

ROAD ALIGNMENT REPORT

Consultant:



Loya associates
Consulting Engineers and Project Planners

In association with:

REC Republic Engineering
Corporation (Pvt) Ltd.
Consulting Engineers, Planners & Architects



LINK ROAD PROJECT BETWEEN M9-MOTORWAY & NATIONAL HIGHWAY N5 (FIESTA WATER PARK M9 & PORT QASIM N5 INTERCHANGES)

ALIGNMENT REPORT

1. INTRODUCTION:

Karachi-Hyderabad Road, formerly known as 4 Lane Super Highway is presently being upgraded to 6 Lane Motorway M9 by National Highway Authority (NHA) for increasing Heavy Traffic Volume from Port City of Karachi.

Parallely, with the intention of easing the significantly rising volume of traffic, from Keamari Port, Port Qasim, through the Industrial Areas of Korangi, Landhi, Pakistan Steel Mills and future Residential, Educational and Health Care Institutions on the vicinity of existing 2 Lane Eastern Link Road, NHA is also continuously upgrading and improving Karachi -Thatta- Hyderabad National Highway N5.

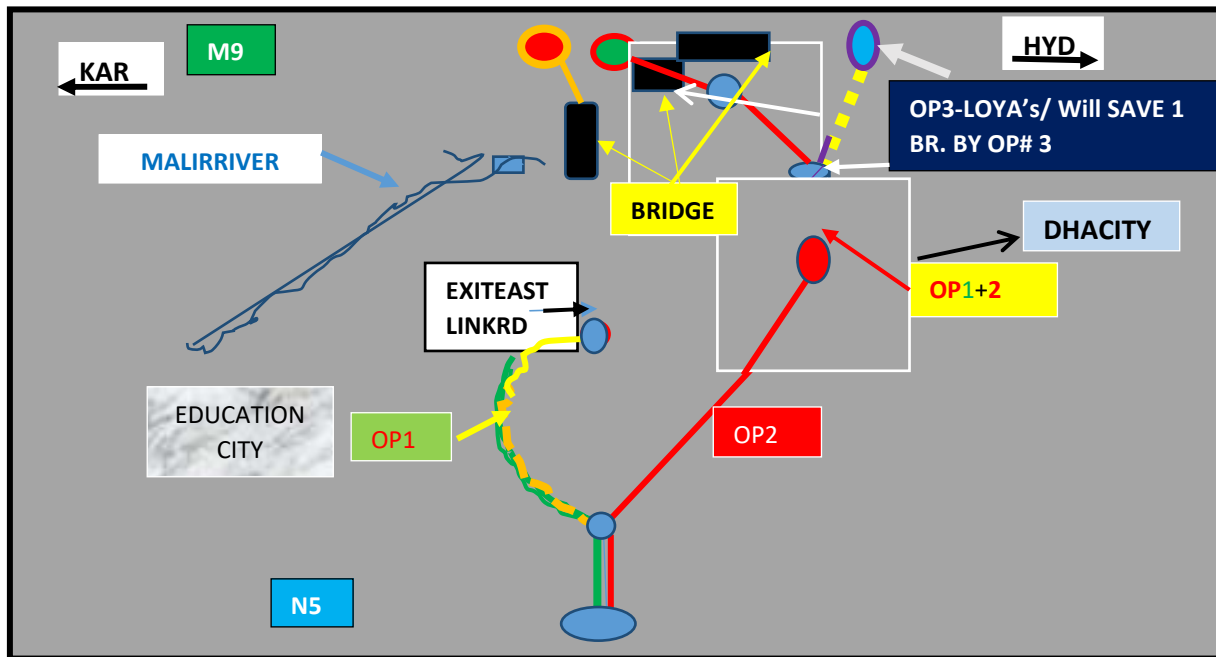
The Objective of the Proposed NEW LINK Road Project in this Preliminary Design and Feasibility Report is to improve the traffic flow in this stretch is to provide a 4 lane all weather Road of International Highway Standards of Geometrics, Strength and Durability of Road and Cross Drainage Structures like Bridges and Culverts. This Link Road connecting M9 and N5 will attain this purpose.

