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

ORIGINAL APPLICATION NO. 275 OF 2023

IN THE MATTER OF :

MAHESH KUMAR ....Appellant

Versus

STATE OF UTTAR PRADESH & ORS. ....Respondent(s)

**INDEX**


| S. NO | PARTICULARS | PAGE NO. |
|---|---|---|
| 1. | Action Taken Report in compliance with the order dated 02.11.2023 | 3-8 |
| 2. | A true copy of the IIT Delhi report is marked as Annexure - A. | 9-156 |
| 3. | A True Copy of the letter dated 28.11.2023 is marked as Annexure - B. | 157 |
| 4. | A copy of the email dated 02.12.2023 is attached herein in Annexure - C. | 158-159 |
| 5. | A copy of the email dated 02.12.2023 is attached herein in Annexure - D | 160 |


Applicants

Through

2

Date:

Place: New Delhi

PRIYANKA SWAMI & ASSOCIATES
F -13, GROUND FLOOR
JANGPURA EXTENSION, NEW
DELHI
Email: Advpriyankaswami@gmail.com
Mob: 8800656660

3

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

ORIGINAL APPLICATION NO. 275 OF 2023

IN THE MATTER OF :

MAHESH KUMAR ....Appellant

Versus

STATE OF UTTAR PRADESH & ORS. ....Respondent(s)

**ACTION TAKEN REPORT IN COMPLIANCE WITH THE ORDER DATED 02.11.2023.**

1. That this Action Taken Report is filed in compliance with the order dated 02.11.2023 passed by the Hon'ble National Green Tribunal. The respondent authorities vide order dated 02.11.2023 in O.A. No. 275/2023 titled as Mahesh Kumar Vs. state of Uttar Pradesh was directed "to place on record the demarcation report relating to demarcation of flood plain zone of river Yamuna and Hindon flowing within the limits of their district in reference to the notification dated 07.10.2016.

"*That further the Hon'ble Court has ordered the District Magistrate, Gautam Budh Nagar, and District Magistrate, Ghaziabad to complete the*

4

*exercise of identification and Demarcation of the flood plain zone area based on the directions of the tribunal issued earlier within a period of two months and to file the report on or before 10.01.2024"*

2. That the issue pertaining to the above-said matter is related to the removal of unauthorized construction over the floodplain zone area of the Yamuna River.
3. That the D.M Gautam Budha Nagar in compliance with the order dated 27.07.2023 submitted the report dated 31.10.2023 which clearly mentions that There is no dam constructed on the left bank of Hindon River from NH-24 to Charmurti Gaur Chowk (about 3.00 km under district Gautam Buddha Nagar).
4. That On the request of the Irrigation Department, the IIT Delhi had determined the flood plain of Hindon River on the basis of 25-year frequency. in the year 2019, according to which the submerged area ranges from 3196 m to 1800 m. As per research of IIT Delhi Determining the submergence area as above will result in a large population coming into the submergence area. A true copy of the IIT Delhi report is marked as **Annexure - A**.
5. That the total length of the Yamuna River in District Gautambudh Nagar is 77.50 Km. whose flood plain zone is marked and demarcated as per circular no. 38/का.प्र.अ.भू.–9 Dated 15.01.2015 issued by the office of Engineer in chief, Irrigation and water Resources Department Uttar Pradesh Lucknow. **Annexure - B**.
6. That the Flood plain means such area of River Ganga or its tributaries which comes under water on either side of it due to floods corresponding to its greatest flow or with a flood of frequency once in hundred years per the

5

notification dated 07/10/2016 On "River Ganga ( Rejuvenation, Protection, and Management) Authorities Order, 2016

7. According to the notification issued on 07.10.2016, the submerged area is to be demarcated and marked on both sides of the Hindon and Yamuna rivers in Ghaziabad and Gautam Buddha Nagar districts in relation to the last 100 years. As mentioned below

***"3(l) "flood plain" means such area of river Ganga or its tributaries which comes under water on either side of it due to floods corresponding to its greatest flow or with a flood of frequency once in a hundred years."***

8. That The National Institute of Hydrology, Roorkee was contacted by the authorities to determine via Letter no. 5219/ Head Works dated 28.11.2023 by the deponent to study the submergence area, so that the submergence area could be determined logically and the work of marking/demarcation of Yamuna River could be done in compliance with the order dated 02.11.2023 of the Honorable National Green Tribunal, New Delhi. That the Executive Engineer, Head Works Division Agra Canal, Okhla, New Delhi sent a letter no. 2604/SINKHAGA/NGT dated 28.11.2023 to Dr. Surjit Singh, Scientist-G, National Institute of Hydrology, Jal Research Vigyan Bhawan, Roorkee regarding the study proposal for determining the flood plain zone of Yamuna River. A True Copy of letter is marked as **ANNEXURE - C.**

9. That the National Institute of Hydrology, Jal Vigyan Bhawan, Roorkee, informed through an e-mail dated 02.12.2023 that carrying out a study for the Yamuna River in Gautam Budh Nagar will take about 06 months to determine its submergence area. Also, the study will require a fund of 42.0 Lakh plus GST. Only after the determination of the submerged area, the

6

demarcation be done which will take a total of 6 months. A copy of the email dated 02.12.2023 is attached herein in **Annexure D.**

10. That the submergence area can be determined only after a survey and Flood Plain Zoning Study by the National Institute of Hydrology. The Demarcation can be done only after determining the submerged area.
11. That It is humbly submitted that it is possible to determine the submergence area only after the survey of the Yamuna River and the study of the floodplain zone by the National Institute of Hydrology, Water Resource Science Building, Roorkee.
12. That in compliance with the order dated 02.11.23 this short affidavit has been submitted accordingly.

PRAYER

That in the aforesaid facts and circumstances, it is most respectfully prayed this Hon'ble Tribunal may graciously be pleased to

a. Allow the concerned department to go ahead with the proposal of the National Institute of Hydrology, Jal Vigyan Bhawan, Roorkee, Uttarakhand, to complete the demarcation and identification as per 3(l) of the 07.10.2016 notification within a period of 6 months.
b. Pass such and further orders as this Hon'ble Tribunal may deem fit in the facts and circumstances of this case.

APPLICANTS

THROUGH

Priyanka

PRIYANKA SWAMI
STANDING COUNSEL OF UP
F-13, JANGPURA EXTENSION,
NEW DELHI 110014

8800656660

7

IN THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 275 OF 2023

IN THE MATTER OF :

MAHESH KUMAR ....Appellant

Versus

STATE OF UTTAR PRADESH & ORS. ....Respondent(s)

## AFFIDAVIT IN SUPPORT OF ACTION TAKEN REPORT

I, Binod Kumar Singh, s/o Hiraman Singh aged about 45 years, posted as Executive Engineer, Head Works Division Agra Canal, Okhla, New Delhi, do hereby solemnly affirm and state an oath as under: That I am duly authorized and competent to affirm the present affidavit on behalf of the Department of Irrigation, which has been prepared based on my official records and under my instructions.

I am fully conversant with the facts and circumstances of the present case on the basis of the records maintained in the office to enable me to file the present Affidavit on behalf of the Irrigation Department.

That in compliance with the order dated 02.11.2023 this short affidavit has been submitted accordingly.

DEPONENT

NOTARY M.N. SINGH Supreme Court of India Regd. No. 16959 Exp. Date:31.01.2025 GOVT. OF INDIA

8

VERIFICATION

Verified at New Delhi on this 06 day of JAN 08 JAN 2024, 2024 that the contents of the above affidavit are true and correct to the best of my knowledge and based on the official records of the respondent. No part of it is false and nothing material has been concealed, therefore.

DEPONENTS

I Identify the deponent who has Signed/Put T.I. in my presence

Priyanka

NOTARY
A.N. SINGH
Supreme Court of India
Regd. No. 16959
Exp. Date:31.01.2025
GOVT. OF INDIA

ATTESTED
A.N. Singh, Adv.
Notary Public
Govt. of India, New Delhi

08 JAN 2024

ANNEX.- A
9

# HYDRODYNAMIC SIMULATION AND MAPPING OF 25YR RETURN PERIOD FLOOD PLAIN OF RIVER HINDON

**Study Sponsored by**

**IRRIGATION CONSTRUCTION DIVISION, GHAZIABAD**

**GOVERNMENT OF UTTAR PRADESH**

## FINAL REPORT

**NOVEMBER 2019**

**DEPARTMENT OF CIVIL ENGINEERING**
**INDIAN INSTITUTE OF TECHNOLOGY, DELHI**
**HAUZ KHAS, NEW DELHI 110016, INDIA**

10

# HYDRODYNAMIC SIMULATION AND MAPPING OF 25YR RETURN PERIOD FLOOD PLAIN OF RIVER HINDON

**Study Sponsored by**
**IRRIGATION CONSTRUCTION DIVISION, GHAZIABAD**
**GOVERNMENT OF UTTAR PRADESH**

## FINAL REPORT

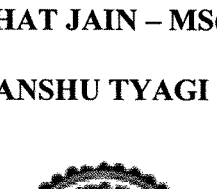
**NOVEMBER 2019**

**RAKESH KHOSA – PI**

**A.K. GOSAIN – Co PI**

**AKSHAT JAIN – MS(R)/S**

**HIMANSHU TYAGI - R/S**



**DEPARTMENT OF CIVIL ENGINEERING**
**INDIAN INSTITUTE OF TECHNOLOGY, DELHI**
**HAUZ KHAS, NEW DELHI 110016, INDIA**

11

# HYDRODYNAMIC SIMULATION AND MAPPING OF FLOOD PLAIN OF RIVER HINDON

# PROLOGUE

**This study draws extensively from the research work of our student Mr. Akshat Jain who is pursuing studies leading to the award of Masters by Research degree, also known by the nomenclature MS(R), in the field of Water Resources Engineering.**

**The credit for much of the analysis including (i) Probabilistic Frequency Analysis, (ii) Hydrologic Modelling &(iii) Hydrodynamic Modelling of Transport Phenomena of Flood Movement down the course of riverHindon and across its connected Flood Plains goes to Mr. Akshat Jain and this study constitutes a significant part of his MS(R) dissertation.**

12

Table of Contents

Table of Figures ..... 5

List of Tables ..... 7

1.0 OBJECTIVES: ..... 8

2.0 BACKGROUND DETAILS AND STUDY AREA ..... 9

3.0 FLOOD PLAIN DEVELOPMENT ..... 10

4.0 ISSUES ARISINGAND COMPONENTS OF THE STUDY ..... 12

5.0 STUDY OF GRIDDED RAINFALL ..... 12

6.0 FREQUENCY ANALYSIS RESULTS OF GRIDDED RAINFALL ..... 14

7.0 SIGNIFICANT CONCLUSIONS FROM ANALYSIS OF GRIDDED RAINFALL ..... 20

8.0 FREQUENCY ANALYSIS OF HINDON DISCHARGES OBSERVED AT GALETA STATION ..... 21

9.0 COMPUTATION OF OUTLIER IN DISCHARGE DATA ..... 27

9.1 Outlier testing using Grubs & Beck Test: ..... 28

10.0 SUMMARY OF HISTORICAL RAINFALL/DISCHARGE RECORDS ..... 34

11.0 RECONSTRUCTION OF VIRGIN FLOWS IN HINDON AT GALETA ..... 35

12.0 COMPARISON OF OBSERVED VERSUS SIMULATED HYDROLOGY ..... 40

13.0 FREQUENCY ANALYSIS OF SIMULATED DISCHARGE AT GALETA STATION ..... 41

14.0 CALIBRATION OF THE HYDRODYNAMIC (iRIC) MODELLING FRAMEWORK ..... 47

15.0 HYDRODYNAMIC SIMULATION OF WATER SURFACE PROFILES IN RIVER HINDON USING iRIC MODELLING FRAMEWORK ..... 47

15.1 Existing scenario with embankments as existing (Scenario 1): ..... 47

15.2 Hindonfloodplain isin its natural state (i.e. bereft ofembankments,associated bank protection and other built up assets as Scenario 2): ..... 48

16.0 SIMULATED EXTENT OF FLOODING FOR SCENARIO 1: ..... 49

17.0 SIMULATED FLOODING EXTENT FOR SCENARIO 2: ..... 54

18.0 Conclusions &Recommendations: ..... 58

19.0 CAVEAT: ..... 59

20.0 Acknowledgement: ..... 60

Appendix: Details of extent of 25 year Return Period flood event along the course of Hindon ..... 62

## Table of Figures

Figure 1: Hindon River along with sub-basins 8

Figure 2: Elevation Profile of Hindon Basin 11

Figure 3: Theissen Polygons 13

Figure 4.1 - Quantile-Frequency Plot For Gridded 1-Day Annual Maximum Rainfall.....15

Figure 4.2 - Quantile-Frequency Plot For Gridded 2-Day Annual Maximum Rainfall.....15

Figure 4.3 - Quantile-Frequency Plot For Gridded 3-Day Annual Maximum Rainfall.....16

Figure 4.4 - Quantile-Frequency Plot For Gridded 4-Day Annual Maximum Rainfall.....16

Figure 4.5 - Quantile-Frequency Plot For Gridded 5-Day Annual Maximum Rainfall.....17

Figure 4.6: Quantile-Frequency Plot For Gridded 6-Day Annual Maximum Rainfall..... 17

Figure 4.7 - Quantile-Frequency Plot For Gridded 7-Day Annual Maximum Rainfall.....18

Figure 4.8 - Quantile-Frequency Plot For Gridded 8-Day Annual Maximum Rainfall.....18

Figure 4.9 - Quantile-Frequency Plot For Gridded 9-Day Annual Maximum Rainfall.....19

Figure 4.10 - Quantile-Frequency Plot For Gridded 10-Day Annual Maximum Rainfall.....19

Figure 5.1 - Quantile-Frequency Plot For 1-Day Observed Discharge At Galeta..... 22

Figure 5.2 - Quantile-Frequency Plot For 2-Day Observed Discharge At Galeta..... 22

Figure 5.3 - Quantile-Frequency Plot For 3-Day Observed Discharge At Galeta..... 23

Figure 5.4 - Quantile-Frequency Plot For 4-Day Observed Discharge At Galeta..... 23

Figure 5.5 - Quantile-Frequency Plot For 5-Day Observed Discharge At Galeta..... 24

Figure 5.6 - Quantile-Frequency Plot For 6-Day Observed Discharge At Galeta..... 24

Figure 5.7 - Quantile-Frequency Plot For 7-Day Observed Discharge At Galeta..... 25

Figure 5.8 - Quantile-Frequency Plot For 8-Day Observed Discharge At Galeta..... 25

Figure 5.9 - Quantile-Frequency Plot For 9-Day Observed Discharge At Galeta..... 26

Figure 5.10 - Quantile-Frequency Plot For 10-Day Observed Discharge At Galeta..... 26

Figure 6.1 - QF Plot For 1-Day Observed Discharge At Galeta (Outlier Removed)..... 28

Figure 6.2 - QF Plot For 2-Day Observed Discharge At Galeta (Outlier Removed)..... 29

Figure 6.3 - QF Plot For 3-Day Observed Discharge At Galeta (Outlier Removed)..... 29

Figure 6.4 - QF Plot For 4-Day Observed Discharge At Galeta (Outlier Removed)..... 30

Figure 6.5 -QF Plot For 5-Day Observed Discharge At Galeta (Outlier Removed)..... 30

Figure 6.6 - QF Plot For 6-Day Observed Discharge At Galeta (Outlier Removed)..... 31

Figure 6.7 - QF Plot For 7-Day Observed Discharge At Galeta (Outlier Removed)..... 31

Figure 6.8 - QF Plot For 8-Day Observed Discharge At Galeta (Outlier Removed)..... 32

Figure 6.9 - QF Plot For 9-Day Observed Discharge At Galeta (Outlier Removed)..... 32

Figure 6.10 - QF Plot For 10-Day Observed Discharge At Galeta (Outlier Removed)..... 33
Figure 7: Land Use Pattern in Hindon Basin..... 37
Figure 8: Soil cover mix in Hindon Basin..... 38
Figure 9: Slope Values..... 39
Figure 10: Observed vs Simulated Discharge..... 40
Figure 11.1 Quantile-Frequency Plot For 1-Day Simulated Discharge At Galeta..... 41
Figure 11.2 - Quantile-Frequency Plot For 2-Day Simulated Discharge At Galeta..... 42
Figure 11.3 - Quantile-Frequency Plot For 3-Day Simulated Discharge At Galeta..... 42
Figure 11.4 - Quantile-Frequency Plot For 4-Day Simulated Discharge At Galeta..... 43
Figure 11.5 - Quantile-Frequency Plot For 5-Day Simulated Discharge At Galeta..... 43
Figure 11.6 - Quantile-Frequency Plot For 6-Day Simulated Discharge At Galeta..... 44
Figure 11.7 - Quantile-Frequency Plot For 7-Day Simulated Discharge At Galeta..... 44
Figure 11.8 - Quantile-Frequency Plot For 8-Day Simulated Discharge At Galeta..... 45
Figure 11.9 - Quantile-Frequency Plot For 9-Day Simulated Discharge At Galeta..... 45
Figure 11.10 - Quantile-Frequency Plot For 10-Day Simulated Discharge At Galeta..... 46
Figure 12 - Scenario 1 for Hindon Basin..... 50
Figure 13 - Scenario 1 for Ghaziabad/Noida Section of Hindon Basin..... 51
Figure 14 - Scenario 1 for Section from Hindon Cut to Budhana Canal..... 52
Figure 15 - Scenario 1 for section from Budhana Canal to Saharanpur..... 53
Figure 16 - Scenario 2 for Hindon Basin..... 54
Figure 17 - Scenario 2 for Section in Ghaziabad and Noida..... 55
Figure 18 - Scenario 2 for Section from Hindon Cut to Budhana Canal..... 56
Figure 19 - Scenario 2 for section from Budhana Canal to Saharanpur..... 57

15

## List of Tables

Table 1 - Gridded Maximum Precipitation Events (1901-2013) ..... 13
Table 2 - Rainfall Values Corresponding To Various Return Period & Corresponding Dates ..... 20
Table 3 - Maximum Discharge Values Observed At Galeta (1971-2013) ..... 21
Table 4 - Discharge Values Corresponding To Various Return Period & Corresponding Notional Dates ..... 27
Table 5 - Rankings Of Top 15 Events Observed In Rainfall And Discharge ..... 34
Table 6 - $R^2$, Nse And Pbias Values Of Swat Model ..... 40
Table 7 - Simulated Depth Range And Extend Of Inundation Following A 7-Day, 25-Yearreturn Period Flood ..... 48

# SIMULATION OF 25YR RETURN PERIOD FLOOD PLAIN OF RIVER HINDON

## 1.0 OBJECTIVES:

The study seeks to establish the extent of water spread that the floodplains of Hindon are expected to experience following a 25 yearhydro-meteorological flood event. The water spread, on either side of river Hindon will be mapped over the latterriver'sentirecourse right uptoitsfinal outfall into river Yamuna, downstream of Okhla Barrage and between Momnathal and Tilwadavillages. The course of river Hindon is depicted as shown below in Figure 1.

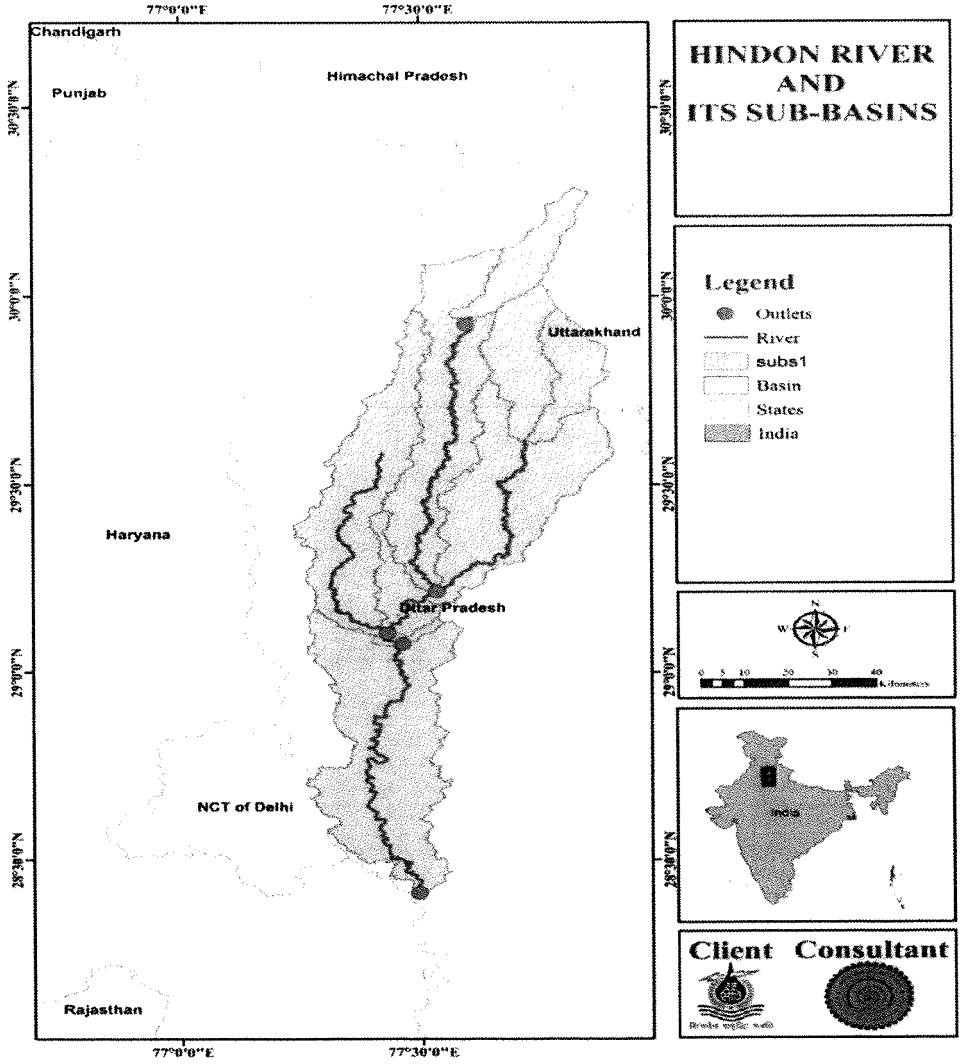



**Figure 1: Hindon River along with sub-basins**

17

## 2.0 BACKGROUND DETAILS AND STUDY AREA

Study domain comprises of Hindon river reach from its source to its confluence with Yamuna (as shown in Figure 1) and lies between coordinates 29.944042$^0$N to 28.410895°N latitude and between 77.605678$^0$ E to 77.493746$^0$E longitude.

Hindon is a tributary of Yamuna with a catchment area of about 6105 km$^2$. It is entirely an intra-state river with its course falling within UP. The source of river Hindon lies in Saharanpur district of Uttar Pradesh in the upper Shivaliks of lower Himalayan range. Hindon is a purely rainfed river and it courses through six districts namely Saharanpur, Muzaffarnagar, Meerut, Baghpat, Ghaziabad and Gautam Buddha Nagar in West Uttar Pradesh. Two competing designated origins of Hindon are suggested in literature. The first is mentioned as PurKaTanda (or TandaPuru village) situated in tehsil Behat in north-east Saharanpur District. An alternative location is mentioned in the District Gazetteer Saharanpur (1981)whichrecords:"*The name Hindon is first applied to a small stream which rises near Aurangabad but the bulk of water is derived from a torrent, known in its upper reaches as Kaluwala Rao, and as Chahcha Rao in its downstream reach, which receives Khokra on its left bank at Khujnawar and joins the Hindon on the northern boundary of Pargana Haraura*".

The river, which has long been the main source of water for the agrarian communities of the aforementioned six districts, receives contributions from two main tributaries namely (i) Kali River (W) [after originating near Dhanakpur village, itjoinsHindon near Pithlokar village], and (ii) Krishni or Karsuni River [originating at Kairi village and having its confluence withHindon near Barnawa village]. Hindon Barrage, near the town of Ghaziabad, is an important regulatory feature on the main stem of Hindon. Additionally, there are a total of 23 bridges (including two railway bridges) that span the river at various locations along its entire course.

The basin is mainly agricultural and the towns of Saharanpur (near the origin of Hindon), Ghaziabad and NOIDA (near its confluence with Yamuna) are three major urban cum industrial clusters of the river basin which, physio-graphically, falls between the courses of Yamuna and Ganga and, for this reason, the available unconfined alluvial aquifers yield copious amounts of water. In addition to water for irrigation, Hindon waters are also serving demands arising from diverse and competing socio-economic sectors including industry as well as domestic.

## 3.0 FLOOD PLAIN DEVELOPMENT

Vast tenements and other types of unorganized housing are amongst the prominent 'squatters' present in the flood plain of river Hindon within the National Capital Territory of Delhi. Besides the accompanying pressure on the state infrastructure on account of demand for quality utility services, inevitably, these assets also face a high risk of exposure to both moderate to extreme flooding events. Understandably, it also becomes incumbent on the state to plan and provide protection to these assets from such and similar natural occurrences and their consequences.

It has been recorded that the exposed Hindonriver bedalso supports a diverse mix of agricultural activities. Additionally, encroachment of Hindon banks by a vast migrant population, wastes from Ghats, leachate from sanitary landfills, wastes from water works and sewage treatment plants, widespread construction and other activities, direct outfall of untreated municipal solid and liquid waste sewage and industrial effluents into the river, dumping of wastes generated during recurring events such as festivals like Dussehra and Eid are some of the leading causes of pollution in river Hindon and environmental damage of the Hindon bank and riverbed.

Engineered flood protection measures such as levees/dykes/embankments or bunds have been provided over a limited reach of Hindon but a natural consequence of these measures is that the river carries flood flows within a highly restricted water way.

For a river, the annual cycle of low flows and floods is an important fluvial phenomenon whereby the annually inundated floodplain responds with its own cycle of de-siltation following seasonal silting and these processes come together to promote an enhanced quality and biological integrity of aquatic and terrestrial ecosystems. River margins also support a delicate ecological balance amongst a diverse range of endemic communities by supporting interaction through the medium of land–water interface. However, large scale encroachment of riverine floodplains and, in some instances the riverbed itself, for developmental activities has resulted in a significant reduction in river margins together with an undesirable increase in unwanted waste return flow.

The problems associated with these developments are further exacerbated because of

- Conflict of unplanned developments with the natural drainage system,
- Disconnect between much of these developments with existing as well as proposed waste treatment plants,

19

- Discharge of both solid as well as liquid waste into the natural storm water collection and transport systems, and
- The reality of outfall of storm drainages into trunk sewers.

Naturally, water logging, flooding in urban areas and choking of wastewater drains is a regular feature and these episodes come with the attending consequence of loss of life, damage to and loss of property, human suffering, public inconveniences, risk of disease and epidemics and a widespread degradation of the riverbed environment.

The Digital Elevation Model of Hindon basin is presented below in Figure 2.

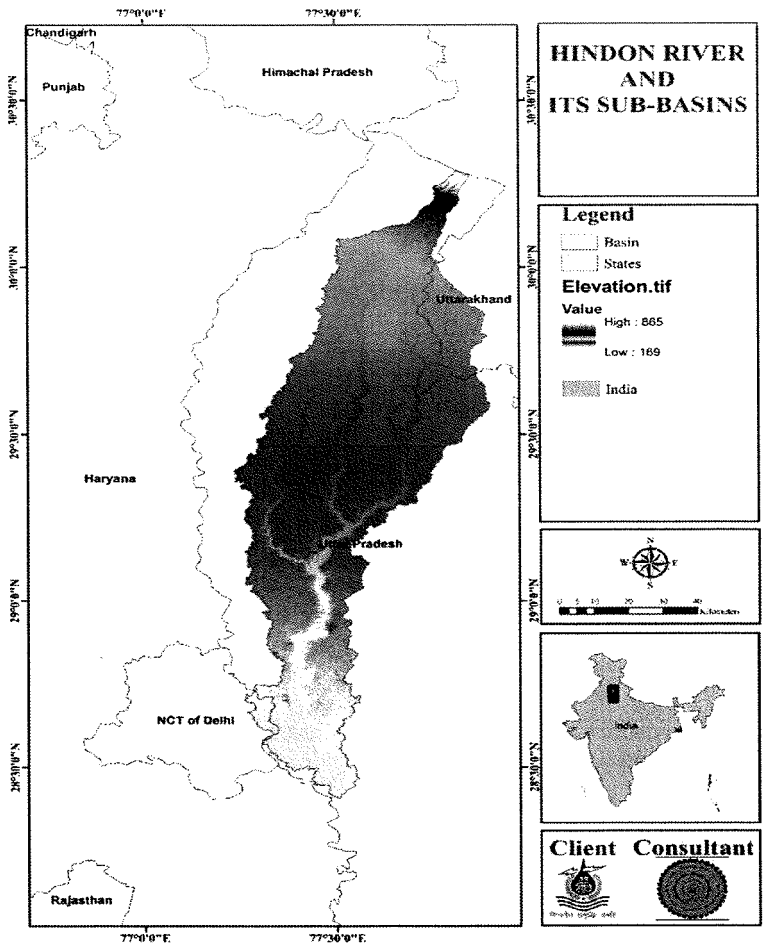



**Figure 2: Elevation Profile of Hindon Basin**

The mean annual rainfall over the region is about 816 mm and , over the period for which observations record is available, the variation in annual rainfall has been observed to range between a low of 298mm and an observed high of 1454 mm. Relative humidity is minimum

in dry weather months and, understandably, touches its maximum levels during the relatively wet monsoon months.

## 4.0 ISSUES ARISINGAND COMPONENTS OF THE STUDY

The study aims to simulate the hydrodynamic flood flows transport phenomena corresponding to a 25-year return period storm event of various durations down river Hindon and derivethe following hydrodynamic attributes of these flood events:(i) inundation depths, and (ii) accompanying water levels that are likely to result within the river's flood plain.

The overall study comprises of the following components:

(1) Establish the recurrence period of recorded extreme rainfall events of various specified storm durations.

(2) Develop a hydrologic rainfall-runoff simulation model to reconstruct the time series of Hindon flows.

(3) Reconstruct the time series of virgin (unregulated/unimpaired) Hindon flows.

(4) Establish the recurrence period of extreme flood events corresponding to the various specified storm durations.

(5) Establish a hydrodynamic modeling framework to simulate the resulting inundation depths across the flood plain of Hindon River corresponding to the identified 25year return periodextremestormrainfallevents ranging in durations from 1 to 10 days as has been recorded over the region of study.

## 5.0 STUDY OF GRIDDED RAINFALL

Time series of daily gridded (interpolated) rainfall data have been derived by IMD for the period from 1901 to 2013. The time series of daily rainfall for the study area was extracted from this master data base and the same was used to derive weighted basin average rainfall over the study area. Daily average rainfall over the entire basin based on the Theissen Polygon method was used as per Figure 3.

Time series of Annual Maximum rainfall were extracted separately for rainfall durations ranging from 1-day to 10-days and investigated for magnitude vs exceedance probability relationship by using standard hydrologic frequency analysis techniques. For the period from 1901 to 2013, the extreme recorded rainfall values for durations ranging from 1-10 days are presented in the accompanying Table 1 given below along with the dates on which these extreme events are likely to have occurred.

**Table 1 - Gridded maximum precipitation events (1901-2013)**

| | Ist Max | Date of occurrence | IInd Max | Date of occurrence | IIIrd Max | Date of occurrence |
|---|---|---|---|---|---|---|
| **1 day** | 165.04 | 16.09.1963 | 161.82 | 28.07.1983 | 157.1 | 18.09.1914 |
| **2 day** | 284.46 | 28-29.07.1983 | 255.34 | 15-16.09.1963 | 245.84 | 18-19.09.1914 |
| **3 day** | 324.85 | 27-29.07.1983 | 314.78 | 28-30.09.1924 | 281.63 | 18-20.09.1914 |
| **4 day** | 349.12 | 26-29.07.1983 | 324.11 | 27-30.09.1924 | 295.07 | 17-20.09.1914 |
| **5 day** | 367.29 | 25-29.07.1983 | 325.2 | 27-01.10.1924 | 295.1 | 17-21.09.1914 |
| **6 day** | 374.81 | 24-29.07.1983 | 325.2 | 26-01.10.1924 | 299.76 | 15-20.09.1914 |
| **7 day** | 375.32 | 23-29.07.1983 | 325.26 | 25-01.10.1924 | 303.53 | 07-13.10.1956 |
| **8 day** | 375.34 | 23-30.07.1983 | 327.41 | 23-30.09.1924 | 310.82 | 07-14.09.2002 |
| **9 day** | 375.35 | 22-30.07.1983 | 332.7 | 17-25.09.2005 | 328.96 | 22-30.09.1924 |
| **10 day** | 383.58 | 25-03.08.1983 | 337.53 | 16-25.09.2005 | 333.04 | 11-20.09.1914 |

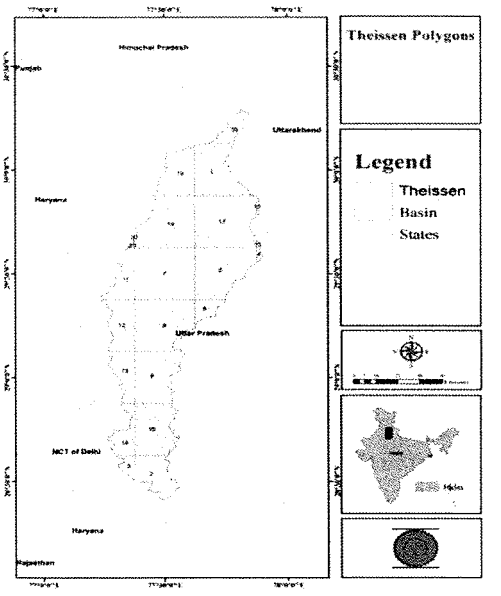



Figure 3:TheissenPolygons

## 6.0 FREQUENCYANALYSIS RESULTS OF GRIDDED RAINFALL

The primary objective of frequency analysis is to derive the magnitude (of extreme events) vsexpected frequency of occurrence relationships by fitting appropriate forms of some known probability density functions. Observed (historical) hydrological events that occur in a river basin over a period of time are analyzed for their frequencyof occurrence given the understanding that the occurrence of these events is uncertain in terms of their magnitude, time of occurrence also their spatial extent. In other words, it is a reasonable inference that the frequency of occurrence of the extremal values of these realized extreme hydrological events is not amenable to prediction. The uncertainty in the actual magnitudes as well as their actual time of occurrence renders these processes to be broadlyprobabilisticand appropriately therefore,their frequency of occurrence is amenable to characterization only in terms of their magnitude versus expected return period relationships.

The series of Annual Maximum rainfall depths for the selected durations were investigated for possible presence of outliers. The investigation did not reveal presence of outliers in the rainfall data available for the study and following this scrutiny, a detailed frequency analysis of the rainfall series was carried out by fitting various statistical distributions namely Extreme Value Type 1, (Gumbel) Distribution, Weibull Distribution, Generalized Extreme Value Distribution, Gamma distribution, Log-Pearson Type III distribution and 2 and 3 parameter Log-normal distribution. The distributions were fitted to the data using parameter estimation techniques that include Method of Moments, Maximum Likelihood, Probability Weighted Moments (PWM) and PWM based L-Moments.

For illustration purposes, graphical presentation of quantile vs expected frequency of its occurrenceas estimated from the available gridded 1 to 10-day annual maximum events are presented hereunder. It may be noted that these results are based on a 3-parameter log-normal distribution with parameters estimated using the Maximum Likelihood method.

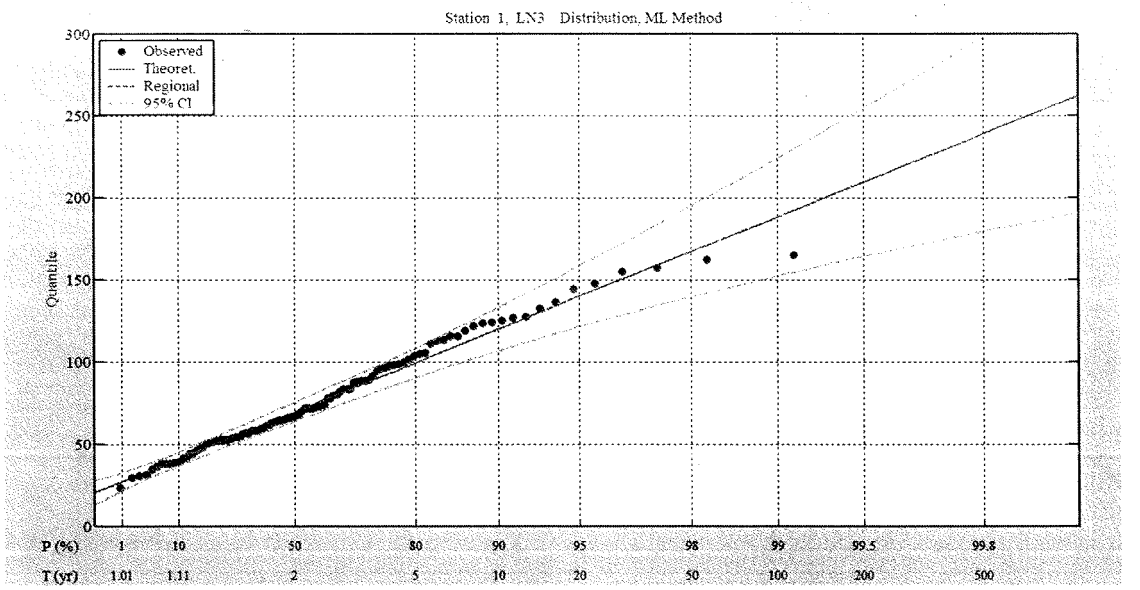



Figure 4.1- Quantile-frequency plot for gridded 1-day Annual Maximum Rainfall

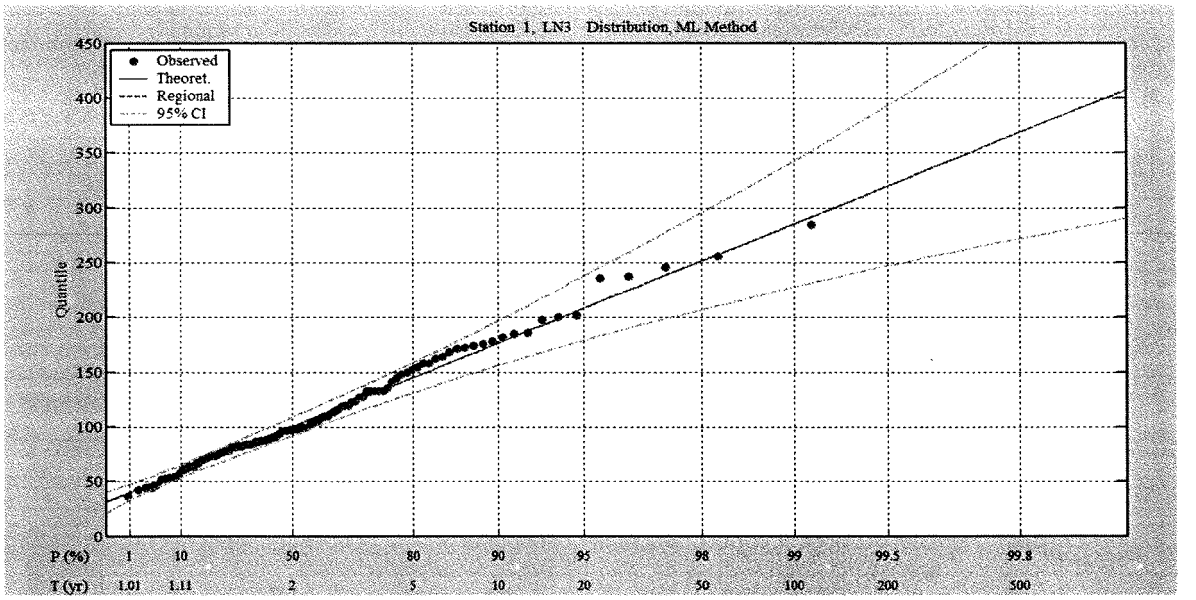



Figure 4.2 - Quantile-frequency plot for gridded 2-day Annual Maximum Rainfall

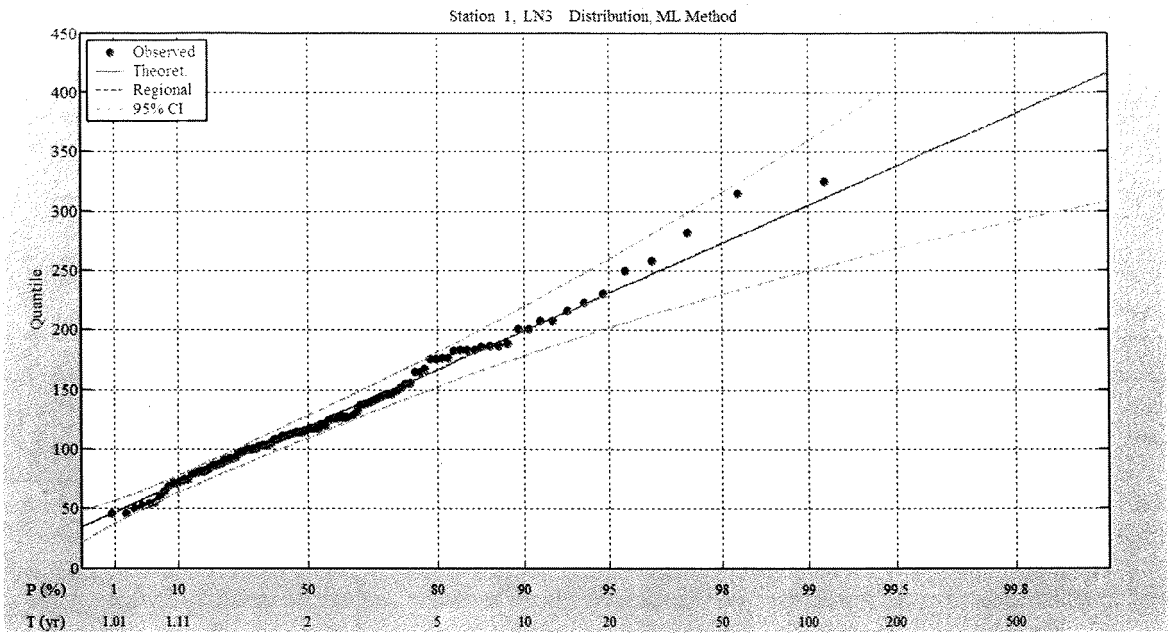



Figure 4.3- Quantile-frequency plot for gridded 3-day Annual Maximum Rainfall

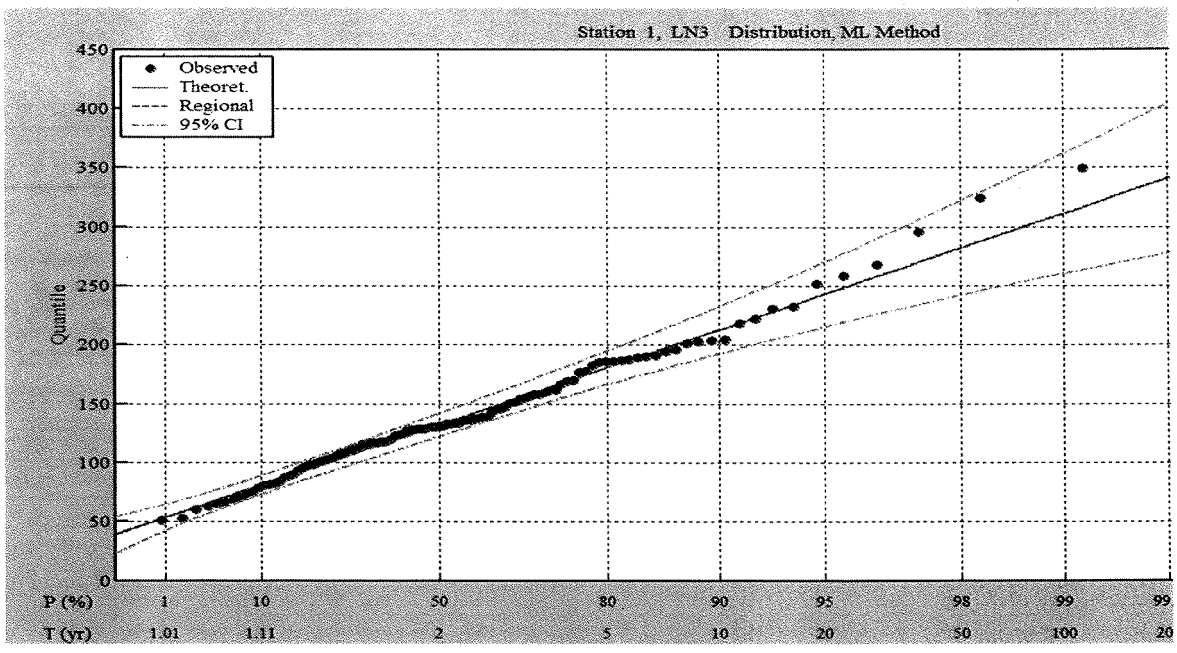



Figure 4.4- Quantile-frequency plot for gridded 4-day Annual Maximum Rainfall

25

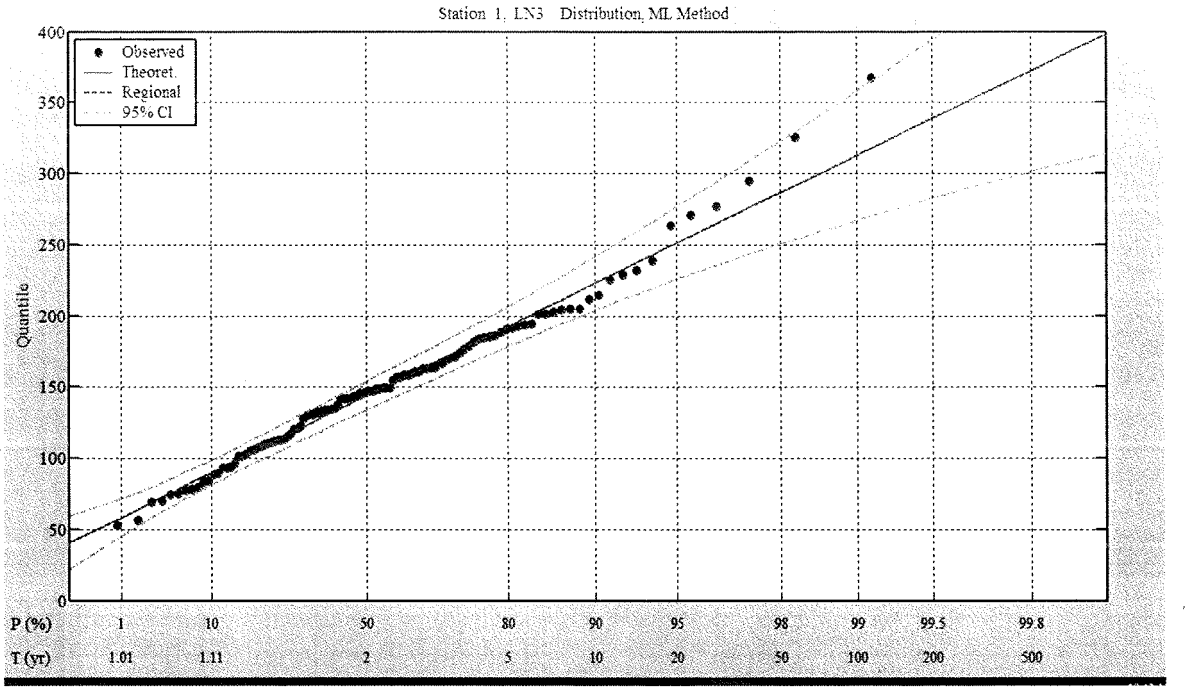



Figure 4.5- Quantile-frequency plot for gridded 5-day Annual Maximum Rainfall

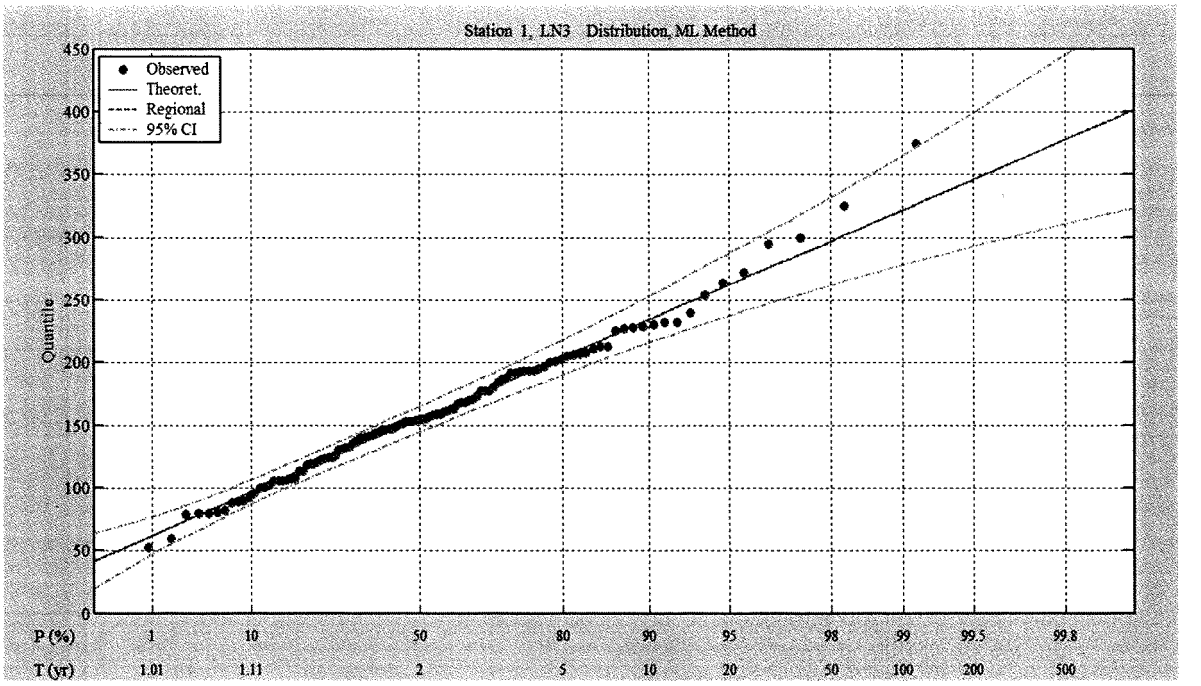



Figure 4.6:Quantile-frequency plot for gridded 6-day Annual Maximum Rainfall

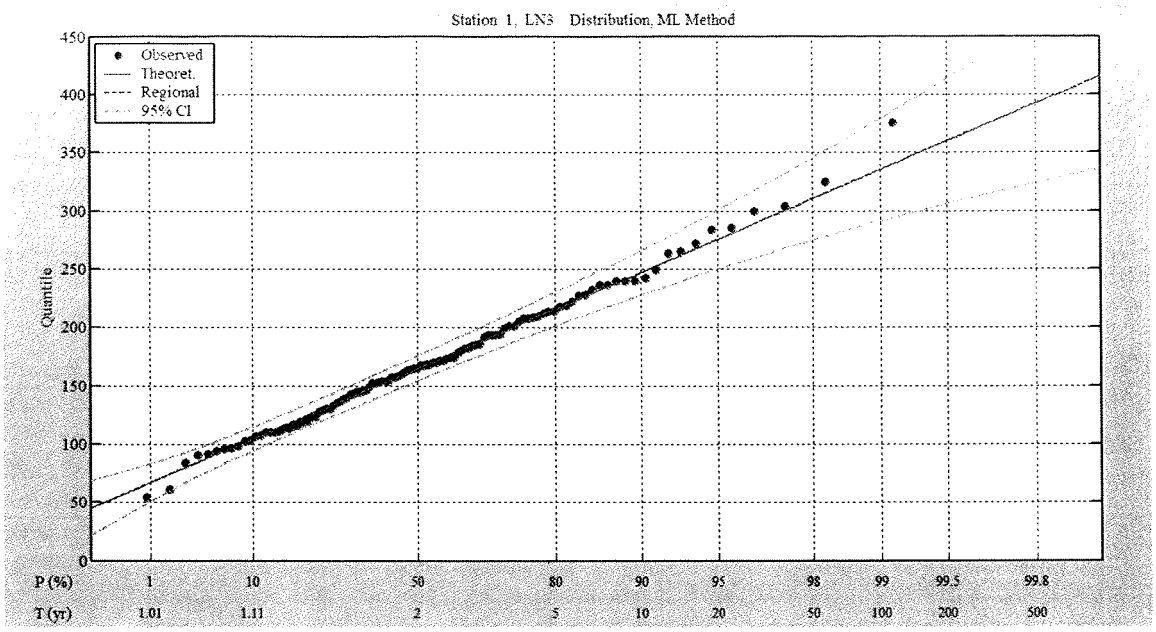



Figure 4.7- Quantile-frequency plot for gridded 7-day Annual Maximum Rainfall

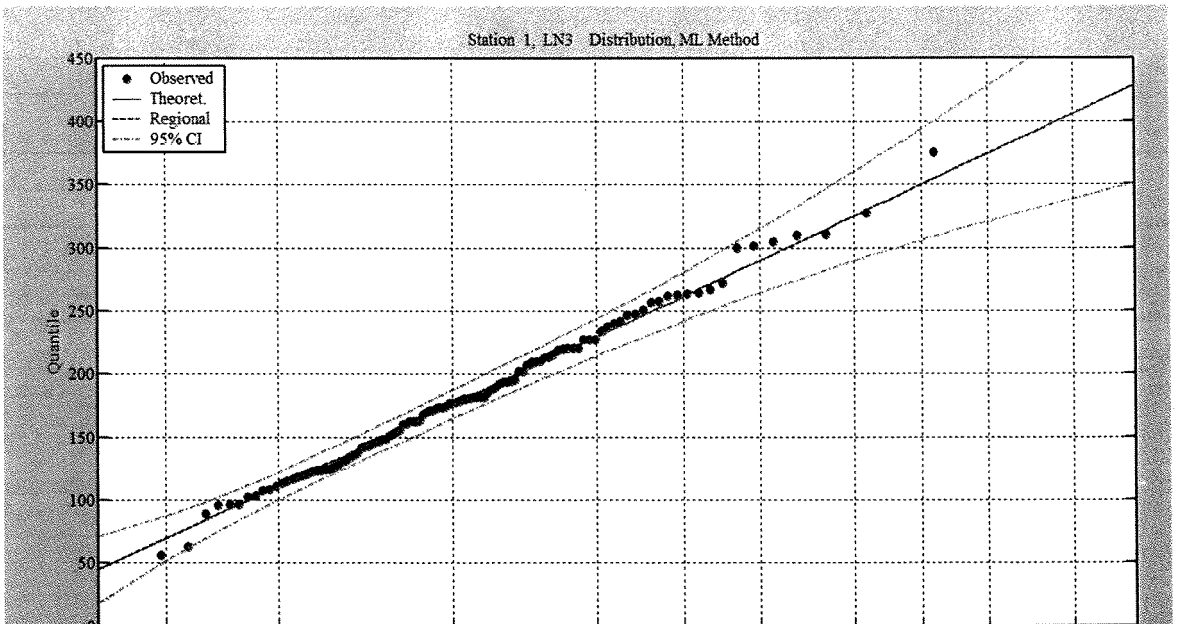



Figure 4.8- Quantile-frequency plot for gridded 8-day Annual Maximum Rainfall

27

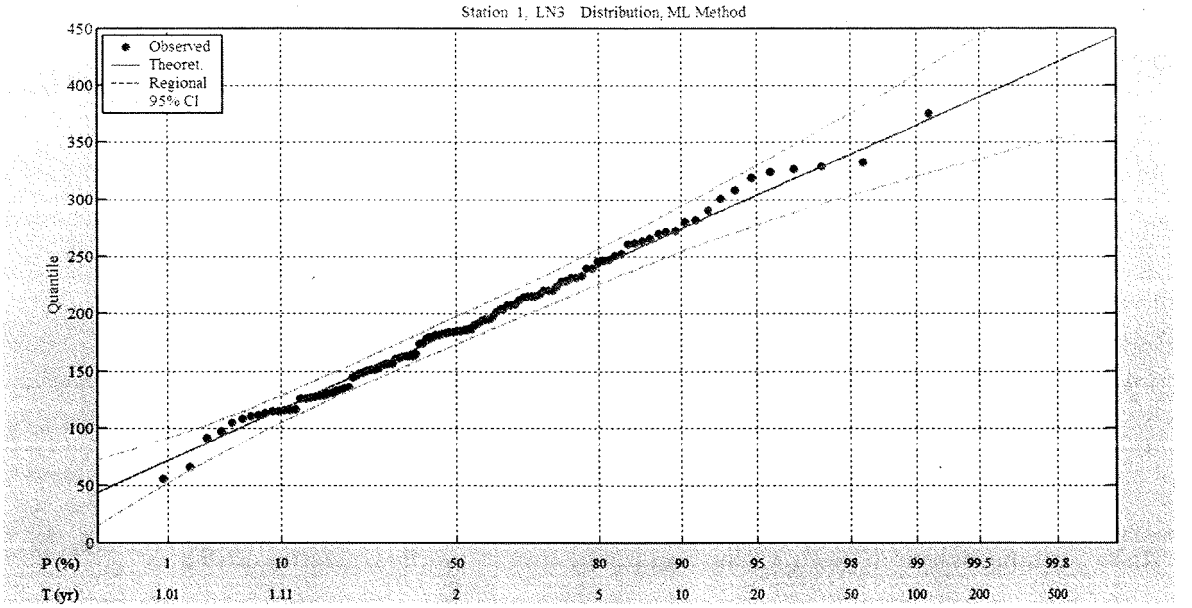



Figure 4.9- Quantile-frequency plot for gridded 9-day Annual Maximum Rainfall

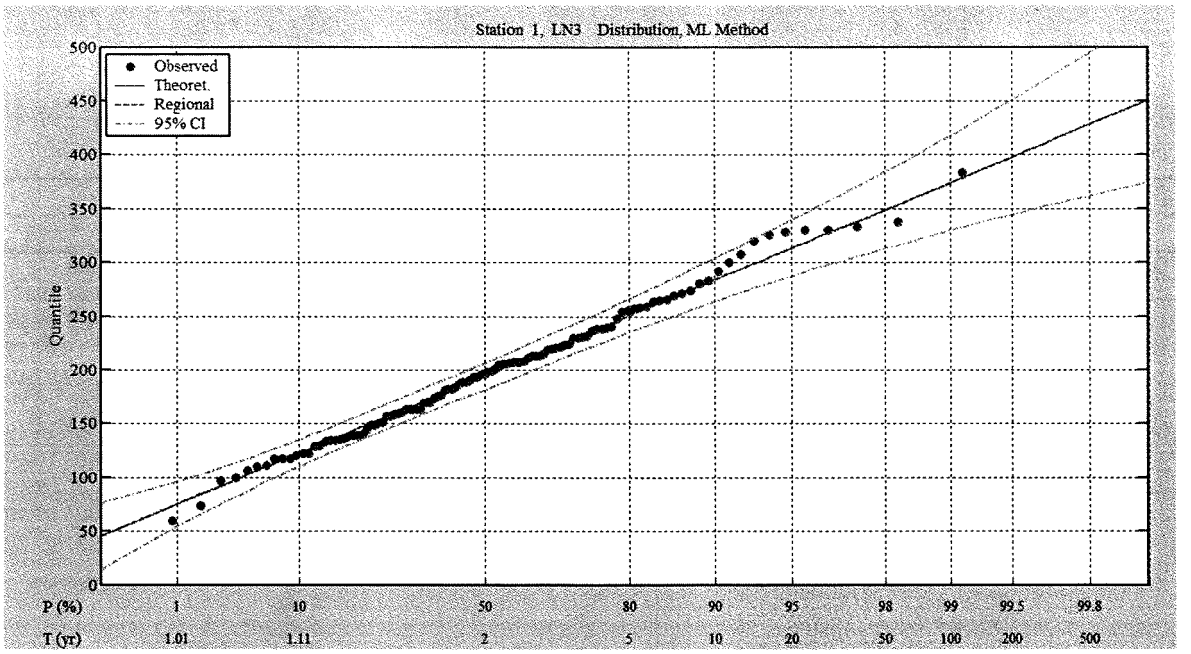



Figure 4.10- Quantile-frequency plot for gridded 10-day Annual Maximum Rainfall

## 7.0 SIGNIFICANT CONCLUSIONS FROM ANALYSIS OF GRIDDED RAINFALL

An elaborate frequency analysis of annual maximum gridded rainfall corresponding to integer durations ranging from 1-day to 10-days suggested that LN3 (LogNormal-3 parameter) distribution provides the best fit overall with reasonably small standard errors. Accordingly, therefore, the study assumes that the latter distribution best describes the statistical properties of the gridded extreme rainfall events for the study region and therefore has been adopted for quantification of the design storm event. Table 2 below gives the rainfall quantile estimates for return periods of 2, 10, 20, 25 and 50 years and for various integer durations as indicated above.

The study essentially establishes that the recorded extreme rainfall quantile estimates corresponding to the benchmark return period of 25 years have magnitudes of 146.49 mm, 218.62 mm, 241.18 mm, 262.49 mm and 273.48 mm, 281.59 mm, 291.74 mm, 306.84 mm, 325.08 mm and 330.05 mm respectively for integer durations ranging from 1-day to 10-days respectively. The corresponding notional dates of occurrence of these extreme storm events are also indicated in Table 2.

**Table 2 - Rainfall values corresponding to various return period & corresponding dates**

| | 2 yr | Date | 5 yr | Date | 10 yr | Date | 25 yr | Date | 50yr | Date |
|---|---|---|---|---|---|---|---|---|---|---|
| **1 day** | 69.46 | 21.08.1960 | 99.18 | 28.06.1936 | 119.72 | 25.09.2005 | 146.49 | 02.09.1978 | 161.82 | 28.07.1983 |
| **2 day** | 100.32 | 11-10.07.1946 | 144.95 | 22-23.07.1975 | 176.52 | 01-02.10.1954 | 218.62 | 01-02.09.1978 | 251.29 | 15-16.09.1963 |
| **3 day** | 118.71 | 10-12.08.1966 | 166.76 | 06-08.09.2002 | 199.32 | 24-26.09.2005 | 241.18 | 01-03.09.1978 | 272.84 | 14-16.09.1963 |
| **4 day** | 132.00 | 18-21.09.2010 | 180.61 | 27-30.09.1958 | 212.44 | 10-13.07.2003 | 262.49 | 13-16.09.1963 | 315.98 | 26-29.07.1983 |
| **5 day** | 146.36 | 21-25.08.1965 | 190.51 | 04-08.09.2002 | 213.54 | 23-27.08.1967 | 273.48 | 12-16.09.1963 | 316.77 | 27-01.10.1924 |
| **6 day** | 154.49 | 24-29.08.1945 | 203.35 | 08-13.08.1988 | 229.71 | 25-30.06.1906 | 281.59 | 12-17.09.1963 | 318.07 | 26-01.10.1924 |
| **7 day** | 165.03 | 23-28.08.1945 | 214.39 | 18-24.09.1975 | 241.64 | 21-27.08.1991 | 291.74 | 07-13.09.2002 | 319.18 | 27-03.10.1924 |
| **8 day** | 176.34 | 24-31.08.1945 | 228.64 | 18-25.09.2005 | 263.06 | 09-16.09.1957 | 306.86 | 07-14.09.2002 | 322.76 | 23-30.09.1924 |
| **9 day** | 184.57 | 23-28.08.1945 | 246.17 | 23-31.07.1994 | 277.39 | 08-16.09.1963 | 325.08 | 08-16.08.1978 | 331.66 | 17-25.09.2005 |
| **10 day** | 196.07 | 24.08-02.09.1945 | 255.27 | 07-16.09.1932 | 287.87 | 01-09.08.1988 | 330.05 | 21.09 - 01.10.1924 | 336.27 | 16-25.09.2005 |

29

## 8.0 FREQUENCYANALYSIS OF HINDON DISCHARGESOBSERVEDAT GALETA STATION

The series of Annual Maximum discharge for the selected durations were investigated for possible presence of outliers that do not share observed characteristics of the rest of the discharge values. **The investigation didreveal presence of outlier in 1978** in the data available for study and following this scrutiny, a detailed frequency analysis of the was carried out by fitting various statistical distributions namely Extreme Value Type 1, (Gumbel) Distribution, Weibull Distribution, Generalized Extreme Value Distribution, Gamma distribution, Log-Pearson Type III distribution and 2 and 3 parameter Log-normal distribution. The distributions were fitted to the data using parameter estimation techniques that included Method of Moments, Maximum Likelihood, Probability Weighted Moments (PWM) and PWM based L-Moments.An elaborate frequency analysis of annual maximum observed flows corresponding to integer durations ranging from 1-day to 10-days suggested that LN3 (LogNormal-3 parameter) distribution provides good fit overall with reasonably small standard errors which is same as in gridded rainfall. The maximum values observed are as follows:

**Table 3 - Maximum Discharge values observed at Galeta (1971-2013)**

| | Ist Max | Notional date of occurrence | IInd Max | Notional date of occurrence | IIIrd Max | Notional date of occurrence |
|---|---|---|---|---|---|---|
| **1 day** | 7368.9 | 04.09.1978 | 1613.2 | 9/30/2005 | 1259.44 | 17.07.1973 |
| **2 day** | 11521.7 | 04-05.09.1978 | 3156.52 | 29-30.09.2005 | 2236.15 | 18-17.07.1973 |
| **3 day** | 13942.03 | 04-06.09.1978 | 4431.98 | 29.09-01.10.2005 | 3052.15 | 16-18.07.1973 |
| **4 day** | 16201.08 | 03-06.09.1978 | 5646.72 | 28.09-10.01.2005 | 3356.72 | 16-19.07.1973 |
| **5 day** | 16743.88 | 03-07.09.1978 | 6537.98 | 27.09-10.01.2005 | 3465.63 | 16-20.07.1973 |
| **6 day** | 17184.88 | 02-07.09.1978 | 7395.8 | 27.09-10.02.2005 | 3547.03 | 16-21.07.1973 |
| **7 day** | 17583.38 | 02-08.09.1978 | 8004.97 | 26.09-02.10.2005 | 3819.98 | 10-16.09.2002 |
| **8 day** | 17883.28 | 02-09.09.1978 | 8442.25 | 25.09-02.10.2005 | 4172.33 | 09-16.09.2002 |
| **9 day** | 18119.93 | 02-10.09.1978 | 8599.04 | 24.09-02.10.2005 | 4517.25 | 09-17.09.2002 |
| **10 day** | 18378.63 | 02-11.09.1978 | 8726.33 | 25.09-04.10.2005 | 4807.56 | 09-18.09.2002 |

