201	13.000	17.401	15.201	50.000	1713.875
20600	242.689	241.916	0.773	1.060	50.000	7.000	370.942	240.482	240.485	240.145	2.318	2.265	2.543	13.000	18.087	15.543	50.000	1760.283
20650	242.758	241.933	0.825	0.799	50.000	7.000	279.650	241.017	240.408	239.886	2.321	2.319	2.872	13.000	18.744	15.872	50.000	1840.711
20700	242.820	241.726	1.094	0.959	50.000	7.000	335.767	241.202	240.413	239.969	2.292	2.307	2.851	13.000	18.703	15.851	50.000	1828.099
20750	242.853	241.720	1.133	1.114	50.000	7.000	389.725	241.441	240.592	240.240	2.095	2.194	2.613	13.000	18.226	15.613	50.000	1712.529
20800	242.935	242.063	0.872	1.003	50.000	7.000	350.933	241.034	240.556	240.359	2.286	2.190	2.576	13.000	18.153	15.576	50.000	1705.998
20850	243.074	242.416	0.659	0.765	50.000	7.000	267.867	241.409	240.871	240.578	2.122	2.204	2.496	13.000	17.993	15.496	50.000	1707.481
20900	243.313	242.765	0.548	0.603	50.000	7.000	211.108	241.882	240.965	240.703	2.130	2.126	2.610	13.000	18.220	15.610	50.000	1659.083
20950	243.542	242.570	0.972	0.760	50.000	7.000	265.942	241.938	241.204	240.845	2.213	2.171	2.697	13.000	18.394	15.697	50.000	1704.171
21000	243.518	242.813	0.705	0.838	50.000	7.000	293.417	242.154	241.266	241.039	2.032	2.122	2.479	13.000	17.958	15.479	50.000	1642.580
21050	243.325	242.658	0.667	0.686	50.000	7.000	240.100	242.069	241.259	241.073	1.858	1.945	2.252	13.000	17.505	15.252	50.000	1483.120
21100	243.021	161.425	81.597	41.132	50.000	7.000	14396.200	241.585	240.994	240.730	1.918	1.888	2.291	13.000	17.583	15.291	50.000	1443.629

21150	242.819	241.603	1.216	41.406	50.000	7.000	14492.217	241.112	240.866	240.904	1.858	1.888	1.915	13.000	16.830	14.915	50.000	1408.225
21200	242.861	241.959	0.902	1.059	50.000	7.000	370.650	241.267	240.957	240.995	1.788	1.823	1.866	13.000	16.733	14.866	50.000	1355.231
21250	242.680	241.782	0.898	0.900	50.000	7.000	314.942	241.126	241.079	241.115	1.573	1.681	1.565	13.000	16.129	14.565	50.000	1223.837
21300	242.587	241.844	0.743	0.820	50.000	7.000	287.175	241.138	241.207	241.244	1.391	1.482	1.343	13.000	15.687	14.343	50.000	1062.841
21350	242.682	241.935	0.747	0.745	50.000	7.000	260.808	241.257	241.326	241.363	1.367	1.379	1.319	13.000	15.638	14.319	50.000	987.136
21400	242.663	241.928	0.736	0.741	50.000	7.000	259.467	241.290	241.449	241.485	1.255	1.311	1.178	13.000	15.356	14.178	50.000	929.289
21450	242.635	241.972	0.662	0.699	50.000	7.000	244.650	241.445	241.574	241.611	1.091	1.173	1.024	13.000	15.048	14.024	50.000	822.702
21500	242.642	242.076	0.566	0.614	50.000	7.000	215.017	241.429	241.715	241.751	1.010	1.051	0.891	13.000	14.782	13.891	50.000	729.856
21550	242.655	242.160	0.495	0.531	50.000	7.000	185.675	241.575	241.855	241.829	0.902	0.956	0.825	13.000	14.651	13.825	50.000	660.813
21600	242.774	242.159	0.616	0.555	50.000	7.000	194.308	241.864	241.951	241.875	0.878	0.890	0.899	13.000	14.799	13.899	50.000	618.250
21650	242.894	242.329	0.565	0.590	50.000	7.000	206.617	242.096	241.992	241.916	0.893	0.885	0.978	13.000	14.956	13.978	50.000	618.643
21700	243.015	242.385	0.630	0.597	50.000	7.000	209.067	242.180	242.036	241.958	0.957	0.925	1.057	13.000	15.114	14.057	50.000	650.019
21750	243.174	242.516	0.658	0.644	50.000	7.000	225.400	242.281	242.130	242.053	1.019	0.988	1.121	13.000	15.243	14.121	50.000	697.712
21800	243.334	242.637	0.697	0.678	50.000	7.000	237.183	242.423	242.225	242.147	1.069	1.044	1.187	13.000	15.374	14.187	50.000	740.680
21850	243.425	242.803	0.622	0.659	50.000	7.000	230.825	242.536	242.301	242.225	1.071	1.070	1.201	13.000	15.401	14.201	50.000	759.893
21900	243.288	242.879	0.409	0.515	50.000	7.000	180.367	242.642	242.362	242.285	0.858	0.965	1.003	13.000	15.005	14.003	50.000	675.512
21950	243.414	242.924	0.490	0.450	50.000	7.000	157.325	242.730	242.414	242.338	0.920	0.889	1.076	13.000	15.151	14.076	50.000	625.702

22000	243.504	242.938	0.566	0.528	50.000	7.000	184.858	242.624	242.423	242.384	1.027	0.973	1.120	13.000	15.240	14.120	50.000	687.252
22050	243.646	243.000	0.646	0.606	50.000	7.000	212.158	242.746	242.489	242.472	1.077	1.052	1.174	13.000	15.349	14.174	50.000	745.688
22100	243.662	242.905	0.756	0.701	50.000	7.000	245.467	242.663	242.581	242.564	1.059	1.068	1.098	13.000	15.195	14.098	50.000	752.933
22150	243.509	242.653	0.855	0.806	50.000	7.000	282.042	242.357	242.685	242.661	0.941	1.000	0.848	13.000	14.695	13.848	50.000	692.422
22200	243.575	243.056	0.519	0.687	50.000	7.000	240.508	243.013	242.868	242.737	0.703	0.822	0.838	13.000	14.677	13.838	50.000	568.640
22250	243.461	242.684	0.777	0.648	50.000	7.000	226.800	242.300	242.178	242.413	1.164	0.933	1.048	13.000	15.095	14.048	50.000	655.402
22300	243.577	242.951	0.626	0.701	50.000	7.000	245.467	242.487	242.054	242.160	1.343	1.254	1.417	13.000	15.834	14.417	50.000	903.626
22350	243.731	242.973	0.758	0.692	50.000	7.000	242.200	242.745	242.291	241.946	1.403	1.373	1.785	13.000	16.569	14.785	50.000	1015.296
22400	243.671	242.728	0.943	0.851	50.000	7.000	297.792	242.599	242.398	242.122	1.298	1.351	1.549	13.000	16.098	14.549	50.000	982.623
22450	243.600	242.665	0.935	0.939	50.000	7.000	328.650	242.323	242.205	242.138	1.378	1.338	1.462	13.000	15.923	14.462	50.000	967.445
22500	243.169	242.437	0.732	0.834	50.000	7.000	291.725	242.164	241.917	241.791	1.212	1.295	1.378	13.000	15.756	14.378	50.000	930.776
22550	242.738	242.219	0.519	0.625	50.000	7.000	218.925	241.741	241.485	241.466	1.174	1.193	1.272	13.000	15.545	14.272	50.000	851.226
22600	242.974	242.348	0.626	0.572	50.000	7.000	200.375	241.950	241.587	241.367	1.340	1.257	1.607	13.000	16.215	14.607	50.000	917.909
22650	243.340	242.516	0.824	0.725	50.000	7.000	253.750	242.137	241.770	241.543	1.523	1.431	1.797	13.000	16.595	14.797	50.000	1059.119
22700	243.449	242.749	0.701	0.762	50.000	7.000	266.758	242.127	241.912	241.669	1.547	1.535	1.780	13.000	16.560	14.780	50.000	1134.406
22750	243.477	242.756	0.722	0.711	50.000	7.000	248.908	242.267	241.762	241.589	1.605	1.576	1.889	13.000	16.777	14.889	50.000	1173.020
22800	243.522	242.853	0.669	0.696	50.000	7.000	243.425	242.324	241.608	241.409	1.742	1.673	2.113	13.000	17.227	15.113	50.000	1264.482

22850	243.534	242.885	0.648	0.659	50.000	7.000	230.592	242.167	241.365	241.217	1.951	1.846	2.316	13.000	17.633	15.316	50.000	1413.910
22900	243.456	242.802	0.654	0.651	50.000	7.000	227.967	241.546	241.274	241.079	2.156	2.053	2.377	13.000	17.753	15.377	50.000	1578.714
22950	243.329	242.183	1.146	0.900	50.000	7.000	315.000	241.344	240.998	240.920	2.242	2.199	2.409	13.000	17.819	15.409	50.000	1694.171
23000	243.240	242.658	0.582	0.864	50.000	7.000	302.400	241.285	240.961	240.923	2.184	2.213	2.317	13.000	17.634	15.317	50.000	1694.613
23050	243.292	242.765	0.527	0.555	50.000	7.000	194.192	241.498	241.011	241.014	2.118	2.151	2.278	13.000	17.557	15.278	50.000	1643.100
23100	243.370	242.376	0.994	0.761	50.000	7.000	266.175	241.138	241.105	241.102	2.255	2.186	2.267	13.000	17.535	15.267	50.000	1668.932
23150	243.466	242.464	1.002	0.998	50.000	7.000	349.183	241.560	241.203	241.081	2.185	2.220	2.385	13.000	17.771	15.385	50.000	1707.516
23200	243.554	242.858	0.696	0.849	50.000	7.000	297.092	241.957	241.194	241.065	2.149	2.167	2.489	13.000	17.979	15.489	50.000	1678.054
23250	243.596	242.743	0.853	0.774	50.000	7.000	271.075	241.937	241.191	241.061	2.199	2.174	2.534	13.000	18.069	15.534	50.000	1688.539
23300	243.624	242.898	0.726	0.789	50.000	7.000	276.267	242.204	241.208	241.042	2.139	2.169	2.582	13.000	18.164	15.532	50.000	1689.998
23350	243.743	242.436	1.307	1.017	50.000	7.000	355.775	242.043	241.127	240.991	2.356	2.248	2.752	13.000	18.505	15.752	50.000	1770.212
23400	243.836	242.913	0.923	1.115	50.000	7.000	390.367	242.036	241.112	240.952	2.470	2.413	2.884	13.000	18.769	15.884	50.000	1916.268
23450	243.833	242.897	0.936	0.930	50.000	7.000	325.383	242.237	241.285	240.972	2.335	2.402	2.861	13.000	18.722	15.861	50.000	1905.170
23500	243.868	242.843	1.025	0.980	50.000	7.000	343.117	242.151	241.184	240.992	2.425	2.380	2.875	13.000	18.751	15.875	50.000	1889.341
23550	243.889	242.833	1.056	1.040	50.000	7.000	364.058	241.905	241.269	241.048	2.481	2.453	2.841	13.000	18.681	15.841	50.000	1943.166
23600	243.666	242.839	0.827	0.941	50.000	7.000	329.467	241.931	241.297	241.077	2.230	2.356	2.588	13.000	18.177	15.588	50.000	1836.262
23650	243.809	242.681	1.128	0.977	50.000	7.000	342.067	241.896	241.301	241.083	2.382	2.306	2.726	13.000	18.451	15.726	50.000	1813.300

23700	243.921	243.072	0.849	0.988	50.000	7.000	345.917	241.756	241.283	241.067	2.552	2.467	2.854	13.000	18.708	15.854	50.000	1955.635
23750	243.885	243.070	0.815	0.832	50.000	7.000	291.200	242.145	241.174	240.983	2.451	2.502	2.902	13.000	18.805	15.902	50.000	1989.117
23800	243.906	242.645	1.260	1.038	50.000	7.000	363.183	242.146	241.656	241.316	2.200	2.325	2.590	13.000	18.179	15.590	50.000	1812.602
23850	243.905	243.031	0.874	1.067	50.000	7.000	373.508	242.355	241.725	241.406	2.076	2.138	2.499	13.000	17.998	15.499	50.000	1656.843
23900	243.968	243.073	0.895	0.884	50.000	7.000	309.517	242.441	241.826	241.564	2.024	2.050	2.404	13.000	17.808	15.404	50.000	1579.081
23950	243.966	243.102	0.864	0.879	50.000	7.000	307.767	242.535	241.991	241.725	1.883	1.953	2.241	13.000	17.483	15.241	50.000	1488.655
24000	243.890	243.079	0.810	0.837	50.000	7.000	293.008	242.560	242.076	241.761	1.757	1.820	2.129	13.000	17.257	15.129	50.000	1376.709
24050	243.842	243.087	0.755	0.783	50.000	7.000	273.992	242.610	242.127	241.653	1.712	1.735	2.190	13.000	17.379	15.190	50.000	1317.577
24100	243.791	242.996	0.796	0.776	50.000	7.000	271.425	242.535	241.787	241.656	1.799	1.756	2.135	13.000	17.271	15.135	50.000	1328.588
24150	243.840	243.061	0.779	0.788	50.000	7.000	275.625	242.382	241.804	241.745	1.863	1.831	2.095	13.000	17.191	15.095	50.000	1382.020
24200	243.941	242.976	0.965	0.872	50.000	7.000	305.317	242.078	241.896	241.837	2.004	1.934	2.104	13.000	17.209	15.104	50.000	1460.463
24250	244.012	243.155	0.857	0.911	50.000	7.000	318.908	242.121	242.011	241.951	1.984	1.994	2.061	13.000	17.122	15.061	50.000	1501.833
24300	244.052	243.276	0.776	0.817	50.000	7.000	285.775	242.244	242.134	242.074	1.901	1.943	1.978	13.000	16.956	14.978	50.000	1454.988
24350	244.188	243.140	1.048	0.912	50.000	7.000	319.200	242.408	242.307	242.244	1.868	1.885	1.943	13.000	16.887	14.943	50.000	1408.119
24400	244.337	243.569	0.769	0.908	50.000	7.000	317.917	242.843	242.434	242.413	1.774	1.821	1.924	13.000	16.849	14.924	50.000	1358.861
24450	244.351	243.549	0.801	0.785	50.000	7.000	274.750	243.103	242.493	242.476	1.660	1.717	1.875	13.000	16.750	14.875	50.000	1277.143
24500	244.299	243.256	1.043	0.922	50.000	7.000	322.817	242.926	242.534	242.516	1.640	1.650	1.783	13.000	16.566	14.783	50.000	1219.803

24550	243.976	243.265	0.711	0.877	50.000	7.000	306.950	242.739	242.569	242.550	1.356	1.498	1.426	13.000	15.851	14.426	50.000	1080.723
24600	243.798	243.204	0.594	0.652	50.000	7.000	228.317	242.635	242.606	242.586	1.189	1.272	1.212	13.000	15.423	14.212	50.000	904.217
24650	243.789	242.993	0.796	0.695	50.000	7.000	243.250	242.676	242.643	242.623	1.142	1.165	1.166	13.000	15.332	14.166	50.000	825.288
24700	243.780	242.861	0.919	0.858	50.000	7.000	300.125	242.716	242.680	242.661	1.095	1.118	1.119	13.000	15.239	14.119	50.000	789.349
24750	244.113	243.559	0.554	0.737	50.000	7.000	257.775	242.768	242.736	242.715	1.373	1.234	1.398	13.000	15.796	14.398	50.000	888.357
24800	244.264	243.375	0.889	0.722	50.000	7.000	252.525	242.818	242.790	242.770	1.471	1.422	1.494	13.000	15.988	14.494	50.000	1030.805
24850	244.312	243.231	1.081	0.985	50.000	7.000	344.750	242.864	242.837	242.817	1.473	1.472	1.495	13.000	15.990	14.495	50.000	1066.832
24900	244.276	243.212	1.065	1.073	50.000	7.000	375.492	242.931	242.881	242.861	1.385	1.429	1.415	13.000	15.831	14.415	50.000	1029.976
24950	244.198	243.310	0.888	0.977	50.000	7.000	341.775	243.030	242.927	242.907	1.243	1.314	1.291	13.000	15.582	14.291	50.000	939.157
25000	244.043	243.413	0.630	0.759	50.000	7.000	265.650	243.112	242.970	242.951	1.032	1.138	1.092	13.000	15.185	14.092	50.000	801.658
25050	244.242	243.585	0.658	0.644	50.000	7.000	225.283	243.242	243.016	242.996	1.158	1.095	1.246	13.000	15.493	14.246	50.000	779.908
25100	244.442	243.734	0.708	0.683	50.000	7.000	238.933	243.334	242.969	243.021	1.334	1.246	1.421	13.000	15.842	14.421	50.000	898.308
25150	244.641	243.753	0.889	0.798	50.000	7.000	279.358	243.298	242.861	242.919	1.615	1.475	1.722	13.000	16.445	14.722	50.000	1085.527
25200	244.804	243.719	1.084	0.986	50.000	7.000	345.275	243.261	242.806	242.811	1.844	1.730	1.993	13.000	16.985	14.993	50.000	1296.782
25250	244.496	243.690	0.806	0.945	50.000	7.000	330.750	243.224	242.769	242.703	1.597	1.721	1.793	13.000	16.585	14.793	50.000	1272.704
25300	244.036	243.389	0.648	0.727	50.000	7.000	254.333	243.113	242.656	242.611	1.243	1.420	1.425	13.000	15.851	14.425	50.000	1024.199
25350	243.735	243.123	0.612	0.630	50.000	7.000	220.500	242.835	242.547	242.512	1.104	1.173	1.223	13.000	15.446	14.223	50.000	834.456

25400	243.781	243.289	0.492	0.552	50.000	7.000	193.258	242.932	242.394	242.500	1.172	1.138	1.281	13.000	15.562	14.281	50.000	812.629
25450	243.747	243.107	0.640	0.566	50.000	7.000	198.100	242.569	242.475	242.577	1.207	1.189	1.170	13.000	15.339	14.170	50.000	842.702
25500	243.726	243.271	0.455	0.547	50.000	7.000	191.567	242.323	242.729	242.581	1.181	1.194	1.145	13.000	15.290	14.145	50.000	844.457
25550	243.879	242.878	1.001	0.728	50.000	7.000	254.742	242.801	242.587	242.551	1.233	1.207	1.328	13.000	15.656	14.328	50.000	864.735
25600	244.033	243.222	0.811	0.906	50.000	7.000	317.042	242.880	242.622	242.583	1.338	1.285	1.449	13.000	15.899	14.449	50.000	928.490
25650	244.194	243.661	0.533	0.672	50.000	7.000	235.142	242.995	242.759	242.639	1.396	1.367	1.555	13.000	16.110	14.555	50.000	994.875
25700	244.181	243.512	0.669	0.601	50.000	7.000	210.292	243.412	242.872	242.746	1.171	1.284	1.435	13.000	15.870	14.435	50.000	926.406
25750	243.050	242.347	0.703	0.686	50.000	7.000	240.042	242.165	242.959	242.785	0.414	0.792	0.265	13.000	13.529	13.265	50.000	525.354
25800	243.486	243.242	0.244	0.474	50.000	7.000	165.783	243.213	242.719	242.790	0.579	0.496	0.696	13.000	14.392	13.696	50.000	339.699
25850	243.466	243.099	0.367	0.306	50.000	7.000	107.042	242.998	242.861	242.768	0.590	0.585	0.698	13.000	14.397	13.698	50.000	400.334
25900	243.947	243.205	0.742	0.555	50.000	7.000	194.192	243.123	243.039	242.949	0.910	0.750	0.998	13.000	14.996	13.998	50.000	525.158
25950	243.852	243.182	0.670	0.706	50.000	7.000	247.217	243.050	242.900	242.832	0.925	0.918	1.020	13.000	15.040	14.020	50.000	643.206
26000	243.385	243.055	0.330	0.500	50.000	7.000	175.000	242.899	242.772	242.700	0.594	0.760	0.685	13.000	14.370	13.685	50.000	519.764
26050	243.620	242.995	0.625	0.477	50.000	7.000	167.008	242.718	242.579	242.506	1.019	0.806	1.114	13.000	15.227	14.114	50.000	569.094
26100	243.723	242.959	0.764	0.694	50.000	7.000	242.958	242.520	242.382	242.275	1.331	1.175	1.448	13.000	15.897	14.448	50.000	848.639
26150	243.738	242.526	1.212	0.988	50.000	7.000	345.683	242.394	242.095	241.961	1.588	1.459	1.777	13.000	16.553	14.777	50.000	1078.286
26200	243.721	242.785	0.936	1.074	50.000	7.000	375.842	242.208	241.740	241.605	1.870	1.729	2.116	13.000	17.233	15.116	50.000	1306.807

4150	235.681	235.063	0.618	0.769	50.000	7.000	269.267	234.581	234.098	234.011	1.451	1.556	1.670	13.000	16.340	14.670	50.000	1141.652
4200	235.993	234.835	1.158	0.888	50.000	7.000	310.800	234.465	234.012	233.906	1.865	1.658	2.087	13.000	17.173	15.087	50.000	1250.643
4250	235.837	234.943	0.893	1.026	50.000	7.000	358.983	234.243	233.998	233.674	1.865	1.865	2.163	13.000	17.325	15.163	50.000	1413.919
4300	235.658	234.669	0.989	0.941	50.000	7.000	329.350	233.890	233.819	233.695	1.856	1.861	1.963	13.000	16.925	14.963	50.000	1392.027
4350	235.774	234.930	0.843	0.916	50.000	7.000	320.600	234.252	233.932	233.803	1.778	1.817	1.971	13.000	16.941	14.971	50.000	1360.210
4400	235.918	235.034	0.884	0.864	50.000	7.000	302.225	234.510	233.994	233.899	1.783	1.781	2.018	13.000	17.037	15.018	50.000	1337.132
4450	236.069	235.076	0.993	0.938	50.000	7.000	328.417	234.547	234.117	233.972	1.857	1.820	2.096	13.000	17.193	15.096	50.000	1373.766
4500	236.119	234.990	1.129	1.061	50.000	7.000	371.292	234.319	234.258	234.051	1.909	1.883	2.068	13.000	17.136	15.068	50.000	1418.694
4550	236.102	235.284	0.818	0.973	50.000	7.000	340.667	234.794	234.270	234.282	1.653	1.781	1.820	13.000	16.639	14.820	50.000	1319.938
4600	236.091	235.518	0.573	0.696	50.000	7.000	243.425	234.734	234.968	235.068	1.168	1.411	1.023	13.000	15.047	14.023	50.000	989.112
4650	235.799	235.027	0.772	0.673	50.000	7.000	235.375	234.696	234.522	234.688	1.164	1.166	1.111	13.000	15.221	14.111	50.000	822.534
4700	236.004	234.770	1.234	1.003	50.000	7.000	351.108	234.318	234.236	234.327	1.710	1.437	1.677	13.000	16.353	14.677	50.000	1054.437
4750	235.860	235.180	0.680	0.957	50.000	7.000	335.067	234.815	234.450	234.350	1.322	1.516	1.510	13.000	16.020	14.510	50.000	1099.777
4800	235.919	235.237	0.681	0.681	50.000	7.000	238.292	234.991	234.536	234.472	1.252	1.287	1.447	13.000	15.893	14.447	50.000	929.603
4850	236.036	235.370	0.666	0.674	50.000	7.000	235.842	234.950	234.690	234.580	1.296	1.274	1.456	13.000	15.912	14.456	50.000	921.008
4900	236.087	235.421	0.666	0.666	50.000	7.000	233.217	235.059	234.750	234.592	1.287	1.291	1.495	13.000	15.990	14.495	50.000	935.974
4950	236.107	235.458	0.649	0.658	50.000	7.000	230.183	235.302	235.124	234.956	0.979	1.133	1.150	13.000	15.301	14.150	50.000	801.577

5000	237.990	237.230	0.760	0.704	50.000	7.000	246.575	236.898	236.467	235.850	1.585	1.282	2.140	13.000	17.281	15.140	50.000	970.537
5050	236.533	235.914	0.619	0.690	50.000	7.000	241.383	235.575	235.652	235.792	0.860	1.222	0.741	13.000	14.481	13.741	50.000	839.822
5100	236.142	235.521	0.621	0.620	50.000	7.000	217.058	235.117	235.130	235.099	1.027	0.943	1.043	13.000	15.086	14.043	50.000	662.283
5150	236.227	235.653	0.574	0.598	50.000	7.000	209.183	235.124	235.042	234.992	1.174	1.101	1.235	13.000	15.470	14.235	50.000	783.281
5200	236.285	235.490	0.795	0.685	50.000	7.000	239.575	234.909	234.890	235.093	1.321	1.248	1.192	13.000	15.384	14.192	50.000	885.305
5250	236.081	235.352	0.729	0.762	50.000	7.000	266.583	235.179	235.482	235.682	0.634	0.977	0.399	13.000	13.799	13.399	50.000	654.706
5300	236.447	235.151	1.296	1.012	50.000	7.000	354.317	235.761	235.342	234.650	1.196	0.915	1.797	13.000	16.594	14.797	50.000	676.798
5350	236.536	235.704	0.832	1.064	50.000	7.000	372.400	235.479	234.714	234.894	1.507	1.352	1.642	13.000	16.284	14.642	50.000	989.555
5400	236.175	235.272	0.903	0.868	50.000	7.000	303.683	234.652	234.989	235.170	1.239	1.373	1.006	13.000	15.011	14.006	50.000	961.450
5450	236.142	235.255	0.887	0.895	50.000	7.000	313.367	235.254	235.131	235.321	0.907	1.073	0.821	13.000	14.642	13.821	50.000	741.266
5500	236.361	235.469	0.892	0.890	50.000	7.000	311.383	235.065	235.528	235.549	0.980	0.944	0.812	13.000	14.625	13.812	50.000	651.635
5550	236.418	235.485	0.933	0.912	50.000	7.000	319.375	235.281	235.603	235.758	0.870	0.925	0.660	13.000	14.319	13.660	50.000	632.025
5600	236.496	235.331	1.164	1.049	50.000	7.000	367.033	235.096	234.862	234.976	1.518	1.194	1.520	13.000	16.039	14.520	50.000	866.905
5650	236.463	235.326	1.137	1.151	50.000	7.000	402.792	235.118	234.894	235.208	1.390	1.454	1.255	13.000	15.511	14.255	50.000	1036.204
5700	236.254	235.125	1.128	1.133	50.000	7.000	396.492	235.274	235.144	235.909	0.811	1.101	0.345	13.000	13.689	13.345	50.000	734.364
5750	235.893	235.223	0.671	0.900	50.000	7.000	314.825	235.064	235.912	235.893	0.270	0.541	0.000	13.000	13.001	13.000	50.000	351.623
5800	236.150	235.361	0.789	0.730	50.000	7.000	255.442	235.943	235.906	235.885	0.238	0.254	0.265	13.000	13.529	13.265	50.000	168.756

5850	236.401	235.725	0.676	0.733	50.000	7.000	256.433	235.869	235.947	235.927	0.487	0.363	0.474	13.000	13.948	13.474	50.000	244.329
5900	236.495	235.561	0.934	0.805	50.000	7.000	281.808	235.543	235.892	235.931	0.706	0.597	0.564	13.000	14.128	13.564	50.000	404.659
5950	236.589	235.692	0.897	0.916	50.000	7.000	320.483	235.146	235.693	235.886	1.014	0.860	0.703	13.000	14.407	13.703	50.000	589.472
6000	236.292	234.769	1.523	1.210	50.000	7.000	423.558	235.258	235.682	235.865	0.691	0.852	0.427	13.000	13.855	13.427	50.000	572.265
6050	236.285	234.367	1.918	1.721	50.000	7.000	602.233	235.198	235.577	235.784	0.765	0.728	0.501	13.000	14.002	13.501	50.000	491.436
6100	236.624	234.760	1.864	1.891	50.000	7.000	661.850	234.316	235.052	235.245	1.753	1.259	1.379	13.000	15.758	14.379	50.000	905.198
6150	236.435	235.823	0.612	1.238	50.000	7.000	433.300	234.844	234.860	235.053	1.516	1.635	1.382	13.000	15.764	14.382	50.000	1175.369
6200	236.673	235.835	0.838	0.725	50.000	7.000	253.750	236.996	236.728	235.383	0.304	0.910	1.290	13.000	15.579	14.290	50.000	650.220
6250	236.709	236.907	-0.198	0.320	50.000	7.000	111.883	237.515	236.600	236.779	-0.256	0.024	-0.070	13.000	12.859	12.930	50.000	15.444
6300	237.119	236.444	0.675	0.239	50.000	7.000	83.475	237.696	236.805	236.002	0.285	0.015	1.117	13.000	15.235	14.117	50.000	10.235
6350	237.330	236.792	0.538	0.607	50.000	7.000	212.333	236.321	236.950	238.860	-0.047	0.119	-1.530	13.000	9.939	11.470	50.000	68.213
6400	237.191	236.238	0.953	0.745	50.000	7.000	260.867	236.630	237.100	237.600	0.081	0.017	-0.409	13.000	12.181	12.591	50.000	10.562
6450	236.643	236.601	0.042	0.498	50.000	7.000	174.125	236.700	236.505	236.605	0.040	0.060	0.038	13.000	13.077	13.038	50.000	39.332
6500	239.389	238.445	0.945	0.494	50.000	7.000	172.725	238.169	238.062	238.031	1.302	0.671	1.358	13.000	15.717	14.358	50.000	481.722
6550	237.097	236.426	0.671	0.808	50.000	7.000	282.742	237.200	237.106	237.080	-0.032	0.635	0.017	13.000	13.034	13.017	50.000	413.398
6600	235.664	235.849	-0.185	0.243	50.000	7.000	85.108	235.706	235.509	235.604	0.058	0.013	0.060	13.000	13.120	13.060	50.000	8.489
6650	235.670	235.801	-0.132	-0.158	50.000	7.000	-55.358	235.601	235.807	235.570	0.010	0.034	0.100	13.000	13.199	13.100	50.000	22.269

6700	235.853	235.930	-0.077	-0.104	50.000	7.000	-36.575	235.969	235.767	235.785	0.013	0.012	0.068	13.000	13.136	13.068	50.000	7.514
6750	236.450	236.046	0.404	0.163	50.000	7.000	57.167	235.918	235.795	235.725	0.637	0.325	0.725	13.000	14.450	13.725	50.000	222.955
6800	237.535	237.131	0.404	0.404	50.000	7.000	141.458	237.003	236.881	236.810	0.637	0.637	0.725	13.000	14.451	13.725	50.000	437.304
6850	237.839	237.940	-0.101	0.152	50.000	7.000	53.025	236.852	235.696	235.527	1.814	1.226	2.312	13.000	17.624	15.312	50.000	938.328
6900	237.450	237.099	0.351	0.125	50.000	7.000	43.750	236.941	237.271	237.348	0.264	1.039	0.102	13.000	13.205	13.102	50.000	680.521
6950	236.720	236.208	0.512	0.432	50.000	7.000	151.083	236.032	237.104	237.064	-0.013	0.125	-0.344	13.000	12.312	12.656	50.000	79.205
7000	236.183	235.874	0.309	0.411	50.000	7.000	143.675	235.897	235.951	235.918	0.261	0.124	0.265	13.000	13.530	13.265	50.000	82.169
7050	236.942	236.425	0.517	0.413	50.000	7.000	144.608	235.882	235.827	235.791	1.109	0.685	1.151	13.000	15.303	14.151	50.000	484.722
7100	238.150	236.337	1.812	1.165	50.000	7.000	407.692	236.051	235.758	235.724	2.305	1.707	2.426	13.000	17.851	15.426	50.000	1316.709
7150	238.069	236.386	1.683	1.748	50.000	7.000	611.683	235.921	235.831	235.659	2.266	2.286	2.410	13.000	17.821	15.410	50.000	1761.016
7200	236.906	237.771	-0.865	0.409	50.000	7.000	143.208	236.175	235.623	235.614	1.102	1.684	1.292	13.000	15.584	14.292	50.000	1203.267
7250	236.922	235.889	1.033	0.084	50.000	7.000	29.400	235.438	235.530	235.576	1.407	1.254	1.345	13.000	15.691	14.345	50.000	899.731
7300	236.578	235.740	0.838	0.935	50.000	7.000	327.308	235.284	235.348	235.395	1.235	1.321	1.183	13.000	15.366	14.183	50.000	936.866
7350	236.461	235.574	0.887	0.862	50.000	7.000	301.875	235.188	235.235	235.272	1.229	1.232	1.189	13.000	15.378	14.189	50.000	874.318
7400	236.402	235.344	1.058	0.972	50.000	7.000	340.375	235.057	235.119	235.142	1.296	1.263	1.260	13.000	15.520	14.260	50.000	900.281
7450	236.393	235.329	1.064	1.061	50.000	7.000	371.292	234.967	234.806	235.023	1.461	1.378	1.370	13.000	15.739	14.370	50.000	990.310
7500	236.221	235.079	1.142	1.103	50.000	7.000	385.992	234.895	234.835	234.909	1.341	1.401	1.312	13.000	15.624	14.312	50.000	1002.556

7550	235.860	235.275	0.585	0.864	50.000	7.000	302.225	235.062	235.181	235.144	0.732	1.037	0.720	13.000	14.441	13.720	50.000	711.323
7600	234.781	235.058	-0.277	0.154	50.000	7.000	53.900	234.608	234.800	234.600	0.111	0.422	0.181	13.000	13.361	13.181	50.000	278.039
7650	235.714	235.465	0.249	-0.014	50.000	7.000	-4.958	235.756	235.985	235.262	0.046	0.079	0.452	13.000	13.904	13.452	50.000	53.023
7700	236.248	235.162	1.086	0.668	50.000	7.000	233.625	234.906	234.675	234.638	1.508	0.777	1.610	13.000	16.221	14.610	50.000	567.896
7750	236.316	235.566	0.750	0.918	50.000	7.000	321.358	234.935	234.835	234.805	1.458	1.483	1.511	13.000	16.022	14.511	50.000	1076.031
7800	236.350	235.474	0.876	0.813	50.000	7.000	284.667	234.930	234.923	234.911	1.429	1.443	1.439	13.000	15.878	14.439	50.000	1041.894
7850	236.444	235.540	0.905	0.891	50.000	7.000	311.675	234.989	234.982	234.932	1.477	1.453	1.512	13.000	16.025	14.512	50.000	1054.079
7900	236.598	235.329	1.269	1.087	50.000	7.000	380.333	234.873	234.951	234.924	1.682	1.579	1.674	13.000	16.347	14.674	50.000	1158.690
7950	235.978	235.320	0.658	0.963	50.000	7.000	337.225	235.046	234.859	234.802	1.076	1.379	1.176	13.000	15.351	14.176	50.000	977.215
8000	236.153	234.991	1.162	0.910	50.000	7.000	318.500	234.801	234.695	234.639	1.441	1.258	1.514	13.000	16.028	14.514	50.000	913.213
8050	236.343	235.224	1.119	1.140	50.000	7.000	399.117	234.924	234.518	234.462	1.708	1.575	1.881	13.000	16.762	14.881	50.000	1171.755
8100	236.410	235.621	0.789	0.954	50.000	7.000	333.958	234.952	234.849	234.594	1.612	1.660	1.816	13.000	16.632	14.816	50.000	1229.769
8150	236.325	235.512	0.813	0.801	50.000	7.000	280.350	235.208	235.013	234.911	1.281	1.446	1.414	13.000	15.827	14.414	50.000	1042.348
8200	236.327	234.686	1.642	1.227	50.000	7.000	429.508	235.132	235.107	234.954	1.263	1.272	1.373	13.000	15.747	14.373	50.000	914.144
8250	236.208	234.977	1.230	1.436	50.000	7.000	502.600	235.481	235.085	234.641	1.139	1.201	1.567	13.000	16.133	14.567	50.000	874.607
8300	236.207	235.791	0.416	0.823	50.000	7.000	288.050	235.441	234.966	234.675	1.179	1.159	1.532	13.000	16.064	14.532	50.000	842.170
8350	236.325	235.769	0.556	0.486	50.000	7.000	170.042	234.470	235.005	234.801	1.566	1.373	1.523	13.000	16.047	14.523	50.000	996.744

9250	237.362	236.431	0.931	0.788	50.000	7.000	275.625	236.195	236.133	236.037	1.240	1.117	1.325	13.000	15.650	14.325	50.000	800.131
9300	237.832	237.093	0.740	0.835	50.000	7.000	292.308	236.785	236.434	236.369	1.303	1.272	1.463	13.000	15.927	14.463	50.000	919.547
9350	238.108	237.427	0.681	0.710	50.000	7.000	248.617	237.113	236.875	236.847	1.163	1.233	1.261	13.000	15.521	14.261	50.000	879.012
9400	238.279	237.741	0.539	0.610	50.000	7.000	213.442	237.625	237.580	237.218	0.805	0.984	1.061	13.000	15.123	14.061	50.000	691.700
9450	239.316	238.620	0.695	0.617	50.000	7.000	215.950	237.944	237.219	236.649	2.045	1.425	2.667	13.000	18.333	15.667	50.000	1116.206
9500	239.864	239.002	0.862	0.779	50.000	7.000	272.533	238.909	238.816	238.207	1.220	1.633	1.657	13.000	16.314	14.657	50.000	1196.418
9550	239.177	238.602	0.574	0.718	50.000	7.000	251.358	238.467	238.395	238.086	0.861	1.040	1.090	13.000	15.181	14.090	50.000	732.971
9600	238.637	238.115	0.522	0.548	50.000	7.000	191.858	238.030	237.796	237.789	0.765	0.813	0.848	13.000	14.696	13.848	50.000	562.883
9650	238.150	237.457	0.693	0.608	50.000	7.000	212.683	237.109	237.024	237.020	1.099	0.932	1.130	13.000	15.260	14.130	50.000	658.576
9700	237.547	236.675	0.872	0.782	50.000	7.000	273.875	236.569	236.478	236.385	1.070	1.084	1.162	13.000	15.325	14.162	50.000	767.874
9750	237.289	236.361	0.928	0.900	50.000	7.000	314.942	236.385	236.190	236.060	1.077	1.074	1.229	13.000	15.459	14.229	50.000	763.839
9800	237.115	236.393	0.721	0.825	50.000	7.000	288.633	236.161	236.047	235.913	1.074	1.076	1.201	13.000	15.403	14.201	50.000	763.953
9850	236.974	236.267	0.708	0.715	50.000	7.000	250.075	235.764	235.954	235.820	1.128	1.101	1.155	13.000	15.309	14.155	50.000	779.450
9900	236.991	236.158	0.833	0.771	50.000	7.000	269.675	235.887	235.672	235.734	1.227	1.178	1.257	13.000	15.514	14.257	50.000	839.381
9950	236.961	236.181	0.780	0.807	50.000	7.000	282.392	235.712	235.990	235.747	1.145	1.186	1.214	13.000	15.428	14.214	50.000	842.653
10000	236.815	236.378	0.437	0.609	50.000	7.000	213.033	236.132	235.797	235.545	0.990	1.067	1.270	13.000	15.540	14.270	50.000	761.622
10050	236.631	235.990	0.641	0.539	50.000	7.000	188.708	235.585	235.179	235.059	1.357	1.174	1.572	13.000	16.144	14.572	50.000	855.053

10100	236.715	236.127	0.588	0.614	50.000	7.000	215.075	235.823	235.416	235.196	1.236	1.297	1.519	13.000	16.037	14.519	50.000	941.253
10150	236.871	236.257	0.614	0.601	50.000	7.000	210.233	235.979	235.601	235.382	1.217	1.227	1.489	13.000	15.978	14.489	50.000	888.578
10200	236.976	236.290	0.686	0.650	50.000	7.000	227.442	235.988	235.673	235.572	1.232	1.224	1.404	13.000	15.809	14.404	50.000	881.745
10250	237.029	236.270	0.758	0.722	50.000	7.000	252.758	235.967	235.754	235.666	1.233	1.232	1.363	13.000	15.726	14.363	50.000	885.080
10300	237.110	236.359	0.751	0.755	50.000	7.000	264.192	235.999	236.061	235.933	1.113	1.173	1.178	13.000	15.355	14.178	50.000	831.441
10350	237.203	236.477	0.726	0.739	50.000	7.000	258.475	236.158	235.931	235.809	1.237	1.175	1.394	13.000	15.789	14.394	50.000	845.627
10400	237.375	236.577	0.798	0.762	50.000	7.000	266.642	236.139	235.931	235.751	1.435	1.336	1.624	13.000	16.249	14.624	50.000	976.865
10450	237.120	236.482	0.638	0.718	50.000	7.000	251.358	236.179	235.891	235.747	1.181	1.308	1.373	13.000	15.746	14.373	50.000	939.914
10500	237.283	236.487	0.796	0.717	50.000	7.000	250.950	236.305	236.038	235.894	1.204	1.192	1.389	13.000	15.777	14.389	50.000	857.804
10550	237.319	236.556	0.763	0.779	50.000	7.000	272.767	236.202	235.993	235.919	1.281	1.242	1.400	13.000	15.800	14.400	50.000	894.360
10600	237.247	236.622	0.625	0.694	50.000	7.000	242.900	235.798	235.760	235.740	1.481	1.381	1.507	13.000	16.014	14.507	50.000	1001.547
10650	237.204	236.287	0.917	0.771	50.000	7.000	269.908	235.574	235.158	235.440	1.814	1.647	1.764	13.000	16.529	14.764	50.000	1216.048
10700	237.318	236.327	0.991	0.954	50.000	7.000	333.900	235.956	235.772	235.599	1.542	1.678	1.719	13.000	16.437	14.719	50.000	1234.773
10750	237.280	236.390	0.890	0.940	50.000	7.000	329.117	236.117	235.771	235.585	1.456	1.499	1.695	13.000	16.391	14.695	50.000	1101.334
10800	237.272	236.400	0.872	0.881	50.000	7.000	308.408	235.941	235.531	235.441	1.634	1.545	1.831	13.000	16.662	14.831	50.000	1145.818
10850	237.318	236.400	0.918	0.895	50.000	7.000	313.250	236.081	235.824	235.793	1.419	1.527	1.525	13.000	16.050	14.525	50.000	1108.661
10900	237.381	236.475	0.905	0.912	50.000	7.000	319.025	235.992	235.699	235.569	1.628	1.523	1.812	13.000	16.624	14.812	50.000	1128.016

10950	237.318	236.506	0.812	0.859	50.000	7.000	300.533	236.087	235.593	235.420	1.618	1.623	1.898	13.000	16.797	14.898	50.000	1208.917
11000	237.208	236.449	0.759	0.786	50.000	7.000	274.983	236.006	235.589	235.336	1.564	1.591	1.872	13.000	16.744	14.872	50.000	1183.274
11050	237.162	236.514	0.648	0.704	50.000	7.000	246.342	236.067	235.493	235.241	1.562	1.563	1.921	13.000	16.843	14.921	50.000	1166.268
11100	237.186	236.766	0.420	0.534	50.000	7.000	186.958	236.221	235.643	235.182	1.504	1.533	2.004	13.000	17.008	15.004	50.000	1150.140
11150	237.304	236.653	0.651	0.536	50.000	7.000	187.425	236.343	236.054	235.990	1.175	1.340	1.314	13.000	15.628	14.314	50.000	958.760
11200	237.275	236.580	0.695	0.673	50.000	7.000	235.550	236.409	236.023	236.045	1.116	1.145	1.230	13.000	15.459	14.230	50.000	814.925
11250	237.337	236.628	0.709	0.702	50.000	7.000	245.758	236.278	236.259	236.246	1.076	1.096	1.091	13.000	15.182	14.091	50.000	772.069
11300	237.435	236.795	0.639	0.674	50.000	7.000	236.017	236.281	236.239	236.316	1.156	1.116	1.119	13.000	15.237	14.119	50.000	787.782
11350	237.475	236.651	0.824	0.732	50.000	7.000	256.083	236.523	236.401	236.164	1.112	1.134	1.311	13.000	15.621	14.311	50.000	811.375
11400	237.488	236.834	0.654	0.739	50.000	7.000	258.708	236.313	236.222	236.077	1.284	1.198	1.411	13.000	15.822	14.411	50.000	863.219
11450	237.335	236.788	0.547	0.601	50.000	7.000	210.292	236.461	236.288	236.067	1.063	1.174	1.268	13.000	15.536	14.268	50.000	837.175
11500	237.461	236.790	0.671	0.609	50.000	7.000	213.208	236.559	236.342	236.157	1.108	1.086	1.304	13.000	15.607	14.304	50.000	776.332
11550	237.590	236.793	0.797	0.734	50.000	7.000	256.900	236.323	236.429	236.299	1.240	1.174	1.291	13.000	15.583	14.291	50.000	838.822
11600	237.621	236.760	0.861	0.829	50.000	7.000	290.150	236.622	236.458	236.369	1.138	1.189	1.252	13.000	15.504	14.252	50.000	847.242
11650	237.652	236.827	0.824	0.843	50.000	7.000	294.933	236.500	236.474	236.386	1.198	1.168	1.266	13.000	15.532	14.266	50.000	833.333
11700	237.641	236.823	0.818	0.821	50.000	7.000	287.408	236.517	236.458	236.483	1.155	1.177	1.158	13.000	15.317	14.158	50.000	833.139
11750	237.608	236.843	0.765	0.791	50.000	7.000	277.025	236.580	236.557	236.612	1.025	1.090	0.996	13.000	14.992	13.996	50.000	762.938

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11800	237.614	236.271	1.343	1.054	50.000	7.000	368.958	236.595	236.609	236.610	1.003	1.014	0.984	13.000	14.969	13.984	50.000	709.083
11850	237.626	236.898	0.728	1.036	50.000	7.000	362.425	236.565	236.721	236.690	0.967	0.985	0.936	13.000	14.872	13.936	50.000	686.503
11900	237.562	236.960	0.602	0.665	50.000	7.000	232.692	236.901	236.786	236.734	0.755	0.861	0.828	13.000	14.656	13.828	50.000	595.411
11950	237.705	237.154	0.551	0.577	50.000	7.000	201.775	236.432	236.338	236.680	1.222	0.988	1.025	13.000	15.049	14.025	50.000	693.013
12000	237.947	237.043	0.904	0.727	50.000	7.000	254.567	235.631	236.415	236.807	1.662	1.442	1.139	13.000	15.279	14.139	50.000	1019.367
12050	237.798	236.133	1.665	1.285	50.000	7.000	449.575	236.632	236.879	236.806	1.026	1.344	0.992	13.000	14.983	13.992	50.000	940.201
12100	237.711	236.997	0.714	1.190	50.000	7.000	416.325	236.747	236.882	236.809	0.898	0.962	0.902	13.000	14.803	13.902	50.000	668.632
12150	237.683	237.085	0.598	0.656	50.000	7.000	229.600	236.903	236.893	236.831	0.807	0.853	0.852	13.000	14.703	13.852	50.000	590.543
12200	237.664	237.016	0.648	0.623	50.000	7.000	218.108	236.770	236.870	236.923	0.810	0.808	0.741	13.000	14.482	13.741	50.000	555.404
12250	237.669	237.255	0.414	0.531	50.000	7.000	185.792	237.179	237.172	237.157	0.499	0.654	0.512	13.000	14.023	13.512	50.000	442.169
12300	238.263	237.567	0.696	0.555	50.000	7.000	194.192	237.349	237.306	237.292	0.947	0.723	0.971	13.000	14.942	13.971	50.000	505.284
12350	238.605	237.844	0.761	0.729	50.000	7.000	255.033	237.453	237.370	237.173	1.273	1.110	1.432	13.000	15.863	14.432	50.000	801.038
12400	239.130	238.178	0.952	0.857	50.000	7.000	299.833	237.391	237.234	237.108	1.886	1.579	2.022	13.000	17.044	15.022	50.000	1186.237
12450	239.177	238.369	0.808	0.880	50.000	7.000	308.000	237.204	236.683	236.634	2.337	2.111	2.543	13.000	18.087	15.543	50.000	1640.815
12500	238.725	238.208	0.517	0.662	50.000	7.000	231.817	237.717	237.312	237.313	1.277	1.807	1.412	13.000	15.824	14.412	50.000	1302.204
12550	238.162	236.217	1.946	1.231	50.000	7.000	430.908	236.124	237.305	237.357	1.234	1.256	0.805	13.000	14.610	13.805	50.000	866.609
12600	237.983	236.604	1.379	1.663	50.000	7.000	581.875	236.201	237.291	237.412	1.015	1.124	0.571	13.000	14.142	13.571	50.000	762.879

26250	243.740	242.754	0.986	0.961	50.000	7.000	336.292	242.199	241.578	241.467	1.992	1.931	2.273	13.000	17.546	15.273	50.000	1474.566
26300	243.805	242.484	1.321	1.153	50.000	7.000	403.667	241.926	241.598	241.422	2.156	2.074	2.383	13.000	17.766	15.383	50.000	1595.174
26350	243.799	242.631	1.168	1.245	50.000	7.000	435.575	241.982	241.656	241.480	2.093	2.124	2.319	13.000	17.638	15.319	50.000	1627.218
26400	243.763	242.758	1.005	1.086	50.000	7.000	380.217	242.255	241.704	241.489	1.947	2.020	2.274	13.000	17.548	15.274	50.000	1542.589
26450	243.665	242.735	0.930	0.967	50.000	7.000	338.508	242.379	241.772	241.513	1.777	1.862	2.152	13.000	17.304	15.152	50.000	1410.525
26500	243.821	243.162	0.660	0.795	50.000	7.000	278.133	242.828	242.376	241.974	1.429	1.603	1.847	13.000	16.694	14.847	50.000	1189.781
26550	243.755	242.983	0.773	0.716	50.000	7.000	250.658	242.422	242.028	241.981	1.612	1.520	1.774	13.000	16.549	14.774	50.000	1122.972
26600	243.705	242.821	0.884	0.828	50.000	7.000	289.917	242.358	242.273	242.227	1.419	1.515	1.478	13.000	15.955	14.478	50.000	1096.804
26650	243.690	243.163	0.527	0.706	50.000	7.000	246.925	242.951	242.712	242.507	0.967	1.193	1.184	13.000	15.367	14.184	50.000	845.938
26700	243.634	243.049	0.586	0.556	50.000	7.000	194.717	242.849	242.582	242.403	1.023	0.995	1.232	13.000	15.463	14.232	50.000	708.025
26750	243.712	243.004	0.708	0.647	50.000	7.000	226.333	242.669	242.332	242.315	1.273	1.148	1.397	13.000	15.795	14.397	50.000	826.527
26800	243.901	242.791	1.110	0.909	50.000	7.000	318.150	242.445	242.109	242.322	1.609	1.441	1.579	13.000	16.158	14.579	50.000	1050.579
26850	243.950	242.949	1.001	1.056	50.000	7.000	369.483	242.315	242.146	242.382	1.669	1.639	1.568	13.000	16.135	14.568	50.000	1193.780
26900	243.987	243.216	0.771	0.886	50.000	7.000	310.158	243.057	242.526	242.532	1.282	1.476	1.455	13.000	15.910	14.455	50.000	1066.418
26950	244.141	243.434	0.707	0.739	50.000	7.000	258.767	242.925	242.808	242.882	1.270	1.276	1.260	13.000	15.519	14.260	50.000	909.767
27000	244.183	243.429	0.754	0.731	50.000	7.000	255.675	243.149	243.062	242.952	1.129	1.199	1.231	13.000	15.462	14.231	50.000	853.307
27050	244.200	243.275	0.925	0.840	50.000	7.000	293.825	243.050	242.873	242.779	1.299	1.214	1.421	13.000	15.841	14.421	50.000	875.254

27100	244.185	243.274	0.911	0.918	50.000	7.000	321.417	242.837	242.629	242.525	1.521	1.410	1.660	13.000	16.320	14.660	50.000	1033.693
27150	244.032	243.742	0.290	0.600	50.000	7.000	210.175	243.968	243.756	243.695	0.225	0.873	0.337	13.000	13.673	13.337	50.000	582.368
27200	244.125	243.629	0.496	0.393	50.000	7.000	137.492	243.802	243.764	243.860	0.317	0.271	0.266	13.000	13.531	13.266	50.000	179.823
27250	244.320	243.477	0.843	0.669	50.000	7.000	234.267	243.656	243.835	243.931	0.512	0.415	0.389	13.000	13.777	13.389	50.000	277.592
27300	244.471	243.493	0.978	0.910	50.000	7.000	318.558	243.791	244.100	243.990	0.510	0.511	0.481	13.000	13.961	13.481	50.000	344.656
27350	244.226	243.349	0.877	0.927	50.000	7.000	324.625	243.358	243.061	242.898	1.121	0.815	1.328	13.000	15.657	14.328	50.000	584.158
27400	244.163	243.388	0.775	0.826	50.000	7.000	289.217	243.189	242.860	242.669	1.257	1.189	1.494	13.000	15.987	14.494	50.000	861.407
27450	244.484	243.792	0.692	0.734	50.000	7.000	256.842	243.485	243.114	242.924	1.310	1.284	1.561	13.000	16.121	14.561	50.000	934.431
27500	244.787	243.948	0.839	0.766	50.000	7.000	267.983	243.749	243.338	243.180	1.364	1.337	1.607	13.000	16.213	14.607	50.000	976.699
27550	244.824	243.932	0.892	0.866	50.000	7.000	302.925	243.535	243.119	243.384	1.478	1.421	1.440	13.000	15.879	14.440	50.000	1026.059
27600	244.901	244.100	0.801	0.847	50.000	7.000	296.333	243.684	243.189	243.331	1.500	1.489	1.570	13.000	16.141	14.570	50.000	1084.721
27650	245.045	244.180	0.866	0.834	50.000	7.000	291.725	243.989	243.810	243.814	1.174	1.337	1.232	13.000	15.463	14.232	50.000	951.545
27700	244.831	243.582	1.249	1.057	50.000	7.000	370.008	243.383	243.305	243.189	1.538	1.356	1.642	13.000	16.284	14.642	50.000	993.053
27750	244.594	243.386	1.208	1.229	50.000	7.000	429.975	242.862	242.421	242.156	2.115	1.827	2.439	13.000	17.877	15.439	50.000	1409.979
27800	244.364	243.383	0.980	1.094	50.000	7.000	383.017	243.010	242.383	243.286	1.471	1.793	1.078	13.000	15.156	14.078	50.000	1261.897
27850	244.266	243.389	0.878	0.929	50.000	7.000	325.150	243.076	242.559	243.552	1.204	1.337	0.714	13.000	14.428	13.714	50.000	917.009
27900	244.279	243.386	0.893	0.886	50.000	7.000	309.925	243.150	242.913	243.387	1.129	1.167	0.893	13.000	14.785	13.893	50.000	810.406