2. PROJECT DESCRIPTION:

The Scope of the Project Work is therefore to start the Link Road from N5 near Gulshan-e-Hadid, Port Qasim Stretch and near Kathore-Gadap-Feista Water Park Stretch. By Physical Reconnaissance Survey, and Study of Satellite Maps, various alternate Alignments of this Approximately 20 Km proposed Link Road were studied. Initially Three Options for the most Feasible alignment were studied, and discussed in the INCEPTION REPORT, as submitted to the W&S Dept. GOS, in October 2016. Since the Land swath between the Existing 2 Lane Link Road and Malir River East Bank was already marked for the future Education, Health and Hospital Institutions by studying the Reconnaissance Survey Plans and gathering physical information from Local Authorities, the preference of alignment looked more Feasible and less cumbersome to keep it on the East of the Existing Link Road.

3. FINAL ALIGNMENT OF LINK ROAD: (Map on Fig 1):

- i. **Option 1:** This option was traversing through Gulshan-e-Hadeed property line due to West-war Belly Loop and was likely to infringe upon or interfere with the Lands marked for future Planning of Education, Hospital Institutions. The looped traverse line would make the length of the Proposed Link Road longer and would not have served as Feeder point of Bypass for areas surrounding the loop. Therefore, this Option was not considered for further detail study.



- ii. **Option 2:** This Option appeared more Feasible starting from the east of Existing Link Road traversing in to the eastern terrain. The Traverse line looks more appealing because of its nearly fitting the required North-South direction with only a few gentle curves and staying away from the Development area already pre-marked on the west of existing Link Road.

However, at the northern reach of this alignment (Option 1), it takes N-E turn and passes over a wide flood plain of Malir River before merging in to M9. At Kathore Interchange. The Consultant, in order to save nearly 1500ft bridge involving approximate cost of Rs. 40m, had suggested to Option 2 to make a north west turn Diversion Option to avert the passing over Malir River and need of a new bridge and make a Diversion **OPTION-3** (Marked in **Purple** the Fig 1 Map.). This Approximately 5 to 6 Km stretch would require a smaller bridge on the braided fork of Malir River.

- iii. **Selected Road Alignment: Option-2 + Option-3.** (Fig 1 and Fig 2): This Alignment
 - a) Would brace away from the property line of Future DHA City, near M9 Merger Stretch.
 - b) Would not infringe with future Education City, Medical City, Agha Khan University Hospital and other pre-planned developments on the left of Malir River.
 - c) Would eliminate the need of New Long Span (1500ft- Cost Approx. Rs.40m) Bridge over Malir River at the South of M9.
 - d) Comparison of lengths of Alternate Alignments.

OPTION-1 =22.3 Km, The Alignment is not Considered Feasible as mentioned above. The infringement and possible encroachment in previously marked property lines of Education City, Medical City and Gulshan-e Hadeed Property Lines.

OPTION-2= 22.33 Km, (Will Require Large Span Malir Bridge)

OPTION-3 = (Including **OPTION-2**) = 22 km. (Eliminates large Span Malir River Bridge and Approx. Rs.40m Cost)