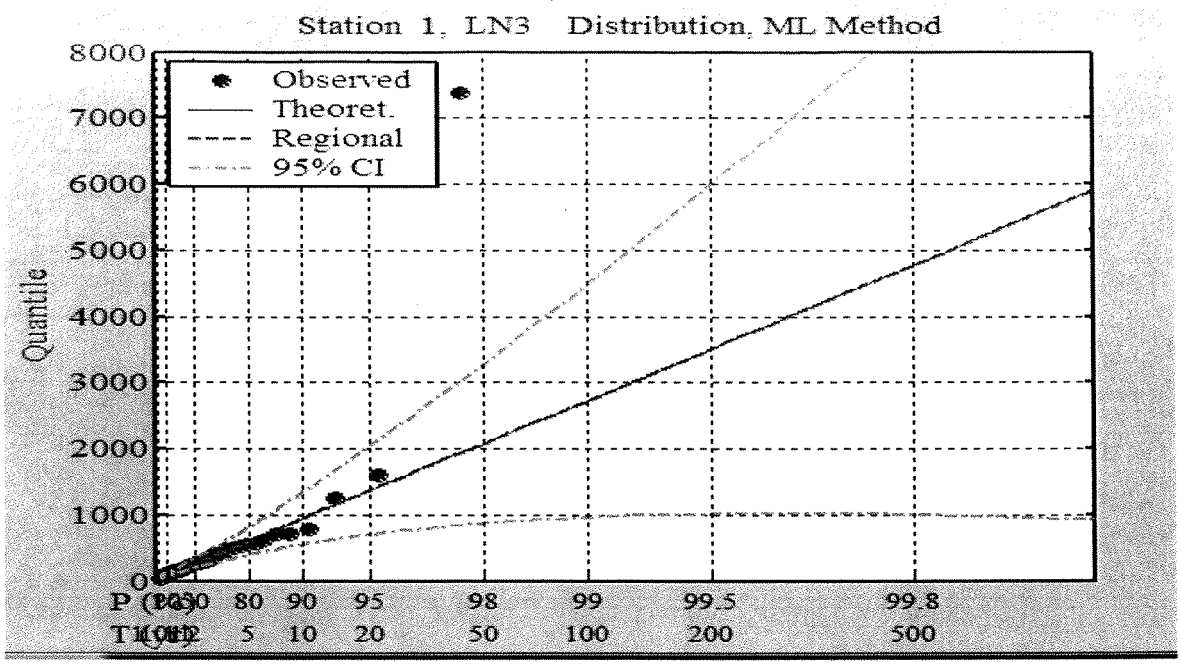



**Figure 5. 1- Quantile-frequency plot for 1-day Observed Discharge at Galeta**

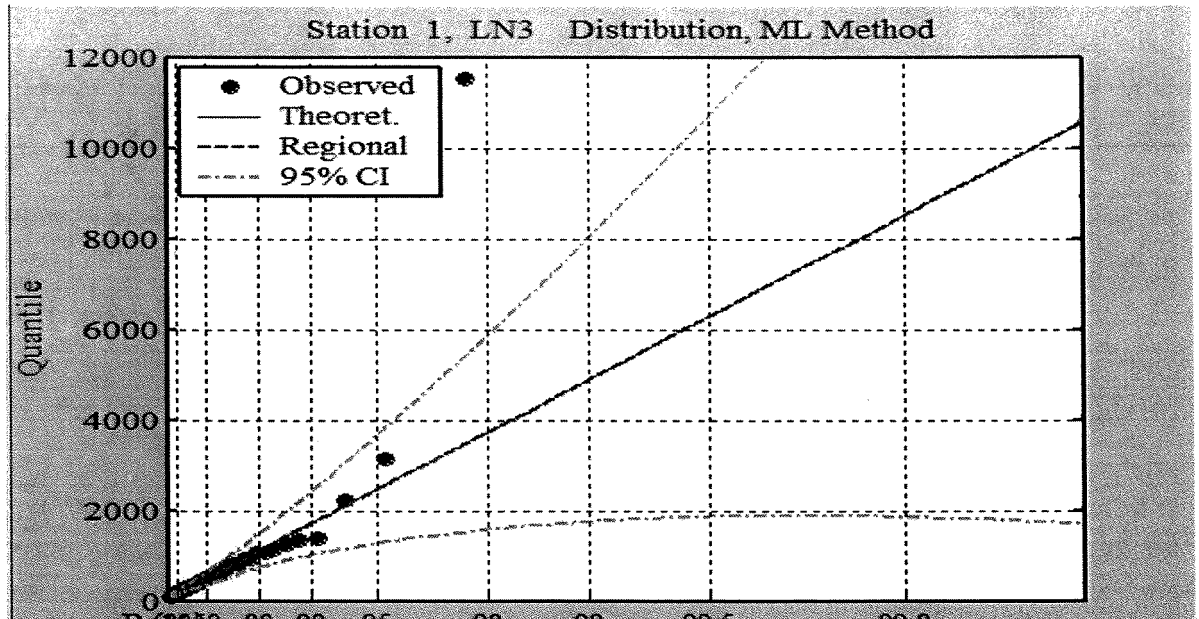



**Figure 5. 2-Quantile-frequency plot for 2-day Observed Discharge at Galeta**

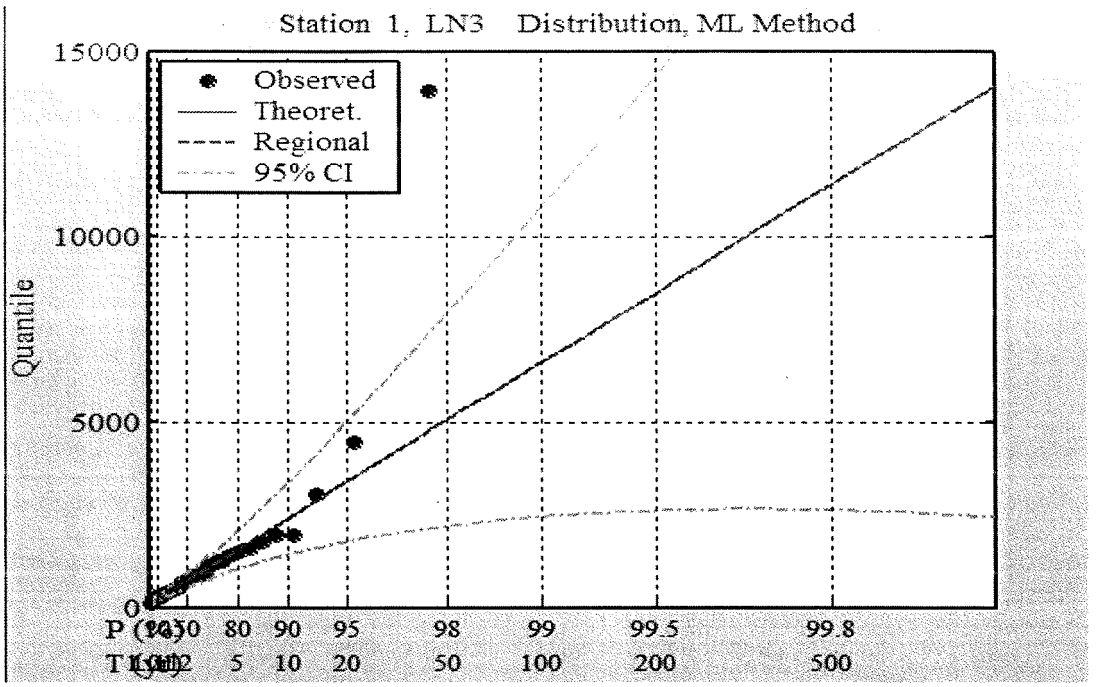



**Figure 5. 3-Quantile-frequency plot for 3-day Observed Discharge at Galeta**

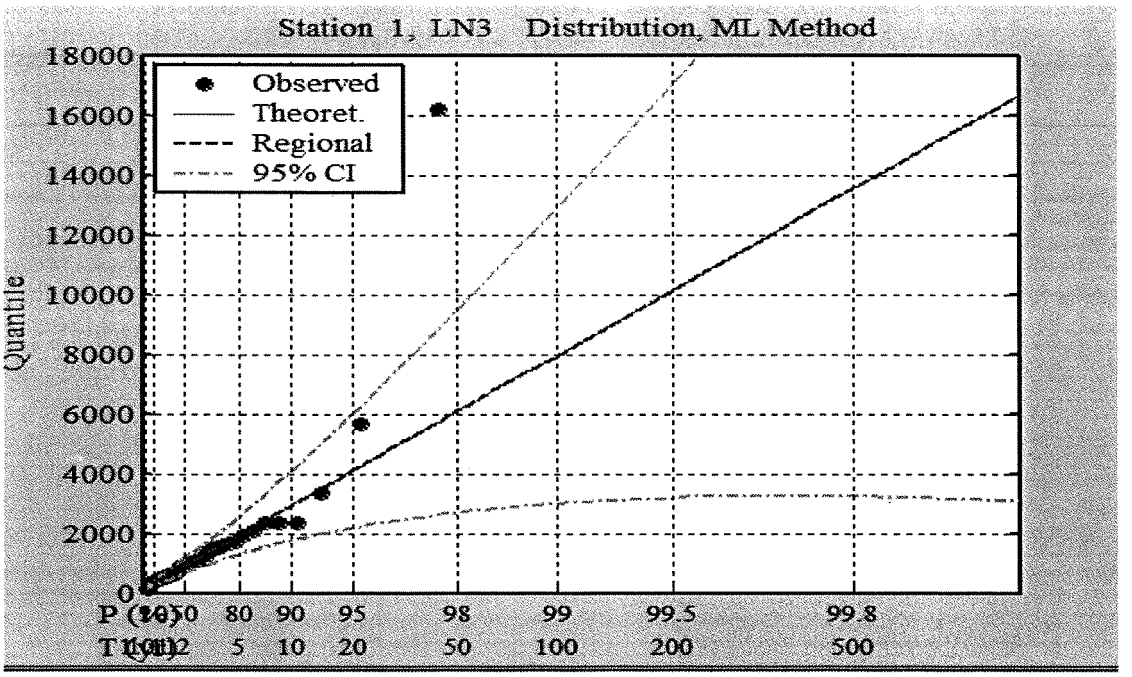



**Figure 5. 4 - Quantile-frequency plot for 4-day Observed Discharge at Galeta**

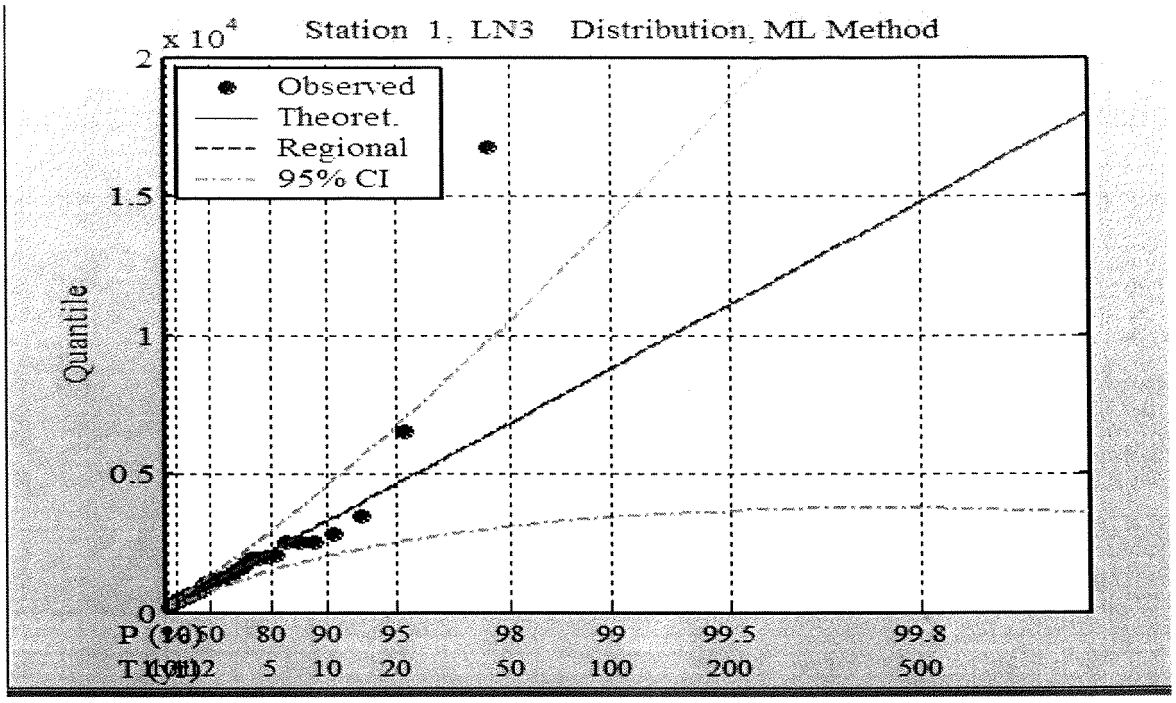



**Figure 5. 5-Quantile-frequency plot for 5-day Observed Discharge at Galeta**

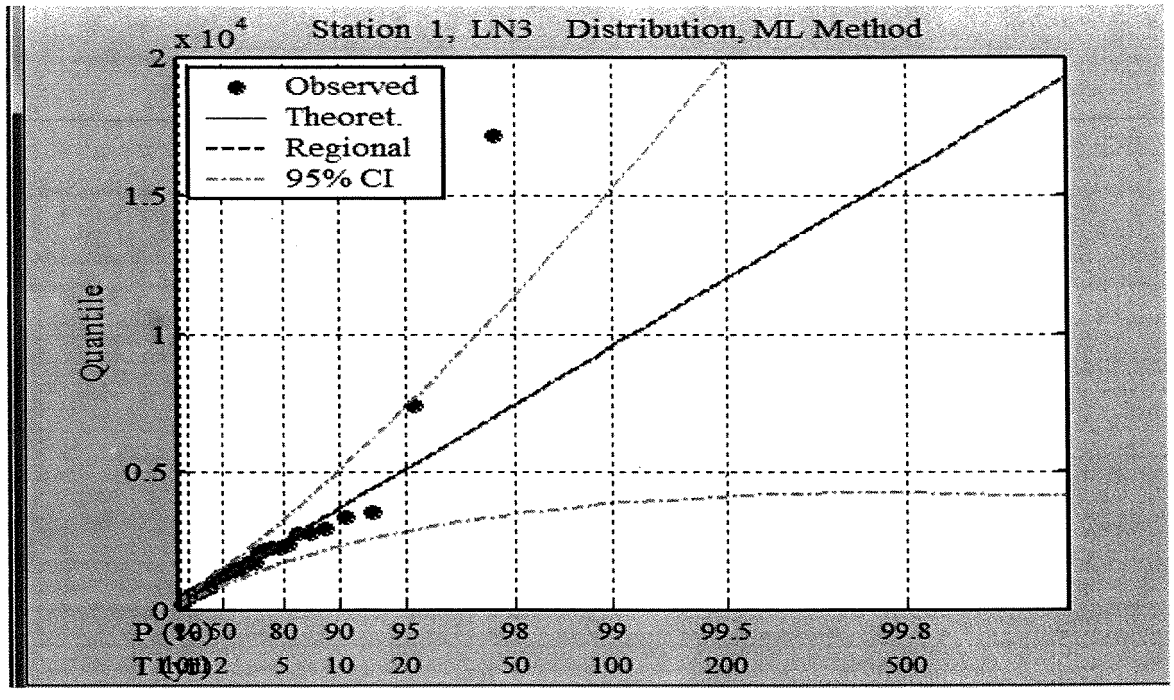



**Figure 5. 6-Quantile-frequency plot for 6-day Observed Discharge at Galeta**

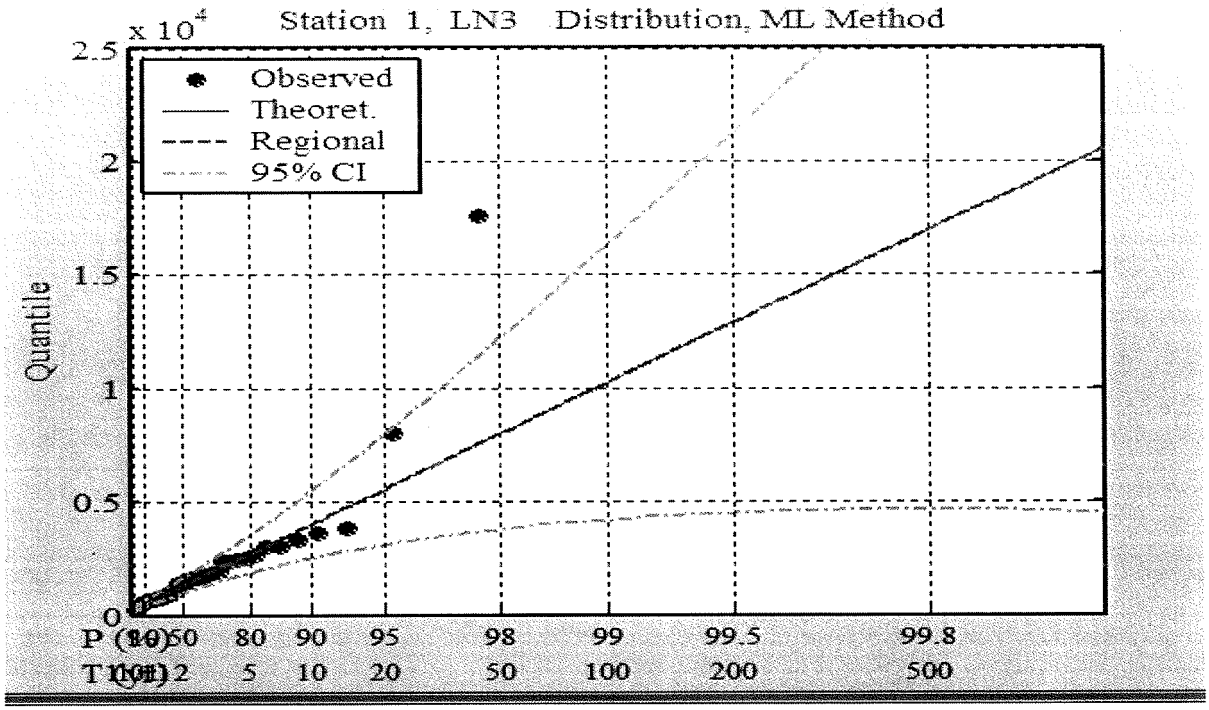



Figure 5. 7-Quantile-frequency plot for 7-day Observed Discharge at Galeta

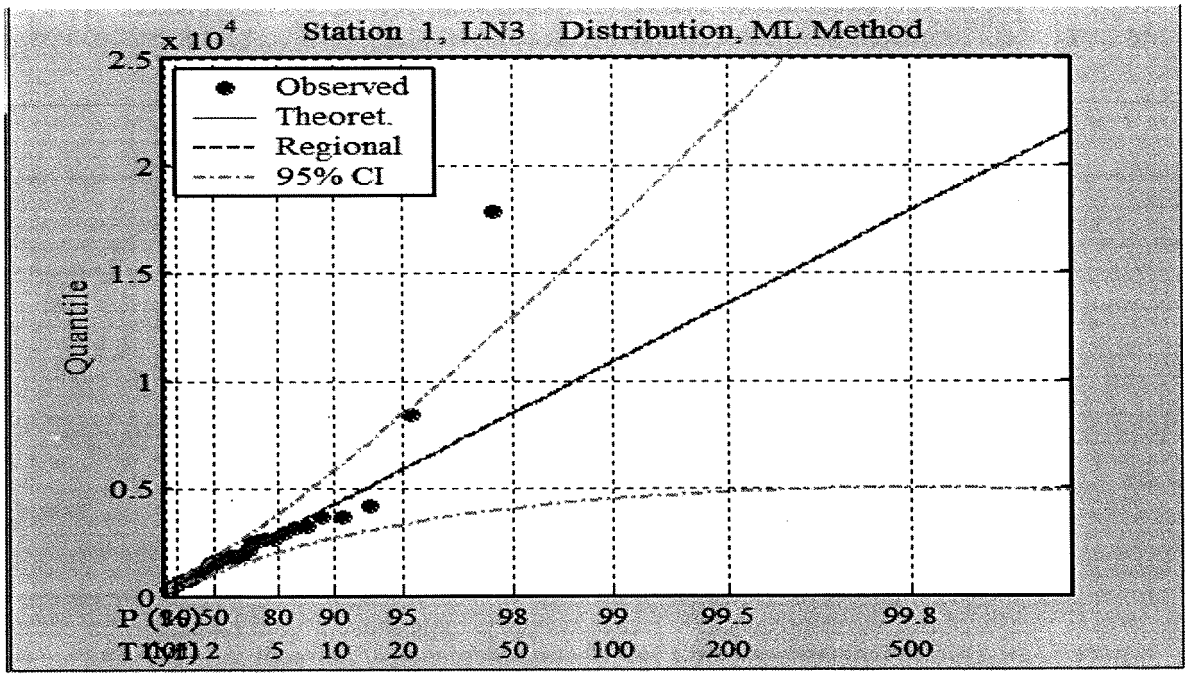



Figure 5. 8 -Quantile-frequency plot for 8-day Observed Discharge at Galeta

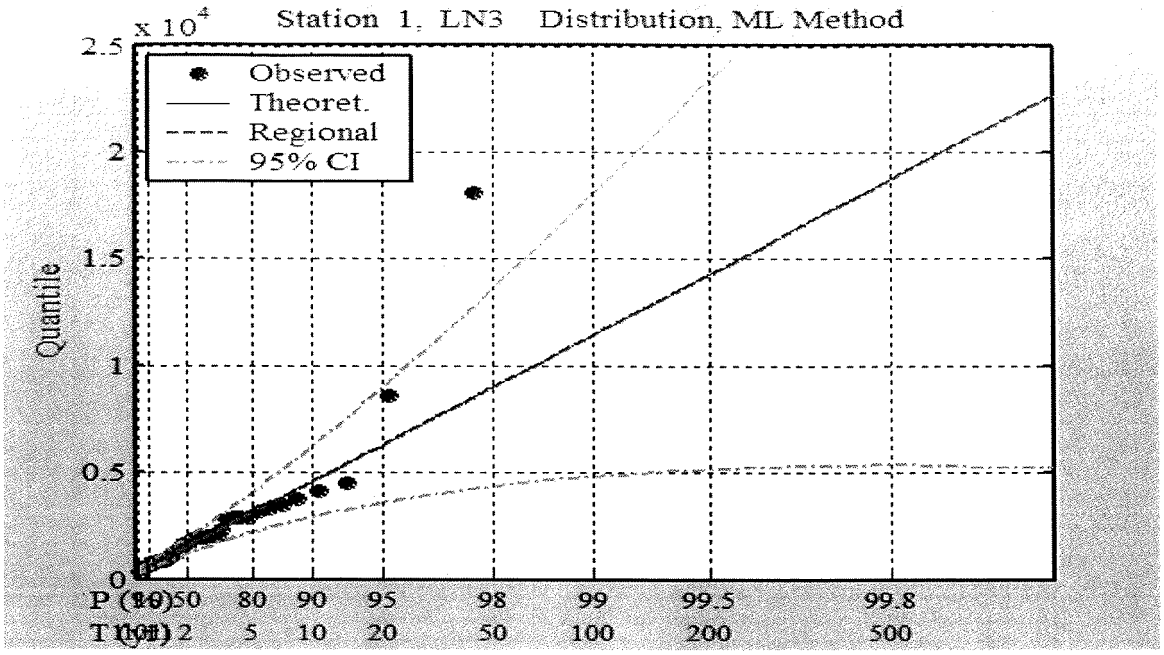



**Figure 5. 9-Quantile-frequency plot for 9-day Observed Discharge at Galeta**

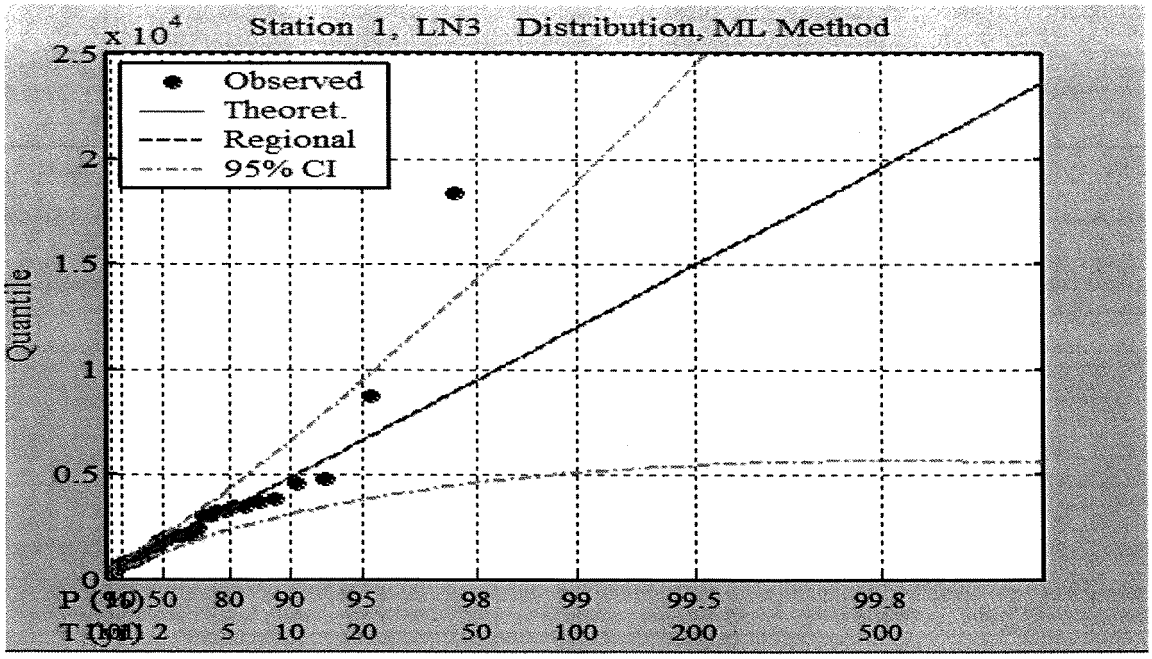



**Figure 5. 10-Quantile-frequency plot for 10-day Observed Discharge at Galeta**

Based on frequency analysis of discharge data conducted above, various discharge (in $m^3/s$) at return periods of 2 yr, 5 yr, 10 yr, 25 yr, 50 yr are as follows:

Table 4 - Discharge values corresponding to various return period & corresponding notional dates

| | 2 yr | Date | 5 yr | Date | 10 yr | Date | 25 yr | Date | 50yr | Date |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 day | 274 | 13.09.1996 | 616 | 14.09.2002 | 952 | -- | 1523 | 30.09.2005 | 2067 | -- |
| 2 day | 507 | 13-12.09.1996 | 1126 | 03-04.08.1988 | 1731 | -- | 2755 | 29-30.09.2005 | 3720 | -- |
| 3 day | 721 | 07-05.09.2003 | 1570 | 02-04.08.1988 | 2392 | -- | 3769 | 29.09-01.10.2005 | 5067 | -- |
| 4 day | 903 | 08-05.09.2003 | 1934 | 02-05.08.1988 | 2932 | 16-19.07.1973 | 4567 | 28.09-01.10.2005 | 6108 | -- |
| 5 day | 1064 | 08-04.09.2003 | 2226 | 01-05.08.1988 | 3322 | 16-20.07.1973 | 5125 | 27.09-01.10.2005 | 6799 | -- |
| 6 day | 1212 | 12-07.09.2000 | 2491 | 22-27.09.2010 | 3684 | 16-21.07.1973 | 5632 | 27.09-02.10.2005 | 7427 | -- |
| 7 day | 1345 | 10-04.09.2000 | 2733 | 21-27.09.2010 | 4018 | 10-16.09.2002 | 6106 | 26.09-02.10.2005 | 8022 | -- |
| 8 day | 1465 | 11-04.09.2003 | 2944 | 20-27.09.2010 | 4308 | 09-16.09.2002 | 6512 | 25.09-02.10.2005 | 8528 | -- |
| 9 day | 1580 | 12-04.09.2003 | 3146 | 19-27.09.2010 | 4582 | 09-17.09.2002 | 6895 | 25.09-03.10.2005 | 9005 | -- |
| 10 day | 1692 | 12-03.09.2003 | 3342 | 18-27.09.2010 | 4848 | 09-18.09.2002 | 7267 | 25.09-04.10.2005 | 9467 | -- |

## 9.0 COMPUTATION OF OUTLIER IN DISCHARGE DATA

An observation which deviates significantly from the behavior of the remaining observationsin the available data set makes it incongruous with the rest of the sample set of observations and is indeed a reasonable ground for suspicionthatthis element may have been generated by a different mechanismor indeed may be a result of hitherto unknown or even indeed a recording error. Such an element is called an Outlier. Some of the usual reasons for an observation to be deemed to be an outlier include errors in recording the observation, measurement or instrument error, mixing of underlying populations and sampling errors, amongst others. Clearly, an examination of Figures 5.1 to 5.10 shows the largest recorded observation to be incompatible with the rest of the set and presents itself as a possible candidate outlier to be so established by carrying out tests as prescribed in literature.

36

*9.1 Outlier testing using Grubs & Beck Test:*

Sample values greater than $x_H$ are considered to be high outliers, where

$$x_H = \exp(\bar{x} + k_N s)$$

In the aforementioned expression, $\bar{x}$ and s are mean and standard deviations of natural logarithm of the sample observations and $k_N$ is the G-B Test Statistic which depends on the sample size (N) and is obtained from the expression given below as:

$$k_N = -3.62201 + 6.28446N^{1/4} - 2.49835N^{1/2} + 0.491436N^{3/4} - 0.037911N$$

Using the above described methodology, the peak event of 1978, that is discharge observed on 4th Sept 1978, comes out to be an outlier. For one day discharge event values, it emerges to be equivalent to 3.56 times higher than second highest value which occurred in 2005 as per observed data. Therefore, it is ignored in the further analysis.

An elaborate frequency analysis of annual maximum observed flows after excluding the outlier from further analysis, suggests that LN3 (LogNormal-3 parameter) distribution improved the overall fit for the entire range of integer durations ranging from 1-day to 10-days.

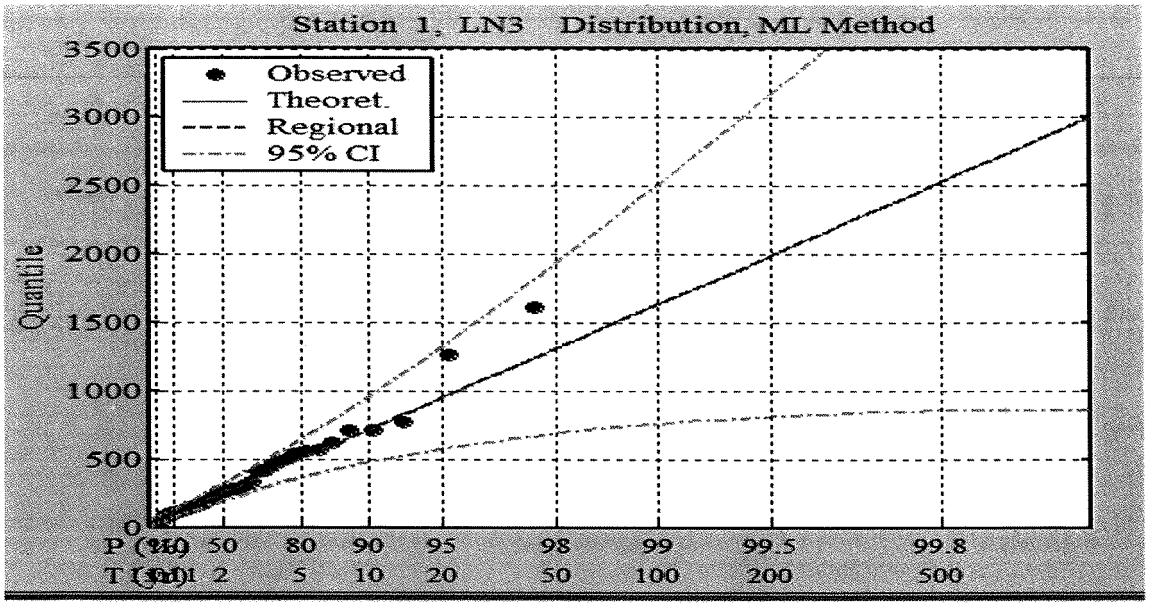



**Figure 6. 1- Quantile-frequency plot for 1-day Observed Discharge at Galeta (Outlier Removed)**

37

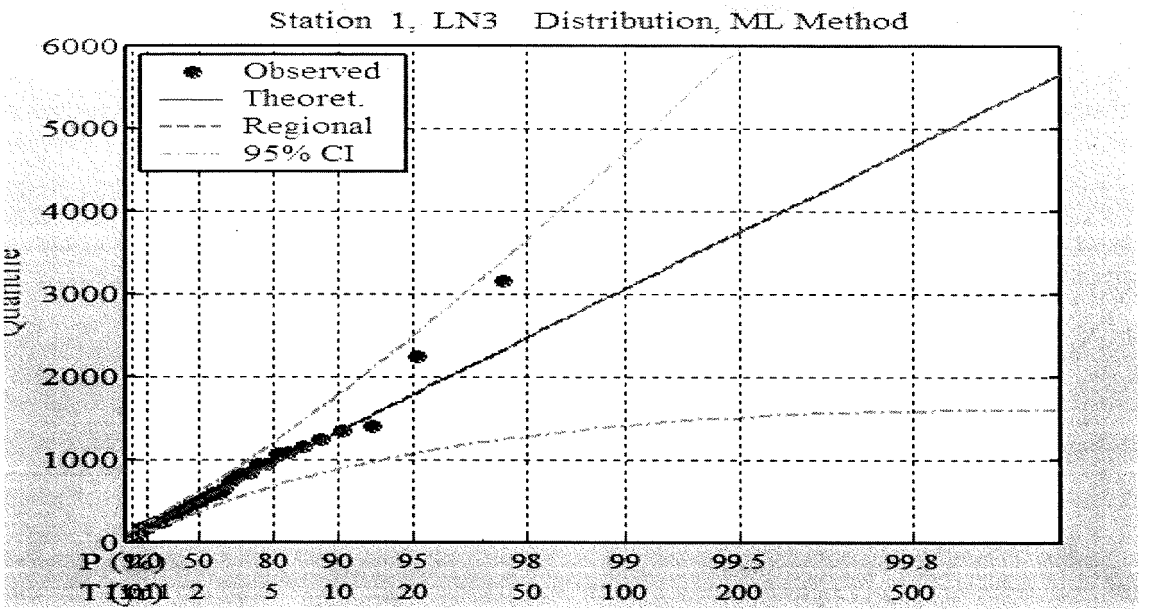



**Figure 6. 2- Quantile-frequency plot for 2-day Observed Discharge at Galeta (Outlier Removed)**

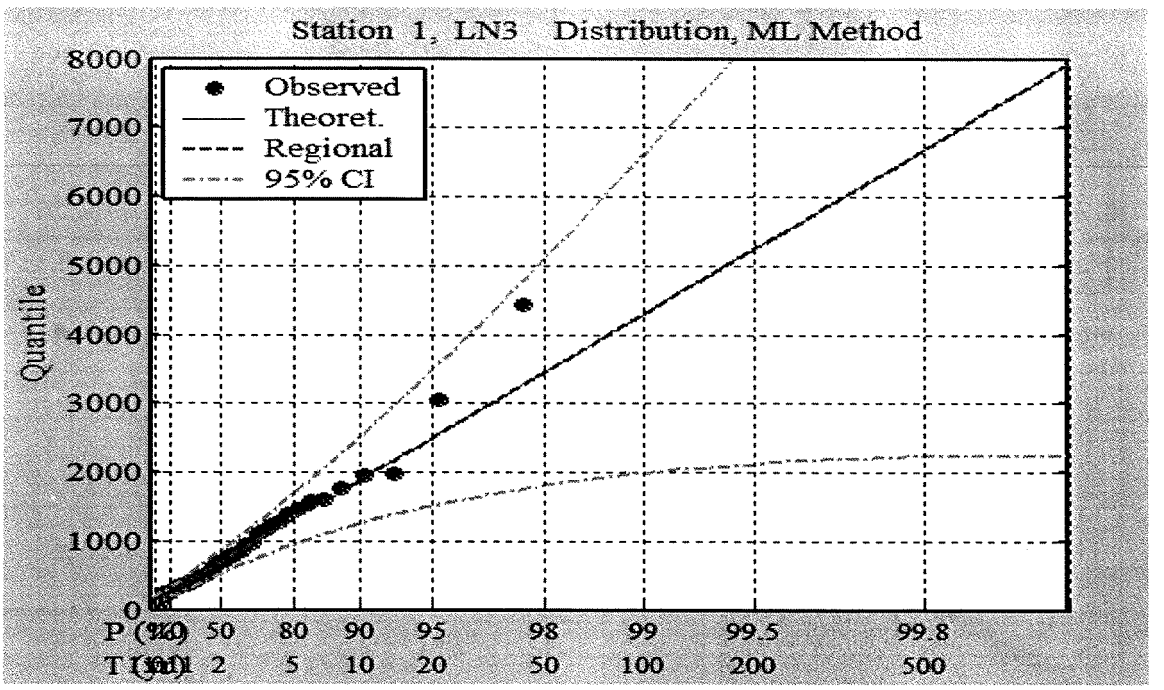



**Figure 6. 3- Quantile-frequency plot for 3-day Observed Discharge at Galeta (Outlier Removed)**

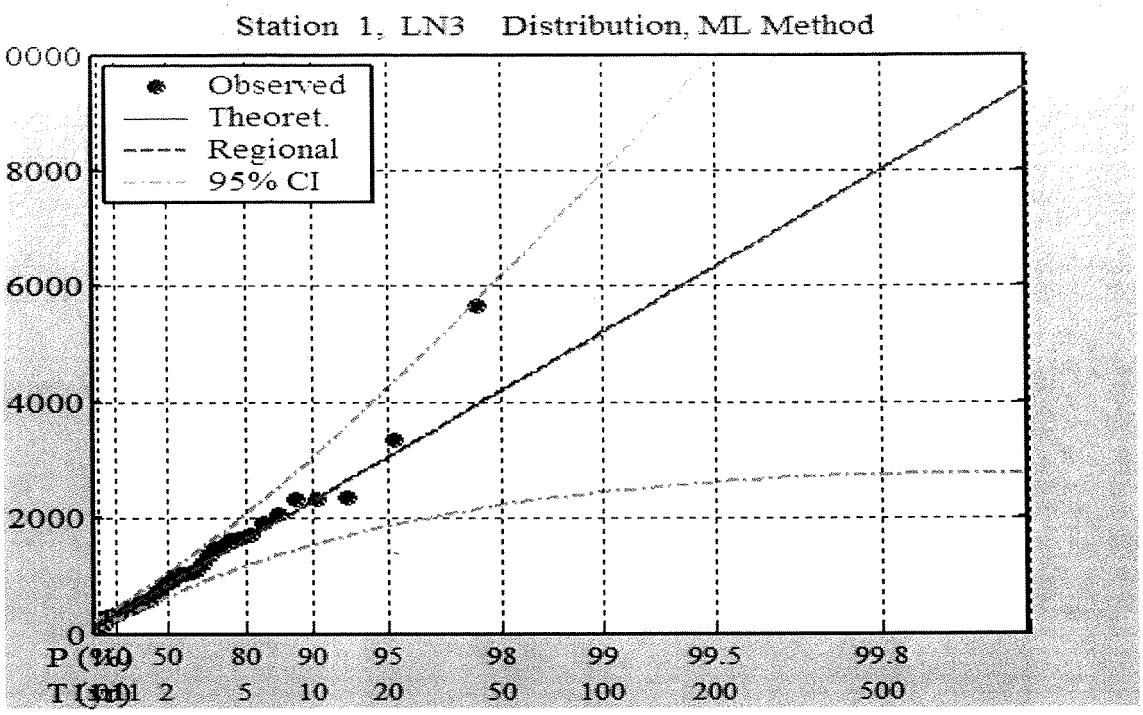



Figure 6. 4 - Quantile-frequency plot for 4-day Observed Discharge at Galeta (Outlier Removed)

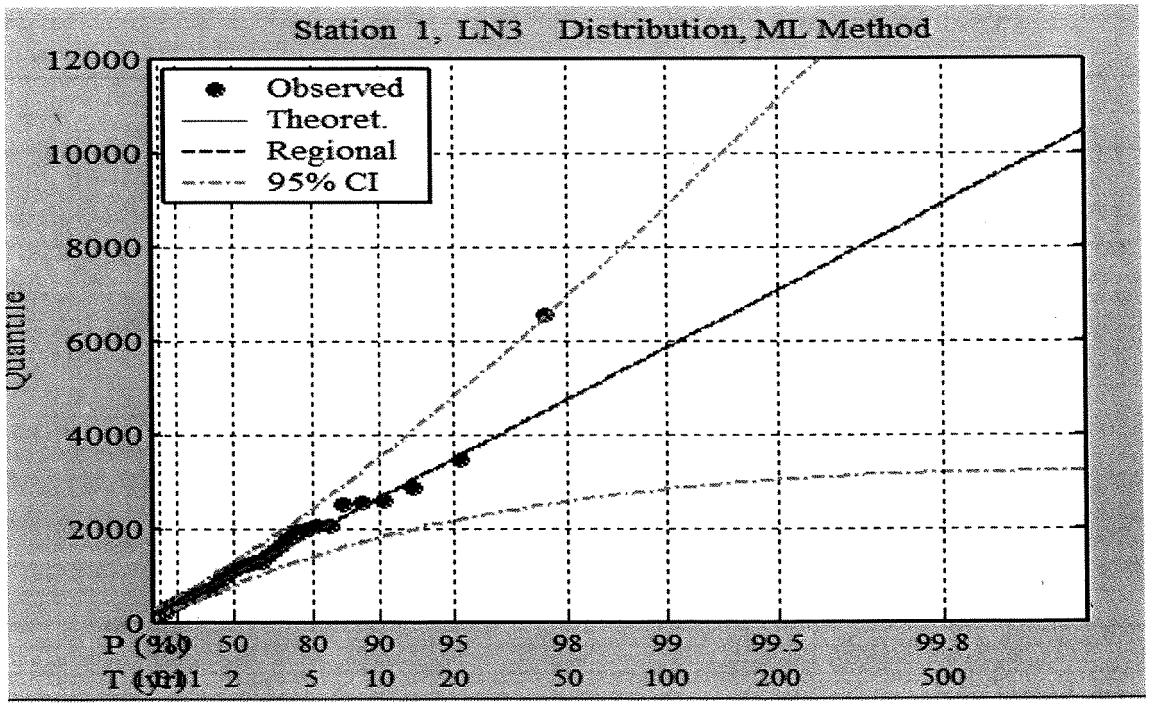



Figure 6. 5- Quantile-frequency plot for 5-day Observed Discharge at Galeta (Outlier Removed)

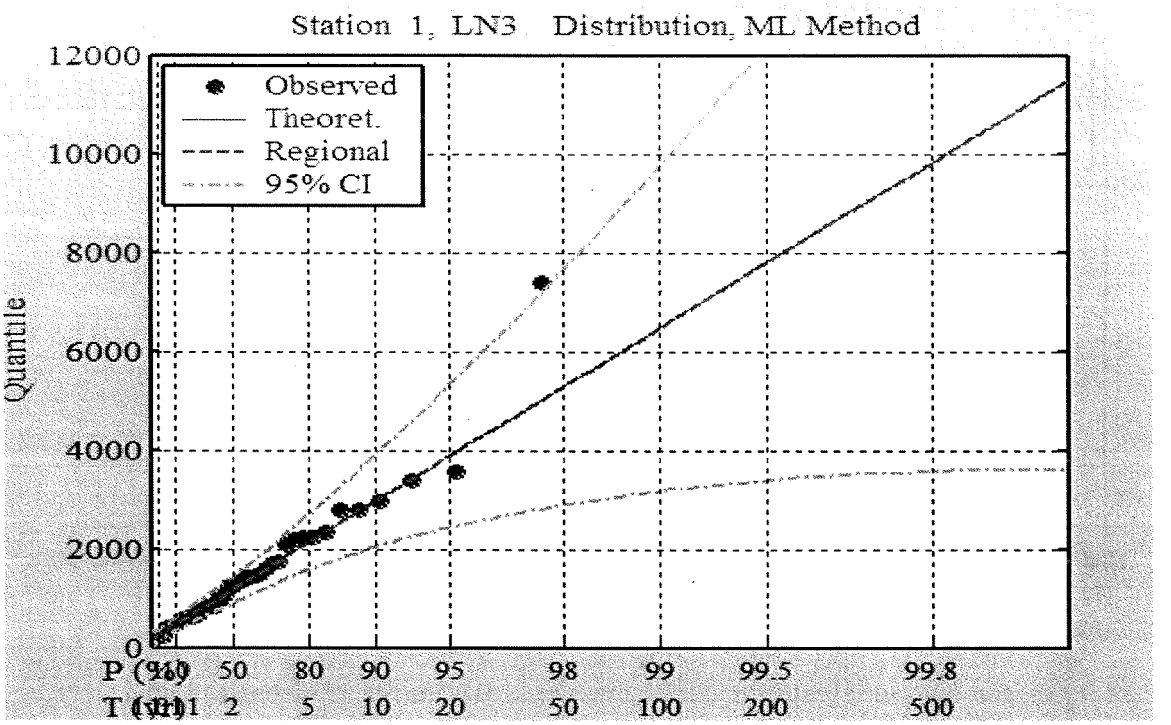



Figure 6. 6- Quantile-frequency plot for 6-day Observed Discharge at Galeta (Outlier Removed)

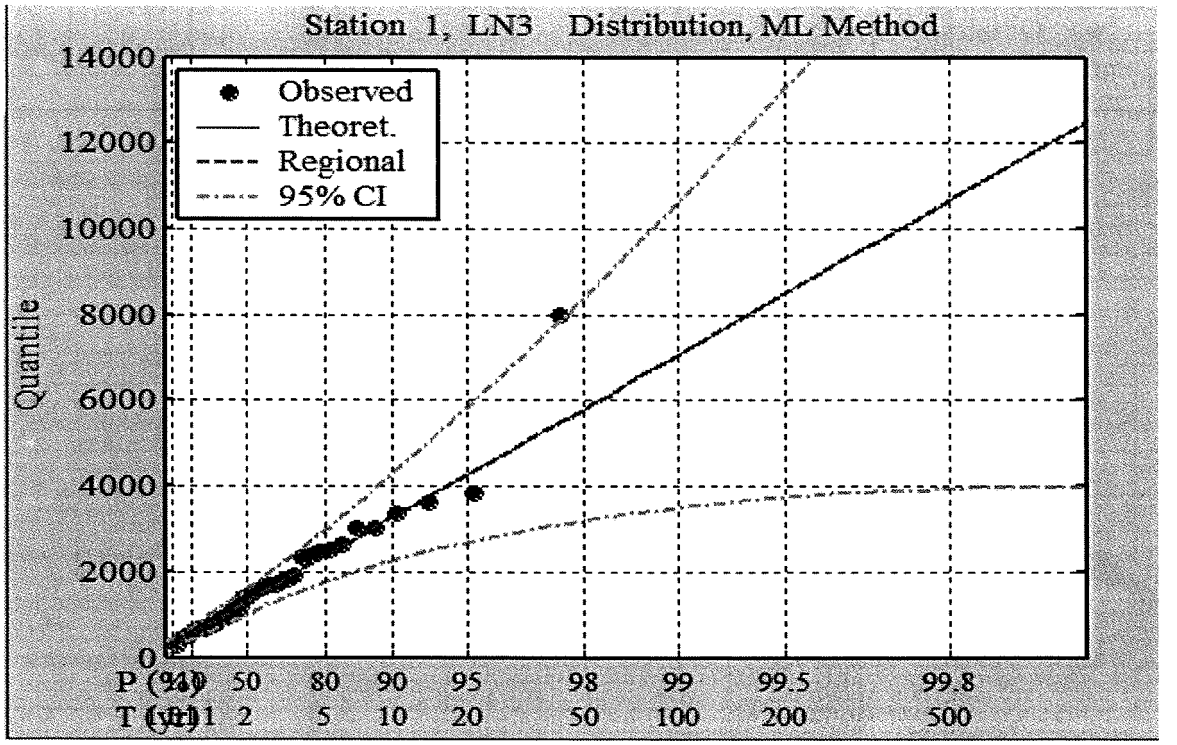



Figure 6. 7- Quantile-frequency plot for 7-day Observed Discharge at Galeta (Outlier Removed)

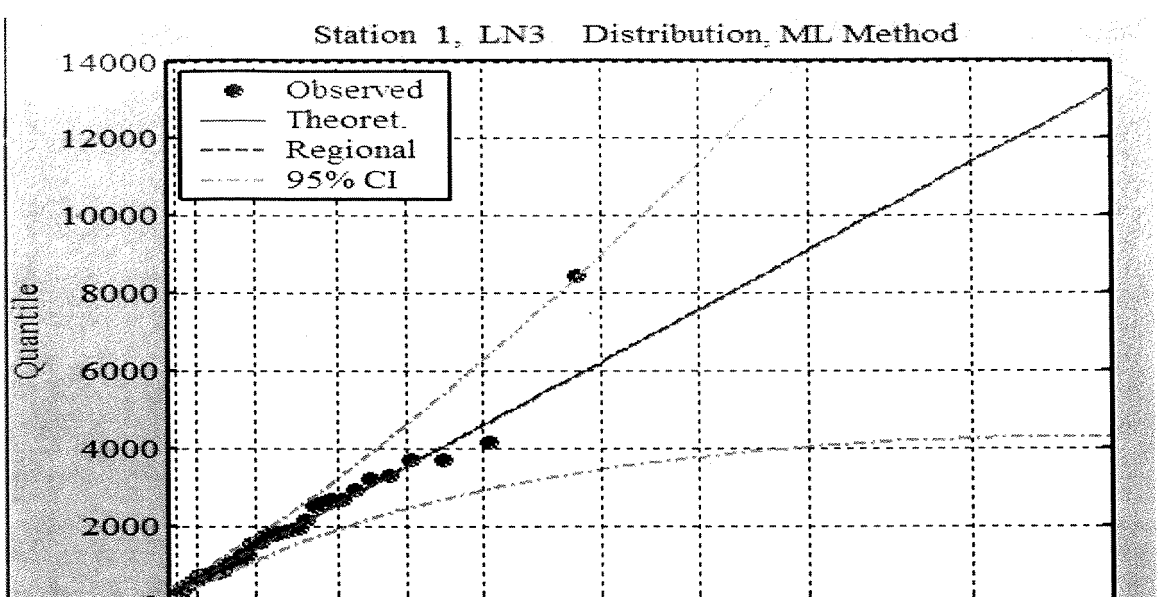



Figure 6. 8- Quantile-frequency plot for 8-day Observed Discharge at Galeta (Outlier Removed)

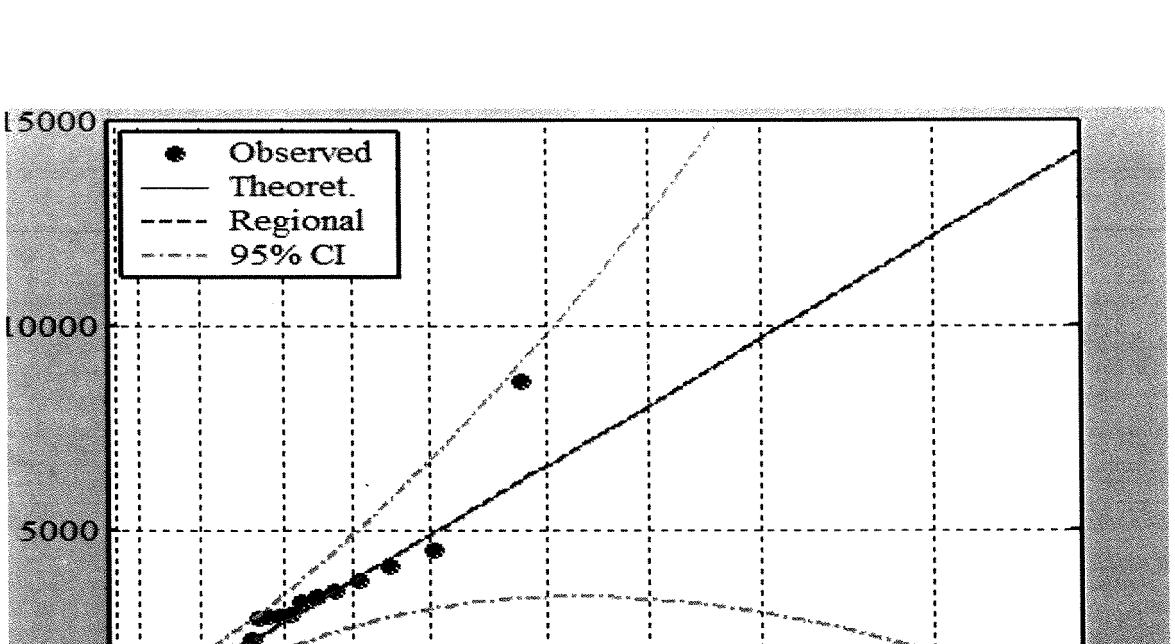



Figure 6. 9- Quantile-frequency plot for 9-day Observed Discharge at Galeta (Outlier Removed)

41

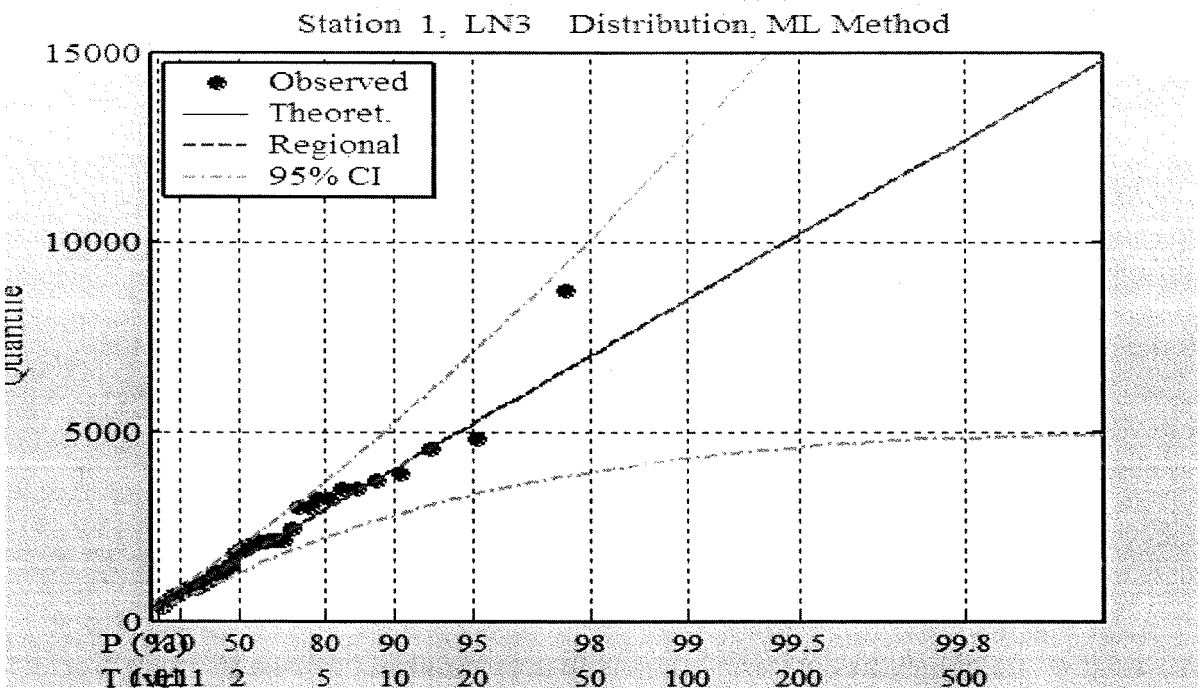



Figure 6. 10- Quantile-frequency plot for 10-day Observed Discharge at Galeta (Outlier Removed)

## 10.0 SUMMARY OF HISTORICAL RAINFALL/DISCHARGE RECORDS

Upon examining the time series of daily weighted basin average rainfall for the study area, the maximum 1-day rainfall was observed on 16th Sept 1963 whose averaged value was 163 mm, whereas the remaining extreme rainfall events ranging in durations from 2 days to 10 days were all observed in year 1983 during the month of July. In contrast, however, the maximum 1-D rainfall during the year 1978, wherein highest discharge was observed, was a relatively smaller value of 147 mm and the same was observed on 2nd Sept 1978.

Time series of daily discharge values in Hindon River are available at Galeta GD site of Central Water Commission from June 1971 to Jan 2012. Upon analysis, the maximum 1-D discharge was observed on 04.09.1978 whose value was 7368 $m^3/s$. The second highest value in the time series is observed as 1613.2 $m^3/s$ which occurred on 30.09.2005.

The rankings of top 15 events observed in Rainfall and Discharge are given as under:

Table 5 - Rankings of top 15 events observed in Rainfall and Discharge

| Rank | Rainfall Value | Date of Occurrence | Discharge Value | Date of Occurrence |
|---|---|---|---|---|
| 1 | 165.05 | 9/16/1963 | 7368.9 | 9/4/1978 |
| 2 | 161.82 | 7/28/1983 | 1613.2 | 9/30/2005 |
| 3 | 157.11 | 9/18/1914 | 1259.44 | 7/17/1973 |
| 4 | 154.98 | 10/9/1956 | 774.35 | 8/10/1971 |
| 5 | 147.44 | 9/2/1978 | 711.51 | 8/21/1976 |
| 6 | 144.20 | 8/2/1902 | 708.01 | 8/3/1988 |
| 7 | 136.02 | 9/1/1912 | 621.97 | 9/14/2002 |
| 8 | 132.28 | 9/16/1916 | 566.9 | 7/31/1983 |
| 9 | 127.31 | 9/29/1924 | 553.02 | 9/6/1995 |
| 10 | 126.78 | 8/16/1994 | 536.11 | 7/30/1981 |
| 11 | 124.89 | 9/15/1957 | 499.18 | 9/11/1975 |
| 12 | 123.85 | 9/2/1989 | 479.39 | 9/26/2010 |
| 13 | 123.47 | 9/19/1933 | 442.16 | 8/19/1998 |
| 14 | 121.60 | 9/25/2005 | 415.45 | 8/18/1994 |
| 15 | 118.76 | 9/26/1964 | 412.29 | 9/4/1989 |

*Note: The length of series of rainfall values and discharge values are different.

## 11.0 RECONSTRUCTION OF VIRGIN FLOWS IN HINDON AT GALETA

SWAT (Soil & Water Assessment Tool) is a river basin scale model developed to quantify the hydrological consequences of varied land and water management practices in large non-homogeneousand complexwatersheds. SWAT is a continuous time model that operates on a daily time step at basin scale and uses a two-level disaggregation scheme. A preliminary sub-basin identification is carried out based on topographic criteria, followed by a further, higher level delineation based onavailable land use and soil type details. Areas having similarity across the three attributes of slope, soil type and land use form a Hydrologic Response Unit (HRU), a basic computational unit assumed to be homogeneous and based on a presumed similarity of its hydrologic responses.

A detailed hydrological model of the Hindon basin was setup on the SWAT modeling platform to simulate daily flows in Hindon and using recorded flows at the CWC observation site of Galeta as the benchmark for comparison.

Agricultureis a dominant practice across Hindonbasinand it is reasonable to expect that these practices would have an important effect on river basin's overall water balance. The river is a primary source of water for irrigation within the basin and sugarcane, which is known for its high round the year demand for water, is the main crop grown across the study basin. Substantial quantities of water are therefore abstracted from river Hindon and the underlyingbut connectedgroundwater reservoir throughout the catchment to supplement the supplies available from surface systems for crop irrigation. Understandably, in order for the model to be representative of the hydrological reality of the study area, it becomes imperative to capture the anthropogenic influences on the natural water cycle of Hindon basin in sufficient detail.

The rigor and realism with which such a capture is designed within the hydrological model framework is expected to influence the accuracy with which the observed hydrology can be simulated by the latter model. Accordingly, therefore, SWAT model setup of the Hindon basin wasreinforced with a realistic capture of regulatory as well as water usage pattern, and together with the model for waste returns emanating from

the corresponding commands as source areas for these returns. Further, during summer months, usage of groundwater has also been incorporated in hydrological balance model.

The land use pattern, soil classes and basin slope as has been incorporated in the hydrologic model setup is as per Figures 6, 7 and8.The SWAT simulation modelsetups were further calibrated for an enhanced simulation accuracy using the observed record of flows at Galeta GD station and, following a successful calibration, the model was run again to reconstruct the time series of virgin hydrology after switching off or disabling the anthropogenic branch cycle influences.

Water surface profiles are then derived by carrying out a hydrodynamic routing of the extracted design hydrograph for both the pre and post development scenarios.

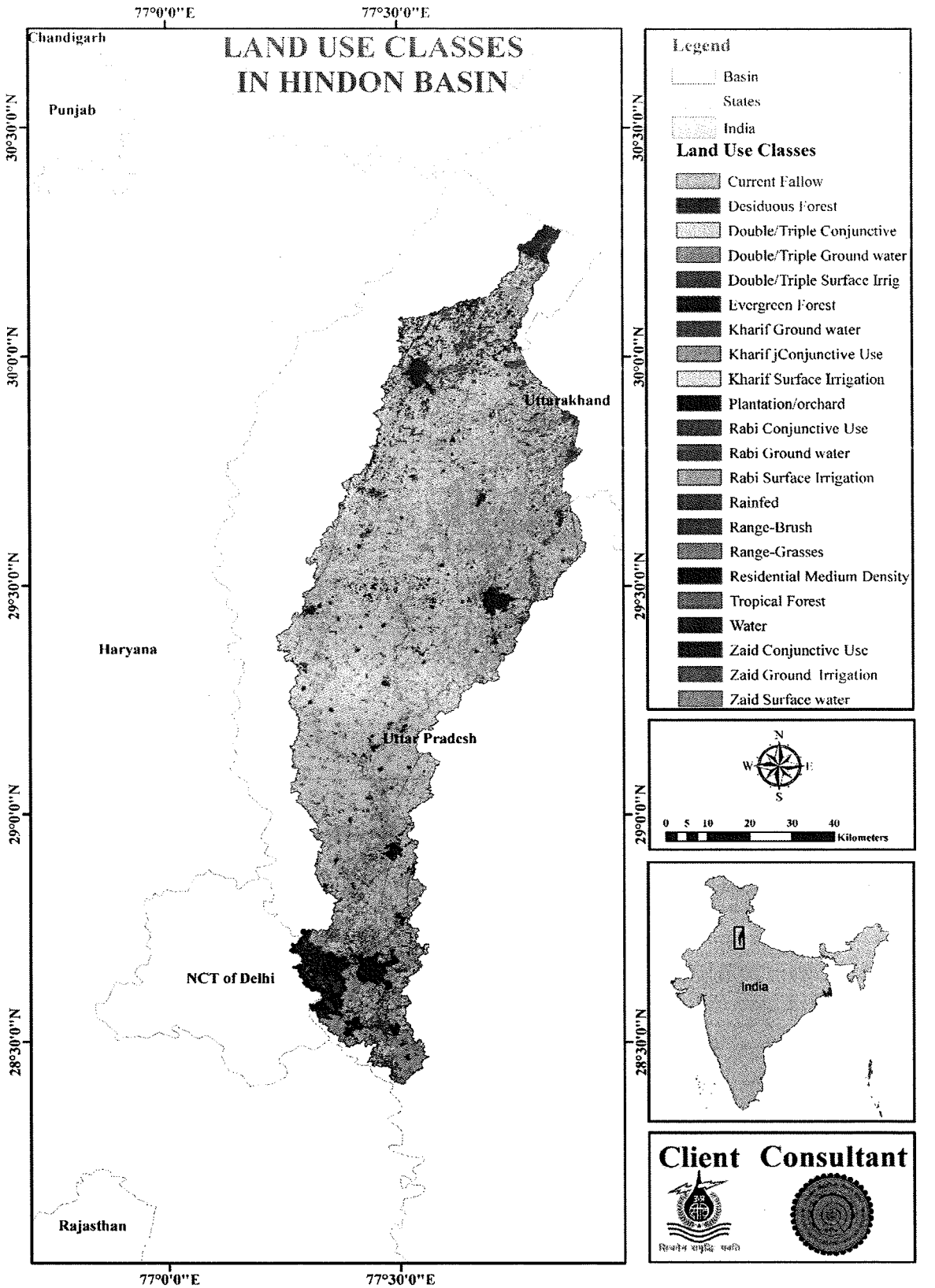



Figure 7: Land Use Pattern in Hindon Basin

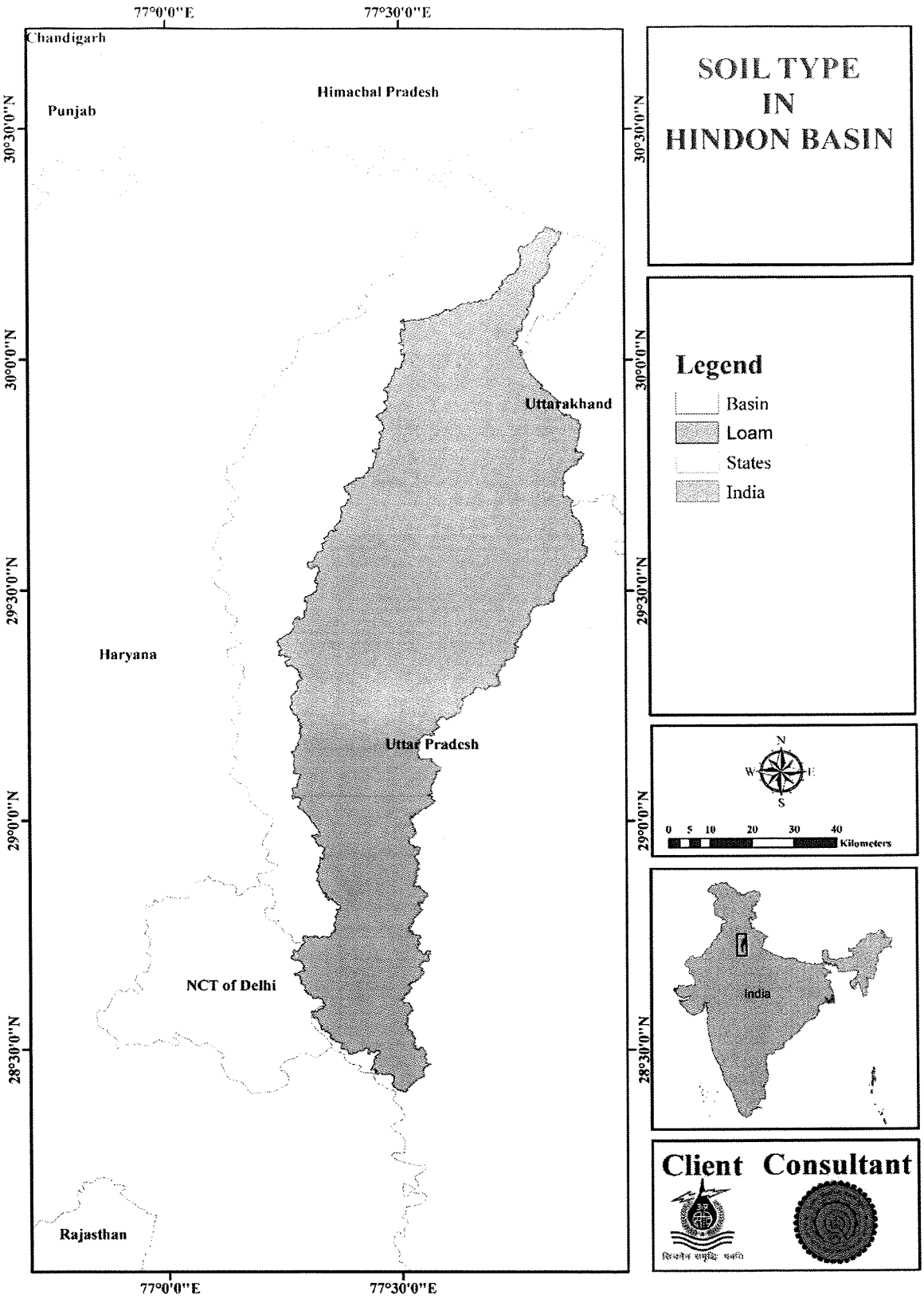



Figure 8: Soil cover mix in Hindon Basin

47

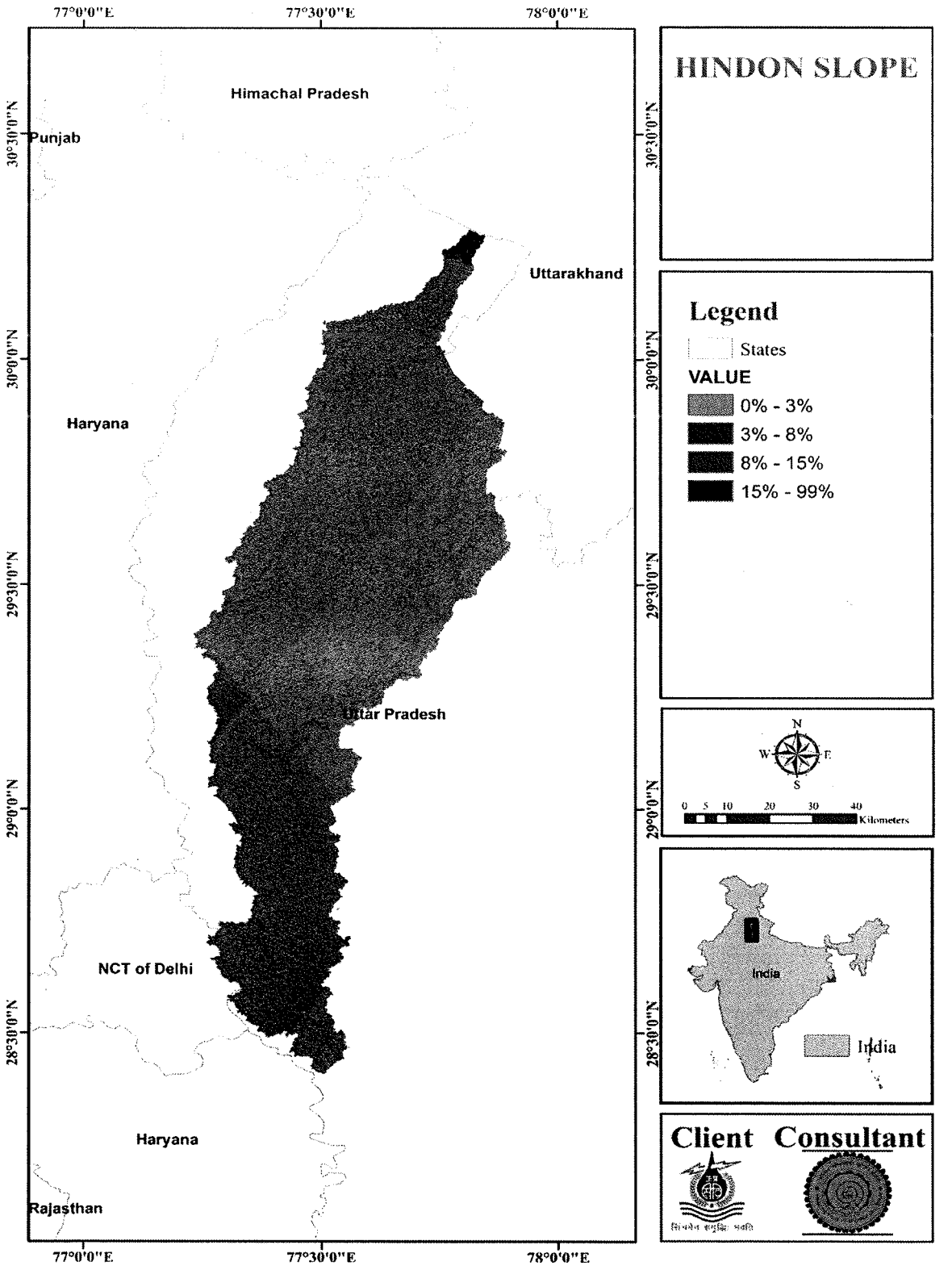



Figure 9: Slope Values

## 12.0 COMPARISON OF OBSERVED VERSUS SIMULATED HYDROLOGY

Two data series of average monthly flow, corresponding to June 1976 to November, 1999 and Dec 1999 to Dec 2006 were used for calibration and validation of SWAT Model.

Due to conditions prior to 1951 being unknown, warm up period from 01/01/1951 to 31/12/1960 is used. Warm up period becomes imperativein order to minimize the influence of initial, but unknown hydrologic conditions that are assumed for initiating model run for to derive simulations of the processes of interest.

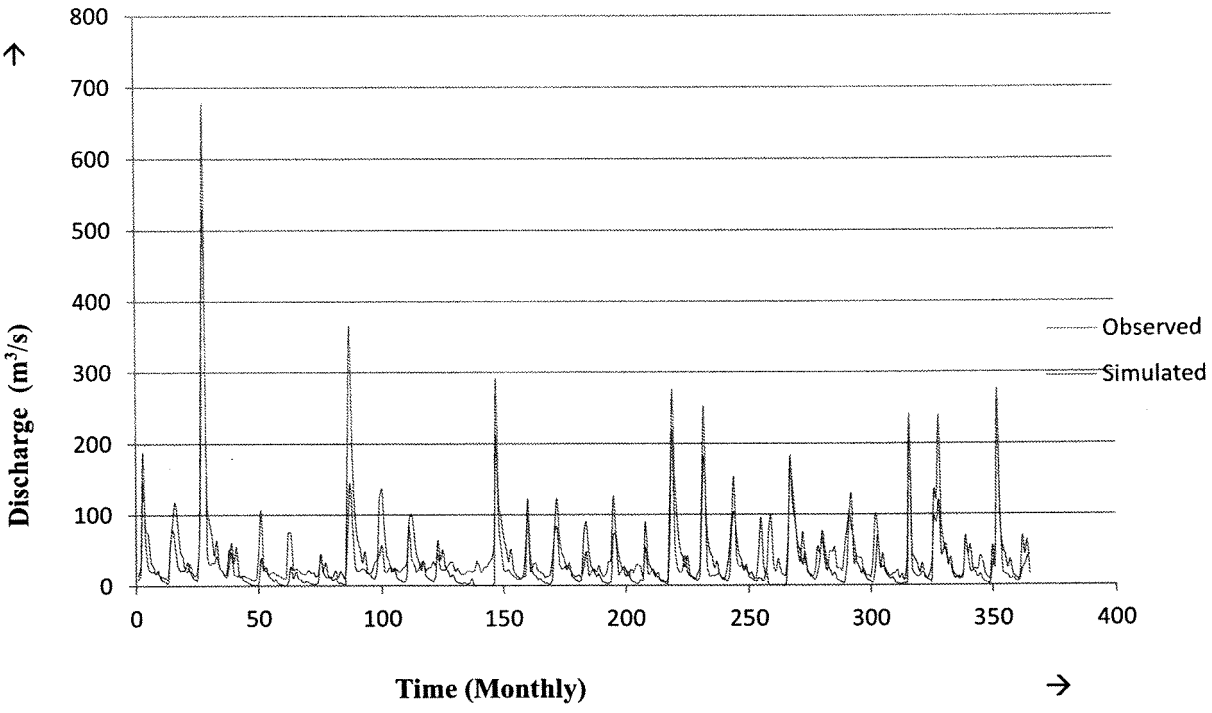



Figure 10: Observed vs Simulated Discharge

For above model, the $R^2$, Nash-Sutcliffe estimate and Percentage Bias values are given in table below:

Table 6 - R2, NSE and PBIAS values of SWAT Model

| R sq values | | NSE values | | PBIAS |
|---|---|---|---|---|
| Calibration | Validation | Calibration | Validation | |
| 0.68 | 0.73 | 0.605 | 0.662 | -0.31% |

## 13.0 FREQUENCYANALYSIS OF SIMULATED DISCHARGE ATGALETA STATION

Frequency analysis of simulated discharges has been performed and the results are shown as plotted and presented in Figures 11.1 to 11.10 below. Accordingly, the 25 year return period estimates from each sub-basin have been selected for running the simulation in the hydrodynamic model.