27950	244.291	243.363	0.927	0.910	50.000	7.000	318.617	243.035	243.089	243.214	1.178	1.154	1.077	13.000	15.153	14.077	50.000	812.028
28000	244.297	243.345	0.952	0.940	50.000	7.000	328.942	243.272	243.183	243.134	1.101	1.140	1.163	13.000	15.327	14.163	50.000	806.956
28050	244.304	243.378	0.926	0.939	50.000	7.000	328.650	243.341	243.276	243.228	1.022	1.062	1.076	13.000	15.152	14.076	50.000	747.123
28100	244.378	243.418	0.960	0.943	50.000	7.000	329.992	243.285	243.234	243.229	1.128	1.075	1.149	13.000	15.297	14.149	50.000	760.648
28150	244.619	243.846	0.774	0.867	50.000	7.000	303.392	243.389	243.256	243.249	1.321	1.225	1.371	13.000	15.741	14.371	50.000	880.123
28200	244.636	243.664	0.971	0.873	50.000	7.000	305.375	243.553	243.349	243.258	1.249	1.285	1.378	13.000	15.755	14.378	50.000	923.885
28250	244.678	243.829	0.849	0.910	50.000	7.000	318.617	243.616	243.434	243.341	1.215	1.232	1.338	13.000	15.675	14.338	50.000	883.081
28300	244.699	243.894	0.805	0.827	50.000	7.000	289.450	243.694	243.508	243.408	1.162	1.188	1.291	13.000	15.582	14.291	50.000	849.203
28350	244.864	244.012	0.852	0.828	50.000	7.000	289.917	243.633	243.714	243.618	1.209	1.186	1.246	13.000	15.492	14.246	50.000	844.471
28400	244.852	244.137	0.715	0.783	50.000	7.000	274.225	243.671	243.682	243.645	1.186	1.197	1.207	13.000	15.413	14.207	50.000	850.506
28450	244.788	244.037	0.751	0.733	50.000	7.000	256.550	243.846	243.595	243.563	1.120	1.153	1.225	13.000	15.449	14.225	50.000	819.894
28500	244.658	243.964	0.694	0.723	50.000	7.000	252.933	243.886	243.827	243.819	0.814	0.967	0.839	13.000	14.678	13.839	50.000	669.077
28550	244.704	244.030	0.674	0.684	50.000	7.000	239.458	243.879	243.806	243.787	0.880	0.847	0.917	13.000	14.834	13.917	50.000	589.424
28600	244.863	244.083	0.780	0.727	50.000	7.000	254.392	244.000	243.752	243.639	1.066	0.973	1.224	13.000	15.447	14.224	50.000	691.863
28650	244.768	244.140	0.628	0.704	50.000	7.000	246.342	243.712	243.434	243.222	1.312	1.189	1.546	13.000	16.091	14.546	50.000	864.457
28700	244.697	243.967	0.730	0.679	50.000	7.000	237.650	243.566	243.188	242.990	1.449	1.380	1.707	13.000	16.413	14.707	50.000	1014.964
28750	244.625	244.023	0.602	0.666	50.000	7.000	233.042	243.421	243.041	243.145	1.423	1.436	1.480	13.000	15.961	14.480	50.000	1039.607

28800	244.603	243.749	0.854	0.728	50.000	7.000	254.683	243.444	242.998	242.754	1.536	1.480	1.845	13.000	16.691	14.845	50.000	1098.225
28850	244.681	243.858	0.823	0.839	50.000	7.000	293.475	243.502	243.078	242.838	1.542	1.539	1.843	13.000	16.687	14.843	50.000	1142.153
28900	244.778	243.864	0.914	0.869	50.000	7.000	304.033	243.546	243.093	242.973	1.574	1.558	1.805	13.000	16.610	14.805	50.000	1153.145
28950	244.868	243.888	0.980	0.947	50.000	7.000	331.392	243.325	243.040	242.907	1.777	1.676	1.961	13.000	16.922	14.961	50.000	1253.358
29000	245.025	244.356	0.669	0.825	50.000	7.000	288.575	243.713	243.248	242.920	1.732	1.754	2.105	13.000	17.211	15.105	50.000	1325.031
29050	245.003	244.629	0.374	0.522	50.000	7.000	182.583	243.856	243.073	242.741	1.780	1.756	2.262	13.000	17.525	15.262	50.000	1339.906
29100	245.516	244.842	0.674	0.524	50.000	7.000	183.342	243.593	242.737	242.400	2.606	2.193	3.116	13.000	19.232	16.116	50.000	1767.119
29150	245.722	244.935	0.786	0.730	50.000	7.000	255.500	243.442	242.461	242.465	2.932	2.769	3.257	13.000	19.513	16.257	50.000	2250.871
29200	246.311	245.472	0.839	0.813	50.000	7.000	284.375	245.260	244.845	244.295	1.511	2.221	2.015	13.000	17.031	15.015	50.000	1667.786
29250	246.694	246.109	0.585	0.712	50.000	7.000	249.083	245.368	244.626	244.634	1.818	1.664	2.060	13.000	17.119	15.060	50.000	1253.048
29300	246.594	245.906	0.688	0.636	50.000	7.000	222.658	245.036	244.100	244.167	2.160	1.989	2.427	13.000	17.853	15.427	50.000	1533.882
29350	246.634	245.519	1.115	0.901	50.000	7.000	315.467	244.923	244.512	244.718	1.916	2.038	1.916	13.000	16.832	14.916	50.000	1519.940
29400	246.639	245.388	1.251	1.183	50.000	7.000	414.108	244.945	244.512	244.368	2.031	1.973	2.271	13.000	17.541	15.271	50.000	1506.833
29450	246.592	245.656	0.936	1.094	50.000	7.000	382.783	244.958	244.175	244.007	2.212	2.121	2.585	13.000	18.170	15.585	50.000	1653.006
29500	246.640	245.573	1.067	1.002	50.000	7.000	350.525	244.930	244.336	243.894	2.253	2.233	2.746	13.000	18.492	15.746	50.000	1757.822
29550	246.596	245.877	0.719	0.893	50.000	7.000	312.550	244.910	244.308	243.984	2.195	2.224	2.612	13.000	18.224	15.612	50.000	1736.315
29600	246.622	245.787	0.835	0.777	50.000	7.000	272.008	245.025	244.324	244.000	2.172	2.184	2.622	13.000	18.244	15.622	50.000	1705.749

29650	246.625	245.805	0.820	0.828	50.000	7.000	289.683	244.813	244.305	244.004	2.251	2.211	2.620	13.000	18.241	15.620	50.000	1727.175
29700	246.576	245.598	0.978	0.899	50.000	7.000	314.592	244.744	244.271	243.977	2.245	2.248	2.599	13.000	18.197	15.599	50.000	1753.160
29750	246.550	245.439	1.111	1.044	50.000	7.000	365.517	244.775	244.285	244.066	2.175	2.210	2.484	13.000	17.967	15.484	50.000	1710.816
29800	246.628	245.566	1.062	1.087	50.000	7.000	380.275	245.131	244.325	244.072	2.119	2.147	2.556	13.000	18.112	15.556	50.000	1669.677
29850	246.724	245.429	1.295	1.179	50.000	7.000	412.475	244.817	244.344	244.060	2.317	2.218	2.664	13.000	18.328	15.664	50.000	1737.007
29900	246.663	245.537	1.126	1.211	50.000	7.000	423.733	245.052	244.360	244.082	2.165	2.241	2.581	13.000	18.163	15.581	50.000	1746.018
29950	246.627	245.716	0.912	1.019	50.000	7.000	356.650	245.010	244.373	244.099	2.133	2.149	2.529	13.000	18.057	15.529	50.000	1668.900
30000	246.692	245.871	0.820	0.866	50.000	7.000	303.100	245.208	244.544	244.187	2.045	2.089	2.505	13.000	18.009	15.505	50.000	1619.764
30050	246.814	245.933	0.881	0.850	50.000	7.000	297.675	245.001	244.527	244.185	2.243	2.144	2.629	13.000	18.257	15.629	50.000	1675.393
30100	246.819	245.719	1.100	0.990	50.000	7.000	346.617	245.100	244.528	244.272	2.186	2.214	2.547	13.000	18.093	15.547	50.000	1721.102
30150	246.783	245.705	1.078	1.089	50.000	7.000	381.150	244.996	244.528	244.326	2.166	2.176	2.456	13.000	17.913	15.456	50.000	1681.391
30200	246.872	245.720	1.152	1.115	50.000	7.000	390.250	245.020	244.598	244.357	2.213	2.190	2.515	13.000	18.029	15.515	50.000	1698.511
30250	246.928	245.639	1.289	1.220	50.000	7.000	427.117	245.214	244.682	244.357	2.177	2.195	2.571	13.000	18.142	15.571	50.000	1708.961
30300	246.866	245.781	1.085	1.187	50.000	7.000	415.392	245.041	244.568	244.277	2.237	2.207	2.589	13.000	18.177	15.589	50.000	1720.209
30350	246.850	245.824	1.026	1.055	50.000	7.000	369.425	245.161	244.498	244.232	2.220	2.228	2.618	13.000	18.236	15.618	50.000	1740.149
30400	246.879	245.754	1.125	1.076	50.000	7.000	376.425	244.914	243.834	243.999	2.630	2.425	2.880	13.000	18.760	15.880	50.000	1925.229
30450	247.071	246.004	1.067	1.096	50.000	7.000	383.658	245.446	245.151	244.995	1.874	2.252	2.077	13.000	17.153	15.077	50.000	1697.675

30500	247.072	246.120	0.952	1.010	50.000	7.000	353.442	245.810	245.492	245.226	1.563	1.718	1.846	13.000	16.693	14.846	50.000	1275.671
30550	247.039	246.251	0.788	0.870	50.000	7.000	304.617	245.892	245.397	245.131	1.566	1.564	1.909	13.000	16.817	14.909	50.000	1166.189
30600	247.007	246.292	0.715	0.752	50.000	7.000	263.083	245.797	245.302	245.036	1.628	1.597	1.971	13.000	16.942	14.971	50.000	1195.642
30650	247.044	246.100	0.944	0.829	50.000	7.000	290.267	245.611	245.110	244.844	1.856	1.742	2.200	13.000	17.400	15.200	50.000	1323.920
30700	247.104	246.152	0.952	0.948	50.000	7.000	331.742	245.535	244.972	244.673	2.044	1.950	2.431	13.000	17.862	15.431	50.000	1504.351
30750	247.071	246.076	0.995	0.974	50.000	7.000	340.725	245.603	244.857	244.558	2.065	2.055	2.513	13.000	18.026	15.513	50.000	1593.616
30800	247.020	246.024	0.996	0.996	50.000	7.000	348.425	245.371	244.768	244.585	2.112	2.089	2.435	13.000	17.871	15.435	50.000	1611.878
30850	246.982	246.140	0.842	0.919	50.000	7.000	321.650	245.397	244.765	244.581	2.068	2.090	2.401	13.000	17.802	15.401	50.000	1609.319
30900	246.947	246.047	0.900	0.871	50.000	7.000	304.850	245.295	244.740	244.553	2.084	2.076	2.394	13.000	17.787	15.394	50.000	1597.905
30950	246.945	246.021	0.924	0.912	50.000	7.000	319.258	245.280	244.751	244.551	2.085	2.084	2.394	13.000	17.788	15.394	50.000	1604.397
31000	247.053	246.100	0.953	0.939	50.000	7.000	328.533	245.366	244.809	244.606	2.126	2.105	2.447	13.000	17.894	15.447	50.000	1625.968
31050	247.160	246.183	0.977	0.965	50.000	7.000	337.750	245.452	244.867	244.661	2.167	2.146	2.499	13.000	17.999	15.499	50.000	1663.294
31100	247.267	246.269	0.998	0.987	50.000	7.000	345.567	245.538	244.925	244.715	2.207	2.187	2.551	13.000	18.103	15.551	50.000	1700.452
31150	247.332	246.362	0.970	0.984	50.000	7.000	344.283	245.630	244.986	244.774	2.202	2.204	2.558	13.000	18.116	15.558	50.000	1714.794
31200	247.338	246.434	0.904	0.937	50.000	7.000	327.950	245.727	245.050	244.834	2.135	2.168	2.504	13.000	18.008	15.504	50.000	1680.763
31250	247.345	246.562	0.783	0.844	50.000	7.000	295.342	245.811	245.113	244.895	2.072	2.103	2.450	13.000	17.900	15.450	50.000	1624.954
31300	247.352	246.659	0.693	0.738	50.000	7.000	258.300	245.938	245.191	244.956	1.990	2.031	2.395	13.000	17.791	15.395	50.000	1563.482

31350	247.352	246.039	1.313	1.003	50.000	7.000	350.992	245.203	244.975	244.909	2.323	2.157	2.443	13.000	17.887	15.443	50.000	1665.263
31400	247.386	246.155	1.231	1.272	50.000	7.000	445.258	245.304	244.697	244.670	2.496	2.410	2.717	13.000	18.433	15.717	50.000	1893.640
31450	247.420	246.229	1.191	1.211	50.000	7.000	423.908	245.429	244.659	244.382	2.597	2.546	3.038	13.000	19.076	16.038	50.000	2041.949
31500	247.247	246.478	0.769	0.980	50.000	7.000	343.000	245.831	245.097	245.078	1.912	2.254	2.169	13.000	17.338	15.169	50.000	1709.673
31550	247.011	246.646	0.365	0.567	50.000	7.000	198.392	246.023	245.352	244.944	1.571	1.741	2.067	13.000	17.133	15.067	50.000	1311.846
31600	247.106	246.435	0.671	0.518	50.000	7.000	181.183	245.872	245.258	244.851	1.779	1.675	2.255	13.000	17.509	15.255	50.000	1277.451
31650	247.208	246.270	0.938	0.804	50.000	7.000	281.575	245.756	245.165	244.758	1.982	1.880	2.450	13.000	17.901	15.450	50.000	1452.503
31700	247.328	246.295	1.033	0.986	50.000	7.000	345.042	245.665	245.109	244.921	2.097	2.039	2.407	13.000	17.815	15.407	50.000	1570.992
31750	247.426	246.393	1.033	1.033	50.000	7.000	361.608	245.699	245.053	245.094	2.144	2.120	2.332	13.000	17.663	15.332	50.000	1525.370
31800	247.265	246.451	0.814	0.923	50.000	7.000	323.167	245.502	245.109	245.270	1.971	2.058	1.995	13.000	16.990	14.995	50.000	1542.652
31850	247.340	246.906	0.435	0.624	50.000	7.000	218.458	245.753	245.186	245.106	1.992	1.982	2.234	13.000	17.469	15.234	50.000	1509.426
31900	247.700	246.841	0.859	0.647	50.000	7.000	226.333	246.048	245.277	245.043	2.244	2.118	2.657	13.000	18.314	15.657	50.000	1658.076
31950	247.967	247.292	0.675	0.767	50.000	7.000	268.450	246.498	245.763	245.531	2.037	2.140	2.436	13.000	17.873	15.436	50.000	1651.988
32000	248.233	247.702	0.531	0.603	50.000	7.000	211.050	247.474	247.248	247.124	0.951	1.494	1.109	13.000	15.217	14.109	50.000	1053.800
32050	248.000	247.364	0.635	0.583	50.000	7.000	204.050	247.072	246.775	246.620	1.177	1.064	1.380	13.000	15.760	14.380	50.000	765.096
32100	247.349	246.524	0.826	0.730	50.000	7.000	255.675	246.272	246.298	246.313	1.055	1.116	1.036	13.000	15.073	14.036	50.000	783.344
32150	247.251	246.604	0.647	0.736	50.000	7.000	257.717	246.201	246.132	246.147	1.091	1.073	1.104	13.000	15.207	14.104	50.000	756.544

32200	247.294	246.403	0.891	0.769	50.000	7.000	269.150	246.397	246.183	246.002	1.100	1.095	1.292	13.000	15.584	14.292	50.000	782.765
32250	247.301	246.460	0.841	0.866	50.000	7.000	303.100	246.347	246.009	245.828	1.240	1.170	1.473	13.000	15.947	14.473	50.000	846.610
32300	247.308	246.510	0.798	0.819	50.000	7.000	286.825	246.173	245.835	245.654	1.421	1.330	1.654	13.000	16.308	14.654	50.000	974.572
32350	247.244	246.247	0.997	0.897	50.000	7.000	314.125	245.987	245.649	245.468	1.542	1.481	1.776	13.000	16.552	14.776	50.000	1094.532
32400	247.124	246.079	1.045	1.021	50.000	7.000	357.350	245.621	245.453	245.281	1.672	1.607	1.843	13.000	16.687	14.843	50.000	1192.950
32450	247.004	245.912	1.093	1.069	50.000	7.000	374.092	245.298	245.060	244.971	1.895	1.784	2.033	13.000	17.067	15.033	50.000	1340.639
32500	246.943	246.030	0.913	1.003	50.000	7.000	350.992	245.493	245.055	244.957	1.775	1.835	1.986	13.000	16.972	14.986	50.000	1374.799
32550	246.962	246.151	0.811	0.862	50.000	7.000	301.758	245.671	245.241	245.083	1.631	1.703	1.879	13.000	16.758	14.879	50.000	1266.740
32600	246.932	246.009	0.923	0.867	50.000	7.000	303.567	245.679	245.350	245.172	1.532	1.581	1.760	13.000	16.519	14.760	50.000	1166.875
32650	246.884	246.029	0.855	0.889	50.000	7.000	311.208	245.699	245.369	245.245	1.446	1.489	1.639	13.000	16.277	14.639	50.000	1089.686
32700	246.836	246.058	0.778	0.816	50.000	7.000	285.717	245.719	245.519	245.443	1.275	1.361	1.392	13.000	15.785	14.392	50.000	979.078
32750	246.851	245.902	0.949	0.863	50.000	7.000	302.108	245.767	245.632	245.559	1.198	1.237	1.292	13.000	15.583	14.292	50.000	883.662
32800	246.938	245.914	1.023	0.986	50.000	7.000	345.100	245.779	245.644	245.572	1.273	1.235	1.366	13.000	15.731	14.366	50.000	887.279
32850	247.025	245.927	1.098	1.061	50.000	7.000	371.175	245.729	245.499	245.377	1.490	1.381	1.648	13.000	16.295	14.648	50.000	1011.462
32900	247.112	246.047	1.065	1.081	50.000	7.000	378.467	245.530	245.280	245.157	1.789	1.639	1.954	13.000	16.909	14.954	50.000	1225.798
32950	247.199	246.305	0.893	0.979	50.000	7.000	342.708	245.516	245.173	244.999	1.969	1.879	2.199	13.000	17.399	15.199	50.000	1428.104
33000	247.089	246.199	0.890	0.891	50.000	7.000	312.025	245.617	245.026	244.875	1.916	1.942	2.213	13.000	17.427	15.213	50.000	1477.553

33050	246.938	246.171	0.767	0.829	50.000	7.000	289.975	245.432	244.960	244.840	1.861	1.888	2.098	13.000	17.197	15.098	50.000	1425.450
33100	247.009	246.104	0.905	0.836	50.000	7.000	292.600	245.647	244.886	244.765	1.909	1.885	2.244	13.000	17.487	15.244	50.000	1436.758
33150	247.079	246.182	0.897	0.901	50.000	7.000	315.292	245.605	245.042	244.690	1.967	1.938	2.389	13.000	17.777	15.389	50.000	1491.162
33200	247.144	246.259	0.885	0.891	50.000	7.000	311.850	245.682	245.106	244.743	1.967	1.967	2.401	13.000	17.802	15.401	50.000	1514.517
33250	247.174	246.405	0.769	0.827	50.000	7.000	289.392	245.549	245.026	244.769	2.059	2.013	2.405	13.000	17.809	15.405	50.000	1550.565
33300	247.151	246.369	0.782	0.775	50.000	7.000	271.308	245.636	245.137	244.946	1.911	1.985	2.205	13.000	17.409	15.205	50.000	1509.190
33350	247.133	246.209	0.924	0.853	50.000	7.000	298.433	245.693	245.176	244.899	1.877	1.894	2.234	13.000	17.468	15.234	50.000	1442.617
33400	247.083	245.963	1.120	1.022	50.000	7.000	357.700	245.447	244.930	244.758	2.038	1.957	2.325	13.000	17.650	15.325	50.000	1499.934
33450	247.033	245.819	1.214	1.167	50.000	7.000	408.508	245.201	244.839	244.802	2.086	2.062	2.231	13.000	17.463	15.231	50.000	1570.435
33500	246.984	245.769	1.214	1.214	50.000	7.000	424.958	244.989	244.921	244.884	2.052	2.069	2.100	13.000	17.199	15.100	50.000	1562.186
33550	247.021	246.340	0.681	0.948	50.000	7.000	331.683	245.130	245.003	244.966	1.988	2.020	2.055	13.000	17.111	15.055	50.000	1520.840
33600	247.117	246.227	0.890	0.785	50.000	7.000	274.867	245.357	245.085	245.008	1.967	1.978	2.109	13.000	17.218	15.109	50.000	1493.944
33650	247.318	246.397	0.921	0.906	50.000	7.000	316.925	245.565	245.146	245.040	2.068	2.017	2.278	13.000	17.557	15.278	50.000	1540.990
33700	247.726	246.293	1.433	1.177	50.000	7.000	412.067	245.547	245.165	245.058	2.469	2.268	2.668	13.000	18.335	15.668	50.000	1777.062
33750	247.651	246.238	1.413	1.423	50.000	7.000	498.108	245.855	245.350	245.078	2.223	2.346	2.573	13.000	18.147	15.573	50.000	1826.968
33800	247.576	246.629	0.947	1.180	50.000	7.000	412.942	246.123	245.619	245.346	1.880	2.052	2.230	13.000	17.460	15.230	50.000	1562.344
33850	247.618	246.657	0.961	0.954	50.000	7.000	333.842	246.201	245.842	245.656	1.718	1.799	1.962	13.000	16.924	14.962	50.000	1345.998

33900	247.697	246.839	0.858	0.909	50.000	7.000	318.267	246.106	245.573	245.322	2.030	1.874	2.375	13.000	17.750	15.375	50.000	1440.723
33950	247.738	246.589	1.149	1.004	50.000	7.000	351.225	246.124	245.422	245.176	2.164	2.097	2.563	13.000	18.125	15.563	50.000	1631.789
34000	247.796	246.637	1.159	1.154	50.000	7.000	403.958	245.410	245.332	245.027	2.540	2.352	2.769	13.000	18.538	15.769	50.000	1854.391
34050	247.790	246.890	0.899	1.029	50.000	7.000	360.208	246.579	245.611	245.066	2.038	2.289	2.724	13.000	18.448	15.724	50.000	1799.306
34100	247.699	246.814	0.884	0.892	50.000	7.000	312.142	246.552	245.956	245.406	1.727	1.882	2.293	13.000	17.585	15.293	50.000	1439.380
34150	247.654	246.603	1.051	0.967	50.000	7.000	338.625	246.033	245.383	245.116	2.143	1.935	2.538	13.000	18.075	15.538	50.000	1503.442
34200	247.583	246.798	0.785	0.918	50.000	7.000	321.242	245.861	245.389	245.286	2.071	2.107	2.297	13.000	17.594	15.297	50.000	1611.581
34250	247.495	246.599	0.896	0.841	50.000	7.000	294.175	245.834	245.517	245.413	1.907	1.989	2.082	13.000	17.163	15.082	50.000	1499.830
34300	247.381	246.533	0.847	0.872	50.000	7.000	305.083	246.010	245.681	245.541	1.637	1.772	1.840	13.000	16.680	14.840	50.000	1314.783
34350	247.258	246.527	0.731	0.789	50.000	7.000	276.208	246.194	245.867	245.690	1.340	1.489	1.567	13.000	16.135	14.567	50.000	1084.295
34400	247.642	246.883	0.759	0.745	50.000	7.000	260.808	246.487	246.124	245.947	1.456	1.398	1.695	13.000	16.389	14.695	50.000	1027.239
34450	247.676	246.819	0.857	0.808	50.000	7.000	282.858	246.566	246.237	246.027	1.400	1.428	1.649	13.000	16.299	14.649	50.000	1045.718
34500	247.608	246.747	0.861	0.859	50.000	7.000	300.592	246.200	246.029	245.956	1.546	1.473	1.652	13.000	16.303	14.652	50.000	1079.014
34550	247.793	246.779	1.014	0.937	50.000	7.000	328.067	246.490	246.068	245.823	1.666	1.606	1.970	13.000	16.940	14.970	50.000	1202.133
34600	248.034	247.050	0.984	0.999	50.000	7.000	349.708	246.260	245.671	245.425	2.249	1.957	2.609	13.000	18.217	15.609	50.000	1527.481
34650	248.066	247.237	0.829	0.907	50.000	7.000	317.275	246.576	245.896	245.496	2.076	2.162	2.570	13.000	18.139	15.570	50.000	1683.427
34700	247.983	247.266	0.717	0.773	50.000	7.000	270.492	246.738	246.043	245.351	1.939	2.008	2.632	13.000	18.264	15.632	50.000	1569.192

34750	247.902	247.016	0.887	0.802	50.000	7.000	280.642	246.452	245.908	245.289	2.019	1.979	2.613	13.000	18.226	15.613	50.000	1544.993
34800	247.846	246.966	0.879	0.883	50.000	7.000	309.050	246.193	245.683	245.367	2.098	2.059	2.479	13.000	17.958	15.479	50.000	1593.305
34850	247.789	247.018	0.772	0.826	50.000	7.000	288.925	246.247	245.392	245.444	2.095	2.097	2.345	13.000	17.690	15.345	50.000	1608.540
34900	247.763	246.968	0.795	0.783	50.000	7.000	274.167	246.541	245.929	245.618	1.734	1.914	2.145	13.000	17.289	15.145	50.000	1449.513
34950	247.769	246.890	0.879	0.837	50.000	7.000	293.008	246.471	246.051	245.797	1.663	1.698	1.972	13.000	16.944	14.972	50.000	1271.289
35000	247.833	246.828	1.005	0.942	50.000	7.000	329.817	246.340	245.853	245.796	1.837	1.750	2.037	13.000	17.075	15.037	50.000	1315.600
35050	247.910	246.920	0.990	0.998	50.000	7.000	349.242	246.432	245.945	245.757	1.865	1.851	2.153	13.000	17.305	15.153	50.000	1402.337
35100	247.953	247.038	0.915	0.953	50.000	7.000	333.375	246.555	246.073	245.812	1.806	1.836	2.141	13.000	17.281	15.141	50.000	1389.619
35150	247.983	247.121	0.862	0.888	50.000	7.000	310.917	246.759	246.362	246.102	1.575	1.691	1.881	13.000	16.762	14.881	50.000	1257.817
35200	248.013	247.194	0.819	0.841	50.000	7.000	294.175	246.842	246.481	246.286	1.476	1.526	1.727	13.000	16.453	14.727	50.000	1123.440
35250	248.014	247.144	0.869	0.844	50.000	7.000	295.458	246.818	246.369	246.293	1.520	1.498	1.721	13.000	16.442	14.721	50.000	1102.930
35300	247.978	247.165	0.813	0.841	50.000	7.000	294.408	246.835	246.505	246.327	1.422	1.471	1.651	13.000	16.302	14.651	50.000	1077.907
35350	247.950	247.136	0.814	0.813	50.000	7.000	284.667	246.846	246.516	246.337	1.383	1.403	1.612	13.000	16.225	14.612	50.000	1024.974
35400	247.893	247.127	0.766	0.790	50.000	7.000	276.500	246.825	246.525	246.554	1.259	1.321	1.340	13.000	15.679	14.340	50.000	947.215
35450	247.910	247.048	0.862	0.814	50.000	7.000	284.900	246.845	246.752	246.766	1.122	1.191	1.144	13.000	15.288	14.144	50.000	842.000
35500	248.133	247.231	0.902	0.882	50.000	7.000	308.583	247.013	246.961	246.918	1.169	1.146	1.215	13.000	15.430	14.215	50.000	814.283
35550	248.355	247.578	0.777	0.839	50.000	7.000	293.708	247.181	247.112	247.070	1.234	1.201	1.285	13.000	15.570	14.285	50.000	858.132

35600	248.485	247.578	0.907	0.842	50.000	7.000	294.700	247.199	247.333	247.291	1.211	1.222	1.194	13.000	15.388	14.194	50.000	257.451
35650	248.585	247.614	0.971	0.939	50.000	7.000	328.650	247.194	246.712	246.453	1.799	1.505	2.132	13.000	17.264	15.132	50.000	1138.431
35700	248.683	247.955	0.727	0.849	50.000	7.000	297.150	247.498	246.470	246.091	1.996	1.898	2.592	13.000	18.183	15.592	50.000	1479.259
35750	248.721	247.771	0.950	0.839	50.000	7.000	293.533	246.519	246.263	246.428	2.317	2.157	2.292	13.000	17.585	15.292	50.000	1649.151
35800	248.812	248.339	0.474	0.712	50.000	7.000	249.142	247.608	246.909	246.824	1.699	2.008	1.988	13.000	16.976	14.988	50.000	1504.754
35850	249.587	249.048	0.539	0.507	50.000	7.000	177.275	248.842	248.615	248.491	0.938	1.318	1.097	13.000	15.193	14.097	50.000	929.205
35900	248.808	248.226	0.581	0.560	50.000	7.000	196.117	247.993	247.761	247.690	0.993	0.966	1.118	13.000	15.235	14.118	50.000	681.570
35950	248.105	247.478	0.626	0.604	50.000	7.000	211.342	247.312	247.173	247.101	0.909	0.951	1.004	13.000	15.007	14.004	50.000	665.952
36000	247.984	247.620	0.364	0.495	50.000	7.000	173.367	247.256	246.894	246.698	1.035	0.972	1.286	13.000	15.571	14.286	50.000	694.204
36050	247.936	247.614	0.322	0.343	50.000	7.000	120.108	247.211	246.826	246.621	1.050	1.042	1.315	13.000	15.630	14.315	50.000	746.050
36100	247.928	247.415	0.513	0.418	50.000	7.000	146.125	247.012	246.608	246.391	1.258	1.154	1.537	13.000	16.074	14.537	50.000	838.745
36150	247.919	247.284	0.634	0.574	50.000	7.000	200.783	246.882	246.480	246.330	1.355	1.306	1.589	13.000	16.178	14.589	50.000	952.905
36200	247.896	247.220	0.676	0.655	50.000	7.000	229.308	246.933	246.628	246.464	1.221	1.288	1.432	13.000	15.865	14.432	50.000	929.402
36250	247.940	247.239	0.701	0.688	50.000	7.000	240.917	246.934	246.628	246.464	1.265	1.243	1.476	13.000	15.953	14.476	50.000	899.664
36300	248.053	247.317	0.736	0.718	50.000	7.000	251.417	246.841	246.376	246.212	1.576	1.421	1.841	13.000	16.681	14.841	50.000	1054.182
36350	248.010	247.406	0.604	0.670	50.000	7.000	234.558	246.929	246.539	246.346	1.405	1.491	1.664	13.000	16.329	14.664	50.000	1093.185
36400	248.081	247.537	0.545	0.575	50.000	7.000	201.075	247.179	246.823	246.629	1.204	1.305	1.452	13.000	15.904	14.452	50.000	942.913

36450	248.090	247.557	0.533	0.539	50.000	7.000	188.592	247.196	246.867	246.718	1.163	1.184	1.372	13.000	15.743	14.372	50.000	850.483
36500	248.217	247.613	0.605	0.569	50.000	7.000	199.092	247.337	247.062	246.913	1.113	1.138	1.304	13.000	15.608	14.304	50.000	813.858
36550	248.120	247.749	0.371	0.488	50.000	7.000	170.800	247.576	247.302	247.154	0.776	0.945	0.966	13.000	14.932	13.966	50.000	659.622
36600	248.243	247.732	0.511	0.441	50.000	7.000	154.408	247.570	247.403	247.314	0.814	0.795	0.929	13.000	14.858	13.929	50.000	553.678
36650	247.774	247.335	0.439	0.475	50.000	7.000	166.250	247.214	247.064	247.024	0.673	0.744	0.750	13.000	14.500	13.750	50.000	511.233
36700	247.675	247.054	0.621	0.530	50.000	7.000	185.442	246.880	246.709	246.614	0.940	0.807	1.060	13.000	15.121	14.060	50.000	567.217
36750	247.845	247.404	0.441	0.531	50.000	7.000	185.850	247.295	247.160	247.217	0.621	0.781	0.628	13.000	14.257	13.628	50.000	532.073
36800	247.891	247.550	0.341	0.391	50.000	7.000	136.908	247.508	247.358	247.278	0.510	0.565	0.613	13.000	14.225	13.613	50.000	384.860
36850	247.826	247.466	0.361	0.351	50.000	7.000	122.792	247.513	247.364	247.260	0.447	0.478	0.566	13.000	14.132	13.566	50.000	324.491
36900	247.844	247.407	0.437	0.399	50.000	7.000	139.650	247.490	247.228	247.063	0.584	0.516	0.781	13.000	14.563	13.781	50.000	355.329
36950	247.820	247.381	0.439	0.438	50.000	7.000	153.358	247.235	247.030	246.865	0.777	0.680	0.955	13.000	14.909	13.955	50.000	474.730
37000	247.751	247.348	0.403	0.421	50.000	7.000	147.350	247.011	246.831	246.668	0.914	0.845	1.083	13.000	15.166	14.083	50.000	595.320
37050	247.707	247.160	0.547	0.475	50.000	7.000	166.250	246.986	246.695	246.566	0.958	0.936	1.141	13.000	15.283	14.141	50.000	661.932
37100	247.715	247.292	0.423	0.485	50.000	7.000	169.692	247.000	246.582	246.448	1.038	0.998	1.267	13.000	15.533	14.267	50.000	711.907
37150	247.843	247.346	0.497	0.460	50.000	7.000	160.942	247.054	246.696	246.476	1.101	1.070	1.367	13.000	15.735	14.367	50.000	768.333
37200	248.130	247.452	0.678	0.588	50.000	7.000	205.625	247.151	246.836	246.666	1.246	1.174	1.465	13.000	15.929	14.465	50.000	848.875
37250	248.382	247.562	0.820	0.749	50.000	7.000	262.208	247.244	246.927	246.740	1.412	1.329	1.642	13.000	16.285	14.642	50.000	972.942

37300	248.487	247.654	0.833	0.827	50.000	7.000	289.275	247.273	246.843	246.813	1.577	1.495	1.874	13.000	16.749	14.874	50.000	1111.485
37350	248.548	247.582	0.966	0.899	50.000	7.000	314.708	247.138	246.730	246.584	1.730	1.654	1.964	13.000	16.927	14.964	50.000	1237.412
37400	248.560	247.795	0.765	0.865	50.000	7.000	302.925	247.058	246.713	246.567	1.781	1.756	1.993	13.000	16.986	14.993	50.000	1316.011
37450	248.559	247.889	0.670	0.718	50.000	7.000	251.125	247.709	247.061	246.675	1.411	1.596	1.884	13.000	16.769	14.884	50.000	1187.522
37500	248.689	247.941	0.748	0.709	50.000	7.000	248.092	247.596	247.269	247.024	1.393	1.402	1.665	13.000	16.330	14.665	50.000	1027.772
37550	248.734	247.853	0.881	0.814	50.000	7.000	285.017	247.554	247.198	247.005	1.482	1.437	1.729	13.000	16.459	14.729	50.000	1053.466
37600	248.826	247.915	0.910	0.895	50.000	7.000	313.425	247.543	247.095	246.919	1.640	1.561	1.906	13.000	16.813	14.906	50.000	1163.315
37650	248.861	248.077	0.784	0.847	50.000	7.000	296.508	247.750	247.347	247.128	1.452	1.546	1.732	13.000	16.465	14.732	50.000	1138.850
37700	248.842	248.224	0.617	0.701	50.000	7.000	245.233	247.862	247.477	247.259	1.309	1.381	1.583	13.000	16.165	14.583	50.000	1006.731
37750	248.843	248.312	0.531	0.574	50.000	7.000	201.017	247.914	247.661	247.511	1.148	1.228	1.332	13.000	15.664	14.332	50.000	880.343
37800	249.093	248.460	0.633	0.582	50.000	7.000	203.700	248.318	247.997	247.757	1.069	1.108	1.336	13.000	15.671	14.336	50.000	794.355
37850	249.426	248.750	0.676	0.654	50.000	7.000	229.017	248.063	247.595	247.336	1.761	1.415	2.090	13.000	17.180	15.090	50.000	1067.618
37900	249.935	248.916	1.019	0.848	50.000	7.000	296.683	246.872	246.513	246.418	3.334	2.548	3.517	13.000	20.033	16.517	50.000	2103.948
37950	249.972	248.463	1.509	1.264	50.000	7.000	442.517	247.467	246.540	246.625	3.095	3.214	3.347	13.000	19.695	16.347	50.000	2627.244
38000	249.952	248.462	1.490	1.500	50.000	7.000	524.825	246.670	246.541	246.645	3.333	3.214	3.307	13.000	19.614	16.307	50.000	2620.490
38050	249.858	249.270	0.588	1.039	50.000	7.000	363.650	246.684	246.616	246.755	3.173	3.253	3.103	13.000	19.207	16.103	50.000	2619.297
38100	249.856	248.457	1.399	0.994	50.000	7.000	347.842	247.430	246.800	246.817	2.840	3.007	3.039	13.000	19.077	16.039	50.000	2411.057

38150	249.992	248.347	1.645	1.522	50.000	7.000	532.817	247.190	247.277	246.921	2.863	2.851	3.071	13.000	19.142	16.071	50.000	2221.234
38200	250.443	249.675	0.769	1.207	50.000	7.000	422.450	248.673	247.425	247.492	2.580	2.721	2.951	13.000	18.903	15.951	50.000	2170.445
38250	251.027	250.265	0.762	0.765	50.000	7.000	267.808	247.975	248.020	248.053	3.011	2.795	2.974	13.000	18.947	15.974	50.000	2232.586
38300	251.463	250.392	1.071	0.916	50.000	7.000	320.658	249.306	249.153	249.193	2.246	2.628	2.270	13.000	17.540	15.270	50.000	2006.605
38350	251.904	250.394	1.510	1.291	50.000	7.000	451.675	249.662	249.423	249.453	2.391	2.319	2.451	13.000	17.902	15.451	50.000	1791.157
38400	252.115	251.595	0.520	1.015	50.000	7.000	355.308	251.530	250.294	249.677	1.615	2.003	2.438	13.000	17.877	15.438	50.000	1546.192
38450	252.025	251.536	0.489	0.505	50.000	7.000	176.633	251.163	251.249	250.607	1.019	1.317	1.418	13.000	15.836	14.418	50.000	949.225
38500	251.936	251.259	0.676	0.583	50.000	7.000	203.992	250.853	250.881	250.929	1.048	1.033	1.007	13.000	15.013	14.007	50.000	723.678
38550	251.831	251.102	0.729	0.702	50.000	7.000	245.875	250.741	250.529	250.578	1.215	1.132	1.253	13.000	15.506	14.253	50.000	806.363
38600	252.398	251.440	0.958	0.843	50.000	7.000	295.167	251.370	251.509	251.203	1.037	1.126	1.195	13.000	15.391	14.195	50.000	799.355
38650	252.747	252.333	0.414	0.686	50.000	7.000	240.042	251.845	251.169	250.807	1.473	1.255	1.940	13.000	16.879	14.940	50.000	937.589
38700	252.635	252.166	0.469	0.441	50.000	7.000	154.408	251.453	250.734	250.518	1.733	1.603	2.117	13.000	17.233	15.117	50.000	1211.601
38750	252.850	252.305	0.545	0.507	50.000	7.000	177.392	250.774	250.141	249.804	2.610	2.172	3.046	13.000	19.092	16.046	50.000	1742.373
38800	252.932	252.136	0.795	0.670	50.000	7.000	234.558	250.825	249.773	249.554	2.881	2.746	3.378	13.000	19.755	16.378	50.000	2248.381
38850	252.911	252.473	0.438	0.617	50.000	7.000	215.833	250.509	249.804	249.664	2.919	2.900	3.247	13.000	19.494	16.247	50.000	2355.680
38900	252.967	251.867	1.100	0.769	50.000	7.000	269.208	251.036	250.291	249.970	2.535	2.727	2.997	13.000	18.994	15.997	50.000	2180.969
38950	253.080	252.182	0.898	0.999	50.000	7.000	349.767	251.404	250.813	250.493	2.177	2.356	2.587	13.000	18.175	15.587	50.000	1836.101

40700	253.509	252.683	0.827	0.898	50.000	7.000	314.475	251.403	250.674	250.586	2.622	2.402	2.924	13.000	18.847	15.924	50.000	1912.609
40750	253.538	252.494	1.044	0.935	50.000	7.000	327.367	251.848	251.344	251.144	2.092	2.357	2.393	13.000	17.787	15.393	50.000	1814.104
40800	253.095	251.849	1.246	1.145	50.000	7.000	400.750	251.091	251.523	251.253	1.806	1.949	1.842	13.000	16.684	14.842	50.000	1446.353
40850	253.469	252.673	0.797	1.021	50.000	7.000	357.467	252.347	251.924	251.647	1.497	1.651	1.822	13.000	16.645	14.822	50.000	1223.748
40900	253.719	252.839	0.880	0.838	50.000	7.000	293.475	252.421	251.767	251.627	1.781	1.639	2.092	13.000	17.184	15.092	50.000	1236.538
40950	253.745	252.910	0.836	0.858	50.000	7.000	300.300	252.294	251.642	251.609	1.897	1.839	2.136	13.000	17.273	15.136	50.000	1391.660
41000	253.546	252.657	0.889	0.863	50.000	7.000	301.875	252.216	251.617	251.594	1.737	1.817	1.952	13.000	16.904	14.952	50.000	1358.389
41050	253.574	252.922	0.652	0.771	50.000	7.000	269.733	251.983	251.598	251.575	1.855	1.796	1.999	13.000	16.998	14.999	50.000	1347.035
41100	253.607	252.542	1.065	0.859	50.000	7.000	300.533	252.056	251.754	251.589	1.808	1.831	2.018	13.000	17.036	15.018	50.000	1375.273
41150	253.673	252.762	0.911	0.988	50.000	7.000	345.858	252.458	252.154	251.983	1.474	1.641	1.690	13.000	16.380	14.690	50.000	1205.315
41200	253.585	252.738	0.847	0.879	50.000	7.000	307.592	251.882	251.559	251.386	1.976	1.725	2.198	13.000	17.397	15.198	50.000	1310.856
41250	253.531	252.437	1.094	0.970	50.000	7.000	339.558	251.225	250.794	250.840	2.578	2.277	2.691	13.000	18.381	15.691	50.000	1786.121
41300	253.563	252.863	0.700	0.897	50.000	7.000	313.833	251.279	250.961	250.791	2.553	2.565	2.772	13.000	18.544	15.772	50.000	2022.890
41350	253.627	252.334	1.293	0.996	50.000	7.000	348.658	251.238	251.035	250.896	2.570	2.561	2.730	13.000	18.461	15.730	50.000	2014.662
41400	253.699	252.788	0.910	1.102	50.000	7.000	385.525	251.078	250.785	250.885	2.783	2.677	2.814	13.000	18.628	15.814	50.000	2116.309
41450	253.668	252.168	1.500	1.205	50.000	7.000	421.867	251.410	250.894	251.686	2.338	2.560	1.982	13.000	16.963	14.982	50.000	1917.820
41500	253.640	252.903	0.737	1.119	50.000	7.000	391.475	251.334	251.783	252.577	1.742	2.040	1.063	13.000	15.126	14.063	50.000	1434.270

41550	253.631	252.998	0.633	0.685	50.000	7.000	239.633	252.414	253.284	253.745	0.483	1.112	-0.114	13.000	12.771	12.886	50.000	716.729
41600	253.621	252.638	0.983	0.808	50.000	7.000	282.742	254.065	254.300	253.801	-0.434	0.025	-0.180	13.000	12.641	12.820	50.000	15.741
41650	253.708	252.257	1.452	1.217	50.000	7.000	426.067	251.346	252.010	252.380	1.796	0.681	1.328	13.000	15.657	14.328	50.000	487.959
41700	253.811	252.945	0.866	1.159	50.000	7.000	405.592	250.986	250.406	250.088	3.318	2.557	3.723	13.000	20.446	16.723	50.000	2138.036
41750	253.799	252.979	0.820	0.843	50.000	7.000	295.108	251.322	250.416	249.953	3.235	3.276	3.846	13.000	20.691	16.846	50.000	2759.695
41800	253.621	252.972	0.649	0.735	50.000	7.000	257.075	251.883	251.302	250.792	2.295	2.765	2.829	13.000	18.657	15.829	50.000	2188.313
41850	253.390	252.914	0.476	0.562	50.000	7.000	196.817	252.140	251.029	250.684	2.106	2.200	2.706	13.000	18.412	15.706	50.000	1727.878
41900	253.794	253.300	0.494	0.485	50.000	7.000	169.808	252.204	251.540	251.196	2.147	2.127	2.598	13.000	18.196	15.598	50.000	1658.457
41950	253.761	252.601	1.160	0.827	50.000	7.000	289.508	251.872	251.801	251.756	1.951	2.049	2.005	13.000	17.010	15.005	50.000	1537.512
42000	253.723	253.017	0.706	0.933	50.000	7.000	326.492	251.749	251.679	251.641	2.033	1.992	2.082	13.000	17.164	15.082	50.000	1502.460
42050	253.849	252.537	1.312	1.009	50.000	7.000	353.092	252.026	251.656	251.459	2.135	2.084	2.390	13.000	17.779	15.390	50.000	1603.860
42100	254.010	253.243	0.767	1.040	50.000	7.000	363.825	251.825	251.710	251.647	2.283	2.209	2.363	13.000	17.726	15.363	50.000	1696.801
42150	253.907	252.948	0.959	0.863	50.000	7.000	302.050	252.252	251.982	251.835	1.884	2.083	2.072	13.000	17.143	15.072	50.000	1569.882
42200	253.836	252.766	1.070	1.015	50.000	7.000	355.075	252.460	252.152	251.987	1.636	1.760	1.849	13.000	16.697	14.849	50.000	1306.724
42250	253.895	252.788	1.107	1.088	50.000	7.000	380.917	252.159	251.852	251.687	1.996	1.816	2.208	13.000	17.415	15.208	50.000	1380.856
42300	253.954	253.288	0.666	0.886	50.000	7.000	310.217	252.001	251.551	251.387	2.308	2.152	2.567	13.000	18.134	15.567	50.000	1674.707
42350	254.016	253.372	0.645	0.655	50.000	7.000	229.367	252.407	251.356	251.164	2.374	2.341	2.852	13.000	18.705	15.852	50.000	1855.295

42400	254.185	252.917	1.268	0.957	50.000	7.000	334.775	251.495	251.244	251.000	2.939	2.656	3.185	13.000	19.370	16.185	50.000	2149.548
42450	254.182	253.304	0.878	1.073	50.000	7.000	375.608	252.465	251.788	251.422	2.291	2.615	2.760	13.000	18.521	15.760	50.000	2060.357
42500	254.127	253.276	0.851	0.865	50.000	7.000	302.575	252.828	252.293	251.926	1.778	2.034	2.201	13.000	17.403	15.201	50.000	1546.356
42550	254.079	252.812	1.267	1.059	50.000	7.000	370.708	252.606	252.285	252.043	1.768	1.773	2.036	13.000	17.071	15.036	50.000	1332.912
42600	254.242	253.327	0.915	1.091	50.000	7.000	381.967	251.527	251.260	251.175	2.921	2.344	3.067	13.000	19.133	16.067	50.000	1883.326
42650	254.242	253.334	0.908	0.912	50.000	7.000	319.142	252.223	251.295	251.229	2.660	2.791	3.013	13.000	19.027	16.013	50.000	2234.305
42700	254.216	252.548	1.668	1.288	50.000	7.000	450.858	251.555	251.389	251.373	2.777	2.718	2.843	13.000	18.685	15.843	50.000	2153.282
42750	254.206	253.093	1.113	1.391	50.000	7.000	486.733	251.599	251.543	251.512	2.655	2.716	2.694	13.000	18.388	15.694	50.000	2130.984
42800	254.161	252.688	1.473	1.293	50.000	7.000	452.608	251.933	251.515	251.284	2.584	2.619	2.877	13.000	18.754	15.877	50.000	2079.270
42850	254.060	253.368	0.692	1.083	50.000	7.000	378.933	252.603	251.391	251.353	2.278	2.431	2.707	13.000	18.414	15.707	50.000	1908.968
42900	253.965	252.363	1.602	1.147	50.000	7.000	401.567	251.626	251.554	251.483	2.411	2.344	2.482	13.000	17.964	15.482	50.000	1814.619
42950	254.048	252.461	1.586	1.594	50.000	7.000	558.017	251.719	251.373	251.165	2.629	2.520	2.883	13.000	18.766	15.883	50.000	2001.082
43000	254.125	253.288	0.836	1.211	50.000	7.000	423.967	252.062	251.702	251.100	2.503	2.566	3.025	13.000	19.049	16.025	50.000	2056.054
43050	254.167	253.403	0.764	0.800	50.000	7.000	280.000	251.859	251.459	251.242	2.647	2.575	2.925	13.000	18.849	15.925	50.000	2050.345
43100	254.183	252.800	1.383	1.073	50.000	7.000	375.608	252.192	251.555	251.338	2.488	2.567	2.845	13.000	18.691	15.845	50.000	2034.145
43150	254.247	253.040	1.207	1.295	50.000	7.000	453.250	252.593	251.785	251.431	2.311	2.399	2.816	13.000	18.631	15.816	50.000	1897.397
43200	254.216	252.836	1.380	1.294	50.000	7.000	452.842	251.988	251.767	251.651	2.414	2.362	2.565	13.000	18.130	15.565	50.000	1838.486

43250	254.154	253.183	0.971	1.176	50.000	7.000	411.425	251.610	251.380	251.257	2.738	2.576	2.897	13.000	18.793	15.897	50.000	2047.579
43300	254.103	253.272	0.831	0.901	50.000	7.000	315.350	251.787	251.157	251.111	2.751	2.745	2.992	13.000	18.984	15.992	50.000	2194.680
43350	254.073	253.191	0.882	0.857	50.000	7.000	299.833	251.823	251.075	250.994	2.776	2.763	3.079	13.000	19.158	16.079	50.000	2221.671
43400	254.047	253.032	1.015	0.948	50.000	7.000	331.975	251.365	251.128	251.000	2.883	2.829	3.047	13.000	19.093	16.047	50.000	2269.846
43450	254.103	252.409	1.694	1.354	50.000	7.000	474.017	251.262	250.987	250.921	3.046	2.964	3.182	13.000	19.363	16.182	50.000	2398.483
43500	254.173	252.715	1.459	1.576	50.000	7.000	551.658	251.381	251.070	251.189	2.960	3.003	2.985	13.000	18.969	15.985	50.000	2400.320
43550	254.194	253.346	0.848	1.153	50.000	7.000	403.608	251.650	251.528	251.459	2.648	2.804	2.735	13.000	18.469	15.735	50.000	2206.219
43600	254.277	252.792	1.485	1.166	50.000	7.000	408.217	251.580	251.004	250.571	3.225	2.937	3.706	13.000	20.412	16.706	50.000	2453.090
43650	254.312	253.285	1.027	1.256	50.000	7.000	439.542	252.772	251.239	251.038	2.629	2.927	3.274	13.000	19.548	16.274	50.000	2381.790
43700	254.197	253.121	1.076	1.052	50.000	7.000	368.025	252.444	251.875	251.668	2.202	2.415	2.530	13.000	18.059	15.530	50.000	1875.552
43750	254.153	252.755	1.398	1.237	50.000	7.000	433.008	251.929	251.195	250.802	2.844	2.523	3.351	13.000	19.702	16.351	50.000	2062.769
43800	254.244	253.529	0.715	1.057	50.000	7.000	369.775	251.989	251.017	250.600	3.042	2.943	3.644	13.000	20.289	16.644	50.000	2449.399
43850	254.152	253.585	0.567	0.641	50.000	7.000	224.292	252.691	251.704	251.172	2.296	2.669	2.980	13.000	18.960	15.980	50.000	2132.664
43900	254.175	253.068	1.107	0.837	50.000	7.000	292.950	251.952	250.825	250.526	3.074	2.685	3.649	13.000	20.298	16.649	50.000	2235.221
43950	254.307	253.620	0.687	0.897	50.000	7.000	314.008	252.088	251.219	250.896	2.906	2.990	3.411	13.000	19.823	16.411	50.000	2453.677
44000	254.387	252.772	1.615	1.151	50.000	7.000	402.850	251.509	251.124	250.943	3.195	3.051	3.444	13.000	19.887	16.444	50.000	2508.207
44050	254.373	253.449	0.924	1.270	50.000	7.000	444.383	251.455	250.709	250.338	3.539	3.367	4.035	13.000	21.071	17.035	50.000	2867.993

44100	254.323	252.661	1.662	1.293	50.000	7.000	452.608	251.762	250.761	250.373	3.358	3.448	3.950	13.000	20.900	16.950	50.000	2922.557
44150	254.280	253.641	0.639	1.151	50.000	7.000	402.675	252.336	250.769	250.408	3.109	3.233	3.872	13.000	20.745	16.872	50.000	2727.694
44200	254.315	253.468	0.847	0.743	50.000	7.000	260.108	251.533	250.835	250.420	3.386	3.247	3.895	13.000	20.791	16.895	50.000	2743.333
44250	254.201	252.866	1.335	1.091	50.000	7.000	381.908	251.616	250.775	250.439	3.258	3.322	3.762	13.000	20.524	16.762	50.000	2783.935
44300	254.227	253.643	0.584	0.960	50.000	7.000	335.883	252.544	250.922	250.586	2.877	3.067	3.642	13.000	20.283	16.642	50.000	2552.231
44350	254.263	252.709	1.554	1.069	50.000	7.000	374.208	251.931	250.866	250.761	3.077	2.977	3.502	13.000	20.005	16.502	50.000	2456.372
44400	254.255	253.631	0.624	1.089	50.000	7.000	381.150	251.907	251.400	251.128	2.777	2.927	3.127	13.000	19.254	16.127	50.000	2360.097
44450	254.148	253.256	0.892	0.758	50.000	7.000	265.242	252.658	252.059	251.737	1.996	2.387	2.411	13.000	17.821	15.411	50.000	1838.878
44500	254.037	252.920	1.117	1.004	50.000	7.000	351.458	252.306	251.737	251.415	2.218	2.107	2.622	13.000	18.245	15.622	50.000	1645.856
44550	253.967	253.438	0.529	0.823	50.000	7.000	288.050	251.984	251.554	251.334	2.344	2.281	2.634	13.000	18.267	15.634	50.000	1782.759
44600	253.995	253.152	0.843	0.686	50.000	7.000	240.217	251.919	251.445	251.208	2.471	2.407	2.787	13.000	18.573	15.787	50.000	1900.145
44650	254.104	252.973	1.130	0.987	50.000	7.000	345.392	252.206	251.291	251.027	2.596	2.533	3.077	13.000	19.153	16.077	50.000	2036.378
44700	254.295	253.564	0.731	0.931	50.000	7.000	325.792	251.864	251.284	250.871	2.955	2.776	3.424	13.000	19.848	16.424	50.000	2279.241
44750	254.382	253.218	1.164	0.948	50.000	7.000	331.742	251.990	251.175	250.872	3.037	2.996	3.511	13.000	20.021	16.511	50.000	2473.344
44800	254.345	253.003	1.342	1.253	50.000	7.000	438.608	251.786	251.179	250.854	3.072	3.054	3.491	13.000	19.983	16.491	50.000	2518.593
44850	254.332	252.862	1.470	1.406	50.000	7.000	492.042	251.839	251.062	250.757	3.113	3.092	3.575	13.000	20.151	16.575	50.000	2562.915
44900	254.453	253.070	1.383	1.426	50.000	7.000	499.217	252.034	251.114	250.735	3.158	3.136	3.718	13.000	20.435	16.718	50.000	2620.912