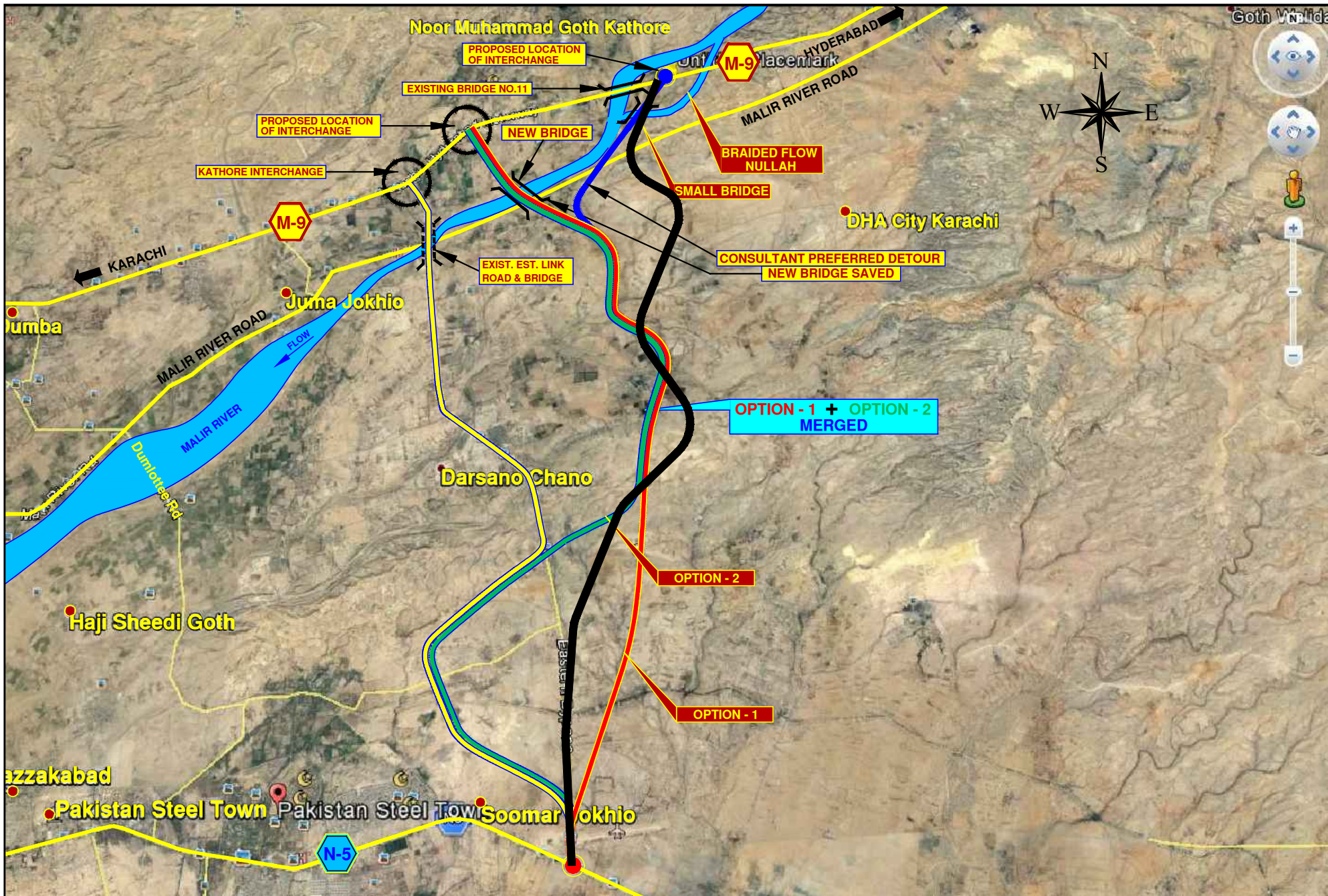


4. CONCLUSION:

Hence Consultant had recommended OPTION 2 Modified BY OPTION 3 as Feasible and cost effective Alignments.

At the presentation, Meeting of INCEPTION REPORT in October 2016, W&S Department (GOS) Officials had expressed their Concurrence to this as the preferred Alignment to be finally adopted.

Consultant has finished the TOPOGRAPHY SURVEY and TRAFFIC STUDY and DESIGN OF ROAD and DRAINAGE Structures of this Preferred Alignment.