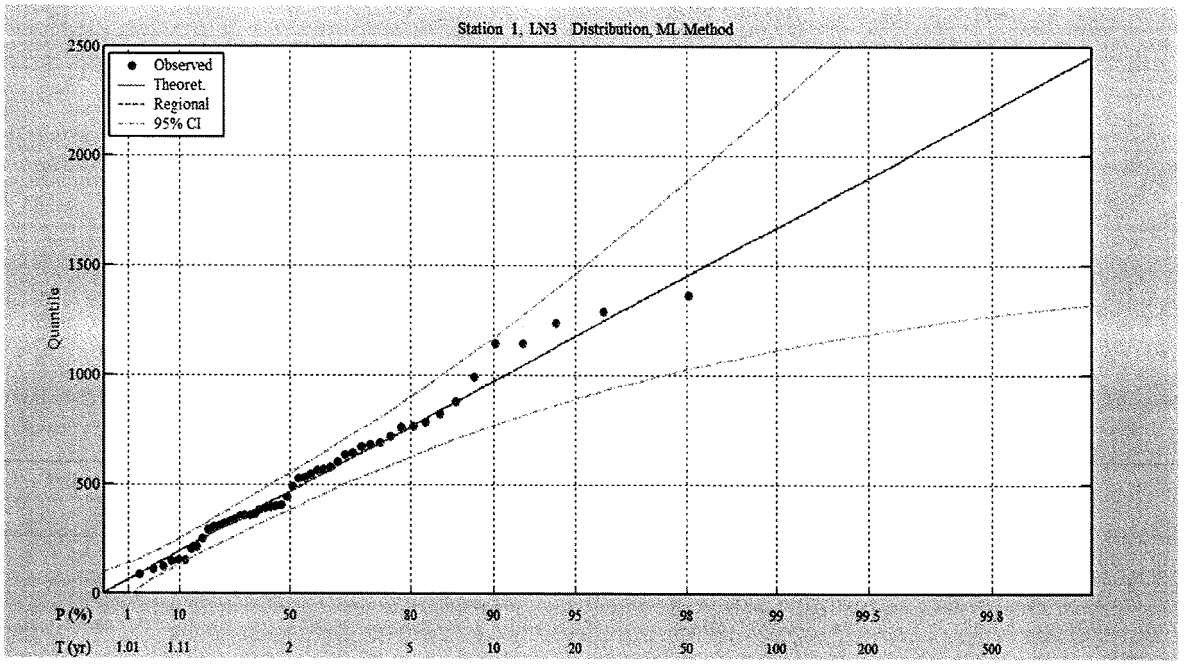



**Figure 11. 1Quantile-frequency plot for 1-day Simulated Discharge at Galeta**

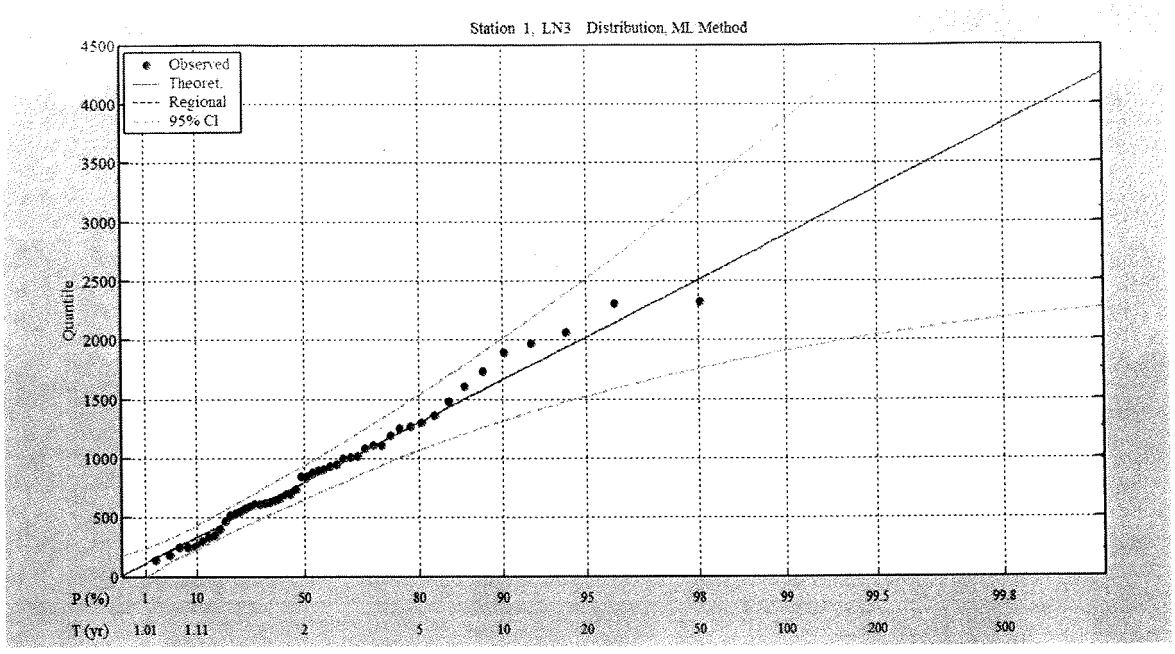



Figure 11. 2-Quantile-frequency plot for 2-day Simulated Discharge at Galeta

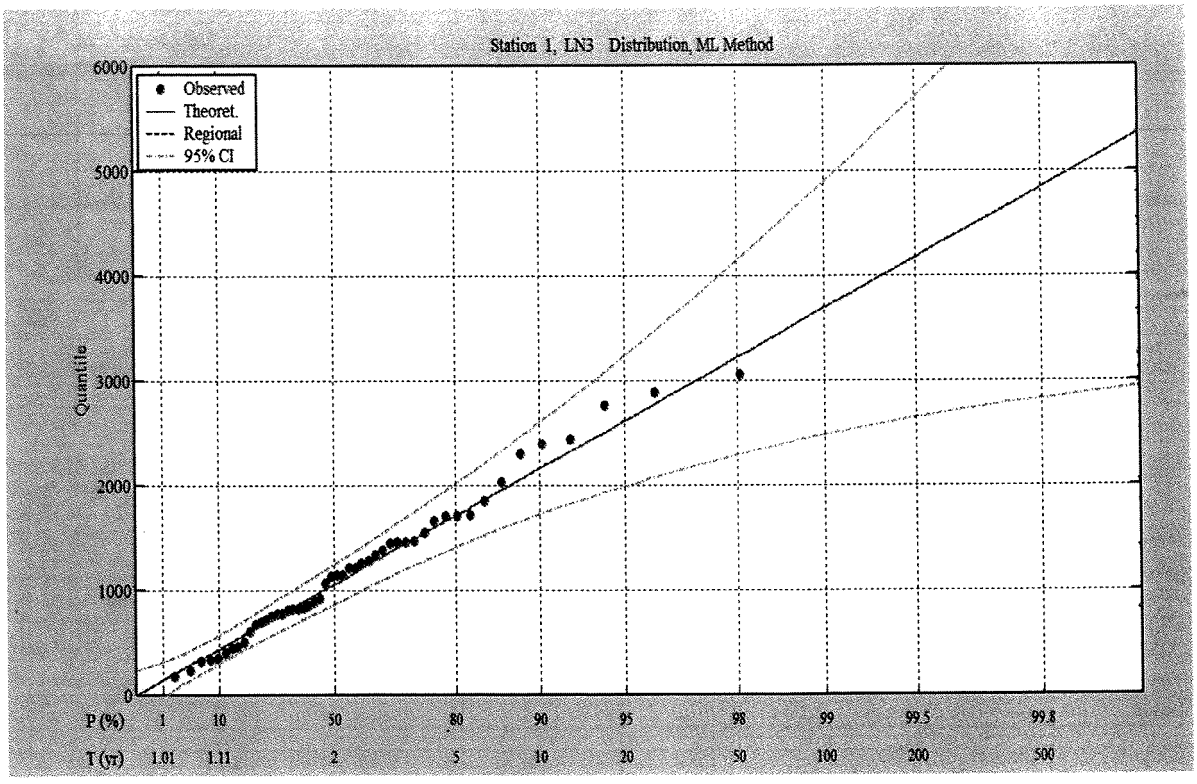



Figure 11. 3 - Quantile-frequency plot for 3-day Simulated Discharge at Galeta

51

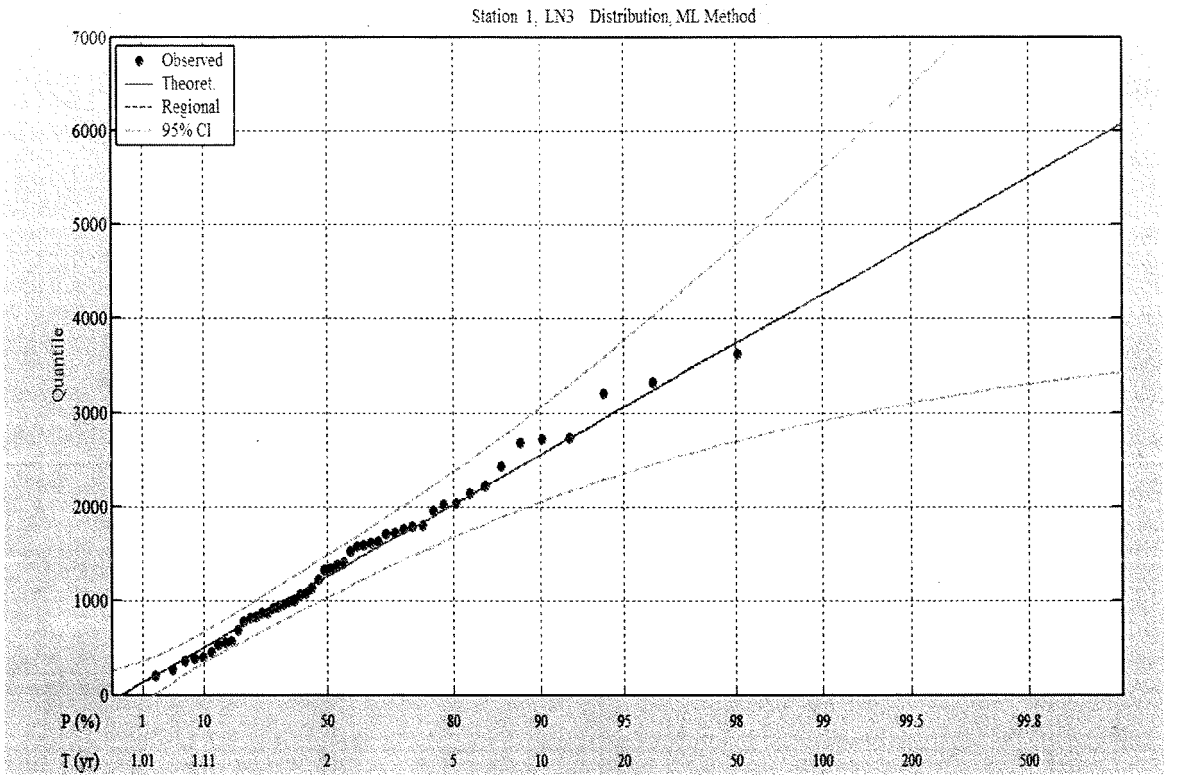



Figure 11. 4 - Quantile-frequency plot for 4-day Simulated Discharge at Galeta

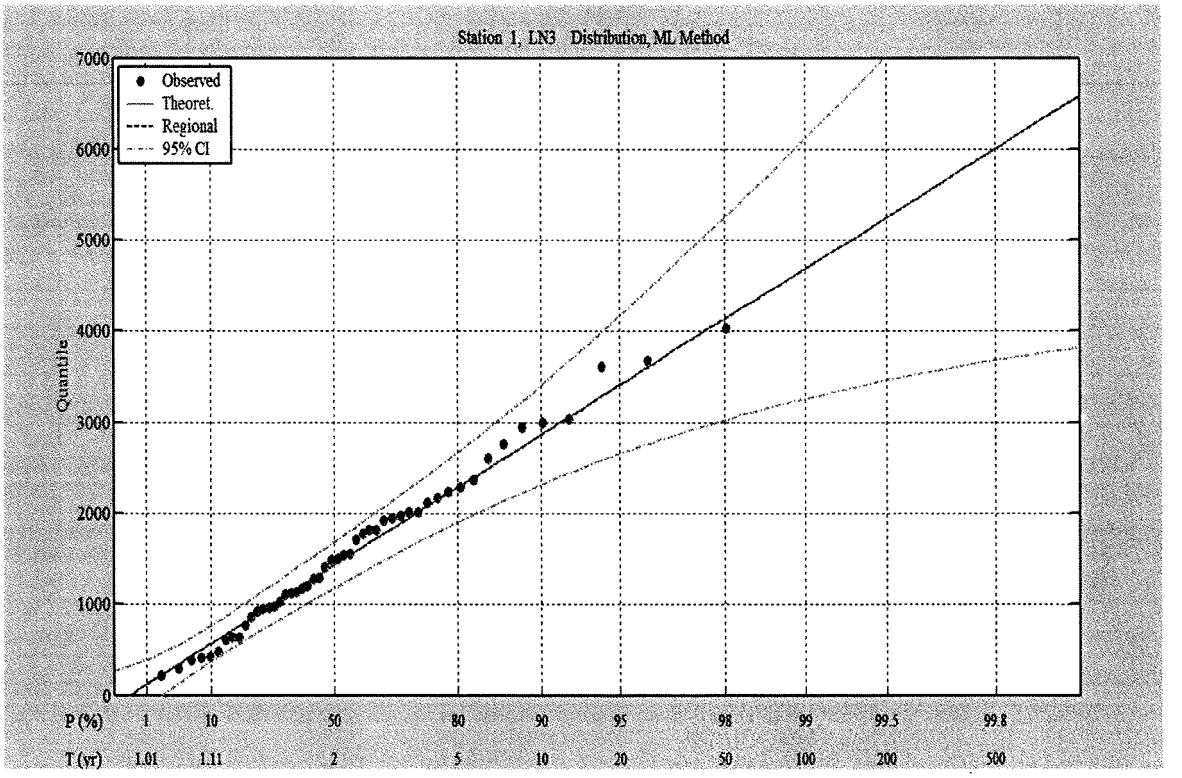



Figure 11. 5-Quantile-frequency plot for 5-day Simulated Discharge at Galeta

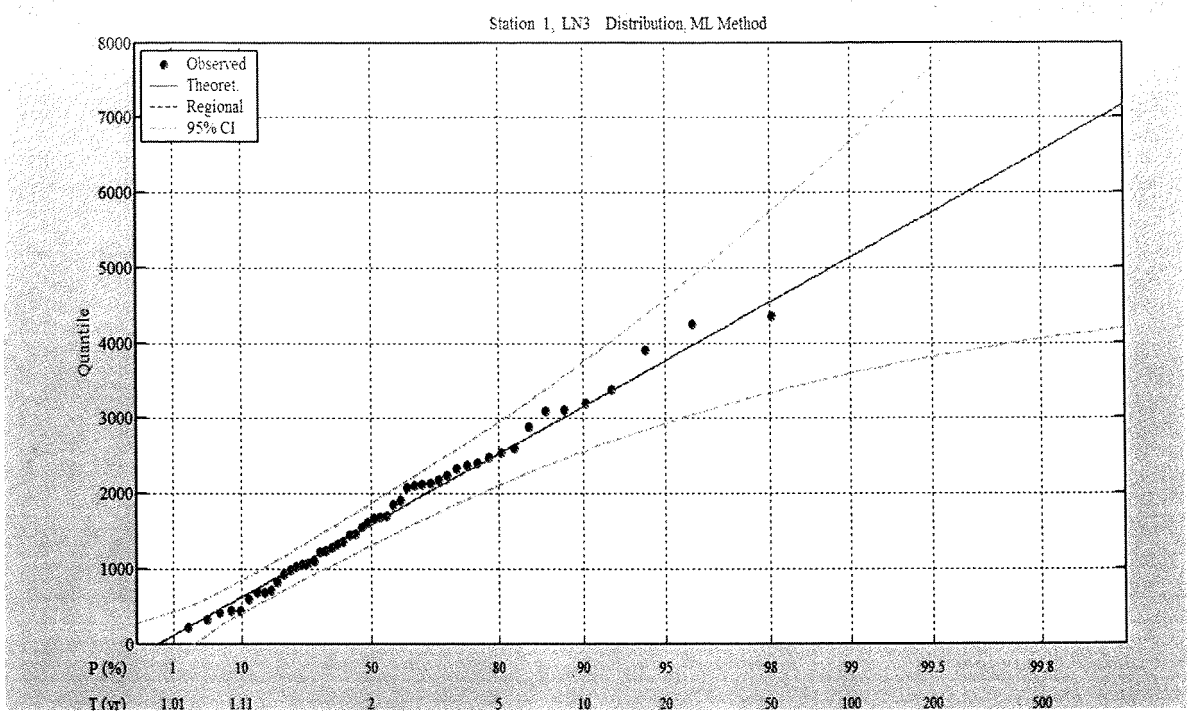



Figure 11. 6 - Quantile-frequency plot for 6-day Simulated Discharge at Galeta

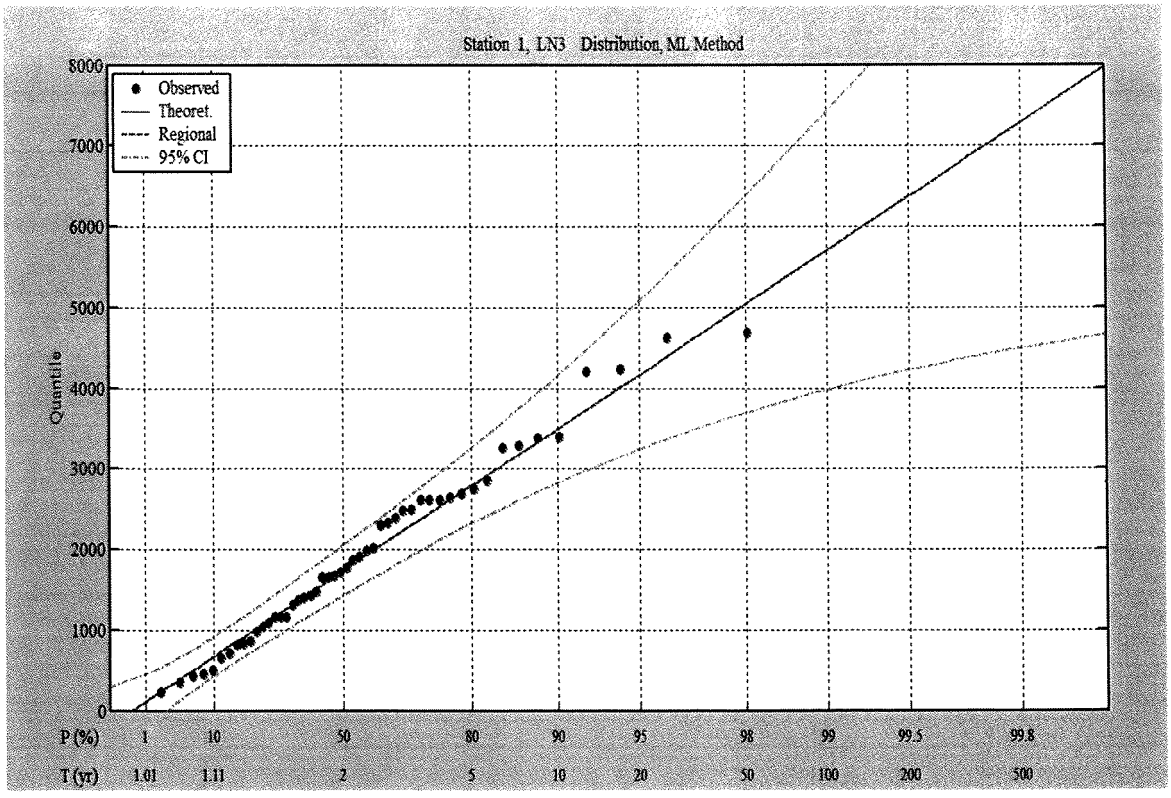



Figure 11. 7 - Quantile-frequency plot for 7-day Simulated Discharge at Galeta

53

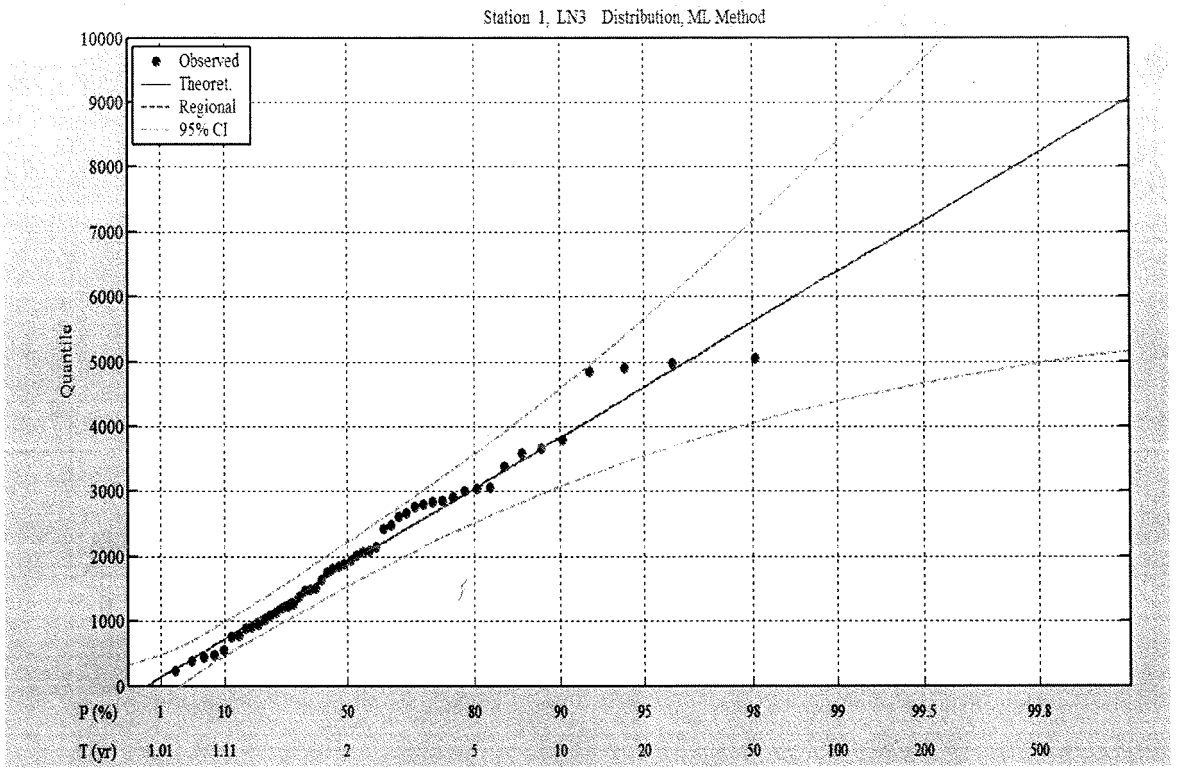



Figure 11. 8 - Quantile-frequency plot for 8-day Simulated Discharge at Galeta

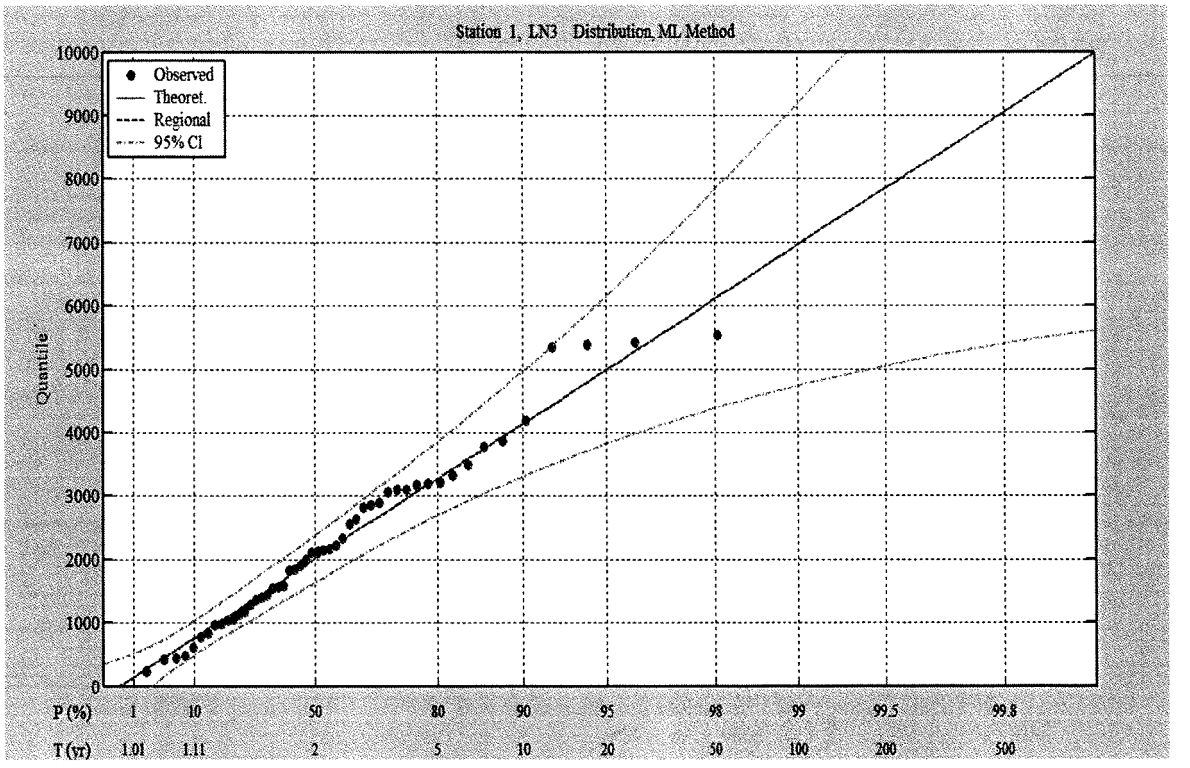



Figure 11. 9 - Quantile-frequency plot for 9-day Simulated Discharge at Galeta

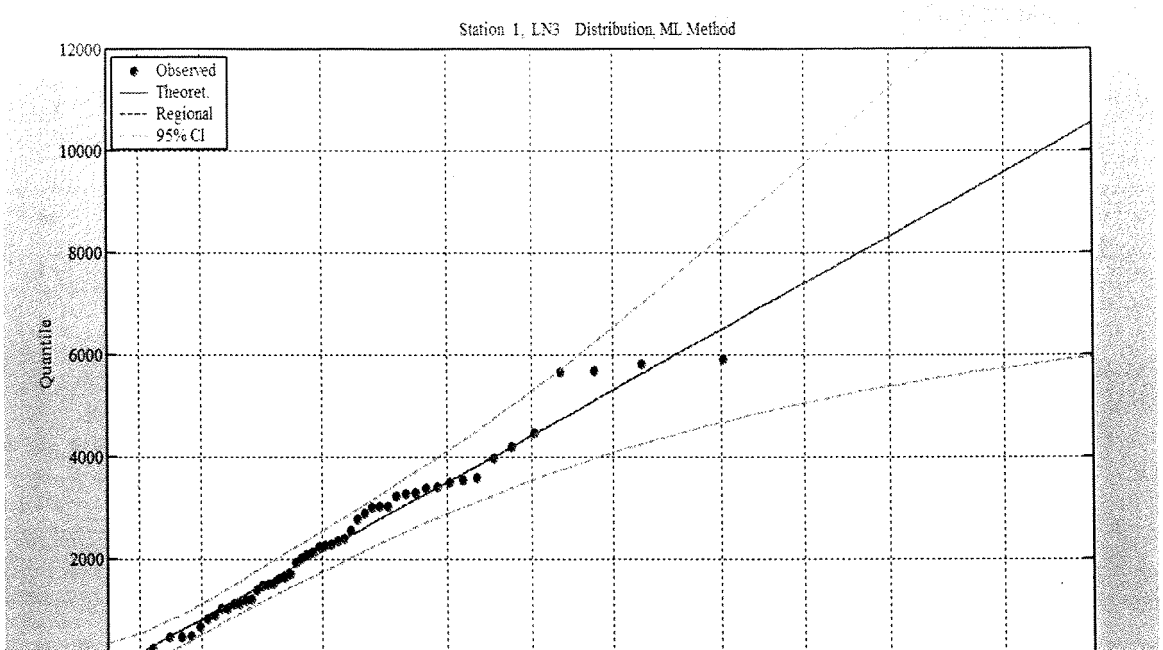



**Figure 11. 10 - Quantile-frequency plot for 10-day Simulated Discharge at Galeta**

## 14.0 CALIBRATION OFTHEHYDRODYNAMIC(iRIC)MODELLINGFRAMEWORK

iRIC (International River Interface Cooperative) modelling application provides an integrated river simulation environment and is a comprehensive, unified environment in which data necessary for river analysis solvers (hereafter: solvers) can be compiled and flood movement down river reaches can be simulated and visualized. In this study, the iRIC modeling platform has been used for the hydrodynamic simulation of river Hindon in order to simulate the water surface profiles.

The channel is discretized as a single vector along its centre line separate from the overlying flood-plain raster grid. At each point along the vector, the required channel parameters are the width, Manning's roughness value 'n' and bed elevation. The latter detail gives the bed slope and also the bankfull depth when the channel vector is combined with the flood-plain DEM. Each channel parameter can be specified at each point along the vector and the model interpolates linearly between these. Flows along the channel are simulated using the St.Venant equations and, when bankfull depth is exceeded, water spills out onto adjacent flood plains.

The model was applied successfully over the study reach after calibrating the model for Manning's roughness coefficient 'n' on the strength of comparison between observed and simulated water levels at Galeta GD site of CWC. The comparison has been made by comparing water levels of flood event of 25-year return period of simulated flows and observed flows.

## 15.0 HYDRODYNAMIC SIMULATION OF WATER SURFACE PROFILES IN RIVER HINDON USING iRIC MODELLING FRAMEWORK

The calibrated SWAT model was used to obtain inundation depths, taken as the difference between water and ground surface elevation. Simulation of water surface profiles was carried out for the following two scenarios:

### 15.1 Existing scenario with embankments as existing (Scenario 1):

This, as a currently prevailing scenario, has been developed with a predefined embankment coinciding with the designated boundary with a view to simulate the latter's influence on the extent of spread of flood flow across the Hindon floodplains following overbank spill. In other words, as per this scenario, the model setup confines the waterway to a restricted region between the boundaries which also therefore is the total available floodplain available across the entire study reach of the river.

### 15.2 Hindonfloodplain isin its natural state (i.e. bereft ofembankments,associated bank protection and other built up assets as Scenario 2):

In this scenario propagation of flood flows down the Hindon course and its movement across its flood plain was simulated with a model setup that assumed the study reach to be in its pristine state. The simulation, therefore, ignorespresence of the engineered embankments. The model setup for this scenario also disregarded presence of residential clusters and related utilities. The simulations therefore capture the flood flow transport phenomenon across Hindon when the latter would have been in its natural, pristine state thus allowing flood flows an unrestrained access to the entire expanse of the Hindonfloodplain.

Table: 7 below presents the simulated depth range and extent of inundations that are likely following a 7-Day, 25-year return period flood event in Hindon as flood courses down the river. The results are presented separately for the two simulated aforementioned scenarios namely Scenarios 1 and 2.

**Table 7 - Simulated Depth Range and Extend of Inundation following a 7-Day, 25-YearReturn Period flood**

57

| S.No. | Range | Scenario 1- Existing Embankment Area in $km^2$ | Scenario 2 – Virgin Flow Area in $km^2$ |
|---|---|---|---|
| 1 | 0.1 m - 0.5m | 207.09 | 314.30 |
| 2 | 0.5 m – 1.0 m | 181.19 | 315.83 |
| 3 | 1.0 m – 1.5 m | 96.59 | 157.81 |
| 4 | 1.5 m – 2.0 m | 59.79 | 59.47 |
| 5 | 2.0 m – 2.5 m | 35.27 | 26.55 |
| 6 | 2.5 m – 3.0 m | 20.78 | 11.98 |
| 7 | 3.0 m – 3.5 m | 11.13 | 5.11 |
| 8 | 3.5 m – 4.5 m | 10.63 | 4.04 |
| 9 | 4.5 m – 5.5 m | 5.125 | 0.68 |
| 10 | 5.5 m – 6.5 m | 6.511 | 0.06 |
| 11 | >6.5 m (upto 7.9 m) | 2.15 | 0 |

## 16.0 SIMULATED EXTENT OF FLOODING FOR SCENARIO 1:

a) **Hindon Basin:**

58

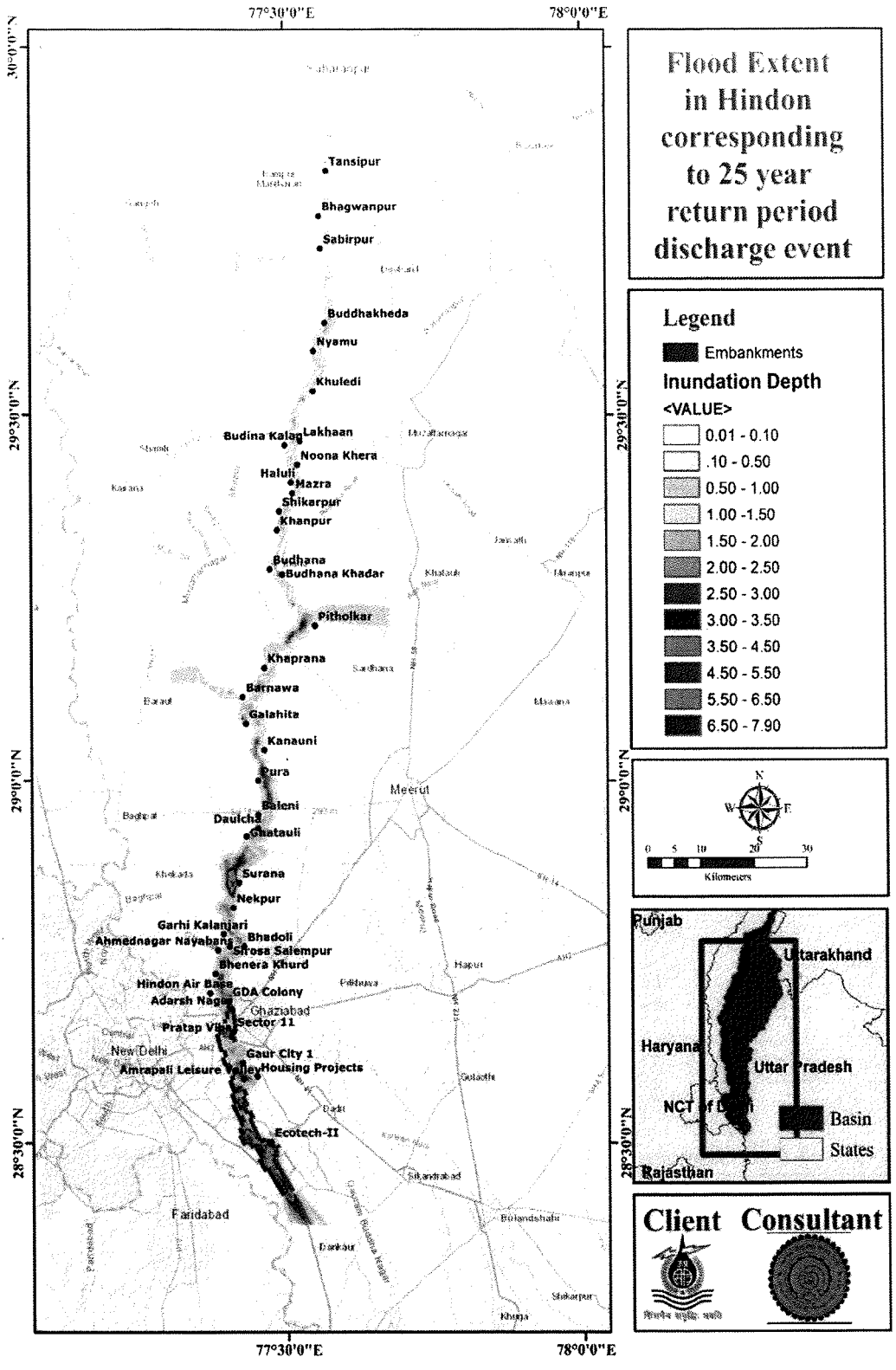



**Figure 12 - Scenario 1 for Hindon Basin**

b) GhaziabadSection:

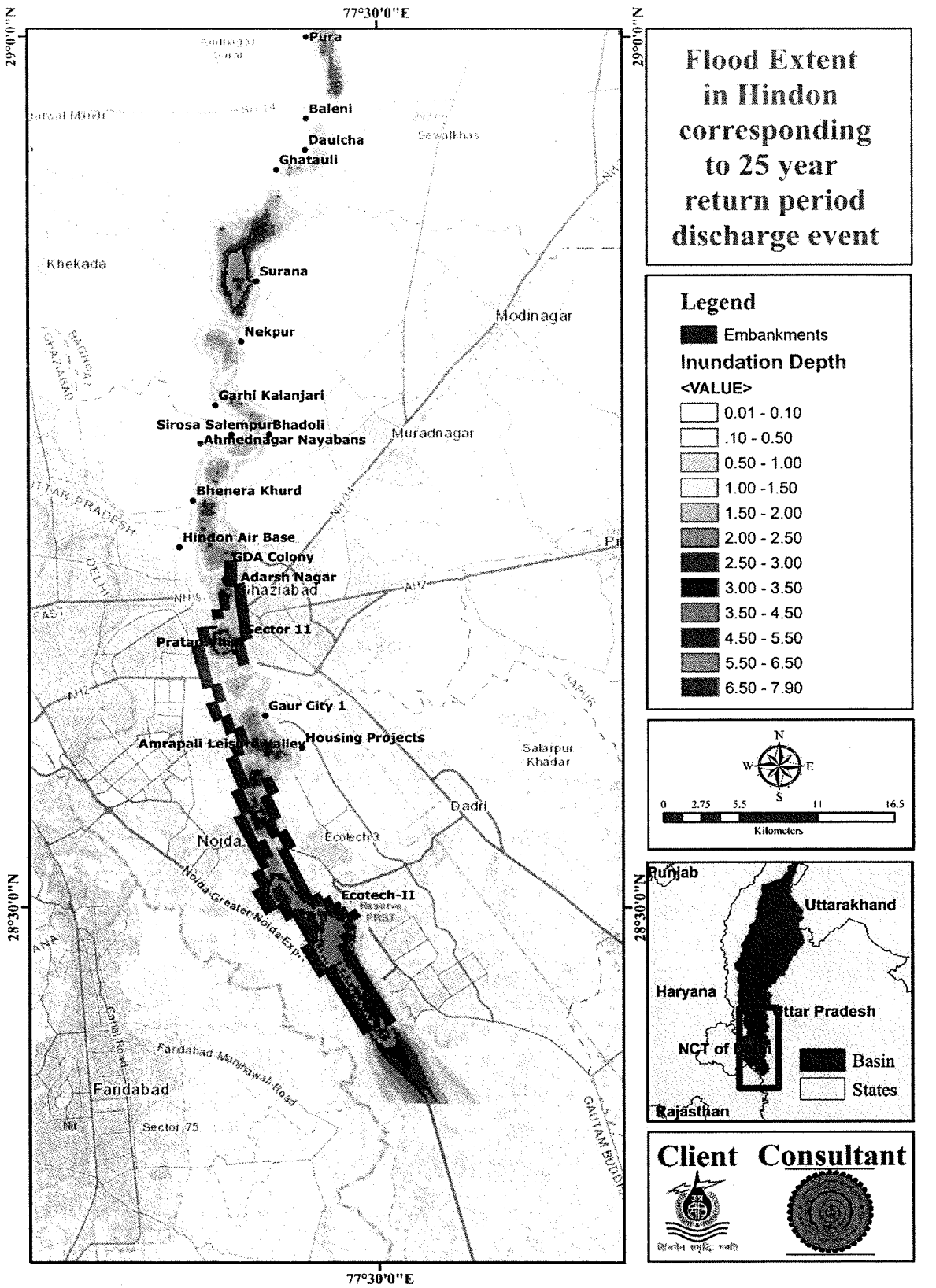



Figure 13 - Scenario 1 for Ghaziabad/Noida Section of Hindon Basin

c) Hindon Cut Canal to Budhana

60

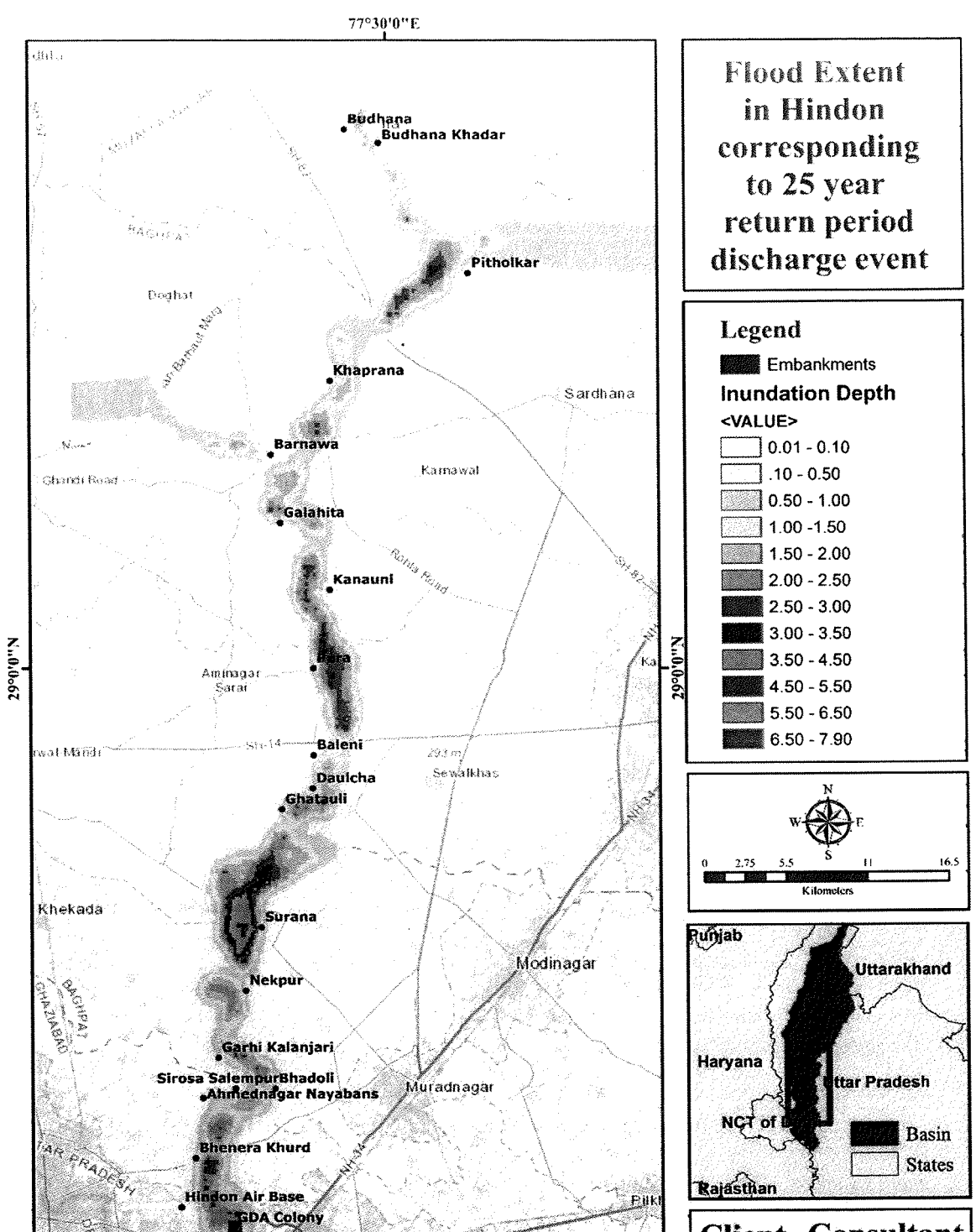



Figure 14 - Scenario 1 for Section from Hindon Cut to Budhana Canal

61

d) Budhana to Saharanpur Section:

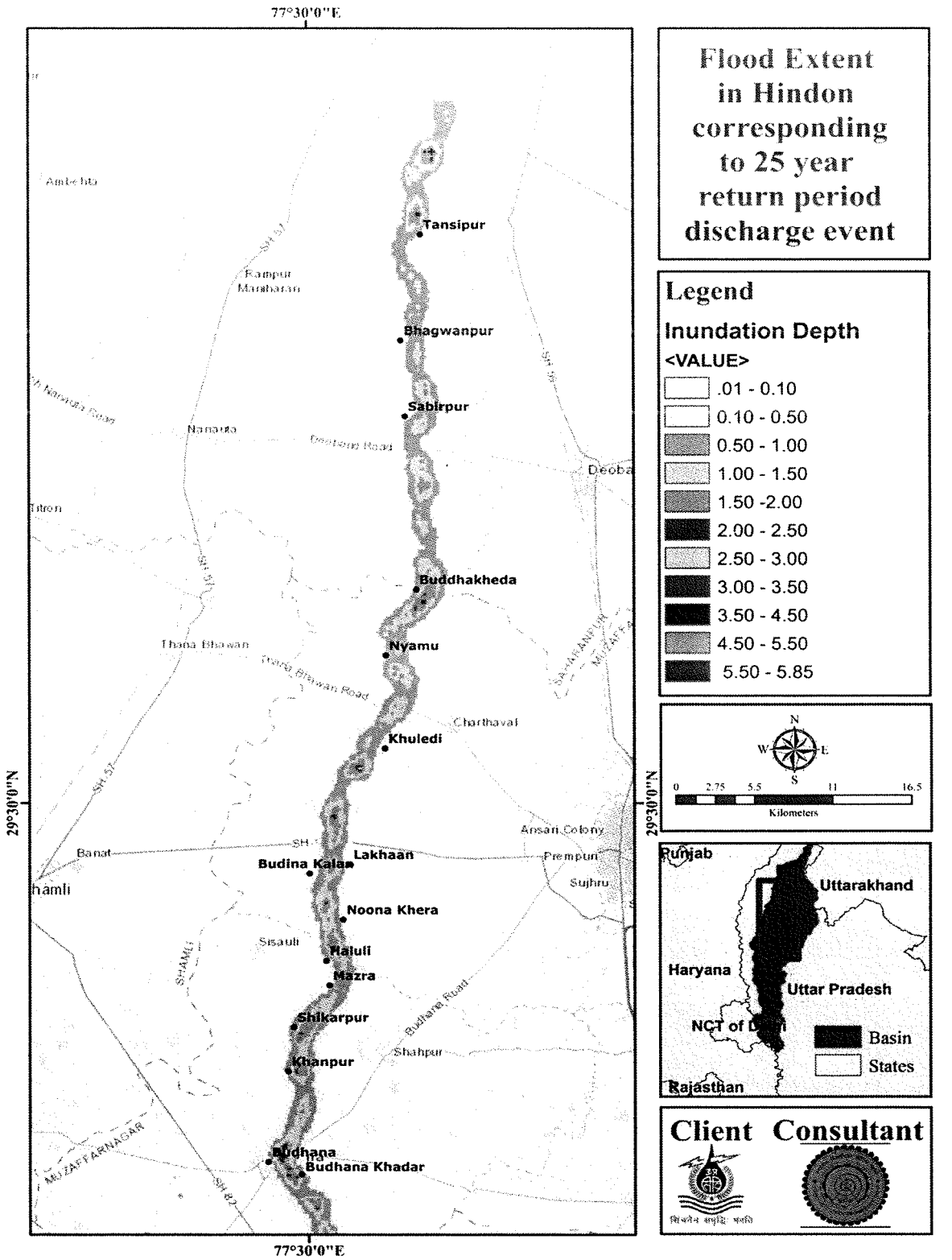



Figure 15 - Scenario 1 for section from Budhana Canal to Saharanpur

62

## 17.0 SIMULATED FLOODING EXTENT FOR SCENARIO 2:

a) Hindon Basin

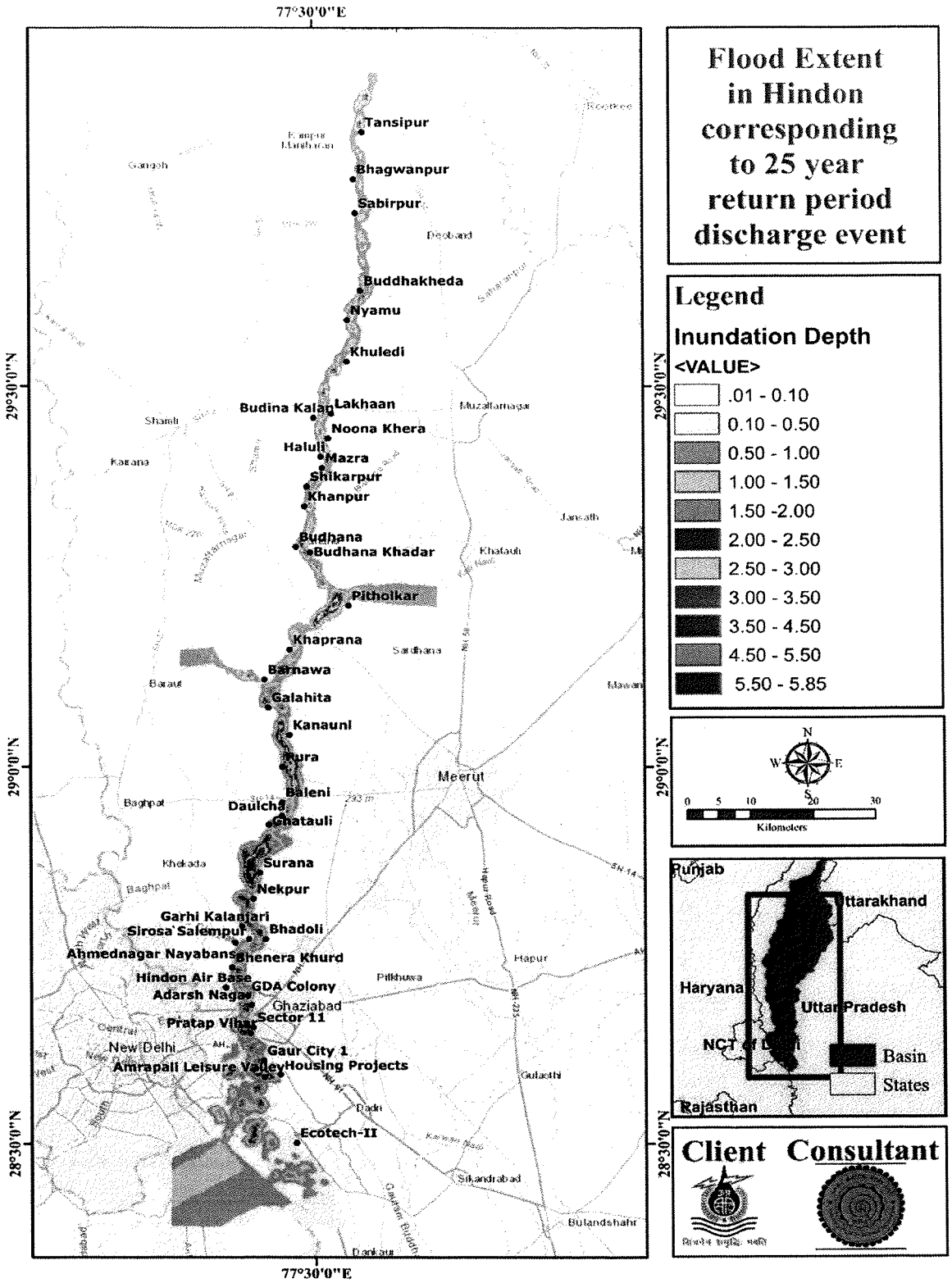



Figure 16 - Scenario 2 for Hindon Basin

63

b) Confluence with Yamuna to Ghaziabad (Hindon Cut Canal)

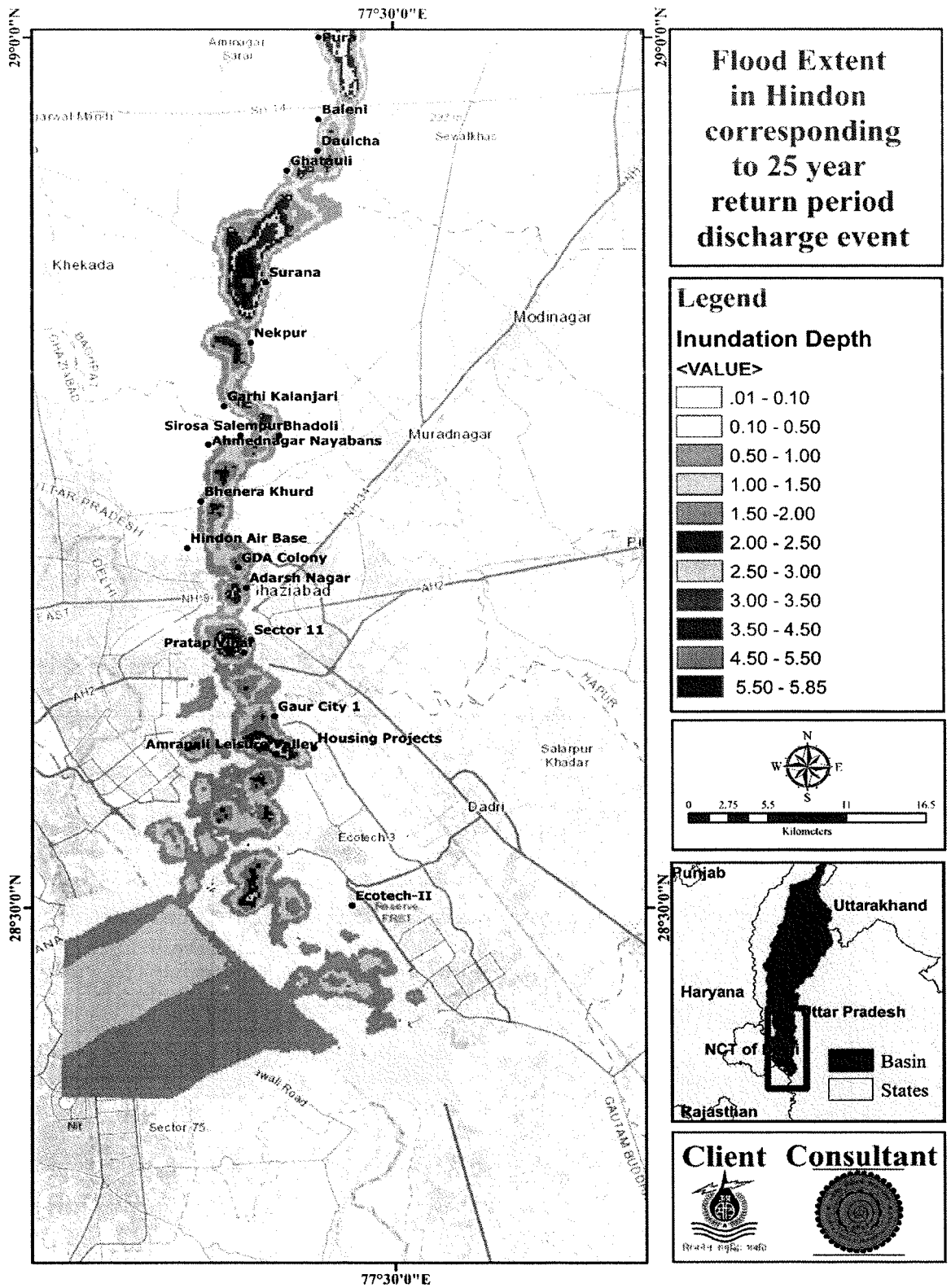



**Figure 17 - Scenario 2 for Section in Ghaziabad and Noida**

64

c) Hindon Cut to Budana Section

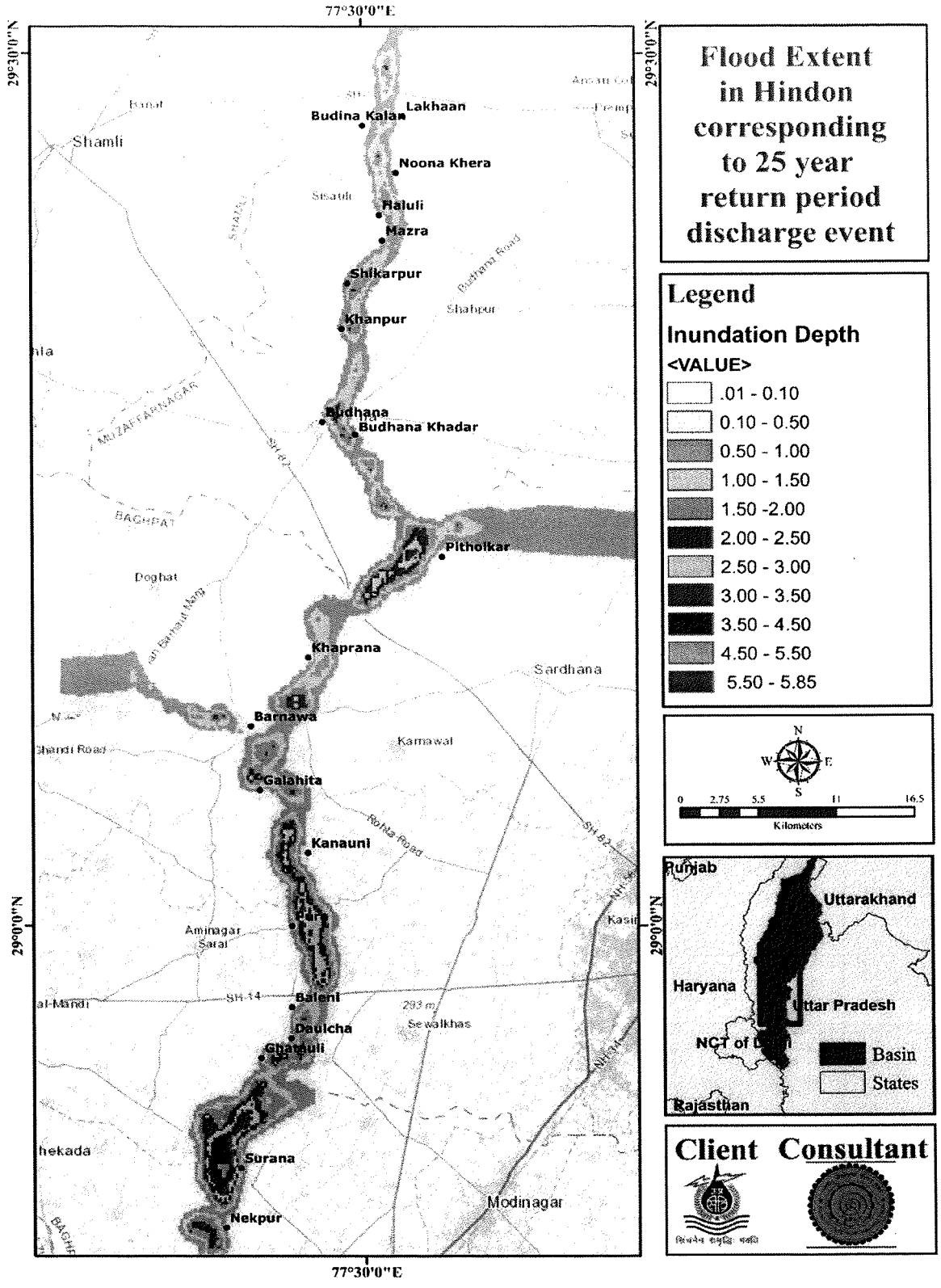



**Figure 18 - Scenario 2 for Section from Hindon Cut to Budhana Canal**

65

d) Budhana to Saharanpur Section

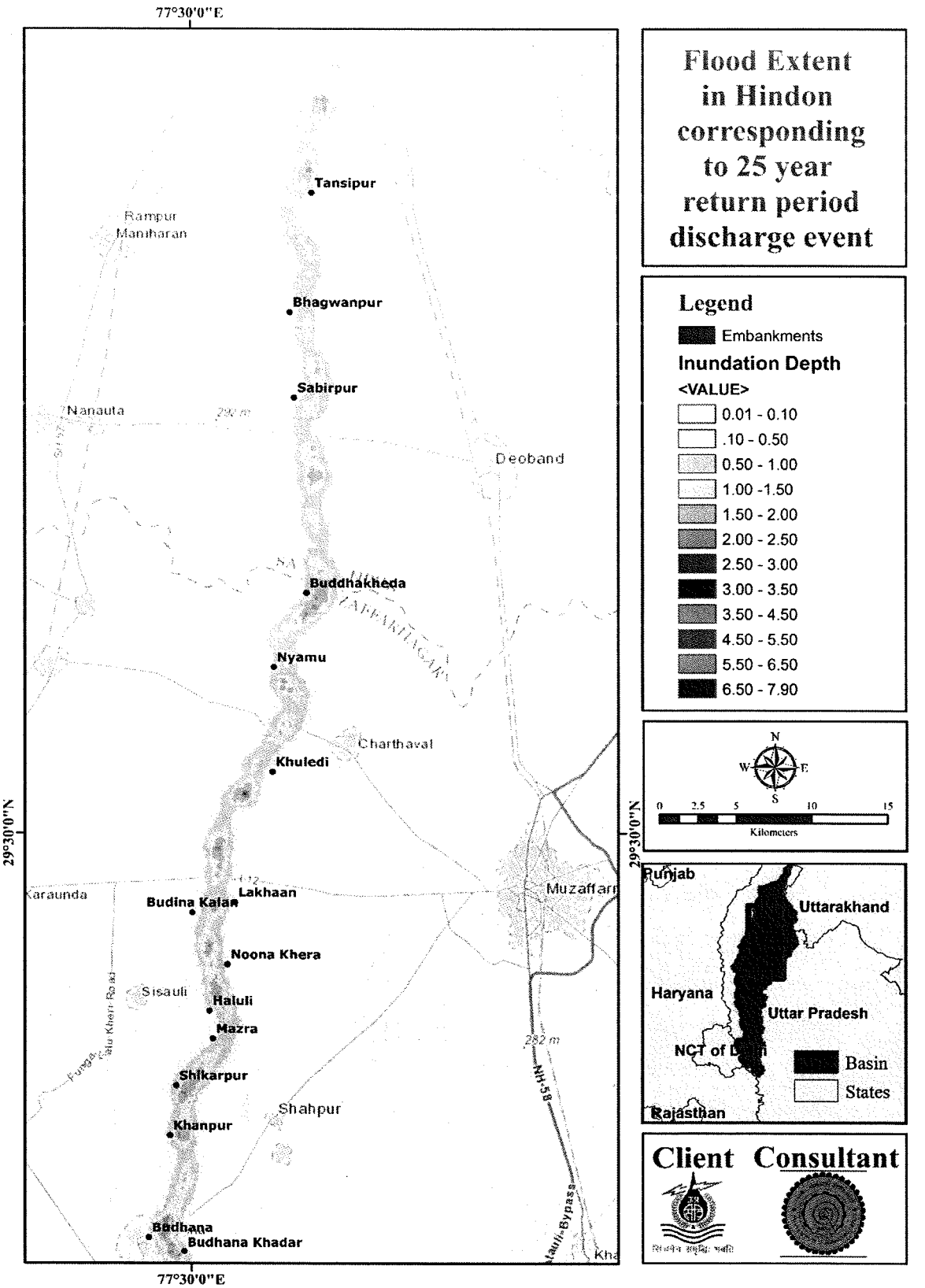



**Figure 19 - Scenario 2 for section from Budhana Canal to Saharanpur**

**18.0 Conclusions &Recommendations:**

This report has discussed the flood plains of Hindon River based on 25-year return period flood. The key issue in any flood plain zoning process is to reduce the flood risk for communities living adjacent to banks of the river. In this regard, it is to reiterate the fact that a substantial population lives in the flood plain as marked in the maps above.

Therefore, in view of this, it is recommended that following steps may be taken to better manage the flood risk and associated exigencies:

a) There is a need to establish a functional Flood Warning system across the entire Hindon basin with a special focus on the reach downstream of Hindon Cut Canal. The Flood Warning System should be capable of downlinking forecasts on expected rainfall over the basin using IMD's network of Doppler Radar. Further, Gauge to Gauge correlations together with Hydrodynamic Flood Flows transport model needs to be developed for the entire Hindon basin, including all important tributary systems, and integrated with the proposed Flood Warning system.

b) Efforts should be made to establish a network of local observation stations as part of an elaborate hydro-agro-meteorological data collection and recording system with a special focus on the station at Galeta and with additional sites identified based on an elaborate investigative study.

c) It is further recommended that studies leading to flood plain zoning corresponding to return periods of 5, 10, 50, and 100 years be commissioned in addition to the expected 25year return period flood plain delineation as has been accomplished in the present study. It is expected that such a study will enable the State to manage the flood plains of Hindonin a more objective manner and also permit zone specificregulation of flood plain activities by identifying those that are deemed permissible in contrast with those that need to be emphatically discouraged.

d) Further, the mechanism of efficient storage and retrieval of hydro-meteorological data such as rainfall, stage and discharge of daily/sub-daily flow, manually or electronically, at the important locations such as before entry and after exit of any major human settlements needs to be made.

e) There is a need to suspend all construction activity along the banks of River Hindon till adequate structural measures for flood control and flood containment are established. It merits mention that large floods, especially those having an expected return period of 25 years or longer, pose a grave challenge to habitations and other socio-economic infrastructure located nut just along the banks of river but also beyond in the connected flood plain.

f) Hindon basin supports large scale exploitation of surface as well as ground water along much of its course, especially from Saharanpur and down till its eventual confluence with Yamuna. It is suggested that resources be invested towards development of a comprehensive, Multi-Objective Integrated Water Resource Management Plan for the Hindon Basin. It is expected that such an initiative, upon conclusion, will provide a better framework for a sustainable Water Resources Management paradigm that also addresses multi-sectoral concerns for Water Security.

**19.0 CAVEAT:**

**Hydrological modelling of the study basin's complex hydrological cycle and the basin's innate ability to deliver flood runoff into the latter system's drainage system is indeed challenging and entails approximations that may not always be reasonable and realistic. These approximations understandably impair the quality of model derived simulations.**

**Further, among other factors, the modelling efficiency is also essentially controlled by the quality of input data and its availability. With regard to the present study, lack of adequate and quality data was indeed a serious challenge and the results presented herein are expected to reflect that.**

**An important part of this study was to put together a credible framework to study the hydrodynamic transport phenomena of flood propagation across the various elements of the drainage network of Hindon basin.**

**Accordingly, hydrodynamic simulation of water surface profiles in river Hindon is based on the numerical solution of the governing St. Venant's equations. These equations are derived based on certain fundamental assumptions and may often represent a highly idealized physical system.**

## 20.0 Acknowledgement:

We are grateful to Government of Uttar Pradesh for having reposed faith in us and entrusted us with the task of carrying out this challenging study. Studies, such as this one, need facilitation in various forms and at various levels and demand an active involvement of all stakeholders that represent the collective interests of the client organization.

Particular mention must also be made of the role of NGT and the Hon'ble Tribunals interest in setting exacting standards against which river basin management protocols must be benchmarked. Accordingly, we record our appreciation of the leadership role of the Hon'ble Tribunal that led to this study.

It is indeed a sombre moment as we record the role of the Late Mr. Ravindra Singh Yadav, Executive Engineer, Irrigation Const, Division, Ghaziabad who was the prime mover of this study. His passing away in January, 2018 was as tragic as it was unforeseen and our reminiscences of his involvement and keen initiatives in ensuring a smooth progress of the present study is as much a homage to his memory as it is to his drive and motivation.

Mr. Neeraj Lamba, succeeded Late Mr. Ravindra Singh Yadav as the nodal officer for this study. We also record the valuable contributions to the study by Mr. Lamba who had to work tirelessly and relentlessly for more than eighteen months to finally get the paperwork done for administrative clearance of release of grants that were committed by Government of UP to IIT Delhi as fee for this study.

We are also appreciative of the contribution made to the study by Mr. Parvez, formerly Assistant Engineer, Ghaziabad Division of UP Irrigation and Mr. Satish as the incumbent Assistant Engineer with the Ghaziabad Division of UP Irrigation.

We are also appreciative of the contribution made to the study by a number of students and staff of the Department of Civil Engineering, IIT Delhi.

# Details of Extent of Flood Plain Corresponding to 25 Year Return Period Flood

| | Left Side of Main Stem | | | | Centre Line | | Right Side of Main Stem | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ID | Longitude (decimal Degrees) | Latitude (decimal Degrees) | Flood Extent on Left Bank (in meters) (Eastern Side) | Angle | Longitude (decimal Degrees) | Latitude (decimal Degrees) | Angle | Flood Extent on Right Bank (in meters) (Western Side) | Longitude (decimal Degrees) | Latitude (decimal Degrees) | Chainage |
| 1 | 77.5970747 | 29.9011427 | 260.81 | 0 degree with respect to East | 77.5943760 | 29.9011958 | 180 degree with respect to East | 1443.345 | 77.5794410 | 29.9014889 | **Downstream of Saharanpur Town, Chainage = 394868.3 m** |
| 2 | 77.5976082 | 29.9000720 | 462.23 | 0 degree with respect to East | 77.5928254 | 29.9001661 | 180 degree with respect to East | 1309.992 | 77.5792704 | 29.9004320 | Chainage = 278454.62m |
| 3 | 77.5974731 | 29.8993242 | 593.55 | 0 degree with respect to East | 77.5913315 | 29.8994451 | 180 degree with respect to East | 1219.023 | 77.5787178 | 29.8996924 | Chainage = 278289.61m |
| 4 | 77.5972156 | 29.8980680 | 711.66 | 0 degree with respect to East | 77.5898520 | 29.8982129 | 180 degree with respect to East | 1119.176 | 77.5782716 | 29.8984399 | Chainage = 278091.86m |
| 5 | 77.5971088 | 29.8968253 | 812.81 | 0 degree with respect to East | 77.5886987 | 29.8969907 | 180 degree with respect to East | 971.741 | 77.5786440 | 29.8971877 | Chainage = 277916.4m |
| 6 | 77.5970319 | 29.8950848 | 789.62 | 0 degree with respect to East | 77.5888618 | 29.8952455 | 180 degree with respect to East | 1027.879 | 77.5782264 | 29.8954539 | Chainage = 277722.23m |
| 7 | 77.5968594 | 29.8946043 | 893.86 | 0 degree with respect to East | 77.5876108 | 29.8947861 | 180 degree with respect to East | 931.955 | 77.5779680 | 29.8949750 | Chainage = 277591.06m |
| 8 | 77.5966571 | 29.8941438 | 1044.51 | 0 degree with respect to East | 77.5858499 | 29.8943562 | 180 degree with respect to East | 790.822 | 77.5776674 | 29.8945165 | Chainage = 277414.36m |
| 9 | 77.5964637 | 29.8931961 | 1163.34 | 0 degree with respect to East | 77.5844270 | 29.8934326 | 180 degree with respect to East | 687.343 | 77.5773153 | 29.8935718 | Chainage = 277242.92m |
| 10 | 77.5960507 | 29.8916661 | 1208.85 | 0 degree with respect to East | 77.5835434 | 29.8919117 | 180 degree with respect to East | 687.176 | 77.5764335 | 29.8920509 | Chainage = 277053.89m |



527

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 77.5939312 | 29.8901696 | 1089.41 | 0 degree with respect to East | 77.5826598 | 29.8903908 | 180 degree with respect to East | 679.929 | 77.5756250 | 29.8905284 | Chainage = 276864.86m |
| 12 | 77.5943125 | 29.8903746 | 1283.93 | 0 degree with respect to East | 77.5810285 | 29.8906353 | 180 degree with respect to East | 503.438 | 77.5758197 | 29.8907371 | Chainage = 276704.92m |
| 13 | 77.5932973 | 29.8895093 | 1341.64 | 0 degree with respect to East | 77.5794163 | 29.8897816 | 180 degree with respect to East | 402.500 | 77.5752519 | 29.8898630 | Chainage = 276522.63m |
| 14 | 77.5924821 | 29.8878926 | 1245.49 | 0 degree with respect to East | 77.5795961 | 29.8881453 | 180 degree with respect to East | 419.623 | 77.5752546 | 29.8882301 | Chainage = 276340.35m |
| 15 | 77.5923140 | 29.8860798 | 1222.41 | 0 degree with respect to East | 77.5796671 | 29.8863279 | 180 degree with respect to East | 605.571 | 77.5734018 | 29.8864503 | Chainage = 276138.7m |
| 16 | 77.5916482 | 29.8846443 | 1166.99 | 0 degree with respect to East | 77.5795748 | 29.8848811 | 180 degree with respect to East | 1087.958 | 77.5683189 | 29.8851008 | Chainage = 275978.02m |
| 17 | 77.5910602 | 29.8829307 | 1071.48 | 0 degree with respect to East | 77.5799750 | 29.8831481 | 180 degree with respect to East | 1315.947 | 77.5663606 | 29.8834137 | Chainage = 275781.99m |
| 18 | 77.5899975 | 29.8814317 | 885.60 | 0 degree with respect to East | 77.5808356 | 29.8816113 | 180 degree with respect to East | 1465.413 | 77.5656750 | 29.8819071 | Chainage = 275592.37m |
| 19 | 77.5885723 | 29.8796723 | 722.65 | 0 degree with respect to East | 77.5810963 | 29.8798188 | 180 degree with respect to East | 1539.085 | 77.5651739 | 29.8801295 | Chainage = 275392.01m |
| 20 | 77.5886193 | 29.8780274 | 790.60 | 0 degree with respect to East | 77.5804404 | 29.8781877 | 180 degree with respect to East | 1468.492 | 77.5652485 | 29.8784840 | Chainage = 275200.34m |
| 21 | 77.5889394 | 29.8766284 | 937.25 | 0 degree with respect to East | 77.5792436 | 29.8768184 | 180 degree with respect to East | 1407.290 | 77.5646851 | 29.8771023 | Chainage = 275009.47m |
| 22 | 77.5888487 | 29.8757700 | 1069.14 | 0 degree with respect to East | 77.5777886 | 29.8759866 | 180 degree with respect to East | 1424.139 | 77.5630558 | 29.8762738 | Chainage = 274841.3m |
| 23 | 77.5886813 | 29.8754255 | 1227.16 | 0 degree with respect to East | 77.5759865 | 29.8756741 | 180 degree with respect to East | 1317.846 | 77.5623534 | 29.8759396 | Chainage = 274663.73m |
| 24 | 77.5883829 | 29.8747092 | 1359.73 | 0 degree with respect to East | 77.5743167 | 29.8749845 | 180 degree with respect to East | 1233.141 | 77.5615599 | 29.8752328 | Chainage = 274485.16m |
| 25 | 77.5884032 | 29.8741738 | 1513.47 | 0 degree with respect to East | 77.5727468 | 29.8744801 | 180 degree with respect to East | 1110.267 | 77.5612612 | 29.8747037 | Chainage = 274323.46m |
| 26 | 77.5884735 | 29.8733581 | 1677.82 | 0 degree with respect to East | 77.5711170 | 29.8736975 | 180 degree with respect to East | 979.710 | 77.5609821 | 29.8738947 | Chainage = 274143.63m |
| 27 | 77.5883488 | 29.8716410 | 1685.70 | 0 degree with respect to East | 77.5709111 | 29.8719821 | 180 degree with respect to East | 1038.666 | 77.5601665 | 29.8721910 | Chainage = 273952.36m |
| 28 | 77.5880899 | 29.8709701 | 1500.44 | 0 degree with respect to East | 77.5725687 | 29.8712737 | 180 degree with respect to East | 1268.430 | 77.5594474 | 29.8715289 | Chainage = 273773.93m |



528

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 77.5884030 | 29.8717664 | 1420.15 | 0 degree with respect to East | 77.5737122 | 29.8720539 | 180 degree with respect to East | 1300.305 | 77.5602610 | 29.8723156 | Chainage = 273633.58m |
| 30 | 77.5882668 | 29.8714305 | 1269.27 | 0 degree with respect to East | 77.5751370 | 29.8716874 | 180 degree with respect to East | 1463.548 | 77.5599971 | 29.8719821 | Chainage = 273490.01m |
| 31 | 77.5878673 | 29.8701756 | 1330.24 | 0 degree with respect to East | 77.5741068 | 29.8704448 | 180 degree with respect to East | 1440.235 | 77.5592084 | 29.8707347 | Chainage = 273320.02m |
| 32 | 77.5877833 | 29.8698674 | 1200.39 | 0 degree with respect to East | 77.5753662 | 29.8701104 | 180 degree with respect to East | 1561.612 | 77.5592122 | 29.8704248 | Chainage = 273192.79m |
| 33 | 77.5872510 | 29.8685791 | 1224.09 | 0 degree with respect to East | 77.5745888 | 29.8688269 | 180 degree with respect to East | 1434.212 | 77.5597528 | 29.8691156 | Chainage = 273031.84m |
| 34 | 77.5872510 | 29.8685791 | 1410.19 | 0 degree with respect to East | 77.5726637 | 29.8688644 | 180 degree with respect to East | 1248.115 | 77.5597528 | 29.8691156 | Chainage = 272845.74m |
| 35 | 77.5867352 | 29.8677868 | 1502.97 | 0 degree with respect to East | 77.5711884 | 29.8680907 | 180 degree with respect to East | 1228.027 | 77.5584853 | 29.8683377 | Chainage = 272679.33m |
| 36 | 77.5862930 | 29.8675279 | 1637.18 | 0 degree with respect to East | 77.5693579 | 29.8678589 | 180 degree with respect to East | 1102.460 | 77.5579538 | 29.8680805 | Chainage = 272500.56m |
| 37 | 77.5867352 | 29.8677868 | 1839.51 | 0 degree with respect to East | 77.5677071 | 29.8681585 | 180 degree with respect to East | 891.485 | 77.5584853 | 29.8683377 | Chainage = 272337.59m |
| 38 | 77.5869557 | 29.8680803 | 1985.79 | 0 degree with respect to East | 77.5664144 | 29.8684816 | 180 degree with respect to East | 677.234 | 77.5594089 | 29.8686177 | Chainage = 272207.62m |
| 39 | 77.5842092 | 29.8665004 | 1668.58 | 0 degree with respect to East | 77.5669494 | 29.8668374 | 180 degree with respect to East | 984.398 | 77.5567666 | 29.8670351 | Chainage = 272018.1m |
| 40 | 77.5829098 | 29.8650742 | 1444.96 | 0 degree with respect to East | 77.5679634 | 29.8653660 | 180 degree with respect to East | 1129.990 | 77.5562748 | 29.8655930 | Chainage = 271827.77m |
| 41 | 77.5820160 | 29.8638224 | 1220.99 | 0 degree with respect to East | 77.5693864 | 29.8640690 | 180 degree with respect to East | 1266.863 | 77.5562822 | 29.8643236 | Chainage = 271628.77m |
| 42 | 77.5791747 | 29.8624263 | 848.29 | 0 degree with respect to East | 77.5704004 | 29.8625976 | 180 degree with respect to East | 1366.547 | 77.5562652 | 29.8628722 | Chainage = 271438.44m |
| 43 | 77.5778062 | 29.8610959 | 717.17 | 0 degree with respect to East | 77.5703882 | 29.8612406 | 180 degree with respect to East | 1356.482 | 77.5563574 | 29.8615132 | Chainage = 271287.96m |
| 44 | 77.5775142 | 29.8597423 | 615.66 | 0 degree with respect to East | 77.5711463 | 29.8598666 | 180 degree with respect to East | 1416.294 | 77.5564970 | 29.8601512 | Chainage = 271118.89m |
| 45 | 77.5778848 | 29.8580122 | 698.50 | 0 degree with respect to East | 77.5706602 | 29.8581532 | 180 degree with respect to East | 1310.609 | 77.5571043 | 29.8584166 | Chainage = 270923.17m |
| 46 | 77.5778172 | 29.8563829 | 758.16 | 0 degree with respect to East | 77.5699755 | 29.8565359 | 180 degree with respect to East | 1010.169 | 77.5595273 | 29.8567390 | Chainage = 270732.01m |