44950	254.228	253.602	0.627	1.005	50.000	7.000	351.692	251.747	251.041	250.848	3.016	3.087	3.380	13.000	19.760	16.380	50.000	2528.435
45000	254.296	253.417	0.879	0.753	50.000	7.000	263.550	252.063	251.238	250.796	2.930	2.973	3.500	13.000	20.001	16.500	50.000	2453.004
45050	254.429	253.054	1.375	1.127	50.000	7.000	394.450	251.655	251.080	250.730	3.274	3.102	3.699	13.000	20.397	16.699	50.000	2589.963
45100	254.494	253.551	0.943	1.159	50.000	7.000	405.650	251.947	251.111	250.819	3.202	3.238	3.675	13.000	20.351	16.675	50.000	2699.644
45150	254.369	253.564	0.806	0.875	50.000	7.000	306.075	251.748	250.854	250.590	3.305	3.254	3.779	13.000	20.559	16.779	50.000	2729.764
45200	254.439	253.535	0.904	0.855	50.000	7.000	299.133	251.668	250.901	250.619	3.376	3.341	3.820	13.000	20.641	16.820	50.000	2809.743
45250	254.472	253.657	0.815	0.859	50.000	7.000	300.708	251.570	250.994	250.622	3.410	3.393	3.850	13.000	20.699	16.850	50.000	2858.593
45300	254.524	253.664	0.859	0.837	50.000	7.000	292.950	251.776	251.046	250.697	3.351	3.380	3.827	13.000	20.653	16.827	50.000	2843.847
45350	254.590	253.703	0.887	0.873	50.000	7.000	305.608	252.024	251.082	250.684	3.327	3.339	3.906	13.000	20.812	16.906	50.000	2822.222
45400	254.651	253.765	0.886	0.887	50.000	7.000	310.333	251.737	251.053	250.702	3.487	3.407	3.949	13.000	20.899	16.949	50.000	2887.366
45450	254.597	253.674	0.923	0.905	50.000	7.000	316.633	251.802	250.919	250.569	3.500	3.494	4.028	13.000	21.056	17.028	50.000	2974.650
45500	254.584	253.816	0.768	0.846	50.000	7.000	295.983	251.898	251.192	250.800	3.288	3.394	3.784	13.000	20.568	16.784	50.000	2848.245
45550	254.796	253.689	1.107	0.938	50.000	7.000	328.183	251.869	251.230	251.248	3.347	3.317	3.548	13.000	20.096	16.548	50.000	2744.808
45600	254.978	253.362	1.616	1.362	50.000	7.000	476.525	252.204	251.525	251.258	3.316	3.331	3.720	13.000	20.440	16.720	50.000	2785.041
45650	254.813	254.165	0.648	1.132	50.000	7.000	396.200	253.810	253.500	253.324	1.268	2.292	1.489	13.000	15.978	14.489	50.000	1660.480
45700	254.555	254.287	0.268	0.458	50.000	7.000	160.242	252.437	251.695	251.314	2.739	2.004	3.241	13.000	19.481	16.241	50.000	1627.225
45750	254.435	253.167	1.268	0.768	50.000	7.000	268.742	251.945	251.314	251.031	3.005	2.872	3.404	13.000	19.808	16.404	50.000	2355.797

39000	253.212	252.520	0.692	0.795	50.000	7.000	278.367	251.926	251.336	251.015	1.786	1.982	2.197	13.000	17.393	15.197	50.000	1505.694
39050	253.197	252.266	0.931	0.812	50.000	7.000	284.025	251.459	250.892	250.589	2.217	2.002	2.608	13.000	18.216	15.608	50.000	1562.057
39100	253.163	252.214	0.949	0.940	50.000	7.000	329.000	251.217	250.309	249.967	2.665	2.441	3.196	13.000	19.392	16.196	50.000	1976.902
39150	253.118	251.971	1.147	1.048	50.000	7.000	366.800	251.230	250.488	249.942	2.564	2.615	3.176	13.000	19.352	16.176	50.000	2114.922
39200	253.112	252.014	1.098	1.122	50.000	7.000	392.817	251.342	250.651	250.186	2.386	2.475	2.926	13.000	18.852	15.926	50.000	1970.887
39250	253.117	252.287	0.830	0.964	50.000	7.000	337.342	251.785	250.924	250.459	2.061	2.223	2.658	13.000	18.315	15.658	50.000	1740.611
39300	253.193	252.591	0.603	0.716	50.000	7.000	250.658	251.735	251.045	250.583	2.072	2.067	2.610	13.000	18.220	15.610	50.000	1612.947
39350	253.251	252.578	0.673	0.638	50.000	7.000	223.242	250.890	250.317	250.124	2.808	2.440	3.127	13.000	19.255	16.127	50.000	1967.445
39400	253.371	252.594	0.777	0.725	50.000	7.000	253.808	250.965	250.125	249.674	3.117	2.962	3.698	13.000	20.395	16.698	50.000	2473.064
39450	253.454	252.217	1.237	1.007	50.000	7.000	352.508	251.111	249.889	249.577	3.262	3.189	3.877	13.000	20.755	16.877	50.000	2691.372
39500	253.381	252.620	0.761	0.999	50.000	7.000	349.650	250.642	249.912	249.654	3.311	3.287	3.727	13.000	20.453	16.727	50.000	2748.749
39550	253.228	252.580	0.648	0.704	50.000	7.000	246.517	250.762	250.093	249.835	2.998	3.155	3.393	13.000	19.785	16.393	50.000	2585.579
39600	253.168	251.903	1.265	0.956	50.000	7.000	334.658	250.934	250.271	250.010	2.763	2.880	3.158	13.000	19.315	16.158	50.000	2326.884
39650	253.284	251.988	1.296	1.280	50.000	7.000	448.117	250.948	250.384	250.075	2.815	2.789	3.209	13.000	19.418	16.209	50.000	2260.255
39700	253.335	252.467	0.868	1.082	50.000	7.000	378.758	250.921	250.359	250.062	2.888	2.851	3.273	13.000	19.547	16.273	50.000	2320.080
39750	253.374	252.871	0.503	0.685	50.000	7.000	239.925	251.855	250.702	250.037	2.509	2.699	3.337	13.000	19.675	16.337	50.000	2204.405
39800	253.470	252.287	1.183	0.843	50.000	7.000	294.992	251.126	250.303	249.946	3.012	2.761	3.524	13.000	20.047	16.524	50.000	2280.679

39850	253.574	252.767	0.807	0.995	50.000	7.000	348.192	251.952	250.291	249.916	2.854	2.933	3.658	13.000	20.316	16.658	50.000	2442.849
39900	253.663	252.771	0.891	0.849	50.000	7.000	297.150	251.951	251.003	250.492	2.514	2.684	3.171	13.000	19.341	16.171	50.000	2170.283
39950	253.780	252.235	1.545	1.218	50.000	7.000	426.358	251.385	250.574	250.218	3.054	2.784	3.562	13.000	20.124	16.562	50.000	2305.614
40000	253.943	252.871	1.071	1.308	50.000	7.000	457.858	252.065	251.104	250.583	2.692	2.873	3.359	13.000	19.719	16.359	50.000	2350.155
40050	253.664	252.547	1.117	1.094	50.000	7.000	382.958	252.055	251.843	251.720	1.791	2.242	1.944	13.000	16.889	14.944	50.000	1675.011
40100	253.414	252.873	0.541	0.829	50.000	7.000	290.150	251.967	251.483	251.218	1.858	1.825	2.196	13.000	17.391	15.196	50.000	1386.225
40150	253.467	252.495	0.972	0.757	50.000	7.000	264.775	251.758	251.019	250.623	2.334	2.096	2.844	13.000	18.688	15.844	50.000	1660.187
40200	253.507	252.605	0.901	0.937	50.000	7.000	327.833	251.493	250.379	249.997	2.884	2.609	3.509	13.000	20.019	16.509	50.000	2153.322
40250	253.546	252.302	1.244	1.073	50.000	7.000	375.433	251.588	251.148	250.907	2.332	2.608	2.639	13.000	18.278	15.639	50.000	2039.022
40300	253.437	252.422	1.015	1.129	50.000	7.000	395.267	251.641	251.104	250.822	2.248	2.290	2.615	13.000	18.229	15.615	50.000	1787.576
40350	253.236	252.719	0.517	0.766	50.000	7.000	268.042	251.447	250.434	250.106	2.574	2.411	3.130	13.000	19.260	16.130	50.000	1944.158
40400	253.451	253.347	0.105	0.311	50.000	7.000	108.792	251.933	250.355	250.229	2.612	2.593	3.222	13.000	19.445	16.222	50.000	2103.271
40450	253.429	253.478	-0.049	0.028	50.000	7.000	9.800	255.445	255.578	253.841	-1.525	0.544	-0.412	13.000	12.177	12.588	50.000	342.158
40500	253.750	252.565	1.185	0.568	50.000	7.000	198.917	251.540	250.506	250.001	3.067	0.771	3.749	13.000	20.497	16.749	50.000	645.754
40550	253.232	252.505	0.727	0.956	50.000	7.000	334.658	251.228	249.979	249.722	2.923	2.995	3.510	13.000	20.021	16.510	50.000	2472.422
40600	253.592	252.714	0.878	0.803	50.000	7.000	280.933	252.040	251.248	250.821	2.223	2.573	2.771	13.000	18.543	15.771	50.000	2028.719
40650	253.511	252.541	0.970	0.924	50.000	7.000	323.517	251.912	251.250	250.824	2.183	2.203	2.688	13.000	18.375	15.688	50.000	1727.779

45800	254.354	253.725	0.629	0.948	50.000	7.000	331.917	252.436	251.409	251.067	2.710	2.858	3.267	13.000	19.534	16.267	50.000	2324.193
45850	254.249	253.856	0.392	0.511	50.000	7.000	178.675	252.547	251.457	251.145	2.532	2.621	3.103	13.000	19.207	16.103	50.000	2110.431
45900	254.273	253.903	0.370	0.381	50.000	7.000	133.408	252.457	251.574	251.299	2.497	2.515	2.975	13.000	18.949	15.975	50.000	2008.459
45950	254.201	253.386	0.815	0.593	50.000	7.000	207.375	252.877	252.372	252.096	1.753	2.125	2.105	13.000	17.210	15.105	50.000	1604.738
46000	254.274	253.494	0.780	0.798	50.000	7.000	279.125	252.770	251.414	251.059	2.526	2.139	3.215	13.000	19.429	16.215	50.000	1734.519
46050	254.233	253.724	0.509	0.645	50.000	7.000	225.633	252.283	251.174	250.671	2.857	2.692	3.562	13.000	20.123	16.562	50.000	2228.786
46100	254.184	252.863	1.320	0.915	50.000	7.000	320.192	252.177	251.355	251.096	2.641	2.749	3.088	13.000	19.176	16.088	50.000	2211.206
46150	254.157	253.330	0.827	1.074	50.000	7.000	375.725	252.851	252.377	252.117	1.709	2.175	2.040	13.000	17.080	15.040	50.000	1635.475
46200	254.175	253.733	0.442	0.634	50.000	7.000	222.017	252.304	251.240	250.894	2.696	2.202	3.281	13.000	19.562	16.281	50.000	1792.629
46250	254.241	253.812	0.428	0.435	50.000	7.000	152.308	252.176	251.545	251.158	2.614	2.655	3.083	13.000	19.165	16.083	50.000	2134.929
46300	254.326	253.807	0.519	0.474	50.000	7.000	165.783	252.651	251.749	251.422	2.385	2.500	2.904	13.000	18.808	15.904	50.000	1987.823
46350	254.438	253.780	0.658	0.589	50.000	7.000	205.975	252.200	251.319	251.227	2.856	2.620	3.211	13.000	19.421	16.211	50.000	2123.958
46400	254.542	254.005	0.537	0.598	50.000	7.000	209.125	252.335	250.960	250.931	3.133	2.994	3.611	13.000	20.221	16.611	50.000	2486.894
46450	254.475	253.511	0.964	0.751	50.000	7.000	262.675	252.451	251.842	251.436	2.565	2.849	3.039	13.000	19.077	16.039	50.000	2284.797
46500	254.466	253.611	0.855	0.910	50.000	7.000	318.325	252.393	251.797	251.479	2.576	2.571	2.987	13.000	18.975	15.987	50.000	2054.994
46550	254.327	253.465	0.862	0.859	50.000	7.000	300.475	252.596	252.091	251.841	2.151	2.364	2.486	13.000	17.973	15.486	50.000	1830.227
46600	254.418	253.887	0.531	0.697	50.000	7.000	243.775	252.743	252.147	251.894	2.156	2.154	2.523	13.000	18.047	15.523	50.000	1671.604

46650	254.616	253.658	0.957	0.744	50.000	7.000	260.458	252.554	252.012	251.854	2.476	2.316	2.762	13.000	18.523	15.762	50.000	1825.245
46700	255.511	253.261	2.250	1.604	50.000	7.000	561.225	252.158	251.903	251.786	3.561	3.019	3.724	13.000	20.449	16.724	50.000	2524.213
46750	254.627	253.662	0.965	1.607	50.000	7.000	562.567	252.168	251.885	251.767	2.687	3.124	2.860	13.000	18.721	15.860	50.000	2477.560
46800	254.588	253.479	1.110	1.037	50.000	7.000	363.067	252.604	251.829	251.711	2.541	2.614	2.878	13.000	18.755	15.878	50.000	2075.035
46850	254.483	253.518	0.965	1.037	50.000	7.000	363.008	252.947	252.276	251.804	2.140	2.340	2.678	13.000	18.357	15.678	50.000	1834.670
46900	254.422	253.683	0.739	0.852	50.000	7.000	298.083	252.837	252.088	251.840	2.167	2.154	2.582	13.000	18.165	15.582	50.000	1677.914
46950	254.454	253.628	0.826	0.782	50.000	7.000	273.875	252.324	251.867	251.623	2.516	2.342	2.832	13.000	18.663	15.832	50.000	1853.624
47000	254.490	253.771	0.719	0.773	50.000	7.000	270.492	252.341	251.364	251.262	2.834	2.675	3.228	13.000	19.456	16.228	50.000	2170.765
47050	254.609	253.431	1.178	0.949	50.000	7.000	332.092	253.154	252.243	251.981	2.150	2.492	2.628	13.000	18.256	15.628	50.000	1947.205
47100	254.721	253.466	1.255	1.217	50.000	7.000	425.833	252.815	252.440	252.094	2.272	2.211	2.627	13.000	18.255	15.627	50.000	1727.254
47150	254.603	254.323	0.280	0.767	50.000	7.000	268.567	255.167	255.581	254.196	-0.379	0.946	0.406	13.000	13.813	13.406	50.000	634.380
47200	254.431	253.870	0.561	0.420	50.000	7.000	147.117	252.461	252.435	254.654	1.248	0.435	-0.223	13.000	12.555	12.777	50.000	277.588
47250	254.528	253.915	0.613	0.587	50.000	7.000	205.508	252.376	251.685	251.443	2.694	1.971	3.086	13.000	19.171	16.086	50.000	1585.064
47300	254.621	254.012	0.608	0.611	50.000	7.000	213.792	252.808	252.225	251.635	2.398	2.546	2.985	13.000	18.971	15.985	50.000	2034.800
47350	254.828	254.121	0.707	0.658	50.000	7.000	230.242	253.016	252.171	251.586	2.570	2.484	3.242	13.000	19.485	16.242	50.000	2017.388
47400	254.854	254.093	0.760	0.734	50.000	7.000	256.842	253.488	252.313	251.920	2.280	2.425	2.934	13.000	18.867	15.934	50.000	1932.090
47450	254.741	253.715	1.026	0.893	50.000	7.000	312.608	253.600	252.445	252.335	1.948	2.114	2.406	13.000	17.812	15.406	50.000	1628.329

47500	254.787	254.024	0.763	0.895	50.000	7.000	313.075	253.511	252.861	252.750	1.746	1.847	2.037	13.000	17.073	15.037	50.000	1328.511
47550	254.795	254.029	0.765	0.764	50.000	7.000	267.458	253.313	253.283	253.164	1.541	1.644	1.631	13.000	16.261	14.631	50.000	1202.316
47600	255.443	253.977	1.466	1.116	50.000	7.000	390.483	253.318	253.606	253.374	2.010	1.776	2.069	13.000	17.138	15.069	50.000	1337.918
47650	255.529	254.604	0.925	1.196	50.000	7.000	418.425	253.392	253.646	253.665	1.961	1.986	1.864	13.000	16.728	14.864	50.000	1475.830
47700	254.897	254.223	0.674	0.799	50.000	7.000	279.825	253.774	253.567	253.675	1.225	1.593	1.222	13.000	15.443	14.222	50.000	1132.874
47750	254.728	254.109	0.620	0.647	50.000	7.000	226.392	253.406	253.497	253.634	1.216	1.220	1.094	13.000	15.188	14.094	50.000	860.086
47800	254.586	253.864	0.722	0.671	50.000	7.000	234.792	253.418	253.437	253.574	1.110	1.163	1.012	13.000	15.023	14.012	50.000	814.662
47850	254.721	254.088	0.634	0.678	50.000	7.000	237.242	253.918	253.702	253.495	1.016	1.063	1.227	13.000	15.453	14.227	50.000	756.187
47900	255.205	254.452	0.753	0.693	50.000	7.000	242.667	254.318	254.289	253.951	1.019	1.018	1.254	13.000	15.508	14.254	50.000	725.331
47950	255.292	254.592	0.700	0.727	50.000	7.000	254.333	254.451	254.377	254.358	0.897	0.958	0.934	13.000	14.869	13.934	50.000	667.455
48000	255.639	254.889	0.750	0.725	50.000	7.000	253.808	254.828	254.741	254.670	0.892	0.895	0.969	13.000	14.937	13.969	50.000	624.865
48050	256.133	255.293	0.840	0.795	50.000	7.000	278.250	255.164	255.033	254.960	1.081	0.986	1.173	13.000	15.346	14.173	50.000	699.083
48100	256.779	255.969	0.810	0.825	50.000	7.000	288.692	255.588	254.702	254.288	1.920	1.500	2.491	13.000	17.983	15.491	50.000	1162.065
48150	259.196	257.045	2.151	1.480	50.000	7.000	518.117	257.473	257.923	256.951	1.747	1.833	2.245	13.000	17.489	15.245	50.000	1397.470
48200	260.031	258.782	1.251	1.701	50.000	7.000	595.350	258.350	257.879	257.630	2.080	1.914	2.403	13.000	17.807	15.403	50.000	1473.757
48250	259.069	258.417	0.652	0.952	50.000	7.000	333.025	257.779	257.176	256.844	1.803	1.941	2.225	13.000	17.450	15.225	50.000	1477.925
48300	258.242	257.450	0.792	0.722	50.000	7.000	252.700	256.794	256.066	255.809	2.019	1.911	2.433	13.000	17.865	15.433	50.000	1474.420

48350	257.384	256.317	1.067	0.929	50.000	7.000	325.267	255.713	255.147	254.973	2.106	2.063	2.411	13.000	17.821	15.411	50.000	152.225
48400	255.924	255.036	0.888	0.977	50.000	7.000	342.067	254.059	253.984	254.095	1.878	1.992	1.829	13.000	16.659	14.829	50.000	1477.125
48450	255.722	254.156	1.566	1.227	50.000	7.000	429.508	253.265	253.054	253.120	2.576	2.227	2.602	13.000	18.203	15.602	50.000	1737.202
48500	255.859	254.364	1.495	1.531	50.000	7.000	535.675	253.490	253.016	252.758	2.771	2.673	3.100	13.000	19.201	16.100	50.000	2151.944
48550	256.034	254.853	1.181	1.338	50.000	7.000	468.300	254.073	253.279	252.780	2.657	2.714	3.254	13.000	19.508	16.254	50.000	2205.442
48600	256.659	255.563	1.096	1.139	50.000	7.000	398.592	255.004	254.305	253.828	2.280	2.469	2.832	13.000	18.663	15.832	50.000	1954.067
48650	256.921	256.196	0.725	0.911	50.000	7.000	318.792	255.770	255.362	254.974	1.552	1.916	1.947	13.000	16.894	14.947	50.000	1432.130
48700	257.539	256.837	0.701	0.713	50.000	7.000	249.667	256.455	256.076	255.898	1.396	1.474	1.640	13.000	16.281	14.640	50.000	1078.952
48750	258.277	257.204	1.072	0.887	50.000	7.000	310.392	257.042	256.355	256.201	1.744	1.570	2.076	13.000	17.151	15.076	50.000	1183.272
48800	258.410	257.541	0.869	0.971	50.000	7.000	339.733	257.165	257.284	256.969	1.271	1.507	1.441	13.000	15.883	14.441	50.000	1088.355
48850	258.634	257.663	0.971	0.920	50.000	7.000	322.058	257.582	257.555	257.315	1.150	1.211	1.319	13.000	15.639	14.319	50.000	866.717
48900	258.796	257.793	1.002	0.987	50.000	7.000	345.392	257.777	257.685	257.462	1.154	1.152	1.334	13.000	15.667	14.334	50.000	825.858
48950	257.825	257.620	0.205	0.604	50.000	7.000	211.342	257.444	256.995	256.761	0.759	0.956	1.064	13.000	15.129	14.064	50.000	672.549
49000	257.163	256.305	0.858	0.532	50.000	7.000	186.142	255.819	255.326	255.112	1.744	1.251	2.051	13.000	17.102	15.051	50.000	941.775
49050	257.674	256.480	1.194	1.026	50.000	7.000	359.217	256.192	256.002	255.898	1.644	1.694	1.776	13.000	16.553	14.776	50.000	1251.596
49100	258.580	256.997	1.583	1.388	50.000	7.000	485.975	256.488	256.298	256.194	2.253	1.948	2.386	13.000	17.771	15.386	50.000	1498.906
49150	259.228	257.582	1.646	1.614	50.000	7.000	565.017	256.340	256.231	256.138	2.992	2.622	3.090	13.000	19.179	16.090	50.000	2109.623

49200	258.268	256.639	1.629	1.637	50.000	7.000	573.125	256.135	255.931	255.679	2.353	2.672	2.589	13.000	18.179	15.589	50.000	202.995
49250	257.309	256.319	0.990	1.310	50.000	7.000	458.325	256.040	255.568	255.464	1.618	1.986	1.845	13.000	16.691	14.845	50.000	1473.977
49300	257.408	256.496	0.912	0.951	50.000	7.000	332.908	256.212	256.134	256.090	1.263	1.441	1.318	13.000	15.636	14.318	50.000	1031.294
49350	257.827	257.169	0.658	0.785	50.000	7.000	274.808	256.940	256.652	256.163	1.242	1.252	1.664	13.000	16.329	14.664	50.000	918.232
49400	258.804	258.038	0.766	0.712	50.000	7.000	249.258	257.466	256.799	256.441	1.902	1.572	2.363	13.000	17.727	15.363	50.000	1207.686
49450	260.435	259.069	1.366	1.066	50.000	7.000	373.158	257.695	256.723	256.232	3.552	2.727	4.203	13.000	21.405	17.203	50.000	2345.584
49500	258.824	256.812	2.012	1.689	50.000	7.000	591.150	256.442	256.483	256.503	2.348	2.950	2.321	13.000	17.642	15.321	50.000	2259.720
49550	257.019	256.312	0.707	1.359	50.000	7.000	475.767	256.507	257.034	256.917	0.200	1.274	0.102	13.000	13.204	13.102	50.000	834.525
49600	256.859	255.675	1.184	0.945	50.000	7.000	330.867	255.918	255.517	255.742	1.133	0.666	1.117	13.000	15.233	14.117	50.000	470.438
49650	256.485	255.470	1.015	1.100	50.000	7.000	384.825	254.756	254.560	254.834	1.768	1.451	1.651	13.000	16.302	14.651	50.000	1062.767
49700	256.515	255.491	1.024	1.020	50.000	7.000	356.825	254.917	254.661	254.488	1.827	1.797	2.027	13.000	17.055	15.027	50.000	1350.540
49750	256.580	255.544	1.036	1.030	50.000	7.000	360.500	255.226	254.853	254.658	1.668	1.747	1.922	13.000	16.844	14.922	50.000	1303.561
49800	257.080	255.846	1.234	1.135	50.000	7.000	397.192	255.503	255.043	254.796	1.966	1.817	2.284	13.000	17.567	15.284	50.000	1388.351
49850	257.156	256.135	1.021	1.128	50.000	7.000	394.625	255.480	255.024	254.922	2.014	1.990	2.234	13.000	17.469	15.234	50.000	1515.901
49900	257.225	256.065	1.160	1.091	50.000	7.000	381.675	256.732	256.036	255.606	1.100	1.557	1.618	13.000	16.237	14.618	50.000	1138.118
49950	257.035	256.858	0.177	0.668	50.000	7.000	233.858	257.591	257.207	255.881	0.142	0.621	1.154	13.000	15.308	14.154	50.000	439.364
50000	256.738	255.895	0.843	0.510	50.000	7.000	178.383	255.534	255.146	254.853	1.560	0.851	1.885	13.000	16.769	14.885	50.000	633.343

50050	256.568	255.409	1.159	1.001	50.000	7.000	350.292	255.135	254.855	254.827	1.629	1.595	1.741	13.000	16.483	14.741	50.000	1135.417
50100	256.820	255.893	0.928	1.043	50.000	7.000	365.167	255.637	255.396	255.265	1.388	1.509	1.556	13.000	16.111	14.556	50.000	1097.942
50150	257.350	256.635	0.716	0.822	50.000	7.000	287.583	256.267	255.904	255.721	1.387	1.387	1.630	13.000	16.259	14.630	50.000	1014.730
50200	257.977	256.729	1.248	0.982	50.000	7.000	343.642	256.253	256.113	255.874	1.897	1.642	2.103	13.000	17.207	15.103	50.000	1239.900
50250	258.269	257.243	1.026	1.137	50.000	7.000	398.008	256.485	255.996	255.866	2.154	2.025	2.403	13.000	17.806	15.403	50.000	1559.896
50300	257.970	257.197	0.773	0.900	50.000	7.000	314.883	257.026	257.555	257.670	0.553	1.353	0.301	13.000	13.601	13.301	50.000	900.123
50350	257.624	256.489	1.135	0.954	50.000	7.000	333.900	256.415	256.366	256.220	1.290	0.922	1.404	13.000	15.807	14.404	50.000	663.809
50400	257.548	256.651	0.897	1.016	50.000	7.000	355.600	256.819	256.877	256.561	0.796	1.043	0.987	13.000	14.974	13.987	50.000	729.305
50450	257.740	256.781	0.959	0.928	50.000	7.000	324.858	256.768	256.928	256.368	1.052	0.924	1.372	13.000	15.745	14.372	50.000	663.962
50500	257.454	256.612	0.842	0.901	50.000	7.000	315.233	256.583	256.110	255.532	1.379	1.216	1.923	13.000	16.845	14.923	50.000	907.174
50550	257.590	256.641	0.949	0.895	50.000	7.000	313.367	255.903	255.169	255.129	2.189	1.784	2.460	13.000	17.921	15.460	50.000	1379.276
50600	256.737	256.171	0.566	0.757	50.000	7.000	265.067	255.945	255.715	255.594	0.985	1.587	1.142	13.000	15.285	14.142	50.000	1122.391
50650	256.919	255.963	0.956	0.761	50.000	7.000	266.292	255.719	255.474	255.362	1.401	1.193	1.557	13.000	16.115	14.557	50.000	868.345
50700	256.790	255.870	0.920	0.938	50.000	7.000	328.300	255.951	255.884	256.712	0.608	1.004	0.078	13.000	13.156	13.078	50.000	656.625
50750	256.745	255.799	0.946	0.933	50.000	7.000	326.550	255.958	257.127	257.324	-0.058	0.275	-0.579	13.000	11.843	12.421	50.000	170.724
50800	256.713	255.526	1.187	1.067	50.000	7.000	373.275	255.493	255.845	256.049	0.917	0.430	0.664	13.000	14.327	13.664	50.000	293.503
50850	255.630	254.688	0.942	1.065	50.000	7.000	372.575	254.728	254.821	254.922	0.806	0.862	0.708	13.000	14.416	13.708	50.000	590.662

50900	255.735	253.712	2.023	1.483	50.000	7.000	518.875	253.682	253.745	253.778	2.000	1.403	1.957	13.000	16.915	14.957	50.000	109.548
50950	256.240	255.117	1.123	1.573	50.000	7.000	550.667	255.006	254.917	254.878	1.307	1.653	1.362	13.000	15.724	14.362	50.000	1187.338
51000	256.528	255.549	0.979	1.051	50.000	7.000	367.967	255.419	255.558	255.629	0.993	1.150	0.899	13.000	14.798	13.899	50.000	798.922
51050	256.584	255.543	1.041	1.010	50.000	7.000	353.617	255.946	256.571	256.901	0.111	0.552	-0.317	13.000	12.366	12.683	50.000	350.086
51100	256.526	256.817	-0.291	0.375	50.000	7.000	131.367	256.708	256.702	256.400	-0.077	0.017	0.126	13.000	13.252	13.126	50.000	11.194
51150	256.254	255.392	0.862	0.285	50.000	7.000	99.925	255.455	255.600	255.383	0.775	0.349	0.871	13.000	14.743	13.871	50.000	241.901
51200	256.269	255.279	0.990	0.926	50.000	7.000	324.042	254.606	255.850	256.433	0.639	0.707	-0.164	13.000	12.672	12.836	50.000	453.788
51250	256.275	255.597	0.678	0.834	50.000	7.000	291.900	255.470	255.226	255.869	0.754	0.696	0.406	13.000	13.813	13.406	50.000	466.801
51300	256.270	255.436	0.834	0.756	50.000	7.000	264.658	256.209	256.408	257.079	-0.295	0.229	-0.809	13.000	11.382	12.191	50.000	139.655
51350	256.268	256.459	-0.191	0.322	50.000	7.000	112.525	255.850	256.000	256.004	0.316	0.011	0.264	13.000	13.527	13.264	50.000	6.963
51400	256.102	255.352	0.750	0.279	50.000	7.000	97.708	256.407	256.305	256.409	-0.272	0.022	-0.307	13.000	12.385	12.693	50.000	14.068
51450	255.792	255.328	0.464	0.607	50.000	7.000	212.392	255.706	255.306	255.402	0.321	0.024	0.390	13.000	13.780	13.390	50.000	16.291
51500	255.467	255.311	0.156	0.310	50.000	7.000	108.558	255.308	255.000	255.900	0.064	0.193	-0.433	13.000	12.134	12.567	50.000	120.957
51550	255.907	255.187	0.720	0.438	50.000	7.000	153.358	255.258	255.993	256.487	-0.005	0.030	-0.580	13.000	11.841	12.420	50.000	18.320
51600	255.899	254.908	0.991	0.856	50.000	7.000	299.483	255.578	255.494	255.415	0.404	0.199	0.484	13.000	13.969	13.484	50.000	134.281
51650	255.588	255.250	0.338	0.665	50.000	7.000	232.633	255.227	255.020	254.885	0.544	0.474	0.703	13.000	14.407	13.703	50.000	324.731
51700	255.257	254.742	0.515	0.426	50.000	7.000	149.217	254.543	254.187	254.105	0.978	0.761	1.151	13.000	15.303	14.151	50.000	538.615

52600	256.150	255.211	0.939	0.997	50.000	7.000	349.008	254.876	254.100	253.684	1.930	1.724	2.466	13.000	17.931	15.466	50.000	1333.484
52650	256.025	255.044	0.981	0.960	50.000	7.000	336.058	254.555	253.819	253.415	2.095	2.012	2.610	13.000	18.219	15.610	50.000	1570.636
52700	256.110	255.246	0.864	0.923	50.000	7.000	322.992	254.864	253.715	253.382	2.123	2.109	2.728	13.000	18.455	15.728	50.000	1658.570
52750	256.667	255.767	0.900	0.882	50.000	7.000	308.700	254.390	253.356	252.961	3.098	2.611	3.706	13.000	20.413	16.706	50.000	2180.641
52800	256.770	256.242	0.528	0.714	50.000	7.000	249.842	256.108	255.144	254.912	1.382	2.240	1.858	13.000	16.715	14.858	50.000	1664.017
52850	256.426	255.122	1.304	0.916	50.000	7.000	320.600	253.743	252.963	253.083	3.163	2.272	3.343	13.000	19.686	16.343	50.000	1856.837
52900	255.545	254.582	0.963	1.133	50.000	7.000	396.667	253.722	253.421	253.948	1.848	2.505	1.597	13.000	16.194	14.597	50.000	1828.558
52950	255.552	254.608	0.944	0.953	50.000	7.000	333.667	254.016	253.566	253.783	1.764	1.806	1.769	13.000	16.538	14.769	50.000	1333.600
53000	255.450	254.323	1.127	1.036	50.000	7.000	362.483	253.813	253.217	253.506	1.938	1.851	1.944	13.000	16.888	14.944	50.000	1383.109
53050	255.461	254.848	0.613	0.870	50.000	7.000	304.558	253.959	253.003	253.278	2.048	1.993	2.183	13.000	17.367	15.183	50.000	1513.104
53100	255.681	254.823	0.859	0.736	50.000	7.000	257.542	253.994	253.059	253.052	2.313	2.181	2.629	13.000	18.259	15.629	50.000	1704.075
53150	255.794	254.835	0.959	0.909	50.000	7.000	318.092	254.119	253.153	252.827	2.428	2.370	2.967	13.000	18.934	15.967	50.000	1892.356
53200	255.856	255.070	0.786	0.873	50.000	7.000	305.433	254.240	253.374	252.912	2.347	2.387	2.944	13.000	18.887	15.944	50.000	1903.187
53250	255.795	255.050	0.745	0.766	50.000	7.000	267.925	254.527	253.643	253.171	2.014	2.181	2.623	13.000	18.247	15.623	50.000	1703.464
53300	255.730	254.864	0.867	0.806	50.000	7.000	281.983	253.965	253.626	253.337	2.088	2.051	2.394	13.000	17.787	15.394	50.000	1578.621
53350	255.866	254.977	0.890	0.878	50.000	7.000	307.358	253.998	253.128	252.934	2.513	2.300	2.932	13.000	18.864	15.932	50.000	1832.534
53400	255.902	255.141	0.761	0.825	50.000	7.000	288.867	254.164	253.239	253.032	2.424	2.468	2.870	13.000	18.739	15.870	50.000	1958.581

53450	255.934	255.032	0.902	0.832	50.000	7.000	291.025	253.964	253.326	253.112	2.467	2.445	2.822	13.000	18.645	15.822	50.000	1931.500
53500	255.816	254.942	0.874	0.888	50.000	7.000	310.800	253.992	253.270	253.138	2.349	2.408	2.678	13.000	18.355	15.678	50.000	1887.678
53550	255.779	254.862	0.917	0.895	50.000	7.000	313.367	254.169	253.602	253.453	2.038	2.194	2.326	13.000	17.653	15.326	50.000	1680.916
53600	255.828	255.035	0.793	0.855	50.000	7.000	299.133	254.231	253.957	253.856	1.813	1.925	1.971	13.000	16.943	14.971	50.000	1441.199
53650	255.816	255.026	0.790	0.791	50.000	7.000	276.967	254.600	254.112	253.850	1.628	1.721	1.965	13.000	16.931	14.965	50.000	1287.393
53700	255.854	254.945	0.909	0.850	50.000	7.000	297.383	254.513	254.079	253.817	1.718	1.673	2.038	13.000	17.075	15.038	50.000	1257.984
53750	255.986	255.155	0.831	0.870	50.000	7.000	304.558	254.426	253.978	253.748	1.935	1.827	2.238	13.000	17.476	15.238	50.000	1391.822
53800	256.039	255.102	0.937	0.884	50.000	7.000	309.458	254.549	253.920	253.701	1.983	1.959	2.339	13.000	17.677	15.339	50.000	1502.465
53850	255.939	255.109	0.830	0.884	50.000	7.000	309.342	254.487	253.906	253.716	1.903	1.943	2.223	13.000	17.446	15.223	50.000	1478.703
53900	256.105	255.194	0.911	0.871	50.000	7.000	304.792	254.280	253.961	253.643	2.144	2.023	2.462	13.000	17.924	15.462	50.000	1564.282
53950	256.087	255.128	0.959	0.935	50.000	7.000	327.250	254.527	254.026	253.606	2.034	2.089	2.481	13.000	17.961	15.481	50.000	1616.784
54000	255.977	255.118	0.859	0.909	50.000	7.000	318.033	254.635	254.123	253.723	1.817	1.925	2.254	13.000	17.508	15.254	50.000	1468.282
54050	256.044	255.276	0.768	0.814	50.000	7.000	284.725	254.459	254.161	253.924	1.863	1.840	2.121	13.000	17.241	15.121	50.000	1391.059
54100	256.161	255.275	0.886	0.827	50.000	7.000	289.508	254.982	254.417	253.919	1.722	1.792	2.242	13.000	17.485	15.242	50.000	1366.094
54150	256.234	255.383	0.851	0.869	50.000	7.000	303.975	255.121	254.527	253.991	1.687	1.705	2.243	13.000	17.486	15.243	50.000	1299.169
54200	256.158	255.465	0.692	0.772	50.000	7.000	270.083	255.219	254.906	254.563	1.262	1.475	1.595	13.000	16.190	14.595	50.000	1076.057
54250	255.612	255.489	0.123	0.408	50.000	7.000	142.625	255.146	254.902	254.772	0.672	0.967	0.840	13.000	14.679	13.840	50.000	668.956

54300	256.378	255.622	0.756	0.439	50.000	7.000	153.708	255.174	254.276	254.111	1.849	1.261	2.242	15.000	17.465	15.242	50.000	1500.690
54350	256.206	255.402	0.804	0.780	50.000	7.000	272.883	254.897	253.991	253.659	2.023	1.936	2.547	13.000	18.093	15.547	50.000	1505.176
54400	256.276	255.520	0.756	0.780	50.000	7.000	272.883	254.313	253.849	253.731	2.312	2.167	2.545	13.000	18.090	15.545	50.000	1684.646
54450	256.004	255.389	0.615	0.686	50.000	7.000	239.925	254.668	254.387	254.226	1.577	1.944	1.778	13.000	16.557	14.778	50.000	1436.741
54500	255.178	256.019	-0.841	-0.113	50.000	7.000	-39.492	254.961	254.627	254.104	0.614	1.096	1.074	13.000	15.148	14.074	50.000	770.982
54550	256.364	255.723	0.641	-0.100	50.000	7.000	-35.000	255.339	254.945	253.683	1.708	1.161	2.681	13.000	18.361	15.681	50.000	910.306
54600	256.672	255.941	0.731	0.686	50.000	7.000	240.100	255.372	254.709	254.944	1.664	1.686	1.728	13.000	16.456	14.728	50.000	1241.529
54650	256.018	255.929	0.089	0.410	50.000	7.000	143.442	255.632	255.245	255.112	0.688	1.176	0.906	13.000	14.812	13.906	50.000	817.750
54700	256.291	256.144	0.147	0.118	50.000	7.000	41.242	255.649	255.197	255.040	0.996	0.842	1.251	13.000	15.502	14.251	50.000	600.125
54750	256.330	256.053	0.277	0.212	50.000	7.000	74.258	255.673	255.464	255.432	0.807	0.902	0.898	13.000	14.797	13.898	50.000	626.506
54800	256.549	255.929	0.620	0.449	50.000	7.000	157.033	255.652	255.472	255.288	1.079	0.943	1.261	13.000	15.523	14.261	50.000	672.343
54850	256.783	255.926	0.857	0.739	50.000	7.000	258.533	255.635	255.196	255.133	1.462	1.270	1.650	13.000	16.300	14.650	50.000	930.397
54900	256.338	256.098	0.240	0.549	50.000	7.000	191.975	255.782	255.414	255.377	0.813	1.137	0.960	13.000	14.921	13.960	50.000	793.955
54950	256.974	256.150	0.823	0.532	50.000	7.000	186.025	255.871	255.545	255.469	1.345	1.079	1.504	13.000	16.009	14.504	50.000	782.670
55000	256.328	256.049	0.279	0.551	50.000	7.000	192.908	255.636	255.431	255.210	0.902	1.124	1.118	13.000	15.236	14.118	50.000	793.275
55050	256.437	256.016	0.421	0.350	50.000	7.000	122.442	255.715	255.411	255.372	0.937	0.920	1.065	13.000	15.129	14.065	50.000	646.857
55100	262.390	262.516	-0.126	0.148	50.000	7.000	51.625	262.319	261.924	261.892	0.345	0.641	0.498	13.000	13.997	13.498	50.000	432.847

56000	256.942	256.506	0.436	0.581	50.000	7.000	203.175	256.199	255.721	255.914	1.124	1.123	1.407	13.000	15.815	14.407	50.000	809.292
56050	256.861	256.195	0.666	0.551	50.000	7.000	192.908	254.624	254.314	255.335	2.103	1.614	1.526	13.000	16.051	14.526	50.000	1171.858
56100	256.216	255.810	0.406	0.536	50.000	7.000	187.658	255.828	255.263	254.662	0.965	1.534	1.554	13.000	16.109	14.554	50.000	1116.439
56150	256.442	255.911	0.531	0.468	50.000	7.000	163.975	255.428	254.696	253.983	1.740	1.352	2.459	13.000	17.918	15.459	50.000	1045.329
56200	256.690	255.916	0.774	0.652	50.000	7.000	228.258	255.050	254.100	253.400	2.507	2.123	3.290	13.000	19.580	16.290	50.000	1729.229
56250	256.579	255.859	0.720	0.747	50.000	7.000	261.392	254.561	253.821	254.319	2.346	2.426	2.260	13.000	17.521	15.260	50.000	1851.206
56300	255.674	254.800	0.874	0.797	50.000	7.000	278.950	254.516	253.949	254.010	1.516	1.931	1.664	13.000	16.329	14.664	50.000	1415.719
56350	256.653	255.749	0.904	0.889	50.000	7.000	311.150	255.045	254.806	254.564	1.848	1.682	2.089	13.000	17.178	15.089	50.000	1268.985
56400	256.677	255.958	0.719	0.812	50.000	7.000	284.083	255.570	255.526	255.151	1.261	1.555	1.526	13.000	16.052	14.526	50.000	1129.235
56450	256.496	256.335	0.161	0.440	50.000	7.000	154.117	255.768	255.543	255.503	0.892	1.077	0.993	13.000	14.987	13.993	50.000	753.230
56500	256.360	256.383	-0.024	0.069	50.000	7.000	24.092	255.722	255.660	255.574	0.708	0.800	0.785	13.000	14.571	13.785	50.000	551.184
56550	256.620	256.129	0.492	0.234	50.000	7.000	81.900	255.797	255.739	255.616	0.903	0.805	1.004	13.000	15.009	14.004	50.000	563.908
56600	257.017	256.307	0.710	0.601	50.000	7.000	210.292	255.988	255.770	255.629	1.222	1.062	1.389	13.000	15.777	14.389	50.000	764.358
56650	256.798	256.140	0.658	0.684	50.000	7.000	239.342	255.862	255.648	255.641	1.081	1.151	1.157	13.000	15.313	14.157	50.000	814.952
56700	256.936	256.499	0.437	0.547	50.000	7.000	191.625	256.153	255.932	255.663	1.020	1.050	1.273	13.000	15.545	14.273	50.000	749.513
56750	256.932	256.212	0.720	0.579	50.000	7.000	202.592	254.766	254.424	254.861	2.249	1.634	2.071	13.000	17.142	15.071	50.000	1231.468
56800	256.368	256.212	0.156	0.438	50.000	7.000	153.417	254.766	254.424	254.861	1.685	1.967	1.507	13.000	16.014	14.507	50.000	1426.522
	256.377	256.212	0.165	0.161	50.000	7.000	56.233	254.766	254.424	254.861	1.693	0.847	1.516	13.000	16.031	14.516	50.000	614.497

510

4,44,414.40

19,17,617.80

14,73,203.40

252

Total Part - 1 Qty	4,44,414.40	Cu.m
Total Part - 2 Qty	14,73,203.40	Cu.m
Total Qty	19,17,617.80	Cu.m

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TR

cm

AB

dia
RR

Handwritten notes

लोक निर्माण विभाग



मा० मुख्यमंत्री जी की घोषणा के कम्प्यूटर क्रमांक—GH11Y000154, घोषणा सं०—Y.A.N.-
17/2018 घोषणा दिनांक 28.05.2018

प्रारम्भिक आगणन

वर्ष 2019—20

कार्य का नाम :- जनपद मेरठमें वित्तीय वर्ष 2019—20 में चौधरी चरण सिंह कावड
मार्ग (गंग नहर की दांयी एवं बांयी पटरी) के नव निर्माण का कार्य
(चैनेज 108.750 से 151.050)।

जिला	मार्ग की लम्बाई (कि०मी० में)	दांयी पटरी की लागत (रु० लाख में)
मेरठ (चै० 108.750 से 151.050)	42.300	25682.80
Cost per km		607.16

PERFORMA FOR CHECKING THE PRELIMINARY AD DETAILED ESTIMATE TO BE PASTED ON EACH ESTIMATE **254**

- 1 Report
 - (a) Proper references have been quoted and attested copies attached to the estimate.
 - (b) In case of revised estimate the amount of excess has been given item wise in the comparative statement with detailed reasons.
 - (c) Signature of A.E., E.E. and SE. exists.
 - (d) Details of forest land with name of village and chainage
 - (e) Required certificates are mentioned or not.
 - (f) Name of JE/AE who surveyed the work for preparation of estimate.
- 2 Physical/ Financial Targets sheet Attached or NOT
- 3 Specification
 - (a) Details of specifications for each item of work are included in the estimate.
 - (b) Signature of A.E., E.E., and SE. exists.
- 4 Designs
 - (a) Traffic census details are attached or not
 - (b) C.B.R. value details are attached or not
 - (c) Detailed design of overlay is attached or not
 - (d) Each designs has been signed by A.E., F.E. and by S.E. in the end and important designs by S.E. as well.
- 5 Analysis of rate
 - (a) Analysis of latest bitumen rates is attached or not
 - (b) Required quantity of bitumen for this work has been worked out
 - (c) Each analysis has been signed by J.E., A.E. E.E. and approved by SE
 - (d) Each page bears signature of J.E. and by A.E. in the end of each sheet.
- 6 Details of Measurement
- 7 Bill of Quantities
 - (a) Each page bears signature of J.E., A.E. and E.E. at the end of each sheet.
- 8 Summary of Estimated Cost
- 9 Plans
 - (a) Line diagram on 1 = 4 mile map with marking of road in red colour duly signed by J.E., A.E. & counter signed by E.F.
 - (b) Plans have been signed by J.E., A.E., & E.F.
- 10 General
 - (a) Name and designation should exist below signature.
 - (b) Each page of the designing, analysis of rate, details of measurement, Bill of Quantities & Summary of estimated cost should be certified checked and corrected by Division & Circle, JE(T) with their signature and seal.

आगमन गटिन करने वाले अधिकारी / कर्मचारी :-

क्र.सं.	पदनाम	नाम	हस्ताक्षर
1	अवर अभियन्ता	Dr. Vikas Kumar Vinod Kumar, Rajendra Kr. Prakash Kr. Asif, Eshwar, Devendra, Agender	Dr. Vikas Kumar
2	सहायक अभियन्ता	कमलदीप सिंह, शाकिर राव मोघान राव स्वरूप, जगदीश सिंह	
3	अवर अभियन्ता (माड)	विद्युत कुमार	
4	अधिकांशी अभियन्ता	सी. पी. सिंह	
5	अवर अभियन्ता (माड) / वृत्ता	विठेंद्र सिंह	
6	अधीक्षक अभियन्ता	संदीप भास्कर	

दर - विश्लेषण

कार्य का नाम :- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह वादड़ मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य। (नेरठ)

Name of Quarry	Quarry rate including loading & unloading charges	Deducting Loading & Unloading of UK	Ded. Royalty	Add. Loading of UP	Quarry rate inc. loading at UK & unloading at UP	135 km		Cost of cartage as in Col.8 without CP	Stacking charges (Not admissible in Vertical Tender)	Total (Col. 10+6)	Deduct Vat @ 4% if Overhead is 10%	Total	Total round to 10np
						Distance from Crusher (KM 195-NH 58)	Cost of cartage without Loading & Unloading						
1	2	3	4	5	6	7	8	9	10	11	12	13	14
								Col-8/1.10			4%		
	(37.5-9.5mm), (4.75-75mic), (4.75-2.36mm), (9.50-2.36 mm) (7.5-1.75mm) & (26.5-9.50mm) for GSB												
Haridwar	881.00	-53.00	-160.00	0.00	668.00	135.00	1335.50	1214.09	0.00	1882.09	0.00	1882.09	1882.00
	2.3 mm and below for GSB												
Haridwar	642.00	-53.00	-160.00	0.00	429.00	135.00	1335.50	1214.09	0.00	1643.09	0.00	1643.09	1643.00
	30-15 mm gauge stone ballast												
Haridwar	642.00	-53.00	-160.00	0.00	429.00	135.00	1335.50	1214.09	0.00	1643.09	0.00	1643.09	1643.00
	60-45 mm gauge stone ballast												
Haridwar	688.00	-53.00	-160.00	0.00	475.00	135.00	1335.50	1214.09	0.00	1689.09	0.00	1689.09	1689.00
	53-22.4 mm gauge stone ballast												
Haridwar	743.00	-53.00	-160.00	0.00	530.00	135.00	1335.50	1214.09	0.00	1744.09	0.00	1744.09	1744.00
	Crushed stone aggregate (2.36-75micron for WMM), (37.5-25mm, 25-10mm, 10-5mm, 5mm & below for DBM), (13.2-10mm, 10-5mm, 5mm & below for BC), Screening Material, Type A&B, Grit all size, Dust												
Haridwar	945.00	-53.00	-160.00	0.00	732.00	135.00	1335.50	1214.09	0.00	1946.09	0.00	1946.09	1946.00

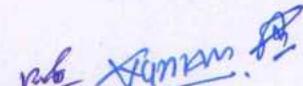
Cartage Calculation				
Distance		KM	Rate	Amount
Haridwar Quarry to Daurala Km-69 of NH-58	116.00			
Daurala to Kewar Nehar Patri	9.00	31st to 75 Km	45.00	405.00
Kewar Nehar Patri to Middle of Road	10.00	76st to 100 Km	25.00	200.00
		Km.101 to 135Km	35.00	262.50
Total	135.00	Net Cartage Total		1335.50

Net Cartage 1335.50

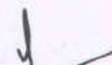
Footnote:- Col.3 basic rate of quarry, loading is admissible as per Uttaranchal SOR and unloading is admissible as per Uttar Pradesh SOR.

Certified that

- All the distances has been taken from shortest possible route.
- All the rates has been taken from latest schedule of rates.


JE J.E.


Asst. Engineer
CD(Bldg), PWD, Meerut


(C.P. Singh)
Executive Engineer
CD(Bldg), PWD, Meerut


(Sanjeev Bhardwaj)
Superintendent Engineer
Meerut Circle, PWD, Meerut

Rate of Bitumen w.e.f. 16-12-19 of IOC from Panipat Refinery

S.No	Paritcular	Bitumen VG-10 Grade	Bitumen VG-30 Grade
1	Basic Rate at Panipat	28140.00	28940.00
2	Cartage 2x(125+15) = 280 Km@1.58/per KM /per Ton	442.40	442.40
	Total	28582.40	29382.40
	Rate Per Ton Say	28582.00	29382.00

Rate of Emulsion w.e.f. 16-12-19 of IOC from Bahadurgarh Hincol

S.No	Paritcular	Bitumen Emulsion Medium Setting (Bulk)	
1	Basic Rate at Jhansi	29182.00	
2	Cartage 2x(110+15) Km@1.58/per Km. /per Ton	395.00	
	Total	29577.00	
	Rate Per Ton Say	29577.00	

JE *Kumar*

[Signature]
Asst. Engineer
CD(Bldg), PWD, Meerut

[Signature]
Executive Engineer
CD(Bldg), PWD, Meerut



इंडियन ऑयल कॉर्पोरेशन लिमिटेड (विपणन प्रभाग)
 इंडियन ऑयल भवन, कपूरथला कॉम्प्लेक्स सै-एफ अलीगंज लखनऊ (उ.प्र.)
PRICE-LIST OF BLACK-OIL, BITUMEN & BITUMINOUS PRODUCTS

दिनांक से
प्रभावी
16.12.2019

MAT GROUP	SUPPLY LOC.	PRODUCT NAME	CODE	UoM	BASIC PRICE	GST 18%	TAXABLE VALUE
LDO	PANKI	LDO-LIGHT DIESEL OIL	60000	KL	42,213.60	7,598.45	49,812.05
FO	MATHURA	FURNACE OIL REGULAR (IN MT)	70100	MT	25,390.00	4,570.20	29,960.20
LSHS	MATHURA	LSHS (PREMIUM)	83000	MT	26,790.00	4,822.20	31,612.20
LSHS	PANIPAT	LSHS (PREMIUM)	83000	MT	26,810.00	4,825.80	31,635.80
BITUMEN	MATHURA	Durapave CRMB - 55 Bulk	120200	MT	31,530.00	5,675.40	37,205.40
		Durapave CRMB - 60 Bulk	120300		31,800.00	5,724.00	37,524.00
		Durapave Bitumen VG-10 Bulk	131000		28,140.00	5,065.20	33,205.20
		Durapave Bitumen VG-10 Pack - 156 kg	131077		33,540.00	6,037.20	39,577.20
		Durapave Bitumen VG-30 Bulk	132000		28,940.00	5,209.20	34,149.20
		Durapave Bitumen VG-30 Pack - 156 kg	132077		34,340.00	6,181.20	40,521.20
	PANIPAT	Durapave Bitumen VG-40 Bulk	134000		29,460.00	5,302.80	34,762.80
		Durapave CRMB - 55 Bulk	120200		31,410.00	5,653.80	37,063.80
		Durapave CRMB - 60 Bulk	120300		31,650.00	5,697.00	37,347.00
		Durapave Bitumen VG-10 Bulk	131000		28,140.00	5,065.20	33,205.20
		Durapave Bitumen VG-10 Pack - 156 kg	131077		33,540.00	6,037.20	39,577.20
		Durapave Bitumen VG-30 Bulk	132000		28,940.00	5,209.20	34,149.20
	KOYALI	Durapave Bitumen VG-30 Pack - 156 kg	132077		34,340.00	6,181.20	40,521.20
		Durapave Bitumen VG-40 Bulk	134000		29,460.00	5,302.80	34,762.80
		Durapave CRMB - 55 Bulk	120200		31,170.00	5,610.60	36,780.60
		Durapave CRMB - 60 Bulk	120300		31,410.00	5,653.80	37,063.80
		Durapave Bitumen VG-10 Bulk	131000		28,440.00	5,119.20	33,559.20
		Durapave Bitumen VG-30 Bulk	132000		29,240.00	5,263.20	34,503.20
	HALDIA	Durapave Bitumen VG-40 Bulk	134000		30,260.00	5,446.80	35,706.80
		Durapave CRMB - 55 Bulk	120200		32,100.00	5,778.00	37,878.00
		Durapave CRMB - 60 Bulk	120300		32,380.00	5,828.40	38,208.40
		Durapave Bitumen VG-10 Bulk	131000		29,640.00	5,335.20	34,975.20
		Durapave Bitumen VG-30 Bulk	132000		30,440.00	5,479.20	35,919.20
		Durapave Bitumen VG-10 Pack - 156.5	131078		35,040.00	6,307.20	41,347.20
	2164	Durapave Bitumen VG-30 Pack - 156.5	132078		35,840.00	6,451.20	42,291.20
		Durapave Bitumen VG-40 Bulk	134000		30,960.00	5,572.80	36,532.80
		Durapave Indemul-Med 200Kg drum	126072		-	-	-
		Durapave INDEMUL - Medium - Bulk	126000		-	-	-
		Durapave INDEMUL - Medium - Bulk	126000		25,410.00	4,573.80	29,983.80
		Durapave Bitumen VG-10 Bulk	131000		30,670.00	5,520.60	36,190.60
2121	BARAUNI	Durapave Bitumen VG-30 Bulk	132000		31,470.00	5,664.60	37,134.60
		Durapave Bitumen VG-40 Bulk	134000		31,990.00	5,758.20	37,748.20
HSD	1423 Kanpur	HSD BS-IV	56000	KL	39,020.63		54,850.63
	1426 Lucknow				39,090.73		54,920.73
	1442 Baitalpur				39,076.63	BED @ Rs. 4830	54,906.63
	1449 AMBABAI				38,898.57	SAED: @ Rs. 2000	54,728.57
	1456 Gonda				39,213.57	AED (RIC):	55,043.57
	1555 BANTHRA				39,073.07	@Rs. 9000	54,903.07

Khushmeet Singh
16/12/19

कुशमेट सिंह सरावाल/Khushmeet Singh Sarbharwal
 प्रबंधक (व्यवसाय विभाग)/Manager (Institutional Business)
 इंडियन ऑयल कॉर्पोरेशन लि./Indian Oil Corporation Ltd.
 लखनऊ - २२६०२४/Lucknow - 226024
 लखनऊ-226024/Lucknow-226024



HINDUSTAN COLAS (PVT) LTD

HINCOL BAHADURGARH PLANT, EX WORKS price. Price list effective 16.12.2019 to 31.12.2019

HINCOL BAHADURGARH PLANT, EX WORKS RATE (EFFECTIVE 16.12.19 to 31.12.19)					
S.NO	Location	Material Desc.	Basic Price (INR/MT)	GST (@18%)	Grand Total (INR/MT)
1	Bahadurgarh	HINCOL Emulsion SS2-Stab (Bulk)	28600.0	5148.0	33748.0
2	Bahadurgarh	HINCOL Emulsion MS (Bulk)	29182.0	5252.8	34434.8
3	Bahadurgarh	HINCOL Emulsion SS2 (Bulk)	29994.0	5398.9	35392.9
4	Bahadurgarh	HINCOL Emulsion SS1 astm (Bulk)	30467.0	5484.1	35951.1
5	Bahadurgarh	HINCOL Emulsion SS2-Stab (HDPE)	36329.0	6539.2	42868.2
6	Bahadurgarh	HINCOL Emulsion SS2-Stab (MSD)	37329.0	6719.2	44048.2
7	Bahadurgarh	HINCOL Emulsion MS (HDPE)	33782.0	6080.8	39862.8
8	Bahadurgarh	HINCOL Emulsion MS (MSD)	34782.0	6260.8	41042.8
9	Bahadurgarh	HINCOL Emulsion SS2 (HDPE)	34594.0	6226.9	40820.9
10	Bahadurgarh	HINCOL Emulsion SS2 (MSD)	35594.0	6406.9	42000.9
11	Bahadurgarh	HINCOL Emulsion SS1 astm (HDPE)	35068.0	6312.2	41380.2
12	Bahadurgarh	HINCOL Emulsion SS1 astm (MSD)	36068.0	6492.2	42560.2

Terms & Conditions

1. Prices are Ex- HINCOL – PLANT.
2. Prices prevailing on the date of Delivery will be applicable.
3. Prices are ex plant and transportation shall be in buyer's scope.
4. Concessions on Statutory Levies if any, will be only on production of appropriate form.
5. Payment to be made in advance by RTGS or Demand Draft Favouring " HINDUSTAN COLAS PRIVATE LIMITED".