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**ALTERNATE ROUTE STUDIES
 &
 PREFERRED ALIGNMENT**

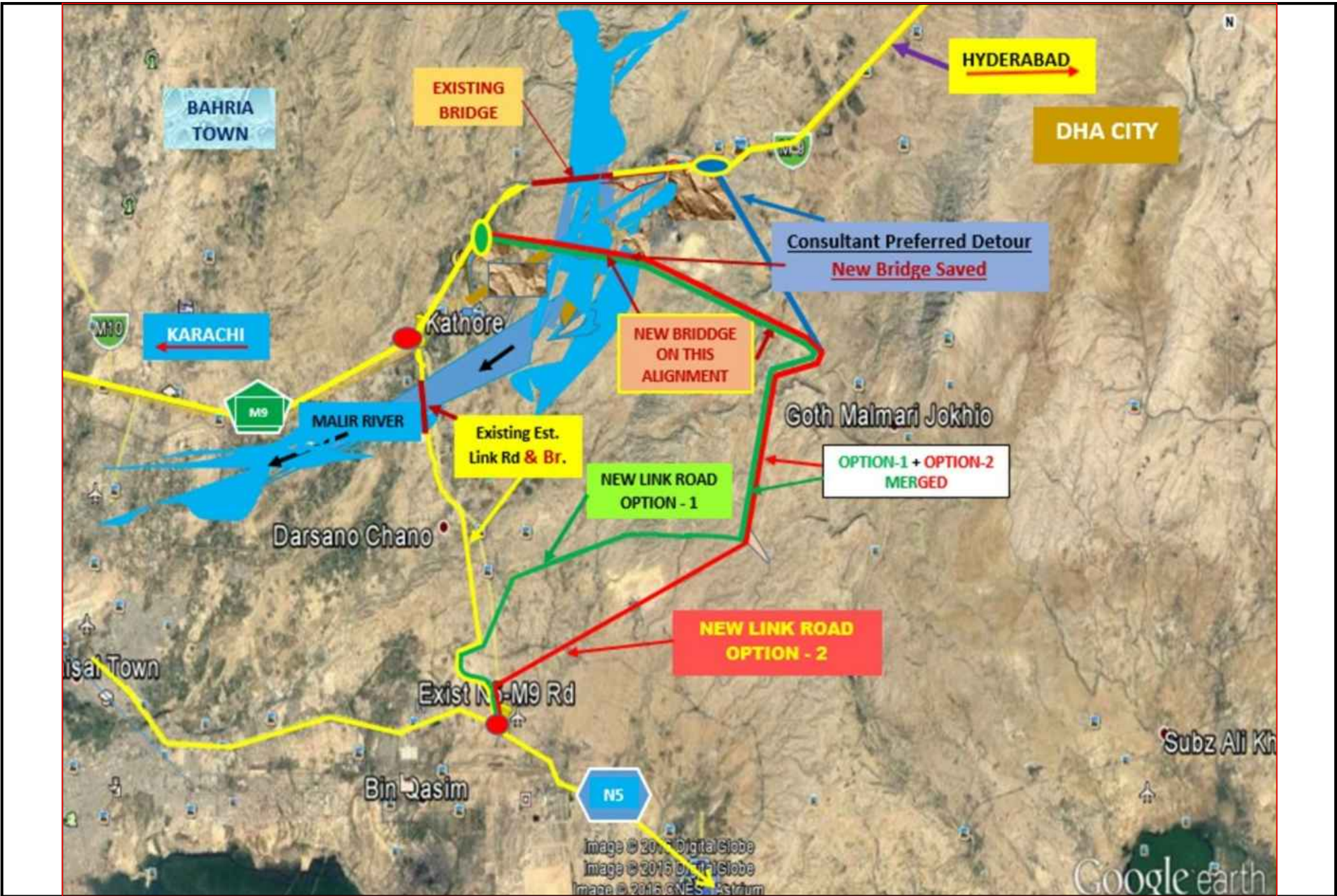
Project:-

LINK ROAD BETWEEN N-5 & M-9

DATE:-

04-10-2016

FIGURE NO.1



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**ALTERNATE ROUTE STUDIES
 &
 PREFERRED ALIGNMENT**

Project:-

LINK ROAD BETWEEN N-5 & M-9

DATE:-
 04-10-2016

FIGURE NO.2



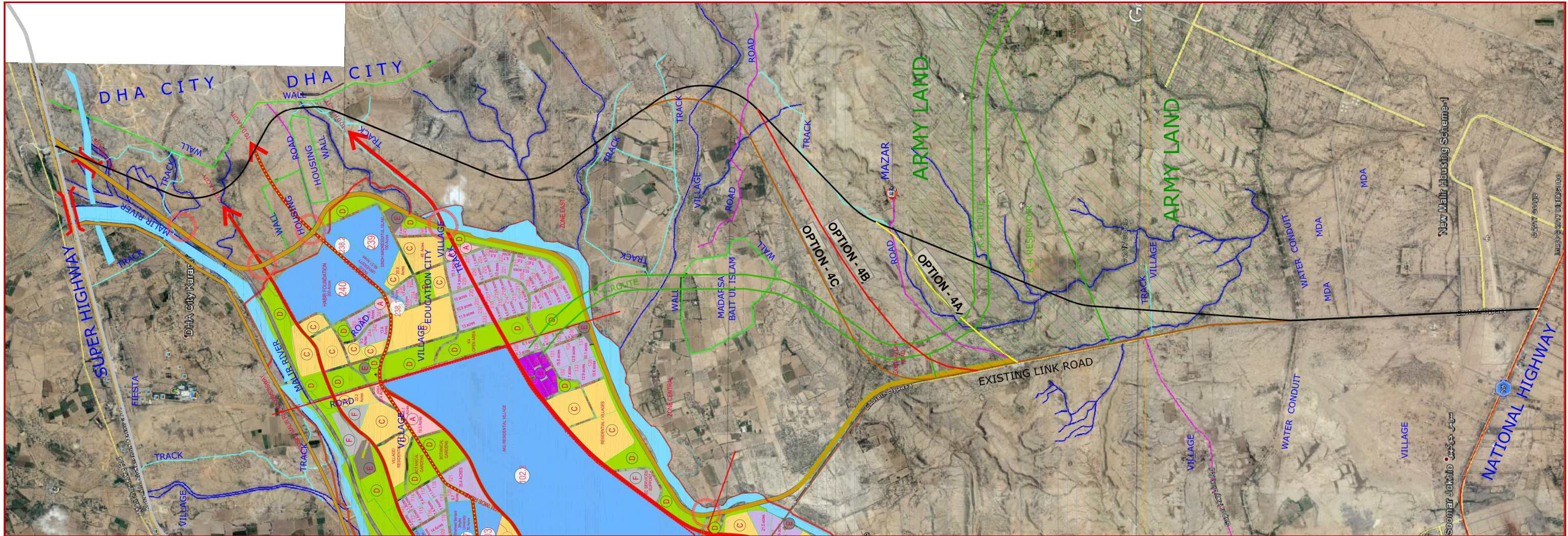
5. FINAL APPROVED ALIGNMENT BY STAKEHOLDERS:

OPTION 4:

Subsequently as the previous alignment was intercepting the K4 Route through the Army Land (Military Area) around 7km. So due to land acquisition issues, the proposed new alignment having three Options (4A, 4B and 4C as shown in Figure-3), in which OPTION 4C adopted as the Feasible Alignment as approved by stakeholders (Figure-4).

MODIFIED OPTION 4:

As this proposed alignment of OPTION 4C, approaches Superhighway M9, the Trumpet interchange of this alignment coincide with the newly constructed DHA City Karachi Interchange on M9 (Figure-5), in order to avoid this conflict and meeting the design requirements, the end portion after 19kms, realigns and shifted towards left side around 2km over M9, where it passes over a wide flood plain of Malir River before merging in to M9. Therefore a new bridge is proposed over Malir river at the South of M9. The final modified alignment is shown in Figure-6.



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LOCATION PLAN SHOWING
 (OPTIONS 4A, 4B & 4C)