529

42

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 47 | 77.5780126 | 29.8551179 | 887.97 | 0 degree with respect to East | 77.5688284 | 29.8552970 | 180 degree with respect to East | 826.005 | 77.5602851 | 29.8554631 | Chainage = 270555.46m |
| 48 | 77.5783571 | 29.8544681 | 1061.56 | 0 degree with respect to East | 77.5673777 | 29.8546821 | 180 degree with respect to East | 695.164 | 77.5601877 | 29.8548218 | Chainage = 270399.54m |
| 49 | 77.5785030 | 29.8530135 | 977.64 | 0 degree with respect to East | 77.5683916 | 29.8532107 | 180 degree with respect to East | 824.304 | 77.5598661 | 29.8533764 | Chainage = 270209.2m |
| 50 | 77.5784977 | 29.8515619 | 879.11 | 0 degree with respect to East | 77.5694056 | 29.8517393 | 180 degree with respect to East | 817.607 | 77.5609494 | 29.8519036 | Chainage = 270018.86m |
| 51 | 77.5786215 | 29.8508261 | 733.00 | 0 degree with respect to East | 77.5710405 | 29.8509740 | 180 degree with respect to East | 967.553 | 77.5610336 | 29.8511686 | Chainage = 269839.48m |
| 52 | 77.5787209 | 29.8505567 | 566.72 | 0 degree with respect to East | 77.5728597 | 29.8506711 | 180 degree with respect to East | 1143.048 | 77.5610378 | 29.8509010 | Chainage = 269660.44m |
| 53 | 77.5788602 | 29.8501736 | 408.60 | 0 degree with respect to East | 77.5746343 | 29.8502561 | 180 degree with respect to East | 1335.126 | 77.5608259 | 29.8505248 | Chainage = 269482.84m |
| 54 | 77.5790239 | 29.8487420 | 381.18 | 0 degree with respect to East | 77.5750816 | 29.8488190 | 180 degree with respect to East | 1527.034 | 77.5592887 | 29.8491262 | Chainage = 269317.72m |
| 55 | 77.5788838 | 29.8473689 | 486.87 | 0 degree with respect to East | 77.5738485 | 29.8474672 | 180 degree with respect to East | 1494.054 | 77.5583969 | 29.8477676 | Chainage = 269126.2m |
| 56 | 77.5791545 | 29.8460395 | 608.11 | 0 degree with respect to East | 77.5728655 | 29.8461623 | 180 degree with respect to East | 1475.209 | 77.5576089 | 29.8464588 | Chainage = 268953.09m |
| 57 | 77.5794342 | 29.8449600 | 782.25 | 0 degree with respect to East | 77.5713443 | 29.8451179 | 180 degree with respect to East | 1341.065 | 77.5574751 | 29.8453874 | Chainage = 268765.9m |
| 58 | 77.5793539 | 29.8439174 | 892.84 | 0 degree with respect to East | 77.5701204 | 29.8440976 | 180 degree with respect to East | 1232.134 | 77.5573779 | 29.8443451 | Chainage = 268602.19m |
| 59 | 77.5790324 | 29.8423089 | 872.47 | 0 degree with respect to East | 77.5700097 | 29.8424849 | 180 degree with respect to East | 1249.260 | 77.5570904 | 29.8427358 | Chainage = 268423.04m |
| 60 | 77.5792632 | 29.8408354 | 800.50 | 0 degree with respect to East | 77.5709850 | 29.8409969 | 180 degree with respect to East | 1360.833 | 77.5569120 | 29.8412703 | Chainage = 268233m |
| 61 | 77.5790033 | 29.8394260 | 669.24 | 0 degree with respect to East | 77.5720826 | 29.8395611 | 180 degree with respect to East | 1500.527 | 77.5565652 | 29.8398625 | Chainage = 268041.66m |
| 62 | 77.5787949 | 29.8385181 | 797.48 | 0 degree with respect to East | 77.5705480 | 29.8386789 | 180 degree with respect to East | 1348.877 | 77.5565990 | 29.8389499 | Chainage = 267863.96m |
| 63 | 77.5789313 | 29.8391919 | 929.75 | 0 degree with respect to East | 77.5693165 | 29.8393794 | 180 degree with respect to East | 1236.527 | 77.5565292 | 29.8396277 | Chainage = 267721.81m |
| 64 | 77.5791717 | 29.8398482 | 1073.62 | 0 degree with respect to East | 77.5680692 | 29.8400647 | 180 degree with respect to East | 1106.527 | 77.5566261 | 29.8402868 | Chainage = 267579.27m |



530

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 65 | 77.5787906 | 29.8384935 | 1128.21 | 0 degree with respect to East | 77.5671237 | 29.8387210 | 180 degree with respect to East | 1016.728 | 77.5566095 | 29.8389250 | Chainage = 267404.47m |
| 66 | 77.5784968 | 29.8368667 | 1095.32 | 0 degree with respect to East | 77.5671701 | 29.8370874 | 180 degree with respect to East | 1026.706 | 77.5565528 | 29.8372935 | Chainage = 267223.27m |
| 67 | 77.5784697 | 29.8366576 | 950.74 | 0 degree with respect to East | 77.5686381 | 29.8368493 | 180 degree with respect to East | 1172.442 | 77.5565138 | 29.8370847 | Chainage = 267078.91m |
| 68 | 77.5786499 | 29.8375550 | 888.51 | 0 degree with respect to East | 77.5694618 | 29.8377342 | 180 degree with respect to East | 1235.449 | 77.5566859 | 29.8379823 | Chainage = 266952.54m |
| 69 | 77.5781659 | 29.8359691 | 774.82 | 0 degree with respect to East | 77.5701536 | 29.8361254 | 180 degree with respect to East | 1360.682 | 77.5560829 | 29.8363986 | Chainage = 266762.01m |
| 70 | 77.5746705 | 29.8343675 | 494.84 | 0 degree with respect to East | 77.5695535 | 29.8344672 | 180 degree with respect to East | 1417.085 | 77.5548997 | 29.8347516 | Chainage = 266569.2m |
| 71 | 77.5741945 | 29.8329305 | 553.42 | 0 degree with respect to East | 77.5684718 | 29.8330420 | 180 degree with respect to East | 1332.788 | 77.5546899 | 29.8333094 | Chainage = 266379.69m |
| 72 | 77.5741666 | 29.8327236 | 729.79 | 0 degree with respect to East | 77.5666202 | 29.8328705 | 180 degree with respect to East | 1156.148 | 77.5546649 | 29.8331024 | Chainage = 266199.66m |
| 73 | 77.5742408 | 29.8332571 | 870.09 | 0 degree with respect to East | 77.5652436 | 29.8334322 | 180 degree with respect to East | 1018.359 | 77.5547131 | 29.8336365 | Chainage = 266052.71m |
| 74 | 77.5742392 | 29.8332458 | 1055.70 | 0 degree with respect to East | 77.5633226 | 29.8334582 | 180 degree with respect to East | 832.671 | 77.5547122 | 29.8336251 | Chainage = 265866.96m |
| 75 | 77.5741548 | 29.8324563 | 1206.65 | 0 degree with respect to East | 77.5616774 | 29.8326990 | 180 degree with respect to East | 700.935 | 77.5544293 | 29.8328395 | Chainage = 265686.99m |
| 76 | 77.5741976 | 29.8329522 | 1347.69 | 0 degree with respect to East | 77.5602616 | 29.8332233 | 180 degree with respect to East | 538.726 | 77.5546908 | 29.8333312 | Chainage = 265538.28m |
| 77 | 77.5741189 | 29.8319715 | 1407.32 | 0 degree with respect to East | 77.5595666 | 29.8322544 | 180 degree with respect to East | 561.242 | 77.5537630 | 29.8323668 | Chainage = 265411.56m |
| 78 | 77.5736438 | 29.8308223 | 1235.81 | 0 degree with respect to East | 77.5608650 | 29.8310708 | 180 degree with respect to East | 776.192 | 77.5528388 | 29.8312263 | Chainage = 265229.94m |
| 79 | 77.5698382 | 29.8290888 | 846.92 | 0 degree with respect to East | 77.5610808 | 29.8292590 | 180 degree with respect to East | 857.414 | 77.5522149 | 29.8294307 | Chainage = 265027.95m |
| 80 | 77.5693757 | 29.8273129 | 836.27 | 0 degree with respect to East | 77.5607287 | 29.8274809 | 180 degree with respect to East | 843.143 | 77.5520105 | 29.8276497 | Chainage = 264827.85m |
| 81 | 77.5683056 | 29.8259405 | 848.45 | 0 degree with respect to East | 77.5595327 | 29.8261109 | 180 degree with respect to East | 749.861 | 77.5517792 | 29.8262610 | Chainage = 264636.93m |
| 82 | 77.5676921 | 29.8252014 | 933.54 | 0 degree with respect to East | 77.5580394 | 29.8253887 | 180 degree with respect to East | 603.994 | 77.5517941 | 29.8255096 | Chainage = 264471.82m |



531

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 83 | 77.5674869 | 29.8245613 | 1077.84 | 0 degree with respect to East | 77.5563422 | 29.8247776 | 180 degree with respect to East | 437.185 | 77.5518217 | 29.8248650 | Chainage = 264294.28m |
| 84 | 77.5673986 | 29.8243020 | 1245.69 | 0 degree with respect to East | 77.5545184 | 29.8245519 | 180 degree with respect to East | 258.758 | 77.5518429 | 29.8246036 | Chainage = 264116.17m |
| 85 | 77.5675396 | 29.8247162 | 1389.29 | 0 degree with respect to East | 77.5531746 | 29.8249948 | 180 degree with respect to East | 133.377 | 77.5517955 | 29.8250214 | Chainage = 263977.27m |
| 86 | 77.5666557 | 29.8231662 | 1265.65 | 0 degree with respect to East | 77.5535693 | 29.8234200 | 180 degree with respect to East | 177.977 | 77.5517291 | 29.8234556 | Chainage = 263798.52m |
| 87 | 77.5662274 | 29.8217479 | 1120.72 | 0 degree with respect to East | 77.5546397 | 29.8219726 | 180 degree with respect to East | 290.806 | 77.5516329 | 29.8220307 | Chainage = 263607.54m |
| 88 | 77.5648410 | 29.8201796 | 919.68 | 0 degree with respect to East | 77.5553322 | 29.8203640 | 180 degree with respect to East | 333.527 | 77.5518837 | 29.8204307 | Chainage = 263417.01m |
| 89 | 77.5666582 | 29.8184951 | 1040.19 | 0 degree with respect to East | 77.5559034 | 29.8187037 | 180 degree with respect to East | 389.792 | 77.5518733 | 29.8187816 | Chainage = 263224.8m |
| 90 | 77.5675230 | 29.8169114 | 1050.74 | 0 degree with respect to East | 77.5566594 | 29.8171222 | 180 degree with respect to East | 441.295 | 77.5520968 | 29.8172104 | Chainage = 263034.8m |
| 91 | 77.5678571 | 29.8158375 | 937.71 | 0 degree with respect to East | 77.5581623 | 29.8160257 | 180 degree with respect to East | 571.574 | 77.5522528 | 29.8161400 | Chainage = 262845.32m |
| 92 | 77.5686759 | 29.8143678 | 919.26 | 0 degree with respect to East | 77.5591720 | 29.8145524 | 180 degree with respect to East | 671.292 | 77.5522316 | 29.8146867 | Chainage = 262654.99m |
| 93 | 77.5698875 | 29.8125568 | 1011.22 | 0 degree with respect to East | 77.5594330 | 29.8127598 | 180 degree with respect to East | 698.181 | 77.5522148 | 29.8128995 | Chainage = 262454.62m |
| 94 | 77.5696863 | 29.8109114 | 936.53 | 0 degree with respect to East | 77.5600042 | 29.8110995 | 180 degree with respect to East | 752.054 | 77.5522291 | 29.8112500 | Chainage = 262262.4m |
| 95 | 77.5740616 | 29.8091770 | 1304.52 | 0 degree with respect to East | 77.5605753 | 29.8094391 | 180 degree with respect to East | 787.735 | 77.5524315 | 29.8095968 | Chainage = 262070.18m |
| 96 | 77.5753526 | 29.8078141 | 1342.70 | 0 degree with respect to East | 77.5614718 | 29.8080840 | 180 degree with respect to East | 840.789 | 77.5527796 | 29.8082523 | Chainage = 261896.7m |
| 97 | 77.5756795 | 29.8069425 | 1221.23 | 0 degree with respect to East | 77.5630545 | 29.8071881 | 180 degree with respect to East | 964.329 | 77.5530853 | 29.8073811 | Chainage = 261714.22m |
| 98 | 77.5760805 | 29.8064718 | 1091.53 | 0 degree with respect to East | 77.5647965 | 29.8066914 | 180 degree with respect to East | 1120.630 | 77.5532114 | 29.8069159 | Chainage = 261536.99m |
| 99 | 77.5756614 | 29.8070150 | 915.18 | 0 degree with respect to East | 77.5662004 | 29.8071992 | 180 degree with respect to East | 1270.720 | 77.5530636 | 29.8074538 | Chainage = 261390.01m |
| 100 | 77.5757020 | 29.8068515 | 739.13 | 0 degree with respect to East | 77.5680611 | 29.8070003 | 180 degree with respect to East | 1445.996 | 77.5531124 | 29.8072901 | Chainage = 261208.72m |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 101 | 77.5774784 | 29.8053746 | 874.43 | 0 degree with respect to East | 77.5684387 | 29.8055507 | 180 degree with respect to East | 1433.527 | 77.5536192 | 29.8058380 | Chainage = 261043.87m |
| 102 | 77.5778749 | 29.8047568 | 993.76 | 0 degree with respect to East | 77.5676017 | 29.8049569 | 180 degree with respect to East | 1278.032 | 77.5543896 | 29.8052131 | Chainage = 260939.52m |
| 103 | 77.5784824 | 29.8031114 | 1017.10 | 0 degree with respect to East | 77.5679682 | 29.8033162 | 180 degree with respect to East | 1097.415 | 77.5566236 | 29.8035363 | Chainage = 260754.16m |
| 104 | 77.5787565 | 29.8014071 | 1095.64 | 0 degree with respect to East | 77.5674305 | 29.8016277 | 180 degree with respect to East | 619.868 | 77.5610227 | 29.8017521 | Chainage = 260559.84m |
| 105 | 77.5790013 | 29.7997580 | 1182.71 | 0 degree with respect to East | 77.5667754 | 29.7999961 | 180 degree with respect to East | 582.336 | 77.5607557 | 29.8001129 | Chainage = 260368.14m |
| 106 | 77.5789441 | 29.7988834 | 1026.34 | 0 degree with respect to East | 77.5683348 | 29.7990901 | 180 degree with respect to East | 689.609 | 77.5612062 | 29.7992285 | Chainage = 260186.92m |
| 107 | 77.5788183 | 29.7973551 | 993.05 | 0 degree with respect to East | 77.5685532 | 29.7975551 | 180 degree with respect to East | 647.725 | 77.5618577 | 29.7976851 | Chainage = 260015.4m |
| 108 | 77.5788139 | 29.7973237 | 1140.21 | 0 degree with respect to East | 77.5670277 | 29.7975533 | 180 degree with respect to East | 499.364 | 77.5618658 | 29.7976535 | Chainage = 259867.85m |
| 109 | 77.5787901 | 29.7970722 | 1315.52 | 0 degree with respect to East | 77.5651918 | 29.7973369 | 180 degree with respect to East | 315.536 | 77.5619301 | 29.7974002 | Chainage = 259688.68m |
| 110 | 77.5789739 | 29.7959831 | 1343.51 | 0 degree with respect to East | 77.5650863 | 29.7962535 | 180 degree with respect to East | 318.517 | 77.5617938 | 29.7963174 | Chainage = 259568.11m |
| 111 | 77.5789771 | 29.7947529 | 1204.69 | 0 degree with respect to East | 77.5665246 | 29.7949954 | 180 degree with respect to East | 460.734 | 77.5617621 | 29.7950878 | Chainage = 259371.1m |
| 112 | 77.5788657 | 29.7940919 | 1033.07 | 0 degree with respect to East | 77.5681873 | 29.7942999 | 180 degree with respect to East | 602.967 | 77.5619546 | 29.7944209 | Chainage = 259192.75m |
| 113 | 77.5788150 | 29.7925759 | 1063.90 | 0 degree with respect to East | 77.5678181 | 29.7927901 | 180 degree with respect to East | 555.160 | 77.5620797 | 29.7929015 | Chainage = 259021.56m |
| 114 | 77.5788725 | 29.7914377 | 947.14 | 0 degree with respect to East | 77.5690826 | 29.7916284 | 180 degree with respect to East | 722.259 | 77.5616171 | 29.7917734 | Chainage = 258843.93m |
| 115 | 77.5788822 | 29.7909025 | 798.62 | 0 degree with respect to East | 77.5706276 | 29.7910634 | 180 degree with respect to East | 903.805 | 77.5612856 | 29.7912448 | Chainage = 258681.89m |
| 116 | 77.5788879 | 29.7907841 | 617.45 | 0 degree with respect to East | 77.5725058 | 29.7909085 | 180 degree with respect to East | 1093.345 | 77.5612047 | 29.7911281 | Chainage = 258499.41m |
| 117 | 77.5787647 | 29.7895673 | 685.01 | 0 degree with respect to East | 77.5716844 | 29.7897053 | 180 degree with respect to East | 1049.327 | 77.5608383 | 29.7899160 | Chainage = 258344.13m |
| 118 | 77.5786904 | 29.7888026 | 823.97 | 0 degree with respect to East | 77.5701738 | 29.7889686 | 180 degree with respect to East | 909.581 | 77.5607723 | 29.7891511 | Chainage = 258176.73m |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 119 | 77.5786318 | 29.7871571 | 762.49 | 0 degree with respect to East | 77.5707509 | 29.7873107 | 180 degree with respect to East | 1108.136 | 77.5592973 | 29.7875331 | Chainage = 257984.61m |
| 120 | 77.5782451 | 29.7853744 | 700.45 | 0 degree with respect to East | 77.5710055 | 29.7855154 | 180 degree with respect to East | 1270.605 | 77.5578728 | 29.7857703 | Chainage = 257784.02m |
| 121 | 77.5779496 | 29.7837357 | 735.24 | 0 degree with respect to East | 77.5703505 | 29.7838837 | 180 degree with respect to East | 1240.308 | 77.5575312 | 29.7841324 | Chainage = 257592.31m |
| 122 | 77.5773544 | 29.7818216 | 682.43 | 0 degree with respect to East | 77.5703013 | 29.7819589 | 180 degree with respect to East | 1200.378 | 77.5578949 | 29.7821997 | Chainage = 257378.82m |
| 123 | 77.5757742 | 29.7802235 | 469.85 | 0 degree with respect to East | 77.5709183 | 29.7803181 | 180 degree with respect to East | 1202.185 | 77.5584934 | 29.7805592 | Chainage = 257187.33m |
| 124 | 77.5760884 | 29.7788237 | 389.50 | 0 degree with respect to East | 77.5720630 | 29.7789021 | 180 degree with respect to East | 1282.783 | 77.5588053 | 29.7791595 | Chainage = 256995.2m |
| 125 | 77.5769165 | 29.7772971 | 384.57 | 0 degree with respect to East | 77.5729420 | 29.7773746 | 180 degree with respect to East | 1205.156 | 77.5604869 | 29.7776165 | Chainage = 256805.66m |
| 126 | 77.5773070 | 29.7756442 | 485.58 | 0 degree with respect to East | 77.5722888 | 29.7757420 | 180 degree with respect to East | 1022.362 | 77.5617229 | 29.7759472 | Chainage = 256613.91m |
| 127 | 77.5774097 | 29.7742691 | 380.30 | 0 degree with respect to East | 77.5734795 | 29.7743456 | 180 degree with respect to East | 1121.292 | 77.5618915 | 29.7745708 | Chainage = 256420.92m |
| 128 | 77.5774073 | 29.7740791 | 232.04 | 0 degree with respect to East | 77.5750093 | 29.7741259 | 180 degree with respect to East | 1270.982 | 77.5618743 | 29.7743811 | Chainage = 256270.94m |
| 129 | 77.5774120 | 29.7738115 | 91.91 | 0 degree with respect to East | 77.5764621 | 29.7738301 | 180 degree with respect to East | 1413.160 | 77.5618577 | 29.7741140 | Chainage = 256126.62m |
| 130 | 77.5775465 | 29.7727876 | 42.22 | 0 degree with respect to East | 77.5779829 | 29.7727791 | 180 degree with respect to East | 1595.425 | 77.5614951 | 29.7730997 | Chainage = 255938.93m |
| 131 | 77.5779357 | 29.7711558 | 65.25 | 0 degree with respect to East | 77.5786100 | 29.7711426 | 180 degree with respect to East | 1625.741 | 77.5618092 | 29.7714693 | Chainage = 255747.58m |
| 132 | 77.5780001 | 29.7696506 | 33.67 | 0 degree with respect to East | 77.5776521 | 29.7696574 | 180 degree with respect to East | 1547.291 | 77.5616623 | 29.7699682 | Chainage = 255558.6m |
| 133 | 77.5779155 | 29.7684518 | 130.74 | 0 degree with respect to East | 77.5765645 | 29.7684782 | 180 degree with respect to East | 1494.943 | 77.5611158 | 29.7687784 | Chainage = 255390.76m |
| 134 | 77.5779160 | 29.7675894 | 267.89 | 0 degree with respect to East | 77.5751477 | 29.7676433 | 180 degree with respect to East | 1359.743 | 77.5610963 | 29.7679163 | Chainage = 255225.36m |
| 135 | 77.5778930 | 29.7671987 | 414.90 | 0 degree with respect to East | 77.5736055 | 29.7672822 | 180 degree with respect to East | 1198.902 | 77.5612162 | 29.7675229 | Chainage = 255070.88m |
| 136 | 77.5779251 | 29.7676492 | 559.54 | 0 degree with respect to East | 77.5721429 | 29.7677618 | 180 degree with respect to East | 1068.834 | 77.5610977 | 29.7679763 | Chainage = 254919.72m |



534

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 137 | 77.5779204 | 29.7681842 | 692.30 | 0 degree with respect to East | 77.5707663 | 29.7683236 | 180 degree with respect to East | 934.452 | 77.5611097 | 29.7685110 | Chainage = 254772.69m |
| 138 | 77.5779265 | 29.7678569 | 867.96 | 0 degree with respect to East | 77.5689571 | 29.7680315 | 180 degree with respect to East | 760.083 | 77.5611024 | 29.7681839 | Chainage = 254594.69m |
| 139 | 77.5778921 | 29.7673823 | 1018.59 | 0 degree with respect to East | 77.5673661 | 29.7675872 | 180 degree with respect to East | 604.055 | 77.5611239 | 29.7677083 | Chainage = 254433.08m |
| 140 | 77.5778921 | 29.7673823 | 1169.18 | 0 degree with respect to East | 77.5658100 | 29.7676174 | 180 degree with respect to East | 453.467 | 77.5611239 | 29.7677083 | Chainage = 254282.49m |
| 141 | 77.5780033 | 29.7664445 | 1272.67 | 0 degree with respect to East | 77.5648519 | 29.7667003 | 180 degree with respect to East | 338.667 | 77.5613521 | 29.7667682 | Chainage = 254144.89m |
| 142 | 77.5779912 | 29.7647193 | 1232.77 | 0 degree with respect to East | 77.5652523 | 29.7649671 | 180 degree with respect to East | 412.932 | 77.5609852 | 29.7650499 | Chainage = 253948.83m |
| 143 | 77.5780804 | 29.7630777 | 1243.93 | 0 degree with respect to East | 77.5652264 | 29.7633278 | 180 degree with respect to East | 427.649 | 77.5608073 | 29.7634134 | Chainage = 253767.03m |
| 144 | 77.5780019 | 29.7614322 | 1240.41 | 0 degree with respect to East | 77.5651845 | 29.7616816 | 180 degree with respect to East | 393.307 | 77.5611203 | 29.7617604 | Chainage = 253584.44m |
| 145 | 77.5779124 | 29.7595483 | 1244.87 | 0 degree with respect to East | 77.5650491 | 29.7597985 | 180 degree with respect to East | 440.803 | 77.5604942 | 29.7598868 | Chainage = 253375.22m |
| 146 | 77.5776976 | 29.7581031 | 1228.02 | 0 degree with respect to East | 77.5650086 | 29.7583499 | 180 degree with respect to East | 405.072 | 77.5608230 | 29.7584310 | Chainage = 253214.54m |
| 147 | 77.5776613 | 29.7567427 | 1106.64 | 0 degree with respect to East | 77.5662267 | 29.7569652 | 180 degree with respect to East | 503.638 | 77.5610227 | 29.7570661 | Chainage = 253020.98m |
| 148 | 77.5776463 | 29.7553819 | 987.33 | 0 degree with respect to East | 77.5674447 | 29.7555804 | 180 degree with respect to East | 648.765 | 77.5607412 | 29.7557104 | Chainage = 252827.42m |
| 149 | 77.5776425 | 29.7549562 | 1132.73 | 0 degree with respect to East | 77.5659386 | 29.7551839 | 180 degree with respect to East | 510.168 | 77.5606672 | 29.7552861 | Chainage = 252675.2m |
| 150 | 77.5776627 | 29.7544122 | 1239.70 | 0 degree with respect to East | 77.5648535 | 29.7546613 | 180 degree with respect to East | 396.442 | 77.5607573 | 29.7547407 | Chainage = 252555.28m |
| 151 | 77.5776934 | 29.7535458 | 1089.52 | 0 degree with respect to East | 77.5664360 | 29.7537648 | 180 degree with respect to East | 504.432 | 77.5612239 | 29.7538659 | Chainage = 252372.73m |
| 152 | 77.5776682 | 29.7524784 | 941.69 | 0 degree with respect to East | 77.5679384 | 29.7526678 | 180 degree with respect to East | 639.331 | 77.5613326 | 29.7527959 | Chainage = 252183.17m |
| 153 | 77.5777335 | 29.7520157 | 779.38 | 0 degree with respect to East | 77.5696808 | 29.7521725 | 180 degree with respect to East | 803.681 | 77.5613769 | 29.7523336 | Chainage = 252005.85m |
| 154 | 77.5792070 | 29.7504123 | 850.50 | 0 degree with respect to East | 77.5704196 | 29.7505835 | 180 degree with respect to East | 867.482 | 77.5614566 | 29.7507574 | Chainage = 251815.7m |



535

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 155 | 77.5797824 | 29.7494232 | 768.03 | 0 degree with respect to East | 77.5718472 | 29.7495778 | 180 degree with respect to East | 964.143 | 77.5618856 | 29.7497712 | Chainage = 251638.17m |
| 156 | 77.5795433 | 29.7486089 | 590.95 | 0 degree with respect to East | 77.5734376 | 29.7487279 | 180 degree with respect to East | 1096.891 | 77.5621046 | 29.7489479 | Chainage = 251457.7m |
| 157 | 77.5819469 | 29.7467511 | 803.42 | 0 degree with respect to East | 77.5736462 | 29.7469129 | 180 degree with respect to East | 1035.397 | 77.5629487 | 29.7471207 | Chainage = 251255.43m |
| 158 | 77.5827857 | 29.7451924 | 841.85 | 0 degree with respect to East | 77.5740881 | 29.7453620 | 180 degree with respect to East | 937.458 | 77.5644027 | 29.7455501 | Chainage = 251078.21m |
| 159 | 77.5829593 | 29.7436463 | 804.30 | 0 degree with respect to East | 77.5746498 | 29.7438083 | 180 degree with respect to East | 884.766 | 77.5655089 | 29.7439860 | Chainage = 250897.56m |
| 160 | 77.5833813 | 29.7422991 | 899.91 | 0 degree with respect to East | 77.5740841 | 29.7424804 | 180 degree with respect to East | 868.509 | 77.5651113 | 29.7426547 | Chainage = 250740.46m |
| 161 | 77.5836918 | 29.7413403 | 1067.61 | 0 degree with respect to East | 77.5726622 | 29.7415553 | 180 degree with respect to East | 772.971 | 77.5646765 | 29.7417104 | Chainage = 250568.83m |
| 162 | 77.5836967 | 29.7410545 | 1244.63 | 0 degree with respect to East | 77.5708383 | 29.7413050 | 180 degree with respect to East | 587.373 | 77.5647700 | 29.7414229 | Chainage = 250390.16m |
| 163 | 77.5835766 | 29.7401295 | 1225.58 | 0 degree with respect to East | 77.5709151 | 29.7403763 | 180 degree with respect to East | 546.545 | 77.5652687 | 29.7404859 | Chainage = 250286.9m |
| 164 | 77.5834454 | 29.7396705 | 1044.24 | 0 degree with respect to East | 77.5726574 | 29.7398808 | 180 degree with respect to East | 699.311 | 77.5654328 | 29.7400211 | Chainage = 250109.57m |
| 165 | 77.5836521 | 29.7381247 | 1042.81 | 0 degree with respect to East | 77.5728791 | 29.7383347 | 180 degree with respect to East | 734.209 | 77.5652941 | 29.7384820 | Chainage = 249936.79m |
| 166 | 77.5853015 | 29.7368466 | 1314.02 | 0 degree with respect to East | 77.5717268 | 29.7371113 | 180 degree with respect to East | 672.841 | 77.5647759 | 29.7372462 | Chainage = 249761.18m |
| 167 | 77.5869745 | 29.7353641 | 1580.00 | 0 degree with respect to East | 77.5706523 | 29.7356823 | 180 degree with respect to East | 488.389 | 77.5656070 | 29.7357802 | Chainage = 249571.65m |
| 168 | 77.5873872 | 29.7340274 | 1516.58 | 0 degree with respect to East | 77.5717204 | 29.7343330 | 180 degree with respect to East | 581.805 | 77.5657101 | 29.7344497 | Chainage = 249389.79m |
| 169 | 77.5874216 | 29.7336466 | 1348.13 | 0 degree with respect to East | 77.5734949 | 29.7339182 | 180 degree with respect to East | 754.708 | 77.5656985 | 29.7340697 | Chainage = 249212m |
| 170 | 77.5874978 | 29.7322437 | 1282.53 | 0 degree with respect to East | 77.5742491 | 29.7325022 | 180 degree with respect to East | 825.095 | 77.5657257 | 29.7326678 | Chainage = 249038.85m |
| 171 | 77.5875162 | 29.7308797 | 1406.32 | 0 degree with respect to East | 77.5729889 | 29.7311630 | 180 degree with respect to East | 664.587 | 77.5661237 | 29.7312964 | Chainage = 248846.69m |
| 172 | 77.5874490 | 29.7297463 | 1543.41 | 0 degree with respect to East | 77.5715057 | 29.7300572 | 180 degree with respect to East | 521.411 | 77.5661195 | 29.7301618 | Chainage = 248657.89m |



536

79

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | 77.5873377 | 29.7293403 | 1705.01 | 0 degree with respect to East | 77.5697251 | 29.7296836 | 180 degree with respect to East | 360.960 | 77.5659964 | 29.7297560 | Chainage = 248480.66m |
| 174 | 77.5872330 | 29.7285904 | 1839.41 | 0 degree with respect to East | 77.5682322 | 29.7289607 | 180 degree with respect to East | 260.066 | 77.5655457 | 29.7290128 | Chainage = 248315.42m |
| 175 | 77.5862626 | 29.7270554 | 1768.99 | 0 degree with respect to East | 77.5679895 | 29.7274113 | 180 degree with respect to East | 352.182 | 77.5643515 | 29.7274819 | Chainage = 248142.02m |
| 176 | 77.5835052 | 29.7254596 | 1446.83 | 0 degree with respect to East | 77.5685601 | 29.7257506 | 180 degree with respect to East | 447.831 | 77.5639342 | 29.7258403 | Chainage = 247949.76m |
| 177 | 77.5836198 | 29.7235317 | 1462.71 | 0 degree with respect to East | 77.5685111 | 29.7238258 | 180 degree with respect to East | 751.756 | 77.5607459 | 29.7239764 | Chainage = 247736.27m |
| 178 | 77.5834358 | 29.7230314 | 1606.17 | 0 degree with respect to East | 77.5668453 | 29.7233543 | 180 degree with respect to East | 605.218 | 77.5605938 | 29.7234754 | Chainage = 247566.78m |
| 179 | 77.5824066 | 29.7214891 | 1528.31 | 0 degree with respect to East | 77.5666206 | 29.7217962 | 180 degree with respect to East | 627.033 | 77.5601438 | 29.7219217 | Chainage = 247392.65m |
| 180 | 77.5822430 | 29.7199737 | 1548.43 | 0 degree with respect to East | 77.5662493 | 29.7202848 | 180 degree with respect to East | 642.806 | 77.5596097 | 29.7204134 | Chainage = 247221.24m |
| 181 | 77.5822594 | 29.7202179 | 1389.75 | 0 degree with respect to East | 77.5679047 | 29.7204972 | 180 degree with respect to East | 792.903 | 77.5597147 | 29.7206559 | Chainage = 247059.3m |
| 182 | 77.5823405 | 29.7191098 | 1353.93 | 0 degree with respect to East | 77.5683560 | 29.7193819 | 180 degree with respect to East | 869.601 | 77.5593739 | 29.7195560 | Chainage = 246928.14m |
| 183 | 77.5822263 | 29.7184908 | 1488.64 | 0 degree with respect to East | 77.5668505 | 29.7187899 | 180 degree with respect to East | 727.253 | 77.5593387 | 29.7189355 | Chainage = 246768.32m |
| 184 | 77.5821951 | 29.7184365 | 1653.72 | 0 degree with respect to East | 77.5651142 | 29.7187688 | 180 degree with respect to East | 557.971 | 77.5593509 | 29.7188804 | Chainage = 246600.24m |
| 185 | 77.5813909 | 29.7167290 | 1622.88 | 0 degree with respect to East | 77.5646287 | 29.7170550 | 180 degree with respect to East | 497.892 | 77.5594861 | 29.7171545 | Chainage = 246404.48m |
| 186 | 77.5807431 | 29.7153869 | 1684.06 | 0 degree with respect to East | 77.5633493 | 29.7157250 | 180 degree with respect to East | 417.240 | 77.5590398 | 29.7158084 | Chainage = 246211.9m |
| 187 | 77.5778212 | 29.7138845 | 1389.13 | 0 degree with respect to East | 77.5634737 | 29.7141632 | 180 degree with respect to East | 432.616 | 77.5590055 | 29.7142497 | Chainage = 246038.3m |
| 188 | 77.5768443 | 29.7132768 | 1148.49 | 0 degree with respect to East | 77.5649824 | 29.7135073 | 180 degree with respect to East | 570.030 | 77.5590949 | 29.7136213 | Chainage = 245875.16m |
| 189 | 77.5749767 | 29.7117566 | 952.01 | 0 degree with respect to East | 77.5651441 | 29.7119476 | 180 degree with respect to East | 591.981 | 77.5590300 | 29.7120660 | Chainage = 245701.5m |
| 190 | 77.5748915 | 29.7107316 | 810.40 | 0 degree with respect to East | 77.5665216 | 29.7108941 | 180 degree with respect to East | 745.061 | 77.5588266 | 29.7110432 | Chainage = 245524.23m |



537

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 191 | 77.5749320 | 29.7098217 | 685.57 | 0 degree with respect to East | 77.5678514 | 29.7099592 | 180 degree with respect to East | 876.760 | 77.5587962 | 29.7101346 | Chainage = 245358.95m |
| 192 | 77.5749966 | 29.7087199 | 798.72 | 0 degree with respect to East | 77.5667476 | 29.7088801 | 180 degree with respect to East | 737.310 | 77.5591327 | 29.7090276 | Chainage = 245198.53m |
| 193 | 77.5757499 | 29.7069860 | 860.71 | 0 degree with respect to East | 77.5668608 | 29.7071587 | 180 degree with respect to East | 754.386 | 77.5590698 | 29.7073095 | Chainage = 245007.32m |
| 194 | 77.5768602 | 29.7060979 | 1123.94 | 0 degree with respect to East | 77.5652526 | 29.7063233 | 180 degree with respect to East | 617.966 | 77.5588705 | 29.7064469 | Chainage = 244826.17m |
| 195 | 77.5771290 | 29.7058730 | 1328.84 | 0 degree with respect to East | 77.5634053 | 29.7061396 | 180 degree with respect to East | 430.156 | 77.5589628 | 29.7062255 | Chainage = 244646.19m |
| 196 | 77.5772491 | 29.7057746 | 1523.58 | 0 degree with respect to East | 77.5615143 | 29.7060801 | 180 degree with respect to East | 242.682 | 77.5590080 | 29.7061286 | Chainage = 244463.01m |
| 197 | 77.5799961 | 29.7038854 | 1813.11 | 0 degree with respect to East | 77.5612714 | 29.7042491 | 180 degree with respect to East | 175.251 | 77.5594615 | 29.7042841 | Chainage = 244258.62m |
| 198 | 77.5803654 | 29.7028675 | 1956.02 | 0 degree with respect to East | 77.5601652 | 29.7032598 | 180 degree with respect to East | 68.112 | 77.5594618 | 29.7032734 | Chainage = 244105.32m |
| 199 | 77.5806354 | 29.7017105 | 2078.89 | 0 degree with respect to East | 77.5591665 | 29.7021273 | 180 degree with respect to East | 18.148 | 77.5593539 | 29.7021237 | Chainage = 243946.83m |
| 200 | 77.5809828 | 29.7002513 | 2014.41 | 0 degree with respect to East | 77.5601800 | 29.7006552 | 180 degree with respect to East | 82.106 | 77.5593321 | 29.7006716 | Chainage = 243756.38m |
| 201 | 77.5809660 | 29.7004676 | 1856.14 | 0 degree with respect to East | 77.5617977 | 29.7008399 | 180 degree with respect to East | 236.022 | 77.5593603 | 29.7008871 | Chainage = 243598.44m |
| 202 | 77.5809119 | 29.7009844 | 1713.14 | 0 degree with respect to East | 77.5632202 | 29.7013282 | 180 degree with respect to East | 380.486 | 77.5592909 | 29.7014042 | Chainage = 243450.47m |
| 203 | 77.5809119 | 29.7009844 | 1546.16 | 0 degree with respect to East | 77.5649446 | 29.7012948 | 180 degree with respect to East | 547.466 | 77.5592909 | 29.7014042 | Chainage = 243283.49m |
| 204 | 77.5809657 | 29.7004743 | 1384.49 | 0 degree with respect to East | 77.5666682 | 29.7007523 | 180 degree with respect to East | 707.782 | 77.5593588 | 29.7008938 | Chainage = 243106.13m |
| 205 | 77.5809819 | 29.6994057 | 1240.62 | 0 degree with respect to East | 77.5681703 | 29.6996548 | 180 degree with respect to East | 856.330 | 77.5593270 | 29.6998261 | Chainage = 242916.51m |
| 206 | 77.5808992 | 29.6984540 | 1364.18 | 0 degree with respect to East | 77.5668116 | 29.6987279 | 180 degree with respect to East | 739.560 | 77.5591743 | 29.6988758 | Chainage = 242749.58m |
| 207 | 77.5812618 | 29.6969985 | 1452.24 | 0 degree with respect to East | 77.5662651 | 29.6972901 | 180 degree with respect to East | 719.667 | 77.5588333 | 29.6974340 | Chainage = 242581.6m |
| 208 | 77.5814229 | 29.6958579 | 1559.70 | 0 degree with respect to East | 77.5653167 | 29.6961710 | 180 degree with respect to East | 624.198 | 77.5588709 | 29.6962958 | Chainage = 242427.23m |



538

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 209 | 77.5808747 | 29.6945652 | 1616.22 | 0 degree with respect to East | 77.5641850 | 29.6948895 | 180 degree with respect to East | 516.249 | 77.5588540 | 29.6949927 | Chainage = 242247.8m |
| 210 | 77.5810378 | 29.6930777 | 1627.88 | 0 degree with respect to East | 77.5642280 | 29.6934044 | 180 degree with respect to East | 517.124 | 77.5588881 | 29.6935077 | Chainage = 242083.07m |
| 211 | 77.5822563 | 29.6920967 | 1612.46 | 0 degree with respect to East | 77.5656058 | 29.6924204 | 180 degree with respect to East | 628.219 | 77.5591187 | 29.6925460 | Chainage = 241910.74m |
| 212 | 77.5826819 | 29.6918550 | 1476.21 | 0 degree with respect to East | 77.5674384 | 29.6921515 | 180 degree with respect to East | 800.033 | 77.5591772 | 29.6923114 | Chainage = 241730.82m |
| 213 | 77.5818024 | 29.6923065 | 1245.58 | 0 degree with respect to East | 77.5689404 | 29.6925567 | 180 degree with respect to East | 956.013 | 77.5590684 | 29.6927479 | Chainage = 241578.62m |
| 214 | 77.5809136 | 29.6936368 | 1215.57 | 0 degree with respect to East | 77.5683613 | 29.6938810 | 180 degree with respect to East | 922.385 | 77.5588364 | 29.6940654 | Chainage = 241421.44m |
| 215 | 77.5809698 | 29.6948308 | 1131.27 | 0 degree with respect to East | 77.5692880 | 29.6950581 | 180 degree with respect to East | 1009.500 | 77.5588634 | 29.6952600 | Chainage = 241263.05m |
| 216 | 77.5809029 | 29.6937786 | 978.77 | 0 degree with respect to East | 77.5707959 | 29.6939753 | 180 degree with respect to East | 1158.410 | 77.5588337 | 29.6942070 | Chainage = 241074.03m |
| 217 | 77.5824874 | 29.6919709 | 1164.44 | 0 degree with respect to East | 77.5704633 | 29.6922049 | 180 degree with respect to East | 1095.680 | 77.5591491 | 29.6924241 | Chainage = 240875.09m |
| 218 | 77.5842092 | 29.6904255 | 1245.97 | 0 degree with respect to East | 77.5713434 | 29.6906760 | 180 degree with respect to East | 1162.998 | 77.5593343 | 29.6909087 | Chainage = 240685.34m |
| 219 | 77.5847318 | 29.6891400 | 1410.90 | 0 degree with respect to East | 77.5701631 | 29.6894236 | 180 degree with respect to East | 1013.301 | 77.5596999 | 29.6896263 | Chainage = 240505.5m |
| 220 | 77.5846088 | 29.6896774 | 1532.30 | 0 degree with respect to East | 77.5687865 | 29.6899853 | 180 degree with respect to East | 902.984 | 77.5594623 | 29.6901659 | Chainage = 240358.38m |
| 221 | 77.5847291 | 29.6891577 | 1712.64 | 0 degree with respect to East | 77.5670447 | 29.6895018 | 180 degree with respect to East | 713.389 | 77.5596783 | 29.6896444 | Chainage = 240181.42m |
| 222 | 77.5851728 | 29.6873326 | 1740.60 | 0 degree with respect to East | 77.5672001 | 29.6876823 | 180 degree with respect to East | 552.524 | 77.5614949 | 29.6877928 | Chainage = 239979.1m |
| 223 | 77.5854341 | 29.6864612 | 1612.70 | 0 degree with respect to East | 77.5687822 | 29.6867853 | 180 degree with respect to East | 637.248 | 77.5622022 | 29.6869128 | Chainage = 239796.46m |
| 224 | 77.5851939 | 29.6856535 | 1713.71 | 0 degree with respect to East | 77.5674991 | 29.6859978 | 180 degree with respect to East | 482.893 | 77.5625130 | 29.6860944 | Chainage = 239644.61m |
| 225 | 77.5851597 | 29.6853867 | 1887.67 | 0 degree with respect to East | 77.5656688 | 29.6857658 | 180 degree with respect to East | 302.836 | 77.5625419 | 29.6858264 | Chainage = 239465.54m |
| 226 | 77.5850897 | 29.6847047 | 2043.89 | 0 degree with respect to East | 77.5639858 | 29.6851150 | 180 degree with respect to East | 155.743 | 77.5623777 | 29.6851462 | Chainage = 239287.32m |



539

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 227 | 77.5851885 | 29.6829779 | 2041.21 | 0 degree with respect to East | 77.5641127 | 29.6833877 | 180 degree with respect to East | 230.582 | 77.5617319 | 29.6834338 | Chainage = 239095.39m |
| 228 | 77.5849538 | 29.6816458 | 1899.61 | 0 degree with respect to East | 77.5653402 | 29.6820272 | 180 degree with respect to East | 290.748 | 77.5623382 | 29.6820853 | Chainage = 238903.33m |
| 229 | 77.5847486 | 29.6811628 | 1711.98 | 0 degree with respect to East | 77.5670725 | 29.6815066 | 180 degree with respect to East | 459.187 | 77.5623313 | 29.6815985 | Chainage = 238725.95m |
| 230 | 77.5844557 | 29.6801001 | 1538.15 | 0 degree with respect to East | 77.5685745 | 29.6804091 | 180 degree with respect to East | 610.364 | 77.5622725 | 29.6805312 | Chainage = 238536.31m |
| 231 | 77.5841528 | 29.6792396 | 1355.61 | 0 degree with respect to East | 77.5701565 | 29.6795120 | 180 degree with respect to East | 791.347 | 77.5619859 | 29.6796703 | Chainage = 238353.66m |
| 232 | 77.5838905 | 29.6781763 | 1184.74 | 0 degree with respect to East | 77.5716585 | 29.6784144 | 180 degree with respect to East | 909.367 | 77.5622695 | 29.6785964 | Chainage = 238164.01m |
| 233 | 77.5830343 | 29.6771358 | 955.92 | 0 degree with respect to East | 77.5731649 | 29.6773279 | 180 degree with respect to East | 1041.096 | 77.5624159 | 29.6775363 | Chainage = 237974.82m |
| 234 | 77.5806041 | 29.6760124 | 595.30 | 0 degree with respect to East | 77.5744580 | 29.6761320 | 180 degree with respect to East | 1162.611 | 77.5624546 | 29.6763648 | Chainage = 237792.43m |
| 235 | 77.5805530 | 29.6745874 | 486.42 | 0 degree with respect to East | 77.5755310 | 29.6746851 | 180 degree with respect to East | 1260.116 | 77.5625211 | 29.6749375 | Chainage = 237601.29m |
| 236 | 77.5797912 | 29.6731865 | 395.57 | 0 degree with respect to East | 77.5757073 | 29.6732660 | 180 degree with respect to East | 1256.640 | 77.5627335 | 29.6735177 | Chainage = 237443m |
| 237 | 77.5794186 | 29.6726588 | 527.59 | 0 degree with respect to East | 77.5739717 | 29.6727647 | 180 degree with respect to East | 1085.407 | 77.5627658 | 29.6729820 | Chainage = 237265.98m |
| 238 | 77.5792402 | 29.6723947 | 687.59 | 0 degree with respect to East | 77.5721414 | 29.6725328 | 180 degree with respect to East | 909.156 | 77.5627552 | 29.6727148 | Chainage = 237086.88m |
| 239 | 77.5789523 | 29.6719636 | 831.19 | 0 degree with respect to East | 77.5703711 | 29.6721304 | 180 degree with respect to East | 739.830 | 77.5627330 | 29.6722784 | Chainage = 236909.73m |
| 240 | 77.5788512 | 29.6709847 | 953.34 | 0 degree with respect to East | 77.5690090 | 29.6711759 | 180 degree with respect to East | 612.374 | 77.5626869 | 29.6712984 | Chainage = 236740.62m |
| 241 | 77.5792306 | 29.6695567 | 1064.46 | 0 degree with respect to East | 77.5682413 | 29.6697703 | 180 degree with respect to East | 557.150 | 77.5624893 | 29.6698817 | Chainage = 236567.93m |
| 242 | 77.5791449 | 29.6681259 | 989.86 | 0 degree with respect to East | 77.5689259 | 29.6683245 | 180 degree with respect to East | 646.255 | 77.5622542 | 29.6684537 | Chainage = 236394.44m |
| 243 | 77.5788850 | 29.6667842 | 1054.72 | 0 degree with respect to East | 77.5679966 | 29.6669957 | 180 degree with respect to East | 558.407 | 77.5622318 | 29.6671074 | Chainage = 236221.79m |
| 244 | 77.5807510 | 29.6651155 | 1300.05 | 0 degree with respect to East | 77.5673301 | 29.6653763 | 180 degree with respect to East | 489.362 | 77.5622782 | 29.6654742 | Chainage = 236030.97m |



540

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 245 | 77.5820638 | 29.6636466 | 1327.07 | 0 degree with respect to East | 77.5683643 | 29.6639129 | 180 degree with respect to East | 591.251 | 77.5622606 | 29.6640311 | Chainage = 235840.28m |
| 246 | 77.5818742 | 29.6640132 | 1174.29 | 0 degree with respect to East | 77.5697518 | 29.6642489 | 180 degree with respect to East | 728.072 | 77.5622356 | 29.6643945 | Chainage = 235700.84m |
| 247 | 77.5802542 | 29.6653580 | 954.81 | 0 degree with respect to East | 77.5703974 | 29.6655496 | 180 degree with respect to East | 788.010 | 77.5622624 | 29.6657072 | Chainage = 235543.64m |
| 248 | 77.5817102 | 29.6642784 | 1009.48 | 0 degree with respect to East | 77.5712891 | 29.6644811 | 180 degree with respect to East | 875.741 | 77.5622485 | 29.6646563 | Chainage = 235397.03m |
| 249 | 77.5823937 | 29.6626484 | 1132.90 | 0 degree with respect to East | 77.5706986 | 29.6628759 | 180 degree with respect to East | 814.172 | 77.5622938 | 29.6630387 | Chainage = 235210.07m |
| 250 | 77.5825440 | 29.6611954 | 1146.07 | 0 degree with respect to East | 77.5707133 | 29.6614255 | 180 degree with respect to East | 760.723 | 77.5628603 | 29.6615777 | Chainage = 235049.24m |
| 251 | 77.5835052 | 29.6600067 | 1353.39 | 0 degree with respect to East | 77.5695344 | 29.6602784 | 180 degree with respect to East | 518.583 | 77.5641811 | 29.6603822 | Chainage = 234878.31m |
| 252 | 77.5841835 | 29.6591910 | 1578.06 | 0 degree with respect to East | 77.5678936 | 29.6595078 | 180 degree with respect to East | 300.776 | 77.5647887 | 29.6595679 | Chainage = 234697.88m |
| 253 | 77.5852985 | 29.6579694 | 1743.65 | 0 degree with respect to East | 77.5672995 | 29.6583194 | 180 degree with respect to East | 233.148 | 77.5648928 | 29.6583660 | Chainage = 234554.09m |
| 254 | 77.5853525 | 29.6578307 | 1567.67 | 0 degree with respect to East | 77.5691701 | 29.6581455 | 180 degree with respect to East | 417.723 | 77.5648581 | 29.6582291 | Chainage = 234371.9m |
| 255 | 77.5855610 | 29.6563630 | 1534.53 | 0 degree with respect to East | 77.5697210 | 29.6566712 | 180 degree with respect to East | 479.222 | 77.5647742 | 29.6567671 | Chainage = 234199.94m |
| 256 | 77.5856296 | 29.6551503 | 1465.25 | 0 degree with respect to East | 77.5705048 | 29.6554446 | 180 degree with respect to East | 493.712 | 77.5654085 | 29.6555434 | Chainage = 234044.17m |
| 257 | 77.5857503 | 29.6543455 | 1337.56 | 0 degree with respect to East | 77.5719438 | 29.6546142 | 180 degree with respect to East | 604.620 | 77.5657027 | 29.6547352 | Chainage = 233877.13m |
| 258 | 77.5855938 | 29.6556488 | 1258.60 | 0 degree with respect to East | 77.5726021 | 29.6559017 | 180 degree with respect to East | 727.163 | 77.5650960 | 29.6560472 | Chainage = 233720.77m |
| 259 | 77.5855603 | 29.6564892 | 1132.04 | 0 degree with respect to East | 77.5738749 | 29.6567167 | 180 degree with respect to East | 881.390 | 77.5647768 | 29.6568931 | Chainage = 233567.92m |
| 260 | 77.5855957 | 29.6556241 | 1014.75 | 0 degree with respect to East | 77.5751211 | 29.6558281 | 180 degree with respect to East | 969.476 | 77.5651138 | 29.6560223 | Chainage = 233412.11m |
| 261 | 77.5857503 | 29.6543455 | 1051.90 | 0 degree with respect to East | 77.5748924 | 29.6545569 | 180 degree with respect to East | 890.274 | 77.5657027 | 29.6547352 | Chainage = 233269.42m |
| 262 | 77.5858380 | 29.6536577 | 1198.21 | 0 degree with respect to East | 77.5734699 | 29.6538985 | 180 degree with respect to East | 734.449 | 77.5658888 | 29.6540455 | Chainage = 233113.49m |



541

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 263 | 77.5858345 | 29.6520784 | 1275.00 | 0 degree with respect to East | 77.5726740 | 29.6523346 | 180 degree with respect to East | 543.479 | 77.5670642 | 29.6524434 | Chainage = 232923.72m |
| 264 | 77.5855280 | 29.6508378 | 1349.28 | 0 degree with respect to East | 77.5716009 | 29.6511088 | 180 degree with respect to East | 276.502 | 77.5687469 | 29.6511642 | Chainage = 232752.61m |
| 265 | 77.5853523 | 29.6495705 | 1194.54 | 0 degree with respect to East | 77.5730227 | 29.6498105 | 180 degree with respect to East | 339.427 | 77.5695192 | 29.6498785 | Chainage = 232553.38m |
| 266 | 77.5853850 | 29.6481224 | 1295.30 | 0 degree with respect to East | 77.5720156 | 29.6483826 | 180 degree with respect to East | 317.352 | 77.5687400 | 29.6484461 | Chainage = 232367.41m |
| 267 | 77.5854276 | 29.6470152 | 1204.57 | 0 degree with respect to East | 77.5729946 | 29.6472572 | 180 degree with respect to East | 641.516 | 77.5663732 | 29.6473856 | Chainage = 232210.67m |
| 268 | 77.5858893 | 29.6454941 | 1164.09 | 0 degree with respect to East | 77.5738744 | 29.6457280 | 180 degree with respect to East | 854.996 | 77.5650496 | 29.6458991 | Chainage = 232020.89m |
| 269 | 77.5858836 | 29.6435941 | 1173.66 | 0 degree with respect to East | 77.5737701 | 29.6438299 | 180 degree with respect to East | 909.311 | 77.5643850 | 29.6440118 | Chainage = 231810.18m |
| 270 | 77.5866793 | 29.6421313 | 1355.48 | 0 degree with respect to East | 77.5726895 | 29.6424036 | 180 degree with respect to East | 845.600 | 77.5639620 | 29.6425727 | Chainage = 231620.52m |
| 271 | 77.5883259 | 29.6409575 | 1648.53 | 0 degree with respect to East | 77.5713117 | 29.6412887 | 180 degree with respect to East | 735.310 | 77.5637226 | 29.6414357 | Chainage = 231438.6m |
| 272 | 77.5894281 | 29.6395679 | 1876.60 | 0 degree with respect to East | 77.5700603 | 29.6399449 | 180 degree with respect to East | 617.947 | 77.5636825 | 29.6400684 | Chainage = 231246.51m |
| 273 | 77.5895597 | 29.6385360 | 2011.26 | 0 degree with respect to East | 77.5688023 | 29.6389399 | 180 degree with respect to East | 493.626 | 77.5637077 | 29.6390386 | Chainage = 231081.38m |
| 274 | 77.5897817 | 29.6370195 | 1947.55 | 0 degree with respect to East | 77.5696821 | 29.6374107 | 180 degree with respect to East | 573.478 | 77.5637634 | 29.6375253 | Chainage = 230891.6m |
| 275 | 77.5899255 | 29.6354291 | 2036.93 | 0 degree with respect to East | 77.5689039 | 29.6358382 | 180 degree with respect to East | 481.103 | 77.5639387 | 29.6359344 | Chainage = 230701.64m |
| 276 | 77.5896794 | 29.6338690 | 2034.42 | 0 degree with respect to East | 77.5686839 | 29.6342775 | 180 degree with respect to East | 338.507 | 77.5651904 | 29.6343452 | Chainage = 230527.27m |
| 277 | 77.5897558 | 29.6325294 | 1918.72 | 0 degree with respect to East | 77.5699547 | 29.6329148 | 180 degree with respect to East | 341.598 | 77.5664294 | 29.6329831 | Chainage = 230332.36m |
| 278 | 77.5900580 | 29.6316567 | 1794.75 | 0 degree with respect to East | 77.5715364 | 29.6320174 | 180 degree with respect to East | 453.003 | 77.5668615 | 29.6321080 | Chainage = 230149.65m |
| 279 | 77.5899974 | 29.6315252 | 1607.43 | 0 degree with respect to East | 77.5734089 | 29.6318483 | 180 degree with respect to East | 638.117 | 77.5668236 | 29.6319760 | Chainage = 229967.29m |
| 280 | 77.5898486 | 29.6312506 | 1433.44 | 0 degree with respect to East | 77.5750558 | 29.6315388 | 180 degree with respect to East | 806.975 | 77.5667278 | 29.6317003 | Chainage = 229804.1m |



542

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 281 | 77.5892472 | 29.6295366 | 1336.40 | 0 degree with respect to East | 77.5754560 | 29.6298053 | 180 degree with respect to East | 912.789 | 77.5660362 | 29.6299880 | Chainage = 229608.01m |
| 282 | 77.5892879 | 29.6278208 | 1359.09 | 0 degree with respect to East | 77.5752628 | 29.6280940 | 180 degree with respect to East | 869.695 | 77.5662879 | 29.6282681 | Chainage = 229417.33m |
| 283 | 77.5888092 | 29.6260447 | 1346.78 | 0 degree with respect to East | 77.5749113 | 29.6263154 | 180 degree with respect to East | 883.714 | 77.5657919 | 29.6264922 | Chainage = 229217.18m |
| 284 | 77.5883384 | 29.6241994 | 1320.80 | 0 degree with respect to East | 77.5747088 | 29.6244648 | 180 degree with respect to East | 936.400 | 77.5650459 | 29.6246521 | Chainage = 229011.04m |
| 285 | 77.5884401 | 29.6226580 | 1416.16 | 0 degree with respect to East | 77.5738267 | 29.6229425 | 180 degree with respect to East | 826.257 | 77.5653005 | 29.6231077 | Chainage = 228821.84m |
| 286 | 77.5877713 | 29.6214037 | 1478.34 | 0 degree with respect to East | 77.5725166 | 29.6217006 | 180 degree with respect to East | 844.179 | 77.5638055 | 29.6218693 | Chainage = 228634.55m |
| 287 | 77.5873976 | 29.6201684 | 1569.95 | 0 degree with respect to East | 77.5711977 | 29.6204835 | 180 degree with respect to East | 1010.827 | 77.5607671 | 29.6206854 | Chainage = 228448.7m |
| 288 | 77.5869020 | 29.6187257 | 1444.86 | 0 degree with respect to East | 77.5719931 | 29.6190158 | 180 degree with respect to East | 1159.171 | 77.5600320 | 29.6192473 | Chainage = 228268.62m |
| 289 | 77.5858565 | 29.6172933 | 1245.37 | 0 degree with respect to East | 77.5730062 | 29.6175433 | 180 degree with respect to East | 1378.354 | 77.5587836 | 29.6178185 | Chainage = 228078.11m |
| 290 | 77.5833200 | 29.6157105 | 1036.60 | 0 degree with respect to East | 77.5726240 | 29.6159185 | 180 degree with respect to East | 1493.739 | 77.5572110 | 29.6162166 | Chainage = 227894.18m |
| 291 | 77.5830387 | 29.6145977 | 1112.71 | 0 degree with respect to East | 77.5715576 | 29.6148208 | 180 degree with respect to East | 1634.619 | 77.5546911 | 29.6151469 | Chainage = 227734.52m |
| 292 | 77.5816102 | 29.6129715 | 919.88 | 0 degree with respect to East | 77.5721188 | 29.6131559 | 180 degree with respect to East | 1883.411 | 77.5526855 | 29.6135314 | Chainage = 227542.06m |
| 293 | 77.5813117 | 29.6127022 | 1014.57 | 0 degree with respect to East | 77.5708435 | 29.6129055 | 180 degree with respect to East | 1799.763 | 77.5522733 | 29.6132642 | Chainage = 227415.4m |
| 294 | 77.5814731 | 29.6128478 | 1186.12 | 0 degree with respect to East | 77.5692347 | 29.6130855 | 180 degree with respect to East | 1622.240 | 77.5524962 | 29.6134087 | Chainage = 227258.25m |
| 295 | 77.5808960 | 29.6121752 | 1293.28 | 0 degree with respect to East | 77.5675520 | 29.6124343 | 180 degree with respect to East | 1510.146 | 77.5519702 | 29.6127351 | Chainage = 227079.93m |
| 296 | 77.5801717 | 29.6108720 | 1261.59 | 0 degree with respect to East | 77.5671549 | 29.6111246 | 180 degree with respect to East | 1659.923 | 77.5500278 | 29.6114551 | Chainage = 226929.7m |
| 297 | 77.5781205 | 29.6095542 | 1090.99 | 0 degree with respect to East | 77.5668640 | 29.6097726 | 180 degree with respect to East | 1788.047 | 77.5484152 | 29.6101284 | Chainage = 226777.15m |
| 298 | 77.5759450 | 29.6087688 | 1006.15 | 0 degree with respect to East | 77.5655639 | 29.6089701 | 180 degree with respect to East | 1723.170 | 77.5477847 | 29.6093128 | Chainage = 226622.92m |



543

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 299 | 77.5753123 | 29.6080038 | 1104.71 | 0 degree with respect to East | 77.5639144 | 29.6082246 | 180 degree with respect to East | 1574.407 | 77.5476702 | 29.6085377 | Chainage = 226442.98m |
| 300 | 77.5755331 | 29.6082670 | 1286.11 | 0 degree with respect to East | 77.5622636 | 29.6085240 | 180 degree with respect to East | 1414.708 | 77.5476670 | 29.6088053 | Chainage = 226279.61m |
| 301 | 77.5760633 | 29.6089087 | 1459.30 | 0 degree with respect to East | 77.5610068 | 29.6092003 | 180 degree with respect to East | 1273.396 | 77.5478681 | 29.6094534 | Chainage = 226136.59m |
| 302 | 77.5794234 | 29.6101569 | 1841.04 | 0 degree with respect to East | 77.5604280 | 29.6105251 | 180 degree with respect to East | 1101.765 | 77.5490601 | 29.6107441 | Chainage = 225979.36m |
| 303 | 77.5806016 | 29.6117536 | 1921.58 | 0 degree with respect to East | 77.5607749 | 29.6121380 | 180 degree with respect to East | 868.960 | 77.5518089 | 29.6123108 | Chainage = 225797.38m |
| 304 | 77.5808960 | 29.6121752 | 2094.22 | 0 degree with respect to East | 77.5592879 | 29.6125940 | 180 degree with respect to East | 709.208 | 77.5519702 | 29.6127351 | Chainage = 225644.68m |
| 305 | 77.5803488 | 29.6113250 | 2194.69 | 0 degree with respect to East | 77.5577042 | 29.6117637 | 180 degree with respect to East | 640.026 | 77.5511003 | 29.6118909 | Chainage = 225465.73m |
| 306 | 77.5786326 | 29.6096525 | 1985.26 | 0 degree with respect to East | 77.5581492 | 29.6100492 | 180 degree with respect to East | 935.409 | 77.5484978 | 29.6102351 | Chainage = 225270.79m |
| 307 | 77.5754104 | 29.6081208 | 1605.58 | 0 degree with respect to East | 77.5588447 | 29.6084415 | 180 degree with respect to East | 1083.182 | 77.5476688 | 29.6086566 | Chainage = 225080.2m |
| 308 | 77.5749129 | 29.6066740 | 1638.56 | 0 degree with respect to East | 77.5580072 | 29.6070012 | 180 degree with respect to East | 1053.403 | 77.5471386 | 29.6072104 | Chainage = 224901.06m |
| 309 | 77.5749393 | 29.6069517 | 1800.05 | 0 degree with respect to East | 77.5563672 | 29.6073110 | 180 degree with respect to East | 881.113 | 77.5472763 | 29.6074859 | Chainage = 224738.48m |
| 310 | 77.5750915 | 29.6077406 | 1922.72 | 0 degree with respect to East | 77.5552537 | 29.6081243 | 180 degree with respect to East | 742.393 | 77.5475939 | 29.6082717 | Chainage = 224597.86m |
| 311 | 77.5754919 | 29.6082179 | 2093.24 | 0 degree with respect to East | 77.5538947 | 29.6086356 | 180 degree with respect to East | 603.530 | 77.5476676 | 29.6087554 | Chainage = 224454.48m |
| 312 | 77.5749442 | 29.6070034 | 2156.26 | 0 degree with respect to East | 77.5526969 | 29.6074335 | 180 degree with respect to East | 523.340 | 77.5472973 | 29.6075373 | Chainage = 224277.74m |
| 313 | 77.5746119 | 29.6061425 | 2244.81 | 0 degree with respect to East | 77.5514512 | 29.6065901 | 180 degree with respect to East | 460.567 | 77.5466993 | 29.6066815 | Chainage = 224125.05m |
| 314 | 77.5702111 | 29.6047156 | 1733.02 | 0 degree with respect to East | 77.5523310 | 29.6050609 | 180 degree with respect to East | 819.692 | 77.5438739 | 29.6052233 | Chainage = 223935.25m |
| 315 | 77.5694539 | 29.6032251 | 1752.29 | 0 degree with respect to East | 77.5513753 | 29.6035741 | 180 degree with respect to East | 847.389 | 77.5426325 | 29.6037420 | Chainage = 223746.15m |
| 316 | 77.5683813 | 29.6016373 | 1584.01 | 0 degree with respect to East | 77.5520391 | 29.6019528 | 180 degree with respect to East | 933.537 | 77.5424077 | 29.6021377 | Chainage = 223555.21m |



544

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 317 | 77.5642906 | 29.6002636 | 1089.30 | 0 degree with respect to East | 77.5530524 | 29.6004803 | 180 degree with respect to East | 1069.672 | 77.5420166 | 29.6006923 | Chainage = 223364.69m |
| 318 | 77.5661029 | 29.5988906 | 1141.74 | 0 degree with respect to East | 77.5543239 | 29.5991179 | 180 degree with respect to East | 1219.288 | 77.5417448 | 29.5993596 | Chainage = 223169.74m |
| 319 | 77.5660950 | 29.5985149 | 1294.33 | 0 degree with respect to East | 77.5527419 | 29.5987726 | 180 degree with respect to East | 1055.258 | 77.5418550 | 29.5989816 | Chainage = 223011.72m |
| 320 | 77.5662584 | 29.5971562 | 1434.11 | 0 degree with respect to East | 77.5514633 | 29.5974416 | 180 degree with respect to East | 843.353 | 77.5427628 | 29.5976086 | Chainage = 222819.02m |
| 321 | 77.5664867 | 29.5959235 | 1571.72 | 0 degree with respect to East | 77.5502722 | 29.5962362 | 180 degree with respect to East | 573.748 | 77.5443531 | 29.5963499 | Chainage = 222642.42m |
| 322 | 77.5666092 | 29.5944159 | 1676.25 | 0 degree with respect to East | 77.5493165 | 29.5947493 | 180 degree with respect to East | 415.795 | 77.5450271 | 29.5948317 | Chainage = 222453.32m |
| 323 | 77.5667427 | 29.5927263 | 1641.95 | 0 degree with respect to East | 77.5498042 | 29.5930530 | 180 degree with respect to East | 405.508 | 77.5456209 | 29.5931333 | Chainage = 222259.37m |
| 324 | 77.5665666 | 29.5918557 | 1471.83 | 0 degree with respect to East | 77.5513832 | 29.5921486 | 180 degree with respect to East | 474.769 | 77.5464854 | 29.5922427 | Chainage = 222076.42m |
| 325 | 77.5664319 | 29.5909981 | 1305.20 | 0 degree with respect to East | 77.5529676 | 29.5912579 | 180 degree with respect to East | 526.616 | 77.5475350 | 29.5913623 | Chainage = 221893.85m |
| 326 | 77.5664062 | 29.5905213 | 1134.43 | 0 degree with respect to East | 77.5547036 | 29.5907472 | 180 degree with respect to East | 641.687 | 77.5480840 | 29.5908745 | Chainage = 221716.33m |
| 327 | 77.5663508 | 29.5893765 | 1002.76 | 0 degree with respect to East | 77.5560066 | 29.5895762 | 180 degree with respect to East | 733.278 | 77.5484422 | 29.5897217 | Chainage = 221535.2m |
| 328 | 77.5657980 | 29.5878581 | 886.51 | 0 degree with respect to East | 77.5566532 | 29.5880346 | 180 degree with respect to East | 839.794 | 77.5479902 | 29.5882013 | Chainage = 221353.14m |
| 329 | 77.5653162 | 29.5864219 | 841.17 | 0 degree with respect to East | 77.5566391 | 29.5865894 | 180 degree with respect to East | 862.398 | 77.5477431 | 29.5867606 | Chainage = 221192.89m |
| 330 | 77.5655388 | 29.5851881 | 974.97 | 0 degree with respect to East | 77.5554817 | 29.5853821 | 180 degree with respect to East | 745.313 | 77.5477935 | 29.5855300 | Chainage = 221018.23m |
| 331 | 77.5660384 | 29.5839144 | 1134.43 | 0 degree with respect to East | 77.5543366 | 29.5841402 | 180 degree with respect to East | 669.414 | 77.5474314 | 29.5842729 | Chainage = 220841.35m |
| 332 | 77.5654480 | 29.5822914 | 1034.93 | 0 degree with respect to East | 77.5547728 | 29.5824973 | 180 degree with respect to East | 784.823 | 77.5466772 | 29.5826529 | Chainage = 220654.34m |
| 333 | 77.5686816 | 29.5803258 | 1348.19 | 0 degree with respect to East | 77.5547752 | 29.5805942 | 180 degree with respect to East | 804.271 | 77.5464792 | 29.5807537 | Chainage = 220443.32m |
| 334 | 77.5695954 | 29.5792245 | 1569.29 | 0 degree with respect to East | 77.5534087 | 29.5795370 | 180 degree with respect to East | 727.982 | 77.5458997 | 29.5796812 | Chainage = 220266.44m |



545

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 335 | 77.5689293 | 29.5800399 | 1611.60 | 0 degree with respect to East | 77.5523060 | 29.5803607 | 180 degree with respect to East | 581.550 | 77.5463074 | 29.5804759 | Chainage = 220125.86m |
| 336 | 77.5693084 | 29.5795448 | 1737.05 | 0 degree with respect to East | 77.5513911 | 29.5798905 | 180 degree with respect to East | 519.992 | 77.5460275 | 29.5799936 | Chainage = 220022.99m |
| 337 | 77.5711782 | 29.5782214 | 1784.03 | 0 degree with respect to East | 77.5527766 | 29.5785766 | 180 degree with respect to East | 697.645 | 77.5455806 | 29.5787149 | Chainage = 219824.85m |
| 338 | 77.5722321 | 29.5770334 | 1760.73 | 0 degree with respect to East | 77.5540711 | 29.5773842 | 180 degree with respect to East | 819.222 | 77.5456212 | 29.5775466 | Chainage = 219642.57m |
| 339 | 77.5721660 | 29.5771154 | 1584.06 | 0 degree with respect to East | 77.5558273 | 29.5774311 | 180 degree with respect to East | 989.533 | 77.5456207 | 29.5776273 | Chainage = 219472.27m |
| 340 | 77.5724086 | 29.5754771 | 1596.87 | 0 degree with respect to East | 77.5559380 | 29.5757953 | 180 degree with respect to East | 1012.901 | 77.5454905 | 29.5759961 | Chainage = 219290.57m |
| 341 | 77.5727173 | 29.5740188 | 1695.46 | 0 degree with respect to East | 77.5552301 | 29.5743566 | 180 degree with respect to East | 959.556 | 77.5453330 | 29.5745468 | Chainage = 219116.91m |
| 342 | 77.5726334 | 29.5727456 | 1611.07 | 0 degree with respect to East | 77.5560169 | 29.5730667 | 180 degree with respect to East | 982.014 | 77.5458882 | 29.5732614 | Chainage = 218954.81m |
| 343 | 77.5724532 | 29.5721490 | 1430.00 | 0 degree with respect to East | 77.5577042 | 29.5724340 | 180 degree with respect to East | 971.836 | 77.5476806 | 29.5726268 | Chainage = 218776.84m |
| 344 | 77.5723945 | 29.5716802 | 1255.72 | 0 degree with respect to East | 77.5594431 | 29.5719306 | 180 degree with respect to East | 1080.606 | 77.5482977 | 29.5721451 | Chainage = 218599.28m |
| 345 | 77.5723945 | 29.5716802 | 1104.62 | 0 degree with respect to East | 77.5610016 | 29.5719006 | 180 degree with respect to East | 1231.704 | 77.5482977 | 29.5721451 | Chainage = 218448.18m |
| 346 | 77.5723022 | 29.5707646 | 1010.82 | 0 degree with respect to East | 77.5618768 | 29.5709662 | 180 degree with respect to East | 1274.909 | 77.5487275 | 29.5712194 | Chainage = 218314.27m |
| 347 | 77.5723259 | 29.5691720 | 1087.65 | 0 degree with respect to East | 77.5611083 | 29.5693890 | 180 degree with respect to East | 1208.645 | 77.5486426 | 29.5696289 | Chainage = 218124.17m |
| 348 | 77.5716974 | 29.5682162 | 1147.94 | 0 degree with respect to East | 77.5598581 | 29.5684451 | 180 degree with respect to East | 1032.338 | 77.5492109 | 29.5686500 | Chainage = 217964.04m |
| 349 | 77.5714323 | 29.5677064 | 1260.23 | 0 degree with respect to East | 77.5584348 | 29.5679576 | 180 degree with respect to East | 831.956 | 77.5498544 | 29.5681227 | Chainage = 217815.86m |
| 350 | 77.5710862 | 29.5662532 | 1129.96 | 0 degree with respect to East | 77.5594326 | 29.5664784 | 180 degree with respect to East | 663.157 | 77.5525932 | 29.5666101 | Chainage = 217625.45m |
| 351 | 77.5709481 | 29.5650207 | 1047.06 | 0 degree with respect to East | 77.5601496 | 29.5652294 | 180 degree with respect to East | 767.832 | 77.5522307 | 29.5653819 | Chainage = 217470.49m |
| 352 | 77.5709481 | 29.5650207 | 1233.71 | 0 degree with respect to East | 77.5582246 | 29.5652665 | 180 degree with respect to East | 581.177 | 77.5522307 | 29.5653819 | Chainage = 217283.83m |