Our Bank Details are: Bank: Standard Chartered Bank , Branch Mumbai
Account No: HINDCOL##### , IFSC Code: SCBL0036001
/* where in ##### denotes your customer ID number*/

This is an electronically generated document and hence does not require signature

CHAPTER-2							
SITE CLEARANCE							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
2.3	201	Clearing and Grubbing Road Land .					
		Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, upto a lead of 1000 m including removal and disposal of top organic soil not exceeding 150mm in thickness.					
		<i>Unit = Hectare</i>					
		<i>Taking output = 1 Hectare</i>					
		(i) By Manual Means:-					
		A In area of light jungle					
		a) Labour					
		Mate	day	6.0	370.00	2220.00	L-12
		Mazdoor	day	150.0	340.00	51000.00	L-13
		b) Machinery					
		Tractor-trolley	hour	1.0	234.00	234.00	P&M-053
		Add:- 85% Escalation				198.90	
		c) Overhead charges @ 4% on (a+b)				2146.12	
		d) Contractor's profit @ 10% on (a+b+c)				5579.90	
		Rate per sqm = (a+b+c+d)/10000				6.14	
					say	<u>6.10</u>	


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519
ANALYSIS OF RATES
 (Earth Work Embankment/Shoulders)

261

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
3.16	305	Construction of Embankment/Patri with Material obtained from Borrowpits. Cartage 3 km Construction of embankment/Patri with approved material obtained from borrow pits with all lifts (Distance 3 km) and all leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2. (Ref. to Mort&H Specification No.305) including cost of earth and royalty etc. Unit = cum Taking output = 100 cum					
		a) Labour					
		Mate	day	0.04	370.00	14.80	L-12
		Mazdoor	day	1.00	340.00	340.00	L-13
		b) Machinery					
		Hydraulic excavator 1 cum bucket capacity @ 60 cum per	hrs	1.670	840.00	1402.80	P&M-026
		Tipper 10 tonne capacity	t km	160X3	1.74	835.20	Lead = input km & P&M-058
		Add 10% cost of carriage to cover cost of loading and unloading		0.10	835.20	83.52	
		Dozer 80 HP for spreading @ 200 cum per hour	hour	0.500	1423.00	711.50	P&M-014
		Motor grader for grading @ 100 cum per hour	hour	0.500	1545.00	772.50	P&M-032
		Water tanker (6kl)	hour	4.000	195.00	780.00	P&M-060
		Vibratory roller 8-10 tonnes @ 80 cum per hour	hour	1.00	994.00	994.00	P&M-059
		Add:- 85% Escalation				4742.59	
		c) Material					
		Cost of water	KL	24.00	50.00	1200.00	M-092
		Cost of Earth	cum	100.00	7.00	700.00	
		d) Overhead charges @ 4% on (a+b+c)				503.08	
		e) Contractor's profit @ 10% on (a+b+c+d)				1308.00	
		Rate for 100 cum = a+b+c+d+e				14337.99	
		Rate per cum = (a+b+c+d+e)/100				143.90	
		Royalty		1.00		0.00	
						Total	143.90
						<i>say</i>	143.90 cum

Note :- The earth is not available at less than 3 km Distance

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CHAPTER - 4

4.1	401		Granular Sub-Base with Coarse Graded Material (Table-400-1)				
		A	Plant Mix Method				
			Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401				
			Unit = cum				
			Taking output = 300 cum				
		a)	Labour				
			Mate	day	0.400	370.00	148.00
			Mazdoor skilled	day	2.000	340.00	680.00
			Mazdoor	day	8.000	340.00	2720.00
						Total A	3548.00
		b)	Machinery				
			Mortar Grader 110 HP @ 50 cum per hour	hour	6.000	1545.000	9270.00
			Vibratory roller 8-10 tonne	hour	6.000	994.000	5964.00
			Water tanker 6 KL capacity 5 km lead with one trip per hour	hour	3.000	195.000	585.00
			Add price exclamation from Yr. 2001-2002 to 2019-20	85%			13446.15
						Total B	29265.15
		c)	Material				
			Coarse graded Granular sub-base Material as per table 400-1				
			For Grading-I Material				
			53 mm to 26.5mm @ 25 percent (Crushed)	cum	134.400	1882.00	252940.80
			26.5 mm to 4.75 mm @ 45 percent (Crushed)	cum	172.800	1882.00	325209.60
			2.36 mm below @ 20 percent	cum	76.800	1643.00	126182.40
			Cost of water	KL	18.000	53.00	900.00
						Total C	705232.80
						G Total	738045.95
4.1A	(i)		Rate per cum for grading-I Material				29521.84
		d)	Overhead charges @ 4% (a+b+c)				76756.78
		e)	Contractor's profit @ 10% (a+b+c+d)				61440.00
		f)	Add Royalty @ 160 x (134.40+172.80+76.80) =				905764.57
			Cost for 300 cum = a+b+c+d+e+f				3019.22
			Rate per cum = (a+b+c+d+e+f)/300				say 3019.22

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CEMENTED BASE (WET MIX MACADAM + 4% Cement (OPC))

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC and 4% cement (OPC) in mechanical motar (Pug M) cariage of mixed Material by tipper to site, laying in uniform layers in sub- base / base course on well prepared sub base and compacting with smooth wheel roller 80 to 100kg weight to achieve the desired density including lighting, barricating and maintenance of diversion etc. as per table 400.11 & 400.12 and technical specification clause 400.				
		By Mechanical Means with 1 Km lead.				
		<i>Unit = cum</i>				
		<i>Taking output = 100 cum (220 tonnes)</i>				
		a) Labour				
		Mate	day	0.400	370.00	148.00
		Dresser (Skilled) For alignment	day	8.000	340.00	2720.00
		Mazdoor (Skilled)	day	2.000	340.00	680.00
						3548.00
		b) Machinery				
		Front end loader 1 cum capacity	hour	4.000	520.000	2080.00
		Wet mix plant (Pug Mill)	hour	4.000	777.000	3108.00
	42.3	Tipper/Dumer (10-1) capacity	tonne/km	495 x 42.3/4	1.740	9108.25
		Motor Grader @ 50 cum per hour	hour	2.000	1545.000	3090.00
		Water tanker 6 KL capacity including curing	hour	1.600	195.000	312.00
		Three wheel 80-100 K.N. static roller @ 16 cum per hour	hour	6.250	297.000	1158.30
						18856.55
		Add price exclation from Yr. 2001-2002 to 2019-20	85%			16028.07
						34884.61
		c) Material (Table 400-11)				
		Cement (OPC) @ 4% by weight of aggregets (220t)	tonnes	8.800	5000.00	44000.00
		Coarse aggregates 45 mm to 22.4 mm @ 30 per cum	cum	39.900	1744.00	69585.60
		Aggregates 22.4mm to 2.30mm@ 40 per cum	cum	53.200	1946.00	103527.20
		Fine aggregates crushed sand 2.36 mm to 75 cum@ 26 per cum	cum	32.950	1946.00	64120.70
		Water including curing	kl	14.000	50.00	700.00
						281933.50
					G. Total (a+b+c)	320366.11
		d) Overhead charges @ 4 % (a+b+c)				12814.64
		e) Contractor's profit @ 10% (a+b+c+d)				33318.08
		f) Add Royalty @ 160 x (39.9+53.2+32.95) =				20168.00
		Cost for 100 cum = a+b+c+d+e+f				386666.83
		Rate per cum = (a+b+c+d+e)/100				3866.67
					<i>say</i>	3866.70

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CHAPTER - 4

SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
4.12	406	Wet Mix Macadam				
		Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.				
		<i>Unit = cum</i>				
		<i>Taking output = 225 cum (495 tonnes)</i>				
		a) Labour				
		Mate	day	0.480	370.00	177.60
		Mazdoor skilled	day	2.000	340.00	680.00
		Mazdoor	day	10.000	340.00	3400.00
						4257.60
		b) Machinery				
		Wet mix plant of 75 tonne hourly	hour	6.600	777.000	5128.20
		Electric generator 125 KVA	hour	6.000	450.000	2700.00
		Front end loader 1 cum capacity	hour	6.000	520.000	3120.00
		Paver finisher	hour	6.000	629.000	3774.00
		Vibratory roller 8 - 10 tonne	hour	6x0.65	994.000	3876.60
		Proposed Section				
		Smooth 3 wheeled steel roller @ 8-10 tonnes.	hour	12.000		
		Water tanker 6 KL capacity	hour	3.000	195.00	585.00
	42.3	Tipper	tonne.k	495 x 42.3/4	1.74	9108.25
		Add 10 per cent of cost of carriage to cover cost of loading and unloading				910.82
						29202.87
		Add price exclamation from Yr. 2001-2002 to 2019-20	85%			24822.44
						54025.31
		c) Material (Table 400-11)				
		53 mm to 22.4 mm @ 30 per cent	cum	89.100	1744.00	155390.40
		22.4 mm to 2.36 mm @ 40 per cent	cum	118.800	1946.00	231184.80
		2.36 mm to 75 micron @ 30 per cent	cum	89.100	1946.00	173388.60
		Cost of water	KL	18.000	50.00	900.00
						560863.80
					G. Total (a+b+c)	619146.71
		d) Overhead charges @ 4 % (a+b+c)				24765.87
		e) Contractor's profit @ 10% (a+b+c+d)				64391.26
		f) Add Royalty @ 160 x (89.1+118.8+89.1) =				47520.00
		Cost for 225 cum = a+b+c+d+e+f				755823.84
		Rate per cum = (a+b+c+d+e+f)/225				3359.22
					say	<u>3359.20</u>

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Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
5.1	502	Prime Coat MS Emulsion @ 0.65 kg/sqm. Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.65 kg/sqm using mechanical means. <i>Unit = sqm</i> <i>Taking output = 3500 sqm</i>					
		a) Labour					
		Mate	day	0.080	370.00	29.60	L-12
		Mazdoor	day	2.000	340.00	680.00	L-13
		b) Machinery					
		Mechanical broom @ 1250 sqm per hour	hour	2.800	230.00	644.00	P&M-031
		Air compressor 250 cfm	hour	2.800	206.00	576.80	P&M-001
		Bitumen pressure distributor @ 1750 sqm per hour	hour	2.000	516.00	1032.00	P&M-004
		Water tanker 6 KL capacity @ 1 trip per hour	hour	1.000	195.00	195.00	P&M-060
	0.85	Add price exclamation from Yr. 2001-2002 to 2019-20				2080.63	
		c) Material					
	0.65	Bitumen emulsion @ 0.65 kg per sqm.	tonne	2.275	29577.00	67287.68	M-077
		Cost of water	KL	6.000	50.00	300.00	M-189
		d) Overhead charges @ 4 % on (a+b+c)				2913.03	
		e) Contractor's profit @ 10 % on (a+b+c+d)				7573.87	
		Cost for 3500 sqm = a+b+c+d+e				83312.61	
		Rate per sqm = (a+b+c+d+e)/3500				23.80	
						say	23.80
5.2	503	Tack Coat Bitumen VG-10 @ 0.2 kg/sqm Providing and applying tack coat with bitumen VG-10 using Bitumen pressure distributor at the rate of 0.2 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom. <i>Unit = sqm</i> <i>Taking output = 3500 sqm</i>					
		a) Labour					
		Mate	day	0.080	370.00	29.60	L-12
		Mazdoor	day	2.000	325.00	650.00	L-13
		b) Machinery					
		Mechanical broom @ 1250 sqm per hour	hour	2.800	230.00	644.00	P&M-031
		Air compressor 250 cfm	hour	2.800	206.00	576.80	P&M-001
		Bitumen pressure distributor @ 1750 sqm per hour	hour	2.000	692.00	1384.00	P&M-004
						2604.80	
	0.85	Add price exclamation from Yr. 2001-2002 to 2019-20				2214.08	
		c) Material					
	0.2	Bitumen VG-10 @ 0.2 kg per sqm	tonne	0.700	28582.00	20007.40	M-077
		A+B+C				25505.88	
		d) Overhead charges @ 4 % on (a+b+c)				1124.43	
		e) Contractor's profit @ 10 % on (a+b+c+d)				2663.03	
		Cost for 3500 sqm = a+b+c+d+e				29293.34	
		Rate per sqm = (a+b+c+d+e)/3500				8.37	
						say	8.40


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Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	266 Input ref.
5.2	503	Tack Coat Bitumen VG-10 @ 0.25 kg/sqm Providing and applying tack coat with bitumen VG-10 using Bitumen pressure distributor at the rate of 0.25 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom. <i>Unit = sqm</i> <i>Taking output = 3500 sqm</i>					
		a) Labour					
		Mate	day	0.080	370.00	29.60	L-12
		Mazdoor	day	2.000	340.00	680.00	L-13
		b) Machinery					
		Mechanical broom @ 1250 sqm per hour	hour	2.800	230.00	644.00	P&M-031
		Air compressor 250 cfm	hour	2.800	206.00	576.80	P&M-001
		Bitumen pressure distributor @ 1750 sqm per hour	hour	2.000	692.00	1384.00	P&M-004
	0.85	Add price exclamation from Yr. 2001-2002 to 2019-20				2214.08	
		c) Material					
	0.25	Bitumen VG-10 @ 0.25 kg per sqm	tonne	0.875	28582.00	25009.25	M-077
		d) Overhead charges @ 4 % on (a+b+c)				1221.51	
		e) Contractor's profit @ 10 % on (a+b+c+d)				3175.92	
		Cost for 3500 sqm = a+b+c+d+e				34935.16	
		Rate per sqm = (a+b+c+d+e)/3500				9.98	
						<u>10.00</u>	say <u>10.00</u>

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Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	267 Input ref.
5.6	507	Dense Graded Bituminous Macadam @ 4.5% VG-30 50-75 mm thickness Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 507 complete in all respects. <i>Unit = cum</i> <i>Taking output = 195 cum (450 tonnes)</i>					
		a) Labour					
		Mate	day	0.840	370.00	310.80	L-12
		Mazdoor working with HMP, mechanical broom, paver, roller, asphalt cutter and assistance for setting out lines, levels and layout of construction	day**	14.000	365.00	5110.00	L-13
		Skilled mazdoor for checking line & levels	day	5.000	340.00	1700.00	L-15
					Total A	7120.80	
		b) Machinery				7120.80	
		Batch mix HMP @ 75 tonne per hour	hour	6.000	11167.00	67002.00	P&M-022
		Paver finisher hydrostatic @ 75 cum per hour	hour	6.000	629.00	3774.00	P&M-034
		Generator 250 KVA	hour	6.000	450.00	2700.00	P&M-081
		Front end loader 1 cum bucket capacity	hour	6.000	520.00	3120.00	P&M-017
42.3		Tipper 10 tonne capacity	tonne.km	450 x 42.3/4	1.74	8280.23	Lead =input km & P&M-058
		Add 10 per cent of cost of carriage to cover cost of loading and unloading				828.02	
		smooth wheeled roller 8-10 tonnes for initial break down rolling.	hour	6.00x0.65*	297.00	1158.30	P&M-044
		Vibratory roller 8 tonnes for intermediate rolling.	hour	6.00x0.65*	994.00	3876.60	P&M-059
		Finish rolling with 6-8 tonnes smooth wheeled tandem roller.	hour	6.00x0.65*	738.00	2878.20	P&M-045
0.85		Add price exclamation from Yr. 2001-2002 to 2019-20				79574.75	
					Total B	173192.09	
		c) Materials					
4.5		Bitumen @ 4.5 percent of weight of mix	tonne	20.250	29382.00	594985.50	M-074
		Aggregate					
		Total weight of mix = 450 tonnes					
		Weight of bitumen = 20.25 tonnes					
10		Weight of aggregate in tonnes	429.75	t			
		<i>Taking density of aggregate = 1.5 ton/cum</i>					
		Volume of aggregate 286.5 cum					
		Grading - II19 mm (Nominal Size)					
		25 - 10 mm 30 per cent	cum	85.950	1946.00	167258.70	M-046
		10 - 5 mm 28 per cent	cum	80.220	1946.00	156108.12	M-040
		5 mm and below 40 per cent	cum	114.600	1946.00	223011.60	M-030
		Filler @ 2 per cent of weight of aggregates.	tonne	5.730	1946.00	11150.58	M-188
					Total B	1152514.50	
					Total A+B+C	1332827.39	
		d) Overhead charges @ 4 % on (a+b+c)				60525.61	
		e) Contractor's profit @ 10 % on (a+b+c+d)				139335.30	
		f) Add Royalty @ 160 x (85.95+80.22+114.6+5.73) =				45840.00	
		Cost for 195 cum = a+b+c+d+e+f				1578528.30	
		Rate per cum = (a+b+c+d+e+f)/195 (For Grading-II)				8095.02	
						say 8095.00	

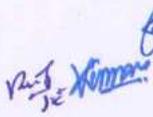
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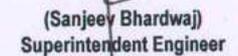
(C.P.Singh)

(Sanjeev Bhardwaj)

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	268 Input ref.
5.8	509	Bituminous Concrete Bitumen VG-30 @ 5.4% Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 509 complete in all respects <i>Unit = cum</i> Taking output = 191 cum (450 tonnes)					
		a) Labour					
		Mate	day	0.840	370.00	310.80	L-12
		Mazdoor working with HMP, mechanical broom, paver, roller, asphalt cutter and assistance for setting out lines, levels and layout of construction	day**	14.000	365.00	5110.00	L-13
		Skilled mazdoor for checking line & levels	day	5.000	340.00	1700.00	L-15
		b) Machinery					
		Batch mix HMP @ 75 tonne per hour	hour	6.000	11167.00	67002.00	P&M-022
		Paver finisher hydrostatic with sensor control @ 75 cum per hour	hour	6.000	629.00	3774.00	P&M-034
		Generator 250 KVA	hour	6.000	450.00	2700.00	P&M-081
		Front end loader 1 cum bucket capacity	hour	6.000	520.00	3120.00	P&M-017
42.3		Tipper 10 tonne capacity	tonne.km	450 X42.3/4	1.74	8280.23	Lead =input km & P&M-058
		Add 10 per cent of cost of carriage to cover cost of loading and unloading				828.02	
		Smooth wheeled roller 8-10 tonnes for initial break down rolling.	hour	6.00x0.65*	297.00	1158.30	P&M-044
		Vibratory roller 8 tonnes for intermediate rolling.	hour	6.00x0.65*	994.00	3876.60	P&M-059
		Finish rolling with 6-8 tonnes smooth wheeled tandem roller.	hour	6.00x0.65*	738.00	2878.20	P&M-045
0.85		Escalation on Machinery @ 5% per yr. from base yr 2001-02				79574.75	
		c) Material					
5.4		i) Bitumen @ 5.4 per cent of weight of mix	tonne	24.300	29382.00	713982.60	M-074
		ii) Aggregate					
		Total weight of mix = 450 tonnes					
		Weight of bitumen = 24.3 tonnes					
		Weight of aggregate in tonnes		425.70 t			
		Taking density of aggregate = 1.5 ton/cum					
		Volume of aggregate 283.8 cum					
		Grading - II-13 mm (Nominal Size)					
		13.2 - 10 mm 30 per cent	cum	85.140	1946.00	165682.44	M-044
		10 - 5 mm 25 per cent	cum	70.950	1946.00	138068.70	M-040
		5 mm and below 43 per cent	cum	122.034	1946.00	237478.16	M-030
		Filler @ 2 per cent of weight of aggregates.	cum	5.676	1946.00	11045.50	M-188
		*Any one of the alternative may be adopted as per approved design					
		(ii) for Grading-II(10 mm nominal size)					
		d) Overhead charges @ 4 % on (a+b+c)				57862.81	
		e) Contractor's profit @ 10 % on (a+b+c+d)				150443.31	
		f) Add Royalty @ 160 x (85.14+70.95+122.034+5.676) =				45408.00	
		Cost for 205 cum = a+b+c+d+e+f				1700284.42	
		Rate per cum = (a+b+c+d+e+f)/191 (For Grading-II)				8902.01	
						say 8902.00	


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50 GHAZIABAD SAIL

01/12/2019

Rate of TOR STEEL as per SAIL at SITE

S.No	Particular	TMT Bar
		12mm TMT
1	Basic Rate at SAIL Ghaziabad	48221.00
2	Cartage as per SI No. 232(a) per Km. /per Ton Distance from SAIL Office Ghaziabad to Meerut NH 58 (Km.61) Upto 8 Km Without C.P.	140.91
4	Less GST @ 18% on No. 1	40865.25
Total		41006.16
Rate Per Ton Say		41006.00

24.12.19
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J.E

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CHAPTER-14
SUPER-STRUCTURE

270

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
14.2	1600	Supplying, fitting and placing HYSD bar reinforcement in super-structure complete as per drawing and technical specifications <i>Unit = 1 MT</i> <i>Taking output = 1 MT</i>					
		a) Material					
		HYSD bars including 5 per cent for laps and wastage	tonne	1.05	41006.00	43056.30	M-082
		Binding wire	Kg	8.00	52.00	416.00	M-072
		b) Labour for cutting, bending, tying and placing in position					
		Mate	day	0.44	370.00	162.80	L-12
		Blacksmith	day	3.00	420.00	1260.00	L-02
		Mazdoor	day	8.00	340.00	2720.00	L-13
		c) Overhead charges @ 4% on (a+b)				1904.60	
		d) Contractor's profit @ 10% on (a+b+c)				4951.97	
		Rate per MT = a+b+c+d				54471.67	
					say	<u>54472.00</u>	Per M.T.

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CHAPTER-14							
SUPER-STRUCTURE							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
14.1	1500 & 1600 1700	Furnishing and Placing Reinforced/ Prestressed cement concrete in super-structure as per drawing and Technical Specification					
		RCC Grade M20					
		Using Concrete Mixer					
		Unit = 1 cum					
		Taking output = 15 cum					
		a) Material					
		Cement	tonne	5.12	5000.00	25600.00	M-081
		Coarse sand / stone dust	cum	6.75	1946.00	13135.50	M-005
		20 mm Aggregate	cum	8.10	1946.00	15762.60	M-053
		10 mm Aggregate	cum	5.40	1946.00	10508.40	M-051
		b) Labour					
		Male	day	0.86	370.00	313.20	L-12
		Mason	day	1.50	450.00	675.00	L-11
		Mazdoor	day	20.00	340.00	6800.00	L-13
		c) Machinery					
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	150.00	900.00	P&M-009
		Generator 33 KVA	hour	6.00	240.00	1440.00	P&M-079
		Add 85% Excalation				1989.00	
		Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum		77129.00			
		For formwork and staging add the following:					
		For solid slab super-structure, 20-30 per cent of (a+b+c)					
		Height upto 5m					
		Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				77129.00	
		d) Formwork and staging 20 per cent of (a+b+c)		20.00		13425.50	
		e) Contractor's charges @ 4% on (a+b+c+d)				3702.19	
		f) Contractor's profit @ 10% on (a+b+c+d+e)				9625.70	
		g) Add Royalty @ 160 x (6.75+8.10+5.40) =				3240.00	
		Cost for 15 cum = a+b+c+d+e+f+g				109122.69	
		Rate per cum = (a+b+c+d+e+f+g)/15				7274.85	
					say	<u>7274.80</u>	Per Cum

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CHAPTER-12							
FOUNDATIONS							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
12.4	2100	PCC 1:3:6 in Foundation					
		Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.					
		<i>Unit = cum</i>					
		<i>Taking output = 15 cum</i>					
		a) Labour					
		Mate	day	0.64	370.00	236.80	L-12
		Mason	day	1.00	450.00	450.00	L-11
		Mazdoor	day	15.00	340.00	5100.00	L-13
		b) Material					
		40 mm Aggregate	cum	13.50	1946.00	26271.00	M-055
		coarse Sand /stone dust	cum	6.75	1946.00	13135.50	M-005
		cement	tonne	3.45	5000.00	17250.00	M-081
		Cost of water	KL	18.00	50.00	900.00	M-189
		c) Machinery					
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	150.00	900.00	P&M-009
		Generator 33 KVA	hour	6.00	240.00	1440.00	P&M-079
		Water tanker 6 KL capacity	hour	2.00	195.00	390.00	P&M-060
		Escalation 85%				2320.50	
		d) Overhead charges @ 4% on (a+b+c)				2735.75	
		e) Contractor's profit @ 10% on (a+b+c+d)				7112.96	
		f) Add Royalty @ 160 x (13.50+6.75) =				3240.00	
		Cost for 15 cum = a+b+c+d+e+f				81482.51	
		Rate per cum = (a+b+c+d+e+f)/15				5432.17	
					say	<u>5432.00</u>	Per Cum


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Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
12.4	2100	PCC 1:2:4 M15 Grade					
		Plain cement concrete 1:2:4 nominal mix in grade leveling course complete as per drawing and Technical Specification					
		<i>Unit = cum</i>					
		<i>Taking output = 15 cum</i>					
		a) Labour					
		Mate	day	0.86	370.00	318.20	L-12
		Mason	day	1.50	450.00	675.00	L-11
		Mazdoor	day	20.00	340.00	6800.00	L-13
		b) Material					
		40 mm Aggregate	cum	8.10	1946.00	15762.60	M-055
		20 mm Aggregate	cum	4.05	1946.00	7881.30	M-055
		10 mm Aggregate	cum	1.35	1946.00	2627.10	M-055
		coarse Sand / Stone Dust	cum	6.75	1946.00	13135.50	M-005
		cement	tonne	4.13	5000.00	20650.00	M-081
		Cost of Water	KL	18.00	50.00	900.00	M-081
		c) Machinery					
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	150.00	900.00	P&M-009
		Generator 33 KVA	hour	6.00	240.00	1440.00	P&M-079
		Water tanker 6 KL capacity	hour	2.00	195.00	390.00	P&M-060
		Escalation 85%				2320.50	
		d) Overhead charges @ 4% on (a+b+c)				2952.01	
		e) Contractor's profit @ 10% on (a+b+c+d)				7675.22	
		Cost for 15 cum = a+b+c+d+e				84427.43	
		f) Add Royalty @ 160 x (8.10+4.05+1.35+6.75) =				3240.00	
		Rate per cum = (a+b+c+d+e+f)/15				5844.50	
					say	5844.00	Per Cum.

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ANALYSIS OF RATES
CONSTRUCTION OF R.C.C. DRAIN 60x60

कार्य का नाम :- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण/चौडीकरण/सुदृढीकरण का कार्य। (मेरठ)

Sl. No.	Item	Quantity	Unit	Rate	Amount
1	Excavation in foundation in ordinary soil (Loam, clay or sand) including lift upto 1.50M. and lead upto 30M. and including filling watering and ramming of excavated earth into the trenches or into the space between the building and the sides of foundation trenches or into the plinth and removal and disposal of surplus earth as directed by the E/I upto a distance of 30 M. from the foundation trenches. As per SI No. 251A 1.00 1.00 1.00 0.800 0.80	0.80	Cum	82.00	65.60
2	Cement Concrete with 4 cm. guage approved stone ballast, coarse sand & cement in the proportion of 6:3:1 including supply of all materials, labour, Tools & plants etc. required for proper completion of the work. As per SI No. 281 1.00 1.00 1.00 0.100 0.10 0.10	0.10	Cum	5432.00	543.20
3	R.C.C. Work with cement approved coarse sand & 2 cm gauge approved stone grit in proportions of 1:1½:3 in lintels of door & windows excluding supply of reinforcement and its bending, but including its fixing and binding the same with 24 B.W. G.G.I., binding wire and including necessary centering and shuttering etc. and supply of all materials labour, Tools & plants etc. required for proper completion of the work, including cost of binding wire. The rate excludes making of drip course which shall be paid extra. As per SI No. 283 A For base 1.00 1.00 0.80 0.10 0.08 For Wall 2.00 1.00 0.10 0.60 0.12 0.200	0.200	Sqm	7274.80	1454.96
5	I.I.S.(tor steel or plain) in Plain work such as R.C.C. or R.B. work including bending for proper shape and including supply of steel & its wastage, bend, hooks and authorised overlapping shall be measured and including cost of binding wire. As per SiNo.504 0.200 1.50% 7845.00 23.54 23.54 23.54	0.24	Qtl	5447.20 Total Say Rs.	1307.33 3371.09 3371.00 Per R.M.

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कार्य का नाम :- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण/चौडीकरण/सुदृढीकरण का कार्य। (मेरठ)

1	Providing 600 mm dia NP-3 S/S type hume pipe i/c supply of all materials,labour and T&P etc. required for proper completion of work as per direction of engineer-in-charge	Unit	Quantity	Rate	Amount
	Unit = Rm				
a.	Cost of 600 mm dia NP-3 S/S type Hume Pipe	Rm	1.00	1906.00	1906.00
b.	Transportation charges @ 15% on (a.) up to 100 Km.	Rm	1906.00	0.15	285.90
				G.Total	2191.90
	Rate per Rm = (a+b)/1.00				2191.90
				SAY	2191.00

Per RM

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Analysis of Rate

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
9.2	2900	Laying Reinforced Cement Concrete Pipe NP3 / Prestressed Concrete Pipe on First Class Bedding in Single Row .				
		Laying Reinforced cement concrete pipe NP4/prestressed concrete pipe for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets .				
		<i>Unit = metre</i>				
		<i>Taking output = 12.5 metres (5 pipes of 2.5 m length each)</i>				
	A	600 mm dia				
	a)	Labour				
		Mate	day	0.180	370.00	66.60
		Mason	day	0.500	450.00	225.00
		Mazdoor	day	4.000	340.00	1360.00
	b)	Material				
		coarse Sand /stone dust	cum	0.070	1946.00	136.22
		Cement	tonne	0.050	5000.00	250.00
		RCC pipe NP-3 /prestressed concrete pipe including collar at site 600 mm dia.	metre	12.500	2191.00	27387.50
		Granular material (GSB) for bedding	cum	4.500	3062.60	12781.70
	c)	Overhead charges @ 4% on (a+b)				1728.28
	d)	Contractor's profit @ 0.10 on (a+b+c)				4493.53
	e)	Add Royalty @ 1% x (0.07+4.50) =				731.20
		Cost for 12.5 metres = a+b+c+d				49428.83
		Rate per metre = (a+b+c+d)/12.5				3954.31
					say	3954.30

Per Rm.

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Analysis of Rate

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
12.6	(A) Sub-analysis	Cement Mortar 1:3 (1 cement : 3 sand)				
		Unit = 1 cum				
		Taking output = 1 cum				
		a) Materials				
		Cement	tonne	0.51	5000.00	2550.00
		Coarse Sand /stone dust	cum	1.05	1946.00	2043.30
		b) Labour				
		Mate	day	0.04	370.00	14.80
		Mazdoor	day	0.90	340.00	306.00
		c) Add Royalty @ 160 x 1.05 =				168.00
		Total Material and Labour = (a+b+c)			say	5082.00

Per Cum.

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Analysis of Rate

Sr No	Ref. to MoRTH Spec.	Description	Unit	Qty	Rate Rs	Cost Rs
13.2	1300 & 2200	Pointing with cement mortar (1:3) on brick work in substructure as per Technical Specifications				
		<i>Unit = 10 sqm</i>				
		<i>Taking output = 10 sqm</i>				
		a) Material				
		Cement mortar 1:3 (Rate as in Item 12.6)	cum	0.03	5082.00	152.46
		b) Labour				
		Mate	day	0.04	370.00	14.80
		Mason	day	0.50	450.00	225.00
		Mazdoor	day	0.50	340.00	170.00
						22.49
		c) Overhead charges @ 4% on (a+b)				58.48
		d) Contractor's profit @ 10% on (a+b+c)				643.23
		Rate per cum (a+b+c+d)				64.32
		Rate per sqm				64.30
					say	64.30

Per Sqm.

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CHAPTER-13							
SUB-STRUCTURE							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
13.3	1300 & 2200	Plastering with cement mortar (1:3) on brick work in sub-structure as per Technical Specifications					
		Unit = 10 sqm					
		Taking output = 10 sqm					
		a) Material					
		Cement mortar 1:3 (Rate as in Item 12.6)	cum	0.144	5082.00	731.81	Item 12.6 (A)
		b) Labour					
		Mate	day	0.04	370.00	14.80	L-12
		Mason	day	0.50	450.00	225.00	L-11
		Mazdoor	day	0.50	340.00	170.00	L-13
		c) Overhead charges @ 4% on (a+b)				45.66	
		d) Contractor's profit @ 10 % on (a+b+c)				118.73	
		Rate per 10 sqm (a+b+c+d)				1306.00	
		Rate per sqm			say	130.00	Per Sqm.

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538 ANALYSIS OF RATES

कार्य का नाम :- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) 280

निर्माण/चौडीकरण/सुदृढीकरण का कार्य। (मेरठ)

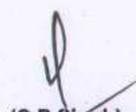
Name of Work : C/o 600mm dia NP-3 class R.C.C. humepipes culvert

Sl.	Item of works	No.	L	B	H	Qty		Rate	Amount
1	Excavation in foundation in hard soil SI N. 251a								
	(i) For Parapets	2	3.00	0.90	1.20	6.48			
	(ii) For Hume Pipe	1	10.70	1.05	0.50	5.62			
						12.10	cum	82.00	992.00
2	C.C. in foundation in 1:4:8 in cement, coarse sand and 4cm gauge stone ballast								
	(i) For Parapets	2	3.00	0.90	0.15	0.81			
	(ii) For Hume Pipe	1	10.70	1.05	0.10	1.12			
	(iii) Sides of Hume Pipe	1	10.70	1.05	0.25	2.81			
						4.74	cum	4100.00	19443.23
3	M-150 Class B/W in 1:4 cement & coarse sand mortar SI No. 307								
	Ist Step	2	3.00	0.81	0.15	0.73			
	IInd Step	2	3.00	0.69	0.30	1.24			
	IIIrd Step	2	3.00	0.58	0.45	1.57			
	Pipe Level	2	3.00	0.58	0.75	2.61			
	Above H.P.	2	3.00	0.46	0.75	2.07			
	Above H.P.	2	3.00	0.35	0.30	0.63			
							8.85		
	Deduction for Hume Pipe 2 x 3.14 x (0.75)2 / 4 x 0.58					-0.51			
						8.34	cum	4000.00	33348.00
4	Providing and laying Hume Pipe 600mm dia NP-3 class R.C.C.	6	2.50			15.00	RM	3954.30	59314.50
5	Cement pointing in 1:2 cement & fine sand Mortar SI No. 574								
	Wall faces	2	3.00	0.95		5.70			
	Wall Sides	2 x 2 x (0.35 x 0.30)				0.42			
		2 x 2 x (0.46 x 0.45)				0.83			
							6.95		
	Deduct for Hume Pipe 2 x 3.14 x (0.75)2 / 4					-0.88			
						6.07	sqm	64.30	390.17
6	12mm Thick Plaster with cement & fine sand mortar 1:3								
	Sides	2 x 2	0.35	0.30		0.42	sqm	130.00	54.60
7	2.5cm Thick 1:2:4 C.C. on the top of parapets SI No. 279a	2 x (3.00) x 0.35 x 0.0025				0.01	cum	5844.00	30.68
								Total	113573.17

Say Rs. 113570.00

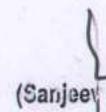

Asst. Engineer

CD(Bldg), PWD, Meerut


(C.P. Singh)

Executive Engineer

CD(Bldg), PWD, Meerut


(Sanjeev Bhardwaj)

Superintendent Engineer

Meerut Circle, PWD, Meerut

Unit 1m Length								
SI no.	Item	L	B	H	Qty	Unit	Rate	Amount
1	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location within all lifts and lead upto 1000m	1.00	1.60	1.00	1.60	Cum	82.00	131.20
2	concrete Concrete with 4cm. Guage approved stone ballast, coarse sand & cement in proportion of 8:4:1 in foundation and under floors, including supply of all material, labour and T&P etc. required for proper completion of the work (As per SI no.281)	1.00	3.30	0.30	0.99	Cum	4100.00	4059.00
3	Brick masonry work in 1:3 in (One cement & three coarse sand) complete. (As per SI no.307)	1.00	$(3.0+0.46)/2$	4.00	6.920	Cum	4140.00	28648.80
4	12mm thick plaster with cement and coarse sand in 1:3 over brick work including suppl. of all material, Labour, T&P etc. for proper completion of work. (As per SI no.582a)	1.00	2.50		2.50	Sqm	160.00	400.00
5	25mm thick cement concrete 1:2:4 on top of retaining wall (As per SI no.279)	1.00	0.46	0.025	0.0115	Cum	5050.00	58.08
6	Providing weep hole P.V.C. pipe 110mm dia. Including supply and fixing (As per SI no.30A vi)	1.00	-	-	1.00	m	220.00	220.00
Total=								33517.08
Say Rate per RM.=-								33517.00

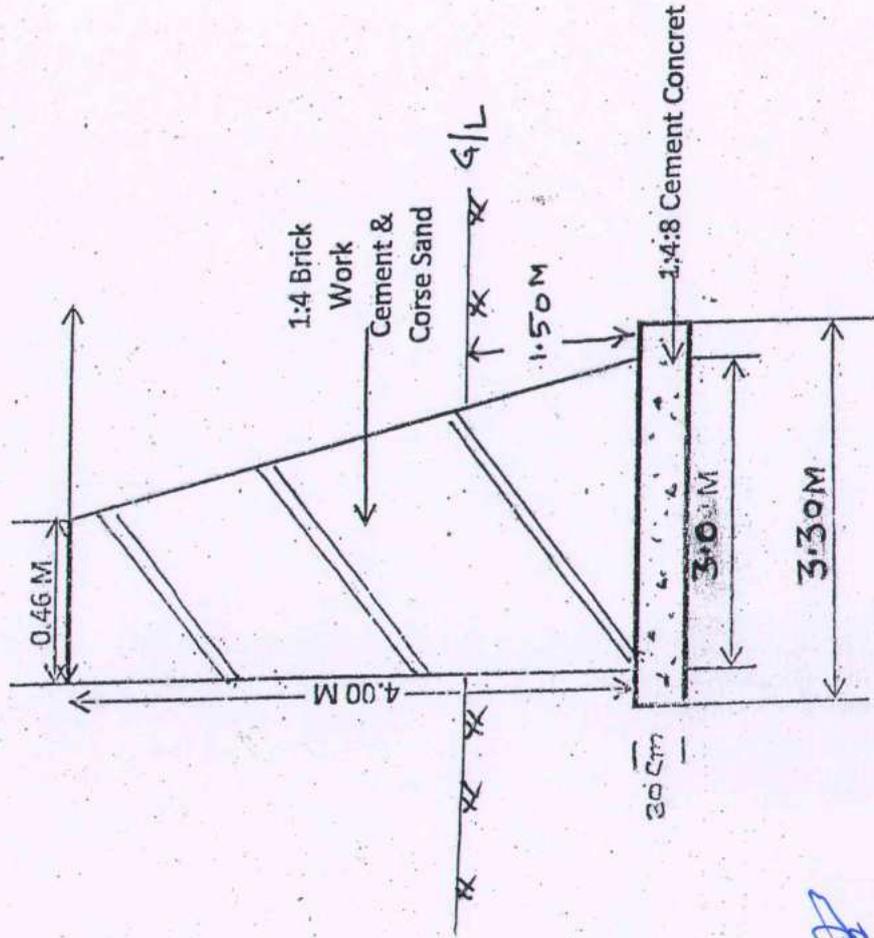
[Signature]
J.E.
CD(Bldg), PWD, Meerut

[Signature]
Asst. Engineer
CD(Bldg), PWD, Meerut

[Signature]
(C.P. Singh)
Executive Engineer
CD(Bldg), PWD, Meerut

[Signature]
(Sanjeev Chandra)
Superintendent Engineer
Meerut Circle, PWD, Meerut

Typical Section for Rataing Wall



Handwritten signatures and initials in blue ink.

Handwritten number '4' with a horizontal line through it.

ANALYSIS OF RATES

541

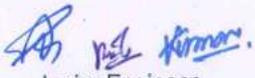
Name of work:- Construction of Building (Forest Quarters at sardhana, Canal colony at Bhola Jhaal and Hydle colony at Bhola Jhaal) in MEERUT DISTRICT

283

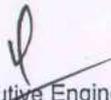
Plinth Area Rate Analysis for Ground Floor

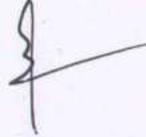
- 1 Plinth area rate fixed by Engineer in Chief, UPPWD vide letter No. 58/69B.P. Wing/2017 Dt. 10.01.2018 Rates with effect from 01.01.2018.

Rs. 11120.00


Junior Engineer
Constn. Divn.(Bldg.),P.W.D.
Meerut


Assistant Engineer
Constn. Divn.(Bldg.) P.W.D.
Meerut


Executive Engineer
Constn. Divn.(Bldg.),P.W.D.
Meerut



सेवा में,

अधिसासी अभियन्ता,
निर्माण खण्ड (भवन),
लोक निर्माण विभाग,
मेरठ।

विषय:-

अपर गंगा नहर की दांयी पटरी को दो लेन लेपित मार्ग निर्माण किये जाने हेतु मार्ग में पड़ने वाल पेड़ों के पातन हेतु आगणन उपलब्ध कराने के सम्बन्ध में।

सन्दर्भ:-

आप का पत्रांक- 2614 / 25 सी, दिनांक- 26.11.2019 एवं पत्रांक- 2650 / 1 सी, दिनांक- 02.12.2019.

महोदय,

कृपया उपरोक्त सन्दर्भित पत्र का सन्दर्भ ग्रहण करने कष्ट करें, जिसके माध्यम से जनपद मेरठ में अपर (मुख्य) गंगा नहर की दांयी पटरी पर दो लेन लेपित मार्ग निर्माण किये जाने हेतु बाधक वृक्षों के पातन एवं वृक्षारोपण आदि मदों का आगणन उपलब्ध कराने की अपेक्षा की गयी है।

अतः प्रस्तावित अपर गंगा नहर की दांयी पटरी पर दो लेन लेपित मार्ग निर्माण हेतु बाधक वृक्षों के पातन एवं वृक्षारोपण आदि मदों का अनुमानित धनराशि का आगणन निम्न प्रकार है :-

क्र० सं०	मद	मात्रा	दर प्रति	धनराशि
1	वन भूमि का शुद्ध वर्तमान मूल्य (NPV) (150-106=44 Km.)	44x1000x13.0/10000 =57.2 ha	837000.00	50736400.00
2	क्षतिपूरक वृक्षारोपण हेतु आवश्यक अनुमानित धनराशि (प्रभावित वनभूमि के दुगुने अवनत 114.4 है० वन भूमि हेतु)	114.4 ha	497860.00	56955184.00
योग				107691584.00
3	अन्य प्रशासनिक/ कन्टीजेन्सी व्यय (10 प्रतिशत)	—	—	10769158.4
4	44044 वृक्षों का छपान व्यय		10.00	440440.00
5	44044 वृक्षों का कटान व दुलान एवं जड़ खुदान पर अनुमानित व्यय	LS		154154000
योग				165363598.40
कुल योग				273055182.40

7- विषयक प्रकरण में आप द्वारा तत्काल आगणन की मांग किये जाने के कारण बाधक वृक्षों की गणना किया जाना सम्भव नहीं हो पाया है। अतः बाधक वृक्षों की संख्या, का 1100 वृक्ष प्रति है० एवं 0.7 घनत्व (1100 X 0.7= 44044 वृक्ष) के आधार पर आगणन में रखा गया है, जोकि नितान्त अनुमानित है। बाधक वृक्षों की गणना किये जाने के उपरान्त बाधक वृक्षों की संख्या घट-बढ़ सकती है।

8- वृक्षों का कटान व दुलान एवं जड़ खुदान का आवकलन/आगणन वन निगम, मेरठ द्वारा किया जाता है। अतः वन निगम, मेरठ द्वारा आगणन प्रेषित किये जाने के पश्चात् ही इस प्रभाग द्वारा वृक्षों को कटान व दुलान एवं जड़ खुदान आदि का वास्तविक आगणन उपलब्ध कराया जा सकेगा। उक्त आगणन अनुमानित है।

9- विषयक परियोजना के निर्माण हेतु मेरठ वन प्रभाग स्तर से अनापत्ति दिया जाना सम्भव नहीं है। क्योंकि प्रस्तावित विषयक मार्ग/रोड़ के निर्माण हेतु संरक्षित वन भूमि का प्रयोग किया जायेगा। भारतीय वन (संरक्षण) अधिनियम- 1980 के प्राविधानों के अन्तर्गत संरक्षित/आरक्षित वन भूमि के गैर वानिकी कार्य कराये जाने से पूर्व भारत सरकार/उत्तर प्रदेश शासन की अनुमति प्राप्त करना आवश्यक है। संरक्षित/आरक्षित वन भूमि के गैर वानिकी कार्य कराये जाने की अनुमति हेतु समस्त औपचारिकताएँ पूर्ण करते हुए प्रस्ताव भारत सरकार की वेबसाइट www.forest clearance.nic.in (परिवेश पोर्टल) में ऑनलाईन किया जाता है एवं अपर गंगा नहर की दांयी पटरी को दो लेन लेपित मार्ग निर्माण हेतु नियमानुसार सक्षम स्तर से अनुमति प्राप्त होने के पर उसमें उल्लिखित समस्त शर्तों

क्रमशः- 2 पर

7670

पश्चिमांचल विद्युत वितरण लिमिटेड, मेरठ

543

दिनांक 07/12/19

285

संख्या ---/वि०वि०ख०-दि०/

सेवा में,

श्री आदिवासी अग्रियता
निकाश स्वयं (अवत)
मौल विद्युत वितरण संस्थान
 विषय- विद्युत कनेक्शन देन हेतु

महोदय,

आपको सूचित किया जाता है कि ग्रेडर के कार्य परी हा० बा० तंत्रिका/ओद्योगिक क० विद्युत स्वीकृति न० --- दिनांक 07/12/19 देने में अकन रुपया ₹ 7198798 एस्टीमेट स्वीकृत किया गया है तथा इस कनेक्शन को देने में ₹ 1295782 लाइन तथा अधिक क्षमता 4 का ट्रांसफार्मर अथवा 4 तथा सब स्टेशन बनाने के लिये निम्नलिखित व्यय होगा।

कृपया आपसे निवेदन है कि निम्नलिखित धनराशि इस कार्यालय में इस पत्र पर अनिल दिनांक से एक महीने के अन्दर जमा कर लें। अथवा यह समझा जायेगा कि आप कनेक्शन लेने के पच्छुक नहीं हैं और आपको स्वीकृति रद्द कर दी जायेगी तथा जमा धनराशि जवाब नही जायेगी।

विवरण	साधारण योजना	योजना	नया योजना
1. धनराशि (Electricity)	₹ 0	₹ 0	₹ 0
2. लाइन का खर्चा (S. Charges) यह धन आपको वापिस नहीं होगा।	₹ 0	₹ 0	₹ 0
3. लाइन बदलने का खर्चा (Shift. tag Charges)	₹ 0	₹ 0	₹ 7198798
4. G.S.T. 18%		₹	₹ 1295782
योग			₹ 8494571

नोट:- लागू/की अनुमोदन के अभाव में
 इस स्वीकृति को अमान्य होने का
 सब आव-ना है।

- यह राशि चालू वित्तीय वर्ष के लिये ही लागू है।
- उपर दक्षिण की दो योजनाओं में से किसी एक योजना में जिसमें आपको सुविधा हो रुपया जमा दें। कनेक्शन आपको जिस योजना में आप रुपया जमा करेंगे उसी परामितिका के अनुसार ही मिलेगा।
- रुपया जमा करने के पश्चात अपनी रसीद सहित इस कार्यालय में 100 रु० के स्टाम्प कागज के साथ अधिशासी अधिकारी से मिले जिससे अनुबंध (Agreement) करती की तिथि निश्चित की जा सके। निश्चित तिथि पर अपने दो पत्रों तथा अपने सब पत्रों सहित इस कार्यालय में अनुबंध करें।
- अनुबंध करने के बाद 10 मिनट एल. कार्या तथा मोटर/मैकेनिकल कीस इन्स्ट्रुमेंट्स जमा करने के पश्चात कनेक्शन को प्राप्त करने का प्रयत्न करें।

अधिशासी अधिकारी
 विद्युत वितरण संस्थान
 पश्चिमांचल विद्युत वितरण लिमिटेड
 मेरठ।

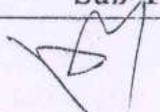
उक्त प्राक्कलन अपर गंगनहर के दांयी पटरी को दो लेन लेपित मार्ग निर्माण विद्युत हेतु डोले के टो से 21 मी० चौ० के अन्तर्गत आने वाले 33के०वी०विद्युत लाईन एवं 11 के०वी० लाईनों के पोलों को शिफ्ट करने हेतु बनाया गया है। उक्त प्राक्कलन माननीय मुख्यमंत्री उत्तर प्रदेश सरकार, लखनऊ की योजना के अन्तर्गत एवं कार्यालय विद्युत वितरण खण्ड-द्वितीय मेरठ के पत्रांक 7423 दिनांक 26.11.2019 व निर्माण खण्ड(भवन) के लो०नि०वि०, मेरठ के पत्रांक संख्या-2591 दिनांक 22.11.19 के अनुपालन में अधिशासी अभियन्ता विद्युत वितरण खण्ड द्वितीय मेरठ के आदेशानुसार बनाया गया है।

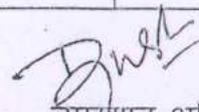
ABSTRACT

Sl. No.	Particulars/Items	Unit	Qty	Rate	Amount in Rupes
1.	Cost of 11 KV Line single pole on STP-11 MTR as per Annexure No.1	No.	16	22313	357008.00
2	Cost of 11 KV Double Pole on STP-11 MTR as per Annexure No.2	No.	03	64860	194580.00
3.	Cost of Single pole on STP Pole 13 MTR 33 KV Line as per Annexure No.3.	No.	36	29935	1077660.00
4.	Cost of Double Pole of 33 KV Line on STP 13 MTR Long as per Annexure No.4	No.	03	97609	292827.00
5.	Cost of Four Pole of 33 KV Line on STP 13 MTR as per Annexure No.5	No.	04	197511	790044.00
6.	Cost of Grouting of line as per Annexure No.6	SPAN	55	7442	409310.00
7.	Cost of shifting 250 KVA and 25 KVA T/F as per Annexure No.7	Job	1	109900	109900.00
8	Cost of ACSR Dog Conductor	MTR	6608	79	522032.00
9	Cost of ACSR Weasel Conductor	MTR	2318	24	55632.00
10	Cost of LT Line as per Annexure No.08	Job	01	61818	61818.00
11.	Total Material Cost				3870811.00
12	Cost of Ereaction Charge 25%				967703.00
13	Dismantling Charge of 11 KV Line Pole	No.	15	4000	60000.00
14.	Dismantling Charge of Double Pole	No.	02	6000	12000.00
15.	Dismantling Charge of 33 KV Line Pole	No.	36	6000	216000.00
16	Dismantling Line Charge 33 KV D/P	No.	03	10000	30000.00
17.	Dismantling Charge for Four Pole	No.	04	15000	60000.00
18.	Sub-Total				5216514.00



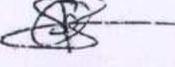
अवर अभियन्ता
33/11 के०वी०उपकेन्द्र,
सलाह

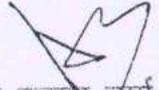

अनिल कुमार वर्मा
अधिशासी अभियन्ता
विद्युत वितरण खण्ड - द्वितीय
मेरठ

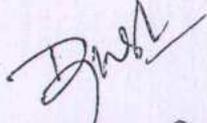


उपखण्ड अधिकारी
विद्युत वितरण उपखण्ड-तृतीय
सरधाना, मेरठ

18.		Sub-Total			5216514.00
19	GST 18%				938973.00
20.		Total			6155487.00
21.	Over Head Charges 20%				1231098.00
22		Total			7386585.00
23	GST 18%				1329585.00
24		Grant Total			8716170.00


 अवर अभियन्ता
 33/11 के००००उपकेन्द्र,
 सलावा


 अनिल कुमार वर्मा
 अधिशासी अभियन्ता
 विद्युत वितरण खण्ड - द्वितीय
 मंडल


 उपखण्ड अधिकारी
 विद्युत वितरण उपखण्ड-तृतीय
 सखना, देहात

Supply of 11 KV on PCC Pole 8.5 MTR Long

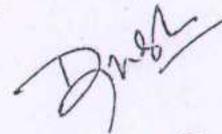
Sl. No.	Particulars/Items	Unit	Qty	Rate	Amount in Rupees
1.	STP Pole 11 MTR Long	No.	01	15049	15049.00
2.	Stone Paid	No.	01	140	140.00
3.	X-Arm V-Type	No.	01	744	744.00
4.	Cross Arm Holding Clamp	No.	01	304	304.00
5.	11 KV Pin Insulator	No.	03	196	588.00
6.	11 KV Pin with Nut	No.	03	72	216.00
7.	F-Bracket	No.	01	265	265.00
8.	Danger Board with Clamp	No.	01	461	461.00
9.	Barbed wire	No.	02	162	324.00
10.	Stay Complete	No.	01	1922	1922.00
11.	Connecting of Stay	No.	01	379	379.00
12.	Connecting of ST Pole	No.	01	856	856.00
13.	Earthing Complete	No.	01	838	838.00
14.	Numbering Plate	No.	01	391	391.00
	Total				22313.00



शरर अडररररर
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सलररर



अनरल कुडरर ररर
अडरशरसी अडररररर
वरररर वररररर खणुड -दरररर
डररर



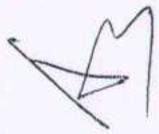
उडखणुड अडरररर
वरररर वररररर उडखणुड-तृतीड
सररररर, देहरर

11 KV Double Pole Structure

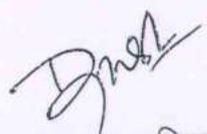
Sl. No.	Particulars/Items	Unit	Qty	Rate	Amount in Rupees
1.	ST Pole 11 Mtr Long	No.	02	15049	30098.00
2.	Stone Paid	No.	02	140	280.00
3	Top Channels 10 x 50 x 2240mm	No.	01	826	826.00
4	Cross Bracing MS Angle	No.	01	3159	3159.00
5	Clamp with Nut & Bold	No.	12	304	3848.00
6	Barbed Wire	No.	04	162	648.00
7	Danger Board with clamp	No.	01	461	461.00
8	Conneting of ST Pole	No.	02	856	1712.00
9	Earting Complte	No.	02	838	1676.00
10	E-Brackit	No.	03	265	795.00
11	11 KV Disk insulator	No.	06	315	1890.00
12	11 KV Disk Fitting	No.	06	97	582.00
13	11 KV Pin Insulator	No.	06	196	1176.00
14	11 KV pin with nut	No	06	72	432.00
15	Dropper Channel 100 x50 x 2028mm	No.	01	826	826.00
16	P.G. Clamp	No.	06	304	1824.00
17	Stay Completed	No.	06	2027	12162.00
18	Connecting of Stay	No	06	379	2274.00
19	Number Plate	No.	01	391	391.00
	Total				64860.00



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मेरठ



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सरधना, देहात

Cost of Double Pole on ST Pole 13 MTR of 33 KV Ling

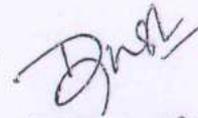
Sl. No.	Particulars/Items	Unit	Qty	Rate	Amount in Rupees
1.	ST Pole 13 MTR Long	No	02	20600	41200.00
2.	Ms Angle iron 65 x65 x6 mm Bracing with clamp	Set	01	3159	3159.00
3	Top Channerl 125 x65 x3200mm with clamp	No	01	1592	1592.00
4	Dropper channerl 125 x 65 x2400mm with clamp	No	01	1592	1592.00
5	Stone Pad 300 x300 x75mm	No	02	140	280.00
6	11 KV Disk Insulator 700 KN	No	24	315	7560.00
7	Disk fitting for Dcg conductor	No	06	237	1422.00
8	33 KV Pin Insultor	No	03	488	1464.00
9	33 KV Pin with Nut	No	03	209	627.00
10	Earthing with clamp with Bolt & Nut	No	01	336	336.00
11	PG clamp for Dog	No	12	257	3084.00
12	E-Bracket	No	03	436	1308.00
13	Number Plot	No	01	132	132.00
14	Danger Board with clamp	No	01	461	461.00
15	Barbed wire	Kg	04	162	648.00
16	Aluminum Tope	Kg	01	250	250.00
17	Aluminium Paint	Kg	02	319	638.00
18	Bolt & Nut and washer	Kg	03	196	588.00
19	Red oxide	Ltr	02	160	320.00
20	Stay site complete	No	08	3066	24528.00
21	Connoting of support	No	02	856	1712.00
22	Earting complte	No	02	838	1676.00
23	Conneting of stay	No	08	379	3032.00
	Total				97609.00



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मेरठ



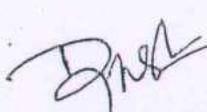
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सरधना, देहात

Cost of Four Pole 33 KV Ling On ST Pole 13 Meter Long

Sl. No.	Particulars/Items	Unit	Qty	Rate	Amount in Rupees
1.	ST Pole 13 MTR Long	No	04	20600	82400.00
2.	Ms Angle iron 65 x65 x6 mm Bracing with clamp	Set	04	3159	12636.00
3	Top Channell 125 x65 x3200mm with clamp	No	04	1592	6368.00
4	Dropper channell 125 x 65 x2400mm with clamp	No	04	1592	6368.00
5	Stone Pad 300 x300 x75mm	No	04	140	560.00
6	11 KV Disk Insulator 700 KN	No	24	315	7560.00
7	Disk fitting for Dog conductor	No	06	237	1422.00
8	33 KV Pin Insultor	No	08	488	3904.00
9	33 KV Pin with Nut	No	08	209	1672.00
10	Earthing with clamp with Bolt & Nut	No	02	236	672.00
11	PG clamp for Dog	No	12	257	3084.00
12	E-Bracket	No	08	436	3488.00
13	Number Plot	No	01	132	132.00
14	Danger Board with clamp	No	01	461	461.00
15	Barbed wire	Kg	08	162	1296.00
16	Aluminum Tope	Kg	02	250	500.00
17	Aluminum Paint	Kg	04	319	1276.00
18	Bolt & Nut and washer	Kg	06	196	1176.00
19	Red oxide	Ltr	04	160	640.00
20	Stay site complete	No	16	3066	49056.00
21	Connoting of support	No	04	856	3424.00
22	Earthing complte	No	04	838	3352.00
23	Conneting of stay	No	16	379	6064.00
	Total				197511.00


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 सरधना, देहात

Cost of Grouting of 33 KV Line

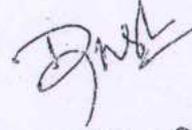
Sl. No.	Particulars/Items	Unit	Qty	Rate	Amount in Rupees
1.	MS Channel 100 X 50 X 3500mm xSet	Kg	67	50	3350.00
2	G.I. Wire 6/8 SWG	KG	24	69	1656.00
3	Eye Bolt	No.	08	67	536.00
4	Fondation Labour		L.S.		500.00
5	M.S. Clamp	No.	04	350	1400.00
	Total				7442.00



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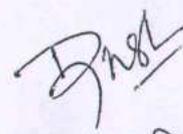
उपखण्ड अधिकारी
विद्युत वितरण उपखण्ड-तृतीय
सरधना, देहात

Shifting of 250 KVA T/F & 25 KVA T/F

Sl. No.	Particulars/Items	Unit	Qty	Rate	Amount in Rupees
1.	Construction of New Pinth (10*8*1mtr) 250 KVA T/F	No	01	32000	32000.00
2	Water level Earthing for GI Pipe (Nutral T/F Body) 60 Feet each	No	02	15000	30000.00
3	Wire mesh fencing for 250 KV T/F size (10*8*a) Mtr	No.	01	27000	27000.00
4	Removal of 250 KVA T/F Before construction of New Plinth	Job	01	8000	8000.00
5	Installation of 250 KVA T/F After construction of New Plinth	Job	01	10000	10000.00
6	Removal of 25 KVA T/F on D/P	Job	01	1250	1250.00
7	Mounting of 25 25 KVA T/F on D/P	Job	01	1650	1650.00
8	Total				109900.00


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Shifting of LT Line 250 KVA T/F & 25 KVA T/F

Sl. No.	Particulars/Items	Unit	Qty	Rate	Amount in Rupees
1.	PCC Ple 8.5 Mtr Long	No	6	2623.00	15738.00
2	ACSR Rabbit Conductor	MTR	890	33.92	30188.00
3	Stay/Road, Complete	No.	4	1866.00	7464.00
4	LT Clamp with Nut Bolt	No	28	241.00	6748.00
5	LT Shankal Insulator	No	28	30.00	840.00
6	Sty Clamp	No	4	210.00	840.00
7	Total				61818.00

Report

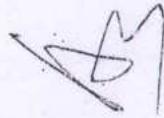
उक्त प्रांककलन मात्र 3716170.00 रुपये का गंगनहर के दांयी पटरी को दो लेन लेपित नार्ग निर्माण किये जाने हेतु डोले के टो से 21 मी० चौ० के अन्तर्गत आने वाले 33के०वी० विद्युत लाईन एवं 11 के०वी० लाईनों के पोलों को शिफ्ट करने हेतु बनाया गया है। उक्त प्रांककलन माननीय मुख्यमंत्री उत्तर प्रदेश सरकार, लखनऊ की योजना के अन्तर्गत एवं कार्यालय विद्युत वितरण खण्ड-द्वितीय मेरठ के पत्रांक 7423 दिनांक 26.11.2019 व निर्माण खण्ड(भवन) के लो०नि०वि०, मेरठ के पत्रा संख्या-2591 दिनांक 22.11.19 के अनुपालन में अधिशासी अभियन्ता विद्युत वितरण खण्ड द्वितीय मेरठ के आदेशानुसार बनाया गया है।

उक्त लाईन के कार्य का प्रांककलन गंगनहर सलावा की दांयी पटरी से ग्राम भलसौना गंगनहर की दांयी पटरी के किनारे तक प्रस्तावित किया गया है, जिसमें 33 के०वी० लाईन एवं 11 के०वी० लाईन को गंगनहर के किनारे से 21 मीटर चौड़ाई में आने वाले दिजली के पोलों को शिफ्ट करने हेतु बनाया गया है व ग्राम भलसौना में 250 के०वी०ए० परिवर्तक व 25 के०वी०ए०परिवर्तक को स्थान्तरित करने हेतु नयी पिलिन्थ का भी प्रस्ताव किया गया है।

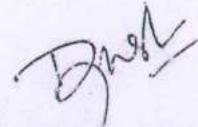
उक्त प्रांककलन में भजदूरी व रेट शैड्यूल नियम अनुसार लिये गये हैं। उक्त कार्य अधिशासी अभियन्ता विद्युत वितरण खण्ड-द्वितीय व उपखण्ड अधिकारी सरधना देहात-तृतीय की देख-रेख में सम्पन्न होगा।



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सरधना, देहात

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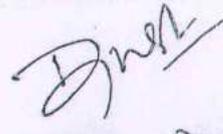
Sl. No.	Particulars/Items	Unit	Qty	Rate	Amount in Rupes
1.	Cost of 11 KV PCC Pole of 8.5 MTR Old & Used	No.	16	2623	41968
2.	Cost of 33 KV PCC Pole 9 MTR Old & Used	No.	58	4320	250560.00
3.	Cost of ACSR Weasel Conductor Old & Used	MTR	2318	24	55632.00
	Total				348160.00



अधर अभियन्ता
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सलावा



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अधिशारी अभियन्ता
विद्युत वितरण खण्ड - द्वितीय
मेरठ



उपखण्ड अधिकारी
विद्युत वितरण उपखण्ड-तृतीय
सरधना, देहात

पत्रांक : 4797 -वि०वि०ख०-तृतीय/मेरठ/

दिनांक : 03/12/19

विषय: अधिकासी अभियन्ता, लोक निर्माण विभाग मेरठ द्वारा अपर गंग नहर की दायी पटरी पर दो लेपित मार्ग निर्माण किये जाने हेतु मार्ग निर्माण के भाग में पडने वाले 11 के०वी० लाईन के (ग्राम-पंचगांव से लेकर ग्राम-भलसौना तक) विद्युत लाईन के खम्बों को अन्य स्थान पर शिफ्टिंग करने हेतु।

✓ अधिकासी अभियन्ता,
लोक निर्माण विभाग,
मेरठ।

प्रोविजनल टी०सी०

उपरोक्त विषयक आपको अवगत कराना है कि अपर गंग नहर की दायी पटरी पर दो लेपित मार्ग निर्माण किये जाने हेतु मार्ग निर्माण के भाग में पडने वाले 11 के०वी० लाईन के (ग्राम-पंचगांव से लेकर ग्राम-भलसौना तक) विद्युत लाईन के खम्बों को अन्य स्थान पर शिफ्टिंग करने हेतु आपको प्रोविजनल टी०सी० 15 प्रतिशत सुपरविजन चार्जस के अन्तर्गत निम्नानुसार शर्तों पर प्रदान की गई है।

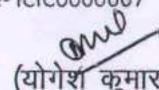
- (1) ROW उपलब्ध कराने की जिम्मेदारी आवेदनकर्ता की होगी।
- (2) शिफ्टिंग कार्य में बाधा उत्पन्न होने की दशा में किसी भी विवाद के लिये विभाग जिम्मेदार नहीं होगा। यदि कार्य नहीं हो पाता है तो जमा धनराशि विभाग द्वारा जब्त कर ली जायेगी।
- (3) वर्तमान 11 के०वी० लाईन से हटाने वाली सामग्री का क्रेडिट कारपोरेशन को दिया जायेगा एवं लाईन डिस्मैन्टिलिंग का चार्ज भी उपभोक्ता से लिया जायेगा।
- (4) सहायक निदेशक, विद्युत सुरक्षा निदेशालय, मेरठ से अनापत्ति प्रमाण-पत्र लेना अनिवार्य होगा।
- (5) मुख्य अभियन्ता, मेरठ क्षेत्र मेरठ से अनुमति मिलने के उपरान्त आपको फाईनल टी०सी० जारी कर दी जायेगी।

अतः आपसे अनुरोध है कि निम्नलिखित धनराशि निम्न विवरणानुसार खण्ड के खाते में स्थानान्तरित करने का कष्ट करें -
15 प्रतिशत सुपरविजन चार्जस धनराशि रू० 176151.00

Account Holder Name- EEEDD-III, Meerut
Account No.-066705000230
Bank Name- ICICI Bank Ltd. Phase-1, Pallavpuram .
IFSC Code- ICIC0000667

जी०एस०टी० की धनराशि रू० 31707.00

Account Holder Name- EEEDD-III, Meerut
Account No.-066705000228
Bank Name- ICICI Bank Ltd. Phase-1, Pallavpuram,
IFSC Code- ICIC0000667


(योगेश कुमार)
अधिकासी अभियन्ता

पत्रांक : -वि०वि०ख०-तृतीय/मेरठ/

तददिनांक :

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :-
1. उपखण्ड अधिकारी, विद्युत वितरण उपखण्ड-तृतीय, भोला मेरठ।

(योगेश कुमार)
अधिकासी अभियन्ता

प्रकलन वि०वि०खण्ड-तृतीय मेरठ के अन्तर्गत पंचगांव नहर की दायी पटरी पर दो लेपित मार्ग निर्माण किये जाने हेतु मार्ग निर्माण के भाग में पडने वाले 11 के०वि० लाइन के (ग्राम-पंचगांव से लेकर ग्राम मलसौना तक) विद्युत खम्भो को अलग स्थान पर स्थानान्तरण करने हेतु अनुसचिव उ०प्र० शासन, लो०नि०वि० अनुभाग-1 का प्रत्रांक-661सा०/(1) /23.01.17 दिनांक-07.07.17 के अनुपालन में बनाया जा रहा है।

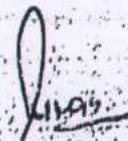
556

298

(A) 11 KV Line

SL. No.	Items/Particulars	Unit	Qty	Rate Rs.	Amount Rs.
A.	Store Items			15049.6	601960
1	STP Pole 11 mtr. Long	Nos.	40	13620.00	544800.00
2	ACSR Rabbit conductor	Mtr	2905	39.6733.43	11529714.15
3	11 KV 'V' Type MS cross Arm.	Nos.	28	744 451.00	20822228.00
4	11 KV Pin Insulator with Pin & Nut.	Nos	120	264 222.00	3168026640.00
5	11 KV Disc Insulator with feting.	Nos.	36	412 465.00	14832216740.00
6	T Channel 100x50x1328 mm.	Nos	14	478 764.00	690240696.00
7	Earthing Complete	Nos	28	830 758.00	2346421224.00
8	Guarding Angle of size 65x65x6x1600 mm	Nos.	24	550.00	13200.00
9	Top Channel 125x65x2240mm	Nos.	6	826.1297	4956.7782.00
10	Dropper Char:nel 100x50x2028mm	Nos.	6	593.00	3558.00
11	Stay Complete	Nos	6	1352.00	8112.00
12	G.I wire 6/8 SWG for guarding	Kg.	240	73.00	17520.00
13	Holding clamp STP	Nos	50	209.00	10450.00
14	F- Bracket PCC Pole	Nos	28	181.00	5068.00
15	Bolt & Nuts	KG	60	135.00	8100.00
16	Stone pad 300x300x75 mm	Nos.	40	97.00	3880.00
17	Graouting of pole for STP	Nos.	40	550.00	22000.00
18	Total Material Cost			921449.83	1666.15
19	Cartage & Erection Charges 15%			18429.00	1749.92
20	Erection of Poles	Nos	40	950.00	38000.00
21	Guarding of line	Span	12	630.00	7560.00
22	Dismantling of Pole	Nos.	24	960.00	23040.00
23	Total Rs.			11,74,337.10	1025016.07
24	Supervision Charges 15%			1761.51	379255.95
25	Total Rs. 187.48 on Sup. Chgs. (2.176151)			517072404272.02	

Rs. 13,02,197.03


SDO-III (Bhola)


अधिसासी अभियन्ता

J.E. (Bhola)

विद्युत वितरण खण्ड-तृतीय मेरठ

to Read...
Estimate No. 426/19-20
Amounting to Rs. 17,61,511.00

Chgo to Corporation Rs. ...
Chgo to Consumer Rs. ...

Scanned by CamScanner

11KV LINE को डिफेन्डीग (गंगानहर की परती पर संड़क मिअरि देवु)

557

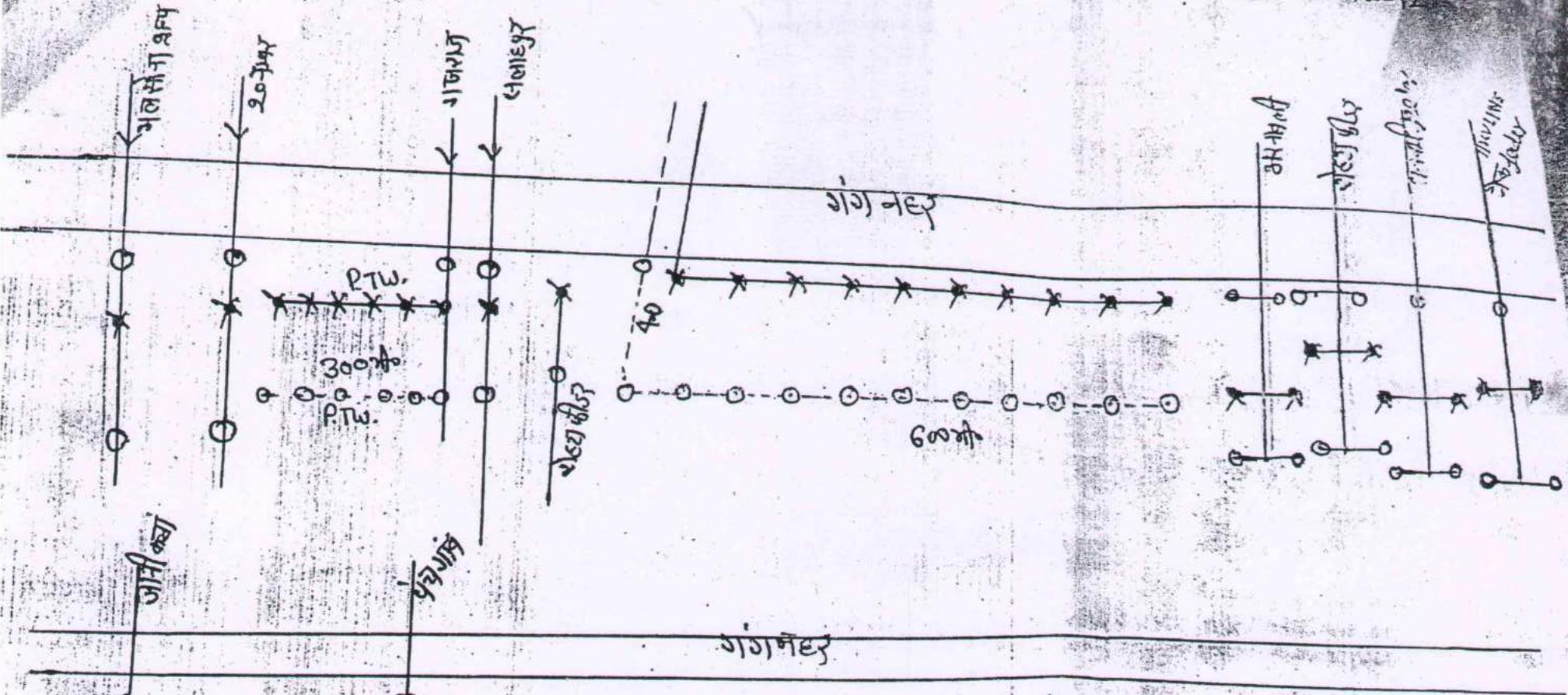
Old Pole = 29

New Pole = 28

New wire = 2905

DPR = 6/12 = 12

299



अभिशासी अभियन्ता
विद्युत वितरण खण्ड-तृतीय
मेरठ

SDO-TH

JB Boda

(B) Credit to uppcl

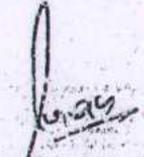
SL.	Items/Particulars	Unit	Qty	Rate Rs.	Amount
1	STP Pole 11 Mtr. Long old&Damage (4nos)	Kg.	120	25.00	3000.00
2	R.S Joist scrap (2 nos.)	Kg.	160	25.00	4000.00
3	ACSR weasel conductor Old&used	Mtr.	2430	19.33	46971.90
4	Channel & Angle Old & Used	Kg.	40	25.00	1000.00
5	PCC Pole 8.5 mtr . Damaged (20 nos)	Nos.	0	2721.00	0.00
	Total Rs.				54971.90

Net Amount (A-B) = Rs. 1349300.12

REPORT

यह प्रांकलन धनराशि रूपये 1349300.00 मात्र वि०वि०खण्ड-तृतीय मेरठ के अन्तर्गत अपर गंग नहर की दायी पटरी पर दो लेपित मार्ग निर्माण किये जाने हेतु मार्ग निर्माण के भाग में पडने वाले 11 कोठी० लाईन के (ग्राम-पंचगांव से लेकर ग्राम भलसौना तक) विद्युत खम्भो को अलग स्थान पर स्थानान्तरण करने हेतु अनुसन्धित उ०प्र० शासन, लो०नि०वि० अनुभाग-1 का प्रत्रांक-861सा०/(1) /23.01.17 दिनांक-07.07.17 एवं अधिशासी अभियन्ता निर्माण खण्ड (भवन) लो०नि०वि० मेरठ के प्रत्रांक-2591/1सी० दिनांक- 22.11.19 व दिनांक-25.11.19 अधिशासी अभियन्ता के कार्यालय प्रत्रांक-4673/ वि०वि०खण्ड-तृतीय मेरठ दिनांक-26.11.19 के अनुपालन में बनाया जा रहा है।

उपरोक्त प्रांकलन में लगने वाली सामग्री शेड्यूल रेट 2019-20 के अनुरूप लगायी गयी है। प्रांकलन के पास होने पर उपरोक्त कार्य उपखण्ड अधिकारी भोला की देखरेख में पूर्ण कराया जाना प्रस्तावित है।



SDO-III (Bhola)



अधिशासी अभियन्ता
विद्युत वितरण खण्ड-तृतीय
मेरठ

J.E. (Bhola)

कार्यालय
अधिकाारी अभियन्ता
विद्युत वितरण खण्ड-तृतीय
पश्चिमांचल विद्युत वितरण निगम, लि०
मेरठ।



email-eddiimeerut@gmail.com

पत्रांक : ५५९९-वि०वि०ख०-तृतीय/मेरठ/

दिनांक : ०३-१२-१९

विषय: अधिकाारी अभियन्ता, लोक निर्माण विभाग मेरठ द्वारा अपर गंग नहर की दायी पटरी पर दो लेपित मार्ग निर्माण किये जाने हेतु मार्ग निर्माण के भाग में पडने वाले ३३ के०वी० लाईन के (ग्राम-पंचगांव से लेकर ग्राम-भलसौना तक) विद्युत लाईन के खम्बों को अन्य स्थान पर शिफ्टिंग करने हेतु।

अधिकाारी अभियन्ता,
लोक निर्माण विभाग,
मेरठ।

प्रोविजनल टी०सी०

उपरोक्त विषयक आपको अवगत कराना है कि अपर गंग नहर की दायी पटरी पर दो लेपित मार्ग निर्माण किये जाने हेतु मार्ग निर्माण के भाग में पडने वाले ३३ के०वी० लाईन के (ग्राम-पंचगांव से लेकर ग्राम-भलसौना तक) विद्युत लाईन के खम्बों को अन्य स्थान पर शिफ्टिंग करने हेतु आपको प्रोविजनल टी०सी० १५ प्रतिशत सुपरविजन चार्जस के अन्तर्गत निम्नानुसार शर्तों पर प्रदान की गई है।

- (१) ROW उपलब्ध कराने की जिम्मेदारी आवेदनकर्ता की होगी।
- (२) शिफ्टिंग कार्य में बाधा उत्पन्न होने की दशा में किसी भी विवाद के लिये विभाग जिम्मेदार नहीं होगा। यदि कार्य नहीं हो पाता है तो जमा धनराशि विभाग द्वारा जब्त कर ली जायेगी।
- (३) वर्तमान ३३ के०वी० लाईन से हटाने वाली सामग्री का क्रेडिट कारपोरेशन को दिया जायेगा एवं लाईन डिस्मैन्टिलिंग का चार्ज भी उपभोक्ता से लिया जायेगा।
- (४) सहायक निदेशक, विद्युत सुरक्षा निदेशालय, मेरठ से अनापत्ति प्रमाण-पत्र लेना अनिवार्य होगा।
- (५) प्रबन्ध निदेशक महोदय, प०वि०वि०नि०लि०, मेरठ से अनुमति मिलने के उपरान्त आपको फाईनल टी०सी० जारी कर दी जायेगी।

अतः आपसे अनुरोध है कि निम्नलिखित धनराशि निम्न विवरणानुसार खण्ड के खाते में स्थानान्तरित करने का कष्ट करें -
१५ प्रतिशत सुपरविजन चार्जस धनराशि रु० ५६९४८.०० **जी०एस०टी० की धनराशि रु० १०२५१.००**

Account Holder Name- EEEDD-III, Meerut
Account No.-066705000223
Bank Name- ICICI Bank Ltd. Phase-1, Pallavpuram .
IFSC Code- ICIC000667

Account Holder Name- EEEDD-III, Meerut
Account No.-066705000223
Bank Name- ICICI Bank Ltd. Phase-1, Pallavpuram,
IFSC Code- ICIC0000667

(योगेश कुमार)
अधिकाारी अभियन्ता

पत्रांक : -वि०वि०ख०-तृतीय/मेरठ/

तददिनांक :

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :-
१. उपखण्ड अधिकारी, विद्युत वितरण उपखण्ड-तृतीय, भोला मेरठ।

(योगेश कुमार)
अधिकाारी अभियन्ता

560

302

यह प्रोफिलिंग वि०वि०खण्ड-राजीव मेरठ के अन्तर्गत ... नहर की दायी पटरी पर दो लेपित मार्ग निर्माण किये जाने हेतु मार्ग निर्माण के भाग में पढ़ने वाले 33 कोड के (ग्राम-पंचगाँव से लेकर ग्राम मलसौना तक) विद्युत खम्भों को अलग स्थान पर स्थानान्तरण करने हेतु अनुसंधान उ०प्र० शारान, लो०नि०वि० अनुभाग-1 का प्रक्रांक-001शा०/(1) /23.01.17 दिनांक-07.07.17 के अनुपालन में बनाया जा रहा है।

(A) 33 KV Line

SL. No.	Items/Particulars	Unit	Qty	Rate Rs.	Amount Rs.
A. Store Items					
1	STP Pole 13 mtr. Long	Nos.	10	15049.00	150490.00
2	ACSR Dog conductor	Mtr.	300	79.04 68.75	23712.00
3	33 KV Pin Insulator with Pin	Nos.	30	697 486.00	20910 14580.00
4	33 KV Disc Insulator with fitting	Nos.	18	397.00	7146.00
5	M.S Angle 65x65x6 mm bracing with 4 clamp	Nos.	4	2751.00 8159.00	11004.00 12696.00
6	Top channel 125x65x3200 mm	Nos.	3	1892 2320.00	4777 6960.00
7	Dropper Channel 100*50*2028mm	Nos.	3	859 1144.00	2877 3432.00
8	33 KV X-arm V Type	Nos.	4	242 1002.00	3968 1008.00
9	Earthing complete	Nos.	10	838 698.00	8380 6980.00
10	Stay Complete	Nos.	2	306 1689.00	612 3378.00
11	Holding Clamp for FCC Pole	Nos.	28	253.00	7084.00
12	F-Bracket 33 KV	Ncs	4	436 172.00	1744 688.00
13	GI Wire 8SWG for Guarding	Kg	190	50.24 52.59	11449 9992.10
14	GI Wire 10 SWG for Guarding	Kg	210	44.09 55.00	13459 11550.00
15	Guarding Angle of size 75x75x6x6 mm	Nos.	10	570.00	5700.00
16	Stone pad 300x300x75 mm	Nos.	10	140 97.00	1400 970.00
17	Grouting of pole for pcc	Nos.	10	550.00	5500.00
18	Bolt & Nuts	KG	25	196 135.00	4900 3375.00
19	Total Material Cost			2922 69.02	273462.10
20	Cartage & Erection charges 15%			588 53.73	41019.32
21	Erection of pole	Nos	10	950.00	9500.00
22	Guarding of line	Span	5	630.00	3150.00
23	Dismantling of Pole	Nos.	6	960.00	5760.00
24	Total Rs.			3790 52.00	372891.42
25	5% supervision Charges 15%			569 48.00	123169.82
26	Total Rs. (Total cost on sup. charges @ 5%)			1025 11.00	456061.24

21- Total

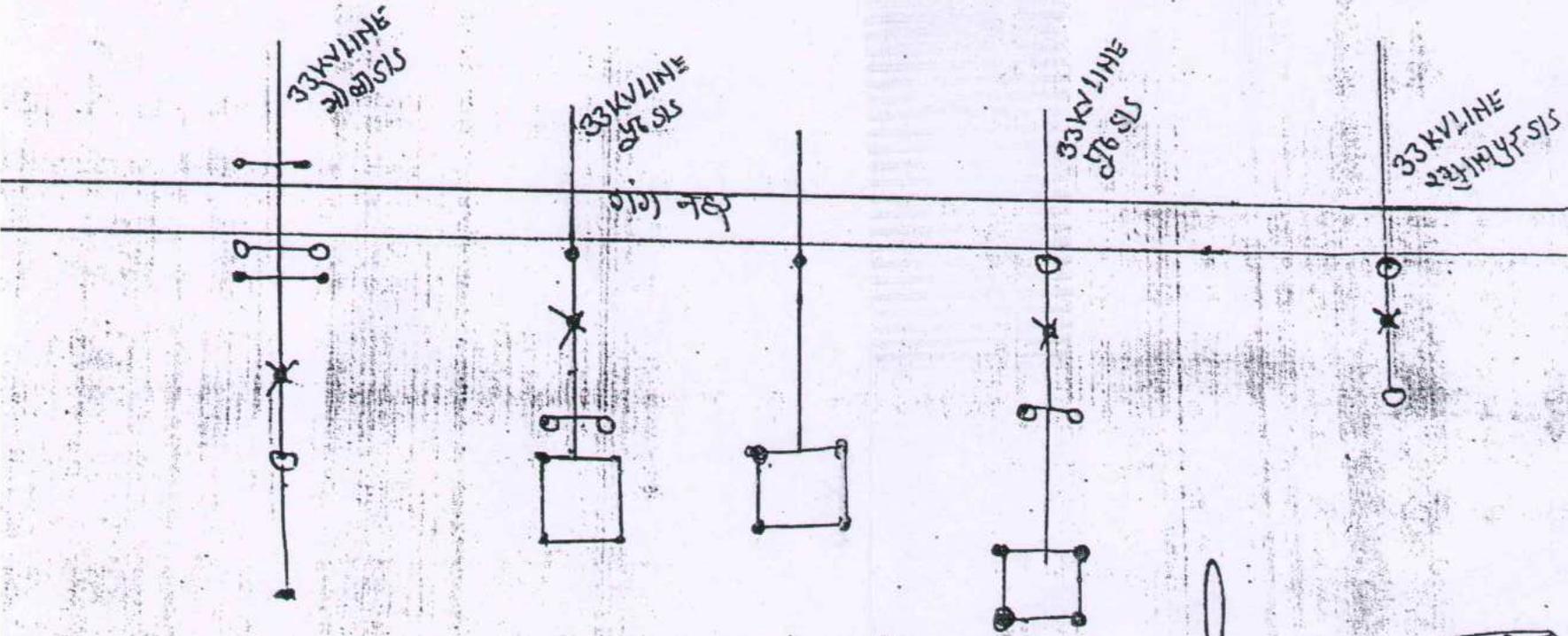
Rs. 4,46,051.00

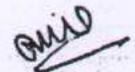
SDO-III (Bhola)

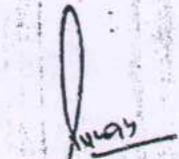
अभिषेक अभियन्ता
विद्युत निगम खण्ड-राजीव मेरठ

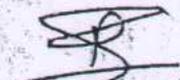
Ch. to Read (S. to S. P. (R.))
Estimate S. No. 438/19-20
Amounting to Rs. 5,94,400.00
J.E. (Bhola)
Ch. to Construction Rs. 5,29,400.00
Ch. to Consultant Rs. 65,000.00

33/11 KV LINE की डिफटींग (गंग नहर की परीपर सड़क निर्माण हेतु)




 अधिशासी अभियन्ता
 विद्युत वितरण खण्ड-तृतीय
 मेरठ


 SDO-III


 J.S. Bhatia

(B) Credit to uppcl

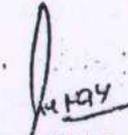
SL.	Items/Particulars	Unit	Qty	Rate Rs.	Amount Rs.
1	STP Pole 11 Mtr. Long old&Damage 6 nos.	Kg.	180	25.00	4500.00
2	M.s Channel & angle old&uesed	Kg.	25	25.00	625.00
	Total Rs.				5125.00

Net Amount (A-B) = Rs. = 450936.24

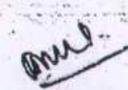
REPORT

यह प्रांकलन धनराशि रूपये 450936.24 मात्र वि०वि०खण्ड-तृतीय मेरठ के अन्तर्गत अपर गंग नहर की दायी पटरी पर दो लेपित मार्ग निर्माण किये जाने हेतु मार्ग निर्माण के भाग में पडने वाले 33 के०वी० लाईन के (ग्राम-पंचगांव से लेकर ग्राम भलसौना तक) विद्युत खम्भो को अलग स्थान पर स्थानान्तरण करने हेतु अनुसचिव उ०प्र० शासन, लो०नि०वि० अनुभाग-1 का पत्रांक-661सा०/(1) /23.01.17 दिनांक-07.07.17 एवं अधिशासी अभियन्ता निर्माण खण्ड (भवन) लो०नि०वि० मेरठ के पत्रांक-2591/1सी० दिनांक- 22.11.19 व दिनांक-26.11.19 अधिशासी अभियन्ता के कार्यालय पत्रांक-4673/ वि०वि०खण्ड-तृतीय मेरठ दिनांक-26.11.19 के अनुपालन में बनाया जा रहा है।

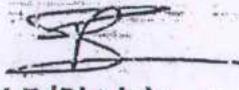
उपरोक्त प्राकलन में लगने वाली सामग्री शेडयूल रेट 2019-20 के अनुरूप लगायी गयी है। प्राकलन के पास होने पर उपरोक्त कार्य उपखण्ड अधिकारी भोला की देखरेख में पूर्ण कराया जाना प्रस्तावित है।



SDO-III (Bhola)



अधिशासी अभियन्ता
विद्युत वितरण खण्ड-तृतीय
मेरठ



J.E (Bhola)

माप का विवरण

564 DETAILS OF MEASUREMENTS

कार्य का नाम :- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य 306

S. No	ITEM OF WORK	NO	L. (M)	B. (M)	H. (M)	Qty.	Unit
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CIVIL WORK (PART-A)

1 Site clearance

Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, upto a lead of 1000 m including removal and disposal of top organic soil not exceeding 150mm in thickness.

Ch 108.750 to 151.050 1 x 1 42300 20.00

846000.00

Total 846000.00 sqm

2 Construction of Embankment/Patri with Material obtained from Borrowpits. Cartage 3 km

Construction of embankment/Patri with approved material obtained from borrow pits with all lifts (Distance 3 km) and all leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2. (Ref. to Mort&H Specification No.305) including cost of earth and royalty etc.

Ch 108.750 to 151.050 As per survey sheet attached

For Patri.....RHS	1	x	1	42300.00	(2.5+3.46)/2	0.480	60505.92
LHS	1	x	1	42300.00	(2.5+3.46)/2	0.480	60505.92
2% Extra for curve							43968.78
Deduction for Drain	1	x	1	42300.00		0.80	-27072.00

Total 2215335.85 Cum

3 Granular Sub-Base with Coarse Graded Material (Table:- 400-1)

Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401

Ch 108.750 to 151.050	1	x	1	42300.00	7.30	0.200	61758.00
Extra widening at Junctions	4	x	9	120.00	3.50	0.200	3024.00
2% Extra for curve							1235.16

Total 66017.16 Cum

4 CEMENTED BASE (WET MIX MACADAM + 4% Cement {OPC})

Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC and 4% cement (OPC) in mechanical mortar (Pug M) carriage of mixed Material by tipper to site, laying in uniform layers in sub-base / base course on well prepared sub base and compacting with smooth wheel roller 80 to 100kg weight to achieve the desired density including lighting, barricating and maintenance of diversion etc. as per table 400.11 & 400.12 and technical specification clause 400.

Ch 108.750 to 151.050	1	x	1	42300.00	7.00	0.100	29610.00
Extra widening at Junctions	4	x	9	120.00	3.50	0.100	1512.00
2% Extra for curve							592.20

Total 31714.20 Cum

1450223.00

~~2077427.23~~

31424.70

1575587.54

S. No	ITEM OF WORK	NO	L. (M)	B. (M)	H. (M)	Qty.	Unit
5	Wet Mix Macadam Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.						
	Ch 108.750 to 151.050	1	x	1	42300.00	7.00	0.100 29610.00
	Extra widening at Juctions 2% Extra for curve	4	x	9	120.00	3.50	0.100 1512.00 592.20
							Total 31714.20 cum
6	Prime Coat MS Emulsion @ 0.65 kg/sqm. Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.65 kg/sqm using mechanical means.						
	Ch 108.750 to 151.050	1	x	1	42300.00	7.00	296100.00
	Extra widening at Juctions 2% Extra for curve	4	x	9	120.00	3.50	15120.00 5922.00
							Total 317142.00 Sqm
7	Tack Coat Bitumen VG-10 @ 0.25 kg/sqm Providing and applying tack coat with bitumen VG-10 using Bitumen pressure distributor at the rate of 0.25 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.						
	Ch 108.750 to 151.050	1	x	1	42300.00	7.00	296100.00
	Extra widening at Juctions 2% Extra for curve	4	x	9	120.00	3.50	15120.00 5922.00
							Total 317142.00 Sqm
8	Dense Graded Bituminous Macadam @ 4.5% VG-30 Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 507 complete in all respects.						
	Ch 108.750 to 151.050	1	x	1	42300.00	7.00	0.050 14805.00
	Extra widening at Juctions 2% Extra for curve	4	x	9	120.00	3.50	0.050 756.00 296.10
							Total 15857.10 cum
9	Tack Coat Bitumen VG-10 @ 0.2 kg/sqm Providing and applying tack coat with bitumen VG-10 using Bitumen pressure distributor at the rate of 0.2 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.						
	Ch 108.750 to 151.050	1	x	1	42300.00	7.00	296100.00
	Extra widening at Juctions 2% Extra for curve	4	x	9	120.00	3.50	15120.00 5922.00
							Total 317142.00 Sqm

S. No	ITEM OF WORK	NO	L. (M)	B. (M)	H. (M)	Qty.	Unit
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10 Bituminous Concrete Bitumen VG-30 @ 5.4%

Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 509 complete in all respects

Ch 108.750 to 151.050	1	x	1	42300.00	7.00	0.030	8883.00
Extra widening at Junctions	4	x	9	120.00	3.50	0.030	453.60
2% Extra for curve							177.66

Total	9514.26	cum
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11 Construction of RCC Drain 600x600 mm

1 x 1 42300

42300.00 m

12 Construction of Hume pipe Culvert

600mm dia. Culvert

1 x 4 42

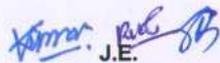
168.00 Nos

13 Construction of retaining wall on road side ponds

1 x 1 200
1 x 1 250

200.00 m
250.00 m

Total	450.00	m
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J.E.
CD(Bldg), PWD, Meerut

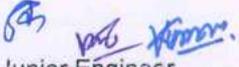

Asst. Engineer
CD(Bldg), PWD, Meerut


Executive Engineer
CD(Bldg), PWD, Meerut

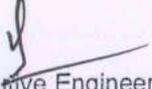
567
DETAILS OF MEASUREMENT

Name of work :- Construction of Building (Forest Quarters at sardhana and Hydle quarters at Bhola Jhaal) in MEERUT DISTRICT 309

Sn	Item	No.	L	B	D/H	Quantity	Unit
1	Construction of Building						
	Forest Quarters at sardhana.		9.15	x 9	Total	<u>82.35</u>	sqm
	Hydle quarter at Bhola Jhaal.		16	x 8	Total	<u>128.00</u>	sqm


Junior Engineer
Constn. Divn.(Bldg.),P.W.D.
Meerut


Assistant Engineer
Constn. Divn.(Bldg.) P.W.D.
Meerut


Executive Engineer
Constn. Divn.(Bldg.),P.W.D.
Meerut

DETAILS OF MEASUREMENTS

568

कार्य का नाम :- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कान्हा बाँस नहर की दायी पटरी) के नव निर्माण का कार्य। (मेरठ)

310

S. No	ITEM OF WORK	NO	L. (M)	B. (M)	H. (M)	Qty.	Unit
ROAD SAFETY (PART-B)							
a	Supply & Fixing of delinators along canal side 75mm dia. Circular.	1	x 120	42.30		5076	No
b	P/F of Km, hectometer stone etc.	1	x 1	43.00		43	Km
c	S/F of overhead sign board	1	x 2			2	No
d	S/F of Cantilever (At Bridge crossing)	2	x 9			18	No
e	S/F of Cautionary board, Mandatory and informatory board, village road (90x60)	2	x 20			40	No
f	S/F of Cate eye.						
	At Zebra crossing	13	x 58			754	No
	At curve	4	x 2	90		720	No
	At centre line	4	x 1	134		536	No
	Total					2010	No
g	Retro reflective Infomatory singboard						
	For overhead signboard	2	x 2	10	1.50	60	sqm
	For Cantilever signboard	2	x 30	5	1.50	450	sqm
	Total					510.00	sqm
h	Providing and laying Road Marking as per IRC:35-1997 using Thermoplastic (Hot Application) color white/yellow by indigenous manually propelled road marking machine with single coat of 2.5mm thick as directed by Engineer-In-Charge including cost of conveyance all in gradients such as Binders, Glass beads, Titanium-di-oxides, Calcium carbonate pigments as per MORT&H specification of clause 803.4.1.2 for the preparation of Thermoplastic requirement for Glass beads shall be table No.803.4.1.3 of MORT&H specification including cost of all materils, labour,T&P and hire charges etc.required for proper completion of work at site.New item No.6 of Chapt-27						
	Edge Line Ch. 111.280 to 153.580	1	x 2	42300.00	0.10	8460.00	
	Centre Line Ch. 111.280 to 153.580	0.33	x 1	42300.00	0.10	1395.90	
	Zebra crossing	25	x 7	3.00	0.50	262.50	
	add 10% for junctions & curve					1011.84	
	TOTAL					11130.24	Sqm
i	Providing and laying of hot applied thermoplastic compound 5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform a (Repeated Bar)						
	Mort&h Spercification No.8.13/803						
	At crossing	9	x 12	7.00	0.30	226.80	
	TOTAL					226.80	Sqm
j	P/F Retro Reflective Cheveron Board	4	x 20			80	Nos
k	P/F Retro Reflective Speed Limit Board	9	x 2			18	Nos
l	P/F Retro Reflective Hazard Marker Board	16	x 2			32	Nos
m	P/F Retro Reflective Stop Board	13	x 2			26	Nos
n	P/F Retro Reflective Give Way	13	x 2			26	Nos

BS
5/26

S. No	ITEM OF WORK	NO	L. (M)	B. (M)	H. (M)	Qty.	Unit
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569

311

- o Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810.

Right side Nahar Patri	1	x	70%	42300.00	29610.00	
Left side Nahar Patri (Canal side)	1	x	1	36480.00	36480.00	
					Total	66090.00 Rm.

J.E.
P.F.E.
Sharma
 J.E.
 CD(Bldg), PWD, Meerut

J.E.
 Asst. Engineer
 CD(Bldg), PWD, Meerut

J.E.
 Executive Engineer
 CD(Bldg), PWD, Meerut

बिल ऑफ
क्वान्टिटी

कार्य का नाम :- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य। (भेरद 813

S.N.	ITEM OF WORK	Qty.	Unit	Rate	Amount (Rs.)
CIVIL WORK (PART-A)					
1	Site clearance Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, upto a lead of 1000 m including removal and disposal of top organic soil not exceeding 150mm in thickness.	846000.00	sqm	6.10	5160600.00
2	Construction of Embankment/Patri with Material obtained from Borrow pits. Cartage 3 km Construction of embankment/Patri with approved material obtained from borrow pits with all lifts (Distance 3 km) and all leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2. (Ref. to Mort&H Specification No.305) including cost of earth and royalty etc.	1575587.54 2215335.85	Cum	143.90	226727046.55 318786829.02
3	Granular Sub-Base with Coarse Graded Material (Table:- 400-1) Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401	66017.16	Cum	3019.20	199319009.47
4	CEMENTED BASE (WET MIX MACADAM + 4% Cement (OPC)) Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC and 4% cement (OPC) in mechanical motar (Pug M) cariage of mixed Material by tipper to site, laying in uniform layers in sub- base / base course on well prepared sub base and compacting with smooth wheel roller 80 to 100kg weight to achieve the desired density including lighting, barricating and maintenance of diversion etc. as per table 400.11 & 400.12 and technical specification clause 400.	31714.20	Cum	3866.70	122629297.14
5	Wet Mix Macadam Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.	31714.20	cum	3359.20	106534340.64
6	Prime Coat MS Emulsion @ 0.65 kg/sqm. Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.65 kg/sqm using mechanical means.	317142.00	Sqm	23.80	7547979.60
7	Tack Coat Bitumen VG-10 @ 0.25 kg/sqm Providing and applying tack coat with bitumen VG-10 using Bitumen pressure distributor at the rate of 0.25 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	317142.00	Sqm	10.00	3171420.00
8	Dense Graded Bituminous Macadam @ 4.5% VG-30 Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 507 complete in all respects.	15857.10	cum	8095.00	128363224.50
9	Tack Coat Bitumen VG-10 @ 0.2 kg/sqm Providing and applying tack coat with bitumen VG-10 using Bitumen pressure distributor at the rate of 0.2 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	317142.00	Sqm	8.40	2663992.80

S.N.	ITEM OF WORK	Qty.	Unit	Rate	Amount (Rs.)
10	Bituminous Concrete Bitumen VG-30 @ 5.4% Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 509 complete in all respects	9514.26	cum	8902.00	84695942.52
11	Construction of RCC Drain 600x600 mm	42300.00	m	3371.00	142593300.00
12	Construction of Hume pipe Culvert(600mm Dia)	168.00	Nos	113570.00	19079760.00
13	Construction of retaining wall on road side ponds	450.00	m	33517.00	15082650.00
				Total	1155628345.69 106356856 = 2
				In Lacs	11556.28 10635.69


J.E. 
CD(Bldg), PWD, Meerut

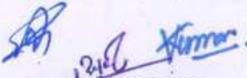

Asst. Engineer
CD(Bldg), PWD, Meerut


Executive Engineer
CD(Bldg), PWD, Meerut

BILL OF QUANTITY

Name of work :- Construction of Building (Forest Quarters at sardhana and Hydle quarter at Bhola Jhaal) in MEERUT DISTRICT

Sn	Item	Unit	Qty	Plinth Area Rate	Amount
1	Construction of Building				
a)	Forest Quarters at sardhana.	Sqm	82.35	11120.00	915732.00
b)	Hydle quarter at Bhola Jhaal.	Sqm	128.00	11120.00	1423360.00
				TOTAL	2339092.00
				Amount in Lakh	23.39
2	Contingency and quality control @ 1%			Total (1+2)	23.62
					2.83
3	Add 12% GST				0.24
4	Add Labour Welfare Cess @ 1%				1.62
5	Add Establishment Charges 6.875%				0.35
6	Add Depreciation cost 1.50%			Total (1 to 6) in lakh	28.67


Junior Engineer
Constn. Divn.(Bldg.),P.W.D.
Meerut


Assistant Engineer
Constn. Divn.(Bldg.) P.W.D.
Meerut


Executive Enginr
Constn.
Divn.(Bldg.),P.V
Meerut

Bill of Quantity

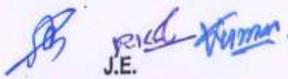
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कार्य का नाम :- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य।
(मेरठ)

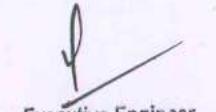
316

S.N.	ITEM OF WORK	Qty.	Unit	Rate	Amount (Rs.)
ROAD SAFETY (PART-B)					
a	Supply & Fixing of delinators along canal side 75mm dia. Circular.	5076	No	1135.00	5761260.00
b	P/F of Km hectometer stone	43	Km	5000.00	215000.00
c	S/F of overhead sign board	2	No	246500.00	493000.00
d	S/F of Cantilever	18	No	110000.00	1980000.00
e	S/F of Cautionary board, Mandatory and informatory board, village road (90x60)	40	No	3830.00	153200.00
f	S/F of Cate eye.	2010	No	415.00	834150.00
g	Retro reflective Infomatory singboard	510	sqm	6780.00	3457800.00
h	Providing and laying Road Marking as per IRC:35-1997 using Thermoplastic (Hot Application) colour white/yellow by indigenous manually propelled road marking machine with single coat of 2.5mm thick as directed by Engineer-In-Charge including cost of conveyance all in gradients such as Binders, Glass beads, Titanium-di-oxides, Calcuim - carbonate pigments as per MORT&H specification of clause-803.4.1.2 for the preparation of Thermoplastic requirement for Glass beads shall be table No.803.4.1.3 of MORT&H specification including cost of all materils, labour,T&P and hire charges etc.required for proper completion of work at site.New item No.6 of Chapt-27	11130.24	Sqm	615.00	6845097.60
i	Providing and laying of hot applied thermoplastic compound 5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform a (Repeated Bar)	226.80	Sqm	1230.00	278964.00
j	P/F Retro Reflective Chevron Board	80.00	Nos	5176.00	414080.00
k	P/F Retro Reflective Speed Limit Board	18.00	Nos	4889.00	88002.00
l	P/F Retro Reflective Hazard Marker Board	32.00	Nos	4896.00	156672.00
m	P/F Retro Reflective Stop Board	26.00	Nos	8257.00	214682.00
n	P/F Retro Reflective Give Way	26.00	Nos	6156.00	160056.00
o	Providing and erecting a "V" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810.	66090.00	Rm.	3471.00	229398390.00

Total 250450353.60
(in Lacs) **2504.50**


J.E.
CD(Bldg), PWD, Meerut


Asst. Engineer
CD(Bldg), PWD, Meerut


Executive Engineer
CD(Bldg), PWD, Meerut

SUMMARY OF ESTIMATED COST

कार्य का नाम :- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य। (मेरठ)

S.N	DESCRIPTION OF WORK	AMOUNT IN LACS (MRT)
1	वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य। (मेरठ)	
	CIVIL WORK (PART-A)	11556.28
	ROAD SAFETY (PART-B)	2504.50
	Total (a+B)	14060.79
2	Contingency and quality control @ 1%	140.61
	Total (1+2)	14201.39
3	Add 12% GST	1704.17
4	Add Labour Welfare Cess @ 1%	142.01
5	Add Establishment Charges 6.875%	976.35
6	Add Depreciation cost 1.50%	213.02
	Total (1 to 6)	17236.94
7	Rehabilitation of Forest Quarter (Sardhana) and Hydle quarter (Bhola jhaal)	28.67 ✓
8	Irrigation structure	3469.61 ✓
9	Bridge corporation Structures	2114.08 ✓
10	Forest Deptt.	2730.55 ✓
11	Utility shifting (Electrical)	102.95 ✓
	G. Total	25682.80

Handwritten signature

Handwritten signature
 सहायक अभियन्ता
 निर्माण खण्ड (भवन) लो0नि0वि0,
 मेरठ

Handwritten signature
 अधिसूचि अभियन्ता
 निर्माण खण्ड (भवन) लो0नि0वि0,
 मेरठ

Handwritten signature
 अधीक्षण अभियन्ता
 मेरठ वृत्त लो0नि0वि0
 मेरठ

लोक निर्माण विभाग



मा० मुख्यमंत्री जी की घोषणा के कम्प्यूटर क्रमांक—GH11Y000154, घोषणा सं०—Y.A.N.—
17/2018 घोषणा दिनांक 28.05.2018

प्रारम्भिक आगणन

वर्ष 2019—20

कार्य का नाम :— जनपद गाजियाबाद में वित्तीय वर्ष 2019—20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य (चैनेज 151.050 से 163.400)

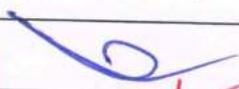
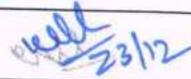
जिला	मार्ग की लम्बाई (कि०मी० में)	दांयी पटरी की लागत (रु० लाख में)
गाजियाबाद (चै० 151.050 से 163.400)	12.350	9704.34
Cost per km		785.78

चैकिंग परफोर्मा

PERFORMA FOR CHECKING THE PRELIMINARY AD DETAILED ESTIMATE TO BE PASTED ON EACH ESTIMATE

- 1 Report
 - (a) Proper references have been quoted and attested copies attached to the estimate.
 - (b) In case of revised estimate the amount of excess has been given item wise in the comparative statement with detailed reasons.
 - (c) Signature of A.E., E.E. and SE. exists.
 - (d) Details of forest land with name of village and chainage
 - (e) Required certificates are mentional or not.
 - (f) Name of JE/AE who surveyed the work for preparation of estimate.
- 2 Physical/ Financial Targets sheet Attached or NOT
- 3 Specification
 - (a) Details of specifications for each item of work are included in the estimate.
 - (b) Signature of A.E., E.E., and SE. exists.
- 4 Designs
 - (a) Traffic census details are attached or not
 - (b) C.B.R. value details are attached or not
 - (c) Detailed design of overlay is attached or not
 - (d) Each designs has been signed by A.E., E.E. and by S.E. in the end and important designs by S.E. as well.
- 5 Analysis of rate
 - (a) Analysis of latest bitumen rates is attached or not
 - (b) Required quantity of bitumen for this work has been worked out
 - (c) Each analysis has been signed by J.E., A.E. E.E. and approved by SE
- 6 Details of Measurement
- 7 Bill of Quantities
 - (a) Each page bears signature of J.E., A.E. and E.E at the end of each sheet.
- 8 Summary of Estimated Cost
 - (a) This has been signed by J.E., A.E., E.E., S.E., and by C.E.
- 9 Plans
 - (a) Line diagram on 1 = 4 mile map with making of road in fed colour duly signed by J.E., A.E. & counter signed by E.E.
 - (b) Plans have been signed by J.E., A.E., & E.E.
- 10 General
 - (a) Name and designation should exist below signature.
 - (b) Each page of the designing, analysis of rate, details of measurement, Bill of Quantities & Summary of estimated cost should be certified checked and corrected by Division & Circle, JE(T) with their signature and seal.