546

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 353 | 77.5708967 | 29.5647542 | 1406.19 | 0 degree with respect to East | 77.5563944 | 29.5650343 | 180 degree with respect to East | 508.904 | 77.5511459 | 29.5651353 | Chainage = 217104.56m |
| 354 | 77.5708689 | 29.5646098 | 1585.17 | 0 degree with respect to East | 77.5545207 | 29.5649254 | 180 degree with respect to East | 410.652 | 77.5502856 | 29.5650069 | Chainage = 216922.53m |
| 355 | 77.5707828 | 29.5642214 | 1733.99 | 0 degree with respect to East | 77.5528999 | 29.5645665 | 180 degree with respect to East | 325.343 | 77.5495445 | 29.5646310 | Chainage = 216760.44m |
| 356 | 77.5703613 | 29.5636063 | 1858.35 | 0 degree with respect to East | 77.5511959 | 29.5639761 | 180 degree with respect to East | 247.782 | 77.5486404 | 29.5640251 | Chainage = 216582.75m |
| 357 | 77.5699277 | 29.5623432 | 1957.92 | 0 degree with respect to East | 77.5497356 | 29.5627326 | 180 degree with respect to East | 164.691 | 77.5480371 | 29.5627652 | Chainage = 216385.14m |
| 358 | 77.5697607 | 29.5606298 | 1960.76 | 0 degree with respect to East | 77.5495397 | 29.5610197 | 180 degree with respect to East | 233.231 | 77.5471344 | 29.5610658 | Chainage = 216194.25m |
| 359 | 77.5691820 | 29.5591924 | 1979.84 | 0 degree with respect to East | 77.5487645 | 29.5595860 | 180 degree with respect to East | 203.046 | 77.5466705 | 29.5596262 | Chainage = 216018.41m |
| 360 | 77.5689215 | 29.5584815 | 2107.13 | 0 degree with respect to East | 77.5471915 | 29.5589002 | 180 degree with respect to East | 76.591 | 77.5464017 | 29.5589154 | Chainage = 215848.02m |
| 361 | 77.5685873 | 29.5568175 | 2083.66 | 0 degree with respect to East | 77.5470996 | 29.5572315 | 180 degree with respect to East | 156.869 | 77.5454819 | 29.5572626 | Chainage = 215662.77m |
| 362 | 77.5680239 | 29.5550629 | 1998.86 | 0 degree with respect to East | 77.5474112 | 29.5554600 | 180 degree with respect to East | 251.446 | 77.5448181 | 29.5555098 | Chainage = 215464.03m |
| 363 | 77.5671905 | 29.5532910 | 1892.76 | 0 degree with respect to East | 77.5476721 | 29.5536670 | 180 degree with respect to East | 308.948 | 77.5444862 | 29.5537281 | Chainage = 215263.61m |
| 364 | 77.5666050 | 29.5518641 | 1883.91 | 0 degree with respect to East | 77.5471782 | 29.5522382 | 180 degree with respect to East | 406.448 | 77.5429868 | 29.5523185 | Chainage = 215098.1m |
| 365 | 77.5659393 | 29.5510794 | 1954.84 | 0 degree with respect to East | 77.5457812 | 29.5514674 | 180 degree with respect to East | 394.921 | 77.5417088 | 29.5515455 | Chainage = 214937.96m |
| 366 | 77.5633141 | 29.5494821 | 1704.29 | 0 degree with respect to East | 77.5457399 | 29.5498202 | 180 degree with respect to East | 573.829 | 77.5398227 | 29.5499336 | Chainage = 214755.27m |
| 367 | 77.5617041 | 29.5477561 | 1575.95 | 0 degree with respect to East | 77.5454536 | 29.5480686 | 180 degree with respect to East | 678.858 | 77.5384534 | 29.5482027 | Chainage = 214559.07m |
| 368 | 77.5603797 | 29.5467672 | 1299.80 | 0 degree with respect to East | 77.5469768 | 29.5470250 | 180 degree with respect to East | 876.444 | 77.5379393 | 29.5471980 | Chainage = 214371.44m |
| 369 | 77.5613347 | 29.5474481 | 1261.94 | 0 degree with respect to East | 77.5483221 | 29.5476985 | 180 degree with respect to East | 974.670 | 77.5382717 | 29.5478910 | Chainage = 214221.13m |
| 370 | 77.5621891 | 29.5480698 | 1212.22 | 0 degree with respect to East | 77.5496892 | 29.5483104 | 180 degree with respect to East | 1064.001 | 77.5387176 | 29.5485207 | Chainage = 214072.23m |



547

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 371 | 77.5617613 | 29.5478099 | 994.50 | 0 degree with respect to East | 77.5515065 | 29.5480073 | 180 degree with respect to East | 1260.700 | 77.5385066 | 29.5482565 | Chainage = 213892.86m |
| 372 | 77.5602480 | 29.5466840 | 978.62 | 0 degree with respect to East | 77.5501570 | 29.5468781 | 180 degree with respect to East | 1186.859 | 77.5379187 | 29.5471126 | Chainage = 213711.76m |
| 373 | 77.5591323 | 29.5452950 | 982.97 | 0 degree with respect to East | 77.5489965 | 29.5454900 | 180 degree with respect to East | 1155.670 | 77.5370800 | 29.5457182 | Chainage = 213521.09m |
| 374 | 77.5555822 | 29.5437862 | 716.34 | 0 degree with respect to East | 77.5481959 | 29.5439282 | 180 degree with respect to East | 1436.019 | 77.5333887 | 29.5442115 | Chainage = 213331.31m |
| 375 | 77.5542657 | 29.5431399 | 736.18 | 0 degree with respect to East | 77.5466749 | 29.5432857 | 180 degree with respect to East | 1372.824 | 77.5325194 | 29.5435564 | Chainage = 213167.53m |
| 376 | 77.5539048 | 29.5426040 | 869.20 | 0 degree with respect to East | 77.5449425 | 29.5427760 | 180 degree with respect to East | 1246.287 | 77.5320918 | 29.5430217 | Chainage = 212990.3m |
| 377 | 77.5535600 | 29.5412409 | 956.85 | 0 degree with respect to East | 77.5436940 | 29.5414303 | 180 degree with respect to East | 1227.440 | 77.5310378 | 29.5416721 | Chainage = 212798.15m |
| 378 | 77.5535142 | 29.5410143 | 1117.60 | 0 degree with respect to East | 77.5419907 | 29.5412354 | 180 degree with respect to East | 1077.572 | 77.5308799 | 29.5414476 | Chainage = 212631.59m |
| 379 | 77.5535681 | 29.5412808 | 1282.93 | 0 degree with respect to East | 77.5403398 | 29.5415345 | 180 degree with respect to East | 899.163 | 77.5310685 | 29.5417115 | Chainage = 212468.11m |
| 380 | 77.5536219 | 29.5415472 | 1448.27 | 0 degree with respect to East | 77.5386888 | 29.5418335 | 180 degree with respect to East | 716.604 | 77.5312999 | 29.5419746 | Chainage = 212304.63m |
| 381 | 77.5532402 | 29.5402601 | 1491.68 | 0 degree with respect to East | 77.5378597 | 29.5405549 | 180 degree with respect to East | 714.696 | 77.5304905 | 29.5406955 | Chainage = 212141.64m |
| 382 | 77.5518885 | 29.5386357 | 1305.30 | 0 degree with respect to East | 77.5384300 | 29.5388936 | 180 degree with respect to East | 831.207 | 77.5298596 | 29.5390571 | Chainage = 211949.31m |
| 383 | 77.5517421 | 29.5383733 | 1416.94 | 0 degree with respect to East | 77.5371325 | 29.5386532 | 180 degree with respect to East | 718.686 | 77.5297222 | 29.5387946 | Chainage = 211820.7m |
| 384 | 77.5513181 | 29.5375789 | 1534.91 | 0 degree with respect to East | 77.5354922 | 29.5378820 | 180 degree with respect to East | 597.941 | 77.5293270 | 29.5379996 | Chainage = 211640.13m |
| 385 | 77.5502034 | 29.5360989 | 1444.66 | 0 degree with respect to East | 77.5353083 | 29.5363840 | 180 degree with respect to East | 622.928 | 77.5288855 | 29.5365065 | Chainage = 211473.08m |
| 386 | 77.5485063 | 29.5346649 | 1345.76 | 0 degree with respect to East | 77.5346311 | 29.5349304 | 180 degree with respect to East | 587.780 | 77.5285708 | 29.5350459 | Chainage = 211299.04m |
| 387 | 77.5477876 | 29.5337232 | 1374.39 | 0 degree with respect to East | 77.5336172 | 29.5339943 | 180 degree with respect to East | 517.150 | 77.5282853 | 29.5340959 | Chainage = 211156.07m |
| 388 | 77.5452857 | 29.5318913 | 1126.43 | 0 degree with respect to East | 77.5336722 | 29.5321133 | 180 degree with respect to East | 578.965 | 77.5277030 | 29.5322271 | Chainage = 210947.44m |



548

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 389 | 77.5445028 | 29.5301206 | 1084.47 | 0 degree with respect to East | 77.5333220 | 29.5303343 | 180 degree with respect to East | 605.483 | 77.5270794 | 29.5304532 | Chainage = 210747.27m |
| 390 | 77.5443499 | 29.5284731 | 1014.34 | 0 degree with respect to East | 77.5338923 | 29.5286730 | 180 degree with respect to East | 812.575 | 77.5255148 | 29.5288325 | Chainage = 210554.93m |
| 391 | 77.5433372 | 29.5267068 | 950.11 | 0 degree with respect to East | 77.5335421 | 29.5268939 | 180 degree with respect to East | 811.760 | 77.5251731 | 29.5270533 | Chainage = 210354.76m |
| 392 | 77.5433623 | 29.5249182 | 927.22 | 0 degree with respect to East | 77.5338032 | 29.5251009 | 180 degree with respect to East | 1289.396 | 77.5205102 | 29.5253537 | Chainage = 210154.33m |
| 393 | 77.5432645 | 29.5238231 | 791.12 | 0 degree with respect to East | 77.5351087 | 29.5239789 | 180 degree with respect to East | 1497.227 | 77.5196733 | 29.5242726 | Chainage = 209976.84m |
| 394 | 77.5430614 | 29.5235594 | 594.96 | 0 degree with respect to East | 77.5369278 | 29.5236767 | 180 degree with respect to East | 1687.759 | 77.5195282 | 29.5240078 | Chainage = 209797.27m |
| 395 | 77.5421930 | 29.5224358 | 404.71 | 0 degree with respect to East | 77.5380208 | 29.5225156 | 180 degree with respect to East | 1856.632 | 77.5188804 | 29.5228798 | Chainage = 209630.5m |
| 396 | 77.5420732 | 29.5212150 | 509.77 | 0 degree with respect to East | 77.5368180 | 29.5213154 | 180 degree with respect to East | 1821.765 | 77.5180372 | 29.5216727 | Chainage = 209453.54m |
| 397 | 77.5421044 | 29.5201002 | 661.18 | 0 degree with respect to East | 77.5352884 | 29.5202304 | 180 degree with respect to East | 1697.043 | 77.5177936 | 29.5205631 | Chainage = 209262.55m |
| 398 | 77.5417952 | 29.5192023 | 770.72 | 0 degree with respect to East | 77.5338500 | 29.5193541 | 180 degree with respect to East | 1585.440 | 77.5175059 | 29.5196647 | Chainage = 209092.54m |
| 399 | 77.5408615 | 29.5178013 | 790.98 | 0 degree with respect to East | 77.5327076 | 29.5179570 | 180 degree with respect to East | 1555.254 | 77.5166748 | 29.5182617 | Chainage = 208902.09m |
| 400 | 77.5407658 | 29.5160503 | 822.57 | 0 degree with respect to East | 77.5322864 | 29.5162122 | 180 degree with respect to East | 1548.877 | 77.5163196 | 29.5165155 | Chainage = 208704.35m |
| 401 | 77.5405530 | 29.5158497 | 981.62 | 0 degree with respect to East | 77.5304340 | 29.5160428 | 180 degree with respect to East | 1372.722 | 77.5162832 | 29.5163115 | Chainage = 208523.72m |
| 402 | 77.5407113 | 29.5169400 | 956.43 | 0 degree with respect to East | 77.5308518 | 29.5171281 | 180 degree with respect to East | 1400.709 | 77.5164124 | 29.5174024 | Chainage = 208396.74m |
| 403 | 77.5409929 | 29.5179814 | 1007.14 | 0 degree with respect to East | 77.5306107 | 29.5181795 | 180 degree with respect to East | 1338.525 | 77.5168121 | 29.5184416 | Chainage = 208277.84m |
| 404 | 77.5406900 | 29.5171573 | 1102.12 | 0 degree with respect to East | 77.5293287 | 29.5173741 | 180 degree with respect to East | 1250.397 | 77.5164387 | 29.5176189 | Chainage = 208124.76m |
| 405 | 77.5407044 | 29.5170100 | 1222.49 | 0 degree with respect to East | 77.5281023 | 29.5172503 | 180 degree with respect to East | 1133.159 | 77.5164209 | 29.5174721 | Chainage = 208005.02m |
| 406 | 77.5409929 | 29.5179814 | 1340.12 | 0 degree with respect to East | 77.5271781 | 29.5182449 | 180 degree with respect to East | 1005.547 | 77.5168121 | 29.5184416 | Chainage = 207862.92m |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 407 | 77.5409050 | 29.5178609 | 1506.77 | 0 degree with respect to East | 77.5253722 | 29.5181570 | 180 degree with respect to East | 839.944 | 77.5167133 | 29.5183213 | Chainage = 207687.51m |
| 408 | 77.5407058 | 29.5169963 | 1608.17 | 0 degree with respect to East | 77.5241278 | 29.5173123 | 180 degree with respect to East | 747.773 | 77.5164192 | 29.5174585 | Chainage = 207534.75m |
| 409 | 77.5402816 | 29.5153563 | 1571.02 | 0 degree with respect to East | 77.5240869 | 29.5156649 | 180 degree with respect to East | 761.674 | 77.5162351 | 29.5158139 | Chainage = 207352.04m |
| 410 | 77.5389063 | 29.5139169 | 1342.01 | 0 degree with respect to East | 77.5250724 | 29.5141805 | 180 degree with respect to East | 908.214 | 77.5157102 | 29.5143581 | Chainage = 207161.7m |
| 411 | 77.5377772 | 29.5124252 | 1263.96 | 0 degree with respect to East | 77.5247481 | 29.5126734 | 180 degree with respect to East | 927.821 | 77.5151838 | 29.5128547 | Chainage = 206991.65m |
| 412 | 77.5384011 | 29.5129920 | 1453.71 | 0 degree with respect to East | 77.5234159 | 29.5132774 | 180 degree with respect to East | 784.954 | 77.5153244 | 29.5134308 | Chainage = 206846.12m |
| 413 | 77.5382636 | 29.5128538 | 1540.44 | 0 degree with respect to East | 77.5223844 | 29.5131562 | 180 degree with respect to East | 689.365 | 77.5152782 | 29.5132909 | Chainage = 206745.18m |
| 414 | 77.5323059 | 29.5115182 | 1021.04 | 0 degree with respect to East | 77.5217809 | 29.5117184 | 180 degree with respect to East | 650.419 | 77.5150763 | 29.5118455 | Chainage = 206575.35m |
| 415 | 77.5278406 | 29.5106467 | 534.90 | 0 degree with respect to East | 77.5223268 | 29.5107515 | 180 degree with respect to East | 733.347 | 77.5147674 | 29.5108948 | Chainage = 206455.78m |
| 416 | 77.5264828 | 29.5090385 | 382.77 | 0 degree with respect to East | 77.5225372 | 29.5091134 | 180 degree with respect to East | 840.719 | 77.5138712 | 29.5092776 | Chainage = 206273m |
| 417 | 77.5255693 | 29.5077842 | 156.24 | 0 degree with respect to East | 77.5239587 | 29.5078148 | 180 degree with respect to East | 1012.696 | 77.5135201 | 29.5080126 | Chainage = 206073.64m |
| 418 | 77.5259093 | 29.5065292 | 254.62 | 0 degree with respect to East | 77.5232847 | 29.5065791 | 180 degree with respect to East | 999.227 | 77.5129850 | 29.5067742 | Chainage = 205921.82m |
| 419 | 77.5263581 | 29.5056875 | 456.22 | 0 degree with respect to East | 77.5216556 | 29.5057768 | 180 degree with respect to East | 915.063 | 77.5122235 | 29.5059555 | Chainage = 205740.48m |
| 420 | 77.5263581 | 29.5056875 | 642.99 | 0 degree with respect to East | 77.5197305 | 29.5058133 | 180 degree with respect to East | 728.302 | 77.5122235 | 29.5059555 | Chainage = 205553.72m |
| 421 | 77.5269571 | 29.5048310 | 714.85 | 0 degree with respect to East | 77.5195888 | 29.5049709 | 180 degree with respect to East | 793.167 | 77.5114132 | 29.5051256 | Chainage = 205459.3m |
| 422 | 77.5271831 | 29.5036661 | 610.92 | 0 degree with respect to East | 77.5208862 | 29.5037857 | 180 degree with respect to East | 939.123 | 77.5112063 | 29.5039689 | Chainage = 205277.35m |
| 423 | 77.5274326 | 29.5022080 | 536.82 | 0 degree with respect to East | 77.5218995 | 29.5023131 | 180 degree with respect to East | 1129.444 | 77.5102581 | 29.5025334 | Chainage = 205086.77m |
| 424 | 77.5275736 | 29.5008493 | 464.76 | 0 degree with respect to East | 77.5227833 | 29.5009403 | 180 degree with respect to East | 1479.930 | 77.5075295 | 29.5012289 | Chainage = 204912.07m |



550

43

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 425 | 77.5274975 | 29.4990857 | 489.27 | 0 degree with respect to East | 77.5224546 | 29.4991814 | 180 degree with respect to East | 1580.721 | 77.5061622 | 29.4994896 | Chainage = 204714.46m |
| 426 | 77.5272746 | 29.4976075 | 411.91 | 0 degree with respect to East | 77.5230291 | 29.4976882 | 180 degree with respect to East | 1676.534 | 77.5057494 | 29.4980150 | Chainage = 204539.75m |
| 427 | 77.5272478 | 29.4958971 | 458.96 | 0 degree with respect to East | 77.5225175 | 29.4959869 | 180 degree with respect to East | 1610.900 | 77.5059146 | 29.4963010 | Chainage = 204344.7m |
| 428 | 77.5265748 | 29.4949830 | 548.50 | 0 degree with respect to East | 77.5209217 | 29.4950904 | 180 degree with respect to East | 1388.169 | 77.5066144 | 29.4953609 | Chainage = 204160.72m |
| 429 | 77.5265748 | 29.4949830 | 735.28 | 0 degree with respect to East | 77.5189966 | 29.4951269 | 180 degree with respect to East | 1201.388 | 77.5066144 | 29.4953609 | Chainage = 203973.94m |
| 430 | 77.5261776 | 29.4939205 | 687.43 | 0 degree with respect to East | 77.5190927 | 29.4940550 | 180 degree with respect to East | 1300.010 | 77.5056942 | 29.4943082 | Chainage = 203854.73m |
| 431 | 77.5261466 | 29.4928511 | 538.75 | 0 degree with respect to East | 77.5205941 | 29.4929565 | 180 degree with respect to East | 1432.475 | 77.5058305 | 29.4932356 | Chainage = 203664.87m |
| 432 | 77.5260286 | 29.4933788 | 390.23 | 0 degree with respect to East | 77.5220068 | 29.4934552 | 180 degree with respect to East | 1599.759 | 77.5055191 | 29.4937669 | Chainage = 203517.09m |
| 433 | 77.5263215 | 29.4921851 | 302.88 | 0 degree with respect to East | 77.5231999 | 29.4922443 | 180 degree with respect to East | 1665.238 | 77.5060376 | 29.4925690 | Chainage = 203339.83m |
| 434 | 77.5260598 | 29.4909802 | 382.01 | 0 degree with respect to East | 77.5221228 | 29.4910549 | 180 degree with respect to East | 1514.784 | 77.5065112 | 29.4913502 | Chainage = 203171.57m |
| 435 | 77.5250554 | 29.4901596 | 426.32 | 0 degree with respect to East | 77.5206617 | 29.4902430 | 180 degree with respect to East | 1376.282 | 77.5064777 | 29.4905112 | Chainage = 203003.66m |
| 436 | 77.5248251 | 29.4897025 | 574.86 | 0 degree with respect to East | 77.5189006 | 29.4898149 | 180 degree with respect to East | 1208.039 | 77.5064505 | 29.4900502 | Chainage = 202826.34m |
| 437 | 77.5248177 | 29.4896843 | 724.49 | 0 degree with respect to East | 77.5173511 | 29.4898259 | 180 degree with respect to East | 1057.693 | 77.5064505 | 29.4900319 | Chainage = 202676.02m |
| 438 | 77.5250347 | 29.4884158 | 888.77 | 0 degree with respect to East | 77.5158753 | 29.4885894 | 180 degree with respect to East | 949.231 | 77.5060926 | 29.4887742 | Chainage = 202477.79m |
| 439 | 77.5263970 | 29.4865119 | 1035.59 | 0 degree with respect to East | 77.5157247 | 29.4867142 | 180 degree with respect to East | 834.889 | 77.5071206 | 29.4868768 | Chainage = 202269.36m |
| 440 | 77.5268261 | 29.4849342 | 1156.52 | 0 degree with respect to East | 77.5149077 | 29.4851602 | 180 degree with respect to East | 614.394 | 77.5085760 | 29.4852798 | Chainage = 202079.69m |
| 441 | 77.5267086 | 29.4833928 | 1093.58 | 0 degree with respect to East | 77.5154389 | 29.4836065 | 180 degree with respect to East | 744.963 | 77.5077618 | 29.4837515 | Chainage = 201899.87m |
| 442 | 77.5267554 | 29.4823221 | 952.43 | 0 degree with respect to East | 77.5169404 | 29.4825082 | 180 degree with respect to East | 903.170 | 77.5076329 | 29.4826841 | Chainage = 201710.01m |



551

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 443 | 77.5266076 | 29.4815679 | 796.70 | 0 degree with respect to East | 77.5183976 | 29.4817237 | 180 degree with respect to East | 1037.845 | 77.5077024 | 29.4819258 | Chainage = 201544.02m |
| 444 | 77.5262985 | 29.4808202 | 624.56 | 0 degree with respect to East | 77.5198624 | 29.4809423 | 180 degree with respect to East | 1165.464 | 77.5078521 | 29.4811694 | Chainage = 201377.59m |
| 445 | 77.5256490 | 29.4794851 | 593.95 | 0 degree with respect to East | 77.5195283 | 29.4796012 | 180 degree with respect to East | 1187.457 | 77.5072916 | 29.4798325 | Chainage = 201225.39m |
| 446 | 77.5257289 | 29.4782222 | 745.05 | 0 degree with respect to East | 77.5180514 | 29.4783678 | 180 degree with respect to East | 1101.447 | 77.5067011 | 29.4785823 | Chainage = 201027.31m |
| 447 | 77.5247979 | 29.4766052 | 612.93 | 0 degree with respect to East | 77.5184819 | 29.4767249 | 180 degree with respect to East | 1148.070 | 77.5066514 | 29.4769485 | Chainage = 200840.42m |
| 448 | 77.5242049 | 29.4752323 | 470.71 | 0 degree with respect to East | 77.5193545 | 29.4753243 | 180 degree with respect to East | 1250.446 | 77.5064692 | 29.4755678 | Chainage = 200663.54m |
| 449 | 77.5240511 | 29.4738234 | 355.86 | 0 degree with respect to East | 77.5203842 | 29.4738929 | 180 degree with respect to East | 1351.258 | 77.5064603 | 29.4741561 | Chainage = 200476m |
| 450 | 77.5229917 | 29.4722921 | 176.04 | 0 degree with respect to East | 77.5211777 | 29.4723265 | 180 degree with respect to East | 1319.061 | 77.5075858 | 29.4725835 | Chainage = 200286.02m |
| 451 | 77.5222228 | 29.4705185 | 76.06 | 0 degree with respect to East | 77.5214390 | 29.4705334 | 180 degree with respect to East | 1263.924 | 77.5084155 | 29.4707796 | Chainage = 200085.58m |
| 452 | 77.5240579 | 29.4685580 | 258.79 | 0 degree with respect to East | 77.5213914 | 29.4686086 | 180 degree with respect to East | 1376.510 | 77.5072080 | 29.4688767 | Chainage = 199872.1m |
| 453 | 77.5249724 | 29.4669969 | 432.25 | 0 degree with respect to East | 77.5205187 | 29.4670813 | 180 degree with respect to East | 1283.044 | 77.5072986 | 29.4673312 | Chainage = 199682.77m |
| 454 | 77.5249467 | 29.4662431 | 574.50 | 0 degree with respect to East | 77.5190274 | 29.4663553 | 180 degree with respect to East | 1158.497 | 77.5070906 | 29.4665808 | Chainage = 199517.18m |
| 455 | 77.5247881 | 29.4653829 | 716.18 | 0 degree with respect to East | 77.5174090 | 29.4655227 | 180 degree with respect to East | 1082.873 | 77.5062516 | 29.4657334 | Chainage = 199335.02m |
| 456 | 77.5248951 | 29.4645188 | 867.58 | 0 degree with respect to East | 77.5159560 | 29.4646882 | 180 degree with respect to East | 983.060 | 77.5058271 | 29.4648794 | Chainage = 199166.38m |
| 457 | 77.5249220 | 29.4633614 | 1017.14 | 0 degree with respect to East | 77.5144421 | 29.4635599 | 180 degree with respect to East | 851.262 | 77.5056712 | 29.4637254 | Chainage = 198973.43m |
| 458 | 77.5241003 | 29.4618368 | 1022.86 | 0 degree with respect to East | 77.5135616 | 29.4620364 | 180 degree with respect to East | 797.482 | 77.5053450 | 29.4621914 | Chainage = 198784.13m |
| 459 | 77.5237101 | 29.4601844 | 986.55 | 0 degree with respect to East | 77.5135457 | 29.4603768 | 180 degree with respect to East | 915.835 | 77.5041098 | 29.4605548 | Chainage = 198600.11m |
| 460 | 77.5235651 | 29.4585388 | 976.44 | 0 degree with respect to East | 77.5135051 | 29.4587292 | 180 degree with respect to East | 905.837 | 77.5041723 | 29.4589052 | Chainage = 198417.38m |



552

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 461 | 77.5221896 | 29.4570586 | 935.51 | 0 degree with respect to East | 77.5125513 | 29.4572410 | 180 degree with respect to East | 862.365 | 77.5036666 | 29.4574085 | Chainage = 198228.18m |
| 462 | 77.5218814 | 29.4562831 | 815.94 | 0 degree with respect to East | 77.5134751 | 29.4564422 | 180 degree with respect to East | 994.453 | 77.5032296 | 29.4566354 | Chainage = 198102.17m |
| 463 | 77.5220436 | 29.4568151 | 695.46 | 0 degree with respect to East | 77.5148785 | 29.4569507 | 180 degree with respect to East | 1098.764 | 77.5035583 | 29.4571642 | Chainage = 197954.77m |
| 464 | 77.5220362 | 29.4553464 | 702.05 | 0 degree with respect to East | 77.5148033 | 29.4554833 | 180 degree with respect to East | 1166.515 | 77.5027852 | 29.4557099 | Chainage = 197791.9m |
| 465 | 77.5210212 | 29.4538255 | 689.00 | 0 degree with respect to East | 77.5139229 | 29.4539598 | 180 degree with respect to East | 1122.645 | 77.5023569 | 29.4541778 | Chainage = 197602.59m |
| 466 | 77.5205655 | 29.4533654 | 815.46 | 0 degree with respect to East | 77.5121644 | 29.4535243 | 180 degree with respect to East | 969.653 | 77.5021747 | 29.4537126 | Chainage = 197425.24m |
| 467 | 77.5209417 | 29.4537456 | 1000.32 | 0 degree with respect to East | 77.5106360 | 29.4539404 | 180 degree with respect to East | 806.677 | 77.5023253 | 29.4540970 | Chainage = 197269.91m |
| 468 | 77.5215483 | 29.4544169 | 1178.17 | 0 degree with respect to East | 77.5094103 | 29.4546463 | 180 degree with respect to East | 670.928 | 77.5024981 | 29.4547765 | Chainage = 197127.52m |
| 469 | 77.5220856 | 29.4552092 | 1337.38 | 0 degree with respect to East | 77.5083073 | 29.4554697 | 180 degree with respect to East | 542.263 | 77.5027206 | 29.4555749 | Chainage = 196986.84m |
| 470 | 77.5218427 | 29.4564494 | 1377.80 | 0 degree with respect to East | 77.5076478 | 29.4567177 | 180 degree with respect to East | 421.437 | 77.5033058 | 29.4567995 | Chainage = 196834.38m |
| 471 | 77.5228277 | 29.4580508 | 1439.85 | 0 degree with respect to East | 77.5079932 | 29.4583313 | 180 degree with respect to East | 383.260 | 77.5040445 | 29.4584057 | Chainage = 196652.36m |
| 472 | 77.5234882 | 29.4584981 | 1580.16 | 0 degree with respect to East | 77.5072081 | 29.4588059 | 180 degree with respect to East | 295.700 | 77.5041616 | 29.4588632 | Chainage = 196559.78m |
| 473 | 77.5223663 | 29.4573621 | 1547.03 | 0 degree with respect to East | 77.5064276 | 29.4576633 | 180 degree with respect to East | 255.810 | 77.5037921 | 29.4577130 | Chainage = 196412.18m |
| 474 | 77.5219426 | 29.4557334 | 1567.13 | 0 degree with respect to East | 77.5057971 | 29.4560385 | 180 degree with respect to East | 274.324 | 77.5029708 | 29.4560917 | Chainage = 196221.9m |
| 475 | 77.5218292 | 29.4546790 | 1691.28 | 0 degree with respect to East | 77.5044049 | 29.4550082 | 180 degree with respect to East | 179.352 | 77.5025571 | 29.4550429 | Chainage = 196044.98m |
| 476 | 77.5207182 | 29.4535211 | 1690.90 | 0 degree with respect to East | 77.5032980 | 29.4538500 | 180 degree with respect to East | 103.049 | 77.5022363 | 29.4538700 | Chainage = 195877.56m |
| 477 | 77.5199751 | 29.4520289 | 1711.34 | 0 degree with respect to East | 77.5023445 | 29.4523616 | 180 degree with respect to East | 83.419 | 77.5014851 | 29.4523778 | Chainage = 195688.36m |
| 478 | 77.5200079 | 29.4503057 | 1674.85 | 0 degree with respect to East | 77.5027535 | 29.4506313 | 180 degree with respect to East | 179.874 | 77.5009005 | 29.4506662 | Chainage = 195492.44m |



553

94

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 479 | 77.5200197 | 29.4500893 | 1542.40 | 0 degree with respect to East | 77.5041299 | 29.4503893 | 180 degree with respect to East | 316.155 | 77.5008729 | 29.4504505 | Chainage = 195356.2m |
| 480 | 77.5200445 | 29.4514033 | 1482.34 | 0 degree with respect to East | 77.5047732 | 29.4516916 | 180 degree with respect to East | 362.507 | 77.5010386 | 29.4517619 | Chainage = 195198.88m |
| 481 | 77.5200604 | 29.4510974 | 1365.99 | 0 degree with respect to East | 77.5059878 | 29.4513632 | 180 degree with respect to East | 485.943 | 77.5009815 | 29.4514574 | Chainage = 195075.52m |
| 482 | 77.5195891 | 29.4495386 | 1364.77 | 0 degree with respect to East | 77.5055293 | 29.4498041 | 180 degree with respect to East | 482.730 | 77.5005562 | 29.4498976 | Chainage = 194897.01m |
| 483 | 77.5190348 | 29.4482843 | 1454.20 | 0 degree with respect to East | 77.5040539 | 29.4485671 | 180 degree with respect to East | 390.981 | 77.5000260 | 29.4486428 | Chainage = 194698.73m |
| 484 | 77.5200640 | 29.4467442 | 1643.68 | 0 degree with respect to East | 77.5031313 | 29.4470638 | 180 degree with respect to East | 338.053 | 77.4996488 | 29.4471292 | Chainage = 194509.52m |
| 485 | 77.5210268 | 29.4455456 | 1615.45 | 0 degree with respect to East | 77.5043851 | 29.4458598 | 180 degree with respect to East | 471.534 | 77.4995276 | 29.4459512 | Chainage = 194328.89m |
| 486 | 77.5210832 | 29.4444744 | 1475.21 | 0 degree with respect to East | 77.5058865 | 29.4447614 | 180 degree with respect to East | 617.125 | 77.4995291 | 29.4448810 | Chainage = 194138.99m |
| 487 | 77.5209284 | 29.4434071 | 1314.46 | 0 degree with respect to East | 77.5073877 | 29.4436629 | 180 degree with respect to East | 741.750 | 77.4997467 | 29.4438067 | Chainage = 193949.09m |
| 488 | 77.5207823 | 29.4420066 | 1190.96 | 0 degree with respect to East | 77.5085141 | 29.4422384 | 180 degree with respect to East | 801.731 | 77.5002552 | 29.4423938 | Chainage = 193757m |
| 489 | 77.5207472 | 29.4403588 | 1191.50 | 0 degree with respect to East | 77.5084735 | 29.4405907 | 180 degree with respect to East | 717.179 | 77.5010858 | 29.4407297 | Chainage = 193574.26m |
| 490 | 77.5206788 | 29.4399877 | 1018.70 | 0 degree with respect to East | 77.5101853 | 29.4401860 | 180 degree with respect to East | 873.218 | 77.5011902 | 29.4403554 | Chainage = 193402.18m |
| 491 | 77.5207309 | 29.4402421 | 862.66 | 0 degree with respect to East | 77.5118447 | 29.4404102 | 180 degree with respect to East | 1040.224 | 77.5011293 | 29.4406120 | Chainage = 193239.22m |
| 492 | 77.5200673 | 29.4391845 | 652.51 | 0 degree with respect to East | 77.5133459 | 29.4393116 | 180 degree with respect to East | 1203.997 | 77.5009436 | 29.4395452 | Chainage = 193049.31m |
| 493 | 77.5196461 | 29.4378103 | 497.67 | 0 degree with respect to East | 77.5145197 | 29.4379072 | 180 degree with respect to East | 1380.690 | 77.5002975 | 29.4381751 | Chainage = 192856.37m |
| 494 | 77.5208154 | 29.4362629 | 528.43 | 0 degree with respect to East | 77.5153723 | 29.4363659 | 180 degree with respect to East | 1464.057 | 77.5002916 | 29.4366501 | Chainage = 192666.49m |
| 495 | 77.5218097 | 29.4348836 | 711.56 | 0 degree with respect to East | 77.5144803 | 29.4350222 | 180 degree with respect to East | 1342.798 | 77.5006488 | 29.4352828 | Chainage = 192494.18m |
| 496 | 77.5218604 | 29.4343476 | 868.83 | 0 degree with respect to East | 77.5129112 | 29.4345168 | 180 degree with respect to East | 1139.924 | 77.5011695 | 29.4347380 | Chainage = 192331.9m |



554

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 497 | 77.5217799 | 29.4338141 | 1029.44 | 0 degree with respect to East | 77.5111763 | 29.4340145 | 180 degree with respect to East | 945.466 | 77.5014376 | 29.4341979 | Chainage = 192154.54m |
| 498 | 77.5216459 | 29.4324243 | 1119.81 | 0 degree with respect to East | 77.5101116 | 29.4326423 | 180 degree with respect to East | 795.516 | 77.5019176 | 29.4327966 | Chainage = 191970.61m |
| 499 | 77.5218655 | 29.4309068 | 1055.80 | 0 degree with respect to East | 77.5109907 | 29.4311124 | 180 degree with respect to East | 816.443 | 77.5025813 | 29.4312707 | Chainage = 191780.72m |
| 500 | 77.5210536 | 29.4291856 | 1021.28 | 0 degree with respect to East | 77.5105346 | 29.4293844 | 180 degree with respect to East | 717.328 | 77.5031462 | 29.4295235 | Chainage = 191584.07m |
| 501 | 77.5207004 | 29.4287518 | 1158.68 | 0 degree with respect to East | 77.5087662 | 29.4289772 | 180 degree with respect to East | 547.548 | 77.5031265 | 29.4290834 | Chainage = 191406.58m |
| 502 | 77.5209509 | 29.4273857 | 1269.39 | 0 degree with respect to East | 77.5078765 | 29.4276326 | 180 degree with respect to East | 405.537 | 77.5036996 | 29.4277112 | Chainage = 191234.29m |
| 503 | 77.5214253 | 29.4269119 | 1146.43 | 0 degree with respect to East | 77.5096175 | 29.4271350 | 180 degree with respect to East | 558.990 | 77.5038600 | 29.4272435 | Chainage = 191056.52m |
| 504 | 77.5221166 | 29.4263566 | 1061.43 | 0 degree with respect to East | 77.5111843 | 29.4265632 | 180 degree with respect to East | 670.657 | 77.5042768 | 29.4266933 | Chainage = 190891.74m |
| 505 | 77.5236509 | 29.4247696 | 1134.75 | 0 degree with respect to East | 77.5119636 | 29.4249907 | 180 degree with respect to East | 660.229 | 77.5051636 | 29.4251188 | Chainage = 190701.68m |
| 506 | 77.5233019 | 29.4232317 | 1022.32 | 0 degree with respect to East | 77.5127728 | 29.4234309 | 180 degree with respect to East | 753.144 | 77.5050159 | 29.4235770 | Chainage = 190511.73m |
| 507 | 77.5233570 | 29.4216599 | 1074.45 | 0 degree with respect to East | 77.5122911 | 29.4218692 | 180 degree with respect to East | 779.195 | 77.5042660 | 29.4220204 | Chainage = 190332.37m |
| 508 | 77.5245911 | 29.4200305 | 1129.17 | 0 degree with respect to East | 77.5129620 | 29.4202505 | 180 degree with respect to East | 836.025 | 77.5043517 | 29.4204127 | Chainage = 190141.43m |
| 509 | 77.5241991 | 29.4205939 | 980.81 | 0 degree with respect to East | 77.5140977 | 29.4207850 | 180 degree with respect to East | 954.939 | 77.5042628 | 29.4209703 | Chainage = 190016.26m |
| 510 | 77.5238394 | 29.4209345 | 790.57 | 0 degree with respect to East | 77.5156973 | 29.4210886 | 180 degree with respect to East | 1111.070 | 77.5042543 | 29.4213043 | Chainage = 189857.37m |
| 511 | 77.5244474 | 29.4202138 | 689.97 | 0 degree with respect to East | 77.5173415 | 29.4203483 | 180 degree with respect to East | 1264.388 | 77.5043195 | 29.4205939 | Chainage = 189677.9m |
| 512 | 77.5257923 | 29.4183105 | 814.72 | 0 degree with respect to East | 77.5174018 | 29.4184694 | 180 degree with respect to East | 1263.916 | 77.5043849 | 29.4187149 | Chainage = 189469.49m |
| 513 | 77.5258517 | 29.4166608 | 824.44 | 0 degree with respect to East | 77.5173611 | 29.4168216 | 180 degree with respect to East | 1184.165 | 77.5051658 | 29.4170516 | Chainage = 189286.74m |
| 514 | 77.5266249 | 29.4149069 | 943.28 | 0 degree with respect to East | 77.5169107 | 29.4150909 | 180 degree with respect to East | 1043.689 | 77.5061623 | 29.4152936 | Chainage = 189089.92m |



555

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 515 | 77.5281253 | 29.4135216 | 1212.99 | 0 degree with respect to East | 77.5156337 | 29.4137582 | 180 degree with respect to East | 893.640 | 77.5064307 | 29.4139317 | Chainage = 188897.04m |
| 516 | 77.5285249 | 29.4118819 | 1318.02 | 0 degree with respect to East | 77.5149518 | 29.4121389 | 180 degree with respect to East | 847.454 | 77.5062246 | 29.4123034 | Chainage = 188705.68m |
| 517 | 77.5287579 | 29.4100205 | 1359.71 | 0 degree with respect to East | 77.5147557 | 29.4102857 | 180 degree with respect to East | 672.787 | 77.5078274 | 29.4104163 | Chainage = 188499.31m |
| 518 | 77.5291970 | 29.4090623 | 1260.95 | 0 degree with respect to East | 77.5162119 | 29.4093083 | 180 degree with respect to East | 677.932 | 77.5092307 | 29.4094400 | Chainage = 188321.17m |
| 519 | 77.5293656 | 29.4087916 | 1100.69 | 0 degree with respect to East | 77.5180310 | 29.4090064 | 180 degree with respect to East | 837.658 | 77.5094049 | 29.4091692 | Chainage = 188141.42m |
| 520 | 77.5301577 | 29.4076224 | 1056.52 | 0 degree with respect to East | 77.5192780 | 29.4078287 | 180 degree with respect to East | 783.706 | 77.5112076 | 29.4079811 | Chainage = 187963.35m |
| 521 | 77.5303658 | 29.4068686 | 963.40 | 0 degree with respect to East | 77.5204452 | 29.4070568 | 180 degree with respect to East | 684.273 | 77.5133988 | 29.4071899 | Chainage = 187821.34m |
| 522 | 77.5301136 | 29.4074398 | 803.69 | 0 degree with respect to East | 77.5218375 | 29.4075968 | 180 degree with respect to East | 853.683 | 77.5130465 | 29.4077630 | Chainage = 187673.5m |
| 523 | 77.5305992 | 29.4061001 | 805.72 | 0 degree with respect to East | 77.5223024 | 29.4062575 | 180 degree with respect to East | 850.237 | 77.5135471 | 29.4064230 | Chainage = 187518.29m |
| 524 | 77.5307349 | 29.4044854 | 760.83 | 0 degree with respect to East | 77.5229004 | 29.4046340 | 180 degree with respect to East | 993.159 | 77.5126735 | 29.4048273 | Chainage = 187329.15m |
| 525 | 77.5307518 | 29.4039500 | 596.11 | 0 degree with respect to East | 77.5246135 | 29.4040665 | 180 degree with respect to East | 1170.310 | 77.5125625 | 29.4042944 | Chainage = 187151.32m |
| 526 | 77.5307375 | 29.4033912 | 502.89 | 0 degree with respect to East | 77.5255591 | 29.4034895 | 180 degree with respect to East | 1235.046 | 77.5128416 | 29.4037301 | Chainage = 187039.42m |
| 527 | 77.5301539 | 29.4016038 | 477.54 | 0 degree with respect to East | 77.5252367 | 29.4016971 | 180 degree with respect to East | 1164.726 | 77.5132435 | 29.4019239 | Chainage = 186838.22m |
| 528 | 77.5296750 | 29.3998268 | 464.97 | 0 degree with respect to East | 77.5248872 | 29.3999177 | 180 degree with respect to East | 1093.407 | 77.5136286 | 29.4001306 | Chainage = 186638.02m |
| 529 | 77.5291452 | 29.3983302 | 506.11 | 0 degree with respect to East | 77.5239340 | 29.3984291 | 180 degree with respect to East | 903.254 | 77.5146334 | 29.3986050 | Chainage = 186448.78m |
| 530 | 77.5287219 | 29.3978358 | 620.48 | 0 degree with respect to East | 77.5223331 | 29.3979569 | 180 degree with respect to East | 707.440 | 77.5150488 | 29.3980947 | Chainage = 186284.76m |
| 531 | 77.5287219 | 29.3978358 | 807.44 | 0 degree with respect to East | 77.5204080 | 29.3979934 | 180 degree with respect to East | 520.481 | 77.5150488 | 29.3980947 | Chainage = 186097.8m |
| 532 | 77.5293592 | 29.3986262 | 976.45 | 0 degree with respect to East | 77.5193050 | 29.3988168 | 180 degree with respect to East | 485.769 | 77.5143032 | 29.3989113 | Chainage = 185957.07m |



556

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 533 | 77.5285368 | 29.3974653 | 971.11 | 0 degree with respect to East | 77.5185377 | 29.3976547 | 180 degree with respect to East | 320.899 | 77.5152335 | 29.3977171 | Chainage = 185808.23m |
| 534 | 77.5280239 | 29.3961814 | 787.93 | 0 degree with respect to East | 77.5199109 | 29.3963351 | 180 degree with respect to East | 456.620 | 77.5152093 | 29.3964240 | Chainage = 185610.27m |
| 535 | 77.5280162 | 29.3946596 | 763.48 | 0 degree with respect to East | 77.5201552 | 29.3948086 | 180 degree with respect to East | 614.329 | 77.5138299 | 29.3949281 | Chainage = 185439.35m |
| 536 | 77.5272133 | 29.3935135 | 559.55 | 0 degree with respect to East | 77.5214521 | 29.3936227 | 180 degree with respect to East | 790.924 | 77.5133086 | 29.3937766 | Chainage = 185257.28m |
| 537 | 77.5269742 | 29.3930537 | 663.78 | 0 degree with respect to East | 77.5201398 | 29.3931832 | 180 degree with respect to East | 655.906 | 77.5133864 | 29.3933108 | Chainage = 185120.85m |
| 538 | 77.5266987 | 29.3918588 | 758.64 | 0 degree with respect to East | 77.5188878 | 29.3920067 | 180 degree with respect to East | 572.412 | 77.5129942 | 29.3921180 | Chainage = 184942.53m |
| 539 | 77.5266137 | 29.3901799 | 761.28 | 0 degree with respect to East | 77.5187757 | 29.3903283 | 180 degree with respect to East | 1050.503 | 77.5079597 | 29.3905323 | Chainage = 184756.11m |
| 540 | 77.5265639 | 29.3900544 | 898.15 | 0 degree with respect to East | 77.5173166 | 29.3902295 | 180 degree with respect to East | 915.545 | 77.5078902 | 29.3904073 | Chainage = 184614.01m |
| 541 | 77.5266846 | 29.3907561 | 1026.80 | 0 degree with respect to East | 77.5161127 | 29.3909562 | 180 degree with respect to East | 737.502 | 77.5085193 | 29.3910994 | Chainage = 184472.02m |
| 542 | 77.5266073 | 29.3901638 | 1163.93 | 0 degree with respect to East | 77.5146236 | 29.3903905 | 180 degree with respect to East | 648.482 | 77.5079469 | 29.3905164 | Chainage = 184314.41m |
| 543 | 77.5255451 | 29.3891723 | 1186.88 | 0 degree with respect to East | 77.5133252 | 29.3894034 | 180 degree with respect to East | 595.084 | 77.5071983 | 29.3895188 | Chainage = 184147.45m |
| 544 | 77.5251061 | 29.3875342 | 1207.49 | 0 degree with respect to East | 77.5126741 | 29.3877693 | 180 degree with respect to East | 782.284 | 77.5046199 | 29.3879209 | Chainage = 183955.54m |
| 545 | 77.5247029 | 29.3858954 | 1231.60 | 0 degree with respect to East | 77.5120230 | 29.3861351 | 180 degree with respect to East | 779.187 | 77.5040009 | 29.3862861 | Chainage = 183763.63m |
| 546 | 77.5232030 | 29.3841919 | 1108.03 | 0 degree with respect to East | 77.5117954 | 29.3844074 | 180 degree with respect to East | 1135.118 | 77.5001089 | 29.3846272 | Chainage = 183570.8m |
| 547 | 77.5227837 | 29.3827459 | 968.92 | 0 degree with respect to East | 77.5128085 | 29.3829344 | 180 degree with respect to East | 1340.063 | 77.4990121 | 29.3831938 | Chainage = 183380.13m |
| 548 | 77.5222804 | 29.3818867 | 771.04 | 0 degree with respect to East | 77.5143425 | 29.3820367 | 180 degree with respect to East | 1543.420 | 77.4984527 | 29.3823356 | Chainage = 183200.97m |
| 549 | 77.5209349 | 29.3803947 | 730.68 | 0 degree with respect to East | 77.5134126 | 29.3805368 | 180 degree with respect to East | 1639.314 | 77.4965358 | 29.3808540 | Chainage = 183011.72m |
| 550 | 77.5201367 | 29.3789380 | 753.07 | 0 degree with respect to East | 77.5123840 | 29.3790843 | 180 degree with respect to East | 1601.002 | 77.4959019 | 29.3793941 | Chainage = 182822.21m |



557

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 551 | 77.5190470 | 29.3776015 | 771.24 | 0 degree with respect to East | 77.5111073 | 29.3777514 | 180 degree with respect to East | 1789.260 | 77.4926873 | 29.3780972 | Chainage = 182629.29m |
| 552 | 77.5185683 | 29.3771621 | 896.25 | 0 degree with respect to East | 77.5093418 | 29.3773361 | 180 degree with respect to East | 1690.816 | 77.4919352 | 29.3776628 | Chainage = 182451.75m |
| 553 | 77.5185683 | 29.3771621 | 1083.24 | 0 degree with respect to East | 77.5074167 | 29.3773724 | 180 degree with respect to East | 1503.820 | 77.4919352 | 29.3776628 | Chainage = 182264.75m |
| 554 | 77.5165223 | 29.3756051 | 936.46 | 0 degree with respect to East | 77.5068820 | 29.3757868 | 180 degree with respect to East | 1551.470 | 77.4909102 | 29.3760863 | Chainage = 182081.43m |
| 555 | 77.5142225 | 29.3740098 | 654.99 | 0 degree with respect to East | 77.5074799 | 29.3741369 | 180 degree with respect to East | 1734.724 | 77.4896219 | 29.3744717 | Chainage = 181889.49m |
| 556 | 77.5134021 | 29.3727528 | 437.26 | 0 degree with respect to East | 77.5089008 | 29.3728376 | 180 degree with respect to East | 1940.480 | 77.4889249 | 29.3732121 | Chainage = 181690m |
| 557 | 77.5132790 | 29.3713061 | 521.02 | 0 degree with respect to East | 77.5079157 | 29.3714071 | 180 degree with respect to East | 1891.991 | 77.4884391 | 29.3717721 | Chainage = 181504.76m |
| 558 | 77.5121413 | 29.3701711 | 541.45 | 0 degree with respect to East | 77.5065677 | 29.3702760 | 180 degree with respect to East | 1817.744 | 77.4878557 | 29.3706266 | Chainage = 181323.47m |
| 559 | 77.5116521 | 29.3695347 | 658.63 | 0 degree with respect to East | 77.5048723 | 29.3696623 | 180 degree with respect to East | 1692.537 | 77.4874492 | 29.3699886 | Chainage = 181145.3m |
| 560 | 77.5116521 | 29.3695347 | 845.63 | 0 degree with respect to East | 77.5029472 | 29.3696984 | 180 degree with respect to East | 1505.528 | 77.4874492 | 29.3699886 | Chainage = 180958.29m |
| 561 | 77.5115196 | 29.3691958 | 1007.98 | 0 degree with respect to East | 77.5011436 | 29.3693910 | 180 degree with respect to East | 1346.908 | 77.4872785 | 29.3696504 | Chainage = 180779.83m |
| 562 | 77.5112069 | 29.3684730 | 1123.33 | 0 degree with respect to East | 77.4996435 | 29.3686904 | 180 degree with respect to East | 1242.279 | 77.4868555 | 29.3689296 | Chainage = 180614.72m |
| 563 | 77.5112720 | 29.3686055 | 1303.37 | 0 degree with respect to East | 77.4978554 | 29.3688576 | 180 degree with respect to East | 1065.090 | 77.4868914 | 29.3690626 | Chainage = 180440.06m |
| 564 | 77.5114597 | 29.3690033 | 1468.68 | 0 degree with respect to East | 77.4963413 | 29.3692873 | 180 degree with respect to East | 893.509 | 77.4871435 | 29.3694592 | Chainage = 180285.48m |
| 565 | 77.5111678 | 29.3682553 | 1585.19 | 0 degree with respect to East | 77.4948501 | 29.3685617 | 180 degree with respect to East | 776.201 | 77.4868599 | 29.3687110 | Chainage = 180119.8m |
| 566 | 77.5102362 | 29.3665123 | 1533.98 | 0 degree with respect to East | 77.4944459 | 29.3668087 | 180 degree with respect to East | 767.330 | 77.4865472 | 29.3669563 | Chainage = 179921.51m |
| 567 | 77.5089276 | 29.3647508 | 1440.76 | 0 degree with respect to East | 77.4940971 | 29.3650291 | 180 degree with respect to East | 826.557 | 77.4855889 | 29.3651880 | Chainage = 179721.31m |
| 568 | 77.5079675 | 29.3632309 | 1267.42 | 0 degree with respect to East | 77.4949216 | 29.3634757 | 180 degree with respect to East | 889.550 | 77.4857650 | 29.3636467 | Chainage = 179531.36m |



558

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 569 | 77.5042055 | 29.3619397 | 838.10 | 0 degree with respect to East | 77.4955788 | 29.3621015 | 180 degree with respect to East | 990.062 | 77.4853877 | 29.3622918 | Chainage = 179366.16m |
| 570 | 77.5042665 | 29.3622799 | 994.03 | 0 degree with respect to East | 77.4940348 | 29.3624717 | 180 degree with respect to East | 833.575 | 77.4854545 | 29.3626320 | Chainage = 179210.68m |
| 571 | 77.5041887 | 29.3621847 | 1131.15 | 0 degree with respect to East | 77.4925456 | 29.3624029 | 180 degree with respect to East | 691.588 | 77.4854268 | 29.3625358 | Chainage = 179065.83m |
| 572 | 77.5044166 | 29.3613404 | 1243.92 | 0 degree with respect to East | 77.4916127 | 29.3615804 | 180 degree with respect to East | 595.373 | 77.4854844 | 29.3616948 | Chainage = 178937.27m |
| 573 | 77.5056527 | 29.3601203 | 1282.04 | 0 degree with respect to East | 77.4924566 | 29.3603677 | 180 degree with respect to East | 647.423 | 77.4857926 | 29.3604921 | Chainage = 178779.8m |
| 574 | 77.5045322 | 29.3582894 | 1161.66 | 0 degree with respect to East | 77.4925754 | 29.3585134 | 180 degree with respect to East | 452.047 | 77.4879225 | 29.3586004 | Chainage = 178573.89m |
| 575 | 77.5047744 | 29.3570909 | 1119.97 | 0 degree with respect to East | 77.4932468 | 29.3573069 | 180 degree with respect to East | 496.988 | 77.4881314 | 29.3574025 | Chainage = 178425.06m |
| 576 | 77.5048639 | 29.3565541 | 962.23 | 0 degree with respect to East | 77.4949600 | 29.3567399 | 180 degree with respect to East | 693.838 | 77.4878185 | 29.3568733 | Chainage = 178247.17m |
| 577 | 77.5050013 | 29.3557860 | 818.02 | 0 degree with respect to East | 77.4965818 | 29.3559439 | 180 degree with respect to East | 912.090 | 77.4871939 | 29.3561194 | Chainage = 178066.6m |
| 578 | 77.5051983 | 29.3544577 | 806.56 | 0 degree with respect to East | 77.4968969 | 29.3546134 | 180 degree with respect to East | 957.984 | 77.4870368 | 29.3547977 | Chainage = 177915.94m |
| 579 | 77.5049309 | 29.3536102 | 919.04 | 0 degree with respect to East | 77.4954718 | 29.3537876 | 180 degree with respect to East | 805.340 | 77.4871829 | 29.3539425 | Chainage = 177749.97m |
| 580 | 77.5047724 | 29.3530045 | 1065.20 | 0 degree with respect to East | 77.4938090 | 29.3532100 | 180 degree with respect to East | 646.522 | 77.4871548 | 29.3533343 | Chainage = 177576.22m |
| 581 | 77.5045571 | 29.3522796 | 897.13 | 0 degree with respect to East | 77.4953237 | 29.3524528 | 180 degree with respect to East | 823.292 | 77.4868501 | 29.3526111 | Chainage = 177406.82m |
| 582 | 77.5045176 | 29.3517454 | 726.84 | 0 degree with respect to East | 77.4970368 | 29.3518857 | 180 degree with respect to East | 1030.187 | 77.4864338 | 29.3520838 | Chainage = 177228.93m |
| 583 | 77.5048284 | 29.3508455 | 641.09 | 0 degree with respect to East | 77.4982303 | 29.3509693 | 180 degree with respect to East | 1210.257 | 77.4857742 | 29.3512021 | Chainage = 177074.77m |
| 584 | 77.5040763 | 29.3494081 | 568.20 | 0 degree with respect to East | 77.4982284 | 29.3495178 | 180 degree with respect to East | 1222.507 | 77.4856463 | 29.3497529 | Chainage = 176913.82m |
| 585 | 77.5037415 | 29.3477803 | 536.35 | 0 degree with respect to East | 77.4982216 | 29.3478838 | 180 degree with respect to East | 1284.840 | 77.4849982 | 29.3481309 | Chainage = 176732.65m |
| 586 | 77.5046870 | 29.3462177 | 549.60 | 0 degree with respect to East | 77.4990307 | 29.3463238 | 180 degree with respect to East | 1433.752 | 77.4842750 | 29.3465995 | Chainage = 176542.66m |



559

102

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 587 | 77.5053379 | 29.3450420 | 690.75 | 0 degree with respect to East | 77.4982291 | 29.3451754 | 180 degree with respect to East | 1375.007 | 77.4840781 | 29.3454397 | Chainage = 176393.4m |
| 588 | 77.5058063 | 29.3444982 | 904.81 | 0 degree with respect to East | 77.4964944 | 29.3446728 | 180 degree with respect to East | 1211.328 | 77.4840280 | 29.3449056 | Chainage = 176215.91m |
| 589 | 77.5058873 | 29.3442292 | 1090.50 | 0 degree with respect to East | 77.4946646 | 29.3444396 | 180 degree with respect to East | 1037.832 | 77.4839837 | 29.3446389 | Chainage = 176036.28m |
| 590 | 77.5058656 | 29.3438673 | 1262.91 | 0 degree with respect to East | 77.4928685 | 29.3441108 | 180 degree with respect to East | 872.517 | 77.4838890 | 29.3442784 | Chainage = 175858.03m |
| 591 | 77.5058339 | 29.3426195 | 1371.52 | 0 degree with respect to East | 77.4917191 | 29.3428840 | 180 degree with respect to East | 802.888 | 77.4834563 | 29.3430381 | Chainage = 175682.04m |
| 592 | 77.5056867 | 29.3413556 | 1455.82 | 0 degree with respect to East | 77.4907046 | 29.3416362 | 180 degree with respect to East | 713.315 | 77.4833637 | 29.3417731 | Chainage = 175512.17m |
| 593 | 77.5055347 | 29.3403513 | 1317.59 | 0 degree with respect to East | 77.4919754 | 29.3406053 | 180 degree with respect to East | 823.995 | 77.4834955 | 29.3407635 | Chainage = 175343.93m |
| 594 | 77.5049718 | 29.3387107 | 1207.51 | 0 degree with respect to East | 77.4925455 | 29.3389435 | 180 degree with respect to East | 824.901 | 77.4840565 | 29.3391019 | Chainage = 175151.52m |
| 595 | 77.5046495 | 29.3369641 | 1202.75 | 0 degree with respect to East | 77.4922723 | 29.3371959 | 180 degree with respect to East | 657.731 | 77.4855037 | 29.3373223 | Chainage = 174955.95m |
| 596 | 77.5039512 | 29.3352925 | 1086.84 | 0 degree with respect to East | 77.4927671 | 29.3355020 | 180 degree with respect to East | 519.209 | 77.4874241 | 29.3356017 | Chainage = 174762.07m |
| 597 | 77.5041321 | 29.3335029 | 1138.32 | 0 degree with respect to East | 77.4924185 | 29.3337223 | 180 degree with respect to East | 163.245 | 77.4907386 | 29.3337537 | Chainage = 174561.86m |
| 598 | 77.5051450 | 29.3319699 | 1151.38 | 0 degree with respect to East | 77.4932971 | 29.3321919 | 180 degree with respect to East | 316.549 | 77.4900397 | 29.3322527 | Chainage = 174371.91m |
| 599 | 77.5059752 | 29.3303076 | 1295.28 | 0 degree with respect to East | 77.4926467 | 29.3305573 | 180 degree with respect to East | 270.308 | 77.4898652 | 29.3306093 | Chainage = 174179.98m |
| 600 | 77.5065394 | 29.3285085 | 1324.71 | 0 degree with respect to East | 77.4929084 | 29.3287640 | 180 degree with respect to East | 315.501 | 77.4896619 | 29.3288246 | Chainage = 173979.52m |
| 601 | 77.5065730 | 29.3272300 | 1227.33 | 0 degree with respect to East | 77.4939441 | 29.3274667 | 180 degree with respect to East | 489.147 | 77.4889109 | 29.3275607 | Chainage = 173803.97m |
| 602 | 77.5063406 | 29.3261633 | 1058.91 | 0 degree with respect to East | 77.4954449 | 29.3263676 | 180 degree with respect to East | 653.784 | 77.4887176 | 29.3264932 | Chainage = 173613.93m |
| 603 | 77.5061826 | 29.3244487 | 1062.45 | 0 degree with respect to East | 77.4952505 | 29.3246536 | 180 degree with respect to East | 659.946 | 77.4884600 | 29.3247804 | Chainage = 173422.96m |
| 604 | 77.5060118 | 29.3225370 | 1048.08 | 0 degree with respect to East | 77.4952279 | 29.3227391 | 180 degree with respect to East | 759.699 | 77.4874111 | 29.3228850 | Chainage = 173210.67m |



560

193

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 605 | 77.5053003 | 29.3210054 | 900.31 | 0 degree with respect to East | 77.4960370 | 29.3211790 | 180 degree with respect to East | 829.945 | 77.4874975 | 29.3213385 | Chainage = 173020.67m |
| 606 | 77.5052899 | 29.3206989 | 724.01 | 0 degree with respect to East | 77.4978406 | 29.3208386 | 180 degree with respect to East | 1015.472 | 77.4873922 | 29.3210338 | Chainage = 172841.4m |
| 607 | 77.5052265 | 29.3193625 | 738.76 | 0 degree with respect to East | 77.4976255 | 29.3195050 | 180 degree with respect to East | 1058.881 | 77.4867306 | 29.3197085 | Chainage = 172692.07m |
| 608 | 77.5046789 | 29.3181453 | 830.18 | 0 degree with respect to East | 77.4961374 | 29.3183053 | 180 degree with respect to East | 961.158 | 77.4862481 | 29.3184900 | Chainage = 172495.6m |
| 609 | 77.5043432 | 29.3175065 | 962.34 | 0 degree with respect to East | 77.4944419 | 29.3176919 | 180 degree with respect to East | 783.875 | 77.4863768 | 29.3178424 | Chainage = 172317.37m |
| 610 | 77.5043432 | 29.3175065 | 1149.44 | 0 degree with respect to East | 77.4925169 | 29.3177279 | 180 degree with respect to East | 596.773 | 77.4863768 | 29.3178424 | Chainage = 172130.27m |
| 611 | 77.5042567 | 29.3160851 | 1152.65 | 0 degree with respect to East | 77.4923975 | 29.3163071 | 180 degree with respect to East | 607.064 | 77.4861516 | 29.3164236 | Chainage = 171972.31m |
| 612 | 77.5042404 | 29.3149699 | 1014.90 | 0 degree with respect to East | 77.4937985 | 29.3151655 | 180 degree with respect to East | 820.771 | 77.4853540 | 29.3153230 | Chainage = 171786.41m |
| 613 | 77.5033730 | 29.3140469 | 788.01 | 0 degree with respect to East | 77.4952657 | 29.3141988 | 180 degree with respect to East | 990.439 | 77.4850756 | 29.3143889 | Chainage = 171608.05m |
| 614 | 77.5029954 | 29.3129839 | 760.21 | 0 degree with respect to East | 77.4951742 | 29.3131304 | 180 degree with respect to East | 989.588 | 77.4849929 | 29.3133204 | Chainage = 171489.26m |
| 615 | 77.5028909 | 29.3124562 | 918.84 | 0 degree with respect to East | 77.4934377 | 29.3126331 | 180 degree with respect to East | 818.382 | 77.4850179 | 29.3127902 | Chainage = 171311.74m |
| 616 | 77.5028343 | 29.3121844 | 1091.01 | 0 degree with respect to East | 77.4916098 | 29.3123945 | 180 degree with respect to East | 645.370 | 77.4849700 | 29.3125183 | Chainage = 171132.15m |
| 617 | 77.5028080 | 29.3119322 | 1266.82 | 0 degree with respect to East | 77.4897747 | 29.3121760 | 180 degree with respect to East | 475.902 | 77.4848785 | 29.3122673 | Chainage = 170952.19m |
| 618 | 77.5022739 | 29.3103032 | 1279.75 | 0 degree with respect to East | 77.4891078 | 29.3105494 | 180 degree with respect to East | 521.239 | 77.4837452 | 29.3106493 | Chainage = 170760.55m |
| 619 | 77.5013823 | 29.3085314 | 1167.67 | 0 degree with respect to East | 77.4893695 | 29.3087560 | 180 degree with respect to East | 546.775 | 77.4837442 | 29.3088608 | Chainage = 170560.08m |
| 620 | 77.5009930 | 29.3067502 | 1104.41 | 0 degree with respect to East | 77.4896311 | 29.3069626 | 180 degree with respect to East | 688.037 | 77.4825527 | 29.3070945 | Chainage = 170359.61m |
| 621 | 77.5001105 | 29.3049782 | 993.21 | 0 degree with respect to East | 77.4898928 | 29.3051692 | 180 degree with respect to East | 788.638 | 77.4817796 | 29.3053203 | Chainage = 170159.14m |
| 622 | 77.4992453 | 29.3030687 | 913.67 | 0 degree with respect to East | 77.4898461 | 29.3032444 | 180 degree with respect to East | 1206.680 | 77.4774324 | 29.3034754 | Chainage = 169945.67m |



561

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 623 | 77.4980351 | 29.3013029 | 770.61 | 0 degree with respect to East | 77.4901077 | 29.3014510 | 180 degree with respect to East | 1386.239 | 77.4758471 | 29.3017163 | Chainage = 169745.2m |
| 624 | 77.4974131 | 29.2999753 | 802.81 | 0 degree with respect to East | 77.4891546 | 29.3001296 | 180 degree with respect to East | 1332.295 | 77.4754491 | 29.3003845 | Chainage = 169571.86m |
| 625 | 77.4964379 | 29.2991958 | 867.54 | 0 degree with respect to East | 77.4875136 | 29.2993624 | 180 degree with respect to East | 1360.845 | 77.4735145 | 29.2996225 | Chainage = 169391.11m |
| 626 | 77.4955964 | 29.2989440 | 963.61 | 0 degree with respect to East | 77.4856838 | 29.2991290 | 180 degree with respect to East | 1217.922 | 77.4731549 | 29.2993617 | Chainage = 169211.4m |
| 627 | 77.4950417 | 29.2984286 | 1078.62 | 0 degree with respect to East | 77.4839460 | 29.2986355 | 180 degree with respect to East | 1088.173 | 77.4727519 | 29.2988434 | Chainage = 169033.86m |
| 628 | 77.4942409 | 29.2970967 | 900.23 | 0 degree with respect to East | 77.4849805 | 29.2972694 | 180 degree with respect to East | 1255.568 | 77.4720646 | 29.2975092 | Chainage = 168852.06m |
| 629 | 77.4950879 | 29.2958773 | 882.59 | 0 degree with respect to East | 77.4860091 | 29.2960467 | 180 degree with respect to East | 1376.277 | 77.4718516 | 29.2963096 | Chainage = 168683.61m |
| 630 | 77.4940648 | 29.2944013 | 878.23 | 0 degree with respect to East | 77.4850308 | 29.2945697 | 180 degree with respect to East | 1277.123 | 77.4718936 | 29.2948136 | Chainage = 168494.25m |
| 631 | 77.4940782 | 29.2944246 | 1031.60 | 0 degree with respect to East | 77.4834666 | 29.2946224 | 180 degree with respect to East | 1125.658 | 77.4718873 | 29.2948373 | Chainage = 168342.1m |
| 632 | 77.4940782 | 29.2944246 | 1218.75 | 0 degree with respect to East | 77.4815415 | 29.2946582 | 180 degree with respect to East | 938.514 | 77.4718873 | 29.2948373 | Chainage = 168154.96m |
| 633 | 77.4944758 | 29.2949522 | 1391.28 | 0 degree with respect to East | 77.4801642 | 29.2952188 | 180 degree with respect to East | 804.682 | 77.4718867 | 29.2953724 | Chainage = 168007.37m |
| 634 | 77.4948622 | 29.2953711 | 1573.57 | 0 degree with respect to East | 77.4786755 | 29.2956727 | 180 degree with respect to East | 667.658 | 77.4718075 | 29.2958000 | Chainage = 167854.18m |
| 635 | 77.4942241 | 29.2946987 | 1660.39 | 0 degree with respect to East | 77.4771444 | 29.2950168 | 180 degree with respect to East | 513.306 | 77.4718642 | 29.2951146 | Chainage = 167688.55m |
| 636 | 77.4935464 | 29.2930787 | 1656.69 | 0 degree with respect to East | 77.4765049 | 29.2933960 | 180 degree with respect to East | 366.672 | 77.4727331 | 29.2934659 | Chainage = 167498.4m |
| 637 | 77.4939734 | 29.2915257 | 1619.56 | 0 degree with respect to East | 77.4773142 | 29.2918359 | 180 degree with respect to East | 318.463 | 77.4740384 | 29.2918966 | Chainage = 167308.38m |
| 638 | 77.4932497 | 29.2899942 | 1470.54 | 0 degree with respect to East | 77.4781235 | 29.2902758 | 180 degree with respect to East | 416.713 | 77.4738372 | 29.2903553 | Chainage = 167118.36m |
| 639 | 77.4959106 | 29.2884901 | 1630.76 | 0 degree with respect to East | 77.4791367 | 29.2888027 | 180 degree with respect to East | 464.651 | 77.4743572 | 29.2888913 | Chainage = 166927.63m |
| 640 | 77.4968522 | 29.2876029 | 1568.65 | 0 degree with respect to East | 77.4807173 | 29.2879037 | 180 degree with respect to East | 576.689 | 77.4747855 | 29.2880138 | Chainage = 166744.5m |



562

105

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 641 | 77.4975972 | 29.2869211 | 1479.66 | 0 degree with respect to East | 77.4823777 | 29.2872049 | 180 degree with respect to East | 390.631 | 77.4783598 | 29.2872796 | Chainage = 166565.47m |
| 642 | 77.4979453 | 29.2862467 | 1352.08 | 0 degree with respect to East | 77.4840382 | 29.2865061 | 180 degree with respect to East | 566.023 | 77.4782162 | 29.2866143 | Chainage = 166386.44m |
| 643 | 77.4982994 | 29.2851687 | 1240.63 | 0 degree with respect to East | 77.4855388 | 29.2854068 | 180 degree with respect to East | 816.703 | 77.4771385 | 29.2855629 | Chainage = 166196.36m |
| 644 | 77.4999374 | 29.2841493 | 1250.81 | 0 degree with respect to East | 77.4870722 | 29.2843895 | 180 degree with respect to East | 921.966 | 77.4775892 | 29.2845658 | Chainage = 166009.45m |
| 645 | 77.5001981 | 29.2836093 | 1109.61 | 0 degree with respect to East | 77.4887853 | 29.2838225 | 180 degree with respect to East | 1040.156 | 77.4780867 | 29.2840215 | Chainage = 165831.46m |
| 646 | 77.5006066 | 29.2829199 | 988.44 | 0 degree with respect to East | 77.4904402 | 29.2831099 | 180 degree with respect to East | 1165.877 | 77.4784487 | 29.2833331 | Chainage = 165652.24m |
| 647 | 77.5009010 | 29.2822403 | 856.99 | 0 degree with respect to East | 77.4920867 | 29.2824051 | 180 degree with respect to East | 1320.738 | 77.4785024 | 29.2826579 | Chainage = 165474.14m |
| 648 | 77.5008084 | 29.2806127 | 797.25 | 0 degree with respect to East | 77.4926087 | 29.2807660 | 180 degree with respect to East | 1379.844 | 77.4784167 | 29.2810302 | Chainage = 165285.46m |
| 649 | 77.5008519 | 29.2789405 | 800.72 | 0 degree with respect to East | 77.4926166 | 29.2790945 | 180 degree with respect to East | 1314.994 | 77.4790918 | 29.2793463 | Chainage = 165100.13m |
| 650 | 77.5009123 | 29.2786550 | 658.99 | 0 degree with respect to East | 77.4941346 | 29.2787817 | 180 degree with respect to East | 1400.302 | 77.4797326 | 29.2790499 | Chainage = 164948.54m |
| 651 | 77.5010329 | 29.2775003 | 666.85 | 0 degree with respect to East | 77.4941745 | 29.2776286 | 180 degree with respect to East | 1138.086 | 77.4824695 | 29.2778467 | Chainage = 164820.62m |
| 652 | 77.5006519 | 29.2758915 | 699.54 | 0 degree with respect to East | 77.4934574 | 29.2760260 | 180 degree with respect to East | 1089.930 | 77.4822478 | 29.2762348 | Chainage = 164629.75m |
| 653 | 77.5007091 | 29.2750088 | 858.82 | 0 degree with respect to East | 77.4918765 | 29.2751739 | 180 degree with respect to East | 931.837 | 77.4822929 | 29.2753524 | Chainage = 164449.35m |
| 654 | 77.5050321 | 29.2741718 | 1424.07 | 0 degree with respect to East | 77.4903864 | 29.2744457 | 180 degree with respect to East | 753.651 | 77.4826354 | 29.2745900 | Chainage = 164283.51m |
| 655 | 77.5096275 | 29.2728368 | 1982.65 | 0 degree with respect to East | 77.4892374 | 29.2732184 | 180 degree with respect to East | 581.679 | 77.4832552 | 29.2733297 | Chainage = 164107.46m |
| 656 | 77.5119476 | 29.2710593 | 2194.36 | 0 degree with respect to East | 77.4893806 | 29.2714819 | 180 degree with respect to East | 486.354 | 77.4843788 | 29.2715750 | Chainage = 163914.42m |
| 657 | 77.5132027 | 29.2697218 | 2227.41 | 0 degree with respect to East | 77.4902961 | 29.2701508 | 180 degree with respect to East | 352.228 | 77.4866738 | 29.2702183 | Chainage = 163742.08m |
| 658 | 77.5138717 | 29.2690408 | 2148.94 | 0 degree with respect to East | 77.4917723 | 29.2694549 | 180 degree with respect to East | 429.959 | 77.4873506 | 29.2695373 | Chainage = 163579.14m |