आगणन गठित करने वाले अधिकारी/कर्मचारी:-

क्र०	पदनाम	नाम	हस्ताक्षर
1	अवर अभियन्ता	विशाल हैटवाल सी०पी० सिंह सतेन्द्र कुमार	
2	सहायक अभियन्ता	जे०के० शर्मा	
3	अवर अभियन्ता (प्रा०)	किशन कुमार	
4	अधिशासी अभियन्ता	मनीष वर्मा	
5	अवर अभियन्ता (प्रा०)/वृत्त	डी०के० सरन	
6	अधीक्षण अभियन्ता	अजय शंकर सिंह	

INDEX

Sl. No.	Particular	Page No.
1	Title Page	
2	Checking Performa / List of Officers preparing Estimate	
3	Index	
4	Report	
5	Annexure/References	
6	Design	
7	Specification	
8 (Ghaziabad)	Analysis of Rate	
	Volume report of Earthwork (from Survey)	
	Details of Measurement	
	Bill of Quantity	
	Summary of Estimated Cost	
9	Summary of Estimated Cost	
10	Line diagram/Maps	

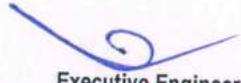
विशिष्टियां

विशिष्टियाँ

सम्बन्धित सभी कार्य लोक निर्माण विभाग एवं सड़क परिवहन एवं राजमार्ग मंत्रालय, भारत सरकार की विस्तृत पुनरीक्षित विशिष्टियों एवं समय-समय पर प्रसारित परिवर्तित परिपत्रों में निहित निर्देशों के आधार पर सम्पादित कराये जायेगे।



Asst. Engineer



Executive Engineer



Superintendent Engineer

ESTIMATE FOR SHIFTING OF 33 KV LINE 33/11KV S/S RAWALI , KAKRA & ASALATNAGAR & 11KV /LT LINE & 11/0.4 KV S/S OF 33/11 KV S/S OLD & OLD COLONY MURADNAGAR FOR ROAD CHAURIKARAN OF NH. 58 GANGNHAR TO DIDOLI JANGAL MURADNAGAR BY PWD -

S L NO.	DETAIL OF ITEM	UNIT	QTY	RATE	AMOUNT
1	11 kv cable 3*185 mm xlpd	m	160	794	127040
2	11 kv cable box j/kit 300/185 mm	no.	4	5000	20000
3	st pole 11 m long	no.	88	12594	1108272
4	acsr dog conductor 7360*3*3	m	2250	68.76	154710
5	acsr Rabbit conductor	m	11093	38.40	425971.2
6	11kv x aram v type	no.	74	451	33374
7	m.s channel 100,50	kg	2250	53	119250
8	m.s angle 65,65	kg	4250	53	225250
9	gi wire 8 swg	kg	1360	147	199920
10	stay set complete 16x1800	no.	36	1866	67176
11	m.s earthing rod	no.	88	768	67584
12	11 kv pin insulator poly maric	no.	360	222	79920
13	11 kv disc insulator polymaric	no.	90	468	42120
14	33 kv disc insulator polymaric	no.	192	538	103296
15	33 kv stay set	m	24	1860	44640
16	stone pad	no.	88	143	12584
17	m.s holding clamp for pcc/st pole	no.	500	150	75000
18	lt clamp for pcc/st pole	no.	20	150	3000
19	stay clamp for pcc/st pole-11 kv	no.	36	150	5400
20	stay clamp for pcc/st pole-33 kv	no.	60	150	9000
	M.S channel 125x65	kg	250	53	13250
	Concreat of support	no.	88	768	67584
	Concreat of Stay	no.	60	385	23100
21	m.s bolts & nuts off size	kg	100	100	10000
22	33 kv pin insulater	no.	24	460	11040
23					
24	Labour and cartage 15 %				3048481.2
25	TOTAL				457272.15
26	Super vission charges 37 %				3505753.35
27	TOTAL				1297128.73
28	G.S.T 18 %				4802882.08
29	TOTAL				864518
					5667400.08

ESTIMATE FOR AMOUNTING RS. 5667400 HAS BEEN FRAMED TO COVER THE COST OF SHIFTING OF 33 KV LINE 33/11KV S/S RAWALI , KAKRA & ASALATNAGAR & 11KV /LT LINE & 11/0.4 KV S/S OF 33/11 KV S/S OLD & OLD COLONY MURADNAGAR FOR ROAD CHAURIKARAN OF NH. 58 GANGNHAR TO DIDOLI JANGAL MURADNAGAR BY PWD -

J.E. Sheenys
J.E. Sheenys

Gsh
S.D.O

ESTIMATE FOR SHIFTING OF 33 KV LINE 33/11KV S/S RAWALI , KAKRA & ASALATNAGAR & 11KV /LT LINE & 11/O.4 KV S/S OF 33/11 KV S/S OLD & OLD COLONY MURADNAGAR FOR ROAD CHAURIKARAN OF NH. 58 GANGNHAR TO DIDOLI JANGAL MURADNAGAR BY PWD -

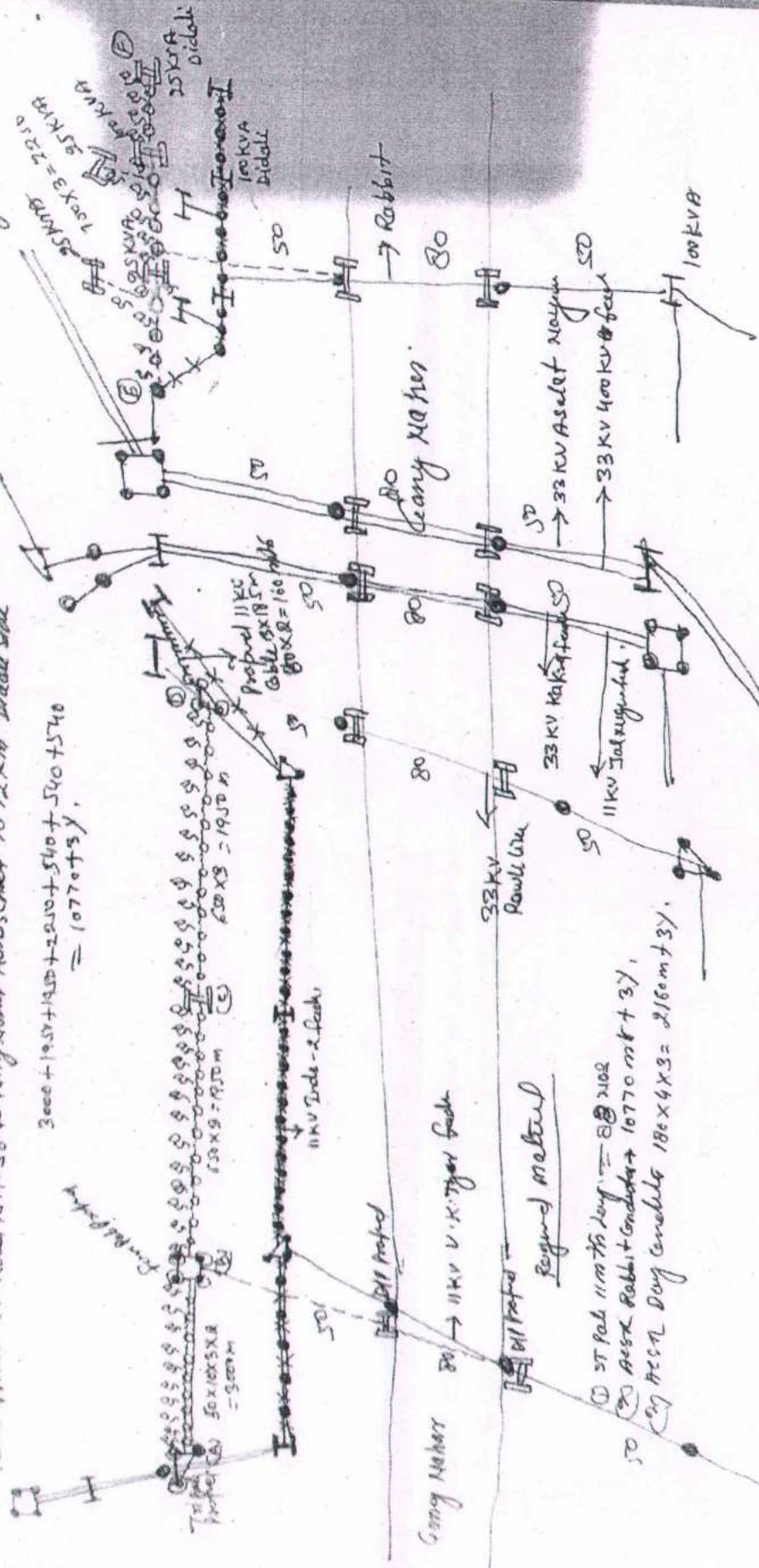
S L NO.	DETAIL OF ITEM	UNIT	QTY	RATE	AMOUNT
1	11 kv cable 3*185 mm xlpd	m	160	794	127040
2	11 kv cable box j/kit 300/185 mm	no.	4	5000	20000
3	st pole 11 m long	no.	88	12594	1108272
4	acsr dog conductor 7360*3*3	m	2250	68.76	154710
5	acsr Rabbit conductor	m	11093	38.40	425971.2
6	11kv x aram v type	no.	74	451	33374
7	m.s channel 100,50	kg	2250	53	119250
8	m.s angle 65,65	kg	4250	53	225250
9	gi wire 8 swg	kg	1360	147	199920
10	stay set complete 16x1800	no.	36	1866	67176
11	m.s earthing rod	no.	88	768	67584
12	11 kv pin insulator poly maric	no.	360	222	79920
13	11 kv disc insulator polymaric	no.	90	468	42120
14	33 kv disc insulator polymaric	no.	192	538	103296
15	33 kv stay set	m	24	1860	44640
16	stone pad	no.	88	143	12584
17	m.s holding clamp for pcc/st pole	no.	500	150	75000
18	lt clamp for pcc/st pole	no.	20	150	3000
19	stay clamp for pcc/st pole-11 kv	no.	36	150	5400
20	stay clamp for pcc/st pole-33 kv	no.	60	150	9000
	M.S channel 125x65	kg	250	53	13250
	Concreat of support	no.	88	768	67584
	Concreat of Stay	no.	60	385	23100
21	m.s bolts & nuts off size	kg	100	100	10000
22	33 kv pin insulater	no.	24	460	11040
23					3048481.2
24	Labour and cartage 15 %				457272.15
25	TOTAL				3505753.35
26	Super vission charges 37 %				1297128.73
27	TOTAL				4802882.08
28	G.S.T 18 %				864518
29	TOTAL				5667400.08

ESTIMATE FOR AMOUNTING RS. 5667400 HAS BEEN FRAMED TO COVER THE COST OF SHIFTING OF 33 KV LINE 33/11KV S/S RAWALI , KAKRA & ASALATNAGAR & 11KV /LT LINE & 11/O.4 KV S/S OF 33/11 KV S/S OLD & OLD COLONY MURADNAGAR FOR ROAD CHAURIKARAN OF NH. 58 GANGNHAR TO DIDOLI JANGAL MURADNAGAR BY PWD -

J.E. Sheony (S)

Gth
S.D.O

LINE CHART of Shifby of 53/11KV line at Hans School Gony Nahar to Vill. Didali due to Road Chori Karen Gony Nahar
 Pabri from GT Road NH-53 to Gony Nahar Hans School to 12 km Didali side.



SR
 Sheoraj Singh
 SDO
 SDO

DOUBLE LANE ROAD PROJECT ON RIGHT BANK OF UPPER GANGA CANAL ABSTRACT OF COST FOR STRUCTURES ON CANAL SYSTEM		
S.No.	Details of Works	Cost(In Lacs)
District: Muzzafar Nagar		
1	Construction of Bridge at Left Basera Feedar Located at Km. 69.140 of Upper Ganga Canal with protection works of Bridge in feeder	108.69
2	Construction of Bridge at Belra Inlet Located at Km. 71.000 of Upper Ganga Canal with protection works of Bridge	95.58
3	Construction of Bridge at Right Jolly Dy. at Km. 76.400 of Upper Ganga Canal with protection works of Bridge	132.69
4	Construction of Bridge Work at Rajwaha Mansurpur Located at Km. 76.522 of Upper Ganga Canal with protection works of Bridge	95.58
5	Construction of Bridge on Chittoda Seepage Drain at Km. 89.950 of Upper Ganga Canal with protection works of Bridge	95.58
6	Construction of Bridge on drain of Moagpur Inlet located at Km. 94.400 of Upper Ganga Canal with protection works of Bridge	108.69
7	Construction of Bridge Work of Nona Inlet Located at Km. 96.550 of Upper Ganga Canal with protection works of Bridge	108.69
8	Construction of Bridge Work of Bhensi Inlet Located at Km. 97.850 of Upper Ganga Canal with protection works of Bridge	108.69
9	Construction of Bridge with 3 spans of 16.00 m each with protection works of Irrigation colony at Khatauli Escape at Km. 100.500 of Upper Ganga Canal	858.65
District: Meerut		
10	Construction of Bridge at Right Salawa Dy at Km. 108.890 of Upper Ganga Canal near Village Salwa	132.69
11	Construction of Bridge with 3 Spans of 16.00 M each at Rardhana Escape at Km. 113.00 of Upper Ganga Canal near Village Aterna	358.17
12	Construction of Bridge Work Located at Km. 115.937 of Upper Ganga Canal at Right Bank with protection works of Bridge	95.58
13	Construction of Bridge Work Located at Km. 116.945 of Upper Ganga Canal at Right Bank with protection works of Bridge	95.58
14	Construction of Bridge Work Located at Km. 121.650 of Upper Ganga Canal at Right Bank with protection works of Bridge	95.58
15	Restoration of Canal Sction at (Km.121.650) near Village Kamruddin Nagar by Steel Sheet Piles in a length of 375.00 M	811.77
16	Construction of Bridge at Right Bhola Dy. at Km. 134.530 of Upper Ganga Canal	85.78

17	Construction of Bridge at Jani Escape at Km. 135.406 of Upper Ganga Canal with Well foundation with 5 Spans of 12.00 M each	593.35
18	Construction of Bridge at Tikri Dy. At Km. 135.480 of Upper Ganga Canal	143.40
19	Construction of Bridge at Tikri Dy. At Km. 140.180 of Upper Ganga Canal	143.40
20	Construction of Bridge at Jani Escape at Km. 140.300 of Upper Ganga Canal with well foundation with 5 spans of 12.00 M each.	652.46
21	Construction of Bridge at Tikri Dy. At Km. 140.400 of Upper Ganga Canal	143.40
22	Construction of Bridge on Inlet at Km. 144.100 of Upper Ganga Canal with protection works	132.69
23	Construction of Bridge work on drain of Inlet Near Siwal Village at Km. 144.700 of Upper Ganga Canal including protection works of bridge	95.58
District: Ghaziabad		
24	Construction of Bridge on Inlet Located at Km. 150.400 of Upper Ganga Canal	117.05
25	Construction of Bridge on Inlet Located at Km. 151.800 of Upper Ganga Canal	117.05
26	Construction of Bridge on Inlet Located at Km. 154.900 of Upper Ganga Canal	117.05
27	Construction of Bridge & Head Regulator at Km. 159.600 of Upper Ganga Canal at Sonia Vihar	393.40
28	Construction of Bridge & Head Regulator at Km. 159.740 of Upper Ganga Canal at Bhagirathi Vihar	393.40
Sub-Total		6430.28
Add cost of Ring Bund during construction, Diversion of Channels & protection of Existing Structures @20%		1286.06
Sub-Total		7716.34
Add Contingency (2%)		154.33
TOTAL (In Rs.)		7870.66
Add 12% for G.S.T.		944.48
Add 6.875 % for Centage Charges		541.11
Add 1.5 % for Price Depreciation		118.06
GRAND TOTAL		9474.31
GRAND TOTAL (In Crores)		94.74
DISTRICT MUZAFFAR NAGAR		25.47
DISTRICT MEERUT		52.56
DISTRICT GHAZIABAD		16.71

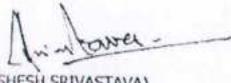
Executive Engineer
M.D.G.C., Meerut

NAME OF BRIDGE : BRIDGE OVER UPPER GANGA CANAL AT CHAINAGE 152.050 NEAR NIWARI BRIDGE IN DISTT. GHAZIABAD

ABSTRACT COST OF PROJECT

SL No.	ITEMS	BRIDGE PORTION	MAIN APPROACH	Steel Pile Bridge	TOTAL AMOUNT
		AMOUNT IN LACS	AMOUNT IN LACS	AMOUNT IN LACS	AMOUNT IN LACS
1	BRIDGE COST	332.1	59.73	68.4	460.23
2	95% OF COST (OF SL.No. 1)	315.50	56.74	64.98	437.22
3	CENTAGE @ 12.5% (OF SL.No. 2)	39.44	7.09	8.12	54.65
4	THIRD PARTY QUALITY AUDIT @ 1.5% (OF SL.No. 2)	4.73	0.85	0.97	6.56
5	SUB TOTAL (2+3+4)	359.66	64.69	74.08	498.43
6	GST @ 12% (OF SL.No. 7)	43.16	7.76	8.89	59.81
7	LABOUR CESS @ 1% (OF SL.No. 7)	3.60	0.65	0.74	4.98
8	SUB TOTAL (7+8+9+10)	46.76	8.41	9.63	64.80
9	TOTAL COST	406.42	73.10	83.71	563.22
10	LAND ACQUISITION	0.00	0	0.00	0.00
11	UTILITY SHIFTING (i.e. Electrification, Forest Land, Pipe Line, etc.)	0.00	0.00	0.00	0.00
12	10% Escalation	40.64	7.31	8.37	56.32
13	TOTAL COST OF PROJECT (11+12+13)	447.06	80.41	92.08	619.55
		LACS	LACS	LACS	LACS


(RAM BILAS RAM)
ASSISTANT ENGINEER (C)
B.C.U., GHAZIABAD


(ASHESH SRIVASTAVA)
GENERAL MANAGER
U.P. STATE BRIDGE CORP. LTD., GHAZIABAD


(AJAI KUMAR SINGH)
PROJECT MANAGER
B.C.U., GHAZIABAD

B.C.U. GHAZIABAD

NAME OF BRIDGE : BRIDGE OVER UPPER GANGA CANAL AT CHAINAGE 156.380 NEAR SONDA BRIDGE IN DISTT. GHAZIABAD

ABSTRACT COST OF PROJECT

SL No.	ITEMS	BRIDGE PORTION		MAIN APPROACH		Steel Pile Bridge		TOTAL AMOUNT	
		AMOUNT IN LACS	AMOUNT IN LACS	AMOUNT IN LACS	AMOUNT IN LACS				
1	BRIDGE COST	332.79	60.00			68.4		461.19	
2	95% OF COST (OF SL.No. 1)	316.15	57.00			64.98		438.13	
3	CENTAGE @ 12.5% (OF SL.No. 2)	39.52	7.13			8.12		54.77	
4	THIRD PARTY QUALITY AUDIT @ 1.5% (OF SL.No. 2)	4.74	0.86			0.97		6.57	
5	SUB TOTAL (2+3+4)	360.41	64.98			74.08		499.47	
6	GST @ 12% (OF SL.No. 7)	43.25	7.80			8.89		59.94	
7	LABOUR CESS @ 1% (OF SL.No. 7)	3.60	0.65			0.74		4.99	
8	SUB TOTAL (7+8+9+10)	46.85	8.45			9.63		64.93	
9	TOTAL COST	407.27	73.43			83.71		564.40	
10	LAND ACQUISITION	0.00	0			0.00		0.00	
11	UTILITY SHIFTING (i.e. Electrification, Forest Land, Pipe Line, etc.)	0.00	0.00			0.00		0.00	
12	10% Escalation	40.73	7.34			8.37		56.44	
13	TOTAL COST OF PROJECT (11+12+13)	447.99	80.77			92.08		620.84	LACS


(RAM BILAS RAM)
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GENERAL MANAGER
U.P. STATE BRIDGE CORP. LTD., GHAZIABAD


(AJAI KUMAR SINGH)
PROJECT MANAGER
B.C.U., GHAZIABAD

NAME OF BRIDGE : BRIDGE OVER UPPER GANGA CANAL AT CHAINAGE 161.60 NEAR SONIYA VIHAR REGULATOR IN DISTT. GHAZIABAD

ABSTRACT COST OF PROJECT

SL No.	ITEMS	BRIDGE PORTION		MAIN APPROACH		Steel Pile Bridge		TOTAL AMOUNT	
		AMOUNT IN LACS		AMOUNT IN LACS		AMOUNT IN LACS		AMOUNT IN LACS	
1	BRIDGE COST	333.49		60.27		68.4		462.16	
2	95% OF COST (OF SL.No. 1)	316.82		57.26		64.98		439.05	
3	CENTAGE @ 12.5% (OF SL.No. 2)	39.60		7.16		8.12		54.88	
4	THIRD PARTY QUALITY AUDIT @ 1.5% (OF SL.No. 2)	4.75		0.86		0.97		6.59	
5	SUB TOTAL (2+3+4)	361.17		65.27		74.08		500.52	
6	GST @ 12% (OF SL.No. 7)	43.34		7.83		8.89		60.06	
7	LABOUR CESS @ 1% (OF SL.No. 7)	3.61		0.65		0.74		5.01	
8	SUB TOTAL (7+8+9+10)	46.95		8.49		9.63		65.07	
9	TOTAL COST	408.12		73.76		83.71		565.59	
10	LAND ACQUISITION	0.00		0		0.00		0.00	
11	UTILITY SHIFTING (i.e. Electrification, Forest Land, Pipe Line, etc.)	0.00		0.00		0.00		0.00	
12	10% Escalation	40.81		7.38		8.37		56.56	
13	TOTAL COST OF PROJECT (11+12+13)	448.93	LACS	81.13	LACS	92.08	LACS	622.15	LACS


(RAM BILAS RAM)
ASSISTANT ENGINEER (C)
B.C.U., GHAZIABAD


(ASHESH SRIVASTAVA)
GENERAL MANAGER
U.P. STATE BRIDGE CORP. LTD., GHAZIABAD


(AJAI KUMAR SINGH)
PROJECT MANAGER
B.C.U., GHAZIABAD

PROPOSED KANWAR ROAD AT UPPER GAGA CANAL RIGHT BANK

SUMMARY OF EARTH WORK

MAIN CARRIAGE WAY EMBANKMENT FILLING QTY -----	5,27,470.0 CUM
<u>7.0 M CANAL BANK FILLING QTY-----</u>	<u>2,47,070.0 CUM</u>
<u>TOTAL QUANTITY-----</u>	<u>7,74,540.00 CUM</u>

L-Section And X-Section Are Enclosed Herewith

J.S.
J.S.

CD-2, PWD, GHAZIABAD					
UPPER GANGA CANAL RIGHT BANK KANWAR ROAD					
MAIN EMBANKMENT					
CHAINAGE 151050-163410					
Chainage	Fill Area	Cut Area	Distance	Fill Volume	Cut Volume
151050.0	19.041	0.0	-	-	-
151100.0	21.127	0.0	50.0	1004.202	0.0
151150.0	18.115	0.0	50.0	981.05	0.0
151200.0	23.268	0.0	50.0	1034.575	0.0
151250.0	23.44	0.0	50.0	1167.717	0.0
151300.0	21.701	0.0	50.0	1128.525	0.0
151350.0	30.391	0.0	50.0	1302.286	0.0
151400.0	28.041	0.0	50.0	1460.802	0.0
151450.0	30.35	0.0	50.0	1459.785	0.0
151500.0	32.556	0.0	50.0	1572.663	0.0
151550.0	34.526	0.0	50.0	1677.062	0.0
151600.0	31.073	0.0	50.0	1639.987	0.0
151650.0	31.121	0.0	50.0	1554.856	0.0
151700.0	26.897	0.0	50.0	1450.458	0.0
151750.0	31.361	0.0	50.0	1456.454	0.0
151800.0	30.69	0.0	50.0	1551.278	0.0
151850.0	30.53	0.0	50.0	1530.517	0.0
151900.0	33.156	0.0	50.0	1592.16	0.0
151950.0	34.368	0.0	50.0	1688.105	0.0
152000.0	33.418	0.0	50.0	1694.654	0.0
152050.0	39.22	0.0	50.0	1815.96	0.0
152100.0	31.109	0.0	50.0	1758.241	0.0
152150.0	37.327	0.0	50.0	1710.899	0.0
152200.0	29.644	0.0	50.0	1674.272	0.0
152250.0	34.218	0.0	50.0	1596.558	0.0
152300.0	44.021	0.0	50.0	1955.982	0.0
152342.0	0.0	0.0	42.0	924.446	0.0
152350.0	20.299	0.0	8.0	81.196	0.0
152400.0	24.072	0.0	50.0	1109.287	0.0
152450.0	35.001	0.0	50.0	1476.847	0.0
152500.0	31.978	0.0	50.0	1674.493	0.0
152550.0	34.99	0.0	50.0	1674.217	0.0
152600.0	36.929	0.0	50.0	1797.982	0.0
152650.0	54.055	0.0	50.0	2274.604	0.0
152700.0	66.129	0.0	50.0	3004.604	0.0
152750.0	34.71	0.0	50.0	2520.961	0.0
152800.0	33.196	0.0	50.0	1697.647	0.0
152850.0	35.255	0.0	50.0	1711.287	0.0
152900.0	34.523	0.0	50.0	1744.459	0.0
152950.0	32.854	0.0	50.0	1684.426	0.0
153000.0	33.89	0.0	50.0	1668.599	0.0
153050.0	33.575	0.0	50.0	1686.637	0.0

153100.0	27.208	0.0	50.0	1519.586	0.0
153150.0	26.516	0.0	50.0	1343.098	0.0
153200.0	28.275	0.0	50.0	1369.76	0.0
153250.0	43.596	0.0	50.0	1796.768	0.0
153300.0	45.281	0.0	50.0	2221.92	0.0
153350.0	32.308	0.0	50.0	1939.725	0.0
153400.0	30.185	0.0	50.0	1562.347	0.0
153450.0	25.941	0.0	50.0	1403.167	0.0
153500.0	23.969	0.0	50.0	1247.753	0.0
153550.0	24.264	0.0	50.0	1205.816	0.0
153600.0	24.274	0.0	50.0	1213.448	0.0
153650.0	26.441	0.0	50.0	1267.868	0.0
153700.0	25.034	0.0	50.0	1286.867	0.0
153750.0	23.989	0.0	50.0	1225.591	0.0
153800.0	25.31	0.0	50.0	1232.499	0.0
153850.0	28.791	0.0	50.0	1352.548	0.0
153900.0	28.284	0.0	50.0	1426.874	0.0
153950.0	30.528	0.0	50.0	1470.299	0.0
154000.0	30.732	0.0	50.0	1531.503	0.0
154050.0	30.278	0.0	50.0	1525.231	0.0
154100.0	31.878	0.0	50.0	1553.885	0.0
154150.0	29.607	0.0	50.0	1537.127	0.0
154200.0	32.092	0.0	50.0	1542.491	0.0
154250.0	33.543	0.0	50.0	1640.893	0.0
154300.0	32.064	0.0	50.0	1640.189	0.0
154350.0	33.488	0.0	50.0	1638.801	0.0
154400.0	32.109	0.0	50.0	1639.929	0.0
154450.0	34.122	0.0	50.0	1655.773	0.0
154500.0	32.066	0.0	50.0	1654.686	0.0
154550.0	35.575	0.0	50.0	1691.011	0.0
154600.0	34.02	0.0	50.0	1739.875	0.0
154650.0	37.633	0.0	50.0	1791.339	0.0
154700.0	37.722	0.0	50.0	1883.867	0.0
154750.0	39.282	0.0	50.0	1925.1	0.0
154800.0	37.693	0.0	50.0	1924.397	0.0
154850.0	33.977	0.0	50.0	1791.764	0.0
154900.0	32.257	0.0	50.0	1655.86	0.0
154950.0	30.487	0.0	50.0	1568.612	0.0
155000.0	31.606	0.0	50.0	1552.326	0.0
155050.0	33.977	0.0	50.0	1639.568	0.0
155100.0	32.364	0.0	50.0	1658.531	0.0
155150.0	30.236	0.0	50.0	1564.999	0.0
155200.0	23.597	0.0	50.0	1345.821	0.0
155250.0	25.18	0.0	50.0	1219.428	0.0
155280.0	24.587	0.0	30.0	746.509	0.0
155288.0	70.929	0.0	8.0	382.065	0.0
155300.0	70.591	0.0	12.0	849.121	0.0
155350.0	20.306	0.0	50.0	2272.44	0.0

155400.0	21.17	0.0	50.0	1036.907	0.0
155450.0	50.255	0.0	50.0	1785.629	0.0
155500.0	47.316	0.0	50.0	2439.27	0.0
155550.0	25.131	0.0	50.0	1811.17	0.0
155600.0	27.763	0.0	50.0	1322.344	0.0
155650.0	32.056	0.0	50.0	1495.456	0.0
155700.0	32.763	0.0	50.0	1620.472	0.0
155750.0	40.274	0.0	50.0	1825.942	0.0
155800.0	43.492	0.0	50.0	2094.167	0.0
155850.0	43.871	0.0	50.0	2184.083	0.0
155900.0	43.75	0.0	50.0	2190.536	0.0
155950.0	47.714	0.0	50.0	2286.596	0.0
156000.0	37.121	0.0	50.0	2120.863	0.0
156050.0	35.619	0.0	50.0	1818.511	0.0
156100.0	50.309	0.0	50.0	2148.21	0.0
156150.0	43.164	0.0	50.0	2336.818	0.0
156200.0	40.456	0.0	50.0	2090.489	0.0
156250.0	29.941	0.0	50.0	1759.927	0.0
156300.0	29.554	0.0	50.0	1487.381	0.0
156350.0	26.988	0.0	50.0	1413.547	0.0
156400.0	32.281	0.0	50.0	1481.729	0.0
156450.0	33.351	0.0	50.0	1640.809	0.0
156500.0	38.625	0.0	50.0	1799.391	0.0
156550.0	37.149	0.0	50.0	1894.338	0.0
156600.0	50.22	0.0	50.0	2184.222	0.0
156650.0	47.014	0.0	50.0	2430.841	0.0
156700.0	42.58	0.0	50.0	2239.85	0.0
156750.0	80.503	0.0	50.0	3077.08	0.0
156800.0	85.272	0.0	50.0	4144.364	0.0
156850.0	78.491	0.0	50.0	4094.053	0.0
156900.0	90.576	0.0	50.0	4226.661	0.0
156915.0	90.139	0.0	15.0	1355.36	0.0
156920.0	88.166	0.0	5.0	445.762	0.0
156950.0	87.267	0.0	30.0	2631.501	0.0
157000.0	103.41	0.0	50.0	4766.948	0.0
157050.0	76.878	0.0	50.0	4507.201	0.0
157100.0	52.123	0.0	50.0	3225.003	0.0
157150.0	49.67	0.0	50.0	2544.812	0.0
157200.0	53.303	0.0	50.0	2574.324	0.0
157250.0	54.588	0.0	50.0	2697.273	0.0
157300.0	57.42	0.0	50.0	2800.208	0.0
157350.0	54.424	0.0	50.0	2796.123	0.0
157400.0	58.593	0.0	50.0	2825.428	0.0
157450.0	34.562	0.0	50.0	2328.865	0.0
157500.0	34.885	0.0	50.0	1736.161	0.0
157550.0	46.053	0.0	50.0	2023.435	0.0
157600.0	50.738	0.0	50.0	2419.759	0.0
157650.0	48.972	0.0	50.0	2492.746	0.0

157700.0	45.851	0.0	50.0	2370.574	0.0
157750.0	48.488	0.0	50.0	2358.477	0.0
157800.0	36.304	0.0	50.0	2119.82	0.0
157850.0	54.097	0.0	50.0	2260.022	0.0
157900.0	49.939	0.0	50.0	2600.898	0.0
157950.0	33.037	0.0	50.0	2074.419	0.0
158000.0	34.243	0.0	50.0	1682.021	0.0
158050.0	37.788	0.0	50.0	1800.794	0.0
158100.0	34.745	0.0	50.0	1813.324	0.0
158150.0	35.467	0.0	50.0	1755.3	0.0
158200.0	43.904	0.0	50.0	1984.277	0.0
158250.0	41.085	0.0	50.0	2124.707	0.0
158300.0	45.419	0.0	50.0	2162.582	0.0
158350.0	40.097	0.0	50.0	2137.892	0.0
158400.0	41.971	0.0	50.0	2051.698	0.0
158450.0	43.654	0.0	50.0	2140.626	0.0
158500.0	39.815	0.0	50.0	2086.719	0.0
158550.0	49.893	0.0	50.0	2242.697	0.0
158600.0	60.75	0.0	50.0	2766.077	0.0
158650.0	30.383	0.0	50.0	2278.331	0.0
158700.0	33.047	0.0	50.0	1585.755	0.0
158750.0	34.351	0.0	50.0	1684.957	0.0
158800.0	41.305	0.0	50.0	1891.403	0.0
158850.0	48.675	0.0	50.0	2249.497	0.0
158900.0	43.697	0.0	50.0	2309.292	0.0
158950.0	52.221	0.0	50.0	2397.928	0.0
159000.0	52.13	0.0	50.0	2608.773	0.0
159050.0	45.864	0.0	50.0	2449.871	0.0
159100.0	62.369	0.0	50.0	2705.845	0.0
159150.0	61.146	0.0	50.0	3087.872	0.0
159200.0	41.476	0.0	50.0	2565.527	0.0
159250.0	38.377	0.0	50.0	1996.304	0.0
159300.0	47.331	0.0	50.0	2142.687	0.0
159350.0	37.619	0.0	50.0	2123.75	0.0
159400.0	58.106	0.0	50.0	2393.119	0.0
159450.0	35.089	0.0	50.0	2329.869	0.0
159500.0	24.871	0.0	50.0	1499.004	0.0
159550.0	28.684	0.0	50.0	1338.87	0.0
159600.0	28.592	0.0	50.0	1431.895	0.0
159650.0	35.597	0.0	50.0	1604.714	0.0
159700.0	48.355	0.0	50.0	2098.788	0.0
159750.0	32.442	0.0	50.0	2019.917	0.0
159800.0	31.268	0.0	50.0	1592.749	0.0
159850.0	31.942	0.0	50.0	1580.265	0.0
159900.0	39.115	0.0	50.0	1776.425	0.0
159950.0	36.558	0.0	50.0	1891.816	0.0
160000.0	39.809	0.0	50.0	1909.164	0.0
160050.0	47.793	0.0	50.0	2190.043	0.0

160100.0	58.838	0.0	50.0	2665.783	0.0
160150.0	53.031	0.0	50.0	2796.721	0.0
160200.0	52.086	0.0	50.0	2627.905	0.0
160250.0	61.987	0.0	50.0	2851.811	0.0
160300.0	57.035	0.0	50.0	2975.542	0.0
160350.0	51.762	0.0	50.0	2719.933	0.0
160400.0	53.444	0.0	50.0	2630.152	0.0
160450.0	63.363	0.0	50.0	2920.171	0.0
160500.0	44.467	0.0	50.0	2695.759	0.0
160538.0	51.234	0.0	38.0	1818.316	0.0
160550.0	50.991	0.0	12.0	613.346	0.0
160600.0	60.422	0.0	50.0	2785.307	0.0
160650.0	50.553	0.0	50.0	2774.363	0.0
160700.0	34.441	0.0	50.0	2124.854	0.0
160750.0	40.947	0.0	50.0	1884.717	0.0
160800.0	36.842	0.0	50.0	1944.736	0.0
160850.0	37.922	0.0	50.0	1869.093	0.0
160900.0	43.713	0.0	50.0	2040.876	0.0
160950.0	33.457	0.0	50.0	1929.251	0.0
161000.0	30.632	0.0	50.0	1602.225	0.0
161050.0	31.094	0.0	50.0	1543.158	0.0
161100.0	36.162	0.0	50.0	1681.391	0.0
161150.0	41.701	0.0	50.0	1946.574	0.0
161200.0	53.115	0.0	50.0	2370.416	0.0
161250.0	35.04	0.0	50.0	2203.891	0.0
161300.0	48.804	0.0	50.0	2096.115	0.0
161350.0	46.691	0.0	50.0	2387.397	0.0
161400.0	52.276	0.0	50.0	2474.189	0.0
161450.0	51.246	0.0	50.0	2588.049	0.0
161500.0	94.677	0.0	50.0	3648.062	0.0
161550.0	46.308	0.0	50.0	3524.607	0.0
161600.0	51.626	0.0	50.0	2448.33	0.0
161610.0	51.496	0.0	10.0	515.606	0.0
161617.0	57.833	0.0	7.0	382.65	0.0
161650.0	57.383	0.0	33.0	1901.057	0.0
161700.0	64.183	0.0	50.0	3039.137	0.0
161750.0	54.141	0.0	50.0	2958.101	0.0
161800.0	46.073	0.0	50.0	2505.352	0.0
161850.0	36.97	0.0	50.0	2076.065	0.0
161900.0	34.171	0.0	50.0	1778.515	0.0
161950.0	39.067	0.0	50.0	1830.944	0.0
162000.0	20.436	0.0	50.0	1487.564	0.0
162050.0	28.382	0.0	50.0	1220.447	0.0
162100.0	40.985	0.0	50.0	1734.193	0.0
162150.0	44.902	0.0	50.0	2147.197	0.0
162200.0	28.249	0.0	50.0	1828.778	0.0
162250.0	24.402	0.0	50.0	1316.26	0.0
162300.0	23.074	0.0	50.0	1186.892	0.0

162350.0	24.589	0.0	50.0	1191.572	0.0
162400.0	63.941	0.0	50.0	2213.248	0.0
162450.0	54.015	0.0	50.0	2948.912	0.0
162500.0	51.756	0.0	50.0	2644.291	0.0
162550.0	38.365	0.0	50.0	2253.041	0.0
162600.0	51.926	0.0	50.0	2257.292	0.0
162650.0	47.398	0.0	50.0	2483.109	0.0
162700.0	64.434	0.0	50.0	2795.814	0.0
162750.0	63.292	0.0	50.0	3193.167	0.0
162800.0	82.863	0.0	50.0	3653.893	0.0
162850.0	66.763	0.0	50.0	3740.662	0.0
162900.0	63.598	0.0	50.0	3259.034	0.0
162950.0	62.237	0.0	50.0	3145.873	0.0
163000.0	70.586	0.0	50.0	3320.559	0.0
163050.0	64.624	0.0	50.0	3380.256	0.0
163100.0	68.238	0.0	50.0	3321.555	0.0
163150.0	76.88	0.0	50.0	3627.946	0.0
163200.0	105.31	0.0	50.0	4554.76	0.0
163250.0	95.449	0.0	50.0	5018.991	0.0
163300.0	150.631	0.0	50.0	6152.018	0.0
163350.0	109.983	0.0	50.0	6515.348	0.0
163400.0	63.49	0.0	50.0	4336.82	0.0
163410.0	18.607	0.0	10.0	410.487	0.0
Total				527470.186	0.0

CD-2, PWD, GHAZIABAD					
UPPER GANGA CANAL RIGHT BANK KANWAR ROAD					
VOLUME REPORT 7.0 CANAL BANK					
CHAINAGE 151050-163410					
Chainage	Fill Area	Cut Area	Distance	Fill Volume	Cut Volume
151050.0	8.879	0.0	-	-	-
151100.0	10.801	0.0	50.0	491.989	0.0
151150.0	8.987	0.0	50.0	494.708	0.0
151200.0	12.336	0.0	50.0	533.099	0.0
151250.0	13.241	0.0	50.0	639.439	0.0
151300.0	12.167	0.0	50.0	635.206	0.0
151350.0	15.195	0.0	50.0	684.064	0.0
151400.0	15.463	0.0	50.0	766.454	0.0
151450.0	16.063	0.0	50.0	788.139	0.0
151500.0	16.413	0.0	50.0	811.902	0.0
151550.0	16.979	0.0	50.0	834.813	0.0
151600.0	16.588	0.0	50.0	839.176	0.0
151650.0	17.511	0.0	50.0	852.478	0.0
151700.0	15.732	0.0	50.0	831.086	0.0
151750.0	15.067	0.0	50.0	769.974	0.0
151800.0	16.182	0.0	50.0	781.22	0.0
151850.0	18.161	0.0	50.0	858.581	0.0
151900.0	16.854	0.0	50.0	875.379	0.0
151950.0	17.152	0.0	50.0	850.154	0.0
152000.0	16.692	0.0	50.0	846.115	0.0
152050.0	17.582	0.0	50.0	856.862	0.0
152100.0	17.317	0.0	50.0	872.479	0.0
152150.0	18.377	0.0	50.0	892.339	0.0
152200.0	16.468	0.0	50.0	871.124	0.0
152250.0	16.492	0.0	50.0	824.013	0.0
152300.0	18.839	0.0	50.0	883.271	0.0
152342.0	0.0	0.0	42.0	395.612	0.0
152350.0	11.456	0.0	8.0	45.823	0.0
152400.0	14.194	0.0	50.0	641.255	0.0
152450.0	17.234	0.0	50.0	785.699	0.0
152500.0	19.2	0.0	50.0	910.849	0.0
152550.0	19.991	0.0	50.0	979.782	0.0
152600.0	22.292	0.0	50.0	1057.068	0.0
152650.0	26.587	0.0	50.0	1221.98	0.0
152700.0	21.754	0.0	50.0	1208.532	0.0
152750.0	20.576	0.0	50.0	1058.247	0.0
152800.0	21.686	0.0	50.0	1056.555	0.0
152850.0	23.387	0.0	50.0	1126.828	0.0

152900.0	20.959	0.0	50.0	1108.644	0.0
152950.0	18.992	0.0	50.0	998.773	0.0
153000.0	19.212	0.0	50.0	955.105	0.0
153050.0	17.558	0.0	50.0	919.244	0.0
153100.0	15.05	0.0	50.0	815.199	0.0
153150.0	15.336	0.0	50.0	759.659	0.0
153200.0	15.167	0.0	50.0	762.561	0.0
153250.0	19.916	0.0	50.0	877.058	0.0
153300.0	21.666	0.0	50.0	1039.541	0.0
153350.0	20.105	0.0	50.0	1044.267	0.0
153400.0	19.23	0.0	50.0	983.377	0.0
153450.0	16.103	0.0	50.0	883.339	0.0
153500.0	14.613	0.0	50.0	767.906	0.0
153550.0	14.683	0.0	50.0	732.408	0.0
153600.0	14.557	0.0	50.0	731.001	0.0
153650.0	14.779	0.0	50.0	733.393	0.0
153700.0	14.938	0.0	50.0	742.919	0.0
153750.0	15.15	0.0	50.0	752.189	0.0
153800.0	14.606	0.0	50.0	743.902	0.0
153850.0	15.795	0.0	50.0	760.022	0.0
153900.0	15.811	0.0	50.0	790.138	0.0
153950.0	18.835	0.0	50.0	866.148	0.0
154000.0	19.826	0.0	50.0	966.536	0.0
154050.0	20.521	0.0	50.0	1008.677	0.0
154100.0	21.876	0.0	50.0	1059.927	0.0
154150.0	19.586	0.0	50.0	1036.553	0.0
154200.0	20.156	0.0	50.0	993.546	0.0
154250.0	21.304	0.0	50.0	1036.508	0.0
154300.0	21.368	0.0	50.0	1066.8	0.0
154350.0	23.194	0.0	50.0	1114.037	0.0
154400.0	22.047	0.0	50.0	1131.024	0.0
154450.0	23.473	0.0	50.0	1138.013	0.0
154500.0	24.556	0.0	50.0	1200.738	0.0
154550.0	23.388	0.0	50.0	1198.605	0.0
154600.0	23.365	0.0	50.0	1168.827	0.0
154650.0	23.583	0.0	50.0	1173.702	0.0
154700.0	25.053	0.0	50.0	1215.909	0.0
154750.0	25.283	0.0	50.0	1258.404	0.0
154800.0	24.356	0.0	50.0	1240.966	0.0
154850.0	22.918	0.0	50.0	1181.856	0.0
154900.0	20.403	0.0	50.0	1083.038	0.0
154950.0	19.885	0.0	50.0	1007.206	0.0
155000.0	20.361	0.0	50.0	1006.143	0.0
155050.0	20.318	0.0	50.0	1016.978	0.0

155100.0	18.755	0.0	50.0	976.846	0.0
155150.0	16.052	0.0	50.0	870.182	0.0
155200.0	15.501	0.0	50.0	788.836	0.0
155250.0	14.703	0.0	50.0	755.107	0.0
155280.0	14.299	0.0	30.0	435.025	0.0
155288.0	14.75	0.0	8.0	116.197	0.0
155300.0	14.589	0.0	12.0	176.036	0.0
155350.0	12.362	0.0	50.0	673.763	0.0
155400.0	12.441	0.0	50.0	620.058	0.0
155450.0	12.913	0.0	50.0	633.839	0.0
155500.0	13.154	0.0	50.0	651.671	0.0
155550.0	13.556	0.0	50.0	667.74	0.0
155600.0	15.894	0.0	50.0	736.238	0.0
155650.0	16.19	0.0	50.0	802.11	0.0
155700.0	18.126	0.0	50.0	857.915	0.0
155750.0	20.178	0.0	50.0	957.603	0.0
155800.0	21.971	0.0	50.0	1053.729	0.0
155850.0	23.656	0.0	50.0	1140.677	0.0
155900.0	22.681	0.0	50.0	1158.414	0.0
155950.0	24.684	0.0	50.0	1184.11	0.0
156000.0	22.179	0.0	50.0	1171.576	0.0
156050.0	20.174	0.0	50.0	1058.835	0.0
156100.0	20.14	0.0	50.0	1007.85	0.0
156150.0	19.886	0.0	50.0	1000.643	0.0
156200.0	19.654	0.0	50.0	988.485	0.0
156250.0	18.091	0.0	50.0	943.609	0.0
156300.0	16.631	0.0	50.0	868.034	0.0
156350.0	17.297	0.0	50.0	848.183	0.0
156400.0	17.621	0.0	50.0	872.939	0.0
156450.0	20.343	0.0	50.0	949.103	0.0
156500.0	20.007	0.0	50.0	1008.744	0.0
156550.0	20.765	0.0	50.0	1019.279	0.0
156600.0	23.651	0.0	50.0	1110.393	0.0
156650.0	23.992	0.0	50.0	1191.085	0.0
156700.0	24.96	0.0	50.0	1223.808	0.0
156750.0	27.417	0.0	50.0	1309.424	0.0
156800.0	28.866	0.0	50.0	1407.082	0.0
156850.0	27.721	0.0	50.0	1414.677	0.0
156900.0	23.905	0.0	50.0	1290.631	0.0
156915.0	23.711	0.0	15.0	357.118	0.0
156920.0	13.366	0.0	5.0	92.692	0.0
156950.0	13.027	0.0	30.0	395.888	0.0
157000.0	22.08	0.0	50.0	877.678	0.0
157050.0	18.565	0.0	50.0	1016.123	0.0

157100.0	18.306	0.0	50.0	921.763	0.0
157150.0	17.458	0.0	50.0	894.089	0.0
157200.0	20.009	0.0	50.0	936.682	0.0
157250.0	22.29	0.0	50.0	1057.491	0.0
157300.0	22.217	0.0	50.0	1112.677	0.0
157350.0	22.419	0.0	50.0	1115.901	0.0
157400.0	24.444	0.0	50.0	1171.589	0.0
157450.0	19.165	0.0	50.0	1090.225	0.0
157500.0	18.91	0.0	50.0	951.875	0.0
157550.0	20.923	0.0	50.0	995.837	0.0
157600.0	19.057	0.0	50.0	999.506	0.0
157650.0	21.626	0.0	50.0	1017.088	0.0
157700.0	20.44	0.0	50.0	1051.666	0.0
157750.0	19.224	0.0	50.0	991.595	0.0
157800.0	18.575	0.0	50.0	944.974	0.0
157850.0	19.213	0.0	50.0	944.713	0.0
157900.0	24.227	0.0	50.0	1085.993	0.0
157950.0	16.823	0.0	50.0	1026.248	0.0
158000.0	16.451	0.0	50.0	831.861	0.0
158050.0	17.24	0.0	50.0	842.29	0.0
158100.0	17.919	0.0	50.0	878.993	0.0
158150.0	18.709	0.0	50.0	915.703	0.0
158200.0	24.04	0.0	50.0	1068.717	0.0
158250.0	25.471	0.0	50.0	1237.761	0.0
158300.0	24.934	0.0	50.0	1260.106	0.0
158350.0	24.722	0.0	50.0	1241.395	0.0
158400.0	24.424	0.0	50.0	1228.65	0.0
158450.0	23.892	0.0	50.0	1207.887	0.0
158500.0	22.738	0.0	50.0	1165.753	0.0
158550.0	21.794	0.0	50.0	1113.311	0.0
158600.0	20.426	0.0	50.0	1055.499	0.0
158650.0	18.847	0.0	50.0	981.828	0.0
158700.0	18.701	0.0	50.0	938.715	0.0
158750.0	14.565	0.0	50.0	831.663	0.0
158800.0	20.069	0.0	50.0	865.847	0.0
158850.0	15.447	0.0	50.0	887.895	0.0
158900.0	23.368	0.0	50.0	970.372	0.0
158950.0	28.234	0.0	50.0	1290.053	0.0
159000.0	26.402	0.0	50.0	1365.897	0.0
159050.0	28.114	0.0	50.0	1362.9	0.0
159100.0	34.704	0.0	50.0	1570.454	0.0
159150.0	37.066	0.0	50.0	1794.258	0.0
159200.0	30.173	0.0	50.0	1680.975	0.0
159250.0	22.113	0.0	50.0	1307.147	0.0

159300.0	25.691	0.0	50.0	1195.117	0.0
159350.0	29.807	0.0	50.0	1387.47	0.0
159400.0	31.349	0.0	50.0	1528.909	0.0
159450.0	14.089	0.0	50.0	1135.937	0.0
159500.0	16.149	0.0	50.0	755.931	0.0
159550.0	17.395	0.0	50.0	838.599	0.0
159600.0	19.357	0.0	50.0	918.818	0.0
159650.0	21.124	0.0	50.0	1012.036	0.0
159700.0	21.331	0.0	50.0	1061.385	0.0
159750.0	21.644	0.0	50.0	1074.376	0.0
159800.0	21.719	0.0	50.0	1084.065	0.0
159850.0	20.241	0.0	50.0	1048.998	0.0
159900.0	22.681	0.0	50.0	1073.045	0.0
159950.0	20.989	0.0	50.0	1091.75	0.0
160000.0	24.449	0.0	50.0	1135.955	0.0
160050.0	23.929	0.0	50.0	1209.455	0.0
160100.0	26.297	0.0	50.0	1255.646	0.0
160150.0	25.335	0.0	50.0	1290.802	0.0
160200.0	26.508	0.0	50.0	1296.078	0.0
160250.0	25.601	0.0	50.0	1302.729	0.0
160300.0	23.863	0.0	50.0	1236.615	0.0
160350.0	26.033	0.0	50.0	1247.405	0.0
160400.0	27.188	0.0	50.0	1330.521	0.0
160450.0	28.231	0.0	50.0	1385.483	0.0
160500.0	19.251	0.0	50.0	1187.068	0.0
160530.0	13.977	0.0	38.0	631.345	0.0
160550.0	13.848	0.0	12.0	166.952	0.0
160600.0	18.285	0.0	50.0	803.335	0.0
160650.0	16.891	0.0	50.0	879.414	0.0
160700.0	16.776	0.0	50.0	841.691	0.0
160750.0	17.612	0.0	50.0	859.708	0.0
160800.0	16.56	0.0	50.0	854.298	0.0
160850.0	16.818	0.0	50.0	834.462	0.0
160900.0	16.84	0.0	50.0	841.466	0.0
160950.0	17.509	0.0	50.0	858.742	0.0
161000.0	19.586	0.0	50.0	927.387	0.0
161050.0	17.312	0.0	50.0	922.455	0.0
161100.0	17.855	0.0	50.0	879.185	0.0
161150.0	15.666	0.0	50.0	838.022	0.0
161200.0	17.34	0.0	50.0	825.144	0.0
161250.0	17.951	0.0	50.0	882.286	0.0
161300.0	17.485	0.0	50.0	885.919	0.0
161350.0	13.604	0.0	50.0	777.23	0.0
161400.0	15.136	0.0	50.0	718.497	0.0

161450.0	17.035	0.0	50.0	804.284	0.0
161500.0	18.116	0.0	50.0	878.785	0.0
161550.0	19.138	0.0	50.0	931.363	0.0
161600.0	19.048	0.0	50.0	954.664	0.0
161610.0	18.989	0.0	10.0	190.186	0.0
161617.0	20.074	0.0	7.0	136.72	0.0
161650.0	19.874	0.0	33.0	659.14	0.0
161700.0	19.262	0.0	50.0	978.4	0.0
161750.0	14.876	0.0	50.0	853.457	0.0
161800.0	13.599	0.0	50.0	711.886	0.0
161850.0	14.074	0.0	50.0	691.83	0.0
161900.0	16.228	0.0	50.0	757.561	0.0
161950.0	17.366	0.0	50.0	839.87	0.0
162000.0	17.377	0.0	50.0	868.591	0.0
162050.0	18.298	0.0	50.0	891.874	0.0
162100.0	17.195	0.0	50.0	887.313	0.0
162150.0	18.583	0.0	50.0	894.436	0.0
162200.0	17.355	0.0	50.0	898.446	0.0
162250.0	16.261	0.0	50.0	840.398	0.0
162300.0	14.553	0.0	50.0	770.331	0.0
162350.0	14.98	0.0	50.0	738.307	0.0
162400.0	14.084	0.0	50.0	726.598	0.0
162450.0	14.314	0.0	50.0	709.958	0.0
162500.0	16.909	0.0	50.0	780.579	0.0
162550.0	17.654	0.0	50.0	864.087	0.0
162600.0	16.444	0.0	50.0	852.474	0.0
162650.0	15.54	0.0	50.0	799.6	0.0
162700.0	20.503	0.0	50.0	901.054	0.0
162750.0	21.956	0.0	50.0	1061.457	0.0
162800.0	28.552	0.0	50.0	1262.691	0.0
162850.0	26.81	0.0	50.0	1384.06	0.0
162900.0	23.479	0.0	50.0	1257.246	0.0
162950.0	20.959	0.0	50.0	1110.974	0.0
163000.0	21.717	0.0	50.0	1054.406	0.0
163050.0	20.628	0.0	50.0	1046.112	0.0
163100.0	21.47	0.0	50.0	1052.452	0.0
163150.0	22.721	0.0	50.0	1104.785	0.0
163200.0	35.676	0.0	50.0	1459.934	0.0
163250.0	51.899	0.0	50.0	2189.386	0.0
163300.0	53.581	0.0	50.0	2637.0	0.0
163350.0	43.382	0.0	50.0	2808.4	0.0
163400.0	18.919	0.0	50.0	1557.522	0.0
163410.0	7.344	0.0	10.0	131.317	0.0
Total				247070.562	0.0

आर०एम०आर०

नाम :- जनपद गाजियाबाद में वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य (वैनेज 151.050 से 163.400)

of	Quarry rate including loading & unloading charges	Deducting Loading & Unloading of UK	Ded. Royalty	Add Loading of UP	Quarry rates i/c loading at UK & unloading at UP	Distance from Crusher (KM 195-WH/58)	Cost of cartage without Loading & Unloading	Cost of cartage as in Col.8 without CP	Stacking charges (Not admissible in Vertical Tender)	Total (Col. 10+6)	Deduct Vat @ 4% if Overhead is 10%	Total	Total round to 10np
	2	3	4	5	6	7	8	9	10	11	12	13	14
	(37.5-9.5mm), (9.5-4.75mm) (4.75-75mic), (4.75-2.36mm), (9.50-2.36 mm) (26.5-4.75mm) & (26.5-9.50mm) for GSB							Col-8/1.10					
car	881.00	-53.00	-160.00	0.00	668.00	153.00	1470.50	1336.82	0.00	2004.82	0.00	2004.82	2005.00
	2.36mm and below for GSB												
car	642.00	-53.00	-160.00	0.00	429.00	153.00	1470.50	1336.82	0.00	1765.82	0.00	1765.82	1766.00
	90-45 mm gauge stone ballast												
car	642.00	-53.00	-160.00	0.00	429.00	153.00	1470.50	1336.82	0.00	1765.82	0.00	1765.82	1766.00
	63-45 mm gauge stone ballast												
car	688.00	-53.00	-160.00	0.00	475.00	153.00	1470.50	1336.82	0.00	1811.82	0.00	1811.82	1812.00
	53-22.4 mm gauge stone ballast												
car	743.00	-53.00	-160.00	0.00	530.00	153.00	1470.50	1336.82	0.00	1866.82	0.00	1866.82	1867.00
	Crushed stone aggregate (2.36-75micron for WMM), (37.5-25mm, 25-10mm, 10-5mm, 5mm & below for DBM), (13.2-10mm, 10-5mm, 5mm & below for BC), Screening Material, Type A&B, Grit all size, Dust												
car	945.00	-53.00	-160.00	0.00	732.00	153.00	1470.50	1336.82	0.00	2068.82	0.00	2068.82	2069.00

Cartage Calculation

Distance	Rate	Amount
Haridwar Quarry to Daurala Km-69 of NH-58	116.00	468.00
Daurala to Kavar Nehar Patri	9.00	405.00
Kavar Nehar Patri to Middle of Road	28.00	200.00
Total	153.00	397.50
Net Cartage		1470.50

Rate:- Col.3 basic rate of quarry, loading is admissible as per Ultranchal SOR and unloading is admissible as per Uttar Pradesh SOR.

Certified that

- All the distances has been taken from shortest possible route.
- All the rates has been taken from latest schedule of rates.

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(J.K. Sharma)
Asst. Engineer

C.D-2, PWD, Ghaziabad

(Maneesh Verma)
Executive Engineer

C.D-2, PWD, Ghaziabad

(Ajay Shankar Singh)
Superintendent Engineer

Bulandshahr Circle, PWD, Bulandshahr

दर - विश्लेषण

BULK BITUMEN RATES w.e.f. 16.12.2019			
Rates ex-Mathura/ Panipat	VG - 10 BULK	VG - 30 BULK	VG - 40 BULK
PRICING ELEMENT	Rate Rs. / MT	Rate Rs. / MT	Rate Rs. / MT
Basic Rate	28,140.00	28,940.00	29,460.00
GST @ 18 %	5,065.20	5,209.20	5,302.80
Total per MT	33,205.20	34,149.20	34,762.80

PACKED BITUMEN RATES w.e.f. 16.12.2019		
Rates ex-Mathura/ Panipat	VG 10 Packed	VG 30 Packed
Pricing Element	Rate (Rs / MT)	Rate (Rs / MT)
Basic rate	33,540.00	34,340.00
GST @ 18%	6,037.20	6,181.20
TOTAL per MT	39,577.20	40,521.20
Total per drum (156 kg)	6,174.04	6,321.31

BULK CRMB / PMB RATES w.e.f. 16.12.2019			
Rates ex-Mathura/ Panipat	CRMB 55	CRMB 60	PMB 40
PRICING ELEMENT	Rate Rs. / MT	Rate Rs. / MT	Rate Rs. / MT
Basic Rate	31,410.00	31,650.00	33,590.00
GST @ 18 %	5,653.80	5,697.00	6,046.20
Total per MT	37,063.80	37,347.00	39,636.20

Regards

For Indian Oil Corporation Ltd.

Aashim Sareen

Manager, Institutional Business

Ghaziabad IBA, Agra DO | 9899789073

Sr No	Ref. to MoRTH Spec.	Rate of Bitumen w.e.f. 16-12-19 of IOC from Panipat Refinery	Cost Rs
S.No	Paritcular	Bitumen VG-10 Grade	Bitumen VG-30 Grade
1	Basic Rate at Panipat	28140.00	28940.00
2	Cartage 2x(113+20) = 266 Km@1.58/per KM /per Ton	420.28	420.28
	Total	28560.28	29360.28
	Rate Per Ton Say	28560.00	29360.00
Rate of Emulsion w.e.f. 16-12-19 of IOC from Bahadurgarh Hincol			
S.No	Paritcular	Bitumen Emulsion Medium Setting (Bulk)	
1	Basic Rate at Jhansi	29182.00	
2	Cartage 2x(104) Km@1.58/per Km. /per Ton	328.64	
	Total	29510.64	
	Rate Per Ton Say	29511.00	


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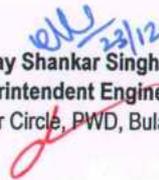

Asst. Engineer
C.D.-2, PWD, Ghaziabad


Executive Engineer
C.D.-2, PWD, Ghaziabad

CHAPTER-2								
SITE CLEARANCE								
Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
2.3	201		Clearing and Grubbing Road Land .					
			Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, upto a lead of 1000 m including removal and disposal of top organic soil not exceeding 150mm in thickness.					
			<i>Unit = Hectare</i>					
			<i>Taking output = 1 Hectare</i>					
		(i)	By Manual Means:-					
		A	In area of light jungle					
			a) Labour					
			Mate	day	6.0	370.00	2220.00	L-12
			Mazdoor	day	150.0	340.00	51000.00	L-13
			b) Machinery					
			Tractor-trolley	hour	1.0	234.00	234.00	P&M-053
			Add:- 85% Escalation				198.90	
			c) Overhead charges @ 4% on (a+b)				2146.12	
			d) Contractor's profit @ 10% on (a+b+c)				5579.90	
			Rate per sqm = (a+b+c+d)/10000				6.14	
						say	<u>6.10</u>	


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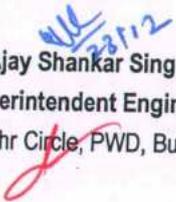

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CHAPTER-14							
SUPER-STRUCTURE							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks Input r
14.2	1600	Supplying, fitting and placing HYSD bar reinforcement in super-structure complete as per drawing and technical specifications					
		Unit = 1 MT					
		Taking output = 1 MT					
		a) Material					
		HYSD bars including 5 per cent for laps and wastage	tonne	1.05	41006.00	43056.30	M-082
		Binding wire	Kg	8.00	52.00	416.00	M-072
		b) Labour for cutting, bending, tying and placing in position					
		Mate	day	0.44	370.00	162.80	L-12
		Blacksmith	day	3.00	420.00	1260.00	L-02
		Mazdoor	day	8.00	340.00	2720.00	L-13
		c) Overhead charges @ 4% on (a+b)				1904.60	
		d) Contractor's profit @ 10% on (a+b+c)				4951.97	
		Rate per MT = a+b+c+d				54471.67	
						say 54472.00	Per M.T.

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CHAPTER-14							
SUPER-STRUCTURE							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks Input re
14.1	1500 &1600 1700	Furnishing and Placing Reinforced/ Prestressed cement concrete in super-structure as per drawing and Technical Specification					
		RCC Grade M20					
		Using Concrete Mixer					
		Unit = 1 cum					
		Taking output = 15 cum					
		a) Material					
		Cement	tonne	5.12	5000.00	25600.00	M-081
		Coarse sand / stone dust	cum	6.75	1946.00	13135.50	M-005
		20 mm Aggregate	cum	8.10	1946.00	15762.60	M-053
		10 mm Aggregate	cum	5.40	1946.00	10508.40	M-051
		b) Labour					
		Mate	day	0.86	370.00	318.20	L-12
		Mason	day	1.50	450.00	675.00	L-11
		Mazdoor	day	20.00	340.00	6800.00	L-13
		c) Machinery					
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	150.00	900.00	P&M-009
		Generator 33 KVA	hour	6.00	240.00	1440.00	P&M-079
		Add 85% Excalation				1989.00	
		Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum		77129.00			
		For formwork and staging add the following:					
		For solid slab super-structure, 20-30 per cent of (a+b+c)					
		Height upto 5m					
		Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				77129.00	
		d) Formwork and staging 20 per cent of (a+b+c)		20.00		15425.80	
		e) Overhead charges @ 4% on (a+b+c+d)				3702.19	
		f) Contractor's profit @ 10% on (a+b+c+d+e)				9625.70	
		g) Add Royalty @ 160 x (6.75+8.10+5.40) =				3240.00	
		Cost for 15 cum = a+b+c+d+e+f+g				109122.69	
		Rate per cum = (a+b+c+d+e+f+g)/15				7274.85	
					say	7274.80	Per Cum

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CHAPTER-12							
FOUNDATIONS							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
12.4	2100	PCC 1:3:6 in Foundation					
		Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.					
		<i>Unit = cum</i>					
		<i>Taking output = 15 cum</i>					
		a) Labour					
		Mate	day	0.64	370.00	236.80	L-12
		Mason	day	1.00	450.00	450.00	L-11
		Mazdoor	day	15.00	340.00	5100.00	L-13
		b) Material					
		40 mm Aggregate	cum	13.50	1946.00	26271.00	M-055
		coarse Sand /stone dust	cum	6.75	1946.00	13135.50	M-005
		cement	tonne	3.45	5000.00	17250.00	M-081
		Cost of water	KL	18.00	50.00	900.00	M-189
		c) Machinery					
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	150.00	900.00	P&M-009
		Generator 33 KVA	hour	6.00	240.00	1440.00	P&M-079
		Water tanker 6 KL capacity	hour	2.00	195.00	390.00	P&M-060
		Escalation 85%				2320.50	
		d) Overhead charges @ 4% on (a+b+c)				2735.75	
		e) Contractor's profit @ 10% on (a+b+c+d)				7112.96	
		f) Add Royalty @ 160 x (13.50+6.75) =				3240.00	
		Cost for 15 cum = a+b+c+d+e+f				81482.51	
		Rate per cum = (a+b+c+d+e+f)/15				5432.17	
					say	5432.00	Per Cum


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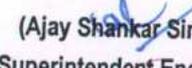

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CHAPTER-12							
FOUNDATIONS							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remark: Input re
12.4	2100	PCC 1:2:4 M15 Grade					
		Plain cement concrete 1:2:4 nominal mix in grade leveling course complete as per drawing and Technical Specification					
		<i>Unit = cum</i>					
		<i>Taking output = 15 cum</i>					
		a) Labour					
		Mate	day	0.86	370.00	318.20	L-12
		Mason	day	1.50	450.00	675.00	L-11
		Mazdoor	day	20.00	340.00	6800.00	L-13
		b) Material					
		40 mm Aggregate	cum	8.10	1946.00	15762.60	M-055
		20 mm Aggregate	cum	4.05	1946.00	7881.30	M-055
		10 mm Aggregate	cum	1.35	1946.00	2627.10	M-055
		coarse Sand / Stone Dust	cum	6.75	1946.00	13135.50	M-005
		cement	tonne	4.13	5000.00	20650.00	M-081
		Cost of Water	KL	18.00	50.00	900.00	M-081
		c) Machinery					
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	150.00	900.00	P&M-009
		Generator 33 KVA	hour	6.00	240.00	1440.00	P&M-079
		Water tanker 6 KL capacity	hour	2.00	195.00	390.00	P&M-060
		Escalation 85%				2320.50	
		d) Overhead charges @ 4% on (a+b+c)				2952.01	
		e) Contractor's profit @ 10% on (a+b+c+d)				7675.22	
		Cost for 15 cum = a+b+c+d+e				84427.43	
		f) Add Royalty @ 160 x (8.10+4.05+1.35+6.75) =				3240.00	
		Rate per cum = (a+b+c+d+e+f)/15				5844.50	
						say 5844.00	Per Cum.


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Rate Analysis of Retaining wall

Unit 1m Length

SI no.	Item	L	B	H	Qty	Unit	Rate	Amount
1	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location within all lifts and lead upto 1000m	1.00	1.60	1.00	1.60	Cum	82.00	131.20
2	concrete Concrete with 4cm. Guage approved stone ballast, coarse sand & cement in proportion of 8:4:1 in foundation and under floors, including supply of all material, labour and T&P etc. required for proper completion of the work (As per SI no.281)	1.00	3.30	0.30	0.99	Cum	4100.00	4059.00
3	Brick masonry work in 1:3 in (One cement & three coarse sand) complete. (As per SI no.307)	1.00	$(3.0+0.46)/2$	4.00	6.920	Cum	4140.00	28648.80
4	12mm thick plaster with cement and coarse sand in 1:3 over brick work including supply of all material, Labour, T&P etc. for proper completion of work. (As per SI no.582a)	1.00	2.50		2.50	Sqm	160.00	400.00
5	25mm thick cement concrete 1:2:4 on top of retaining wall (As per SI no.279)	1.00	0.46	0.025	0.0115	Cum	5050.00	58.08
6	Providing weep hole P.V.C. pipe 110mm dia. Including supply and fixing (As per SI no.30A vi)	1.00	-	-	1.00	m	220.00	220.00
Total=								33517.08
Say Rate per RM=								33517.00



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ANALYSIS OF RATES
CONSTRUCTION OF R.C.C. DRAIN 60x60

कार्य का नाम :- जनपद गाजियाबाद में वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य (चैनेज 151.050 से 163.400)

Sl. No.	Item	Quantity	Unit	Rate	Amount
1	Excavation in foundation in ordinary soil (Loam, clay or sand) including lift upto 1.50M. and lead upto 30M. and including filling watering and ramming of excavated earth into the trenches or into the space between the building and the sides of foundation trenches or into the plinth and removal and disposal of surplus earth as directed by the E/I upto a distance of 30 M. from the foundation trenches. As per SI No. 251A 1.00 1.00 1.00 0.800 0.80	0.80	Cum	82.00	65.60
2	Cement Concrete with 4 cm. guage approved stone ballast, coarse sand & cement in the proportion of 6:3:1 including supply of all materials, labour, Tools & plants etc. required for proper completion of the work. As per SI No. 281 1.00 1.00 1.00 0.100 0.10	0.10	Cum	5432.00	543.20
3	R.C.C. Work with cement approved coarse sand & 2 cm gauge approved stone grit in proportions of 1:1½:3 in lintels of door & windows excluding supply of reinforcement and its bending, but including its fixing and binding the same with 24 B.W. G.G.I., binding wire and including necessary centering and shuttering etc. and supply of all materials labour, Tools & plants etc. required for proper completion of the work, including cost of binding wire. The rate excludes making of drip course which shall be paid extra. As per SI No. 283 A For base 1.00 1.00 0.80 0.10 0.08 For Wall 2.00 1.00 0.10 0.60 0.12 0.200	0.200	Sqm	7274.80	1454.96
5	M.S.(tor steel or plain) in Plain work such as R.C.C. or R.B. work including bending for proper shape and including supply of steel & its wastage, bend, hooks and authorised overlapping shall be measured and including cost of binding wire.Asper SiNo.504 0.200 1.50% 7845.00 23.54 23.54 23.54	0.24	Qtl	5447.20 Total Say Rs.	1307.33 3371.09 3371.00 Per R.M.

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ANALYSIS OF RATES

कार्य का नाम :- जनपद गाजियाबाद में वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग
(गंग नहर की दायी पटरी) के नव निर्माण का कार्य (चैनेज 151.050 से 163.400)

1	Providing 600 mm dia NP-3 S/S type hume pipe i/c supply of all materials,labour and T&P etc. required for proper completion of work as per direction of engineer-in-charge	Unit	Quantity	Rate	Amount
	Unit = Rm				
a.	Cost of 600 mm dia NP-3 S/S type Hume Pipe	Rm	1.00	1906.00	1906.00
b.	Transportation charges @ 15% on (a.) up to 100 Km.	Rm	1906.00	0.15	285.90
				G.Total	2191.90
	Rate per Rm = (a+b)/1.00				2191.90
				SAY	2191.00

Per RM


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ANALYSIS OF RATES

कार्य का नाम :- जनपद गाजियाबाद में वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य (चैनेज 151.050 से 163.400)

Name of Work : C/o 600mm dia NP-3 class R.C.C. humepipes culvert

Sl.	Item of works	No.	L	B	H	Qty		Rate	Amount
1	Excavation in foundation in hard soil SI N. 251a								
	(i) For Parapets	2	3.00	0.90	1.20	6.48			
	(ii) For Hume Pipe	1	10.70	1.05	0.50	5.62			
						12.10	cum	82.00	992.00
2	C.C. in foundation in 1:4:8 in cement, coarse sand and 4cm gauge stone ballast								
	(i) For Parapets	2	3.00	0.90	0.15	0.81			
	(ii) For Hume Pipe	1	10.70	1.05	0.10	1.12			
	(iii) Sides of Hume Pipe	1	10.70	1.05	0.25	2.81			
						4.74	cum	4100.00	19443.23
3	M-150 Class B/W in 1:4 cement & coarse sand mortar SI No. 307								
	Ist Step	2	3.00	0.81	0.15	0.73			
	IInd Step	2	3.00	0.69	0.30	1.24			
	IIIrd Step	2	3.00	0.58	0.45	1.57			
	Pipe Level	2	3.00	0.58	0.75	2.61			
	Above H.P.	2	3.00	0.46	0.75	2.07			
	Above H.P.	2	3.00	0.35	0.30	0.63			
						8.85			
	Deduction for Hume Pipe								
	2 x 3.14 x (0.75)2 / 4 x 0.58					-0.51			
						8.34	cum	4000.00	33348.00
4	Providing and laying Hume Pipe 600mm dia NP-3 class R.C.C.	6	2.50			15.00	RM	3954.30	59314.50
5	Cement pointing in 1:2 cement & fine sand Mortar SI No. 574								
	Wall faces	2	3.00	0.95		5.70			
	Wall Sides	2				0.42			
						0.83			
						6.95			
	Deduct for Hume Pipe								
	2 x 3.14 x (0.75)2 / 4					-0.88			
						6.07	sqm	64.30	390.17
6	12mm Thick Plaster wth cement & fine sand mortar 1:3								
	Sides	2 x 2	0.35	0.30		0.42	sqm	130.00	54.60
7	2.5cm Thick 1:2:4 C.C. on the top of parapets SI No. 279a	2	3.00	0.35		0.0025	cum	5844.00	30.68
						0.01	cum	5844.00	30.68
	Total							113573.17	
								Say Rs.	113570.00

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Analysis of Rate

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
9.2	2900	Laying Reinforced Cement Concrete Pipe NP3 / Prestressed Concrete Pipe on First Class Bedding in Single Row .				
		Laying Reinforced cement concrete pipe NP4/prestressed concrete pipe for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets .				
		<i>Unit = metre</i>				
		<i>Taking output = 12.5 metres (5 pipes of 2.5 m length each)</i>				
	A	600 mm dia				
		a) Labour				
		Mate	day	0.180	370.00	66.60
		Mason	day	0.500	450.00	225.00
		Mazdoor	day	4.000	340.00	1360.00
		b) Material				
		coarse Sand /stone dust	cum	0.070	1946.00	136.22
		Cement	tonne	0.050	5000.00	250.00
		RCC pipe NP-3 /prestressed concrete pipe including collar at site 600 mm dia.	metre	12.500	2191.00	27387.50
		Granular material (GSB) for bedding	cum	4.500	3062.60	13781.70
		c) Overhead charges @ 4% on (a+b)				1728.28
		d) Contractor's profit @ 0.10 on (a+b+c)				4493.53
		e) Add Royalty @ 160 x (0.07+4.50) =				731.20
		Cost for 12.5 metres = a+b+c+d				49428.83
		Rate per metre = (a+b+c+d)/12.5				3954.31
					say	3954.30

Per Rm.


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Analysis of Rate

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
12.6	Sub-analysis	(A)	Cement Mortar 1:3 (1 cement : 3 sand)				
			<i>Unit = 1 cum</i>				
			<i>Taking output = 1 cum</i>				
			a) Materials				
			Cement	tonne	0.51	5000.00	2550.00
			Coarse Sand /stone dust	cum	1.05	1946.00	2043.30
			b) Labour				
			Mate	day	0.04	370.00	14.80
			Mazdoor	day	0.90	340.00	306.00
			c) Add Royalty @ 160 x 1.05 =				168.00
			Total Material and Labour = (a+b+c)			say	5082.00

Per Cum.


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Analysis of Rate

Sr No	Ref. to MoRTH Spec.	Description	Unit	Qty	Rate Rs	Cost Rs
13.2	1300 & 2200	Pointing with cement mortar (1:3) on brick work in substructure as per Technical Specifications				
		<i>Unit = 10 sqm</i>				
		<i>Taking output = 10 sqm</i>				
		a) Material				
		Cement mortar 1:3 (Rate as in Item 12.6)	cum	0.03	5082.00	152.46
		b) Labour				
		Mate	day	0.04	370.00	14.80
		Mason	day	0.50	450.00	225.00
		Mazdoor	day	0.50	340.00	170.00
		c) Overhead charges @ 4% on (a+b)				22.49
		d) Contractor's profit @ 10% on (a+b+c)				58.48
		Rate per cum (a+b+c+d)				643.23
		Rate per sqm				64.32
					say	64.30

Per Sqm.


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CHAPTER-13							
SUB-STRUCTURE							
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
13.3	1300 & 2200	Plastering with cement mortar (1:3) on brick work in sub-structure as per Technical Specifications					
		Unit = 10 sqm					
		Taking output = 10 sqm					
		a) Material					
		Cement mortar 1:3 (Rate as in Item 12.6)	cum	0.144	5082.00	731.81	Item 12.6 (A)
		b) Labour					
		Mate	day	0.04	370.00	14.80	L-12
		Mason	day	0.50	450.00	225.00	L-11
		Mazdoor	day	0.50	340.00	170.00	L-13
		c) Overhead charges @ 4% on (a+b)				45.66	
		d) Contractor's profit @ 10 % on (a+b+c)				118.73	
		Rate per 10 sqm (a+b+c+d)				1306.00	
		Rate per sqm			say	130.00	Per Sqm.

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ANALYSIS OF RATES
(Earth Work Embankment/Shoulders)

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
3.16	305	Construction of Embankment/Patri with Material obtained from Borrowpits. Cartage 3 km Construction of embankment/Patri with approved material obtained from borrow pits with all lifts (Distance 3 km) and all leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2. (Ref. to Mort&H Specification No.305) including cost of earth and royalty etc.					
		<i>Unit = cum</i> <i>Taking output = 100 cum</i>					
		a) Labour					
		Mate	day	0.04	370.00	14.80	L-12
		Mazdoor	day	1.00	340.00	340.00	L-13
		b) Machinery					
		Hydraulic excavator 1 cum bucket capacity @ 60 cum per	hrs	1.670	840.00	1402.80	P&M-026
	3	Tipper 10 tonne capacity	t km	160X3	1.74	835.20	Lead =input km & P&M-058
		Add 10% cost of carriage to cover cost of loading and unloading		0.10	835.20	83.52	
		Dozer 80 HP for spreading @ 200 cum per hour	hour	0.500	1423.00	711.50	P&M-014
		Motor grader for grading @ 100 cum per hour	hour	0.500	1545.00	772.50	P&M-032
		Water tanker (6kl)	hour	4.000	195.00	780.00	P&M-060
		Vibratory roller 8-10 tonnes @ 80 cum per hour	hour	1.00	994.00	994.00	P&M-059
		Add:- 85% Escalation				4742.59	
		c) Material					M-189
		Cost of water	KL	24.00	50.00	1200.00	M-092
		Cost of Earth	cum	100.00	7.00	700.00	
		d) Overhead charges @ 4 % on (a+b+c)				503.08	
		e) Contractor's profit @ 10% on (a+b+c+d)				1308.00	
		Rate for 100 cum = a+b+c+d+e				14387.99	
		Rate per cum = (a+b+c+d+e)/100				143.90	
		Royalty		1.00		0.00	
		Total				143.90	
						<u>say</u> <u>143.90</u> <u>cum</u>	

Note :- The earth is not available at less than 3 km Distance

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CHAPTER - 4

4.1	401		Granular Sub-Base with Coarse Graded Material (Table:- 400-1)				
		A	Plant Mix Method				
			Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401				
			Unit = cum				
			Taking output = 300 cum				
			a) Labour				
			Mate	day	0.400	370.00	148.00
			Mazdoor skilled	day	2.000	340.00	680.00
			Mazdoor	day	8.000	340.00	2720.00
						Total A	3548.00
			b) Machinery				
			Mortar Grader 110 HP @ 50 cum per hour	hour	6.000	1545.000	9270.00
			Vibratory roller 8-10 tonne	hour	6.000	994.000	5964.00
			Water tanker 6 KL capacity 5 km lead with one trip per hour	hour	3.000	195.000	585.00
			Add price exclamation from Yr. 2001-2002 to 2019-20	85%			13446.15
						Total B	29265.15
			c) Material				
			Coarse graded Granular sub-base Material as per table 400-1				
			For Grading-I Material				
			53 mm to 26.5mm @ 35 percent (Crushed)	cum	134.400	2005.00	269472.00
			26.5 mm to 4.75 mm @ 45 percent (Crushed)	cum	172.800	2005.00	346464.00
			2.36 mm below @ 20 percent	cum	76.800	1766.00	135628.80
			Cost of water	KL	18.000	50.00	900.00
						Total C	752464.80
						G Total	785277.95
4.1A	(i)		Rate per cum for grading-I Material				
			d) Overhead charges @ 4 % (a+b+c)				31411.12
			e) Contractor's profit @ 10% (a+b+c+d)				81668.91
			f) Add Royalty @ 160 x (134.40+172.80+76.80) =				61440.00
			Cost for 300 cum = a+b+c+d+e+f				959797.97
			Rate per cum = (a+b+c+d+e+f)/300				3199.33
						say	<u>3199.30</u>

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CEMENTED BASE (WET MIX MACADAM + 4% Cement (OPC))

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC and 4% cement (OPC) in mechanical motar (Pug M) carriage of mixed Material by tipper to site, laying in uniform layers in sub- base / base course on well prepared sub base and compacting with smooth wheel roller 80 to 100kg weight to achieve the desired density including lighting, barricating and maintenance of diversion etc. as per table 400.11 & 400.12 and technical specification clause 400.				
		By Mechanical Means with 1 Km lead.				
		<i>Unit = cum</i>				
		<i>Taking output = 100 cum (220 tonnes)</i>				
		a) Labour				
		Mate	day	0.400	370.00	148.00
		Dresser (Skilled) For alignment	day	8.000	340.00	2720.00
		Mazdoor (Skilled)	day	2.000	340.00	680.00
						3548.00
		b) Machinery				
		Front end loader 1 cum capacity	hour	4.000	520.000	2080.00
		Wet mix plant (Pug Mill)	hour	4.000	777.000	3108.00
		Tipper/Dumer (10-1) capacity	tonne/km	495 x 12.35/4	1.740	2659.26
12.35		Motor Grader @ 50 cum per hour	hour	2.000	1545.000	3090.00
		Water tanker 6 KL capacity including curing	hour	1.600	195.000	312.00
		Three wheel 80-100 K.N. static roller @ 16 cum per hour	hour	6.250	297.000	1158.30
						12407.56
		Add price exclamation from Yr. 2001-2002 to 2019-20	85%			10546.43
						22953.99
		c) Material (Table 400-11)				
		Cement (OPC) @ 4% by weight of aggregates (220t)	tonnes	8.800	5000.00	44000.00
		Coarse aggregates 45 mm to 22.4 mm @ 30 per cum	cum	39.900	1867.00	74493.30
		Aggregates 22.4mm to 2.30mm @ 40 per cum	cum	53.200	2069.00	110070.80
		Fine aggregates crushed sand 2.36 mm to 75 cum @ 26 per cum	cum	32.950	2069.00	68173.55
		Water including curing	kl	14.000	50.00	700.00
						297437.65
						323939.64
						G. Total (a+b+c)
						12957.59
		d) Overhead charges @ 4% (a+b+c)				33689.72
		e) Contractor's profit @ 10% (a+b+c+d)				20168.00
		f) Add Royalty @ 160 x (39.9+53.2+32.95) =				390754.95
		Cost for 100 cum = a+b+c+d+e+f				3907.55
		Rate per cum = (a+b+c+d+e)/100				3907.50
						say

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CHAPTER - 4

SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
4.12	406	Wet Mix Macadam				
		Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.				
		Unit = cum				
		Taking output = 225 cum (495 tonnes)				
		a) Labour				
		Mate	day	0.480	370.00	177.60
		Mazdoor skilled	day	2.000	340.00	680.00
		Mazdoor	day	10.000	340.00	3400.00
						4257.60
		b) Machinery				
		Wet mix plant of 75 tonne hourly	hour	6.600	777.000	5128.20
		Electric generator 125 KVA	hour	6.000	450.000	2700.00
		Front end loader 1 cum capacity	hour	6.000	520.000	3120.00
		Paver finisher	hour	6.000	629.000	3774.00
		Vibratory roller 8 - 10 tonne	hour	6x0.65	994.000	3876.60
		Proposed Section				
		Smooth 3 wheeled steel roller @ 8-10 tonnes.	hour	12.000		
		Water tanker 6 KL capacity	hour	3.000	195.00	585.00
	12.35	Tipper	tonne.k	95 x 12.35/4	1.74	2659.26
		Add 10 per cent of cost of carriage to cover cost of loading and unloading				265.93
						22108.99
		Add price exelation from Yr. 2001-2002 to 2019-20	85%			18792.64
						40901.63
		c) Material (Table 400-11)				
		53 mm to 22.4 mm@ 30 per cent	cum	89.100	1867.00	166349.70
		22.4 mm to 2.36 mm @ 40 per cent	cum	118.800	2069.00	245797.20
		2.36 mm to 75 micron@ 30 per cent	cum	89.100	2069.00	184347.90
		Cost of water	KL	18.000	50.00	900.00
						597394.80
					G. Total (a+b+c)	642554.03
		d) Overhead charges @ 4% (a+b+c)				25702.16
		e) Contractor's profit @ 10% (a+b+c+d)				66825.62
		f) Add Royalty @ 160 x (89.1+118.8+89.1) =				47520.00
		Cost for 225 cum = a+b+c+d+e+f				782601.81
		Rate per cum = (a+b+c+d+e+f)/225				3478.23
					say	<u>3478.20</u>

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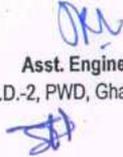
Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
5.1	502	Prime Coat MS Emulsion @ 0.65 kg/sqm. Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.65 kg/sqm using mechanical means. <i>Unit = sqm</i> <i>Taking output = 3500 sqm</i>					
		a) Labour					
		Mate	day	0.080	370.00	29.60	L-12
		Mazdoor	day	2.000	340.00	680.00	L-13
		b) Machinery					
		Mechanical broom @ 1250 sqm per hour	hour	2.800	230.00	644.00	P&M-031
		Air compressor 250 cfm	hour	2.800	206.00	576.80	P&M-001
		Bitumen pressure distributor @ 1750 sqm per hour	hour	2.000	516.00	1032.00	P&M-004
		Water tanker 6 KL capacity @ 1 trip per hour	hour	1.000	195.00	195.00	P&M-060
	0.85	Add price exclamation from Yr. 2001-2002 to 2019-20				2080.63	
		c) Material					
	0.65	Bitumen emulsion @ 0.65 kg per sqm.	tonne	2.275	29511.00	67137.53	M-077
		Cost of water	KL	6.000	50.00	300.00	M-189
		d) Overhead charges @ 4 % on (a+b+c)				2907.02	
		e) Contractor's profit @ 10 % on (a+b+c+d)				7558.26	
		Cost for 3500 sqm = a+b+c+d+e				83140.83	
		Rate per sqm = (a+b+c+d+e)/3500				23.75	
					say	23.80	
5.2	503	Tack Coat Bitumen VG-10 @ 0.2 kg/sqm Providing and applying tack coat with bitumen VG-10 using Bitumen pressure distributor at the rate of 0.2 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom. <i>Unit = sqm</i> <i>Taking output = 3500 sqm</i>					
		a) Labour					
		Mate	day	0.080	370.00	29.60	L-12
		Mazdoor	day	2.000	325.00	650.00	L-13
		b) Machinery					
		Mechanical broom @ 1250 sqm per hour	hour	2.800	230.00	644.00	P&M-031
		Air compressor 250 cfm	hour	2.800	206.00	576.80	P&M-001
		Bitumen pressure distributor @ 1750 sqm per hour	hour	2.000	692.00	1384.00	P&M-004
						2604.80	
	0.85	Add price exclamation from Yr. 2001-2002 to 2019-20				2214.08	
		c) Material					
	0.2	Bitumen VG-10 @ 0.2 kg per sqm	tonne	0.700	28560.00	19992.00	M-077
		A+B+C				25490.48	
		d) Overhead charges @ 4 % on (a+b+c)				1123.81	
		e) Contractor's profit @ 10 % on (a+b+c+d)				2661.43	
		Cost for 3500 sqm = a+b+c+d+e				29275.72	
		Rate per sqm = (a+b+c+d+e)/3500				8.36	
					say	8.40	

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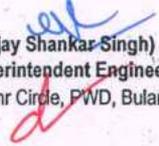
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Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/In
5.2	503	Tack Coat Bitumen VG-10 @ 0.25 kg/sqm Providing and applying tack coat with bitumen VG-10 using Bitumen pressure distributor at the rate of 0.25 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom. <i>Unit = sqm</i> <i>Taking output = 3500 sqm</i>					
		a) Labour					
		Mate	day	0.080	370.00	29.60	L-12
		Mazdoor	day	2.000	340.00	680.00	L-13
		b) Machinery					
		Mechanical broom @ 1250 sqm per hour	hour	2.800	230.00	644.00	P&M-031
		Air compressor 250 cfm	hour	2.800	206.00	576.80	P&M-001
		Bitumen pressure distributor @ 1750 sqm per hour	hour	2.000	692.00	1384.00	P&M-004
	0.85	Add price exclamation from Yr. 2001-2002 to 2019-20				2214.08	
		c) Material					
	0.25	Bitumen VG-10 @ 0.25 kg per sqm	tonne	0.875	28560.00	24990.00	M-077
		d) Overhead charges @ 4 % on (a+b+c)				1220.74	
		e) Contractor's profit @ 10 % on (a+b+c+d)				3173.92	
		Cost for 3500 sqm = a+b+c+d+e				34913.14	
		Rate per sqm = (a+b+c+d+e)/3500				9.98	
						<u>10.00</u>	
							say


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Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/Inch
5.6	507	Dense Graded Bituminous Macadam @ 4.5% VG-30 50-75 mm thickness Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 507 complete in all respects.					
		Unit = cum					
		Taking output = 195 cum (450 tonnes)					
		a) Labour					
		Mate	day	0.840	370.00	310.80	L-12
		Mazdoor working with HMP, mechanical broom, paver, roller, asphalt cutter and assistance for setting out lines, levels and layout of construction	day**	14.000	365.00	5110.00	L-13
		Skilled mazdoor for checking line & levels	day	5.000	340.00	1700.00	L-15
		Total A				7120.80	
		b) Machinery				7120.80	
		Batch mix HMP @ 75 tonne per hour	hour	6.000	11167.00	67002.00	P&M-022
		Paver finisher hydrostatic @ 75 cum per hour	hour	6.000	629.00	3774.00	P&M-034
		Generator 250 KVA	hour	6.000	450.00	2700.00	P&M-081
		Front end loader 1 cum bucket capacity	hour	6.000	520.00	3120.00	P&M-017
	12.35	Tipper 10 tonne capacity	tonne.km	450 x 12.35/4	1.74	2417.51	Lead =input km & P&M-058
		Add 10 per cent of cost of carriage to cover cost of loading and unloading				241.75	
		smooth wheeled roller 8-10 tonnes for initial break down rolling.	hour	6.00x0.65*	297.00	1158.30	P&M-044
		Vibratory roller 8 tonnes for intermediate rolling.	hour	6.00x0.65*	994.00	3876.60	P&M-059
		Finish rolling with 6-8 tonnes smooth wheeled tandem roller.	hour	6.00x0.65*	738.00	2878.20	P&M-045
	0.85	Add price exclamation from Yr. 2001-2002 to 2019-20				74093.11	
		Total B				161261.47	
		c) Materials					
	4.5	Bitumen @ 4.5 percent of weight of mix	tonne	20.250	29360.00	594540.00	M-074
		Aggregate					
		Total weight of mix = 450 tonnes					
		Weight of bitumen = 20.25 tonnes					
		10 Weight of aggregate in tonnes		429.75	t		
		Taking density of aggregate = 1.5 ton/cum					
		Volume of aggregate 286.5 cum					
		Grading - II19 mm (Nominal Size)					
		25 - 10 mm 30 per cent	cum	85.950	2069.00	177830.55	M-046
		10 - 5 mm 28 per cent	cum	80.220	2069.00	165975.18	M-040
		5 mm and below 40 per cent	cum	114.600	2069.00	237107.40	M-030
		Filler @ 2 per cent of weight of aggregates.	tonne	5.730	2069.00	11855.37	M-188
		Total B				1187308.50	
		Total A+B+C				1355690.77	
		d) Overhead charges @ 4 % on (a+b+c)				60962.92	
		e) Contractor's profit @ 10 % on (a+b+c+d)				141665.37	
		f) Add Royalty @ 160 x (85.95+80.22+114.6+5.73) =				45840.00	
		Cost for 195 cum = a+b+c+d+e+f				1604159.06	
		Rate per cum = (a+b+c+d+e+f)/195 (For Grading-II)				8226.46	
		say				8226.50	

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(Ajay Shankar Singh)

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/Inch
5.8	509	Bituminous Concrete Bitumen VG-30 @ 5.4% Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 per cent of mix and filler, transporting the hot mix to work site, Laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 509 complete in all respects Unit = cum Taking output = 191 cum (450 tonnes)					
		a) Labour					
		Mate	day	0.840	370.00	310.80	L-12
		Mazdoor working with HMP, mechanical broom, paver, roller, asphalt cutter and assistance for setting out lines, levels and layout of construction	day**	14.000	365.00	5110.00	L-13
		Skilled mazdoor for checking line & levels	day	5.000	340.00	1700.00	L-15
		b) Machinery					
		Batch mix HMP @ 75 tonne per hour	hour	6.000	11167.00	67002.00	P&M-022
		Paver finisher hydrostatic with sensor control @ 75 cum per hour	hour	6.000	629.00	3774.00	P&M-034
		Generator 250 KVA	hour	6.000	450.00	2700.00	P&M-081
		Front end loader 1 cum bucket capacity	hour	6.000	520.00	3120.00	P&M-017
12.35		Tipper 10 tonne capacity	tonne.km	450 X12.35/4	1.74	2417.51	Lead =input km & P&M-058
		Add 10 per cent of cost of carriage to cover cost of loading and unloading				241.75	
		Smooth wheeled roller 8-10 tonnes for initial break down rolling:	hour	6.00x0.65*	297.00	1158.30	P&M-044
		Vibratory roller 8 tonnes for intermediate rolling.	hour	6.00x0.65*	994.00	3876.60	P&M-059
		Finish rolling with 6-8 tonnes smooth wheeled tandem roller.	hour	6.00x0.65*	738.00	2878.20	P&M-045
0.85		Escalation on Machinery @ 5% per yr. from base yr 2001-02				74093.11	
		c) Material					
5.4		i) Bitumen@ 5.4 per cent of weight of mix	tonne	24.300	29360.00	713448.00	M-074
		ii) Aggregate					
		Total weight of mix = 450 tonnes					
		Weight of bitumen = 24.3 tonnes					
		Weight of aggregate in tonnes		425.70 t			
		Taking density of aggregate = 1.5 ton/cum					
		Volume of aggregate 283.8 cum					
		Grading - II-13 mm (Nominal Size)					
		13.2 - 10 mm 30 per cent	cum	85.140	2069.00	176154.66	M-044
		10 - 5 mm 25 per cent	cum	70.950	2069.00	146795.55	M-040
		5 mm and below 43 per cent	cum	122.034	2069.00	252488.35	M-030
		Filler @ 2 per cent of weight of aggregates.	cum	5.676	2069.00	11743.64	M-188
		*Any one of the alternative may be adopted as per approved design					
		(ii) for Grading-II(10 mm nominal size)					
		d) Overhead charges @ 4 % on (a+b+c)				58760.50	
		e) Contractor's profit @ 10 % on (a+b+c+d)				152777.30	
		f) Add Royalty @ 160 x (85.14+70.95+122.034+5.676) =				45408.00	
		Cost for 205 cum = a+b+c+d+e+f				1725958.27	
		Rate per cum = (a+b+c+d+e+f)/191 (For Grading-II)				9036.43	
						say 9036.40	

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माप का विवरण

DETAILS OF MEASUREMENTS

630

कार्य का नाम :- जनपद गाजियाबाद में वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य (चैनेज 151.050 से 163.400)

372

S. No	ITEM OF WORK	NO	L. (M)	B. (M)	H. (M)	Qty.	Unit
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CIVIL WORK (PART-A)

1 Site clearance

Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, upto a lead of 1000 m including removal and disposal of top organic soil not exceeding 150mm in thickness.

Ch 151.050 to 163.400 1 x 1 12350 20.00 247000.00

Total 247000.00 sqm

2 Construction of Embankment/Patri with Material obtained from Borrowpits. Cartage 3 km

Construction of embankment/Patri with approved material obtained from borrow pits with all lifts (Distance 3 km) and all leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2. (Ref. to Mort&H Specification No.305) including cost of earth and royalty etc.

Ch 151.050 to 163.400 774540.00

For Patri.....RHS 1 x 1 12350.00 (2.5+3.46)/2 0.480 17665.44

LHS 1 x 1 12350.00 (2.5+3.46)/2 0.480 17665.44

Deduction for Drain 1 x 1 13350.00 0.80 0.80 -8544.00

Total 801326.88 Cum

3 Granular Sub-Base with Coarse Graded Material (Table:- 400-1)

Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401

Ch 151.050 to 163.400 1 x 1 12350.00 7.30 0.200 18031.00

Extra widening at Junctions 4 x 6 120.00 3.50 0.200 2016.00

2% Extra for curve 360.62

T-Junction at NH-58 1/2 x 2 30.00 30.000 0.200 180.00

Total 20587.62 Cum

4 CEMENTED BASE (WET MIX MACADAM + 4% Cement {OPC})

Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC and 4% cement (OPC) in mechanical motar (Pug M) carriage of mixed Material by tipper to site, laying in uniform layers in sub-base / base course on well prepared sub base and compacting with smooth wheel roller 80 to 100kg weight to achieve the desired density including lighting, barricating and maintenance of diversion etc. as per table 400.11 & 400.12 and technical specification clause 400.

Ch 151.050 to 163.400 1 x 1 12350.00 7.00 0.100 8645.00

Extra widening at Junctions 4 x 6 120.00 3.50 0.100 1008.00

2% Extra for curve 172.90

T-Junction at NH-58 1/2 x 2 30.00 30.000 0.100 90.00

Total 9915.90 Cum

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S. No	ITEM OF WORK	631 ^o	L. (M)	B. (M)	H. (M)	Qty.	Unit
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373

5 Wet Mix Macadam

Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.

Ch 151.050 to 163.400	1	x	1	12350.00	7.00	0.100	8645.00	
Extra widening at Junctions	4	x	6	120.00	3.50	0.100	1008.00	
2% Extra for curve							172.90	
T-Junction at NH-58	1/2	x	2	30.00	30.000	0.100	90.00	
Total							9915.90	cum

6 Prime Coat MS Emulsion @ 0.65 kg/sqm.

Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.65 kg/sqm using mechanical means.

Ch 151.050 to 163.400	1	x	1	12350.00	7.00		86450.00	
Extra widening at Junctions	4	x	6	120.00	3.50		10080.00	
2% Extra for curve							1729.00	
T-Junction at NH-58	1/2	x	2	30.00	30.000		900.00	
Total							99159.00	Sqm

7 Tack Coat Bitumen VG-10 @ 0.25 kg/sqm

Providing and applying tack coat with bitumen VG-10 using Bitumen pressure distributor at the rate of 0.25 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.

Ch 151.050 to 163.400	1	x	1	12350.00	7.00		86450.00	
Extra widening at Junctions	4	x	6	120.00	3.50		10080.00	
2% Extra for curve							1729.00	
T-Junction at NH-58	1/2	x	2	30.00	30.000		900.00	
Total							99159.00	Sqm

8 Dense Graded Bituminous Macadam @ 4.5% VG-30

Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 507 complete in all respects.

Ch 151.050 to 163.400	1	x	1	12350.00	7.00	0.050	4322.50	
Extra widening at Junctions	4	x	6	120.00	3.50	0.050	504.00	
2% Extra for curve							86.45	
T-Junction at NH-58	1/2	x	2	30.00	30.000	0.050	45.00	
Total							4957.95	cum

9 Tack Coat Bitumen VG-10 @ 0.2 kg/sqm

Providing and applying tack coat with bitumen VG-10 using Bitumen pressure distributor at the rate of 0.2 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.

Ch 151.050 to 163.400	1	x	1	12350.00	7.00		86450.00	
Extra widening at Junctions	4	x	6	120.00	3.50		10080.00	
2% Extra for curve							1729.00	
T-Junction at NH-58	1/2	x	2	30.00	30.000		900.00	
Total							99159.00	Sqm

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S. No	ITEM OF WORK	632 ^{IO}	L. (M)	B. (M)	H. (M)	Qty.	Unit
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374

10 Bituminous Concrete Bitumen VG-30 @ 5.4%
 Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 509 complete in all respects

Ch 151.050 to 163.400	1	x	1	12350.00	7.00	0.030	2593.50
Extra widening at Junctions	4	x	6	120.00	3.50	0.030	302.40
2% Extra for curve							51.87
T-Junction at NH-58	1/2	x	2	30.00	30.000	0.030	27.00
Total							2974.77 cum

11 Construction of RCC Drain 600x600 mm didoli abadi	1	x	1	12350.00			12350.00 m
	1	x	1	1000.00			1000.00 m
Total							13350.00 m

12 Construction of Hume pipe Culvert 600mm dia. Culvert	1	x	4	12			48.00 Nos
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13 Construction of retaining wall on road side ponds	1	x	1	100			100.00 m
Total							100.00 m

J.E.

J.E.
C.D.-2, PWD, Ghaziabad

Asst. Engineer

Asst. Engineer
C.D.-2, PWD, Ghaziabad

Executive Engineer
C.D.-2, PWD, Ghaziabad

DETAILS OF MEASUREMENTS

कार्य का नाम :- जनपद गाजियाबाद में वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव 375 का कार्य (चैनेज 151.050 से 163.400)

S. No	ITEM OF WORK	NO	L. (M)	B. (M)	H. (M)	Qty.	Unit
ROAD SAFETY (PART-B)							
1	Supply & Fixing of delinators along canal side 75mm dia. Circular.	1 x 120	12.35			1482	No
2	P/F of Km, hectometer stone etc.	1 x 1	13.00			13	Km
3	S/F of overhead sign board	1 x 1				1	No
4	S/F of Cantilever (At Bridge crossing)	2 x 4				8	No
5	S/F of Cautionary board, Mandatory and informatory board, village road (90x60)	1 x 15				15	No
6	S/F of Cate eye.						
	At Zebra crossing	4 x 56				224	No
	At curve	3 x 2	90			540	No
	At centre line	1 x 333	12.35			4113	No
	Edge Line	1 x 333	12.35			8225	No
	Total					13102	No
7	Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810.						
	Right side Nahar Patri (Canal side)	1 x 0.10	12350.00			1235.00	
	Right side Nahar Patri	1 x 0.70	12350.00			8645.00	
	Left side Nahar Patri (Canal side)	1 x 1	11550.00			11550.00	
	Left side Nahar Patri (Abupur, N.H.-58 junctions)	1 x 1	2000.00			2000.00	
	Total					23430.00	Rm.
8	Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform a Mort&h Spersification No.8.13/803						
	Edge Line Ch. 153.580 to 165.930	1 x 2	12350.00	0.10		2470.00	
	Centre Line Ch. 153.580 to 165.930	0.33 x 1	12350.00	0.10		407.55	
	add 10% for junctions & curve					287.76	
	TOTAL					3165.31	Sqm
9	Providing and laying of hot applied thermoplastic compound 5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform a (Repeated Bar) Mort&h Spersification No.8.13/803						
	At crossing	4 x 12	7.00	0.30		100.80	
	TOTAL					100.80	Sqm
10	Cevron Board	2 x 20				40	Nos
11	Speed limit Board	4 x 2				8	Nos
12	Hezard marker Board	4 x 2				8	Nos
13	Stop Board	8 x 2				16	Nos

बिल ऑफ
क्वान्टिटी

कार्य का नाम :- जनपद गाजियाबाद में वित्तीय वर्ष 2019-20 में चौपरी चरण सिंद कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य (चैनेज 151.050 से 163.400)

S.N.	ITEM OF WORK	Qty.	Unit	Rate	Amount (Rs.)
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CIVIL WORK (PART-A)

1	Site clearance Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, upto a lead of 1000 m Including removal and disposal of top organic soil not exceeding 150mm in thickness.	247000.00	sqm	6.10	1506700.00
2	Construction of Embankment/Patri with Material obtained from Borrowpits. Cartage 3 km Construction of embankment/Patri with approved material obtained from borrow pits with all lifts (Distance 3 km) and all leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2. (Ref. to Mort&H Specification No.305) including cost of earth and royalty etc.	801326.88	Cum	143.90	115310938.03
3	Granular Sub-Base with Coarse Graded Material (Table:- 400-1) Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401	20587.62	Cum	3199.30	65865972.67
4	CEMENTED BASE (WET MIX MACADAM + 4% Cement (OPC)) Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC and 4% cement (OPC) in mechanical motar (Pug M) carriage of mixed Material by tipper to site, laying in uniform layers in sub- base / base course on well prepared sub base and compacting with smooth wheel roller 80 to 100kg weight to achieve the desired density including lighting, barricating and maintenance of diversion etc. as per table 400.11 & 400.12 and technical specification clause 400.	9915.90	Cum	3907.50	38746379.25
5	Wet Mix Macadam Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.	9915.90	cum	3478.20	34489483.38
6	Prime Coat MS Emulsion @ 0.65 kg/sqm. Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.65 kg/sqm using mechanical means.	99159.00	Sqm	23.80	2359984.20
7	Tack Coat Bitumen VG-10 @ 0.25 kg/sqm Providing and applying tack coat with bitumen VG-10 using Bitumen pressure distributor at the rate of 0.25 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	99159.00	Sqm	10.00	991590.00
8	Dense Graded Bituminous Macadam @ 4.5% VG-30 Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 507 complete in all respects.	4957.95	cum	8226.50	40786575.68
9	Tack Coat Bitumen VG-10 @ 0.2 kg/sqm				

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S.N.	ITEM OF WORK	Qty.	Unit	Rate	Amount (Rs.)
	Providing and applying tack coat with bitumen VG-10 using Bitumen pressure distributor at the rate of 0.2 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	99159.00	Sqm	8.40	832935.60
10	Bituminous Concrete Bitumen VG-30 @ 5.4% Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 509 complete in all respects	2974.77	cum	9036.40	26881211.63
7	Construction of RCC Drain 600x600 mm	13350.00	m	3371.00	45002850.00
8	Construction of Hume pipe Culvert(600mm Dia)	48.00	Nos	113570.00	5451360.00
9	Construction of retaining wall on road side ponds	100.00	m	33517.00	3351700.00
				Total	381577680.43
				In Lacs	3815.78

378


J.E.
CD(Bldg), PWD, Meerut


Asst. Engineer
CD(Bldg), PWD, Meerut


Executive Engineer
CD(Bldg), PWD, Meerut

कार्य का नाम :- जनपद गाजियाबाद में वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावेड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य (चैनेज 151.050 से 163.400)

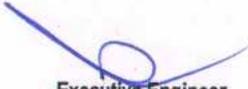
S.N.	ITEM OF WORK	Qty.	Unit	Rate	Amount (Rs.)
ROAD SAFETY (PART-B)					
1	Supply & Fixing of delinators along canal side 75mm dia. Circular.	1482	No	1135.00	1682070.00
2	P/F of Km hectometer stone	13	Km	5000.00	65000.00
3	S/F of overhead sign board	1	No	246500.00	246500.00
4	S/F of Cantilever	8	No	110000.00	880000.00
5	S/F of Cautionary board, Mandatory and informatory board, village road (90x60)	15	No	3830.00	57450.00
6	S/F of Cate eye.	13102	No	415.00	5437330.00
7	Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810.	23430	Rm.	3471.00	81325530.00
8	Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform a	3165.31	Sqm	615.00	1946662.58
9	Providing and laying of hot applied thermoplastic compound 5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform a (Repeated Bar)	100.80	Sqm	1230.00	123984.00
10	Cevron Board	40.00	Nos	5176.00	207040.00
11	Speed limit Board	8.00	Nos	4889.00	39112.00
12	Hezard marker Board	8.00	Nos	4896.00	39168.00
13	Stop Board	16.00	Nos	8257.00	132112.00
Total					92181958.58
(in Lacs)					921.82


J.E.