563

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 659 | 77.5135386 | 29.2694479 | 1967.37 | 0 degree with respect to East | 77.4933063 | 29.2698272 | 180 degree with respect to East | 618.234 | 77.4869484 | 29.2699457 | Chainage = 163424.4m |
| 660 | 77.5141320 | 29.2685331 | 1878.90 | 0 degree with respect to East | 77.4948098 | 29.2688954 | 180 degree with respect to East | 679.363 | 77.4878233 | 29.2690257 | Chainage = 163245.41m |
| 661 | 77.5144250 | 29.2671278 | 1833.30 | 0 degree with respect to East | 77.4955720 | 29.2674813 | 180 degree with respect to East | 677.693 | 77.4886027 | 29.2676113 | Chainage = 163072m |
| 662 | 77.5143914 | 29.2670242 | 1646.85 | 0 degree with respect to East | 77.4974557 | 29.2673419 | 180 degree with respect to East | 856.844 | 77.4886441 | 29.2675064 | Chainage = 162888.21m |
| 663 | 77.5143843 | 29.2670025 | 1459.81 | 0 degree with respect to East | 77.4993721 | 29.2672842 | 180 degree with respect to East | 1042.351 | 77.4886528 | 29.2674844 | Chainage = 162701.79m |
| 664 | 77.5143340 | 29.2663353 | 1293.49 | 0 degree with respect to East | 77.5010324 | 29.2665850 | 180 degree with respect to East | 1162.154 | 77.4890812 | 29.2668083 | Chainage = 162522.73m |
| 665 | 77.5145995 | 29.2647872 | 1320.80 | 0 degree with respect to East | 77.5010171 | 29.2650422 | 180 degree with respect to East | 944.632 | 77.4913030 | 29.2652237 | Chainage = 162351.66m |
| 666 | 77.5146383 | 29.2637204 | 1455.21 | 0 degree with respect to East | 77.4996739 | 29.2640012 | 180 degree with respect to East | 751.824 | 77.4919425 | 29.2641457 | Chainage = 162177.37m |
| 667 | 77.5146340 | 29.2634557 | 1277.80 | 0 degree with respect to East | 77.5014940 | 29.2637024 | 180 degree with respect to East | 913.237 | 77.4921028 | 29.2638779 | Chainage = 161997.34m |
| 668 | 77.5141624 | 29.2619194 | 1153.30 | 0 degree with respect to East | 77.5023029 | 29.2621421 | 180 degree with respect to East | 944.282 | 77.4925926 | 29.2623236 | Chainage = 161807.3m |
| 669 | 77.5141258 | 29.2611438 | 1008.79 | 0 degree with respect to East | 77.5037524 | 29.2613387 | 180 degree with respect to East | 999.034 | 77.4934792 | 29.2615308 | Chainage = 161640.58m |
| 670 | 77.5142365 | 29.2606067 | 852.98 | 0 degree with respect to East | 77.5054653 | 29.2607715 | 180 degree with respect to East | 1033.424 | 77.4948386 | 29.2609704 | Chainage = 161462.56m |
| 671 | 77.5143133 | 29.2603377 | 683.56 | 0 degree with respect to East | 77.5072844 | 29.2604699 | 180 degree with respect to East | 1173.969 | 77.4952124 | 29.2606959 | Chainage = 161282.57m |
| 672 | 77.5143956 | 29.2600687 | 514.66 | 0 degree with respect to East | 77.5091034 | 29.2601682 | 180 degree with respect to East | 1314.725 | 77.4955841 | 29.2604214 | Chainage = 161102.58m |
| 673 | 77.5138799 | 29.2587169 | 427.30 | 0 degree with respect to East | 77.5094860 | 29.2587995 | 180 degree with respect to East | 1261.189 | 77.4965174 | 29.2590425 | Chainage = 160946.33m |
| 674 | 77.5137888 | 29.2571984 | 508.37 | 0 degree with respect to East | 77.5085614 | 29.2572967 | 180 degree with respect to East | 1136.019 | 77.4968800 | 29.2575155 | Chainage = 160757m |
| 675 | 77.5153168 | 29.2557910 | 776.67 | 0 degree with respect to East | 77.5073307 | 29.2559411 | 180 degree with respect to East | 798.804 | 77.4991170 | 29.2560950 | Chainage = 160564.88m |
| 676 | 77.5169039 | 29.2542637 | 1025.75 | 0 degree with respect to East | 77.5063567 | 29.2544620 | 180 degree with respect to East | 541.072 | 77.5007932 | 29.2545662 | Chainage = 160375.51m |



564

137

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 677 | 77.5176968 | 29.2526017 | 1166.11 | 0 degree with respect to East | 77.5057067 | 29.2528271 | 180 degree with respect to East | 528.400 | 77.5002736 | 29.2529289 | Chainage = 160183.54m |
| 678 | 77.5183140 | 29.2514035 | 1351.00 | 0 degree with respect to East | 77.5044230 | 29.2516645 | 180 degree with respect to East | 401.146 | 77.5002984 | 29.2517418 | Chainage = 160004.11m |
| 679 | 77.5182673 | 29.2497698 | 1340.25 | 0 degree with respect to East | 77.5044870 | 29.2500288 | 180 degree with respect to East | 371.748 | 77.5006647 | 29.2501004 | Chainage = 159822.64m |
| 680 | | | | | 77.5060672 | 29.2491292 | 180 degree with respect to East | 531.862 | 77.5005987 | 29.2492317 | Chainage = 159639.45m |
| 681 | | | | | 77.5075235 | 29.2483430 | 180 degree with respect to East | 706.513 | 77.5002593 | 29.2484791 | Chainage = 159473.16m |
| 682 | | | | | 77.5091637 | 29.2475936 | 180 degree with respect to East | 834.919 | 77.5005793 | 29.2477546 | Chainage = 159293.33m |
| 683 | | | | | 77.5107631 | 29.2475213 | 180 degree with respect to East | 988.306 | 77.5006016 | 29.2477118 | Chainage = 159137.6m |
| 684 | | | | | 77.5123860 | 29.2478006 | 180 degree with respect to East | 1162.030 | 77.5004383 | 29.2480247 | Chainage = 158976.78m |
| 685 | | | | | 77.5136585 | 29.2465543 | 180 degree with respect to East | 1241.044 | 77.5008986 | 29.2467937 | Chainage = 158791.29m |
| 686 | | | | | 77.5143647 | 29.2451163 | 180 degree with respect to East | 1302.644 | 77.5009717 | 29.2453677 | Chainage = 158617.69m |
| 687 | | | | | 77.5156396 | 29.2439205 | 180 degree with respect to East | 1413.773 | 77.5011041 | 29.2441933 | Chainage = 158436.17m |
| 688 | | | | | 77.5167447 | 29.2426523 | 180 degree with respect to East | 1472.254 | 77.5016082 | 29.2429365 | Chainage = 158259.2m |
| 689 | | | | | 77.5167043 | 29.2410037 | 180 degree with respect to East | 1274.990 | 77.5035961 | 29.2412499 | Chainage = 158076.36m |
| 690 | | | | | 77.5175340 | 29.2394522 | 180 degree with respect to East | 1393.881 | 77.5032037 | 29.2397213 | Chainage = 157886.35m |
| 691 | | | | | 77.5181512 | 29.2378102 | 180 degree with respect to East | 1325.320 | 77.5045260 | 29.2380662 | Chainage = 157694.65m |
| 692 | | | | | 77.5166177 | 29.2367677 | 180 degree with respect to East | 1158.330 | 77.5047094 | 29.2369914 | Chainage = 157505.97m |
| 693 | | | | | 77.5174971 | 29.2360107 | 180 degree with respect to East | 1228.888 | 77.5048635 | 29.2362481 | Chainage = 157386.14m |
| 694 | | | | | 77.5187339 | 29.2366933 | 180 degree with respect to East | 1363.091 | 77.5047205 | 29.2369566 | Chainage = 157244.04m |



565

301

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 695 | | | | | 77.5199984 | 29.2369224 | 180 degree with respect to East | 1491.186 | 77.5046682 | 29.2372106 | Chainage = 157118.46m |
| 696 | | | | | 77.5206032 | 29.2352751 | 180 degree with respect to East | 1509.444 | 77.5050855 | 29.2355668 | Chainage = 156926.58m |
| 697 | | | | | 77.5221296 | 29.2342412 | 180 degree with respect to East | 1415.723 | 77.5075756 | 29.2345150 | Chainage = 156739.02m |
| 698 | | | | | 77.5238425 | 29.2336738 | 180 degree with respect to East | 1413.319 | 77.5093133 | 29.2339473 | Chainage = 156560.96m |
| 699 | | | | | 77.5254231 | 29.2327754 | 180 degree with respect to East | 589.924 | 77.5193586 | 29.2328898 | Chainage = 156377.79m |
| 700 | | | | | 77.5262285 | 29.2313796 | 180 degree with respect to East | 690.831 | 77.5191268 | 29.2315136 | Chainage = 156204.34m |
| 701 | | | | | 77.5249986 | 29.2301911 | 180 degree with respect to East | 567.615 | 77.5191636 | 29.2303012 | Chainage = 156026.37m |
| 702 | | | | | 77.5258420 | 29.2290882 | 180 degree with respect to East | 594.535 | 77.5197303 | 29.2292036 | Chainage = 155879.12m |
| 703 | | | | | 77.5273485 | 29.2280046 | 180 degree with respect to East | 730.704 | 77.5198372 | 29.2281464 | Chainage = 155689.63m |
| 704 | | | | | 77.5268994 | 29.2262887 | 180 degree with respect to East | 714.131 | 77.5195585 | 29.2264272 | Chainage = 155494.42m |
| 705 | | | | | 77.5268260 | 29.2246558 | 180 degree with respect to East | 696.407 | 77.5196675 | 29.2247909 | Chainage = 155313.23m |
| 706 | | | | | 77.5266278 | 29.2228035 | 180 degree with respect to East | 722.578 | 77.5192004 | 29.2229437 | Chainage = 155106.96m |
| 707 | | | | | 77.5265806 | 29.2208787 | 180 degree with respect to East | 764.429 | 77.5187231 | 29.2210270 | Chainage = 154893.49m |
| 708 | | | | | 77.5253318 | 29.2196993 | 180 degree with respect to East | 629.414 | 77.5188622 | 29.2198213 | Chainage = 154715.01m |
| 709 | | | | | 77.5253520 | 29.2178032 | 180 degree with respect to East | 775.969 | 77.5173761 | 29.2179536 | Chainage = 154504.76m |
| 710 | | | | | 77.5259566 | 29.2161558 | 180 degree with respect to East | 734.420 | 77.5184079 | 29.2162982 | Chainage = 154312.87m |
| 711 | | | | | 77.5277049 | 29.2156771 | 180 degree with respect to East | 918.034 | 77.5182690 | 29.2158551 | Chainage = 154134.73m |
| 712 | | | | | 77.5293691 | 29.2159132 | 180 degree with respect to East | 1051.220 | 77.5185642 | 29.2161171 | Chainage = 153970.75m |



566

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 713 | | | | | 77.5309381 | 29.2164185 | 180 degree with respect to East | 1273.124 | 77.5178523 | 29.2166655 | Chainage = 153808.18m |
| 714 | | | | | 77.5325537 | 29.2157580 | 180 degree with respect to East | 1363.423 | 77.5185400 | 29.2160227 | Chainage = 153634.8m |
| 715 | | | | | 77.5322118 | 29.2142543 | 180 degree with respect to East | 1693.570 | 77.5148049 | 29.2145827 | Chainage = 153464.78m |
| 716 | | | | | 77.5309481 | 29.2129306 | 180 degree with respect to East | 1665.220 | 77.5138328 | 29.2132534 | Chainage = 153273.34m |
| 717 | | | | | 77.5294137 | 29.2120723 | 180 degree with respect to East | 1512.381 | 77.5138694 | 29.2123654 | Chainage = 153096.32m |
| 718 | | | | | 77.5276731 | 29.2119324 | 180 degree with respect to East | 1350.492 | 77.5137927 | 29.2121941 | Chainage = 152926.3m |
| 719 | | | | | 77.5260380 | 29.2122309 | 180 degree with respect to East | 1185.597 | 77.5138524 | 29.2124605 | Chainage = 152763.85m |
| 720 | | | | | 77.5246769 | 29.2127916 | 180 degree with respect to East | 1054.893 | 77.5138346 | 29.2129959 | Chainage = 152617.58m |
| 721 | | | | | 77.5233158 | 29.2133523 | 180 degree with respect to East | 926.342 | 77.5137947 | 29.2135317 | Chainage = 152471.31m |
| 722 | | | | | 77.5224028 | 29.2121783 | 180 degree with respect to East | 829.859 | 77.5138735 | 29.2123389 | Chainage = 152313.73m |
| 723 | | | | | 77.5229723 | 29.2105318 | 180 degree with respect to East | 1357.024 | 77.5090249 | 29.2107942 | Chainage = 152122.95m |
| 724 | | | | | 77.5240884 | 29.2091179 | 180 degree with respect to East | 1810.612 | 77.5054793 | 29.2094678 | Chainage = 151932.26m |
| 725 | | | | | 77.5246813 | 29.2074813 | 180 degree with respect to East | 2007.249 | 77.5040515 | 29.2078692 | Chainage = 151741.86m |
| 726 | 77.5420415 | 29.2059121 | 1731.76 | 0 degree with respect to East | 77.5242436 | 29.2062492 | 180 degree with respect to East | 2071.832 | 77.5029504 | 29.2066494 | Chainage = 151598.77m |
| 727 | 77.5422171 | 29.2055039 | 1920.57 | 0 degree with respect to East | 77.5224788 | 29.2058776 | 180 degree with respect to East | 1938.544 | 77.5025554 | 29.2062519 | Chainage = 151422.21m |
| 728 | 77.5421882 | 29.2052369 | 2078.14 | 0 degree with respect to East | 77.5208306 | 29.2056411 | 180 degree with respect to East | 1800.325 | 77.5023278 | 29.2059886 | Chainage = 151259.75m |
| 729 | 77.5422171 | 29.2055039 | 2240.04 | 0 degree with respect to East | 77.5191955 | 29.2059395 | 180 degree with respect to East | 1619.080 | 77.5025554 | 29.2062519 | Chainage = 151097.29m |
| 730 | 77.5420933 | 29.2057737 | 2387.09 | 0 degree with respect to East | 77.5175604 | 29.2062378 | 180 degree with respect to East | 1434.595 | 77.5028163 | 29.2065145 | Chainage = 150934.83m |



567

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 731 | 77.5418170 | 29.2065815 | 2465.96 | 0 degree with respect to East | 77.5164733 | 29.2070608 | 180 degree with respect to East | 1247.698 | 77.5036499 | 29.2073015 | Chainage = 150795.15m |
| 732 | 77.5420559 | 29.2072778 | 2605.10 | 0 degree with respect to East | 77.5152819 | 29.2077840 | 180 degree with respect to East | 1085.788 | 77.5041225 | 29.2079934 | Chainage = 150654.22m |
| 733 | 77.5419614 | 29.2061567 | 2687.58 | 0 degree with respect to East | 77.5143402 | 29.2066789 | 180 degree with respect to East | 1083.865 | 77.5032006 | 29.2068878 | Chainage = 150501.22m |
| 734 | 77.5417692 | 29.2044994 | 2725.83 | 0 degree with respect to East | 77.5137551 | 29.2050289 | 180 degree with respect to East | 1309.745 | 77.5002943 | 29.2052812 | Chainage = 150309.63m |
| 735 | 77.5411882 | 29.2031158 | 2758.41 | 0 degree with respect to East | 77.5128397 | 29.2036514 | 180 degree with respect to East | 1327.786 | 77.4991936 | 29.2039070 | Chainage = 150132.83m |
| 736 | 77.5410776 | 29.2021268 | 2899.08 | 0 degree with respect to East | 77.5112837 | 29.2026895 | 180 degree with respect to East | 1225.478 | 77.4986892 | 29.2029254 | Chainage = 149947.67m |
| 737 | 77.5409022 | 29.2012486 | 3037.23 | 0 degree with respect to East | 77.5096887 | 29.2018379 | 180 degree with respect to East | 1111.365 | 77.4982670 | 29.2020517 | Chainage = 149766.03m |
| 738 | 77.5405410 | 29.2001854 | 3134.67 | 0 degree with respect to East | 77.5083265 | 29.2007933 | 180 degree with respect to East | 1021.322 | 77.4978303 | 29.2009897 | Chainage = 149590.04m |
| 739 | 77.5400047 | 29.1990708 | 3225.99 | 0 degree with respect to East | 77.5068521 | 29.1996962 | 180 degree with respect to East | 895.215 | 77.4976520 | 29.1998683 | Chainage = 149401.96m |
| 740 | 77.5379542 | 29.1975061 | 3095.51 | 0 degree with respect to East | 77.5061429 | 29.1981058 | 180 degree with respect to East | 872.209 | 77.4971794 | 29.1982735 | Chainage = 149212.62m |
| 741 | 77.5325017 | 29.1958955 | 2610.74 | 0 degree with respect to East | 77.5056726 | 29.1964007 | 180 degree with respect to East | 1149.588 | 77.4938587 | 29.1966215 | Chainage = 149018.11m |
| 742 | 77.5302246 | 29.1943600 | 2404.62 | 0 degree with respect to East | 77.5055140 | 29.1948250 | 180 degree with respect to East | 1158.505 | 77.4936086 | 29.1950475 | Chainage = 148842.72m |
| 743 | 77.5273686 | 29.1926548 | 2158.10 | 0 degree with respect to East | 77.5051916 | 29.1930719 | 180 degree with respect to East | 1213.447 | 77.4927219 | 29.1933048 | Chainage = 148645.82m |
| 744 | 77.5213417 | 29.1911431 | 1513.91 | 0 degree with respect to East | 77.5057847 | 29.1914353 | 180 degree with respect to East | 1352.635 | 77.4918848 | 29.1916949 | Chainage = 148455.41m |
| 745 | 77.5163026 | 29.1895804 | 972.87 | 0 degree with respect to East | 77.5063056 | 29.1897680 | 180 degree with respect to East | 1375.769 | 77.4921682 | 29.1900321 | Chainage = 148263.73m |
| 746 | 77.5161816 | 29.1879893 | 896.36 | 0 degree with respect to East | 77.5069709 | 29.1881622 | 180 degree with respect to East | 3751.156 | 77.4684242 | 29.1888789 | Chainage = 148074.28m |
| 747 | 77.5154620 | 29.1867483 | 911.76 | 0 degree with respect to East | 77.5060932 | 29.1869241 | 180 degree with respect to East | 3851.020 | 77.4665208 | 29.1876594 | Chainage = 147912.61m |
| 748 | 77.5155898 | 29.1869698 | 1087.65 | 0 degree with respect to East | 77.5044134 | 29.1871795 | 180 degree with respect to East | 3636.994 | 77.4670402 | 29.1878738 | Chainage = 147746.74m |



568

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 749 | 77.5156249 | 29.1870308 | 1237.20 | 0 degree with respect to East | 77.5029118 | 29.1872692 | 180 degree with respect to East | 3481.056 | 77.4671410 | 29.1879335 | Chainage = 147600.3m |
| 750 | 77.5156146 | 29.1870129 | 1421.36 | 0 degree with respect to East | 77.5010092 | 29.1872867 | 180 degree with respect to East | 3298.767 | 77.4671115 | 29.1879160 | Chainage = 147415.17m |
| 751 | 77.5156911 | 29.1871456 | 1601.23 | 0 degree with respect to East | 77.4992374 | 29.1874539 | 180 degree with respect to East | 3104.237 | 77.4673386 | 29.1880459 | Chainage = 147241.79m |
| 752 | 77.5159216 | 29.1875422 | 1769.49 | 0 degree with respect to East | 77.4977389 | 29.1878829 | 180 degree with respect to East | 2904.948 | 77.4678878 | 29.1884368 | Chainage = 147088.43m |
| 753 | 77.5156665 | 29.1871030 | 1915.05 | 0 degree with respect to East | 77.4959881 | 29.1874715 | 180 degree with respect to East | 2795.505 | 77.4672618 | 29.1880043 | Chainage = 146912.09m |
| 754 | 77.5143896 | 29.1855430 | 1863.94 | 0 degree with respect to East | 77.4952366 | 29.1859015 | 180 degree with respect to East | 2986.089 | 77.4645523 | 29.1864702 | Chainage = 146723.28m |
| 755 | 77.5137252 | 29.1849083 | 1955.87 | 0 degree with respect to East | 77.4936277 | 29.1852843 | 180 degree with respect to East | 2878.398 | 77.4640501 | 29.1858322 | Chainage = 146552.43m |
| 756 | 77.5138538 | 29.1851734 | 2127.52 | 0 degree with respect to East | 77.4919925 | 29.1855823 | 180 degree with respect to East | 2699.516 | 77.4642530 | 29.1860960 | Chainage = 146389.94m |
| 757 | 77.5141751 | 29.1854349 | 2317.91 | 0 degree with respect to East | 77.4903573 | 29.1858803 | 180 degree with respect to East | 2523.735 | 77.4644240 | 29.1863604 | Chainage = 146227.45m |
| 758 | 77.5150147 | 29.1859541 | 2532.09 | 0 degree with respect to East | 77.4889961 | 29.1864406 | 180 degree with respect to East | 2321.493 | 77.4651408 | 29.1868823 | Chainage = 146081.16m |
| 759 | 77.5153404 | 29.1864830 | 2696.24 | 0 degree with respect to East | 77.4876348 | 29.1870010 | 180 degree with respect to East | 2097.318 | 77.4660830 | 29.1874000 | Chainage = 145934.87m |
| 760 | 77.5157673 | 29.1872776 | 2843.59 | 0 degree with respect to East | 77.4865474 | 29.1878238 | 180 degree with respect to East | 1846.104 | 77.4675769 | 29.1881750 | Chainage = 145795.17m |
| 761 | 77.5162221 | 29.1881589 | 2984.94 | 0 degree with respect to East | 77.4855493 | 29.1887322 | 180 degree with respect to East | 1639.232 | 77.4687045 | 29.1890441 | Chainage = 145655.27m |
| 762 | 77.5162649 | 29.1888734 | 3103.61 | 0 degree with respect to East | 77.4843726 | 29.1894693 | 180 degree with respect to East | 709.451 | 77.4916629 | 29.1893338 | Chainage = 145514.6m |
| 763 | 77.5162809 | 29.1891406 | 3264.28 | 0 degree with respect to East | 77.4827374 | 29.1897672 | 180 degree with respect to East | 904.132 | 77.4920283 | 29.1895945 | Chainage = 145352.12m |
| 764 | 77.5162688 | 29.1899434 | 3368.90 | 0 degree with respect to East | 77.4816499 | 29.1905900 | 180 degree with respect to East | 1017.843 | 77.4921094 | 29.1903955 | Chainage = 145212.43m |
| 765 | 77.5209894 | 29.1909246 | 3907.41 | 0 degree with respect to East | 77.4808364 | 29.1916751 | 180 degree with respect to East | 1079.854 | 77.4919332 | 29.1914689 | Chainage = 145068.41m |
| 766 | 77.5229262 | 29.1916906 | 4201.69 | 0 degree with respect to East | 77.4797489 | 29.1924979 | 180 degree with respect to East | 1169.010 | 77.4917621 | 29.1922747 | Chainage = 144928.72m |



569

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 767 | 77.5218948 | 29.1914426 | 4277.81 | 0 degree with respect to East | 77.4779353 | 29.1922640 | 180 degree with respect to East | 1350.965 | 77.4918182 | 29.1920061 | Chainage = 144750.37m |
| 768 | 77.5214081 | 29.1911842 | 4406.95 | 0 degree with respect to East | 77.4761216 | 29.1920300 | 180 degree with respect to East | 1533.056 | 77.4918757 | 29.1917375 | Chainage = 144572.02m |
| 769 | 77.5212674 | 29.1910970 | 4575.91 | 0 degree with respect to East | 77.4742446 | 29.1919748 | 180 degree with respect to East | 1717.591 | 77.4918950 | 29.1916473 | Chainage = 144389.31m |
| 770 | 77.5162492 | 29.1901532 | 4205.13 | 0 degree with respect to East | 77.4730370 | 29.1909589 | 180 degree with respect to East | 1851.507 | 77.4920634 | 29.1906059 | Chainage = 144226.55m |
| 771 | 77.5163099 | 29.1892969 | 4367.17 | 0 degree with respect to East | 77.4714328 | 29.1901334 | 180 degree with respect to East | 2019.551 | 77.4921860 | 29.1897484 | Chainage = 144045.63m |
| 772 | 77.5162456 | 29.1885520 | 4504.71 | 0 degree with respect to East | 77.4699555 | 29.1894145 | 180 degree with respect to East | 62.442 | 77.4693138 | 29.1894263 | Chainage = 143881.28m |
| 773 | 77.5158867 | 29.1874823 | 4614.60 | 0 degree with respect to East | 77.4684678 | 29.1883655 | 180 degree with respect to East | 62.855 | 77.4678219 | 29.1883774 | Chainage = 143695.6m |
| 774 | 77.5150487 | 29.1860059 | 4625.56 | 0 degree with respect to East | 77.4675179 | 29.1868908 | 180 degree with respect to East | 224.601 | 77.4652099 | 29.1869334 | Chainage = 143507.78m |
| 775 | 77.5136007 | 29.1845409 | 4577.14 | 0 degree with respect to East | 77.4665680 | 29.1854161 | 180 degree with respect to East | 267.859 | 77.4638155 | 29.1854668 | Chainage = 143319.96m |
| 776 | 77.5112868 | 29.1829969 | 4424.40 | 0 degree with respect to East | 77.4658243 | 29.1838424 | 180 degree with respect to East | 326.638 | 77.4624679 | 29.1839042 | Chainage = 143131.07m |
| 777 | 77.5091333 | 29.1812228 | 4239.40 | 0 degree with respect to East | 77.4655724 | 29.1820325 | 180 degree with respect to East | 389.925 | 77.4615658 | 29.1821063 | Chainage = 142928.91m |
| 778 | 77.5058584 | 29.1795115 | 3895.21 | 0 degree with respect to East | 77.4658347 | 29.1802549 | 180 degree with respect to East | 453.087 | 77.4611791 | 29.1803406 | Chainage = 142730.18m |
| 779 | 77.5002285 | 29.1780570 | 3275.19 | 0 degree with respect to East | 77.4665761 | 29.1786815 | 180 degree with respect to East | 632.355 | 77.4600785 | 29.1788011 | Chainage = 142541.4m |
| 780 | 77.4946764 | 29.1767226 | 2636.07 | 0 degree with respect to East | 77.4675913 | 29.1772247 | 180 degree with respect to East | 760.597 | 77.4597761 | 29.1773686 | Chainage = 142352.07m |
| 781 | 77.4941517 | 29.1756645 | 2441.54 | 0 degree with respect to East | 77.4690655 | 29.1761297 | 180 degree with respect to East | 894.806 | 77.4598715 | 29.1762990 | Chainage = 142164.14m |
| 782 | 77.4932230 | 29.1746202 | 2206.32 | 0 degree with respect to East | 77.4705539 | 29.1750406 | 180 degree with respect to East | 1008.790 | 77.4601888 | 29.1752315 | Chainage = 141975.58m |
| 783 | 77.4924097 | 29.1740710 | 1979.48 | 0 degree with respect to East | 77.4720715 | 29.1744482 | 180 degree with respect to East | 1120.799 | 77.4605556 | 29.1746604 | Chainage = 141813.96m |
| 784 | 77.4924097 | 29.1740710 | 1793.67 | 0 degree with respect to East | 77.4739806 | 29.1744129 | 180 degree with respect to East | 1306.602 | 77.4605556 | 29.1746604 | Chainage = 141628.16m |



570

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 785 | 77.4919966 | 29.1738112 | 1577.98 | 0 degree with respect to East | 77.4757836 | 29.1741121 | 180 degree with respect to East | 1454.278 | 77.4608414 | 29.1743876 | Chainage = 141449.57m |
| 786 | 77.4919966 | 29.1738112 | 1392.18 | 0 degree with respect to East | 77.4776927 | 29.1740768 | 180 degree with respect to East | 1640.082 | 77.4608414 | 29.1743876 | Chainage = 141263.76m |
| 787 | 77.4910266 | 29.1732948 | 1132.59 | 0 degree with respect to East | 77.4793899 | 29.1735109 | 180 degree with respect to East | 1761.930 | 77.4612868 | 29.1738450 | Chainage = 141087.09m |
| 788 | 77.4903647 | 29.1718085 | 982.65 | 0 degree with respect to East | 77.4802686 | 29.1719959 | 180 degree with respect to East | 1735.014 | 77.4624423 | 29.1723251 | Chainage = 140898.61m |
| 789 | 77.4887662 | 29.1699285 | 831.55 | 0 degree with respect to East | 77.4802227 | 29.1700871 | 180 degree with respect to East | 1753.009 | 77.4622119 | 29.1704196 | Chainage = 140686.92m |
| 790 | 77.4858465 | 29.1684279 | 626.65 | 0 degree with respect to East | 77.4794083 | 29.1685473 | 180 degree with respect to East | 1629.827 | 77.4626633 | 29.1688564 | Chainage = 140498.7m |
| 791 | 77.4857190 | 29.1672829 | 744.11 | 0 degree with respect to East | 77.4780740 | 29.1674246 | 180 degree with respect to East | 1467.791 | 77.4629940 | 29.1677029 | Chainage = 140318.83m |
| 792 | 77.4858222 | 29.1664256 | 910.29 | 0 degree with respect to East | 77.4764700 | 29.1665989 | 180 degree with respect to East | 1302.469 | 77.4630886 | 29.1668458 | Chainage = 140137.87m |
| 793 | 77.4857841 | 29.1656335 | 1048.77 | 0 degree with respect to East | 77.4750093 | 29.1658331 | 180 degree with respect to East | 1146.263 | 77.4632328 | 29.1660503 | Chainage = 139972.3m |
| 794 | 77.4852845 | 29.1648338 | 1157.88 | 0 degree with respect to East | 77.4733888 | 29.1650541 | 180 degree with respect to East | 968.124 | 77.4634425 | 29.1652375 | Chainage = 139792.5m |
| 795 | 77.4850178 | 29.1640425 | 1290.12 | 0 degree with respect to East | 77.4717637 | 29.1642879 | 180 degree with respect to East | 777.081 | 77.4637802 | 29.1644351 | Chainage = 139612.98m |
| 796 | 77.4851061 | 29.1645167 | 1437.11 | 0 degree with respect to East | 77.4703417 | 29.1647900 | 180 degree with respect to East | 661.033 | 77.4635504 | 29.1649152 | Chainage = 139463.82m |
| 797 | 77.4852907 | 29.1648437 | 1572.53 | 0 degree with respect to East | 77.4691351 | 29.1651426 | 180 degree with respect to East | 554.415 | 77.4634391 | 29.1652476 | Chainage = 139340.06m |
| 798 | 77.4849892 | 29.1634979 | 1665.37 | 0 degree with respect to East | 77.4678800 | 29.1638144 | 180 degree with respect to East | 376.741 | 77.4640095 | 29.1638857 | Chainage = 139148.73m |
| 799 | 77.4854533 | 29.1615956 | 1711.52 | 0 degree with respect to East | 77.4678702 | 29.1619208 | 180 degree with respect to East | 318.188 | 77.4646013 | 29.1619810 | Chainage = 138938.78m |
| 800 | 77.4853524 | 29.1598814 | 1663.78 | 0 degree with respect to East | 77.4682601 | 29.1601976 | 180 degree with respect to East | 141.448 | 77.4668069 | 29.1602244 | Chainage = 138743.99m |
| 801 | 77.4854740 | 29.1583442 | 1598.03 | 0 degree with respect to East | 77.4690574 | 29.1586479 | 180 degree with respect to East | 113.734 | 77.4678890 | 29.1586695 | Chainage = 138555.47m |
| 802 | 77.4859216 | 29.1568000 | 1564.21 | 0 degree with respect to East | 77.4698527 | 29.1570974 | 180 degree with respect to East | 279.068 | 77.4669858 | 29.1571503 | Chainage = 138366.94m |



571

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 803 | 77.4855910 | 29.1551815 | 1474.08 | 0 degree with respect to East | 77.4704482 | 29.1554618 | 180 degree with respect to East | 392.724 | 77.4664138 | 29.1555362 | Chainage = 138176.56m |
| 804 | 77.4857439 | 29.1537343 | 1391.55 | 0 degree with respect to East | 77.4714492 | 29.1539989 | 180 degree with respect to East | 388.260 | 77.4674607 | 29.1540724 | Chainage = 137987.36m |
| 805 | 77.4859626 | 29.1521652 | 1341.83 | 0 degree with respect to East | 77.4721788 | 29.1524204 | 180 degree with respect to East | 837.743 | 77.4635731 | 29.1525790 | Chainage = 137798.49m |
| 806 | 77.4856421 | 29.1505352 | 1255.15 | 0 degree with respect to East | 77.4727489 | 29.1507739 | 180 degree with respect to East | 955.542 | 77.4629333 | 29.1509548 | Chainage = 137607.69m |
| 807 | 77.4855904 | 29.1487633 | 1224.62 | 0 degree with respect to East | 77.4730111 | 29.1489962 | 180 degree with respect to East | 987.630 | 77.4628660 | 29.1491832 | Chainage = 137408.95m |
| 808 | 77.4854596 | 29.1475335 | 1323.90 | 0 degree with respect to East | 77.4718606 | 29.1477852 | 180 degree with respect to East | 1322.939 | 77.4582713 | 29.1480353 | Chainage = 137234.11m |
| 809 | 77.4849318 | 29.1464000 | 1403.31 | 0 degree with respect to East | 77.4705173 | 29.1466667 | 180 degree with respect to East | 1441.130 | 77.4557140 | 29.1469390 | Chainage = 137053.91m |
| 810 | 77.4848430 | 29.1461216 | 1570.04 | 0 degree with respect to East | 77.4687158 | 29.1464199 | 180 degree with respect to East | 1298.796 | 77.4553747 | 29.1466651 | Chainage = 136876.45m |
| 811 | 77.4843972 | 29.1454965 | 1690.50 | 0 degree with respect to East | 77.4670328 | 29.1458175 | 180 degree with respect to East | 1188.484 | 77.4548248 | 29.1460418 | Chainage = 136699.54m |
| 812 | 77.4832394 | 29.1438353 | 1630.13 | 0 degree with respect to East | 77.4664953 | 29.1441447 | 180 degree with respect to East | 1214.397 | 77.4540213 | 29.1443739 | Chainage = 136506.84m |
| 813 | 77.4816565 | 29.1427772 | 1618.60 | 0 degree with respect to East | 77.4650310 | 29.1430843 | | | | | Chainage = 136322.07m |
| 814 | 77.4822651 | 29.1432266 | 1807.81 | 0 degree with respect to East | 77.4636961 | 29.1435695 | 180 degree with respect to East | 995.175 | 77.4534739 | 29.1437572 | Chainage = 136181.44m |
| 815 | 77.4822651 | 29.1432267 | 1993.66 | 0 degree with respect to East | 77.4617870 | 29.1436046 | | | | | Chainage = 135995.58m |
| 816 | 77.4822651 | 29.1432267 | 2143.57 | 0 degree with respect to East | 77.4602472 | 29.1436329 | 180 degree with respect to East | 659.410 | 77.4534740 | 29.1437572 | Chainage = 135845.67m |
| 817 | 77.4817486 | 29.1428893 | 2267.10 | 0 degree with respect to East | 77.4584620 | 29.1433188 | 180 degree with respect to East | 512.844 | 77.4531942 | 29.1434154 | Chainage = 135668.45m |
| 818 | 77.4808086 | 29.1416677 | 2286.18 | 0 degree with respect to East | 77.4573263 | 29.1421006 | | | | | Chainage = 135493.91m |
| 819 | 77.4803295 | 29.1397768 | 2246.10 | 0 degree with respect to East | 77.4572592 | 29.1402021 | 180 degree with respect to East | 441.053 | 77.4527290 | 29.1402851 | Chainage = 135283.32m |
| 820 | 77.4800763 | 29.1378719 | 2225.92 | 0 degree with respect to East | 77.4572138 | 29.1382932 | | | | | Chainage = 135071.64m |

572



115

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 821 | 77.4797099 | 29.1362714 | 2258.51 | 0 degree with respect to East | 77.4565130 | 29.1366988 | 180 degree with respect to East | 1215.285 | 77.4440307 | 29.1369271 | Chainage = 134882.16m |
| 822 | 77.4790592 | 29.1347665 | 2282.46 | 0 degree with respect to East | 77.4556166 | 29.1351983 | 180 degree with respect to East | 1192.493 | 77.4433685 | 29.1354223 | Chainage = 134694.3m |
| 823 | 77.4770069 | 29.1330338 | 2116.43 | 0 degree with respect to East | 77.4552699 | 29.1334340 | | | | | Chainage = 134495.8m |
| 824 | 77.4763441 | 29.1312732 | 2026.37 | 0 degree with respect to East | 77.4555323 | 29.1316563 | 180 degree with respect to East | 1610.468 | 77.4389919 | 29.1319585 | Chainage = 134297.06m |
| 825 | 77.4760200 | 29.1296619 | 1935.23 | 0 degree with respect to East | 77.4561446 | 29.1300277 | 180 degree with respect to East | 1700.741 | 77.4386773 | 29.1303468 | Chainage = 134106.91m |
| 826 | 77.4754920 | 29.1284082 | 1746.72 | 0 degree with respect to East | 77.4575530 | 29.1287384 | 180 degree with respect to East | 1857.090 | 77.4384801 | 29.1290869 | Chainage = 133908.84m |
| 827 | 77.4751173 | 29.1273073 | 1800.95 | 0 degree with respect to East | 77.4566214 | 29.1276478 | 180 degree with respect to East | 1774.286 | 77.4383992 | 29.1279806 | Chainage = 133757.69m |
| 828 | 77.4751173 | 29.1273073 | 1986.84 | 0 degree with respect to East | 77.4547124 | 29.1276827 | 180 degree with respect to East | 1588.400 | 77.4383992 | 29.1279806 | Chainage = 133571.8m |
| 829 | 77.4751965 | 29.1275734 | 2153.77 | 0 degree with respect to East | 77.4530771 | 29.1279802 | 180 degree with respect to East | 1428.769 | 77.4384033 | 29.1282481 | Chainage = 133409.23m |
| 830 | 77.4751965 | 29.1275734 | 2339.66 | 0 degree with respect to East | 77.4511680 | 29.1280151 | 180 degree with respect to East | 1242.884 | 77.4384033 | 29.1282481 | Chainage = 133223.34m |
| 831 | 77.4751965 | 29.1275734 | 2525.54 | 0 degree with respect to East | 77.4492589 | 29.1280501 | 180 degree with respect to East | 1056.999 | 77.4384033 | 29.1282481 | Chainage = 133037.46m |
| 832 | 77.4752882 | 29.1278392 | 2693.69 | 0 degree with respect to East | 77.4476236 | 29.1283475 | 180 degree with respect to East | 895.371 | 77.4384279 | 29.1285152 | Chainage = 132874.89m |
| 833 | 77.4752882 | 29.1278392 | 2879.58 | 0 degree with respect to East | 77.4457146 | 29.1283824 | 180 degree with respect to East | 709.487 | 77.4384279 | 29.1285152 | Chainage = 132689.01m |
| 834 | 77.4753834 | 29.1281050 | 3048.07 | 0 degree with respect to East | 77.4440793 | 29.1286797 | | | | | Chainage = 132526.44m |
| 835 | 77.4755596 | 29.1285967 | 3201.77 | 0 degree with respect to East | 77.4426766 | 29.1292002 | 180 degree with respect to East | 406.973 | 77.4384969 | 29.1292764 | Chainage = 132378.21m |
| 836 | 77.4757984 | 29.1291674 | 3353.58 | 0 degree with respect to East | 77.4413562 | 29.1297995 | 180 degree with respect to East | 267.187 | 77.4386120 | 29.1298495 | Chainage = 132233.51m |
| 837 | 77.4757241 | 29.1289900 | 3473.94 | 0 degree with respect to East | 77.4400459 | 29.1296445 | 180 degree with respect to East | 143.240 | 77.4385747 | 29.1296713 | Chainage = 132104.8m |
| 838 | 77.4751452 | 29.1274151 | 3490.41 | 0 degree with respect to East | 77.4392983 | 29.1280726 | 180 degree with respect to East | 88.577 | 77.4383886 | 29.1280891 | Chainage = 131915.93m |



573

116

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 839 | 77.4746316 | 29.1255149 | 3444.84 | 0 degree with respect to East | 77.4392532 | 29.1261637 | 180 degree with respect to East | 53.187 | 77.4387070 | 29.1261736 | Chainage = 131704.25m |
| 840 | 77.4730339 | 29.1237716 | 3263.75 | 0 degree with respect to East | 77.4395160 | 29.1243860 | | | | | Chainage = 131505.51m |
| 841 | 77.4721612 | 29.1220149 | 3153.25 | 0 degree with respect to East | 77.4397787 | 29.1226084 | 180 degree with respect to East | 9.730 | 77.4396787 | 29.1226102 | Chainage = 131306.77m |
| 842 | 77.4710982 | 29.1203172 | 3012.04 | 0 degree with respect to East | 77.4401663 | 29.1208840 | 180 degree with respect to East | 4.792 | 77.4401171 | 29.1208849 | Chainage = 131111.9m |
| 843 | 77.4676406 | 29.1192284 | 2550.27 | 0 degree with respect to East | 77.4414510 | 29.1197082 | 180 degree with respect to East | 165.910 | 77.4397472 | 29.1197392 | Chainage = 130931.24m |
| 844 | 77.4658488 | 29.1181995 | 2230.88 | 0 degree with respect to East | 77.4429394 | 29.1186191 | 180 degree with respect to East | 350.942 | 77.4393354 | 29.1186847 | Chainage = 130742.63m |
| 845 | 77.4629263 | 29.1165371 | 1908.32 | 0 degree with respect to East | 77.4433296 | 29.1168958 | | | | | Chainage = 130547.83m |
| 846 | 77.4612783 | 29.1152178 | 1817.42 | 0 degree with respect to East | 77.4426153 | 29.1155593 | 180 degree with respect to East | 476.466 | 77.4377225 | 29.1156484 | Chainage = 130384.14m |
| 847 | 77.4597486 | 29.1142986 | 1805.31 | 0 degree with respect to East | 77.4412101 | 29.1146376 | 180 degree with respect to East | 528.632 | 77.4357816 | 29.1147363 | Chainage = 130213.38m |
| 848 | 77.4571040 | 29.1128153 | 1607.88 | 0 degree with respect to East | 77.4405932 | 29.1131170 | 180 degree with respect to East | 609.484 | 77.4343345 | 29.1132309 | Chainage = 130034.42m |
| 849 | 77.4568794 | 29.1110130 | 1577.45 | 0 degree with respect to East | 77.4406813 | 29.1113090 | 180 degree with respect to East | 754.576 | 77.4329328 | 29.1114499 | Chainage = 129833.78m |
| 850 | 77.4562311 | 29.1100776 | 1651.17 | 0 degree with respect to East | 77.4392761 | 29.1103872 | | | | | Chainage = 129663.01m |
| 851 | 77.4560742 | 29.1094658 | 1800.43 | 0 degree with respect to East | 77.4375866 | 29.1098033 | | | | | Chainage = 129486.23m |
| 852 | 77.4560554 | 29.1091986 | 1975.23 | 0 degree with respect to East | 77.4357730 | 29.1095688 | | | | | Chainage = 129307.75m |
| 853 | 77.4560217 | 29.1087166 | 2141.08 | 0 degree with respect to East | 77.4340363 | 29.1091177 | | | | | Chainage = 129131.42m |
| 854 | 77.4560174 | 29.1086643 | 2324.76 | 0 degree with respect to East | 77.4321460 | 29.1090996 | | | | | Chainage = 128947.35m |
| 855 | 77.4560131 | 29.1081164 | 2475.08 | 0 degree with respect to East | 77.4305982 | 29.1085796 | | | | | Chainage = 128786.01m |
| 856 | 77.4560395 | 29.1066164 | 2568.65 | 0 degree with respect to East | 77.4296642 | 29.1070970 | | | | | Chainage = 128598.15m |



574

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 857 | 77.4558075 | 29.1050541 | 2475.28 | 0 degree with respect to East | 77.4303913 | 29.1055174 | 180 degree with respect to East | 765.694 | 77.4225290 | 29.1056597 | Chainage = 128409.24m |
| 858 | 77.4555061 | 29.1034907 | 2375.68 | 0 degree with respect to East | 77.4311130 | 29.1039354 | 180 degree with respect to East | 756.076 | 77.4233496 | 29.1040759 | Chainage = 128220.29m |
| 859 | 77.4527275 | 29.1000151 | 2053.90 | 0 degree with respect to East | 77.4316391 | 29.1003992 | 180 degree with respect to East | 816.029 | 77.4232604 | 29.1005510 | Chainage = 127824.91m |
| 860 | 77.4529319 | 29.0985312 | 1988.26 | 0 degree with respect to East | 77.4325178 | 29.0989032 | 180 degree with respect to East | 825.227 | 77.4240448 | 29.0990566 | Chainage = 127638.28m |
| 861 | 77.4528832 | 29.0970520 | 1897.96 | 0 degree with respect to East | 77.4333964 | 29.0974071 | 180 degree with respect to East | 962.469 | 77.4235144 | 29.0975861 | Chainage = 127451.64m |
| 862 | 77.4521742 | 29.0955081 | 1760.17 | 0 degree with respect to East | 77.4341025 | 29.0958374 | 180 degree with respect to East | 1281.473 | 77.4209453 | 29.0960757 | Chainage = 127264.52m |
| 863 | 77.4522690 | 29.0940744 | 1673.29 | 0 degree with respect to East | 77.4350895 | 29.0943876 | 180 degree with respect to East | 1464.116 | 77.4200573 | 29.0946597 | Chainage = 127077.23m |
| 864 | 77.4528024 | 29.0932064 | 1834.91 | 0 degree with respect to East | 77.4339637 | 29.0935497 | 180 degree with respect to East | 1372.535 | 77.4198720 | 29.0938048 | Chainage = 126933.54m |
| 865 | 77.4528024 | 29.0932064 | 2018.98 | 0 degree with respect to East | 77.4320739 | 29.0935840 | 180 degree with respect to East | 1188.461 | 77.4198720 | 29.0938048 | Chainage = 126749.47m |
| 866 | 77.4528182 | 29.0929386 | 2195.29 | 0 degree with respect to East | 77.4302796 | 29.0933490 | 180 degree with respect to East | 1023.055 | 77.4197759 | 29.0935390 | Chainage = 126572.81m |
| 867 | 77.4528356 | 29.0926707 | 2371.75 | 0 degree with respect to East | 77.4284853 | 29.0931140 | 180 degree with respect to East | 859.777 | 77.4196580 | 29.0932736 | Chainage = 126396.15m |
| 868 | 77.4528356 | 29.0926707 | 2555.82 | 0 degree with respect to East | 77.4265954 | 29.0931482 | 180 degree with respect to East | 675.704 | 77.4196580 | 29.0932736 | Chainage = 126212.08m |
| 869 | 77.4528224 | 29.0928728 | 2709.67 | 0 degree with respect to East | 77.4250028 | 29.0933788 | 180 degree with respect to East | 511.913 | 77.4197470 | 29.0934738 | Chainage = 126054.89m |
| 870 | 77.4528356 | 29.0926707 | 2888.00 | 0 degree with respect to East | 77.4231850 | 29.0932099 | 180 degree with respect to East | 343.529 | 77.4196580 | 29.0932736 | Chainage = 125876.89m |
| 871 | 77.4526670 | 29.0913048 | 2957.77 | 0 degree with respect to East | 77.4223006 | 29.0918568 | 180 degree with respect to East | 307.412 | 77.4191444 | 29.0919138 | Chainage = 125703.91m |
| 872 | 77.4569121 | 29.0894734 | 3345.65 | 0 degree with respect to East | 77.4225640 | 29.0900983 | 180 degree with respect to East | 307.899 | 77.4194029 | 29.0901554 | Chainage = 125507.27m |
| 873 | 77.4605217 | 29.0878551 | 3627.48 | 0 degree with respect to East | 77.4232808 | 29.0885333 | 180 degree with respect to East | 406.529 | 77.4191072 | 29.0886086 | Chainage = 125320.24m |
| 874 | 77.4617068 | 29.0866029 | 3639.03 | 0 degree with respect to East | 77.4243478 | 29.0872835 | 180 degree with respect to East | 555.422 | 77.4186456 | 29.0873865 | Chainage = 125147.05m |



575

118

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 875 | 77.4623027 | 29.0857440 | 3545.74 | 0 degree with respect to East | 77.4259018 | 29.0864075 | 180 degree with respect to East | 657.052 | 77.4191563 | 29.0865294 | Chainage = 124967.23m |
| 876 | 77.4628946 | 29.0850868 | 3444.28 | 0 degree with respect to East | 77.4275356 | 29.0857315 | 180 degree with respect to East | 791.254 | 77.4194124 | 29.0858783 | Chainage = 124791.35m |
| 877 | 77.4643311 | 29.0842124 | 3432.88 | 0 degree with respect to East | 77.4290895 | 29.0848554 | 180 degree with respect to East | 923.693 | 77.4196067 | 29.0850268 | Chainage = 124611.53m |
| 878 | 77.4658317 | 29.0833369 | 3427.72 | 0 degree with respect to East | 77.4306434 | 29.0839793 | 180 degree with respect to East | 1077.967 | 77.4195770 | 29.0841794 | Chainage = 124431.71m |
| 879 | 77.4661388 | 29.0830879 | 3282.95 | 0 degree with respect to East | 77.4324368 | 29.0837034 | 180 degree with respect to East | 1257.587 | 77.4195264 | 29.0839369 | Chainage = 124254.39m |
| 880 | 77.4664962 | 29.0822540 | 3165.62 | 0 degree with respect to East | 77.4339989 | 29.0828478 | 180 degree with respect to East | 1392.749 | 77.4197011 | 29.0831065 | Chainage = 124075.11m |
| 881 | 77.4667424 | 29.0817144 | 3026.18 | 0 degree with respect to East | 77.4356768 | 29.0822822 | 180 degree with respect to East | 1540.140 | 77.4198659 | 29.0825685 | Chainage = 123900.09m |
| 882 | 77.4664962 | 29.0822540 | 2868.96 | 0 degree with respect to East | 77.4370443 | 29.0827925 | 180 degree with respect to East | 1689.404 | 77.4197011 | 29.0831065 | Chainage = 123755.39m |
| 883 | 77.4663940 | 29.0825234 | 2700.35 | 0 degree with respect to East | 77.4386730 | 29.0830304 | 180 degree with respect to East | 1855.644 | 77.4196231 | 29.0833754 | Chainage = 123594.59m |
| 884 | 77.4663940 | 29.0825234 | 2516.25 | 0 degree with respect to East | 77.4405629 | 29.0829960 | 180 degree with respect to East | 2039.737 | 77.4196231 | 29.0833754 | Chainage = 123410.5m |
| 885 | 77.4669537 | 29.0812782 | 2444.45 | 0 degree with respect to East | 77.4418600 | 29.0817374 | 180 degree with respect to East | 2124.940 | 77.4200459 | 29.0821329 | Chainage = 123222.27m |
| 886 | 77.4675006 | 29.0800934 | 2381.63 | 0 degree with respect to East | 77.4430522 | 29.0805410 | 180 degree with respect to East | 2140.792 | 77.4210756 | 29.0809395 | Chainage = 123045.98m |
| 887 | 77.4676835 | 29.0792893 | 2246.27 | 0 degree with respect to East | 77.4446248 | 29.0797116 | 180 degree with respect to East | 2235.386 | 77.4216773 | 29.0801280 | Chainage = 122867.34m |
| 888 | 77.4676835 | 29.0792893 | 2062.17 | 0 degree with respect to East | 77.4465146 | 29.0796772 | 180 degree with respect to East | 2419.485 | 77.4216773 | 29.0801279 | Chainage = 122683.24m |
| 889 | 77.4676835 | 29.0792893 | 1878.08 | 0 degree with respect to East | 77.4484045 | 29.0796427 | 180 degree with respect to East | 2603.585 | 77.4216773 | 29.0801280 | Chainage = 122499.14m |
| 890 | 77.4676214 | 29.0795580 | 1713.36 | 0 degree with respect to East | 77.4500332 | 29.0798805 | 180 degree with respect to East | 2772.570 | 77.4215712 | 29.0803974 | Chainage = 122338.34m |
| 891 | 77.4675499 | 29.0798269 | 1547.73 | 0 degree with respect to East | 77.4516620 | 29.0801182 | 180 degree with respect to East | 2949.485 | 77.4213838 | 29.0806683 | Chainage = 122177.54m |
| 892 | 77.4675003 | 29.0800953 | 1384.22 | 0 degree with respect to East | 77.4532907 | 29.0803560 | 180 degree with respect to East | 3138.379 | 77.4210734 | 29.0809415 | Chainage = 122016.74m |



576

119

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 893 | 77.4672025 | 29.0808290 | 1224.22 | 0 degree with respect to East | 77.4546354 | 29.0810596 | 180 degree with respect to East | 3344.490 | 77.4203019 | 29.0816836 | Chainage = 121864.3m |
| 894 | 77.4667424 | 29.0817144 | 1078.66 | 0 degree with respect to East | 77.4556694 | 29.0819176 | 180 degree with respect to East | 3487.660 | 77.4198659 | 29.0825685 | Chainage = 121725.77m |
| 895 | 77.4666202 | 29.0819842 | 908.09 | 0 degree with respect to East | 77.4572981 | 29.0821553 | 180 degree with respect to East | 3655.900 | 77.4197675 | 29.0828378 | Chainage = 121564.97m |
| 896 | 77.4671149 | 29.0809945 | 810.06 | 0 degree with respect to East | 77.4587993 | 29.0811472 | 180 degree with respect to East | 3760.786 | 77.4201923 | 29.0818495 | Chainage = 121380.94m |
| 897 | 77.4675744 | 29.0797350 | 719.04 | 0 degree with respect to East | 77.4601932 | 29.0798706 | 180 degree with respect to East | 3770.219 | 77.4214898 | 29.0805750 | Chainage = 121184.82m |
| 898 | 77.4677720 | 29.0782176 | 661.68 | 0 degree with respect to East | 77.4609797 | 29.0783424 | 180 degree with respect to East | 3686.377 | 77.4231376 | 29.0790314 | Chainage = 120998.88m |
| 899 | 77.4678967 | 29.0767950 | 609.95 | 0 degree with respect to East | 77.4616355 | 29.0769101 | 180 degree with respect to East | 2157.930 | 77.4394840 | 29.0773148 | Chainage = 120827.71m |
| 900 | 77.4684242 | 29.0752628 | 585.07 | 0 degree with respect to East | 77.4624185 | 29.0753732 | 180 degree with respect to East | 2154.487 | 77.4403027 | 29.0757774 | Chainage = 120641.02m |
| 901 | 77.4681552 | 29.0738234 | 603.70 | 0 degree with respect to East | 77.4619584 | 29.0739373 | 180 degree with respect to East | 2010.018 | 77.4413259 | 29.0743144 | Chainage = 120475.64m |
| 902 | 77.4680574 | 29.0724738 | 717.46 | 0 degree with respect to East | 77.4606930 | 29.0726091 | 180 degree with respect to East | 1472.669 | 77.4455765 | 29.0728856 | Chainage = 120283.61m |
| 903 | 77.4683096 | 29.0715186 | 879.26 | 0 degree with respect to East | 77.4592845 | 29.0716844 | 180 degree with respect to East | 1302.520 | 77.4459146 | 29.0719288 | Chainage = 120112.34m |
| 904 | 77.4683826 | 29.0704577 | 1035.94 | 0 degree with respect to East | 77.4577494 | 29.0706529 | 180 degree with respect to East | 1151.800 | 77.4459267 | 29.0708690 | Chainage = 119924.1m |
| 905 | 77.4683511 | 29.0699135 | 1200.34 | 0 degree with respect to East | 77.4560304 | 29.0701397 | 180 degree with respect to East | 999.859 | 77.4457674 | 29.0703272 | Chainage = 119747.26m |
| 906 | 77.4683511 | 29.0699135 | 1386.76 | 0 degree with respect to East | 77.4541168 | 29.0701747 | 180 degree with respect to East | 813.437 | 77.4457674 | 29.0703272 | Chainage = 119560.84m |
| 907 | 77.4682578 | 29.0696477 | 1538.66 | 0 degree with respect to East | 77.4524644 | 29.0699374 | 180 degree with respect to East | 639.583 | 77.4458995 | 29.0700573 | Chainage = 119397.75m |
| 908 | 77.4681646 | 29.0693819 | 1706.70 | 0 degree with respect to East | 77.4506465 | 29.0697031 | 180 degree with respect to East | 450.473 | 77.4460226 | 29.0697875 | Chainage = 119218.78m |
| 909 | 77.4680089 | 29.0688835 | 1860.52 | 0 degree with respect to East | 77.4489120 | 29.0692334 | 180 degree with respect to East | 262.418 | 77.4462184 | 29.0692826 | Chainage = 119042m |
| 910 | 77.4679962 | 29.0675426 | 1984.75 | 0 degree with respect to East | 77.4476244 | 29.0679158 | 180 degree with respect to East | 84.997 | 77.4467519 | 29.0679317 | Chainage = 118849.46m |



577

126

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 911 | 77.4677302 | 29.0660895 | 1863.27 | 0 degree with respect to East | 77.4486055 | 29.0664399 | 180 degree with respect to East | 257.203 | 77.4459656 | 29.0664881 | Chainage = 118659.96m |
| 912 | 77.4672163 | 29.0645607 | 1735.23 | 0 degree with respect to East | 77.4494062 | 29.0648870 | 180 degree with respect to East | 383.286 | 77.4454721 | 29.0649588 | Chainage = 118470.95m |
| 913 | 77.4667803 | 29.0631209 | 1594.93 | 0 degree with respect to East | 77.4504103 | 29.0634209 | 180 degree with respect to East | 470.430 | 77.4455819 | 29.0635090 | Chainage = 118281.24m |
| 914 | 77.4656630 | 29.0616032 | 1408.10 | 0 degree with respect to East | 77.4512109 | 29.0618680 | 180 degree with respect to East | 748.502 | 77.4435285 | 29.0620082 | Chainage = 118092.23m |
| 915 | 77.4642929 | 29.0600904 | 1196.55 | 0 degree with respect to East | 77.4520121 | 29.0603154 | 180 degree with respect to East | 1030.151 | 77.4414392 | 29.0605082 | Chainage = 117903.22m |
| 916 | 77.4642561 | 29.0585525 | 1115.06 | 0 degree with respect to East | 77.4528120 | 29.0587622 | 180 degree with respect to East | 1131.905 | 77.4411949 | 29.0589741 | Chainage = 117714.21m |
| 917 | 77.4648517 | 29.0570033 | 1095.10 | 0 degree with respect to East | 77.4536126 | 29.0572093 | 180 degree with respect to East | 1250.766 | 77.4407757 | 29.0574434 | Chainage = 117525.2m |
| 918 | 77.4645249 | 29.0557630 | 957.65 | 0 degree with respect to East | 77.4546966 | 29.0559431 | 180 degree with respect to East | 1393.683 | 77.4403931 | 29.0562040 | Chainage = 117349.54m |
| 919 | 77.4643361 | 29.0541043 | 888.43 | 0 degree with respect to East | 77.4552183 | 29.0542715 | 180 degree with respect to East | 1410.915 | 77.4407382 | 29.0545356 | Chainage = 117157.36m |
| 920 | 77.4646663 | 29.0524148 | 973.78 | 0 degree with respect to East | 77.4546727 | 29.0525980 | 180 degree with respect to East | 1399.761 | 77.4403073 | 29.0528600 | Chainage = 116964.36m |
| 921 | 77.4641807 | 29.0509808 | 1030.45 | 0 degree with respect to East | 77.4536058 | 29.0511745 | 180 degree with respect to East | 1325.235 | 77.4400054 | 29.0514225 | Chainage = 116775.38m |
| 922 | 77.4640338 | 29.0495581 | 1088.46 | 0 degree with respect to East | 77.4528636 | 29.0497627 | 180 degree with respect to East | 1177.051 | 77.4407841 | 29.0499830 | Chainage = 116602.96m |
| 923 | 77.4642341 | 29.0479286 | 1173.34 | 0 degree with respect to East | 77.4521930 | 29.0481492 | 180 degree with respect to East | 1216.618 | 77.4397077 | 29.0483767 | Chainage = 116412.51m |
| 924 | 77.4638581 | 29.0465839 | 1259.99 | 0 degree with respect to East | 77.4509279 | 29.0468207 | 180 degree with respect to East | 1279.476 | 77.4377977 | 29.0470598 | Chainage = 116220.45m |
| 925 | 77.4639130 | 29.0467200 | 1420.59 | 0 degree with respect to East | 77.4493348 | 29.0469868 | 180 degree with respect to East | 1107.906 | 77.4379652 | 29.0471938 | Chainage = 116064.15m |
| 926 | 77.4641103 | 29.0473391 | 1564.17 | 0 degree with respect to East | 77.4480585 | 29.0476329 | 180 degree with respect to East | 896.138 | 77.4388621 | 29.0478003 | Chainage = 115920.66m |
| 927 | 77.4642570 | 29.0480513 | 1693.63 | 0 degree with respect to East | 77.4468765 | 29.0483693 | 180 degree with respect to East | 672.294 | 77.4399772 | 29.0484950 | Chainage = 115779.5m |
| 928 | 77.4641053 | 29.0473159 | 1823.49 | 0 degree with respect to East | 77.4453923 | 29.0476582 | 180 degree with respect to East | 638.825 | 77.4388365 | 29.0477775 | Chainage = 115614.8m |



578

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 929 | 77.4635712 | 29.0457205 | 1782.30 | 0 degree with respect to East | 77.4452812 | 29.0460550 | 180 degree with respect to East | 766.332 | 77.4374169 | 29.0461980 | Chainage = 115436.72m |
| 930 | 77.4632020 | 29.0440768 | 1692.94 | 0 degree with respect to East | 77.4458292 | 29.0443945 | 180 degree with respect to East | 874.274 | 77.4368574 | 29.0445577 | Chainage = 115245.03m |
| 931 | 77.4623556 | 29.0427349 | 1492.80 | 0 degree with respect to East | 77.4470369 | 29.0430150 | 180 degree with respect to East | 1011.200 | 77.4366602 | 29.0432038 | Chainage = 115052.07m |
| 932 | 77.4600138 | 29.0415777 | 1148.82 | 0 degree with respect to East | 77.4482250 | 29.0417932 | 180 degree with respect to East | 1136.014 | 77.4365676 | 29.0420053 | Chainage = 114873.89m |
| 933 | 77.4612562 | 29.0397796 | 1303.65 | 0 degree with respect to East | 77.4478788 | 29.0400242 | 180 degree with respect to East | 1094.811 | 77.4366444 | 29.0402286 | Chainage = 114674.88m |
| 934 | 77.4630377 | 29.0382239 | 1564.35 | 0 degree with respect to East | 77.4469854 | 29.0385174 | 180 degree with respect to East | 999.643 | 77.4367277 | 29.0387040 | Chainage = 114486.51m |
| 935 | 77.4636305 | 29.0365872 | 1687.49 | 0 degree with respect to East | 77.4463150 | 29.0369038 | 180 degree with respect to East | 882.259 | 77.4372619 | 29.0370685 | Chainage = 114296.06m |
| 936 | 77.4642568 | 29.0354774 | 1864.51 | 0 degree with respect to East | 77.4451250 | 29.0358272 | 180 degree with respect to East | 750.900 | 77.4374199 | 29.0359673 | Chainage = 114129.65m |
| 937 | 77.4657483 | 29.0342457 | 2154.44 | 0 degree with respect to East | 77.4436418 | 29.0346500 | 180 degree with respect to East | 520.320 | 77.4383028 | 29.0347470 | Chainage = 113934.92m |
| 938 | 77.4655271 | 29.0325437 | 2181.28 | 0 degree with respect to East | 77.4431456 | 29.0329528 | 180 degree with respect to East | 272.119 | 77.4403535 | 29.0330036 | Chainage = 113740.65m |
| 939 | 77.4683673 | 29.0311230 | 2342.82 | 0 degree with respect to East | 77.4443286 | 29.0315628 | 180 degree with respect to East | 302.579 | 77.4412240 | 29.0316193 | Chainage = 113548.2m |
| 940 | 77.4694614 | 29.0294629 | 2393.76 | 0 degree with respect to East | 77.4449004 | 29.0299124 | 180 degree with respect to East | 392.646 | 77.4408717 | 29.0299857 | Chainage = 113356.92m |
| 941 | 77.4695668 | 29.0290459 | 2306.42 | 0 degree with respect to East | 77.4459022 | 29.0294791 | 180 degree with respect to East | 502.447 | 77.4407468 | 29.0295729 | Chainage = 113248.13m |
| 942 | 77.4692839 | 29.0300344 | 2174.97 | 0 degree with respect to East | 77.4469677 | 29.0304430 | 180 degree with respect to East | 577.912 | 77.4410380 | 29.0305509 | Chainage = 113099.13m |
| 943 | 77.4682437 | 29.0312285 | 1992.52 | 0 degree with respect to East | 77.4477992 | 29.0316028 | 180 degree with respect to East | 639.718 | 77.4412353 | 29.0317223 | Chainage = 112947.15m |
| 944 | 77.4677837 | 29.0316672 | 1792.31 | 0 degree with respect to East | 77.4493935 | 29.0320039 | 180 degree with respect to East | 799.835 | 77.4411866 | 29.0321534 | Chainage = 112785.57m |
| 945 | 77.4683693 | 29.0311213 | 1683.58 | 0 degree with respect to East | 77.4510949 | 29.0314378 | 180 degree with respect to East | 962.032 | 77.4412238 | 29.0316177 | Chainage = 112608.31m |
| 946 | 77.4686953 | 29.0308478 | 1539.20 | 0 degree with respect to East | 77.4529023 | 29.0311373 | 180 degree with respect to East | 1141.050 | 77.4411944 | 29.0313507 | Chainage = 112429.07m |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 947 | 77.4689907 | 29.0305749 | 1391.84 | 0 degree with respect to East | 77.4547098 | 29.0308367 | 180 degree with respect to East | 1320.068 | 77.4411651 | 29.0310837 | Chainage = 112249.83m |
| 948 | 77.4692839 | 29.0300344 | 1254.60 | 0 degree with respect to East | 77.4564112 | 29.0302705 | 180 degree with respect to East | 1498.278 | 77.4410380 | 29.0305509 | Chainage = 112072.56m |
| 949 | 77.4695768 | 29.0290065 | 1136.18 | 0 degree with respect to East | 77.4579192 | 29.0292204 | 180 degree with respect to East | 1674.812 | 77.4407349 | 29.0295339 | Chainage = 111885.08m |
| 950 | 77.4694729 | 29.0276651 | 1005.27 | 0 degree with respect to East | 77.4591587 | 29.0278544 | 180 degree with respect to East | 1684.721 | 77.4418729 | 29.0281699 | Chainage = 111691.37m |
| 951 | 77.4701682 | 29.0258748 | 1047.51 | 0 degree with respect to East | 77.4594208 | 29.0260721 | 180 degree with respect to East | 1621.088 | 77.4427882 | 29.0263757 | Chainage = 111492.12m |
| 952 | 77.4701204 | 29.0242923 | 1034.49 | 0 degree with respect to East | 77.4595067 | 29.0244872 | 180 degree with respect to East | 1352.696 | 77.4456281 | 29.0247407 | Chainage = 111316.2m |
| 953 | 77.4699646 | 29.0227568 | 941.31 | 0 degree with respect to East | 77.4603071 | 29.0229341 | 180 degree with respect to East | 920.074 | 77.4508673 | 29.0231067 | Chainage = 111127.17m |
| 954 | 77.4725031 | 29.0212643 | 1183.69 | 0 degree with respect to East | 77.4603591 | 29.0214874 | 180 degree with respect to East | 1051.468 | 77.4495714 | 29.0216846 | Chainage = 110966.69m |
| 955 | 77.4728856 | 29.0208721 | 1394.07 | 0 degree with respect to East | 77.4585832 | 29.0211347 | 180 degree with respect to East | 895.514 | 77.4493956 | 29.0213026 | Chainage = 110789.27m |
| 956 | 77.4728856 | 29.0208721 | 1580.58 | 0 degree with respect to East | 77.4566697 | 29.0211697 | 180 degree with respect to East | 709.003 | 77.4493956 | 29.0213026 | Chainage = 110602.76m |
| 957 | 77.4732542 | 29.0201835 | 1763.15 | 0 degree with respect to East | 77.4551653 | 29.0205155 | 180 degree with respect to East | 590.969 | 77.4491022 | 29.0206262 | Chainage = 110439.19m |
| 958 | 77.4734846 | 29.0195234 | 1949.30 | 0 degree with respect to East | 77.4534861 | 29.0198903 | 180 degree with respect to East | 357.508 | 77.4498182 | 29.0199572 | Chainage = 110261.48m |
| 959 | 77.4736355 | 29.0192531 | 2141.20 | 0 degree with respect to East | 77.4516682 | 29.0196559 | 180 degree with respect to East | 157.088 | 77.4500565 | 29.0196853 | Chainage = 110082.43m |
| 960 | 77.4740730 | 29.0181749 | 2219.00 | 0 degree with respect to East | 77.4513078 | 29.0185924 | 180 degree with respect to East | 44.652 | 77.4508497 | 29.0186007 | Chainage = 109959.4m |
| 961 | 77.4749194 | 29.0171082 | 2155.63 | 0 degree with respect to East | 77.4528045 | 29.0175139 | 180 degree with respect to East | 249.474 | 77.4502451 | 29.0175607 | Chainage = 109770.8m |
| 962 | 77.4756903 | 29.0165399 | 2065.68 | 0 degree with respect to East | 77.4544983 | 29.0169289 | 180 degree with respect to East | 523.694 | 77.4491257 | 29.0170270 | Chainage = 109593.45m |
| 963 | 77.4769517 | 29.0157452 | 2031.95 | 0 degree with respect to East | 77.4561060 | 29.0161281 | 180 degree with respect to East | 712.937 | 77.4487919 | 29.0162616 | Chainage = 109413.37m |
| 964 | 77.4784219 | 29.0143605 | 2057.59 | 0 degree with respect to East | 77.4573134 | 29.0147484 | 180 degree with respect to East | 804.307 | 77.4490621 | 29.0148991 | Chainage = 109220.38m |



580

123

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 965 | 77.4799132 | 29.0125633 | 2235.49 | 0 degree with respect to East | 77.4569801 | 29.0129848 | 180 degree with respect to East | 786.687 | 77.4489096 | 29.0131322 | Chainage = 109022.17m |
| 966 | 77.4821708 | 29.0108850 | 2518.68 | 0 degree with respect to East | 77.4563329 | 29.0113600 | 180 degree with respect to East | 740.462 | 77.4487368 | 29.0114987 | Chainage = 108831.3m |
| 967 | 77.4833057 | 29.0095049 | 2751.11 | 0 degree with respect to East | 77.4550839 | 29.0100237 | 180 degree with respect to East | 415.108 | 77.4508255 | 29.0101014 | Chainage = 108639.55m |
| 968 | 77.4840642 | 29.0077154 | 2858.84 | 0 degree with respect to East | 77.4547377 | 29.0082546 | 180 degree with respect to East | 463.638 | 77.4499816 | 29.0083414 | Chainage = 108440.53m |
| 969 | 77.4844663 | 29.0064982 | 2784.34 | 0 degree with respect to East | 77.4559044 | 29.0070235 | 180 degree with respect to East | 589.276 | 77.4498595 | 29.0071338 | Chainage = 108262.88m |
| 970 | 77.4844147 | 29.0056349 | 2626.22 | 0 degree with respect to East | 77.4574751 | 29.0061304 | 180 degree with respect to East | 667.773 | 77.4506250 | 29.0062556 | Chainage = 108080.56m |
| 971 | 77.4844912 | 29.0045677 | 2488.37 | 0 degree with respect to East | 77.4589660 | 29.0050373 | 180 degree with respect to East | 751.905 | 77.4512529 | 29.0051783 | Chainage = 107891.35m |
| 972 | 77.4847571 | 29.0034065 | 2388.82 | 0 degree with respect to East | 77.4602533 | 29.0038575 | 180 degree with respect to East | 907.315 | 77.4509461 | 29.0040277 | Chainage = 107710.1m |
| 973 | 77.4848305 | 29.0018372 | 2324.47 | 0 degree with respect to East | 77.4609871 | 29.0022761 | 180 degree with respect to East | 1006.147 | 77.4506664 | 29.0024648 | Chainage = 107520.74m |
| 974 | 77.4843154 | 29.0000692 | 2248.74 | 0 degree with respect to East | 77.4612492 | 29.0004937 | 180 degree with respect to East | 951.946 | 77.4514846 | 29.0006723 | Chainage = 107321.48m |
| 975 | 77.4843973 | 28.9985943 | 2200.85 | 0 degree with respect to East | 77.4618227 | 28.9990099 | 180 degree with respect to East | 1018.163 | 77.4513790 | 28.9992009 | Chainage = 107147.73m |
| 976 | 77.4841787 | 28.9968208 | 2154.03 | 0 degree with respect to East | 77.4620847 | 28.9972275 | 180 degree with respect to East | 1042.623 | 77.4513903 | 28.9974231 | Chainage = 106948.47m |
| 977 | 77.4841053 | 28.9965873 | 2311.09 | 0 degree with respect to East | 77.4604004 | 28.9970235 | 180 degree with respect to East | 872.683 | 77.4514491 | 28.9971871 | Chainage = 106782.75m |
| 978 | 77.4842770 | 28.9971192 | 2460.99 | 0 degree with respect to East | 77.4590344 | 28.9975836 | 180 degree with respect to East | 748.942 | 77.4513524 | 28.9977240 | Chainage = 106635.84m |
| 979 | 77.4841887 | 28.9968512 | 2629.41 | 0 degree with respect to East | 77.4572186 | 28.9973471 | 180 degree with respect to East | 568.591 | 77.4513864 | 28.9974537 | Chainage = 106456.92m |
| 980 | 77.4837423 | 28.9950840 | 2619.68 | 0 degree with respect to East | 77.4568725 | 28.9955780 | 180 degree with respect to East | 508.389 | 77.4516579 | 28.9956733 | Chainage = 106257.9m |
| 981 | 77.4840303 | 28.9933011 | 2622.25 | 0 degree with respect to East | 77.4571346 | 28.9937956 | 180 degree with respect to East | 527.499 | 77.4517241 | 28.9938945 | Chainage = 106058.64m |
| 982 | 77.4839151 | 28.9920827 | 2499.66 | 0 degree with respect to East | 77.4582771 | 28.9925542 | 180 degree with respect to East | 593.383 | 77.4521909 | 28.9926654 | Chainage = 105881.59m |