C.D.-2, PWD, Ghaziabad


Asst. Engineer

C.D.-2, PWD, Ghaziabad


Executive Engineer

C.D.-2, PWD, Ghaziabad

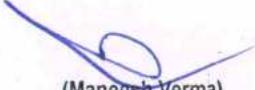
लागत का
सारांश

SUMMARY OF ESTIMATED COST

कार्य का नाम :- जनपद गाजियाबाद में वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य (चैनेज 151.050 से 163.400)

S.N	DESCRIPTION OF WORK	AMOUNT IN LACS (MRT)
1	जनपद गाजियाबाद में वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य (चैनेज 151.050 से 163.400)	
	CIVIL WORK (PART-A)	3815.78
	ROAD SAFETY (PART-B)	921.82
	Total (a+B)	4737.60
2	Contingency and quality control @ 1%	47.38
	Total (1+2)	4784.97
3	Add 12% GST	574.20
4	Add Labour Welfare Cess @ 1%	47.85
5	Add Establishment Charges 6.875%	328.97
6	Add Depreciation cost 1.50%	71.77
	Total (1 to 6)	5807.76
7	Rehabilitation of Forest Quarter (Sardhana) and Hydle quarter (Bhola jhaal)	-
8	Irrigation structure	1492.37
9	Bridge corporation Structures (619.55+620.84+622.15)	1862.54
10	Forest Deptt.	485.00
11	Utility shifting (Electrical)	56.67
	G. Total	9704.34


Asst. Engineer
C.D.-2, PWD, Ghaziabad

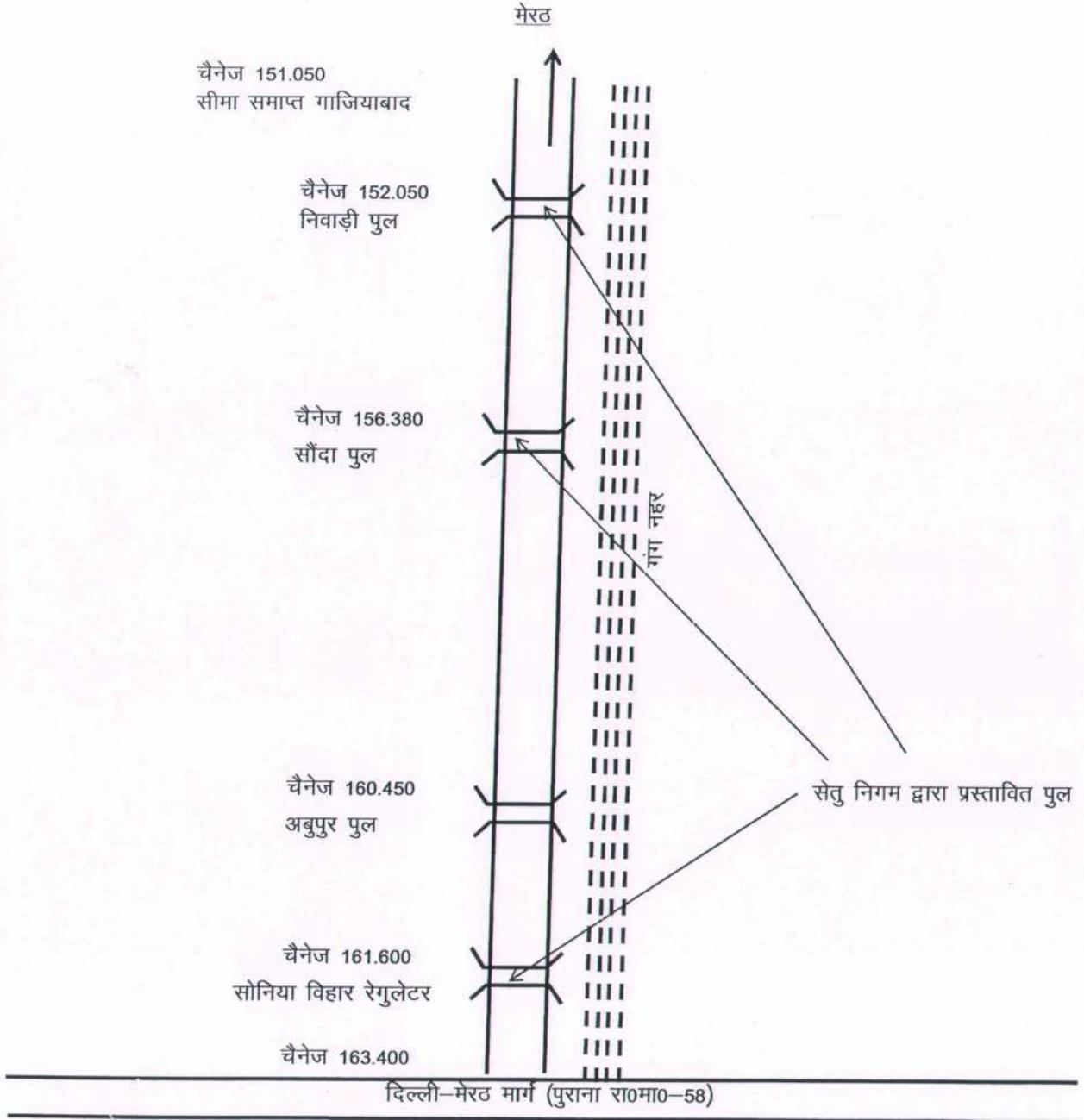

(Maneesh Verma)
Executive Engineer
C.D.-2, PWD, Ghaziabad


(Ajay Shankar Singh)
Superintendent Engineer
Bulandshahr Circle, PWD, Bulandshahr

डाईंग्स्

जनपद गाजियाबाद में वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग
(गंग नहर की दायी पटरी) के नव निर्माण का कार्य (चैनेज 151.050 से 163.400)

Not to Scale



SE

A.E.

E.L.

**लागत का
सारांश**

SUMMARY OF ESTIMATED COST

कार्य का नाम :- वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य। (मेरठ)

S.N	DESCRIPTION OF WORK	AMOUNT IN LACS			TOTAL AMOUNT IN LACS
		मुजफ्फरनगर (चै 51.910 से 108.750)	मेरठ (चै 108.750 से 151.050)	गाजियाबाद (चै 151.050 से 163.400)	
1	जनपद मुजफ्फरनगर/मेरठ/गाजियाबाद में वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य (चैनेज 51.910 से 163.400)।				चै 51.910 से 163.400
	CIVIL WORK (PART-A)	12846.95 11654.27	10635.69 11556.28	3428.32 3815.78	26910.95 27023.33
	ROAD SAFETY (PART-B)	2942.48	2504.50	921.82	6368.80
	Total (A+B)	14593.75	14060.79	4737.60	33392.13
2	Contingency and quality control @ 1%	145.94	140.61	47.38	333.92
	Total (1+2)	14739.69	14201.59	4784.97	33726.05
3	Add 12% GST	1768.76	1704.17	574.20	4047.13
4	Add Labour Welfare Cess @ 1%	447.40	442.01	47.85	337.26
5	Add Establishment Charges 6.875%	4013.35	976.35	328.97	2318.67
6	Add Depreciation cost 1.50%	221.10	213.02	71.77	505.89
	Total (1 to 6)	17890.30	17236.94	5807.76	40935.00
7	Land acquisition/Rehabilitation of Hydropower Buildings	178.86	28.67	-	207.53
8	Irrigation structure	1552.48	3469.61	1492.37	6514.46
9	Bridge corporation Structures (on Upper Ganga Canal)	10936.61	2114.08	1862.54	14913.23
10	Forest Deptt.	1732.46	2730.55	486.00	4948.01
11	Utility shifting (Electrical)	334.93	102.95	56.67	494.55
	G. Total	32625.63	25682.80	9704.34	68012.78

34094.40
32332.21

24307.54

8902.70

69478.54
65542.45

(Ajay Bhaskar)
Executive Engineer
CD-1, PWD, Muzaffar Nagar

(C P Singh)
Executive Engineer
CD-(B), PWD, Meerut

(Maneesh Verma)
Executive Engineer
CD-2, PWD, Ghaziabad

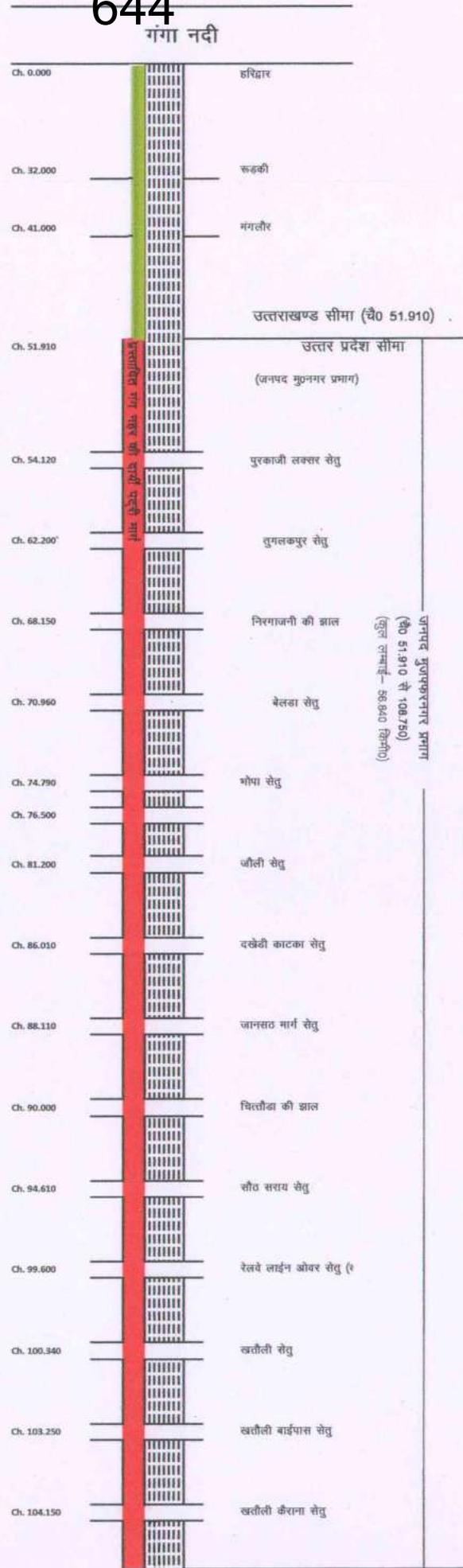
(Sandeep Kumar)
Supritending Engineer
Saharanpur Circle, PWD, Saharanpur

(Sanjeev Bhardwaj)
Supritending Engineer
Meerut Circle, PWD, Meerut

(Ajay Shankar Singh)
Supritending Engineer
Bulandshar Circle, PWD, Bulandshar

(Rajpal Singh)
Chief Engineer
Saharanpur Zone, PWD, Saharanpur

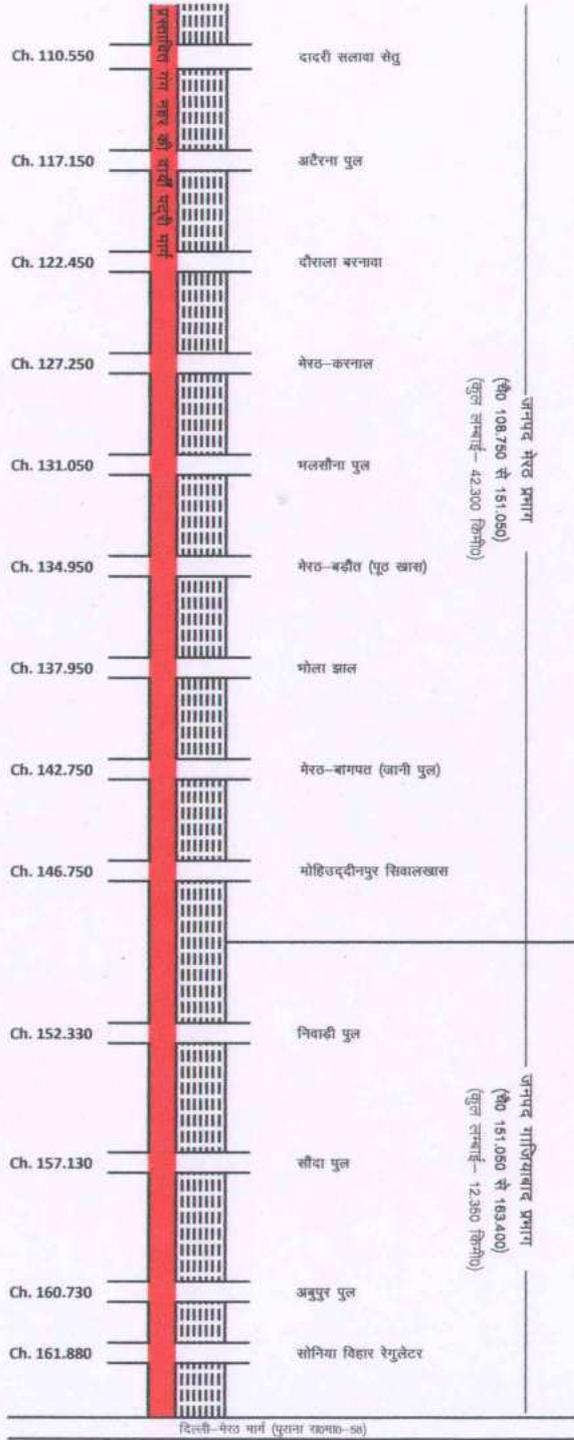
(Rajpal Singh)
Chief Engineer
Meerut Zone, PWD, Meerut



Line Diagram of Muzaffarnagar
 प्रस्तावित गंगा नहर की दायीं पट्टरी मार्ग के नव निर्माण का कार्य

Line Diagram of Meerut and Ghaziabad

प्रस्तावित गंग नहर की दायाँ पट्टी मार्ग के नव निर्माण का कार्य



जनपद मेरठ प्रभाग
(क्षेत्र 108.750 से 151.050)
(कुल लम्बाई - 42.300 किमी०)

जनपद गाजियाबाद प्रभाग
(क्षेत्र 151.050 से 163.400)
(कुल लम्बाई - 12.350 किमी०)

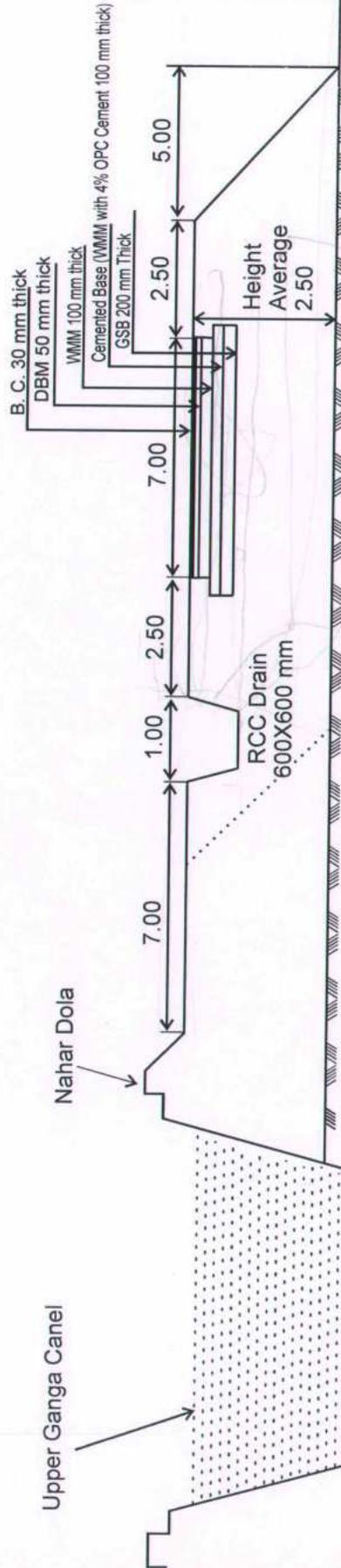
संसाधन अधिनियम
प्रतिबंध करार (पान) संशोधन
मेरठ

डाइंग्स्

Ch. Charan Singh Kawar Nahar Ki Right Patri

X-Section (R.H.S.)

Not to Scale



J.E.
J.E.

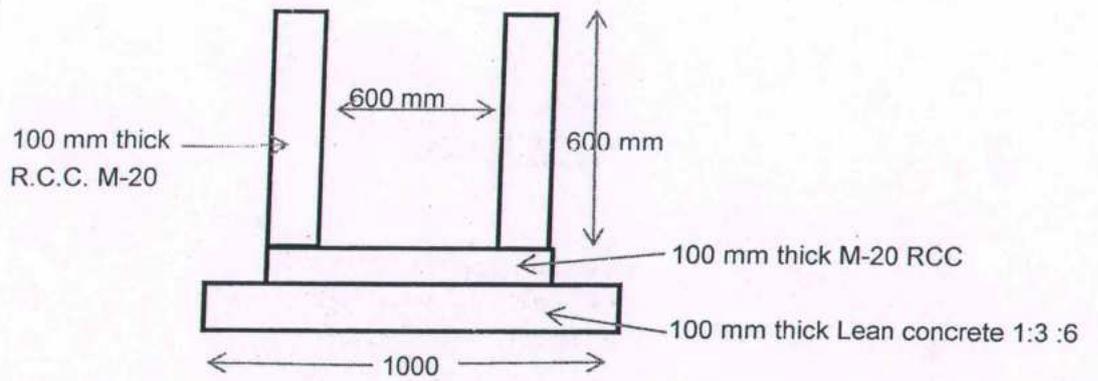
A.E.
A.E.

Executive Engineer
Executive Engineer
C.D.-1 P.W.D. MZN

DRAINS

वित्तीय वर्ष 2019-20 में चौधरी चरण सिंह कावड मार्ग (गंग नहर की दायी पटरी) के नव निर्माण का कार्य। (जनपद मुजफ्फरनगर चौ0 51.910 से 108.750 किमी0)

1. Construction of U-Shaped RCC Drain (Size 600 × 600 mm)



Section of drain 600 x 600 mm


Junior Engineer
C.D.-1, P.W.D.,
Muzaffarnagar


Assistant Engineer
C.D.-1, P.W.D.,
Muzaffarnagar


Executive Engineer
C.D.-1, P.W.D.,
Muzaffarnagar

कार्यालय प्रमुख अभियन्ता

(नियोजन वर्ग)

उ०प्र०, लोक निर्माण विभाग, लखनऊ

पत्रांक : 619नि०/2007

दिनांक : 17/10/07

सेवा में,

समस्त क्षेत्रीय मुख्य अभियन्ता

मेरठ क्षेत्र,
लो०नि०वि०, मेरठ।

विषय: विभिन्न श्रेणी के मार्गों के उच्चीकरण का प्रस्ताव के सम्बन्ध में।

सन्दर्भ: प्रमुख अभियन्ता (विकास) का पत्रांक-2945नि०/619नि०/07 दिनांक-10.09.2007, 2944नि०/619नि०/07 दिनांक-10.09.2007 एवं 2943नि०/619नि०/07 दिनांक-10.09.2007

कृपया उपरोक्त सन्दर्भित पत्र का अवलोकन करने का कष्ट करें। आपके क्षेत्र में पड़ने वाले विभिन्न श्रेणी के मार्गों के उच्चीकरण का प्रस्ताव मांगा गया था। परन्तु अभी तक आपके क्षेत्रों से प्रस्ताव पत्र के अनुरूप प्राप्त नहीं हो रहे हैं।

अतः विभिन्न क्षेत्रों के मार्गों का अन्य जिला मार्गों की श्रेणी में उच्चीकरण अपने स्तर से करते हुए सूचित करने तथा मुख्य जिला मार्ग एवं राज्य मार्ग की श्रेणी में उच्चीकृत किये जाने का प्रस्ताव तुरन्त भेजें।

संलग्नक : विभिन्न श्रेणी में उच्चीकरण की अर्हता का विवरण (3 पृष्ठ)।

(आर०के० सराहा)

मुख्य अभियन्ता (मु०-1)

लो०नि०वि०, लखनऊ



कार्यालय मुख्य अभियन्ता, पश्चिमी क्षेत्र, लोक निर्माण विभाग, मेरठ

पत्रांक 9280 नि०/60 (R) प०के० /07

दि० 18.10.07

1. प्रतिलिपि अधीक्षण अभियन्ता मेरठ/सहारनपुर/बुलन्दशहर वृत्त लो०नि०वि० मेरठ/सहारनपुर/बुलन्दशहर को इस आशय से प्रेषित है कि उपरोक्त निर्देशानुसार कार्यवाही सुनिश्चित करायें। विभिन्न श्रेणियों के उच्चीकरण का विवरण (तीन पृष्ठ) संलग्न है। संलग्न : उपरोक्तानुसार।
2. प्रतिलिपि अधिशासी अभियन्ता 2/3 लो०नि०वि० सहारनपुर/मुजफ्फरनगर/मेरठ/बागपत/बुलन्दशहर/गाजियाबाद/गौतमबुद्धनगर को इस आशय से प्रेषित है कि उपरोक्त निर्देशानुसार कार्यवाही सुनिश्चित करायें। विभिन्न श्रेणियों के उच्चीकरण का विवरण (तीन पृष्ठ) संलग्न है। संलग्न : उपरोक्तानुसार।
3. प्रतिलिपि मुख्य अभियन्ता/अधीक्षण अभियन्ता

कृते मुख्य अभियन्ता (प०के०)
लोक निर्माण विभाग मेरठ।

मार्गों को अन्य जिला मार्ग घोषित किये जाने के लिए निर्धारित निर्दिष्टियों का विवरण **392**

उन मार्गों को अन्य जिला मार्ग घोषित किया जाना चाहिए जो :-

- (1) जनपद के अन्तर्गत महत्वपूर्ण ग्रामीण भाग को जोड़ता है।
- (2) जनपद के अन्तर्गत महत्वपूर्ण मार्गों के ग्रामों के मार्केट सेन्टर तथा तहसील हेतु इसको जोड़ता हो।
- (3) जनपद के अन्तर्गत महत्वपूर्ण ग्राम मार्गों को ब्लाक मुख्यालय से या मुख्य मार्ग से जोड़ते हों।

उक्त के साथ-साथ अन्य जिला मार्गों द्वारा निम्न तकनीकी मापदण्ड को IRC73-1980 के अनुसार भी पूरा किया जाना आवश्यक है :-

(1) सड़क भूमि की चौड़ाई (मीटर में)

समतल एवं रोलिंग सतह के लिए				पर्वतीय एवं स्टीप सतह के लिए	
खुले भागों में		रिहायसी भाग में		खुले भाग में	रिहायसी भाग
सामान्य	रेन्ज	सामान्य	रेन्ज	सामान्य	सामान्य
15	15-25	15	15-20	15	12

(2) भवन सीमा रेखा एवं नियंत्रण सीमा रेखा (मीटर में)

समतल एवं रोलिंग सतह के लिए			पर्वतीय एवं स्टीप सतह के लिए	
खुले भागों में		रिहायसी भाग में	भवन एवं मार्ग सीमा के बीच की दूरी (सेट बैक)	
भवन सीमा	नियंत्रण सीमा	भवन एवं मार्ग सीमा के बीच की दूरी (सेट बैक)	खुले भाग में	रिहायसी भाग में
30	35	3-5	3-5	3-5

(3) सड़क की चौड़ाई :- एक लेन एवं दो लेन सड़क के लिए (समतल एवं रोलिंग सतह के लिए)

7.5 (single lane) 9.00 (double lane) मी०

(4) कैरेजवे सतह की चौड़ाई :- सिंगिल लेन सतह 3.75 मी० दो लेन सतह 7.00 मी०।

(5) पुल पुलियों के परिकल्पना भार :- क्लास ए लोडिंग तथा 70 आर० भार।

(6) डिजाईन स्पीड : समतल सतह के लिए रूलिंग स्पीड 65 किमी० प्रतिघन्टा एवं न्यूनतम 50 किमी० प्रतिघन्टा तथा रोलिंग सतह के लिए रूलिंग डिजाईन स्पीड 50 किमी० प्रतिघन्टा एवं न्यूनतम डिजाईन स्पीड 40 किमी० प्रतिघन्टा।

(7) मार्ग की लम्बाई : न्यूनतम 15 किमी०।

(8) यातायात घनत्व : कोई माप दण्ड नहीं।

(9) अधिकारी का पद नाम जो मार्ग को Upgrade करने के लिए सक्षम है - क्षेत्रीय मुख्य अभियन्ता

मार्गों का अन्य जिला मार्ग घोषित किये जाने के लिए निर्धारित निर्दिष्टियों का विवरण

उन मार्गों को अन्य जिला मार्ग घोषित किया जाना चाहिए जो :-

- (1) जनपद के अन्तर्गत महत्वपूर्ण ग्रामीण भाग को जोड़ता है।
- (2) जनपद के अन्तर्गत महत्वपूर्ण मार्गों के ग्रामों के मार्केट सेन्टर तथा तहसील हेतु इसको जोड़ता हो।
- (3) जनपद के अन्तर्गत महत्वपूर्ण ग्राम मार्गों को ब्लाक मुख्यालय से या मुख्य मार्ग से जोड़ते हों।

उक्त के साथ-साथ अन्य जिला मार्गों द्वारा निम्न तकनीकी मापदण्ड को IRC73-1980 के अनुसार भी पूरा किया जाना आवश्यक है :-

(1) सड़क भूमि की चौड़ाई (मीटर में)

समतल एवं रोलिंग सतह के लिए				पर्वतीय एवं स्टीप सतह के लिए	
खुले भागों में		रिहायसी भाग में		खुले भाग में	रिहायसी भाग
सामान्य	रेन्ज	सामान्य	रेन्ज	सामान्य	सामान्य
15	15-25	15	15-20	15	12

(2) भवन सीमा रेखा एवं नियंत्रण सीमा रेखा (मीटर में)

समतल एवं रोलिंग सतह के लिए			पर्वतीय एवं स्टीप सतह के लिए	
खुले भागों में		रिहायसी भाग में	भवन एवं मार्ग सीमा के बीच की दूरी (सेट बैक)	
भवन सीमा	नियंत्रण सीमा	भवन एवं मार्ग सीमा के बीच की दूरी (सेट बैक)	खुले भाग में	रिहायसी भाग में
30	35	3-5	3-5	3-5

(3) सड़क की चौड़ाई :- एक लेन एवं दो लेन सड़क के लिए (समतल एवं रोलिंग सतह के लिए)

7.5 (single lane) 9.00 (double lane) मी०

(4) कैरेजवे सतह की चौड़ाई :- सिंगल लेन सतह 3.75 मी० दो लेन सतह 7.00 मी०।

(5) पुल पुलियों के परिकल्पना भार :- क्लास ए लोडिंग तथा 70 आर० भार।

(6) डिजाईन स्पीड : समतल सतह के लिए रूलिंग स्पीड 65 किमी० प्रतिघन्टा एवं न्यूनतम 50 किमी० प्रतिघन्टा तथा रोलिंग सतह के लिए रूलिंग डिजाईन स्पीड 50 किमी० प्रतिघन्टा एवं न्यूनतम डिजाईन स्पीड 40 किमी० प्रतिघन्टा।

(7) मार्ग की लम्बाई : न्यूनतम 15 किमी०।

(8) यातायात घनत्व : कोई माप दण्ड नहीं।

(9) अधिकारी का पद नाम जो मार्ग को Upgrade करने के लिए सक्षम है। - *सर्वीस डुरन्त जा*

कार्यालय प्रमुख आमयन्ता

(नियोजन वर्ग)

उ०प्र०, लोक निर्माण विभाग, लखनऊ

पत्रांक : २७५५ नि / ६७ नि / ०७

दिनांक : १० / ०९ / ०७

सेवा में,

समस्त क्षेत्रीय मुख्य अभियन्ता

..... क्षेत्र,

लो०नि०वि०,

विषय: ग्रामीण मार्गों का अन्य जिला मार्ग की श्रेणी में उच्चीकरण।

अपने क्षेत्र में पड़ने वाले ग्रामीण मार्गों का अन्य जिला श्रेणी के मार्ग में उच्चीकरण करने की कार्यवाही आपके स्तर से की जानी है। अन्य जिला मार्गों की श्रेणी की न्यूनतम आवश्यकता एवं अर्हता पुनः संलग्न की जा रही है। अपने क्षेत्र के प्रत्येक जनपद में कम से कम ७ मार्गों को अन्य जिला मार्ग की श्रेणी में उच्चीकरण कर सूचित करें। उच्चीकरण के समय ही रोड साइड लैंड कंट्रोल एक्ट की अधिसूचना भी जारी करायें। तथा इसकी प्रति इस कार्यालय को भी भेजना सुनिश्चित करें।

संलग्नक : अन्य जिला मार्ग में उच्चीकरण की अर्हता विवरण।

(त्रिभुवन राम)

प्रमुख अभियन्ता (विकास) ए

विभागाध्यक्ष

लो०नि०वि०, लखनऊ

१

Reminder

Office of the Chief Engineer

(Planning Category)

Uttar Pradesh, Public Works Department, Lucknow

Letter Number: 3401 P 619 P/2007

Date: 17/10/07

To,

All Regional Chief Engineers

Meerut Region,

PWD, Meerut

Subject: Regarding proposal for up gradation of various categories of routes.

Reference: Chief Engineer (Development) letter Nos.-2945 P/619 P/07 dated-10.09.2007, 2944 P/ 619 P/07 dated- 10.09.2007 and 2943 P/ 619 P/07 dated-10.09.2007

Kindly take the reference the letter referred to above. Proposals were sought for upgradation of various categories of routes falling in your area. But till now the proposals are not being received from your areas as per the letter.

Therefore, immediately send a proposal to inform at your level about upgrading the roads of different areas to the category of other district roads and to upgrade them to the category of main district road and state road.

Attachment: Details of eligibility for up gradation in various categories
(3 pages)

Sd/- Illegible
Illegible
(R.K. appreciated)
Chief Engineer (M.-1)
PWD, Lucknow

**Office of the Chief Engineer, Western Region, Public Works
Department, Meerut**

Letter No. 9280 E/ 60 (R) WR/ 07

Date: 18.10.07

1. A copy has been sent to the Superintending Engineer, Meerut/ Saharanpur/ Bulandshahr circle, PWD Meerut/ Saharanpur/ Bulandshahr with the intention to ensure action as per the above instructions. Details (three pages) of up gradation of various categories are attached.

Attached as above.

2. Copy has been sent to the Executive Engineer 2/3, PWD, Saharanpur/ Muzaffarnagar/ Meerut/ Baghpat/ Bulandshahr/ Ghaziabad/ Gautam Buddha Nagar with the intention to ensure action as per the above instructions. Details of upgradation of various categories (three pages) are attached.

Attached as above.

3. Copy to Chief Engineer/ Superintending Engineer

Sd/-Illegible
18/10/07
For Chief Engineer (WR)
Public Works Department Meerut.

Details of specifications prescribed for declaring routes as other district routes

Those routes should be declared as other district routes which:-

- (1) Connects important rural areas within the district.
- (2) It connects to the market centers of villages and tehsils on important roads within the district.
- (3) Important village roads within the district should be connected to the block headquarters or to the main road.

Along with the above, other district routes are also required to fulfill the following technical parameters as per IRC73-1980:-

- (1) Width of road land (in meters)

For flat and rolling surfaces				For hilly and steep surface	
In the open area		In residential area		In open areas	Residential area
General	Range	General	Range	General	General
15	15-25	15	15-25	15	12

- (2) Building boundary line and control boundary line (in meters)

For flat and rolling surfaces			Distance between building and road boundary for hilly and steep surface (set back)		
In the open area		In residential area		In open areas	In Residential area
Building boundary	Control range	Distance between building and road			

		boundary (set bank)		
		Range		
30	35	3-5	3-5	3-5

(3) Road width: For one lane and two lane road (for flat and rolling surface) 7.5 (single lane) 9.00 (double lane) m.

(4) Width of carriageway surface: signal lane surface 3.75 m, two lane surface 7.00 m.

(5) Hypothetical load of bridge culverts is Class A loading and 70 R load.

(6) Design Speed: For flat surface the ruling speed is 65 km per hour and minimum 50 km per hour and for rolling surface the ruling design speed is 50 km per hour and minimum design speed is 40 km per hour.

(7) Length of route: Minimum 15 km.

(8) Traffic density: No measurement penalty.

(9) Designation name of the officer who is competent to upgrade the route Regional Chief Engineer

Office of the Chief Engineer**(Planning Category)**

Uttar Pradesh, Public Works Department, Lucknow

Letter No.: 2845_/619_/07

Date: 10-09-07

To,

All Regional Chief Engineers

..... Region,

PWD,

Subject: Up gradation of rural roads to the category of other district roads.

The process of upgrading the rural roads falling in your area to other district category roads has to be done at your level. The minimum requirement and qualification of the category of other district routes is being attached here again. Upgrade at least 7 routes in each district of your area to the category of other district routes and send information about the same. At the time of upgradation, notification of Road Side Land Control Act should also be issued. And make sure to send its copy to this office also.

Attachment: Qualification details for up gradation in other district roads.

Sd/- Illegible
(Tribhuvan Ram)
Chief Engineer (Development) A
Head of Department
PWD, Lucknow

संख्या-1060/2023/सा0-2295/23-1-23-23-1099/196/2023

प्रेषक,

अजय चौहान,
प्रमुख सचिव,
30प्र0 शासन।

सेवा में,

प्रमुख अभियंता (विकास) एवं विभागाध्यक्ष,
लोक निर्माण विभाग,
उत्तर प्रदेश, लखनऊ।

लोक निर्माण अनुभाग-1

लखनऊ: दिनांक 12 दिसम्बर, 2023

विषय- प्रदेश के ग्रामीण श्रेणी के मार्गों को अन्य जिला मार्ग श्रेणी में उच्चीकरण के सम्बन्ध में।

महोदय,

उपर्युक्त विषयक अपने पत्र संख्या-87कैम्प-प्र0अ0/विकास/07(प्र0स0)/23, दिनांक 14.08.2023 का कृपया संदर्भ ग्रहण करने का कष्ट करें, जिसके द्वारा उच्चस्तरीय तकनीकी समिति की संस्तुति के आधार पर उपलब्ध कराये गये प्रस्ताव के क्रम में सम्यक विचारोपरान्त ग्रामीण मार्गों पर यातायात की सुगमता एवं ग्रामीण क्षेत्रों में जनमानस को बेहतर कनेक्टिविटी प्रदान करने हेतु प्रदेश में लोक निर्माण विभाग के स्वामित्वाधीन ग्रामीण श्रेणी के मार्गों को अन्य जिला मार्ग श्रेणी में उच्चीकरण किये जाने के संबंध में निम्नानुसार कार्यवाही किया जाना निर्णीत हुआ है :-

क. निम्नलिखित मापदंडों में से किसी भी एक मापदंड पर पात्र ग्रामीण मार्ग को अन्य जिला मार्ग श्रेणी में उच्चीकृत किया जायेगा, जिस मार्ग की लम्बाई 15 कि०मी० से कम हो:-

- i. मंडी/गन्ना क्रय केंद्र/अनाज क्रय केंद्र/उपमंडी को जाने वाली सड़क।
- ii. तहसील मुख्यालय (कार्यालय)/ब्लॉक मुख्यालय से जोड़ने वाली सड़क /पुलिस स्टेशन के प्रवेश द्वार के सामने से गुजरने वाली सड़क।
- iii. मेडिकल कॉलेज/ट्रॉमा सेंटर/सामुदायिक स्वास्थ्य केंद्र/प्राथमिक स्वास्थ्य केंद्र/30 से अधिक बिस्तरों वाली चिकित्सा सुविधा को जोड़ने वाली सड़क।
- iv. विश्वविद्यालय/डिग्री कॉलेज/इंटर कॉलेज/उससे उच्च श्रेणी की शिक्षा प्रदान करने वाले शिक्षण संस्थान को जोड़ने वाली सड़क ।
- v. रेलवे स्टेशन/डेडिकेटेड फ्रंट कॉरिडोर/महत्वपूर्ण उद्योगों/औद्योगिक पार्क/औद्योगिक नोड /औद्योगिक मार्ग/डिफेन्स कॉरिडोर स्टेशन को जोड़ने वाली सड़क ।
- vi. बस संचालन वाली सड़क।

1- यह शासनादेश इलेक्ट्रानिकली जारी किया गया है, अतः इस पर हस्ताक्षर की आवश्यकता नहीं है ।

2- इस शासनादेश की प्रमाणिकता वेब साइट <http://shasanadesh.up.gov.in> से सत्यापित की जा सकती है ।

ख. एक ही संरेखण में एक या एक से अधिक ग्रामीण मार्गों जिनकी संयुक्त लम्बाई 15 km या अधिक है एवं निम्नलिखित स्कोरिंग मापदंड के अनुसार 75 से अधिक अंक प्राप्त करती हुई सड़क-

S. No.	Parameters	Category Weight	Weights
1	Population (Census 2011) of the habitation/ village connected by the Through Route (Highest score)	30	
	• 5000 and above		30
	• 3000 to 4999		20
	• 1000 to 2999		10
	• Less than 1000		05
2	Market Facilities (Cumulative Score)	30	
	• Mandi / Sugarcane Purchase Centre / Grain Purchase Centre / Up Mandi		15
	• Warehouse/ Cold Storage/ Agro Industry		10
	• Collection Centre/ Pack house		5
3	Educational Facilities (Highest score)	15	
	• High School		10
	• Higher Secondary School		12
	• University / Degree College / Girls High School/ ITIs		15
4	Medical Facilities (Highest score)	15	
	• Veterinary Hospital		10
	• Medical College /Medical Trauma Centre / Community Health Centre / Primary Health Centre / Upto 30 Bedded Hospital		15
5	Transport Infrastructure (Cumulative Score)	10	
	• Railway Station / Dedicated Freight Corridor Important Industries / Industrial Park / Industrial Node / Industrial Route / Defence Corridor Stations / Bus Stand / Bus Terminal		4
	• Administrative Centre (Panchayat HQ)		4
	• Bank/ Fuel Station		2

2- उपर्युक्त नीति के आधार पर पात्र ग्रामीण मार्ग से अन्य जिला मार्ग श्रेणी के उच्चीकरण प्रस्ताव सृष्टि पोर्टल पर MIS एवं GIS में संशोधन कराने के उपरान्त **क्षेत्रीय मुख्य अभियंता द्वारा श्रेणी परिवर्तन के आदेश पारित किये जाएंगे।**

3- यदि कोई ग्रामीण मार्ग उपर्युक्त मापदंड को पूर्ण नहीं कर रहा है परन्तु मार्ग का श्रेणी उच्चीकरण जनहित में विशिष्ट कारणों से अपरिहार्य है, ऐसे प्रकरणों में प्रमुख अभियंता (विकास) एवं विभागाध्यक्ष द्वारा औचित्य के आधार पर उपलब्ध कराये गये प्रस्ताव के क्रम में शासन स्तर से श्रेणी उच्चीकरण के आदेश निर्गत किये जाएंगे।

4- उपर्युक्त मापदंडों के आधार पर ग्रामीण मार्गों के उच्चीकरण के समस्त प्रस्तावों के विश्लेषण एवं अनुमोदन हेतु विभाग द्वारा पोर्टल विकसित किया जाये।

1- यह शासनादेश इलेक्ट्रानिकली जारी किया गया है, अतः इस पर हस्ताक्षर की आवश्यकता नहीं है।

2- इस शासनादेश की प्रमाणिकता वेब साइट <http://shasanadesh.up.gov.in> से सत्यापित की जा सकती है।

5- अतः इस सम्बन्ध में मुझे यह कहने का निदेश हुआ है कि उपर्युक्त निर्णय का तत्काल प्रभाव से कार्यान्वयन कराने हेतु प्रभावी कार्यवाही कराने का कष्ट करें।

भवदीय,

अजय चौहान

प्रमुख सचिव।

संख्या-1060/2023/सा0-2295/23-1-23. तददिनांक।

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित:-

- 1- प्रमुख सचिव, मा0 मुख्यमंत्री जी, 30प्र0शासन।
- 2- निजी सचिव, मा0 मंत्री जी, लोक निर्माण विभाग, 30प्र0शासन।
- 3- निजी सचिव, मा0 राज्य मंत्री जी, लोक निर्माण विभाग, 30प्र0शासन।
- 4- निजी सचिव, मुख्य सचिव, 30प्र0शासन।
- 5- अपर मुख्य सचिव/प्रमुख सचिव, वित्त विभाग/ऊर्जा विभाग/नगर विकास विभाग/आवास एवं शहरी नियोजन विभाग/नियोजन विभाग/आई0टी0 एवं इलेक्ट्रॉनिक्स विभाग/नमामि गंगे तथा ग्रामीण जलापूर्ति विभाग/औद्योगिक एवं अवस्थापना विभाग/उत्तर प्रदेश खाद्य एवं रसद विभाग/ग्राम्य विकास विभाग/ग्रामीण अभियन्त्रण विभाग/सिंचाई एवं जल संसाधन विभाग/पंचायती राज विभाग, 30प्र0शासन।
- 6- समस्त मण्डलायुक्त, उत्तर प्रदेश।
- 7- समस्त जिलाधिकारी, उत्तर प्रदेश।
- 8- निदेशक, मण्डी परिषद, 30प्र0 लखनऊ।
- 9- मुख्य अभियंता (मु0-1), लोक निर्माण विभाग, 30प्र0 लखनऊ।
- 10- प्रबन्ध निदेशक, 30प्र0राजकीय निर्माण निगम लि0, लखनऊ।
- 11- प्रबन्ध निदेशक, 30प्र0राज्य सेतु निगम लि0, लखनऊ।
- 12- प्रबन्ध निदेशक, 30प्र0जल निगम, लखनऊ।
- 13- समस्त क्षेत्रीय मुख्य अभियन्ता/अधीक्षण अभियन्ता/अधिशाली अभियन्ता, लोक निर्माण विभाग, 30प्र0।
- 14- समस्त अधिशाली अधिकारी, नगर पंचायत/नगर पालिका परिषद, 30प्र0।
- 15- लोक निर्माण विभाग के समस्त अनुभाग।
- 16- वेबमास्टर, लोक निर्माण विभाग।
- 17- गार्ड फाइल

आज्ञा से,

कामता प्रसाद सिंह

विशेष सचिव।

1- यह शासनादेश इलेक्ट्रानिकली जारी किया गया है, अतः इस पर हस्ताक्षर की आवश्यकता नहीं है।

2- इस शासनादेश की प्रमाणिकता वेब साइट <http://shasanadesh.up.gov.in> से सत्यापित की जा सकती है।

No.-1060/2023/SAO-2295/23-1-23-23-1099/196/2023

From,

Ajay Chauhan,
Principal Secretary,
Government of Uttar Pradesh.

To,

Chief Engineer (Development) and Head of Department,
Public Works Department,
Uttar Pradesh, Lucknow.

Public Works Section-1

Lucknow: Dated December 12, 2023

Subject: Regarding up gradation of rural category roads of the state to other district road category.

Sir,

Please take reference of your letter No. 87 Camp-CE/Development/07 (P.S.)/23, dated 14.08.2023 on the above mentioned subject, in the order of the proposal provided on the basis of the recommendation of the high level technical committee. After due consideration, in order to provide ease of traffic on rural roads and better connectivity to the people in rural areas, it has been decided to take the following action regarding up gradation of rural category roads owned by the Public Works Department in the state to other district road category:-

A. Eligible rural road will be upgraded to other district road category on any one of the following criteria, the route length of which is less than 15 km to be upgraded to highway category:-

- i. Road leading to the market/ sugarcane purchasing centre/ grain purchasing centre/ sub-market.
- ii. Road connecting to Tehsil Headquarters (Office)/ Block Headquarters/ Road passing in front of the entrance gate of Police Station.
- iii. Road connecting Medical College/ Trauma Centre/ Community Health Centre/ Primary Health Centre/ Medical facility with more than 30 beds.
- iv. Road connecting the University/ Degree College, Inter College and any educational institution providing higher education.
- v. Railway Station/ Dedicated Front Corridor/ Important Industries/ Industrial Park/ Industrial Node Industrial Road/ Defense Corridor Road connecting the station.
- vi. Bus operated road.

B. A road having one or more rural roads in the same alignment having a combined length of 15 km or more and scoring more than 75 points as per the following scoring criteria-

S. No.	Parameters	Category Weight	Weights
1	Population (Census 2011) of the habitation/ village connected by the Through Route (Highest score)	30	
	* 5000 and above		30
	* 3000 to 4999		20
	* 1000 to 2999		10
	* Less than 1000		05
2	Market Facilities (Cumulative Score)	30	
	* Mandi/ Sugarcane Purchase Centre/ Grain Purchase Centre/ Up Mandi		15
	* Warehouse/ Cold Storage/ Agro Industry		10
	* Collection Centre/ Pack house		5
3	Educational Facilities (Higher score)	15	
	* High School		10
	* Higher Secondary School		12
	* University/ Degree College/ Girls High School/ ITIs		15
4	Medical Facilities (Highest score)	15	
	* Veterinary Hospital		10
	* Medical College/ Medical Trauma Centre/ Community Health Centre/ Primary Health Centre/ Upto 30 Bedded Hospital		15
5	Transport Infrastructure (Cumulative Score)	10	
	* Railway Station/ Dedicated Freight Corridor Important Industries/ Industrial Park/ Industrial Node/ Industrial Route/ Defense Corridor Stations/ Bus Stand/ Bus Terminal		4
	* Administrative Centre (Panchayat HQ)		4
	* Bank/Fuel Station		2

2- On the basis of the above policy, after making amendments in the MIS and GIS on the proposed up gradation proposal from eligible rural route to other district route category on the Srishti portal, orders for change of category will be passed by the Regional Chief Engineer.

3- If any rural road is not fulfilling the above mentioned criteria but up gradation of the road is unavoidable due to specific reasons in public interest, in such cases, the government will take action in accordance with the proposal provided by the Chief Engineer (Development) and the Head of the Department on the basis of justification. Orders for up gradation from level to level will be issued.

4- Based on the above mentioned parameters, a portal should be developed by the department for analysis and approval of all the proposals for upgrading of rural roads.

5- Therefore, in this regard, I am directed to say that you should take efforts to take effective action to implement the above mentioned decision with immediate effect.

Yours sincerely,
Ajay Chauhan
Principal Secretary.

No. 1060/2023/S.-2295/23-1-23, dated.

Copy sent to the following for information and necessary action:

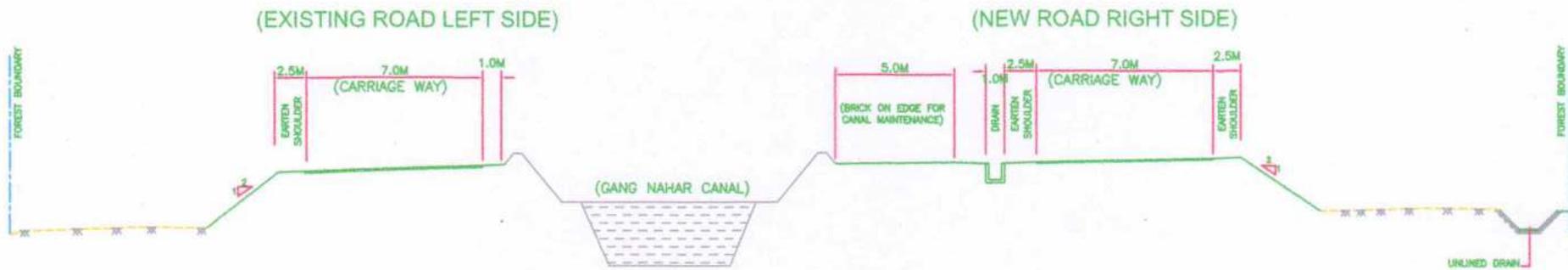
1- Principal Secretary, Hon'ble Chief Minister, Government of UP

- 2- Private Secretary, Honorable Minister, Public Works Department, Government of UP
- 3- Private Secretary, Honorable Minister of State, Public Works Department, Government of UP
- 4- Private Secretary, Chief Secretary, Government of UP
- 5- Additional Chief Secretary/ Principal Secretary, Finance Department/ Energy Department/ Urban Development Department/ Housing & Urban Planning Department/ Planning Department/ IT & Electronics Department/ Namami Ganga and Rural Water Supply Department Industrial & Establishment Department/ UP Food & Logistics Department/ Department of Rural Development/ Department of Rural Engineering/ Irrigation and Water Resources Department/ Panchayati Raj Department, Government of Uttar Pradesh.
- 6- All Divisional Commissioner, Uttar Pradesh.
- 7- All District Magistrates, Uttar Pradesh.
- 8- Director, Mandi Parishad, Uttar Pradesh Lucknow.
- 9- Chief Engineer (M-1), Public Works Department, Uttar Pradesh, Lucknow.
- 10- Managing Director, Uttar Pradesh Government Construction Corporation Ltd., Lucknow.
- 11- Managing Director, U.P. State Bridge Corporation Ltd., Lucknow.
- 12- Managing Director, U.P. Water Corporation, Lucknow.
- 13- All Regional Chief Engineers/ Superintending Engineers/ Executive Engineers, Public Works Department, UP.
- 14- All Executive Officers, Nagar Panchayat/ Municipal Council, UP.
- 15- All sections of Public Works Department.
- 16- Webmaster, Public Works Department.
- 17- Guard File

With permission,
Kamta Prasad Singh
Special Secretary.

- 1- This government order has been issued electronically, hence no signature is required on it.
- 2- The authenticity of this government order can be verified from the web site <http://shasanadesh.up.gov.in>.

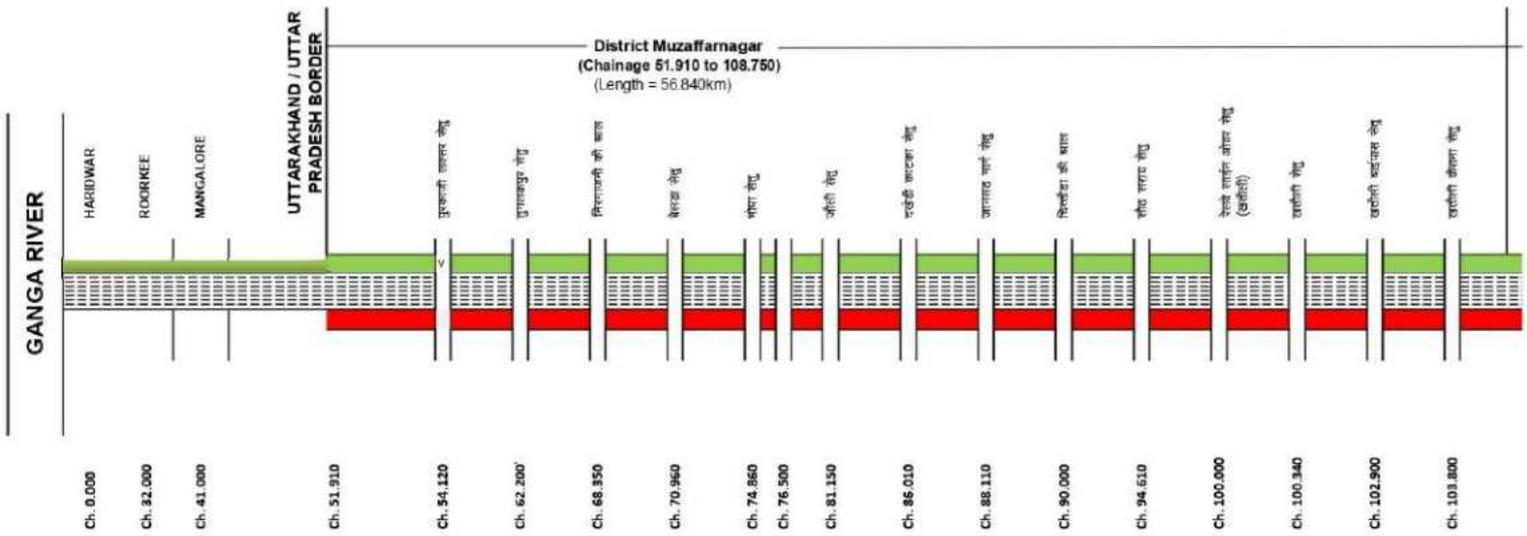
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TYPICAL CROSS SECTION FOR EXISTING AND NEW ROAD

अधिशारी अभियन्ता
निर्माण खण्ड
लोकनिविद, मेरठ
Vishu

Line Diagram

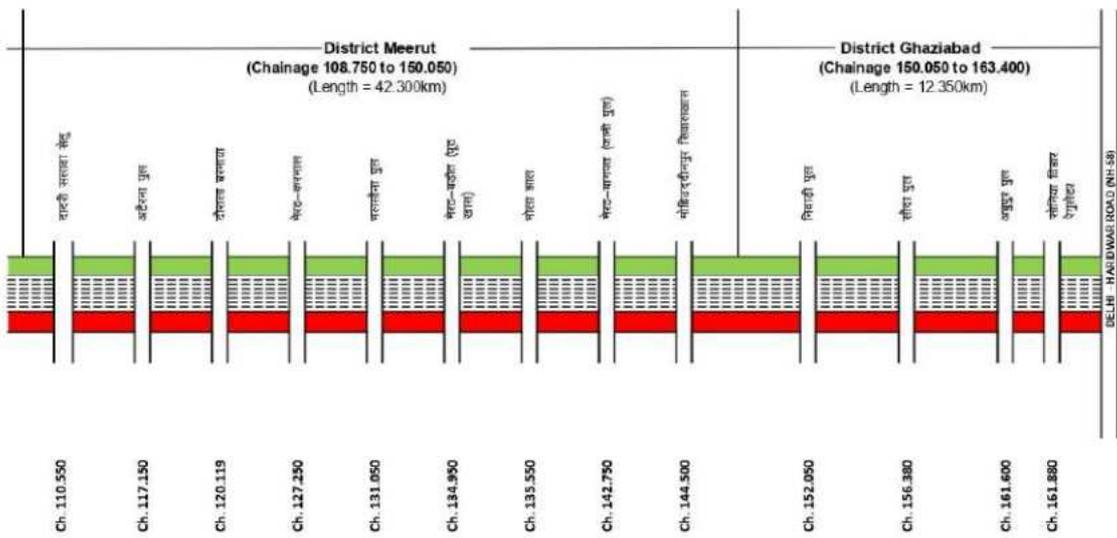


अधिसारी अभियन्ता
निर्माण खण्ड
लोकनिर्वहण, मेरठ
Vishal

LEGENDS

- EXISTING ROAD LEFT SIDE
- PROPOSED ROAD RIGHT SIDE

Line Diagram



अधिसारी अभियन्ता
निर्माण खण्ड
लॉन्गवि, मेरठ
Vishu

LEGENDS
 EXISTING ROAD LEFT SIDE
 PROPOSED ROAD RIGHT SIDE