581

124

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 983 | 77.4838479 | 28.9909040 | 2372.82 | 0 degree with respect to East | 77.4595111 | 28.9913516 | 180 degree with respect to East | 663.095 | 77.4527100 | 28.9914759 | Chainage = 105702.02m |
| 984 | 77.4844818 | 28.9894678 | 2331.60 | 0 degree with respect to East | 77.4605681 | 28.9899078 | 180 degree with respect to East | 691.390 | 77.4534769 | 28.9900374 | Chainage = 105511.65m |
| 985 | 77.4850524 | 28.9885024 | 2253.96 | 0 degree with respect to East | 77.4619352 | 28.9889279 | 180 degree with respect to East | 723.921 | 77.4545104 | 28.9890637 | Chainage = 105339.71m |
| 986 | 77.4851906 | 28.9874339 | 2122.11 | 0 degree with respect to East | 77.4634259 | 28.9878346 | 180 degree with respect to East | 758.895 | 77.4556425 | 28.9879771 | Chainage = 105150.48m |
| 987 | 77.4848678 | 28.9866746 | 1933.68 | 0 degree with respect to East | 77.4650359 | 28.9870398 | 180 degree with respect to East | 868.631 | 77.4561271 | 28.9872030 | Chainage = 104970.49m |
| 988 | 77.4848451 | 28.9864075 | 1755.24 | 0 degree with respect to East | 77.4668433 | 28.9867391 | 180 degree with respect to East | 1034.543 | 77.4562329 | 28.9869335 | Chainage = 104791.18m |
| 989 | 77.4849449 | 28.9858706 | 1599.10 | 0 degree with respect to East | 77.4685446 | 28.9861728 | 180 degree with respect to East | 1199.579 | 77.4562416 | 28.9863983 | Chainage = 104613.85m |
| 990 | 77.4850035 | 28.9856020 | 1428.60 | 0 degree with respect to East | 77.4703519 | 28.9858721 | 180 degree with respect to East | 1375.385 | 77.4562459 | 28.9861307 | Chainage = 104434.53m |
| 991 | 77.4862526 | 28.9842322 | 1526.51 | 0 degree with respect to East | 77.4705970 | 28.9845209 | 180 degree with respect to East | 1410.726 | 77.4561288 | 28.9847861 | Chainage = 104282.83m |
| 992 | 77.4873547 | 28.9825858 | 1699.38 | 0 degree with respect to East | 77.4699265 | 28.9829072 | 180 degree with respect to East | 960.977 | 77.4600710 | 28.9830880 | Chainage = 104092.35m |
| 993 | 77.4875595 | 28.9811387 | 1823.40 | 0 degree with respect to East | 77.4688597 | 28.9814835 | 180 degree with respect to East | 827.326 | 77.4603750 | 28.9816391 | Chainage = 103903.32m |
| 994 | 77.4875333 | 28.9800788 | 1970.50 | 0 degree with respect to East | 77.4673250 | 28.9804513 | 180 degree with respect to East | 1020.583 | 77.4568584 | 28.9806431 | Chainage = 103714.97m |
| 995 | 77.4874641 | 28.9794033 | 2110.63 | 0 degree with respect to East | 77.4658189 | 28.9798021 | 180 degree with respect to East | 926.177 | 77.4563205 | 28.9799760 | Chainage = 103551.44m |
| 996 | 77.4873690 | 28.9786714 | 2262.40 | 0 degree with respect to East | 77.4641675 | 28.9790988 | 180 degree with respect to East | 798.941 | 77.4559741 | 28.9792487 | Chainage = 103372.56m |
| 997 | 77.4873284 | 28.9771353 | 2255.24 | 0 degree with respect to East | 77.4642007 | 28.9775613 | 180 degree with respect to East | 855.198 | 77.4554304 | 28.9777218 | Chainage = 103202.08m |
| 998 | 77.4874257 | 28.9758355 | 2133.91 | 0 degree with respect to East | 77.4655425 | 28.9762387 | 180 degree with respect to East | 991.188 | 77.4553778 | 28.9764247 | Chainage = 103005.57m |
| 999 | 77.4872797 | 28.9741971 | 2064.19 | 0 degree with respect to East | 77.4661118 | 28.9745871 | 180 degree with respect to East | 1042.307 | 77.4554230 | 28.9747828 | Chainage = 102814.23m |
| 1000 | 77.4871926 | 28.9726124 | 1988.16 | 0 degree with respect to East | 77.4668047 | 28.9729881 | 180 degree with respect to East | 1057.430 | 77.4559610 | 28.9731867 | Chainage = 102624.52m |



582

125

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1001 | 77.4869721 | 28.9709205 | 1923.23 | 0 degree with respect to East | 77.4672504 | 28.9712839 | 180 degree with respect to East | 962.418 | 77.4573812 | 28.9714647 | Chainage = 102430.64m |
| 1002 | 77.4865022 | 28.9694576 | 1784.68 | 0 degree with respect to East | 77.4682014 | 28.9697948 | 180 degree with respect to East | 789.939 | 77.4601011 | 28.9699433 | Chainage = 102241.29m |
| 1003 | 77.4847237 | 28.9681326 | 1493.54 | 0 degree with respect to East | 77.4694086 | 28.9684148 | 180 degree with respect to East | 854.413 | 77.4606472 | 28.9685754 | Chainage = 102048.25m |
| 1004 | 77.4843085 | 28.9671552 | 1304.57 | 0 degree with respect to East | 77.4709312 | 28.9674017 | 180 degree with respect to East | 1006.697 | 77.4606084 | 28.9675911 | Chainage = 101862.09m |
| 1005 | 77.4846316 | 28.9662035 | 1186.09 | 0 degree with respect to East | 77.4724695 | 28.9664278 | 180 degree with respect to East | 1179.516 | 77.4603747 | 28.9666496 | Chainage = 101677.28m |
| 1006 | 77.4843595 | 28.9655491 | 998.46 | 0 degree with respect to East | 77.4741214 | 28.9657379 | 180 degree with respect to East | 1309.679 | 77.4606919 | 28.9659843 | Chainage = 101498.98m |
| 1007 | 77.4836095 | 28.9646041 | 792.17 | 0 degree with respect to East | 77.4754868 | 28.9647539 | 180 degree with respect to East | 1393.666 | 77.4611962 | 28.9650163 | Chainage = 101326.86m |
| 1008 | 77.4825682 | 28.9629953 | 672.27 | 0 degree with respect to East | 77.4756751 | 28.9631224 | 180 degree with respect to East | 1388.030 | 77.4614425 | 28.9633837 | Chainage = 101145.04m |
| 1009 | 77.4823492 | 28.9620479 | 788.24 | 0 degree with respect to East | 77.4742670 | 28.9621969 | 180 degree with respect to East | 1257.535 | 77.4613726 | 28.9624335 | Chainage = 100973.64m |
| 1010 | 77.4819855 | 28.9613036 | 897.07 | 0 degree with respect to East | 77.4727874 | 28.9614730 | 180 degree with respect to East | 1147.691 | 77.4610194 | 28.9616889 | Chainage = 100808.55m |
| 1011 | 77.4802006 | 28.9599844 | 846.36 | 0 degree with respect to East | 77.4715225 | 28.9601441 | 180 degree with respect to East | 1052.013 | 77.4607357 | 28.9603420 | Chainage = 100616.41m |
| 1012 | 77.4773194 | 28.9585940 | 669.40 | 0 degree with respect to East | 77.4704558 | 28.9587203 | 180 degree with respect to East | 1004.255 | 77.4601588 | 28.9589091 | Chainage = 100427.36m |
| 1013 | 77.4779789 | 28.9571384 | 837.77 | 0 degree with respect to East | 77.4693891 | 28.9572964 | 180 degree with respect to East | 1054.501 | 77.4585771 | 28.9574945 | Chainage = 100238.31m |
| 1014 | 77.4791717 | 28.9560137 | 1086.16 | 0 degree with respect to East | 77.4680352 | 28.9562185 | 180 degree with respect to East | 987.392 | 77.4579114 | 28.9564040 | Chainage = 100060.23m |
| 1015 | 77.4795057 | 28.9549374 | 1251.94 | 0 degree with respect to East | 77.4666697 | 28.9551735 | 180 degree with respect to East | 807.079 | 77.4583947 | 28.9553250 | Chainage = 99883.72m |
| 1016 | 77.4796758 | 28.9538458 | 1399.98 | 0 degree with respect to East | 77.4653221 | 28.9541097 | 180 degree with respect to East | 1007.092 | 77.4549964 | 28.9542985 | Chainage = 99707.15m |
| 1017 | 77.4797518 | 28.9524071 | 1512.77 | 0 degree with respect to East | 77.4642419 | 28.9526922 | 180 degree with respect to East | 980.123 | 77.4541929 | 28.9528760 | Chainage = 99517.96m |
| 1018 | 77.4801576 | 28.9508402 | 1631.87 | 0 degree with respect to East | 77.4634268 | 28.9511477 | 180 degree with respect to East | 934.331 | 77.4538475 | 28.9513229 | Chainage = 99329.18m |

583



126

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1019 | 77.4803242 | 28.9492002 | 1711.23 | 0 degree with respect to East | 77.4627800 | 28.9495226 | 180 degree with respect to East | 983.966 | 77.4526919 | 28.9497070 | Chainage = 99138.29m |
| 1020 | 77.4798005 | 28.9474367 | 1694.41 | 0 degree with respect to East | 77.4624290 | 28.9477558 | 180 degree with respect to East | 1181.365 | 77.4503173 | 28.9479770 | Chainage = 98939.43m |
| 1021 | 77.4784857 | 28.9458217 | 1628.79 | 0 degree with respect to East | 77.4617872 | 28.9461283 | 180 degree with respect to East | 1198.428 | 77.4495007 | 28.9463526 | Chainage = 98748.44m |
| 1022 | 77.4768362 | 28.9440765 | 1501.68 | 0 degree with respect to East | 77.4614412 | 28.9443591 | 180 degree with respect to East | 1185.089 | 77.4492917 | 28.9445809 | Chainage = 98549.41m |
| 1023 | 77.4762342 | 28.9423121 | 1476.73 | 0 degree with respect to East | 77.4610952 | 28.9425899 | 180 degree with respect to East | 1174.028 | 77.4490593 | 28.9428096 | Chainage = 98350.38m |
| 1024 | 77.4746692 | 28.9404267 | 1328.50 | 0 degree with respect to East | 77.4610500 | 28.9406766 | 180 degree with respect to East | 1103.956 | 77.4497326 | 28.9408832 | Chainage = 98138.21m |
| 1025 | 77.4740023 | 28.9385249 | 1267.89 | 0 degree with respect to East | 77.4610048 | 28.9387633 | 180 degree with respect to East | 921.696 | 77.4515560 | 28.9389358 | Chainage = 97926.04m |
| 1026 | 77.4708046 | 28.9369053 | 982.84 | 0 degree with respect to East | 77.4607294 | 28.9370900 | 180 degree with respect to East | 841.468 | 77.4521033 | 28.9372475 | Chainage = 97738.59m |
| 1027 | 77.4701999 | 28.9357904 | 1051.73 | 0 degree with respect to East | 77.4594185 | 28.9359879 | 180 degree with respect to East | 811.154 | 77.4511032 | 28.9361397 | Chainage = 97561.75m |
| 1028 | 77.4715355 | 28.9339903 | 1215.79 | 0 degree with respect to East | 77.4590726 | 28.9342186 | 180 degree with respect to East | 765.688 | 77.4512235 | 28.9343619 | Chainage = 97362.72m |
| 1029 | 77.4708300 | 28.9322255 | 1121.42 | 0 degree with respect to East | 77.4593346 | 28.9324361 | 180 degree with respect to East | 1919.526 | 77.4396578 | 28.9327944 | Chainage = 97163.45m |
| 1030 | 77.4706834 | 28.9303141 | 1111.55 | 0 degree with respect to East | 77.4592894 | 28.9305228 | 180 degree with respect to East | 2227.768 | 77.4364532 | 28.9309383 | Chainage = 96951.28m |
| 1031 | 77.4716317 | 28.9286554 | 1148.55 | 0 degree with respect to East | 77.4598586 | 28.9288711 | 180 degree with respect to East | 2437.783 | 77.4348700 | 28.9293256 | Chainage = 96759.92m |
| 1032 | 77.4691689 | 28.9267864 | 912.71 | 0 degree with respect to East | 77.4598134 | 28.9269578 | 180 degree with respect to East | 2780.644 | 77.4313108 | 28.9274758 | Chainage = 96547.75m |
| 1033 | 77.4704494 | 28.9251259 | 1100.73 | 0 degree with respect to East | 77.4591669 | 28.9253326 | 180 degree with respect to East | 2770.949 | 77.4307640 | 28.9258486 | Chainage = 96356.84m |
| 1034 | 77.4691300 | 28.9236201 | 1057.78 | 0 degree with respect to East | 77.4582879 | 28.9238186 | 180 degree with respect to East | 2735.148 | 77.4302524 | 28.9243278 | Chainage = 96168.36m |
| 1035 | 77.4685774 | 28.9230344 | 1169.76 | 0 degree with respect to East | 77.4565875 | 28.9232538 | 180 degree with respect to East | 2572.940 | 77.4302147 | 28.9237326 | Chainage = 95991.07m |
| 1036 | 77.4685774 | 28.9230344 | 1356.45 | 0 degree with respect to East | 77.4546739 | 28.9232887 | 180 degree with respect to East | 2386.253 | 77.4302147 | 28.9237326 | Chainage = 95804.38m |



584

127

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1037 | 77.4685774 | 28.9230344 | 1543.14 | 0 degree with respect to East | 77.4527604 | 28.9233236 | 180 degree with respect to East | 2199.567 | 77.4302147 | 28.9237327 | Chainage = 95617.69m |
| 1038 | 77.4682727 | 28.9225979 | 1684.68 | 0 degree with respect to East | 77.4510050 | 28.9229135 | 180 degree with respect to East | 2037.342 | 77.4301222 | 28.9232922 | Chainage = 95440.53m |
| 1039 | 77.4679995 | 28.9220917 | 1817.79 | 0 degree with respect to East | 77.4493675 | 28.9224321 | 180 degree with respect to East | 1885.959 | 77.4300365 | 28.9227826 | Chainage = 95272.13m |
| 1040 | 77.4677471 | 28.9214444 | 1950.07 | 0 degree with respect to East | 77.4477594 | 28.9218095 | 180 degree with respect to East | 1740.166 | 77.4299229 | 28.9221327 | Chainage = 95100.76m |
| 1041 | 77.4678487 | 28.9211750 | 2137.33 | 0 degree with respect to East | 77.4459416 | 28.9215750 | 180 degree with respect to East | 1567.238 | 77.4298776 | 28.9218660 | Chainage = 94921.55m |
| 1042 | 77.4677471 | 28.9214444 | 2287.40 | 0 degree with respect to East | 77.4443018 | 28.9218723 | 180 degree with respect to East | 1402.831 | 77.4299229 | 28.9221327 | Chainage = 94758.24m |
| 1043 | 77.4677748 | 28.9217115 | 2450.08 | 0 degree with respect to East | 77.4426620 | 28.9221696 | 180 degree with respect to East | 1238.065 | 77.4299719 | 28.9223994 | Chainage = 94594.93m |
| 1044 | 77.4679312 | 28.9219761 | 2625.31 | 0 degree with respect to East | 77.4410222 | 28.9224669 | 180 degree with respect to East | 1073.687 | 77.4300169 | 28.9226661 | Chainage = 94431.62m |
| 1045 | 77.4677748 | 28.9217115 | 2787.41 | 0 degree with respect to East | 77.4392044 | 28.9222323 | 180 degree with respect to East | 900.733 | 77.4299719 | 28.9223994 | Chainage = 94252.41m |
| 1046 | 77.4677683 | 28.9213707 | 2961.57 | 0 degree with respect to East | 77.4374128 | 28.9219239 | 180 degree with respect to East | 731.938 | 77.4299105 | 28.9220596 | Chainage = 94074.34m |
| 1047 | 77.4682661 | 28.9203008 | 3159.83 | 0 degree with respect to East | 77.4358788 | 28.9208909 | 180 degree with respect to East | 605.041 | 77.4296772 | 28.9210030 | Chainage = 93885.91m |
| 1048 | 77.4670504 | 28.9187914 | 3126.63 | 0 degree with respect to East | 77.4350038 | 28.9193750 | 180 degree with respect to East | 525.455 | 77.4296181 | 28.9194724 | Chainage = 93697.42m |
| 1049 | 77.4660084 | 28.9171734 | 3088.06 | 0 degree with respect to East | 77.4343577 | 28.9177496 | 180 degree with respect to East | 512.902 | 77.4291007 | 28.9178446 | Chainage = 93506.51m |
| 1050 | 77.4647553 | 28.9154208 | 2999.55 | 0 degree with respect to East | 77.4340123 | 28.9159803 | 180 degree with respect to East | 635.225 | 77.4275016 | 28.9160978 | Chainage = 93307.47m |
| 1051 | 77.4609036 | 28.9139308 | 2703.05 | 0 degree with respect to East | 77.4331998 | 28.9144344 | 180 degree with respect to East | 560.373 | 77.4274564 | 28.9145381 | Chainage = 93118.65m |
| 1052 | 77.4614651 | 28.9127684 | 2888.19 | 0 degree with respect to East | 77.4318641 | 28.9133064 | 180 degree with respect to East | 540.416 | 77.4263253 | 28.9134064 | Chainage = 92938.04m |
| 1053 | 77.4635504 | 28.9118901 | 3249.05 | 0 degree with respect to East | 77.4302512 | 28.9124954 | 180 degree with respect to East | 678.845 | 77.4232936 | 28.9126208 | Chainage = 92756.82m |
| 1054 | 77.4644946 | 28.9111009 | 3484.81 | 0 degree with respect to East | 77.4287794 | 28.9117501 | 180 degree with respect to East | 590.230 | 77.4227301 | 28.9118591 | Chainage = 92591.16m |



585

128

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1055 | 77.4651013 | 28.9096071 | 3639.80 | 0 degree with respect to East | 77.4277981 | 28.9102850 | 180 degree with respect to East | 552.405 | 77.4221366 | 28.9103870 | Chainage = 92402.63m |
| 1056 | 77.4654901 | 28.9078302 | 3712.73 | 0 degree with respect to East | 77.4274401 | 28.9085217 | 180 degree with respect to East | 616.553 | 77.4211213 | 28.9086355 | Chainage = 92204.04m |
| 1057 | 77.4691420 | 28.9060458 | 4115.14 | 0 degree with respect to East | 77.4269687 | 28.9068127 | 180 degree with respect to East | 582.093 | 77.4210031 | 28.9069201 | Chainage = 92009.07m |
| 1058 | 77.4705569 | 28.9043936 | 4318.61 | 0 degree with respect to East | 77.4262991 | 28.9051985 | 180 degree with respect to East | 647.100 | 77.4196674 | 28.9053179 | Chainage = 91818.56m |
| 1059 | 77.4716789 | 28.9027459 | 4456.68 | 0 degree with respect to East | 77.4260069 | 28.9035766 | 180 degree with respect to East | 685.841 | 77.4189782 | 28.9037031 | Chainage = 91636.5m |
| 1060 | 77.4717830 | 28.9008814 | 4459.95 | 0 degree with respect to East | 77.4260783 | 28.9017127 | 180 degree with respect to East | 2103.223 | 77.4045242 | 28.9020993 | Chainage = 91429.74m |
| 1061 | 77.4720127 | 28.8992358 | 4426.85 | 0 degree with respect to East | 77.4266479 | 28.9000610 | 180 degree with respect to East | 2630.388 | 77.3996918 | 28.9005441 | Chainage = 91238.38m |
| 1062 | 77.4717766 | 28.8973260 | 4408.23 | 0 degree with respect to East | 77.4266034 | 28.8981477 | 180 degree with respect to East | 2770.671 | 77.3982101 | 28.8986564 | Chainage = 91026.21m |
| 1063 | 77.4693659 | 28.8954561 | 4177.40 | 0 degree with respect to East | 77.4265589 | 28.8962344 | 180 degree with respect to East | 3314.260 | 77.3925955 | 28.8968421 | Chainage = 90814.04m |
| 1064 | 77.4668284 | 28.8938655 | 3992.86 | 0 degree with respect to East | 77.4259130 | 28.8946088 | 180 degree with respect to East | 3325.341 | 77.3918366 | 28.8952184 | Chainage = 90623.12m |
| 1065 | 77.4646921 | 28.8924059 | 3876.80 | 0 degree with respect to East | 77.4249665 | 28.8931271 | 180 degree with respect to East | 3381.292 | 77.3903173 | 28.8937466 | Chainage = 90434.67m |
| 1066 | 77.4597686 | 28.8908587 | 3459.39 | 0 degree with respect to East | 77.4243207 | 28.8915015 | 180 degree with respect to East | 3333.095 | 77.3901659 | 28.8921120 | Chainage = 90243.75m |
| 1067 | 77.4566410 | 28.8892786 | 3217.23 | 0 degree with respect to East | 77.4236750 | 28.8898759 | 180 degree with respect to East | 3397.170 | 77.3888640 | 28.8904979 | Chainage = 90052.83m |
| 1068 | 77.4500222 | 28.8876214 | 2545.70 | 0 degree with respect to East | 77.4239375 | 28.8880934 | 180 degree with respect to East | 3517.035 | 77.3878989 | 28.8887372 | Chainage = 89853.56m |
| 1069 | 77.4493400 | 28.8859923 | 2423.56 | 0 degree with respect to East | 77.4245071 | 28.8864417 | 180 degree with respect to East | 3496.225 | 77.3886823 | 28.8870818 | Chainage = 89662.19m |
| 1070 | 77.4485560 | 28.8851424 | 2213.88 | 0 degree with respect to East | 77.4258718 | 28.8855529 | 180 degree with respect to East | 3875.917 | 77.3861567 | 28.8862624 | Chainage = 89496.54m |
| 1071 | 77.4488744 | 28.8854042 | 2083.70 | 0 degree with respect to East | 77.4275241 | 28.8857907 | 180 degree with respect to East | 4017.414 | 77.3863591 | 28.8865263 | Chainage = 89333.18m |
| 1072 | 77.4449078 | 28.8844147 | 1550.92 | 0 degree with respect to East | 77.4290166 | 28.8847022 | 180 degree with respect to East | 4236.105 | 77.3856112 | 28.8854780 | Chainage = 89144.05m |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1073 | 77.4442631 | 28.8828125 | 1535.74 | 0 degree with respect to East | 77.4285277 | 28.8830972 | 180 degree with respect to East | 4246.250 | 77.3850190 | 28.8838746 | Chainage = 88959.82m |
| 1074 | 77.4436162 | 28.8820217 | 1631.33 | 0 degree with respect to East | 77.4269015 | 28.8823239 | 180 degree with respect to East | 4099.627 | 77.3848954 | 28.8830742 | Chainage = 88779.46m |
| 1075 | 77.4383515 | 28.8810001 | 1120.53 | 0 degree with respect to East | 77.4268705 | 28.8812074 | 180 degree with respect to East | 4099.706 | 77.3848641 | 28.8819577 | Chainage = 88655.64m |
| 1076 | 77.4376555 | 28.8797218 | 1037.97 | 0 degree with respect to East | 77.4270206 | 28.8799139 | 180 degree with respect to East | 4047.391 | 77.3855507 | 28.8806547 | Chainage = 88511.49m |
| 1077 | 77.4375279 | 28.8794566 | 1202.94 | 0 degree with respect to East | 77.4252028 | 28.8796790 | 180 degree with respect to East | 3861.006 | 77.3856427 | 28.8803855 | Chainage = 88332.21m |
| 1078 | 77.4375279 | 28.8794566 | 1389.70 | 0 degree with respect to East | 77.4232893 | 28.8797135 | 180 degree with respect to East | 3674.244 | 77.3856427 | 28.8803855 | Chainage = 88145.45m |
| 1079 | 77.4374003 | 28.8791914 | 1554.66 | 0 degree with respect to East | 77.4214715 | 28.8794786 | 180 degree with respect to East | 3487.860 | 77.3857347 | 28.8801163 | Chainage = 87966.17m |
| 1080 | 77.4374003 | 28.8791914 | 1741.42 | 0 degree with respect to East | 77.4195580 | 28.8795130 | 180 degree with respect to East | 3301.099 | 77.3857347 | 28.8801163 | Chainage = 87779.41m |
| 1081 | 77.4372433 | 28.8789267 | 1903.52 | 0 degree with respect to East | 77.4177403 | 28.8792781 | 180 degree with respect to East | 3111.561 | 77.3858591 | 28.8798466 | Chainage = 87600.13m |
| 1082 | 77.4369889 | 28.8786637 | 2056.10 | 0 degree with respect to East | 77.4159225 | 28.8790432 | 180 degree with respect to East | 2914.551 | 77.3860600 | 28.8795755 | Chainage = 87420.85m |
| 1083 | 77.4369889 | 28.8786637 | 2242.86 | 0 degree with respect to East | 77.4140090 | 28.8790775 | 180 degree with respect to East | 2727.789 | 77.3860600 | 28.8795755 | Chainage = 87234.09m |
| 1084 | 77.4369889 | 28.8786637 | 2429.62 | 0 degree with respect to East | 77.4120954 | 28.8791118 | 180 degree with respect to East | 2541.028 | 77.3860600 | 28.8795755 | Chainage = 87047.33m |
| 1085 | 77.4375176 | 28.8794352 | 2590.00 | 0 degree with respect to East | 77.4109808 | 28.8799128 | 180 degree with respect to East | 2472.220 | 77.3856501 | 28.8803638 | Chainage = 86906.91m |
| 1086 | 77.4378892 | 28.8801269 | 2743.30 | 0 degree with respect to East | 77.4097815 | 28.8806327 | 180 degree with respect to East | 2386.285 | 77.3853312 | 28.8810679 | Chainage = 86765.27m |
| 1087 | 77.4383120 | 28.8808176 | 2901.58 | 0 degree with respect to East | 77.4085823 | 28.8813525 | 180 degree with respect to East | 2310.769 | 77.3849055 | 28.8817738 | Chainage = 86623.63m |
| 1088 | 77.4431383 | 28.8817628 | 3456.28 | 0 degree with respect to East | 77.4077249 | 28.8824005 | 180 degree with respect to East | 2229.539 | 77.3848802 | 28.8828069 | Chainage = 86480.46m |
| 1089 | 77.4442487 | 28.8827145 | 3654.36 | 0 degree with respect to East | 77.4068054 | 28.8833888 | 180 degree with respect to East | 2128.142 | 77.3849994 | 28.8837767 | Chainage = 86338.84m |
| 1090 | 77.4442630 | 28.8828125 | 3832.70 | 0 degree with respect to East | 77.4049924 | 28.8835195 | 180 degree with respect to East | 1949.291 | 77.3850190 | 28.8838746 | Chainage = 86161.34m |



587

130

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091 | 77.4442259 | 28.8825585 | 4006.94 | 0 degree with respect to East | 77.4031701 | 28.8832973 | 180 degree with respect to East | 1776.311 | 77.3849691 | 28.8836208 | Chainage = 85981.83m |
| 1092 | 77.4423541 | 28.8812563 | 3859.97 | 0 degree with respect to East | 77.4028046 | 28.8819677 | 180 degree with respect to East | 1753.373 | 77.3848389 | 28.8822869 | Chainage = 85830.17m |
| 1093 | 77.4377573 | 28.8798910 | 3313.37 | 0 degree with respect to East | 77.4038087 | 28.8805011 | 180 degree with respect to East | 1788.465 | 77.3854837 | 28.8808269 | Chainage = 85640.34m |
| 1094 | 77.4367574 | 28.8784912 | 3111.08 | 0 degree with respect to East | 77.4048818 | 28.8790640 | 180 degree with respect to East | 1837.604 | 77.3860536 | 28.8793988 | Chainage = 85449.68m |
| 1095 | 77.4313832 | 28.8769489 | 2590.28 | 0 degree with respect to East | 77.4048441 | 28.8774253 | 180 degree with respect to East | 1816.560 | 77.3862318 | 28.8777563 | Chainage = 85267.97m |
| 1096 | 77.4305364 | 28.8753248 | 2511.35 | 0 degree with respect to East | 77.4048063 | 28.8757866 | 180 degree with respect to East | 1750.436 | 77.3868718 | 28.8761055 | Chainage = 85086.26m |
| 1097 | 77.4256292 | 28.8734991 | 2036.73 | 0 degree with respect to East | 77.4047622 | 28.8738732 | 180 degree with respect to East | 1429.417 | 77.3901171 | 28.8741338 | Chainage = 84874.1m |
| 1098 | 77.4255837 | 28.8717888 | 2079.64 | 0 degree with respect to East | 77.4042773 | 28.8721707 | 180 degree with respect to East | 1425.074 | 77.3896769 | 28.8724305 | Chainage = 84679.51m |
| 1099 | 77.4242344 | 28.8701112 | 1997.28 | 0 degree with respect to East | 77.4037722 | 28.8704778 | 180 degree with respect to East | 1358.550 | 77.3898536 | 28.8707255 | Chainage = 84485.47m |
| 1100 | 77.4250780 | 28.8686363 | 2180.30 | 0 degree with respect to East | 77.4027410 | 28.8690365 | 180 degree with respect to East | 1255.665 | 77.3898767 | 28.8692653 | Chainage = 84296.63m |
| 1101 | 77.4254095 | 28.8672306 | 2326.05 | 0 degree with respect to East | 77.4015797 | 28.8676574 | 180 degree with respect to East | 1186.106 | 77.3894281 | 28.8678735 | Chainage = 84106.31m |
| 1102 | 77.4262103 | 28.8654404 | 2437.90 | 0 degree with respect to East | 77.4012351 | 28.8658878 | 180 degree with respect to East | 1142.426 | 77.3895312 | 28.8660959 | Chainage = 83907.26m |
| 1103 | 77.4264795 | 28.8637298 | 2422.72 | 0 degree with respect to East | 77.4016602 | 28.8641745 | 180 degree with respect to East | 1085.062 | 77.3905442 | 28.8643721 | Chainage = 83712.83m |
| 1104 | 77.4262985 | 28.8621038 | 2346.77 | 0 degree with respect to East | 77.4022576 | 28.8625345 | 180 degree with respect to East | 1190.656 | 77.3900600 | 28.8627514 | Chainage = 83521.9m |
| 1105 | 77.4262769 | 28.8620020 | 2161.83 | 0 degree with respect to East | 77.4041306 | 28.8623990 | 180 degree with respect to East | 1366.512 | 77.3901315 | 28.8626480 | Chainage = 83338.48m |
| 1106 | 77.4262769 | 28.8620020 | 2010.90 | 0 degree with respect to East | 77.4056768 | 28.8623714 | 180 degree with respect to East | 1517.441 | 77.3901315 | 28.8626480 | Chainage = 83187.55m |
| 1107 | 77.4262107 | 28.8612006 | 1848.72 | 0 degree with respect to East | 77.4072721 | 28.8615403 | 180 degree with respect to East | 1593.595 | 77.3909468 | 28.8618309 | Chainage = 83006.63m |
| 1108 | 77.4262107 | 28.8612006 | 1661.93 | 0 degree with respect to East | 77.4091856 | 28.8615061 | 180 degree with respect to East | 1780.387 | 77.3909468 | 28.8618309 | Chainage = 82819.84m |



588

131

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1109 | 77.4262463 | 28.8614675 | 1504.12 | 0 degree with respect to East | 77.4108379 | 28.8617441 | 180 degree with respect to East | 1955.798 | 77.3908021 | 28.8621010 | Chainage = 82656.44m |
| 1110 | 77.4262203 | 28.8617355 | 1340.29 | 0 degree with respect to East | 77.4124901 | 28.8619820 | 180 degree with respect to East | 2160.847 | 77.3903537 | 28.8623765 | Chainage = 82493.04m |
| 1111 | 77.4262203 | 28.8617355 | 1153.49 | 0 degree with respect to East | 77.4144037 | 28.8619478 | 180 degree with respect to East | 2347.638 | 77.3903537 | 28.8623765 | Chainage = 82306.25m |
| 1112 | 77.4261993 | 28.8611192 | 993.53 | 0 degree with respect to East | 77.4160215 | 28.8613020 | 180 degree with respect to East | 2443.368 | 77.3909910 | 28.8617485 | Chainage = 82132.89m |
| 1113 | 77.4260258 | 28.8593445 | 950.97 | 0 degree with respect to East | 77.4162842 | 28.8595195 | 180 degree with respect to East | 2440.138 | 77.3912872 | 28.8599653 | Chainage = 81933.61m |
| 1114 | 77.4258830 | 28.8578438 | 910.78 | 0 degree with respect to East | 77.4165532 | 28.8580115 | 180 degree with respect to East | 2575.159 | 77.3901734 | 28.8584819 | Chainage = 81764.37m |
| 1115 | 77.4249182 | 28.8559471 | 820.93 | 0 degree with respect to East | 77.4165089 | 28.8560981 | 180 degree with respect to East | 2561.260 | 77.3902720 | 28.8565660 | Chainage = 81552.2m |
| 1116 | 77.4251128 | 28.8541678 | 873.61 | 0 degree with respect to East | 77.4161641 | 28.8543285 | 180 degree with respect to East | 2569.434 | 77.3898439 | 28.8547978 | Chainage = 81353.15m |
| 1117 | 77.4241216 | 28.8526833 | 868.50 | 0 degree with respect to East | 77.4152253 | 28.8528430 | 180 degree with respect to East | 2507.761 | 77.3895372 | 28.8533009 | Chainage = 81164.68m |
| 1118 | 77.4237918 | 28.8511935 | 929.36 | 0 degree with respect to East | 77.4142722 | 28.8513643 | 180 degree with respect to East | 2388.907 | 77.3898019 | 28.8518004 | Chainage = 80976.19m |
| 1119 | 77.4236052 | 28.8494211 | 944.82 | 0 degree with respect to East | 77.4139274 | 28.8495947 | 180 degree with respect to East | 2340.684 | 77.3899515 | 28.8500220 | Chainage = 80777.14m |
| 1120 | 77.4224312 | 28.8478313 | 767.86 | 0 degree with respect to East | 77.4145662 | 28.8479724 | 180 degree with respect to East | 2230.843 | 77.3917157 | 28.8483798 | Chainage = 80586.78m |
| 1121 | 77.4221876 | 28.8462996 | 665.26 | 0 degree with respect to East | 77.4153735 | 28.8464219 | 180 degree with respect to East | 2139.441 | 77.3934597 | 28.8468127 | Chainage = 80397.68m |
| 1122 | 77.4217859 | 28.8445847 | 612.24 | 0 degree with respect to East | 77.4155150 | 28.8446973 | 180 degree with respect to East | 1808.544 | 77.3969908 | 28.8450279 | Chainage = 80205.98m |
| 1123 | 77.4215062 | 28.8441626 | 756.83 | 0 degree with respect to East | 77.4137544 | 28.8443016 | 180 degree with respect to East | 1634.266 | 77.3970154 | 28.8446003 | Chainage = 80028.62m |
| 1124 | 77.4217954 | 28.8446031 | 927.38 | 0 degree with respect to East | 77.4122967 | 28.8447734 | 180 degree with respect to East | 1495.150 | 77.3969825 | 28.8450465 | Chainage = 79877.02m |
| 1125 | 77.4219429 | 28.8449574 | 1092.95 | 0 degree with respect to East | 77.4107483 | 28.8451580 | 180 degree with respect to East | 1359.801 | 77.3968203 | 28.8454064 | Chainage = 79719.97m |
| 1126 | 77.4221742 | 28.8456900 | 1228.79 | 0 degree with respect to East | 77.4095882 | 28.8459155 | 180 degree with respect to East | 1284.824 | 77.3964281 | 28.8461501 | Chainage = 79579m |



589

132

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1127 | 77.4221245 | 28.8455398 | 1396.59 | 0 degree with respect to East | 77.4078198 | 28.8457961 | 180 degree with respect to East | 1103.079 | 77.3965212 | 28.8459974 | Chainage = 79405.87m |
| 1128 | 77.4217432 | 28.8445031 | 1477.39 | 0 degree with respect to East | 77.4066110 | 28.8447741 | 180 degree with respect to East | 935.632 | 77.3970277 | 28.8449449 | Chainage = 79242.29m |
| 1129 | 77.4208187 | 28.8433671 | 1517.49 | 0 degree with respect to East | 77.4052759 | 28.8436453 | 180 degree with respect to East | 841.537 | 77.3966564 | 28.8437988 | Chainage = 79061.61m |
| 1130 | 77.4208640 | 28.8419966 | 1465.13 | 0 degree with respect to East | 77.4058578 | 28.8422652 | 180 degree with respect to East | 908.678 | 77.3965507 | 28.8424310 | Chainage = 78898.4m |
| 1131 | 77.4207218 | 28.8409662 | 1318.51 | 0 degree with respect to East | 77.4072175 | 28.8412080 | 180 degree with respect to East | 1010.837 | 77.3968642 | 28.8413924 | Chainage = 78721.33m |
| 1132 | 77.4208163 | 28.8414996 | 1191.92 | 0 degree with respect to East | 77.4086084 | 28.8417182 | 180 degree with respect to East | 1165.226 | 77.3966738 | 28.8419309 | Chainage = 78574.24m |
| 1133 | 77.4208125 | 28.8423022 | 1065.09 | 0 degree with respect to East | 77.4099035 | 28.8424977 | 180 degree with respect to East | 1304.004 | 77.3965474 | 28.8427358 | Chainage = 78421.11m |
| 1134 | 77.4207773 | 28.8425704 | 900.34 | 0 degree with respect to East | 77.4115557 | 28.8427357 | 180 degree with respect to East | 1466.806 | 77.3965321 | 28.8430036 | Chainage = 78257.68m |
| 1135 | 77.4207436 | 28.8410891 | 816.69 | 0 degree with respect to East | 77.4123790 | 28.8412390 | 180 degree with respect to East | 1519.856 | 77.3968122 | 28.8415167 | Chainage = 78073.32m |
| 1136 | 77.4198594 | 28.8394756 | 672.06 | 0 degree with respect to East | 77.4129762 | 28.8395990 | 180 degree with respect to East | 1231.159 | 77.4003665 | 28.8398241 | Chainage = 77882.38m |
| 1137 | 77.4192272 | 28.8379497 | 613.93 | 0 degree with respect to East | 77.4129395 | 28.8380624 | 180 degree with respect to East | 2088.078 | 77.3915534 | 28.8384435 | Chainage = 77711.99m |
| 1138 | 77.4189995 | 28.8365411 | 702.39 | 0 degree with respect to East | 77.4118059 | 28.8366700 | 180 degree with respect to East | 2146.649 | 77.3898202 | 28.8370615 | Chainage = 77522.05m |
| 1139 | 77.4179327 | 28.8350883 | 601.54 | 0 degree with respect to East | 77.4117719 | 28.8351986 | 180 degree with respect to East | 2624.893 | 77.3848884 | 28.8356768 | Chainage = 77358.89m |
| 1140 | 77.4173344 | 28.8333956 | 592.15 | 0 degree with respect to East | 77.4112699 | 28.8335042 | 180 degree with respect to East | 2699.429 | 77.3836234 | 28.8339958 | Chainage = 77164.75m |
| 1141 | 77.4161091 | 28.8317077 | 520.15 | 0 degree with respect to East | 77.4107821 | 28.8318030 | 180 degree with respect to East | 2811.960 | 77.3819836 | 28.8323148 | Chainage = 76970.23m |
| 1142 | 77.4149493 | 28.8300942 | 470.59 | 0 degree with respect to East | 77.4101299 | 28.8301804 | 180 degree with respect to East | 2786.308 | 77.3815946 | 28.8306874 | Chainage = 76779.41m |
| 1143 | 77.4144934 | 28.8287672 | 517.76 | 0 degree with respect to East | 77.4091910 | 28.8288621 | 180 degree with respect to East | 2726.367 | 77.3812699 | 28.8293580 | Chainage = 76606.89m |
| 1144 | 77.4142309 | 28.8276192 | 622.49 | 0 degree with respect to East | 77.4078560 | 28.8277332 | 180 degree with respect to East | 2700.478 | 77.3802003 | 28.8282241 | Chainage = 76426.19m |



590

133

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1145 | 77.4139518 | 28.8266879 | 736.06 | 0 degree with respect to East | 77.4064139 | 28.8268227 | 180 degree with respect to East | 2584.027 | 77.3799510 | 28.8272923 | Chainage = 76252.95m |
| 1146 | 77.4140704 | 28.8256080 | 893.91 | 0 degree with respect to East | 77.4049161 | 28.8257715 | 180 degree with respect to East | 2413.223 | 77.3802026 | 28.8262099 | Chainage = 76065.97m |
| 1147 | 77.4143486 | 28.8244928 | 1052.95 | 0 degree with respect to East | 77.4035658 | 28.8246854 | 180 degree with respect to East | 2300.160 | 77.3800104 | 28.8251031 | Chainage = 75887.43m |
| 1148 | 77.4144554 | 28.8237872 | 1225.62 | 0 degree with respect to East | 77.4019044 | 28.8240113 | 180 degree with respect to East | 2155.383 | 77.3798318 | 28.8244026 | Chainage = 75708.84m |
| 1149 | 77.4143919 | 28.8228868 | 1374.73 | 0 degree with respect to East | 77.4003140 | 28.8231380 | 180 degree with respect to East | 2053.149 | 77.3792885 | 28.8235106 | Chainage = 75525.86m |
| 1150 | 77.4139990 | 28.8221817 | 1482.16 | 0 degree with respect to East | 77.3988211 | 28.8224526 | 180 degree with respect to East | 1894.883 | 77.3794165 | 28.8227963 | Chainage = 75361.48m |
| 1151 | 77.4137098 | 28.8215258 | 1617.65 | 0 degree with respect to East | 77.3971445 | 28.8218212 | 180 degree with respect to East | 1715.811 | 77.3795738 | 28.8221324 | Chainage = 75183.46m |
| 1152 | 77.4139976 | 28.8206593 | 1802.49 | 0 degree with respect to East | 77.3955397 | 28.8209884 | 180 degree with respect to East | 1529.009 | 77.3798820 | 28.8212656 | Chainage = 75001.6m |
| 1153 | 77.4157636 | 28.8190894 | 1935.30 | 0 degree with respect to East | 77.3959459 | 28.8194429 | 180 degree with respect to East | 1510.405 | 77.3804790 | 28.8197167 | Chainage = 74825.73m |
| 1154 | 77.4161638 | 28.8183068 | 1817.56 | 0 degree with respect to East | 77.3975520 | 28.8186389 | 180 degree with respect to East | 1633.757 | 77.3808220 | 28.8189352 | Chainage = 74645.36m |
| 1155 | 77.4162603 | 28.8180375 | 1650.47 | 0 degree with respect to East | 77.3993594 | 28.8183392 | 180 degree with respect to East | 1794.915 | 77.3809792 | 28.8186649 | Chainage = 74465.79m |
| 1156 | 77.4162603 | 28.8180375 | 1463.61 | 0 degree with respect to East | 77.4012730 | 28.8183052 | 180 degree with respect to East | 1981.784 | 77.3809792 | 28.8186649 | Chainage = 74278.92m |
| 1157 | 77.4163366 | 28.8176288 | 1299.98 | 0 degree with respect to East | 77.4030250 | 28.8178666 | 180 degree with respect to East | 2118.819 | 77.3813281 | 28.8182513 | Chainage = 74101.09m |
| 1158 | 77.4162619 | 28.8163825 | 1186.86 | 0 degree with respect to East | 77.4041087 | 28.8165996 | 180 degree with respect to East | 2008.455 | 77.3835422 | 28.8169646 | Chainage = 73925.24m |
| 1159 | 77.4159250 | 28.8147215 | 1103.92 | 0 degree with respect to East | 77.4046212 | 28.8149234 | 180 degree with respect to East | 1637.142 | 77.3878573 | 28.8152212 | Chainage = 73732.79m |
| 1160 | 77.4153239 | 28.8130502 | 998.48 | 0 degree with respect to East | 77.4051000 | 28.8132328 | 180 degree with respect to East | 1280.278 | 77.3919905 | 28.8134659 | Chainage = 73539.62m |
| 1161 | 77.4147851 | 28.8119104 | 819.86 | 0 degree with respect to East | 77.4063902 | 28.8120604 | 180 degree with respect to East | 1397.298 | 77.3920826 | 28.8123149 | Chainage = 73358.61m |
| 1162 | 77.4150171 | 28.8123138 | 694.52 | 0 degree with respect to East | 77.4079057 | 28.8124409 | 180 degree with respect to East | 1535.568 | 77.3921823 | 28.8127207 | Chainage = 73204.74m |



591

134

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1163 | 77.4154432 | 28.8132364 | 637.97 | 0 degree with respect to East | 77.4089107 | 28.8133532 | 180 degree with respect to East | 1661.894 | 77.3918937 | 28.8136560 | Chainage = 73063.82m |
| 1164 | 77.4149782 | 28.8122414 | 505.53 | 0 degree with respect to East | 77.4098019 | 28.8123340 | 180 degree with respect to East | 1723.296 | 77.3921562 | 28.8126480 | Chainage = 72921.21m |
| 1165 | 77.4142014 | 28.8106523 | 500.00 | 0 degree with respect to East | 77.4090817 | 28.8107438 | 180 degree with respect to East | 1719.977 | 77.3914703 | 28.8110572 | Chainage = 72731.41m |
| 1166 | 77.4127779 | 28.8091188 | 440.66 | 0 degree with respect to East | 77.4082659 | 28.8091994 | 180 degree with respect to East | 1657.418 | 77.3912953 | 28.8095013 | Chainage = 72542.57m |
| 1167 | 77.4096680 | 28.8074581 | 183.24 | 0 degree with respect to East | 77.4077918 | 28.8074916 | 180 degree with respect to East | 1638.420 | 77.3910160 | 28.8077900 | Chainage = 72347.66m |
| 1168 | 77.4098643 | 28.8058170 | 265.41 | 0 degree with respect to East | 77.4071469 | 28.8058655 | 180 degree with respect to East | 1641.783 | 77.3903369 | 28.8061644 | Chainage = 72156.7m |
| 1169 | 77.4079443 | 28.8039371 | 82.18 | 0 degree with respect to East | 77.4071029 | 28.8039522 | 180 degree with respect to East | 1677.429 | 77.3899283 | 28.8042575 | Chainage = 71944.54m |
| 1170 | 77.4086524 | 28.8025038 | 260.37 | 0 degree with respect to East | 77.4059866 | 28.8025513 | 180 degree with respect to East | 1613.631 | 77.3894654 | 28.8028449 | Chainage = 71754.8m |
| 1171 | 77.4089272 | 28.8013134 | 432.61 | 0 degree with respect to East | 77.4044980 | 28.8013924 | 180 degree with respect to East | 1545.277 | 77.3886768 | 28.8016734 | Chainage = 71560.79m |
| 1172 | 77.4074280 | 28.8005111 | 427.90 | 0 degree with respect to East | 77.4030470 | 28.8005892 | 180 degree with respect to East | 1417.175 | 77.3885375 | 28.8008468 | Chainage = 71393.44m |
| 1173 | 77.4066201 | 28.7998642 | 512.74 | 0 degree with respect to East | 77.4013705 | 28.7999577 | 180 degree with respect to East | 1257.226 | 77.3884987 | 28.8001862 | Chainage = 71215.39m |
| 1174 | 77.4100183 | 28.7994211 | 1018.17 | 0 degree with respect to East | 77.3995941 | 28.7996069 | 180 degree with respect to East | 1094.624 | 77.3883870 | 28.7998057 | Chainage = 71037.61m |
| 1175 | 77.4104122 | 28.7988790 | 1208.66 | 0 degree with respect to East | 77.3980378 | 28.7990994 | 180 degree with respect to East | 950.720 | 77.3883041 | 28.7992721 | Chainage = 70875.55m |
| 1176 | 77.4105128 | 28.7986096 | 1396.02 | 0 degree with respect to East | 77.3962202 | 28.7988642 | 180 degree with respect to East | 779.557 | 77.3882389 | 28.7990057 | Chainage = 70696.15m |
| 1177 | 77.4105128 | 28.7986096 | 1582.92 | 0 degree with respect to East | 77.3943066 | 28.7988981 | 180 degree with respect to East | 592.655 | 77.3882389 | 28.7990057 | Chainage = 70509.25m |
| 1178 | 77.4105128 | 28.7986096 | 1769.83 | 0 degree with respect to East | 77.3923931 | 28.7989321 | 180 degree with respect to East | 405.752 | 77.3882389 | 28.7990057 | Chainage = 70322.35m |
| 1179 | 77.4117047 | 28.7977348 | 2010.95 | 0 degree with respect to East | 77.3911164 | 28.7981011 | 180 degree with respect to East | 307.656 | 77.3879666 | 28.7981569 | Chainage = 70167.34m |
| 1180 | 77.4162544 | 28.7959873 | 2453.46 | 0 degree with respect to East | 77.3911362 | 28.7964347 | 180 degree with respect to East | 347.083 | 77.3875828 | 28.7964976 | Chainage = 69982.59m |



592

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1181 | 77.4181062 | 28.7949957 | 2494.10 | 0 degree with respect to East | 77.3925722 | 28.7954508 | 180 degree with respect to East | 475.657 | 77.3877024 | 28.7955371 | Chainage = 69804.93m |
| 1182 | 77.4173583 | 28.7953445 | 2266.14 | 0 degree with respect to East | 77.3941580 | 28.7957581 | 180 degree with respect to East | 634.686 | 77.3876602 | 28.7958732 | Chainage = 69646.36m |
| 1183 | 77.4161383 | 28.7961011 | 2030.16 | 0 degree with respect to East | 77.3953538 | 28.7964717 | 180 degree with respect to East | 759.101 | 77.3875822 | 28.7966094 | Chainage = 69505.31m |
| 1184 | 77.4156905 | 28.7964693 | 1833.87 | 0 degree with respect to East | 77.3969155 | 28.7968041 | 180 degree with respect to East | 907.434 | 77.3876252 | 28.7969688 | Chainage = 69348.41m |
| 1185 | 77.4154114 | 28.7966492 | 1636.38 | 0 degree with respect to East | 77.3986582 | 28.7969480 | 180 degree with respect to East | 1075.465 | 77.3876476 | 28.7971433 | Chainage = 69177.48m |
| 1186 | 77.4146268 | 28.7969308 | 1382.21 | 0 degree with respect to East | 77.4004759 | 28.7971833 | 180 degree with respect to East | 1249.653 | 77.3876819 | 28.7974102 | Chainage = 68998.07m |
| 1187 | 77.4166403 | 28.7956498 | 1483.63 | 0 degree with respect to East | 77.4014512 | 28.7959209 | 180 degree with respect to East | 1350.652 | 77.3876234 | 28.7961663 | Chainage = 68828.78m |
| 1188 | 77.4196351 | 28.7936820 | 1780.48 | 0 degree with respect to East | 77.4014073 | 28.7940076 | 180 degree with respect to East | 1339.975 | 77.3876890 | 28.7942510 | Chainage = 68616.62m |
| 1189 | 77.4199364 | 28.7922875 | 1729.06 | 0 degree with respect to East | 77.4022353 | 28.7926037 | 180 degree with respect to East | 1371.659 | 77.3881928 | 28.7928529 | Chainage = 68441.23m |
| 1190 | 77.4203699 | 28.7912462 | 1624.55 | 0 degree with respect to East | 77.4037389 | 28.7915434 | 180 degree with respect to East | 1417.545 | 77.3892268 | 28.7918011 | Chainage = 68253.13m |
| 1191 | 77.4251677 | 28.7898915 | 1955.47 | 0 degree with respect to East | 77.4051493 | 28.7902497 | 180 degree with respect to East | 1394.997 | 77.3908682 | 28.7905035 | Chainage = 68054.28m |
| 1192 | 77.4295526 | 28.7882247 | 2316.36 | 0 degree with respect to East | 77.4058401 | 28.7886494 | 180 degree with respect to East | 1059.583 | 77.3949929 | 28.7888423 | Chainage = 67864.47m |
| 1193 | 77.4320773 | 28.7865082 | 2513.82 | 0 degree with respect to East | 77.4063438 | 28.7869694 | 180 degree with respect to East | 1070.352 | 77.3953866 | 28.7871643 | Chainage = 67671.83m |
| 1194 | 77.4324777 | 28.7848715 | 2494.63 | 0 degree with respect to East | 77.4069410 | 28.7853292 | 180 degree with respect to East | 1066.754 | 77.3960208 | 28.7855235 | Chainage = 67480.87m |
| 1195 | 77.4327864 | 28.7833266 | 2446.62 | 0 degree with respect to East | 77.4077415 | 28.7837757 | 180 degree with respect to East | 874.233 | 77.3987923 | 28.7839350 | Chainage = 67291.72m |
| 1196 | 77.4328995 | 28.7815970 | 2420.96 | 0 degree with respect to East | 77.4081178 | 28.7820414 | 180 degree with respect to East | 408.367 | 77.4039376 | 28.7821159 | Chainage = 67095.97m |
| 1197 | 77.4321759 | 28.7800786 | 2270.38 | 0 degree with respect to East | 77.4089359 | 28.7804953 | 180 degree with respect to East | 48.872 | 77.4084356 | 28.7805042 | Chainage = 66906.86m |
| 1198 | 77.4321032 | 28.7790125 | 2117.73 | 0 degree with respect to East | 77.4104260 | 28.7794013 | 180 degree with respect to East | 232.230 | 77.4080489 | 28.7794437 | Chainage = 66717.41m |



593

136

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1199 | 77.4320951 | 28.7775636 | 2018.91 | 0 degree with respect to East | 77.4114297 | 28.7779343 | 180 degree with respect to East | 354.880 | 77.4077971 | 28.7779991 | Chainage = 66527.51m |
| 1200 | 77.4318411 | 28.7768236 | 1836.03 | 0 degree with respect to East | 77.4130478 | 28.7771608 | 180 degree with respect to East | 448.337 | 77.4084587 | 28.7772427 | Chainage = 66347.69m |
| 1201 | 77.4320952 | 28.7775638 | 1728.80 | 0 degree with respect to East | 77.4143993 | 28.7778814 | 180 degree with respect to East | 645.018 | 77.4077969 | 28.7779993 | Chainage = 66193.39m |
| 1202 | 77.4320976 | 28.7788706 | 1726.07 | 0 degree with respect to East | 77.4144294 | 28.7791877 | 180 degree with respect to East | 624.875 | 77.4080331 | 28.7793020 | Chainage = 66048.54m |
| 1203 | 77.4320987 | 28.7789593 | 1583.60 | 0 degree with respect to East | 77.4158889 | 28.7792503 | 180 degree with respect to East | 766.989 | 77.4080379 | 28.7793906 | Chainage = 65905.82m |
| 1204 | 77.4321128 | 28.7784239 | 1418.79 | 0 degree with respect to East | 77.4175901 | 28.7786848 | 180 degree with respect to East | 944.788 | 77.4079192 | 28.7788576 | Chainage = 65728.22m |
| 1205 | 77.4319859 | 28.7772689 | 1264.32 | 0 degree with respect to East | 77.4190445 | 28.7775015 | 180 degree with respect to East | 1071.472 | 77.4080769 | 28.7776975 | Chainage = 65534.86m |
| 1206 | 77.4313391 | 28.7758666 | 1095.37 | 0 degree with respect to East | 77.4201272 | 28.7760681 | 180 degree with respect to East | 1080.509 | 77.4090673 | 28.7762659 | Chainage = 65343.97m |
| 1207 | 77.4310770 | 28.7745675 | 939.74 | 0 degree with respect to East | 77.4214581 | 28.7747404 | 180 degree with respect to East | 926.420 | 77.4119756 | 28.7749101 | Chainage = 65147.59m |
| 1208 | 77.4307902 | 28.7730333 | 833.55 | 0 degree with respect to East | 77.4222584 | 28.7731867 | 180 degree with respect to East | 1398.009 | 77.4079490 | 28.7734426 | Chainage = 64958.43m |
| 1209 | 77.4300808 | 28.7716872 | 646.35 | 0 degree with respect to East | 77.4234652 | 28.7718061 | 180 degree with respect to East | 1606.397 | 77.4070231 | 28.7721002 | Chainage = 64765.24m |
| 1210 | 77.4299216 | 28.7707046 | 482.05 | 0 degree with respect to East | 77.4249877 | 28.7707933 | 180 degree with respect to East | 1827.183 | 77.4062859 | 28.7711279 | Chainage = 64578.9m |
| 1211 | 77.4299387 | 28.7701692 | 317.51 | 0 degree with respect to East | 77.4266889 | 28.7702277 | 180 degree with respect to East | 3731.337 | 77.3884974 | 28.7709086 | Chainage = 64401.29m |
| 1212 | 77.4299283 | 28.7694936 | 155.74 | 0 degree with respect to East | 77.4283342 | 28.7695223 | 180 degree with respect to East | 3933.484 | 77.3880740 | 28.7702404 | Chainage = 64222.56m |
| 1213 | 77.4292282 | 28.7682010 | 42.38 | 0 degree with respect to East | 77.4296620 | 28.7681932 | 180 degree with respect to East | 4140.546 | 77.3872830 | 28.7689491 | Chainage = 64026.26m |
| 1214 | 77.4288402 | 28.7664359 | 45.80 | 0 degree with respect to East | 77.4293089 | 28.7664275 | 180 degree with respect to East | 4205.072 | 77.3862702 | 28.7671949 | Chainage = 63827.49m |
| 1215 | 77.4290563 | 28.7651697 | 118.08 | 0 degree with respect to East | 77.4278477 | 28.7651914 | 180 degree with respect to East | 4125.200 | 77.3856269 | 28.7659439 | Chainage = 63629.62m |
| 1216 | 77.4290148 | 28.7642175 | 251.47 | 0 degree with respect to East | 77.4264411 | 28.7642638 | 180 degree with respect to East | 4016.542 | 77.3853327 | 28.7649961 | Chainage = 63457.98m |



594

137

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1217 | 77.4285660 | 28.7629633 | 350.39 | 0 degree with respect to East | 77.4249799 | 28.7630277 | 180 degree with respect to East | 3920.719 | 77.3848528 | 28.7637423 | Chainage = 63260.11m |
| 1218 | 77.4283108 | 28.7615233 | 429.53 | 0 degree with respect to East | 77.4239149 | 28.7616023 | 180 degree with respect to East | 3867.591 | 77.3843320 | 28.7623069 | Chainage = 63070.91m |
| 1219 | 77.4275772 | 28.7602544 | 496.41 | 0 degree with respect to East | 77.4224969 | 28.7603456 | 180 degree with respect to East | 3765.264 | 77.3839617 | 28.7610313 | Chainage = 62874.44m |
| 1220 | 77.4269696 | 28.7592533 | 575.94 | 0 degree with respect to East | 77.4210755 | 28.7593591 | 180 degree with respect to East | 3677.524 | 77.3834385 | 28.7600285 | Chainage = 62697.68m |
| 1221 | 77.4266203 | 28.7587245 | 710.04 | 0 degree with respect to East | 77.4193537 | 28.7588549 | 180 degree with respect to East | 3557.415 | 77.3829462 | 28.7595021 | Chainage = 62520.43m |
| 1222 | 77.4266203 | 28.7587245 | 897.01 | 0 degree with respect to East | 77.4174402 | 28.7588891 | 180 degree with respect to East | 3370.439 | 77.3829462 | 28.7595021 | Chainage = 62333.45m |
| 1223 | 77.4267955 | 28.7589889 | 1074.37 | 0 degree with respect to East | 77.4158003 | 28.7591860 | 180 degree with respect to East | 3185.426 | 77.3831996 | 28.7597652 | Chainage = 62169.9m |
| 1224 | 77.4265024 | 28.7584591 | 1213.97 | 0 degree with respect to East | 77.4140786 | 28.7586817 | 180 degree with respect to East | 3057.461 | 77.3827877 | 28.7592374 | Chainage = 61992.65m |
| 1225 | 77.4261711 | 28.7579300 | 1333.67 | 0 degree with respect to East | 77.4125222 | 28.7581744 | 180 degree with respect to East | 2907.160 | 77.3827697 | 28.7587026 | Chainage = 61830.54m |
| 1226 | 77.4261711 | 28.7579300 | 1520.65 | 0 degree with respect to East | 77.4106087 | 28.7582086 | 180 degree with respect to East | 2720.183 | 77.3827697 | 28.7587026 | Chainage = 61643.56m |
| 1227 | 77.4263623 | 28.7581941 | 1699.57 | 0 degree with respect to East | 77.4089688 | 28.7585054 | 180 degree with respect to East | 2559.057 | 77.3827787 | 28.7589700 | Chainage = 61480.01m |
| 1228 | 77.4267955 | 28.7589889 | 1848.66 | 0 degree with respect to East | 77.4078760 | 28.7593275 | 180 degree with respect to East | 2411.137 | 77.3831996 | 28.7597652 | Chainage = 61339.64m |
| 1229 | 77.4273100 | 28.7597823 | 2005.69 | 0 degree with respect to East | 77.4067833 | 28.7601497 | 180 degree with respect to East | 2246.702 | 77.3837896 | 28.7605575 | Chainage = 61199.27m |
| 1230 | 77.4276519 | 28.7603967 | 2164.05 | 0 degree with respect to East | 77.4055043 | 28.7607930 | 180 degree with respect to East | 2101.123 | 77.3840004 | 28.7611742 | Chainage = 61055.4m |
| 1231 | 77.4283193 | 28.7613694 | 2317.82 | 0 degree with respect to East | 77.4045978 | 28.7617939 | 180 degree with respect to East | 1984.268 | 77.3842897 | 28.7621539 | Chainage = 60913.43m |
| 1232 | 77.4283146 | 28.7621721 | 2424.12 | 0 degree with respect to East | 77.4035051 | 28.7626160 | 180 degree with respect to East | 1854.653 | 77.3845233 | 28.7629524 | Chainage = 60773.07m |
| 1233 | 77.4287695 | 28.7633865 | 2533.34 | 0 degree with respect to East | 77.4028418 | 28.7638504 | 180 degree with respect to East | 1743.878 | 77.3849935 | 28.7641667 | Chainage = 60621.66m |
| 1234 | 77.4290664 | 28.7648341 | 2604.12 | 0 degree with respect to East | 77.4024139 | 28.7653108 | 180 degree with respect to East | 1652.410 | 77.3855016 | 28.7656106 | Chainage = 60454.44m |



595

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1235 | 77.4288199 | 28.7661762 | 2633.30 | 0 degree with respect to East | 77.4018684 | 28.7666583 | 180 degree with respect to East | 1536.096 | 77.3861463 | 28.7669370 | Chainage = 60295.84m |
| 1236 | 77.4289660 | 28.7676073 | 2691.26 | 0 degree with respect to East | 77.4014209 | 28.7681000 | 180 degree with respect to East | 1404.087 | 77.3870498 | 28.7683548 | Chainage = 60130.14m |
| 1237 | 77.4299326 | 28.7695040 | 2781.37 | 0 degree with respect to East | 77.4014648 | 28.7700133 | 180 degree with respect to East | 1307.877 | 77.3880781 | 28.7702507 | Chainage = 59917.98m |
| 1238 | 77.4299424 | 28.7696341 | 2956.27 | 0 degree with respect to East | 77.3996844 | 28.7701752 | 180 degree with respect to East | 1127.752 | 77.3881414 | 28.7703798 | Chainage = 59743.15m |
| 1239 | 77.4298754 | 28.7693677 | 3127.31 | 0 degree with respect to East | 77.3978668 | 28.7699399 | 180 degree with respect to East | 961.829 | 77.3880221 | 28.7701144 | Chainage = 59563.7m |
| 1240 | 77.4298754 | 28.7693677 | 3314.26 | 0 degree with respect to East | 77.3959533 | 28.7699739 | 180 degree with respect to East | 774.875 | 77.3880221 | 28.7701144 | Chainage = 59376.75m |
| 1241 | 77.4298069 | 28.7690782 | 3484.35 | 0 degree with respect to East | 77.3941440 | 28.7697153 | 180 degree with respect to East | 616.558 | 77.3878333 | 28.7698270 | Chainage = 59197.71m |
| 1242 | 77.4295933 | 28.7685702 | 3616.35 | 0 degree with respect to East | 77.3925794 | 28.7692311 | 180 degree with respect to East | 499.206 | 77.3874699 | 28.7693215 | Chainage = 59035.73m |
| 1243 | 77.4291509 | 28.7680431 | 3741.35 | 0 degree with respect to East | 77.3908578 | 28.7687265 | 180 degree with respect to East | 356.630 | 77.3872076 | 28.7687911 | Chainage = 58858.5m |
| 1244 | 77.4288755 | 28.7668188 | 3858.37 | 0 degree with respect to East | 77.3893851 | 28.7675233 | 180 degree with respect to East | 286.378 | 77.3864540 | 28.7675752 | Chainage = 58662.32m |
| 1245 | 77.4290003 | 28.7653709 | 3915.52 | 0 degree with respect to East | 77.3889255 | 28.7660858 | 180 degree with respect to East | 312.923 | 77.3857228 | 28.7661424 | Chainage = 58496.75m |
| 1246 | 77.4288702 | 28.7635973 | 3936.48 | 0 degree with respect to East | 77.3885816 | 28.7643159 | 180 degree with respect to East | 343.954 | 77.3850613 | 28.7643781 | Chainage = 58297.68m |
| 1247 | 77.4283059 | 28.7616934 | 3885.67 | 0 degree with respect to East | 77.3885380 | 28.7624026 | 180 degree with respect to East | 406.386 | 77.3843788 | 28.7624761 | Chainage = 58085.52m |
| 1248 | 77.4274245 | 28.7599705 | 3765.27 | 0 degree with respect to East | 77.3888896 | 28.7606576 | 180 degree with respect to East | 489.402 | 77.3838808 | 28.7607461 | Chainage = 57889.05m |
| 1249 | 77.4264993 | 28.7584478 | 3596.68 | 0 degree with respect to East | 77.3896902 | 28.7591041 | 180 degree with respect to East | 674.485 | 77.3827873 | 28.7592260 | Chainage = 57699.89m |
| 1250 | 77.4253150 | 28.7571249 | 3396.29 | 0 degree with respect to East | 77.3905572 | 28.7577446 | 180 degree with respect to East | 768.411 | 77.3826931 | 28.7578836 | Chainage = 57527.01m |
| 1251 | 77.4200414 | 28.7557137 | 2795.41 | 0 degree with respect to East | 77.3914334 | 28.7562232 | 180 degree with respect to East | 878.036 | 77.3824475 | 28.7563820 | Chainage = 57337.87m |
| 1252 | 77.4158380 | 28.7542220 | 2312.54 | 0 degree with respect to East | 77.3921720 | 28.7546432 | 180 degree with respect to East | 1042.757 | 77.3815005 | 28.7548318 | Chainage = 57148.43m |



596

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1253 | 77.4135260 | 28.7526824 | 2017.56 | 0 degree with respect to East | 77.3928791 | 28.7530498 | 180 degree with respect to East | 1120.154 | 77.3814156 | 28.7532523 | Chainage = 56958.75m |
| 1254 | 77.4109428 | 28.7512227 | 1679.54 | 0 degree with respect to East | 77.3937552 | 28.7515283 | 180 degree with respect to East | 1200.815 | 77.3814664 | 28.7517455 | Chainage = 56769.61m |
| 1255 | 77.4102197 | 28.7497042 | 1528.91 | 0 degree with respect to East | 77.3945738 | 28.7499824 | 180 degree with respect to East | 1382.048 | 77.3804306 | 28.7502324 | Chainage = 56580.48m |
| 1256 | 77.4089636 | 28.7480996 | 1460.43 | 0 degree with respect to East | 77.3940187 | 28.7483652 | 180 degree with respect to East | 1342.892 | 77.3802765 | 28.7486080 | Chainage = 56393.17m |
| 1257 | 77.4085037 | 28.7463464 | 1452.23 | 0 degree with respect to East | 77.3936430 | 28.7466105 | 180 degree with respect to East | 1296.850 | 77.3803721 | 28.7468450 | Chainage = 56195.2m |
| 1258 | 77.4041752 | 28.7450223 | 1142.53 | 0 degree with respect to East | 77.3924838 | 28.7452299 | 180 degree with respect to East | 1288.623 | 77.3792973 | 28.7454627 | Chainage = 56004.8m |
| 1259 | 77.4036525 | 28.7434332 | 1162.80 | 0 degree with respect to East | 77.3917538 | 28.7436443 | 180 degree with respect to East | 1252.083 | 77.3789414 | 28.7438705 | Chainage = 55815.1m |
| 1260 | 77.4040384 | 28.7419533 | 1298.54 | 0 degree with respect to East | 77.3907509 | 28.7421891 | 180 degree with respect to East | 1139.732 | 77.3790883 | 28.7423949 | Chainage = 55626.34m |
| 1261 | 77.4034033 | 28.7407202 | 1347.54 | 0 degree with respect to East | 77.3896146 | 28.7409647 | 180 degree with respect to East | 1130.790 | 77.3780436 | 28.7411689 | Chainage = 55450.98m |
| 1262 | 77.4028395 | 28.7393766 | 1415.84 | 0 degree with respect to East | 77.3883520 | 28.7396335 | 180 degree with respect to East | 1063.511 | 77.3774697 | 28.7398254 | Chainage = 55258.63m |
| 1263 | 77.4032629 | 28.7382157 | 1587.65 | 0 degree with respect to East | 77.3870177 | 28.7385037 | 180 degree with respect to East | 892.042 | 77.3778900 | 28.7386646 | Chainage = 55077.84m |
| 1264 | 77.4038665 | 28.7367603 | 1750.69 | 0 degree with respect to East | 77.3859533 | 28.7370778 | 180 degree with respect to East | 782.663 | 77.3779449 | 28.7372189 | Chainage = 54888.62m |
| 1265 | 77.4032517 | 28.7349102 | 1706.15 | 0 degree with respect to East | 77.3857944 | 28.7352195 | 180 degree with respect to East | 861.682 | 77.3769776 | 28.7353749 | Chainage = 54682.03m |
| 1266 | 77.4043165 | 28.7332492 | 1754.58 | 0 degree with respect to East | 77.3863639 | 28.7335674 | 180 degree with respect to East | 823.137 | 77.3779417 | 28.7337159 | Chainage = 54490.61m |
| 1267 | 77.4046620 | 28.7314970 | 1755.63 | 0 degree with respect to East | 77.3866991 | 28.7318154 | 180 degree with respect to East | 872.933 | 77.3777674 | 28.7319729 | Chainage = 54293.64m |
| 1268 | 77.4046414 | 28.7299593 | 1675.07 | 0 degree with respect to East | 77.3875030 | 28.7302632 | 180 degree with respect to East | 1059.125 | 77.3766664 | 28.7304542 | Chainage = 54104.48m |
| 1269 | 77.4040890 | 28.7281911 | 1595.40 | 0 degree with respect to East | 77.3877660 | 28.7284805 | 180 degree with respect to East | 978.014 | 77.3777595 | 28.7286569 | Chainage = 53905.18m |
| 1270 | 77.4018948 | 28.7264769 | 1349.78 | 0 degree with respect to East | 77.3880850 | 28.7267216 | 180 degree with respect to East | 1059.233 | 77.3772477 | 28.7269126 | Chainage = 53707.71m |



597

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1271 | 77.4041539 | 28.7248972 | 1492.36 | 0 degree with respect to East | 77.3888856 | 28.7251679 | 180 degree with respect to East | 1225.997 | 77.3763423 | 28.7253890 | Chainage = 53518.53m |
| 1272 | 77.4054116 | 28.7236267 | 1509.40 | 0 degree with respect to East | 77.3899692 | 28.7239006 | 180 degree with respect to East | 1287.887 | 77.3767928 | 28.7241330 | Chainage = 53342.6m |
| 1273 | 77.4058323 | 28.7223502 | 1412.71 | 0 degree with respect to East | 77.3913793 | 28.7226067 | 180 degree with respect to East | 1425.328 | 77.3767970 | 28.7228639 | Chainage = 53143.68m |
| 1274 | 77.4060885 | 28.7213677 | 1288.64 | 0 degree with respect to East | 77.3929049 | 28.7216018 | 180 degree with respect to East | 1629.606 | 77.3762328 | 28.7218959 | Chainage = 52957.56m |
| 1275 | 77.4063507 | 28.7206078 | 1156.53 | 0 degree with respect to East | 77.3945188 | 28.7208179 | 180 degree with respect to East | 1844.056 | 77.3756529 | 28.7211508 | Chainage = 52777.48m |
| 1276 | 77.4078574 | 28.7199985 | 1139.35 | 0 degree with respect to East | 77.3962013 | 28.7202056 | 180 degree with respect to East | 1995.428 | 77.3757869 | 28.7205660 | Chainage = 52599.6m |
| 1277 | 77.4082026 | 28.7197248 | 996.43 | 0 degree with respect to East | 77.3980087 | 28.7199060 | 180 degree with respect to East | 2162.605 | 77.3758840 | 28.7202967 | Chainage = 52419.87m |
| 1278 | 77.4087436 | 28.7191801 | 883.03 | 0 degree with respect to East | 77.3997099 | 28.7193408 | 180 degree with respect to East | 2313.519 | 77.3760415 | 28.7197588 | Chainage = 52242.19m |
| 1279 | 77.4092504 | 28.7180970 | 847.56 | 0 degree with respect to East | 77.4005796 | 28.7182512 | 180 degree with respect to East | 2333.955 | 77.3767023 | 28.7186731 | Chainage = 52094.5m |
| 1280 | 77.4092492 | 28.7181009 | 998.51 | 0 degree with respect to East | 77.3990342 | 28.7182825 | 180 degree with respect to East | 2183.086 | 77.3767004 | 28.7186770 | Chainage = 51943.43m |
| 1281 | 77.4093206 | 28.7178321 | 1183.15 | 0 degree with respect to East | 77.3972167 | 28.7180472 | 180 degree with respect to East | 2005.140 | 77.3767033 | 28.7184094 | Chainage = 51763.9m |
| 1282 | 77.4093206 | 28.7178321 | 1370.20 | 0 degree with respect to East | 77.3953031 | 28.7180812 | 180 degree with respect to East | 1818.094 | 77.3767033 | 28.7184094 | Chainage = 51576.85m |
| 1283 | 77.4094296 | 28.7173998 | 1536.65 | 0 degree with respect to East | 77.3937093 | 28.7176791 | 180 degree with respect to East | 1677.532 | 77.3765476 | 28.7179819 | Chainage = 51414.84m |
| 1284 | 77.4095395 | 28.7167580 | 1712.01 | 0 degree with respect to East | 77.3920254 | 28.7170690 | 180 degree with respect to East | 1541.612 | 77.3762542 | 28.7173471 | Chainage = 51236.91m |
| 1285 | 77.4097814 | 28.7160693 | 1898.72 | 0 degree with respect to East | 77.3903574 | 28.7164142 | 180 degree with respect to East | 1392.037 | 77.3761165 | 28.7166652 | Chainage = 51058.46m |
| 1286 | 77.4100885 | 28.7153107 | 2073.21 | 0 degree with respect to East | 77.3888795 | 28.7156871 | 180 degree with respect to East | 1252.754 | 77.3760636 | 28.7159130 | Chainage = 50893.06m |
| 1287 | 77.4103032 | 28.7144445 | 2251.02 | 0 degree with respect to East | 77.3872754 | 28.7148531 | 180 degree with respect to East | 1059.976 | 77.3764317 | 28.7150442 | Chainage = 50711.06m |
| 1288 | 77.4100375 | 28.7128670 | 2299.89 | 0 degree with respect to East | 77.3865101 | 28.7132844 | 180 degree with respect to East | 918.946 | 77.3771094 | 28.7134500 | Chainage = 50521.74m |



598

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1289 | 77.4113046 | 28.7112064 | 2486.73 | 0 degree with respect to East | 77.3858662 | 28.7116577 | 180 degree with respect to East | 887.855 | 77.3767836 | 28.7118176 | Chainage = 50330.74m |
| 1290 | 77.4144266 | 28.7094878 | 2740.87 | 0 degree with respect to East | 77.3863889 | 28.7099856 | 180 degree with respect to East | 894.769 | 77.3772358 | 28.7101468 | Chainage = 50138.46m |
| 1291 | 77.4147656 | 28.7082127 | 2636.20 | 0 degree with respect to East | 77.3877991 | 28.7086916 | 180 degree with respect to East | 985.069 | 77.3777223 | 28.7088691 | Chainage = 49939.53m |
| 1292 | 77.4152862 | 28.7071354 | 2541.47 | 0 degree with respect to East | 77.3892889 | 28.7075973 | 180 degree with respect to East | 1100.384 | 77.3780327 | 28.7077957 | Chainage = 49750m |
| 1293 | 77.4160506 | 28.7058526 | 2478.40 | 0 degree with respect to East | 77.3906989 | 28.7063032 | 180 degree with respect to East | 1166.566 | 77.3787658 | 28.7065137 | Chainage = 49551.07m |
| 1294 | 77.4161720 | 28.7045813 | 2352.45 | 0 degree with respect to East | 77.3921089 | 28.7050091 | 180 degree with respect to East | 1154.658 | 77.3802978 | 28.7052175 | Chainage = 49352.14m |
| 1295 | 77.4161149 | 28.7033132 | 2209.05 | 0 degree with respect to East | 77.3935189 | 28.7037150 | 180 degree with respect to East | 1171.980 | 77.3815308 | 28.7039267 | Chainage = 49153.2m |
| 1296 | 77.4007401 | 28.7010488 | 430.28 | 0 degree with respect to East | 77.3963390 | 28.7011269 | 180 degree with respect to East | 1556.369 | 77.3804193 | 28.7014080 | Chainage = 48755.32m |
| 1297 | 77.4000030 | 28.6997928 | 220.37 | 0 degree with respect to East | 77.3977490 | 28.6998328 | 180 degree with respect to East | 1608.345 | 77.3812979 | 28.7001234 | Chainage = 48556.38m |
| 1298 | 77.4003710 | 28.6984101 | 142.09 | 0 degree with respect to East | 77.3989177 | 28.6984359 | 180 degree with respect to East | 1688.383 | 77.3816482 | 28.6987411 | Chainage = 48363.94m |
| 1299 | 77.4007082 | 28.6967619 | 119.41 | 0 degree with respect to East | 77.3994869 | 28.6967836 | 180 degree with respect to East | 1819.470 | 77.3808768 | 28.6971124 | Chainage = 48172.5m |
| 1300 | 77.4010280 | 28.6949780 | 124.99 | 0 degree with respect to East | 77.3997496 | 28.6950007 | 180 degree with respect to East | 1788.164 | 77.3814601 | 28.6953240 | Chainage = 47973.19m |
| 1301 | 77.4007372 | 28.6932071 | 130.17 | 0 degree with respect to East | 77.3994058 | 28.6932307 | 180 degree with respect to East | 1711.000 | 77.3819058 | 28.6935400 | Chainage = 47774.1m |
| 1302 | 77.3993673 | 28.6917312 | 88.55 | 0 degree with respect to East | 77.3984617 | 28.6917473 | 180 degree with respect to East | 1647.279 | 77.3816136 | 28.6920450 | Chainage = 47585.52m |
| 1303 | 77.3983237 | 28.6902495 | 78.82 | 0 degree with respect to East | 77.3975176 | 28.6902638 | 180 degree with respect to East | 1489.207 | 77.3822865 | 28.6905329 | Chainage = 47396.94m |
| 1304 | 77.3978279 | 28.6889794 | 169.72 | 0 degree with respect to East | 77.3960920 | 28.6890102 | 180 degree with respect to East | 1314.081 | 77.3826522 | 28.6892476 | Chainage = 47200.13m |
| 1305 | 77.3981186 | 28.6877114 | 340.94 | 0 degree with respect to East | 77.3946317 | 28.6877732 | 180 degree with respect to East | 1171.732 | 77.3826479 | 28.6879848 | Chainage = 47002.17m |
| 1306 | 77.4028706 | 28.6861822 | 909.65 | 0 degree with respect to East | 77.3935674 | 28.6863471 | 180 degree with respect to East | 1035.020 | 77.3829820 | 28.6865340 | Chainage = 46812.91m |



599

142

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1307 | 77.4059015 | 28.6845281 | 1277.05 | 0 degree with respect to East | 77.3928411 | 28.6847597 | 180 degree with respect to East | 881.653 | 77.3838243 | 28.6849189 | Chainage = 46623.14m |
| 1308 | 77.4067273 | 28.6831275 | 1245.66 | 0 degree with respect to East | 77.3939881 | 28.6833535 | 180 degree with respect to East | 938.717 | 77.3843879 | 28.6835230 | Chainage = 46431.11m |
| 1309 | 77.4068699 | 28.6820243 | 1115.21 | 0 degree with respect to East | 77.3954649 | 28.6822267 | 180 degree with respect to East | 948.549 | 77.3857642 | 28.6823981 | Chainage = 46240.19m |
| 1310 | 77.4069222 | 28.6814883 | 953.98 | 0 degree with respect to East | 77.3971661 | 28.6816615 | 180 degree with respect to East | 1018.903 | 77.3867460 | 28.6818457 | Chainage = 46062.46m |
| 1311 | 77.4069456 | 28.6812203 | 779.55 | 0 degree with respect to East | 77.3989735 | 28.6813619 | 180 degree with respect to East | 1178.133 | 77.3869250 | 28.6815750 | Chainage = 45882.67m |
| 1312 | 77.4069456 | 28.6812203 | 592.43 | 0 degree with respect to East | 77.4008870 | 28.6813279 | 180 degree with respect to East | 555.085 | 77.3952093 | 28.6813603 | Chainage = 45695.56m |
| 1313 | 77.4071381 | 28.6809493 | 434.52 | 0 degree with respect to East | 77.4026944 | 28.6810283 | 180 degree with respect to East | 508.758 | 77.3974915 | 28.6811206 | Chainage = 45515.77m |
| 1314 | 77.4074873 | 28.6804080 | 302.33 | 0 degree with respect to East | 77.4043956 | 28.6804630 | 180 degree with respect to East | 366.366 | 77.4006489 | 28.6805295 | Chainage = 45338.04m |
| 1315 | 77.4076987 | 28.6796567 | 164.90 | 0 degree with respect to East | 77.4060124 | 28.6796867 | 180 degree with respect to East | 317.531 | 77.4027652 | 28.6797444 | Chainage = 45158.06m |
| 1316 | 77.4079877 | 28.6782022 | 107.59 | 0 degree with respect to East | 77.4068875 | 28.6782218 | 180 degree with respect to East | 445.220 | 77.4023345 | 28.6783027 | Chainage = 44974.51m |
| 1317 | 77.4081331 | 28.6769367 | 264.61 | 0 degree with respect to East | 77.4054271 | 28.6769848 | 180 degree with respect to East | 388.987 | 77.4014492 | 28.6770555 | Chainage = 44776.54m |
| 1318 | 77.4066196 | 28.6756108 | 240.29 | 0 degree with respect to East | 77.4041624 | 28.6756545 | 180 degree with respect to East | 288.443 | 77.4012127 | 28.6757068 | Chainage = 44584.08m |
| 1319 | 77.4055291 | 28.6741841 | 237.49 | 0 degree with respect to East | 77.4031004 | 28.6742272 | 180 degree with respect to East | 203.616 | 77.4010183 | 28.6742642 | Chainage = 44394.83m |
| 1320 | 77.4093477 | 28.6723071 | 637.56 | 0 degree with respect to East | 77.4028282 | 28.6724230 | 180 degree with respect to East | 192.108 | 77.4008637 | 28.6724579 | Chainage = 44193.05m |
| 1321 | 77.4111383 | 28.6706156 | 871.10 | 0 degree with respect to East | 77.4022307 | 28.6707740 | 180 degree with respect to East | 181.389 | 77.4003759 | 28.6708070 | Chainage = 44001.14m |
| 1322 | 77.4106844 | 28.6688475 | 860.35 | 0 degree with respect to East | 77.4018870 | 28.6690039 | 180 degree with respect to East | 205.381 | 77.3997868 | 28.6690412 | Chainage = 43802.05m |
| 1323 | 77.4103621 | 28.6673529 | 921.15 | 0 degree with respect to East | 77.4009431 | 28.6675204 | 180 degree with respect to East | 178.001 | 77.3991229 | 28.6675526 | Chainage = 43613.45m |
| 1324 | 77.4099875 | 28.6658593 | 976.84 | 0 degree with respect to East | 77.3999992 | 28.6660368 | 180 degree with respect to East | 213.054 | 77.3978206 | 28.6660754 | Chainage = 43424.85m |

600



143

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1325 | 77.4094051 | 28.6641708 | 969.97 | 0 degree with respect to East | 77.3994871 | 28.6643470 | 180 degree with respect to East | 256.533 | 77.3968758 | 28.6641229 | Chainage = 43230.95m |
| 1326 | 77.4088175 | 28.6623722 | 939.14 | 0 degree with respect to East | 77.3992149 | 28.6625428 | 180 degree with respect to East | 579.042 | 77.3932943 | 28.6626476 | Chainage = 43029.17m |
| 1327 | 77.4088295 | 28.6607449 | 1005.68 | 0 degree with respect to East | 77.3985468 | 28.6609275 | 180 degree with respect to East | 671.373 | 77.3916822 | 28.6610490 | Chainage = 42838.56m |
| 1328 | 77.4092321 | 28.6594747 | 1187.87 | 0 degree with respect to East | 77.3970866 | 28.6596903 | 180 degree with respect to East | 587.951 | 77.3910750 | 28.6597966 | Chainage = 42640.57m |
| 1329 | 77.4097225 | 28.6582029 | 1378.66 | 0 degree with respect to East | 77.3956265 | 28.6584531 | 180 degree with respect to East | 506.135 | 77.3904515 | 28.6585445 | Chainage = 42442.58m |
| 1330 | 77.4095358 | 28.6568649 | 1486.59 | 0 degree with respect to East | 77.3943364 | 28.6571346 | 180 degree with respect to East | 435.057 | 77.3898882 | 28.6572132 | Chainage = 42249.51m |
| 1331 | 77.4093717 | 28.6555053 | 1592.21 | 0 degree with respect to East | 77.3930927 | 28.6557941 | 180 degree with respect to East | 334.001 | 77.3896778 | 28.6558544 | Chainage = 42057.47m |
| 1332 | 77.4090569 | 28.6538726 | 1624.39 | 0 degree with respect to East | 77.3924491 | 28.6541672 | 180 degree with respect to East | 256.635 | 77.3898252 | 28.6542135 | Chainage = 41866.44m |
| 1333 | 77.4086697 | 28.6522412 | 1649.49 | 0 degree with respect to East | 77.3918055 | 28.6525402 | 180 degree with respect to East | 290.037 | 77.3888402 | 28.6525925 | Chainage = 41675.41m |
| 1334 | 77.4082809 | 28.6504719 | 1645.08 | 0 degree with respect to East | 77.3914620 | 28.6507700 | 180 degree with respect to East | 374.572 | 77.3876325 | 28.6508376 | Chainage = 41476.31m |
| 1335 | 77.4078921 | 28.6487026 | 1640.68 | 0 degree with respect to East | 77.3911185 | 28.6489998 | 180 degree with respect to East | 385.777 | 77.3871745 | 28.6490694 | Chainage = 41277.21m |
| 1336 | 77.4075033 | 28.6469333 | 1636.27 | 0 degree with respect to East | 77.3907751 | 28.6472297 | 180 degree with respect to East | 392.259 | 77.3867648 | 28.6473004 | Chainage = 41078.11m |
| 1337 | 77.4071469 | 28.6453012 | 1664.38 | 0 degree with respect to East | 77.3901316 | 28.6456027 | 180 degree with respect to East | 372.653 | 77.3863218 | 28.6456699 | Chainage = 40887.08m |
| 1338 | 77.4067628 | 28.6435318 | 1660.43 | 0 degree with respect to East | 77.3897881 | 28.6438325 | 180 degree with respect to East | 371.517 | 77.3859900 | 28.6438995 | Chainage = 40687.98m |
| 1339 | 77.4063787 | 28.6417624 | 1656.48 | 0 degree with respect to East | 77.3894447 | 28.6420623 | 180 degree with respect to East | 266.996 | 77.3867152 | 28.6421104 | Chainage = 40488.88m |
| 1340 | 77.4069499 | 28.6401058 | 1742.68 | 0 degree with respect to East | 77.3891329 | 28.6403055 | 180 degree with respect to East | 162.383 | 77.3874728 | 28.6403348 | Chainage = 40291.75m |
| 1341 | 77.4069499 | 28.6401058 | 1635.55 | 0 degree with respect to East | 77.3902828 | 28.6389005 | 180 degree with respect to East | 212.401 | 77.3881115 | 28.6389388 | Chainage = 40099.63m |
| 1342 | 77.4069499 | 28.6401058 | 1575.73 | 0 degree with respect to East | 77.3911398 | 28.6373706 | 180 degree with respect to East | 215.984 | 77.3889319 | 28.6374096 | Chainage = 39910.45m |



601

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1343 | 77.4245584 | 28.6359578 | 3113.79 | 0 degree with respect to East | 77.3927284 | 28.6365239 | 180 degree with respect to East | 328.019 | 77.3893753 | 28.6365831 | Chainage = 39728.92m |
| 1344 | 77.4252252 | 28.6351432 | 3023.02 | 0 degree with respect to East | 77.3943234 | 28.6356931 | 180 degree with respect to East | 441.525 | 77.3898100 | 28.6357728 | Chainage = 39547.76m |
| 1345 | 77.4300111 | 28.6339873 | 3345.61 | 0 degree with respect to East | 77.3958122 | 28.6345965 | 180 degree with respect to East | 528.834 | 77.3904063 | 28.6346921 | Chainage = 39358.08m |
| 1346 | 77.4310294 | 28.6331664 | 3289.22 | 0 degree with respect to East | 77.3974071 | 28.6337657 | 180 degree with respect to East | 654.909 | 77.3907126 | 28.6338840 | Chainage = 39176.92m |
| 1347 | 77.4315828 | 28.6321128 | 3196.73 | 0 degree with respect to East | 77.3989064 | 28.6326955 | 180 degree with respect to East | 758.016 | 77.3911579 | 28.6328325 | Chainage = 38988.3m |
| 1348 | 77.4322665 | 28.6306508 | 3165.50 | 0 degree with respect to East | 77.3999097 | 28.6312279 | 180 degree with respect to East | 795.781 | 77.3917754 | 28.6313718 | Chainage = 38798.3m |
| 1349 | 77.4325970 | 28.6291050 | 3119.59 | 0 degree with respect to East | 77.4007099 | 28.6296739 | 180 degree with respect to East | 803.426 | 77.3924975 | 28.6298192 | Chainage = 38609.07m |
| 1350 | 77.4328312 | 28.6280506 | 2996.12 | 0 degree with respect to East | 77.4022066 | 28.6285972 | 180 degree with respect to East | 902.007 | 77.3929866 | 28.6287604 | Chainage = 38420.18m |
| 1351 | 77.4327067 | 28.6273682 | 2823.34 | 0 degree with respect to East | 77.4038483 | 28.6278834 | 180 degree with respect to East | 1031.529 | 77.3933045 | 28.6280701 | Chainage = 38241.16m |
| 1352 | 77.4325507 | 28.6267047 | 2646.76 | 0 degree with respect to East | 77.4054974 | 28.6271879 | 180 degree with respect to East | 1102.666 | 77.3942265 | 28.6273875 | Chainage = 38062.38m |
| 1353 | 77.4322242 | 28.6261887 | 2447.90 | 0 degree with respect to East | 77.4072037 | 28.6266356 | 180 degree with respect to East | 1196.673 | 77.3949720 | 28.6268524 | Chainage = 37884.6m |
| 1354 | 77.4313355 | 28.6251929 | 2213.07 | 0 degree with respect to East | 77.4087155 | 28.6255970 | 180 degree with respect to East | 1204.614 | 77.3964028 | 28.6258153 | Chainage = 37697.18m |
| 1355 | 77.4291491 | 28.6236033 | 1992.47 | 0 degree with respect to East | 77.4087841 | 28.6239669 | 180 degree with respect to East | 988.115 | 77.3986844 | 28.6241461 | Chainage = 37516.35m |
| 1356 | 77.4292954 | 28.6219802 | 2073.62 | 0 degree with respect to East | 77.4081013 | 28.6223586 | 180 degree with respect to East | 894.909 | 77.3989545 | 28.6225209 | Chainage = 37325.95m |
| 1357 | 77.4297779 | 28.6204286 | 2204.17 | 0 degree with respect to East | 77.4072498 | 28.6208308 | 180 degree with respect to East | 858.919 | 77.3984710 | 28.6209865 | Chainage = 37137.2m |
| 1358 | 77.4296716 | 28.6190762 | 2317.27 | 0 degree with respect to East | 77.4059878 | 28.6194989 | 180 degree with respect to East | 773.987 | 77.3980771 | 28.6196391 | Chainage = 36944.74m |
| 1359 | 77.4299889 | 28.6174433 | 2413.73 | 0 degree with respect to East | 77.4053197 | 28.6178835 | 180 degree with respect to East | 755.602 | 77.3975970 | 28.6180204 | Chainage = 36754.11m |
| 1360 | 77.4299334 | 28.6158283 | 2476.08 | 0 degree with respect to East | 77.4046273 | 28.6162798 | 180 degree with respect to East | 736.754 | 77.3970974 | 28.6164132 | Chainage = 36563.85m |

602



145

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1361 | 77.4281866 | 28.6139455 | 2309.48 | 0 degree with respect to East | 77.4045837 | 28.6143664 | 180 degree with respect to East | 781.595 | 77.3965956 | 28.6145080 | Chainage = 36351.69m |
| 1362 | 77.4292874 | 28.6120117 | 2421.49 | 0 degree with respect to East | 77.4045401 | 28.6124531 | 180 degree with respect to East | 805.941 | 77.3963033 | 28.6125990 | Chainage = 36139.53m |
| 1363 | 77.4289227 | 28.6102419 | 2419.46 | 0 degree with respect to East | 77.4041965 | 28.6106829 | 180 degree with respect to East | 584.328 | 77.3982248 | 28.6107887 | Chainage = 35940.42m |
| 1364 | 77.4292323 | 28.6084580 | 2424.11 | 0 degree with respect to East | 77.4044591 | 28.6088999 | 180 degree with respect to East | 420.933 | 77.4001573 | 28.6089761 | Chainage = 35741.09m |
| 1365 | 77.4305359 | 28.6070272 | 2444.17 | 0 degree with respect to East | 77.4055580 | 28.6074729 | 180 degree with respect to East | 371.328 | 77.4017632 | 28.6075402 | Chainage = 35549.82m |
| 1366 | 77.4307896 | 28.6065573 | 2299.84 | 0 degree with respect to East | 77.4072868 | 28.6069768 | 180 degree with respect to East | 489.601 | 77.4022833 | 28.6070656 | Chainage = 35371.97m |
| 1367 | 77.4308390 | 28.6058799 | 2143.73 | 0 degree with respect to East | 77.4089317 | 28.6062710 | 180 degree with respect to East | 577.696 | 77.4030280 | 28.6063758 | Chainage = 35193.03m |
| 1368 | 77.4308689 | 28.6061469 | 1968.80 | 0 degree with respect to East | 77.4107492 | 28.6065063 | 180 degree with respect to East | 784.357 | 77.4027335 | 28.6066486 | Chainage = 35013.32m |
| 1369 | 77.4305658 | 28.6070009 | 1781.70 | 0 degree with respect to East | 77.4123580 | 28.6073263 | 180 degree with respect to East | 1033.839 | 77.4017927 | 28.6075139 | Chainage = 34831.55m |
| 1370 | 77.4292254 | 28.6084703 | 1546.39 | 0 degree with respect to East | 77.4134221 | 28.6087527 | 180 degree with respect to East | 1299.265 | 77.4001441 | 28.6089885 | Chainage = 34642.23m |
| 1371 | 77.4289775 | 28.6093536 | 1384.72 | 0 degree with respect to East | 77.4148263 | 28.6096066 | 180 degree with respect to East | 1530.110 | 77.3991890 | 28.6098843 | Chainage = 34475.4m |
| 1372 | 77.4295184 | 28.6080742 | 1299.76 | 0 degree with respect to East | 77.4162356 | 28.6083116 | 180 degree with respect to East | 1531.505 | 77.4005842 | 28.6085898 | Chainage = 34276.36m |
| 1373 | 77.4297716 | 28.6077718 | 1148.87 | 0 degree with respect to East | 77.4180308 | 28.6079818 | 180 degree with respect to East | 1673.786 | 77.4009255 | 28.6082860 | Chainage = 34096.96m |
| 1374 | 77.4301880 | 28.6073325 | 1019.16 | 0 degree with respect to East | 77.4197729 | 28.6075189 | 180 degree with respect to East | 1795.820 | 77.4014205 | 28.6078453 | Chainage = 33918.97m |
| 1375 | 77.4306193 | 28.6069540 | 888.53 | 0 degree with respect to East | 77.4215391 | 28.6071166 | 180 degree with respect to East | 1927.081 | 77.4018455 | 28.6074670 | Chainage = 33740.51m |
| 1376 | 77.4308735 | 28.6061883 | 755.75 | 0 degree with respect to East | 77.4231503 | 28.6063266 | 180 degree with respect to East | 2002.335 | 77.4026878 | 28.6066910 | Chainage = 33560.19m |
| 1377 | 77.4309474 | 28.6047012 | 672.76 | 0 degree with respect to East | 77.4240724 | 28.6048244 | 180 degree with respect to East | 1932.575 | 77.4043231 | 28.6051762 | Chainage = 33370.78m |
| 1378 | 77.4332159 | 28.6028862 | 869.98 | 0 degree with respect to East | 77.4243258 | 28.6030455 | 180 degree with respect to East | 1769.910 | 77.4062390 | 28.6033679 | Chainage = 33172.03m |



603

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1379 | 77.4360948 | 28.6010541 | 1184.49 | 0 degree with respect to East | 77.4239908 | 28.6012711 | 180 degree with respect to East | 1550.432 | 77.4081472 | 28.6015535 | Chainage = 32972.6m |
| 1380 | 77.4384878 | 28.5990969 | 1423.00 | 0 degree with respect to East | 77.4239469 | 28.5993578 | 180 degree with respect to East | 1344.982 | 77.4102030 | 28.5996029 | Chainage = 32760.44m |
| 1381 | 77.4397743 | 28.5974319 | 1611.20 | 0 degree with respect to East | 77.4233106 | 28.5977272 | 180 degree with respect to East | 1127.961 | 77.4117845 | 28.5979328 | Chainage = 32569.25m |
| 1382 | 77.4446119 | 28.5957174 | 2150.05 | 0 degree with respect to East | 77.4226423 | 28.5961119 | 180 degree with respect to East | 1054.491 | 77.4118672 | 28.5963040 | Chainage = 32378.61m |
| 1383 | 77.4454582 | 28.5949150 | 2392.50 | 0 degree with respect to East | 77.4210114 | 28.5953538 | 180 degree with respect to East | 917.750 | 77.4116336 | 28.5955210 | Chainage = 32198.25m |
| 1384 | 77.4461627 | 28.5943630 | 2629.79 | 0 degree with respect to East | 77.4192914 | 28.5948452 | 180 degree with respect to East | 766.059 | 77.4114637 | 28.5949847 | Chainage = 32020.77m |
| 1385 | 77.4473867 | 28.5929864 | 2873.12 | 0 degree with respect to East | 77.4180294 | 28.5935133 | 180 degree with respect to East | 694.353 | 77.4109345 | 28.5936396 | Chainage = 31828.28m |
| 1386 | 77.4477673 | 28.5916251 | 3033.91 | 0 degree with respect to East | 77.4167674 | 28.5921813 | 180 degree with respect to East | 623.302 | 77.4103986 | 28.5922947 | Chainage = 31635.79m |
| 1387 | 77.4493690 | 28.5901508 | 3294.85 | 0 degree with respect to East | 77.4157034 | 28.5907548 | 180 degree with respect to East | 576.009 | 77.4098179 | 28.5908596 | Chainage = 31446.46m |
| 1388 | 77.4493673 | 28.5884374 | 3341.77 | 0 degree with respect to East | 77.4152228 | 28.5890500 | 180 degree with respect to East | 596.864 | 77.4091242 | 28.5891585 | Chainage = 31251.69m |
| 1389 | 77.4500418 | 28.5866489 | 3441.47 | 0 degree with respect to East | 77.4148792 | 28.5872797 | 180 degree with respect to East | 632.680 | 77.4084148 | 28.5873947 | Chainage = 31052.58m |
| 1390 | 77.4505920 | 28.5847248 | 3499.67 | 0 degree with respect to East | 77.4148354 | 28.5853664 | 180 degree with respect to East | 671.831 | 77.4079711 | 28.5854885 | Chainage = 30840.42m |
| 1391 | 77.4505326 | 28.5836388 | 3638.78 | 0 degree with respect to East | 77.4133551 | 28.5843056 | 180 degree with respect to East | 502.914 | 77.4082167 | 28.5843970 | Chainage = 30653.84m |
| 1392 | 77.4507107 | 28.5820240 | 3725.00 | 0 degree with respect to East | 77.4126529 | 28.5827065 | 180 degree with respect to East | 368.128 | 77.4088917 | 28.5827734 | Chainage = 30463.71m |
| 1393 | 77.4495059 | 28.5802674 | 3581.45 | 0 degree with respect to East | 77.4129153 | 28.5809234 | 180 degree with respect to East | 324.218 | 77.4096028 | 28.5809823 | Chainage = 30264.38m |
| 1394 | 77.4475496 | 28.5789854 | 3262.54 | 0 degree with respect to East | 77.4142177 | 28.5795830 | 180 degree with respect to East | 400.149 | 77.4101294 | 28.5796557 | Chainage = 30068.61m |
| 1395 | 77.4441793 | 28.5777566 | 2799.09 | 0 degree with respect to East | 77.4155825 | 28.5782690 | 180 degree with respect to East | 484.921 | 77.4106283 | 28.5783572 | Chainage = 29870.98m |
| 1396 | 77.4386881 | 28.5766262 | 2151.31 | 0 degree with respect to East | 77.4167096 | 28.5770196 | 180 degree with respect to East | 564.945 | 77.4109378 | 28.5771224 | Chainage = 29693.92m |



604

147

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1397 | 77.4382702 | 28.5759669 | 1949.04 | 0 degree with respect to East | 77.4183583 | 28.5763235 | 180 degree with respect to East | 714.796 | 77.4110556 | 28.5764535 | Chainage = 29515.07m |
| 1398 | 77.4379509 | 28.5749037 | 1772.06 | 0 degree with respect to East | 77.4198472 | 28.5752280 | 180 degree with respect to East | 842.062 | 77.4112444 | 28.5753812 | Chainage = 29325.38m |
| 1399 | 77.4378099 | 28.5736362 | 1620.36 | 0 degree with respect to East | 77.4212562 | 28.5739328 | 180 degree with respect to East | 958.246 | 77.4114666 | 28.5741072 | Chainage = 29126.31m |
| 1400 | 77.4263281 | 28.5727732 | 350.72 | 0 degree with respect to East | 77.4227451 | 28.5728373 | 180 degree with respect to East | 1085.701 | 77.4116535 | 28.5730349 | Chainage = 28936.62m |
| 1401 | 77.4260336 | 28.5709943 | 297.50 | 0 degree with respect to East | 77.4229943 | 28.5710486 | 180 degree with respect to East | 1080.645 | 77.4119546 | 28.5712454 | Chainage = 28736.83m |
| 1402 | 77.4260567 | 28.5693402 | 359.58 | 0 degree with respect to East | 77.4223834 | 28.5694059 | 180 degree with respect to East | 995.386 | 77.4122148 | 28.5695871 | Chainage = 28545.15m |
| 1403 | 77.4260756 | 28.5679853 | 484.96 | 0 degree with respect to East | 77.4211215 | 28.5680738 | 180 degree with respect to East | 852.928 | 77.4124083 | 28.5682291 | Chainage = 28352.64m |
| 1404 | 77.4260179 | 28.5669227 | 629.24 | 0 degree with respect to East | 77.4195899 | 28.5670375 | 180 degree with respect to East | 688.129 | 77.4125603 | 28.5671627 | Chainage = 28163.78m |
| 1405 | 77.4258980 | 28.5656611 | 760.41 | 0 degree with respect to East | 77.4181301 | 28.5657998 | 180 degree with respect to East | 527.564 | 77.4127408 | 28.5658958 | Chainage = 27965.69m |
| 1406 | 77.4258350 | 28.5649987 | 918.25 | 0 degree with respect to East | 77.4164548 | 28.5651661 | 180 degree with respect to East | 353.655 | 77.4128421 | 28.5652304 | Chainage = 27787.31m |
| 1407 | 77.4256975 | 28.5635522 | 858.14 | 0 degree with respect to East | 77.4169315 | 28.5637087 | 180 degree with respect to East | 378.459 | 77.4130654 | 28.5637775 | Chainage = 27619.14m |
| 1408 | 77.4257125 | 28.5626287 | 708.20 | 0 degree with respect to East | 77.4184782 | 28.5627578 | 180 degree with respect to East | 515.953 | 77.4132077 | 28.5628517 | Chainage = 27434.67m |
| 1409 | 77.4260954 | 28.5620867 | 579.17 | 0 degree with respect to East | 77.4201792 | 28.5621924 | 180 degree with respect to East | 674.398 | 77.4132902 | 28.5623151 | Chainage = 27256.78m |
| 1410 | 77.4264834 | 28.5615374 | 450.92 | 0 degree with respect to East | 77.4218773 | 28.5616198 | 180 degree with respect to East | 832.454 | 77.4133738 | 28.5617713 | Chainage = 27078.87m |
| 1411 | 77.4272482 | 28.5604547 | 380.05 | 0 degree with respect to East | 77.4233661 | 28.5605241 | 180 degree with respect to East | 962.444 | 77.4135348 | 28.5606994 | Chainage = 26889.17m |
| 1412 | 77.4277340 | 28.5596494 | 271.26 | 0 degree with respect to East | 77.4249631 | 28.5596990 | 180 degree with respect to East | 1107.453 | 77.4136507 | 28.5599007 | Chainage = 26708.06m |
| 1413 | 77.4284264 | 28.5584066 | 215.96 | 0 degree with respect to East | 77.4262205 | 28.5584460 | 180 degree with respect to East | 1213.034 | 77.4138297 | 28.5586671 | Chainage = 26522.48m |
| 1414 | 77.4292784 | 28.5568029 | 231.74 | 0 degree with respect to East | 77.4269113 | 28.5568453 | 180 degree with respect to East | 1258.064 | 77.4140608 | 28.5570745 | Chainage = 26332.57m |



605

148

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1415 | 77.4301515 | 28.5551444 | 261.60 | 0 degree with respect to East | 77.4274794 | 28.5551923 | 180 degree with respect to East | 1290.473 | 77.4142981 | 28.5554275 | Chainage = 26141.07m |
| 1416 | 77.4306747 | 28.5533566 | 287.17 | 0 degree with respect to East | 77.4277415 | 28.5534091 | 180 degree with respect to East | 1291.118 | 77.4145538 | 28.5536444 | Chainage = 25941.73m |
| 1417 | 77.4305691 | 28.5514444 | 281.13 | 0 degree with respect to East | 77.4276976 | 28.5514958 | 180 degree with respect to East | 1259.896 | 77.4148291 | 28.5517254 | Chainage = 25729.57m |
| 1418 | 77.4297258 | 28.5502495 | 318.75 | 0 degree with respect to East | 77.4264701 | 28.5503078 | 180 degree with respect to East | 1124.118 | 77.4149885 | 28.5505126 | Chainage = 25551.29m |
| 1419 | 77.4304755 | 28.5512974 | 538.22 | 0 degree with respect to East | 77.4249783 | 28.5513957 | 180 degree with respect to East | 991.608 | 77.4148500 | 28.5515764 | Chainage = 25361.89m |
| 1420 | 77.4307918 | 28.5523608 | 714.93 | 0 degree with respect to East | 77.4234895 | 28.5524914 | 180 degree with respect to East | 860.849 | 77.4146967 | 28.5526482 | Chainage = 25172.18m |
| 1421 | 77.4306645 | 28.5534433 | 847.78 | 0 degree with respect to East | 77.4220052 | 28.5535982 | 180 degree with respect to East | 730.725 | 77.4145414 | 28.5537312 | Chainage = 24982.01m |
| 1422 | 77.4307276 | 28.5529071 | 1022.49 | 0 degree with respect to East | 77.4202838 | 28.5530938 | 180 degree with respect to East | 554.666 | 77.4146183 | 28.5531947 | Chainage = 24804.48m |
| 1423 | 77.4306734 | 28.5518350 | 1150.46 | 0 degree with respect to East | 77.4189227 | 28.5520449 | 180 degree with respect to East | 406.306 | 77.4147726 | 28.5521189 | Chainage = 24627.65m |
| 1424 | 77.4296833 | 28.5502099 | 997.90 | 0 degree with respect to East | 77.4194909 | 28.5503920 | 180 degree with respect to East | 440.310 | 77.4149936 | 28.5504721 | Chainage = 24436.15m |
| 1425 | 77.4273876 | 28.5487243 | 691.84 | 0 degree with respect to East | 77.4203213 | 28.5488506 | 180 degree with respect to East | 502.734 | 77.4151865 | 28.5489421 | Chainage = 24246.92m |
| 1426 | 77.4259657 | 28.5471263 | 492.72 | 0 degree with respect to East | 77.4209333 | 28.5472162 | 180 degree with respect to East | 542.143 | 77.4153961 | 28.5473149 | Chainage = 24056.09m |
| 1427 | 77.4257687 | 28.5453514 | 447.76 | 0 degree with respect to East | 77.4211955 | 28.5454330 | 180 degree with respect to East | 513.806 | 77.4159478 | 28.5455266 | Chainage = 23856.75m |
| 1428 | 77.4260876 | 28.5437028 | 423.36 | 0 degree with respect to East | 77.4217637 | 28.5437800 | 180 degree with respect to East | 453.241 | 77.4171346 | 28.5438626 | Chainage = 23665.24m |
| 1429 | 77.4278363 | 28.5422854 | 482.25 | 0 degree with respect to East | 77.4229110 | 28.5423734 | 180 degree with respect to East | 466.340 | 77.4181483 | 28.5424584 | Chainage = 23473.06m |
| 1430 | 77.4325772 | 28.5405722 | 887.64 | 0 degree with respect to East | 77.4235119 | 28.5407343 | 180 degree with respect to East | 406.240 | 77.4193630 | 28.5408084 | Chainage = 23282.07m |
| 1431 | 77.4359467 | 28.5391496 | 1099.93 | 0 degree with respect to East | 77.4247134 | 28.5393508 | 180 degree with respect to East | 423.067 | 77.4203927 | 28.5394279 | Chainage = 23088.78m |
| 1432 | 77.4358622 | 28.5382830 | 938.07 | 0 degree with respect to East | 77.4262820 | 28.5384546 | 180 degree with respect to East | 512.395 | 77.4210491 | 28.5385480 | Chainage = 22905.88m |

606



149

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1433 | 77.4357983 | 28.5378180 | 762.59 | 0 degree with respect to East | 77.4280103 | 28.5379576 | 180 degree with respect to East | 647.130 | 77.4214014 | 28.5380756 | Chainage = 22727.94m |
| 1434 | 77.4357271 | 28.5372995 | 588.47 | 0 degree with respect to East | 77.4297173 | 28.5374072 | 180 degree with respect to East | 775.691 | 77.4217955 | 28.5375488 | Chainage = 22550.04m |
| 1435 | 77.4357271 | 28.5372995 | 401.10 | 0 degree with respect to East | 77.4316308 | 28.5373730 | 180 degree with respect to East | 963.061 | 77.4217955 | 28.5375488 | Chainage = 22362.67m |
| 1436 | 77.4357271 | 28.5372995 | 213.73 | 0 degree with respect to East | 77.4335444 | 28.5373387 | 180 degree with respect to East | 1150.434 | 77.4217955 | 28.5375488 | Chainage = 22175.3m |
| 1437 | 77.4355281 | 28.5358511 | 119.52 | 0 degree with respect to East | 77.4343076 | 28.5358730 | 180 degree with respect to East | 856.413 | 77.4255616 | 28.5360296 | Chainage = 21996.46m |
| 1438 | 77.4352268 | 28.5340780 | 64.36 | 0 degree with respect to East | 77.4345695 | 28.5340898 | 180 degree with respect to East | 547.572 | 77.4289776 | 28.5341900 | Chainage = 21797.11m |
| 1439 | 77.4346016 | 28.5324504 | 66.14 | 0 degree with respect to East | 77.4339262 | 28.5324625 | 180 degree with respect to East | 387.034 | 77.4299738 | 28.5325333 | Chainage = 21606.02m |
| 1440 | 77.4350323 | 28.5308038 | 171.31 | 0 degree with respect to East | 77.4332829 | 28.5308351 | 180 degree with respect to East | 330.363 | 77.4299092 | 28.5308956 | Chainage = 21414.93m |
| 1441 | 77.4365707 | 28.5288620 | 326.27 | 0 degree with respect to East | 77.4332389 | 28.5289218 | 180 degree with respect to East | 507.706 | 77.4280543 | 28.5290146 | Chainage = 21202.77m |
| 1442 | 77.4372249 | 28.5270738 | 424.00 | 0 degree with respect to East | 77.4328953 | 28.5271515 | 180 degree with respect to East | 675.537 | 77.4259970 | 28.5272749 | Chainage = 21003.64m |
| 1443 | 77.4378799 | 28.5252835 | 462.49 | 0 degree with respect to East | 77.4331572 | 28.5253682 | 180 degree with respect to East | 883.880 | 77.4241316 | 28.5255297 | Chainage = 20804.29m |
| 1444 | 77.4385848 | 28.5233567 | 535.84 | 0 degree with respect to East | 77.4331133 | 28.5234549 | 180 degree with respect to East | 890.133 | 77.4240239 | 28.5236175 | Chainage = 20592.13m |
| 1445 | 77.4392897 | 28.5214299 | 609.18 | 0 degree with respect to East | 77.4330693 | 28.5215415 | 180 degree with respect to East | 887.264 | 77.4240094 | 28.5217036 | Chainage = 20379.97m |
| 1446 | 77.4399783 | 28.5196390 | 650.98 | 0 degree with respect to East | 77.4333313 | 28.5197583 | 180 degree with respect to East | 908.701 | 77.4240527 | 28.5199243 | Chainage = 20180.62m |
| 1447 | 77.4410602 | 28.5177054 | 761.26 | 0 degree with respect to East | 77.4332873 | 28.5178450 | 180 degree with respect to East | 899.856 | 77.4240992 | 28.5180093 | Chainage = 19968.46m |
| 1448 | 77.4432539 | 28.5158874 | 950.46 | 0 degree with respect to East | 77.4335493 | 28.5160617 | 180 degree with respect to East | 924.158 | 77.4241132 | 28.5162305 | Chainage = 19769.11m |
| 1449 | 77.4455856 | 28.5142025 | 1123.23 | 0 degree with respect to East | 77.4341171 | 28.5144085 | 180 degree with respect to East | 953.001 | 77.4243867 | 28.5145826 | Chainage = 19577.59m |
| 1450 | 77.4472737 | 28.5129826 | 1169.33 | 0 degree with respect to East | 77.4353347 | 28.5131972 | 180 degree with respect to East | 1029.785 | 77.4248203 | 28.5133854 | Chainage = 19398.02m |



607

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1451 | 77.4486690 | 28.5118880 | 1160.23 | 0 degree with respect to East | 77.4368231 | 28.5121011 | 180 degree with respect to East | 1129.373 | 77.4252921 | 28.5123075 | Chainage = 19208.26m |
| 1452 | 77.4491909 | 28.5104920 | 1099.07 | 0 degree with respect to East | 77.4379695 | 28.5106939 | 180 degree with respect to East | 1181.766 | 77.4259037 | 28.5109100 | Chainage = 19016.07m |
| 1453 | 77.4503284 | 28.5086950 | 1244.16 | 0 degree with respect to East | 77.4376259 | 28.5089236 | 180 degree with respect to East | 1063.050 | 77.4267724 | 28.5091179 | Chainage = 18816.94m |
| 1454 | 77.4507933 | 28.5069619 | 1334.45 | 0 degree with respect to East | 77.4371693 | 28.5072071 | 180 degree with respect to East | 935.603 | 77.4276171 | 28.5073781 | Chainage = 18621.47m |
| 1455 | 77.4506596 | 28.5055486 | 1431.99 | 0 degree with respect to East | 77.4360399 | 28.5058116 | 180 degree with respect to East | 757.074 | 77.4283105 | 28.5059500 | Chainage = 18431.3m |
| 1456 | 77.4505014 | 28.5038938 | 1475.54 | 0 degree with respect to East | 77.4354374 | 28.5041647 | 180 degree with respect to East | 618.320 | 77.4291247 | 28.5042778 | Chainage = 18239.43m |
| 1457 | 77.4523357 | 28.5023780 | 1751.55 | 0 degree with respect to East | 77.4344540 | 28.5026996 | 180 degree with respect to East | 450.155 | 77.4298582 | 28.5027819 | Chainage = 18050.6m |
| 1458 | 77.4626713 | 28.5012295 | 2623.72 | 0 degree with respect to East | 77.4358860 | 28.5017124 | 180 degree with respect to East | 543.837 | 77.4303339 | 28.5018119 | Chainage = 17872.71m |
| 1459 | 77.4626713 | 28.5012295 | 2436.28 | 0 degree with respect to East | 77.4377995 | 28.5016781 | 180 degree with respect to East | 731.272 | 77.4303339 | 28.5018119 | Chainage = 17685.27m |
| 1460 | 77.4636672 | 28.5009665 | 2357.62 | 0 degree with respect to East | 77.4395985 | 28.5014009 | 180 degree with respect to East | 884.679 | 77.4305668 | 28.5015628 | Chainage = 17506.42m |
| 1461 | 77.4603804 | 28.5018061 | 1875.65 | 0 degree with respect to East | 77.4412320 | 28.5021516 | 180 degree with respect to East | 1093.414 | 77.4300692 | 28.5023517 | Chainage = 17326.1m |
| 1462 | 77.4521118 | 28.5025038 | 897.55 | 0 degree with respect to East | 77.4429486 | 28.5026689 | 180 degree with respect to East | 1288.123 | 77.4297980 | 28.5029048 | Chainage = 17148.47m |
| 1463 | 77.4507692 | 28.5033922 | 609.00 | 0 degree with respect to East | 77.4445519 | 28.5035042 | 180 degree with respect to East | 1487.023 | 77.4293705 | 28.5037766 | Chainage = 16966.19m |
| 1464 | 77.4505266 | 28.5046607 | 442.25 | 0 degree with respect to East | 77.4460115 | 28.5047421 | 180 degree with respect to East | 1691.085 | 77.4287466 | 28.5050519 | Chainage = 16768.04m |
| 1465 | 77.4507777 | 28.5062837 | 401.39 | 0 degree with respect to East | 77.4466797 | 28.5063576 | 180 degree with respect to East | 1834.592 | 77.4279494 | 28.5066937 | Chainage = 16577.36m |
| 1466 | 77.4507317 | 28.5073315 | 246.28 | 0 degree with respect to East | 77.4482174 | 28.5073768 | 180 degree with respect to East | 2035.408 | 77.4274366 | 28.5077498 | Chainage = 16389.1m |
| 1467 | 77.4507483 | 28.5061006 | 134.61 | 0 degree with respect to East | 77.4493740 | 28.5061254 | 180 degree with respect to East | 2089.688 | 77.4280394 | 28.5065084 | Chainage = 16209.99m |
| 1468 | 77.4505335 | 28.5047131 | 229.41 | 0 degree with respect to East | 77.4481914 | 28.5047553 | 180 degree with respect to East | 1907.130 | 77.4287209 | 28.5051049 | Chainage = 16018.99m |



608

151

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1469 | 77.4513025 | 28.5029805 | 337.57 | 0 degree with respect to East | 77.4478562 | 28.5030427 | 180 degree with respect to East | 1791.212 | 77.4295694 | 28.5033710 | Chainage = 15826.3m |
| 1470 | 77.4637427 | 28.5009465 | 1537.22 | 0 degree with respect to East | 77.4480494 | 28.5012302 | 180 degree with respect to East | 1710.603 | 77.4305859 | 28.5015438 | Chainage = 15624.48m |
| 1471 | 77.4660239 | 28.5000984 | 1604.92 | 0 degree with respect to East | 77.4496397 | 28.5003949 | 180 degree with respect to East | 1675.902 | 77.4325305 | 28.5007023 | Chainage = 15443.29m |
| 1472 | 77.4653432 | 28.5004378 | 1362.30 | 0 degree with respect to East | 77.4514358 | 28.5006895 | 180 degree with respect to East | 1980.177 | 77.4312203 | 28.5010528 | Chainage = 15264.38m |
| 1473 | 77.4637591 | 28.5009422 | 1036.41 | 0 degree with respect to East | 77.4531786 | 28.5011337 | 180 degree with respect to East | 2212.616 | 77.4305900 | 28.5015397 | Chainage = 15086.74m |
| 1474 | 77.4615780 | 28.5015168 | 654.13 | 0 degree with respect to East | 77.4549000 | 28.5016377 | 180 degree with respect to East | 2419.277 | 77.4302015 | 28.5020818 | Chainage = 14909.14m |
| 1475 | 77.4603804 | 28.5018061 | 358.80 | 0 degree with respect to East | 77.4567175 | 28.5018724 | 180 degree with respect to East | 2610.264 | 77.4300692 | 28.5023517 | Chainage = 14729.26m |
| 1476 | 77.4615779 | 28.5015168 | 299.09 | 0 degree with respect to East | 77.4585246 | 28.5015721 | 180 degree with respect to East | 2774.322 | 77.4302015 | 28.5020818 | Chainage = 14549.18m |
| 1477 | 77.4631207 | 28.5011108 | 277.50 | 0 degree with respect to East | 77.4602878 | 28.5011621 | 180 degree with respect to East | 2924.767 | 77.4304289 | 28.5016996 | Chainage = 14370.62m |
| 1478 | 77.4666364 | 28.4997764 | 483.94 | 0 degree with respect to East | 77.4616959 | 28.4998660 | 180 degree with respect to East | 2704.636 | 77.4340848 | 28.5003636 | Chainage = 14171.46m |
| 1479 | 77.4688824 | 28.4983416 | 593.32 | 0 degree with respect to East | 77.4628255 | 28.4984516 | 180 degree with respect to East | 2181.824 | 77.4405520 | 28.4988535 | Chainage = 13979.55m |
| 1480 | 77.4712877 | 28.4967903 | 743.42 | 0 degree with respect to East | 77.4636987 | 28.4969281 | 180 degree with respect to East | 1771.036 | 77.4456191 | 28.4972548 | Chainage = 13790.24m |
| 1481 | 77.4802025 | 28.4947284 | 1624.22 | 0 degree with respect to East | 77.4636222 | 28.4950301 | 180 degree with respect to East | 1385.853 | 77.4494751 | 28.4952859 | Chainage = 13579.68m |
| 1482 | 77.4817679 | 28.4931619 | 1811.89 | 0 degree with respect to East | 77.4632721 | 28.4934985 | 180 degree with respect to East | 1056.823 | 77.4524840 | 28.4936937 | Chainage = 13406.46m |
| 1483 | 77.4821498 | 28.4919954 | 1723.45 | 0 degree with respect to East | 77.4645572 | 28.4923157 | 180 degree with respect to East | 960.485 | 77.4547526 | 28.4924932 | Chainage = 13224.7m |
| 1484 | 77.4821523 | 28.4917783 | 1544.69 | 0 degree with respect to East | 77.4663843 | 28.4920655 | 180 degree with respect to East | 1097.882 | 77.4551772 | 28.4922684 | Chainage = 13043.6m |
| 1485 | 77.4820693 | 28.4922923 | 1367.12 | 0 degree with respect to East | 77.4681139 | 28.4925466 | 180 degree with respect to East | 1365.536 | 77.4541745 | 28.4927991 | Chainage = 12866m |
| 1486 | 77.4819883 | 28.4925839 | 1181.93 | 0 degree with respect to East | 77.4699233 | 28.4928038 | 180 degree with respect to East | 1598.392 | 77.4536069 | 28.4930994 | Chainage = 12686.5m |



609

152

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1487 | 77.4819883 | 28.4925839 | 994.47 | 0 degree with respect to East | 77.4718368 | 28.4927690 | 180 degree with respect to East | 1785.847 | 77.4536069 | 28.4930994 | Chainage = 12499.05m |
| 1488 | 77.4818855 | 28.4928534 | 806.36 | 0 degree with respect to East | 77.4736544 | 28.4930035 | 180 degree with respect to East | 2015.166 | 77.4530835 | 28.4933764 | Chainage = 12319.15m |
| 1489 | 77.4818855 | 28.4928533 | 618.90 | 0 degree with respect to East | 77.4755679 | 28.4929686 | 180 degree with respect to East | 2202.619 | 77.4530835 | 28.4933764 | Chainage = 12131.69m |
| 1490 | 77.4818855 | 28.4928534 | 431.44 | 0 degree with respect to East | 77.4774814 | 28.4929337 | 180 degree with respect to East | 2390.077 | 77.4530835 | 28.4933764 | Chainage = 11944.23m |
| 1491 | 77.4821481 | 28.4920018 | 305.42 | 0 degree with respect to East | 77.4790304 | 28.4920587 | 180 degree with respect to East | 2379.557 | 77.4547401 | 28.4924998 | Chainage = 11764.15m |
| 1492 | 77.4815388 | 28.4904003 | 314.44 | 0 degree with respect to East | 77.4783291 | 28.4904589 | 180 degree with respect to East | 2002.576 | 77.4578874 | 28.4908302 | Chainage = 11573.95m |
| 1493 | 77.4807963 | 28.4891497 | 384.72 | 0 degree with respect to East | 77.4768693 | 28.4892213 | 180 degree with respect to East | 1799.879 | 77.4584968 | 28.4895550 | Chainage = 11375.78m |
| 1494 | 77.4805673 | 28.4888642 | 539.56 | 0 degree with respect to East | 77.4750597 | 28.4889647 | 180 degree with respect to East | 1627.765 | 77.4584441 | 28.4892663 | Chainage = 11196.27m |
| 1495 | 77.4811149 | 28.4896569 | 749.38 | 0 degree with respect to East | 77.4734655 | 28.4897963 | 180 degree with respect to East | 1463.302 | 77.4585286 | 28.4900674 | Chainage = 11014.94m |
| 1496 | 77.4815738 | 28.4904511 | 950.51 | 0 degree with respect to East | 77.4718713 | 28.4906280 | 180 degree with respect to East | 1379.040 | 77.4577944 | 28.4908834 | Chainage = 10833.61m |
| 1497 | 77.4810664 | 28.4895694 | 1035.40 | 0 degree with respect to East | 77.4704974 | 28.4897619 | 180 degree with respect to East | 1172.930 | 77.4585245 | 28.4899791 | Chainage = 10668.3m |
| 1498 | 77.4797652 | 28.4878165 | 941.66 | 0 degree with respect to East | 77.4701533 | 28.4879916 | 180 degree with respect to East | 1166.290 | 77.4582484 | 28.4882075 | Chainage = 10469.16m |
| 1499 | 77.4787900 | 28.4864887 | 969.62 | 0 degree with respect to East | 77.4688928 | 28.4866689 | 180 degree with respect to East | 1068.296 | 77.4579883 | 28.4868666 | Chainage = 10277.47m |
| 1500 | 77.4787301 | 28.4864134 | 1148.53 | 0 degree with respect to East | 77.4670067 | 28.4866267 | 180 degree with respect to East | 885.093 | 77.4579722 | 28.4867905 | Chainage = 10092.67m |
| 1501 | 77.4775920 | 28.4849882 | 1141.29 | 0 degree with respect to East | 77.4659426 | 28.4852001 | 180 degree with respect to East | 795.853 | 77.4578191 | 28.4853473 | Chainage = 9903.26m |
| 1502 | 77.4765238 | 28.4835871 | 972.15 | 0 degree with respect to East | 77.4666010 | 28.4837675 | 180 degree with respect to East | 867.687 | 77.4577444 | 28.4839280 | Chainage = 9731.84m |
| 1503 | 77.4769192 | 28.4841149 | 842.23 | 0 degree with respect to East | 77.4683225 | 28.4842714 | 180 degree with respect to East | 1033.578 | 77.4577726 | 28.4844626 | Chainage = 9554.21m |
| 1504 | 77.4769192 | 28.4841149 | 654.76 | 0 degree with respect to East | 77.4702360 | 28.4842366 | 180 degree with respect to East | 1221.048 | 77.4577726 | 28.4844626 | Chainage = 9366.74m |



610

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1505 | 77.4766389 | 28.4837414 | 454.59 | 0 degree with respect to East | 77.4719989 | 28.4838259 | 180 degree with respect to East | 1395.716 | 77.4577527 | 28.4840843 | Chainage = 9188.16m |
| 1506 | 77.4760050 | 28.4824600 | 259.48 | 0 degree with respect to East | 77.4733566 | 28.4825082 | 180 degree with respect to East | 1531.820 | 77.4577213 | 28.4827919 | Chainage = 8990.61m |
| 1507 | 77.4768390 | 28.4808016 | 285.63 | 0 degree with respect to East | 77.4739236 | 28.4808547 | 180 degree with respect to East | 1593.297 | 77.4576611 | 28.4811498 | Chainage = 8799.07m |
| 1508 | 77.4759141 | 28.4791341 | 189.53 | 0 degree with respect to East | 77.4739796 | 28.4791693 | 180 degree with respect to East | 1598.020 | 77.4576692 | 28.4794652 | Chainage = 8612.14m |
| 1509 | 77.4751726 | 28.4777924 | 240.52 | 0 degree with respect to East | 77.4727177 | 28.4778371 | 180 degree with respect to East | 1452.629 | 77.4578914 | 28.4781061 | Chainage = 8419.55m |
| 1510 | 77.4744364 | 28.4765415 | 311.41 | 0 degree with respect to East | 77.4712580 | 28.4765994 | 180 degree with respect to East | 1282.248 | 77.4581708 | 28.4768367 | Chainage = 8221.37m |
| 1511 | 77.4736208 | 28.4752013 | 355.15 | 0 degree with respect to East | 77.4699961 | 28.4752672 | 180 degree with respect to East | 1129.902 | 77.4584640 | 28.4754763 | Chainage = 8028.78m |
| 1512 | 77.4730999 | 28.4738556 | 427.75 | 0 degree with respect to East | 77.4687342 | 28.4739349 | 180 degree with respect to East | 977.872 | 77.4587539 | 28.4741158 | Chainage = 7836.18m |
| 1513 | 77.4736829 | 28.4725806 | 627.89 | 0 degree with respect to East | 77.4672746 | 28.4726971 | 180 degree with respect to East | 808.364 | 77.4590244 | 28.4728466 | Chainage = 7637.99m |
| 1514 | 77.4751260 | 28.4712900 | 912.32 | 0 degree with respect to East | 77.4658150 | 28.4714593 | 180 degree with respect to East | 638.853 | 77.4592949 | 28.4715774 | Chainage = 7439.8m |
| 1515 | 77.4774605 | 28.4696005 | 1202.45 | 0 degree with respect to East | 77.4651887 | 28.4698236 | 180 degree with respect to East | 542.976 | 77.4596472 | 28.4699240 | Chainage = 7248.37m |
| 1516 | 77.4795854 | 28.4679505 | 1348.05 | 0 degree with respect to East | 77.4658279 | 28.4682007 | 180 degree with respect to East | 569.716 | 77.4600135 | 28.4683061 | Chainage = 7057.87m |
| 1517 | 77.4813889 | 28.4665569 | 1406.72 | 0 degree with respect to East | 77.4670328 | 28.4668181 | 180 degree with respect to East | 645.019 | 77.4604501 | 28.4669374 | Chainage = 6864.41m |
| 1518 | 77.4830732 | 28.4652553 | 1433.82 | 0 degree with respect to East | 77.4684407 | 28.4655218 | 180 degree with respect to East | 653.695 | 77.4617695 | 28.4656428 | Chainage = 6665.21m |
| 1519 | 77.4837572 | 28.4647267 | 1333.47 | 0 degree with respect to East | 77.4701489 | 28.4649747 | 180 degree with respect to East | 739.810 | 77.4625989 | 28.4651117 | Chainage = 6487.21m |
| 1520 | 77.4834026 | 28.4650008 | 1120.62 | 0 degree with respect to East | 77.4719664 | 28.4652092 | 180 degree with respect to East | 960.033 | 77.4621690 | 28.4653870 | Chainage = 6307.27m |
| 1521 | 77.4826934 | 28.4655488 | 882.44 | 0 degree with respect to East | 77.4736879 | 28.4657130 | 180 degree with respect to East | 1212.975 | 77.4613090 | 28.4659377 | Chainage = 6129.62m |
| 1522 | 77.4811801 | 28.4667182 | 586.80 | 0 degree with respect to East | 77.4751915 | 28.4668274 | 180 degree with respect to East | 1454.044 | 77.4603523 | 28.4670968 | Chainage = 5937.36m |



611

157

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1523 | 77.4809204 | 28.4669189 | 380.75 | 0 degree with respect to East | 77.4770347 | 28.4669898 | 180 degree with respect to East | 1644.397 | 77.4602528 | 28.4672945 | Chainage = 5755.89m |
| 1524 | 77.4813641 | 28.4665761 | 249.78 | 0 degree with respect to East | 77.4788150 | 28.4666226 | 180 degree with respect to East | 1800.665 | 77.4604384 | 28.4669564 | Chainage = 5576.79m |
| 1525 | 77.4832281 | 28.4651356 | 324.48 | 0 degree with respect to East | 77.4799167 | 28.4651961 | 180 degree with respect to East | 1759.804 | 77.4619574 | 28.4655225 | Chainage = 5385.33m |
| 1526 | 77.4854060 | 28.4634526 | 482.35 | 0 degree with respect to East | 77.4804836 | 28.4635425 | 180 degree with respect to East | 1532.484 | 77.4648444 | 28.4638269 | Chainage = 5193.78m |
| 1527 | 77.4872986 | 28.4618493 | 745.93 | 0 degree with respect to East | 77.4796865 | 28.4619884 | 180 degree with respect to East | 1159.959 | 77.4678491 | 28.4622037 | Chainage = 5004.61m |
| 1528 | 77.4876489 | 28.4614450 | 953.77 | 0 degree with respect to East | 77.4779158 | 28.4616228 | 180 degree with respect to East | 911.767 | 77.4686113 | 28.4617920 | Chainage = 4826.46m |
| 1529 | 77.4885023 | 28.4604600 | 1148.37 | 0 degree with respect to East | 77.4767836 | 28.4606740 | 180 degree with respect to East | 618.870 | 77.4704681 | 28.4607889 | Chainage = 4673.59m |
| 1530 | 77.4894740 | 28.4593385 | 1105.30 | 0 degree with respect to East | 77.4781949 | 28.4595445 | 180 degree with respect to East | 550.011 | 77.4725822 | 28.4596467 | Chainage = 4487.05m |
| 1531 | 77.4895332 | 28.4592702 | 946.05 | 0 degree with respect to East | 77.4798791 | 28.4594466 | 180 degree with respect to East | 702.441 | 77.4727109 | 28.4595771 | Chainage = 4321.68m |
| 1532 | 77.4890621 | 28.4598139 | 731.19 | 0 degree with respect to East | 77.4816006 | 28.4599503 | 180 degree with respect to East | 971.565 | 77.4716860 | 28.4601309 | Chainage = 4144.02m |
| 1533 | 77.4889950 | 28.4598913 | 553.97 | 0 degree with respect to East | 77.4833419 | 28.4599947 | 180 degree with respect to East | 1156.510 | 77.4715401 | 28.4602097 | Chainage = 3973.34m |
| 1534 | 77.4894061 | 28.4594169 | 424.95 | 0 degree with respect to East | 77.4850696 | 28.4594962 | 180 degree with respect to East | 1238.179 | 77.4724344 | 28.4597265 | Chainage = 3795.28m |
| 1535 | 77.4901711 | 28.4585340 | 346.29 | 0 degree with respect to East | 77.4866373 | 28.4585986 | 180 degree with respect to East | 1280.493 | 77.4735704 | 28.4588370 | Chainage = 3612.27m |
| 1536 | 77.4911130 | 28.4574468 | 292.81 | 0 degree with respect to East | 77.4881250 | 28.4575015 | 180 degree with respect to East | 1365.060 | 77.4741953 | 28.4577557 | Chainage = 3422.43m |
| 1537 | 77.4925247 | 28.4558173 | 366.84 | 0 degree with respect to East | 77.4887813 | 28.4558859 | 180 degree with respect to East | 1339.690 | 77.4751107 | 28.4561354 | Chainage = 3232.12m |
| 1538 | 77.4940463 | 28.4540128 | 549.70 | 0 degree with respect to East | 77.4884371 | 28.4541155 | 180 degree with respect to East | 1204.858 | 77.4761426 | 28.4543400 | Chainage = 3032.97m |
| 1539 | 77.4953499 | 28.4523014 | 730.22 | 0 degree with respect to East | 77.4878988 | 28.4524379 | 180 degree with respect to East | 1031.986 | 77.4773684 | 28.4526301 | Chainage = 2839.64m |
| 1540 | 77.4968630 | 28.4504078 | 893.23 | 0 degree with respect to East | 77.4877487 | 28.4505748 | 180 degree with respect to East | 876.774 | 77.4788023 | 28.4507382 | Chainage = 2632.57m |



612

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1541 | 77.4981146 | 28.4488768 | 930.40 | 0 degree with respect to East | 77.4886212 | 28.4490509 | 180 degree with respect to East | 824.777 | 77.4802055 | 28.4492046 | Chainage = 2443.23m |
| 1542 | 77.4992290 | 28.4472491 | 976.12 | 0 degree with respect to East | 77.4892692 | 28.4474317 | 180 degree with respect to East | 733.144 | 77.4817886 | 28.4475684 | Chainage = 2252.82m |
| 1543 | 77.4999216 | 28.4462374 | 895.45 | 0 degree with respect to East | 77.4907851 | 28.4464050 | 180 degree with respect to East | 781.454 | 77.4828116 | 28.4465508 | Chainage = 2065.69m |
| 1544 | 77.4999216 | 28.4462374 | 727.76 | 0 degree with respect to East | 77.4924961 | 28.4463736 | 180 degree with respect to East | 949.145 | 77.4828116 | 28.4465508 | Chainage = 1898m |
| 1545 | 77.4997361 | 28.4465083 | 531.45 | 0 degree with respect to East | 77.4943136 | 28.4466079 | 180 degree with respect to East | 1154.122 | 77.4825377 | 28.4468233 | Chainage = 1718.03m |
| 1546 | 77.4999197 | 28.4462401 | 372.24 | 0 degree with respect to East | 77.4961217 | 28.4463098 | 180 degree with respect to East | 1304.746 | 77.4828089 | 28.4465535 | Chainage = 1537.81m |
| 1547 | 77.5005222 | 28.4453600 | 277.66 | 0 degree with respect to East | 77.4976892 | 28.4454120 | 180 degree with respect to East | 1387.528 | 77.4835319 | 28.4456713 | Chainage = 1354.78m |
| 1548 | 77.5012320 | 28.4442769 | 201.44 | 0 degree with respect to East | 77.4991767 | 28.4443147 | 180 degree with respect to East | 1472.498 | 77.4841526 | 28.4445899 | Chainage = 1164.92m |
| 1549 | 77.5022722 | 28.4425823 | 254.99 | 0 degree with respect to East | 77.4996706 | 28.4426301 | 180 degree with respect to East | 1411.188 | 77.4852723 | 28.4428939 | Chainage = 971.99m |
| 1550 | 77.5034606 | 28.4406462 | 375.88 | 0 degree with respect to East | 77.4996256 | 28.4407168 | 180 degree with respect to East | 1300.432 | 77.4863576 | 28.4409600 | Chainage = 759.83m |
| 1551 | 77.5044782 | 28.4389883 | 538.71 | 0 degree with respect to East | 77.4989820 | 28.4390893 | 180 degree with respect to East | 1148.070 | 77.4872686 | 28.4393040 | Chainage = 568.7m |
| 1552 | 77.5053782 | 28.4374699 | 719.36 | 0 degree with respect to East | 77.4980390 | 28.4376048 | 180 degree with respect to East | 1006.044 | 77.4877749 | 28.4377929 | Chainage = 379.95m |
| 1553 | 77.5063563 | 28.4358126 | 878.33 | 0 degree with respect to East | 77.4973954 | 28.4359774 | 180 degree with respect to East | 892.802 | 77.4882867 | 28.4361443 | Chainage = 188.82m |
| 1554 | 77.5072451 | 28.4343066 | 1060.51 | 0 degree with respect to East | 77.4964257 | 28.4345056 | 180 degree with respect to East | 751.696 | 77.4887568 | 28.4346461 | Nearby confluence with yamuna (About 2.5 km upstream of Yamuna Confluence) Chainage = 0 m |



613

ANNEX. — B

157

कार्यालय प्रमुख अभियन्ता
सिंचाई एवं जल संसाधन विभाग
उत्तर प्रदेश, लखनऊ 614

पत्रांकः /काप्रअ/ लखनऊ, दिनांकः जनवरी, 2015

# परिपत्र

उत्तर प्रदेश की विभिन्न नदियों में समय-समय पर फ्लड प्लेन जोन/फ्लड प्लेन क्षेत्र की परिभाषा के सम्बंध चर्चा होती रहती है। इस क्रम में उत्तर प्रदेश की नदियों के लिए एतद्द्वारा फ्लड प्लेन जोन/फ्लड प्लेन एरिया निम्नानुसार परिभाषित किया जाता है :-

फ्लड प्लेन जोन/एरिया

1- जहाँ नदी के दोनों ओर मार्जिनल तटबंध निर्मित हैं ऐसे स्थानो पर दो तटबन्धों के मध्य का क्षेत्र।

2- जहाँ नदी के दोनों ओर मार्जिनल तटबंध निर्मित नहीं हैं ऐसे स्थानो पर शहरी क्षेत्रो में 1:50 बाढ़ आवर्त (Flood Frequancy) तथा ग्रामीण क्षेत्र में 1:25 बाढ़ आवर्त का क्षेत्र।

(अवध नरेश गुप्ता)
प्रमुख अभियंता एवं विभागाध्यक्ष।

पत्रांकः 38 /काप्रअ/भू-2/अनेक-3 /तदिनांक 15-1-15

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित है :-

सचिव, सिंचाई एवं जल संसाधन, अनुभाग-2, उत्तर प्रदेश शासन, लखनऊ।
प्रमुख अभियन्ता (प्रि0 एवं नियो0) सिंचाई एवं जल संसाधन विभाग, उ0प्र0, लखनऊ।
मुख्य अभियन्ता (पूर्व), सिंचाई एवं जल संसाधन विभाग, उ0प्र0, लखनऊ।
मुख्य अभियन्ता (पश्चिम), सिंचाई एवं जल संसाधन विभाग, उ0प्र0, लखनऊ।
मुख्य अभियन्ता (स्तर-1) एवं तकनीकी सलाहकार, पैक्ट, सिं0वि0, उ0प्र0, लखनऊ।
मुख्य अभियन्ता (अनु0 एवं नियो0) सिंचाई एवं जल संसाधन विभाग, उ0प्र0, लखनऊ।
समस्त मुख्य अभियन्ता (स्तर-2) सिंचाई एवं जल संसाधन विभाग, उ0प्र0, लखनऊ।

(अवध नरेश गुप्ता) 15/1/15
प्रमुख अभियंता एवं विभागाध्यक्ष।

ANNEX. —
पंजीकृत/स्पीड पोस्ट



158

प्रेषक,

अधिशासी अभियन्ता,
हैड वर्क्स खण्ड आगरा नहर,
ओखला, नई दिल्ली–25

प्रेषित,

डा0 सुरजीत सिंह
साइंटिस्ट G
नेशनल इन्स्टीट्यूट ऑफ हाईड्रोलॉजी
जल विज्ञान भवन, रूड़की उत्तराखण्ड।

पत्रांक 5219 /हैवखं/ दिनांक 28 /11 /2023

विषय– मा0 राष्ट्रीय हरित अधिकरण, नई दिल्ली में विचाराधीन ओ0ए0संख्या 275/2023 महेश कुमार बनाम् उत्तर प्रदेश राज्य व अन्य में मा0 अधिकरण द्वारा पारित आदेश दिनांक 02.11.2023 के अनुपालन में यमुना नदी के जनपद गाजियाबाद व गौतमबुद्धनगर में विगत 100 वर्षो के सापेक्ष नदी के फ्लड प्लेन जोन के चिन्हांकन के संबंध में।

महोदय,

उपरोक्त विषयक मा0 राष्ट्रीय हरित अधिकरण, नई दिल्ली में विचाराधीन ओ0ए0संख्या 275/2023 महेश कुमार बनाम् उत्तर प्रदेश राज्य व अन्य एवं 569/2023 आलोक कुमार बनाम् यूनियन ऑफ इण्डिया व अन्य में मा0 अधिकरण द्वारा पारित आदेश दिनांक 02.11.2023, जो हिन्डन नदी व यमुना नदी के डूब क्षेत्र के चिन्हीकरण एवं सीमांकन से संबंधित है। आदेश दिनांक 02.11.2023 का सारवान अंश निम्नवत् हैः–

....2 The Tribunal after considering the respective position placed on record by order dated 27.07.2023 had directed as under:-

"11. The District Magistrate, Greater Noida/ Gautam Budha Nagar is directed to ensure the identification and demarcation of flood plain zone of River Yamuna and Hindon which shall be done by referring Notification dated 07th October, 2016 on " River Ganga (Rejuvenation, Protection and Management) Authorities order, 2016" and Office Memorandum dated 14th February, 2022 on " Guidelines for siting industries which are in close proximity with the river" and submit a report within two months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF."

3. In terms of the said direction, the concernd District Magistrate was required to carry out the exercise and submit the report before the Tribunal.

4. "The repon dated 31.10.2023 by the District Magistrate, Gautam Budh Nagar has been filed but after perusal of the said report and the enclosure, we find that the exercise for demarcation of flood plain zone of River Yamuna and Hindon in reference to the Notification dated 07.10.2016 has not been carried out. The report simply states that the area between the bund and the river is flood plain zone which is indentified and demarcated. No such demarcation report in terms of the order of 2016 is no record."

.....

उपरोक्त आदेश में गंगा नदी (संरक्षण, सुरक्षा एवं प्रबधंन) प्राधिकरण आदेश 2016 {(भारत का राजपत्र संख्या 2458/2016/अश्विन 15, 1938 नई दिल्ली दिनांक 07.10.2016 (संलग्नक–1)} का संदर्भ लिया गया है, जिसका सारवान अंश निम्नवत् हैः–

.....

**"3 (एल) बाढ मैदान" का अर्थ गंगा नदी व उसकी उपनदियों के ऐसे क्षेत्र से है जो इसके अधिकतम प्रवाह के संगत बाढ अथवा 100 वर्ष में एक बार आने वाली बाढ के समान बाढ के कारण दोनों ओर जल के अंदर आ जाता है"।**

क्रमशः–2–

159



अतः उक्त के क्रम में प्रकरण की महत्ता एवं समयबद्धता को दृष्टिगत रखते हुए उपरोक्तानुसार जनपद गाजियाबाद व गौतमबुद्धनगर में यमुना नदी के फ्लड प्लेन जोन के विगत 100 वर्षो के सापेक्ष निर्धारण हेतु अध्ययन प्रस्ताव एवं अनुमानित व्यय का ब्यौरा इस खण्ड को प्रेषित करने का कष्ट करें, जिससे कि कार्य के सापेक्ष व्यय धनराशि आपको अविलम्ब उपलब्ध कराकर विषयक कार्य पूर्ण कराया जा सके एवं कृत कार्यवाही की आख्या उच्च अधिकारियों को प्रेषित की जा सके।

संलग्नक–उपरोक्तानुसार।

भवदीय

25/11/2023

अधिशासी अभियन्ता
हैड वर्क्स खण्ड आगरा नहर
ओखला नई दिल्ली–25

पत्रांक–　　/हैवखं/तदिनांक

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित हैः–

1. मुख्य अभियन्ता (जल संसाधन) सिंचाई एवं जल संसाधन विभाग उ0प्र0, लखनऊ।
2. मुख्य अभियन्ता (यमुना) सिंचाई एवं जल संसाधन विभाग उत्तर प्रदेश, ओखला नई दिल्ली।
3. अधीक्षण अभियन्ता, तृतीय मण्डल सिंचाई कार्य, आगरा।
4. अधिशासी अभियन्ता, सिंचाई निर्माण खण्ड, गाजियाबाद को इस आशय से प्रेषित है कि कृपया हिन्डन नदी के डूब क्षेत्र के चिन्हीकरण एवं सीमांकन हेतु अपने स्तर से आवश्यक कार्यवाही करने का कष्ट करें।

अधिशासी अभियन्ता
हैड वर्क्स खण्ड आगरा नहर
ओखला नई दिल्ली–25

ANNEX-D

160

15:29

Dr. Surjeet si... 14 02

to surjeet.nihr@...

**Subject: Financial Quote and study duration for Flooding Zoning of Yamuna River in Ghaziabad & Gautam Budha Nagar.**

Dear Sir,

Your request for Flood Plain Zoning study of Yamuna River was discussed and examined. **For carrying out this study for the Yamuna river in Ghaziabad & Gautam Budha Nagar, there shall be a fund requirement of Rs. 42.0 Lakh plus GST with a study duration of 06 months.** The Cost includes the expenditures towards the cross-section survey.

Best regards and looking forward for further action please.

Dr. Surjeet Singh
Scientist 'G'
National Institute of Hydrology (NIH)
Jal Vigyan Bhawan, Roorkee-247667
(Uttarakhand) INDIA
Tel.: +91-1332-249230 (O)
Mobile: +91-9456134747
Email: ;

On Saturday, 2 December, 2023 at 02:46:19 pm IST, Hwk Okhla < > wrote:

Thank you for the information.

Thank you for your mail.

Please discuss.