Project:-

LINK ROAD BETWEEN N-5 & M-9

DATE:-

11-10-2019

FIGURE NO.3

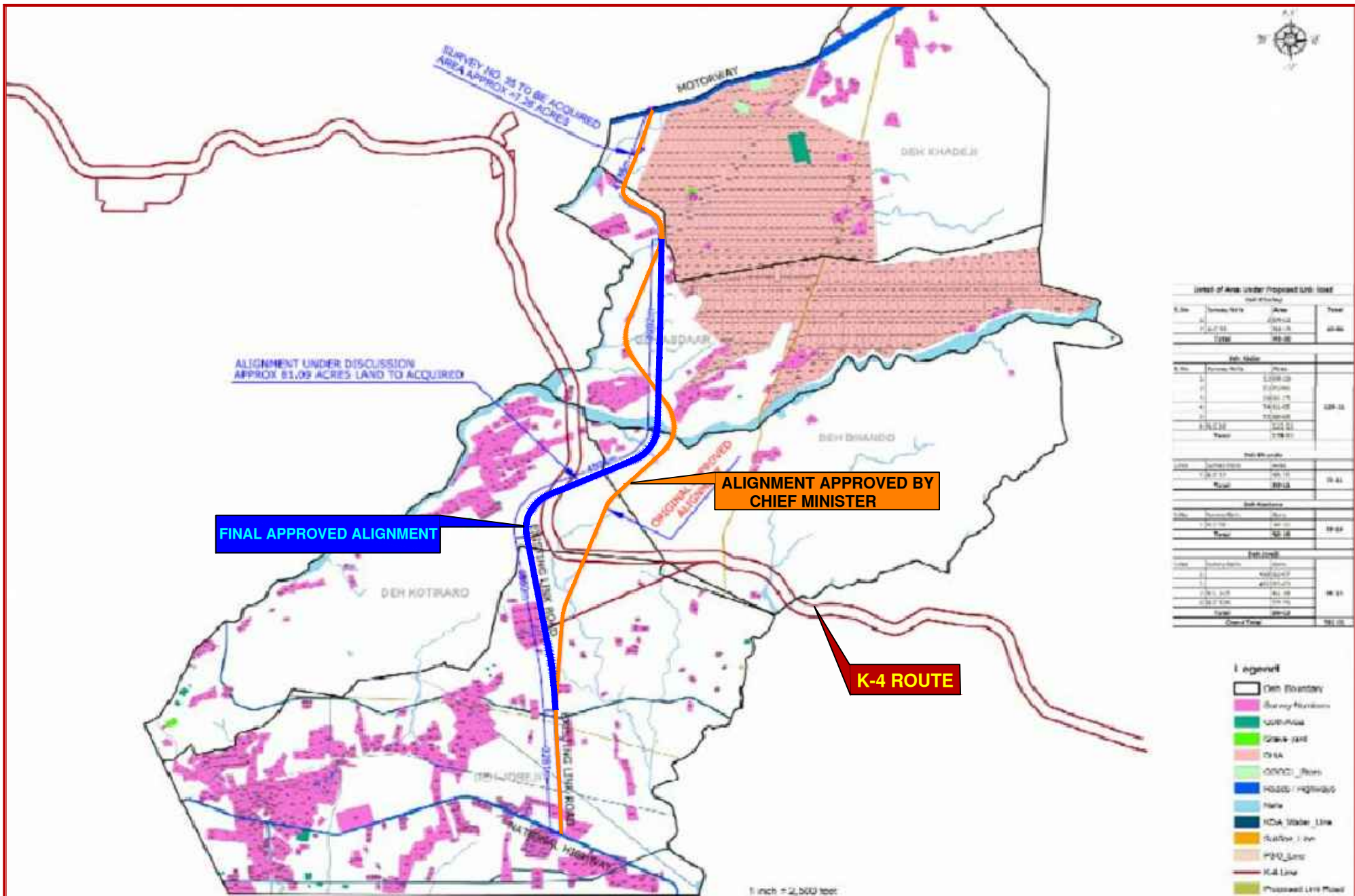


Table 1: List of Area Under Proposed Link Road

List of Area Under Proposed Link Road			
Deh Khadira			
S.No.	Survey No.	Area	Total
1	17/17-26	17.26	17.26
Total		17.26	17.26
Deh Bhangro			
S.No.	Survey No.	Area	Total
1	17/17-26	17.26	17.26
2	17/17-26	17.26	34.52
3	17/17-26	17.26	51.78
Total		51.78	51.78
Deh Kotriaro			
S.No.	Survey No.	Area	Total
1	17/17-26	17.26	17.26
2	17/17-26	17.26	34.52
Total		34.52	34.52
Total			
		103.54	103.54

Legend

- Deh Boundary
- Survey Boundaries
- Cultivable
- Grass Land
- Orca
- Canal/Levee
- Road / Highway
- Well
- KDA Water Line
- Railway Line
- PWD Lane
- K-4 Line
- Proposed Link Road

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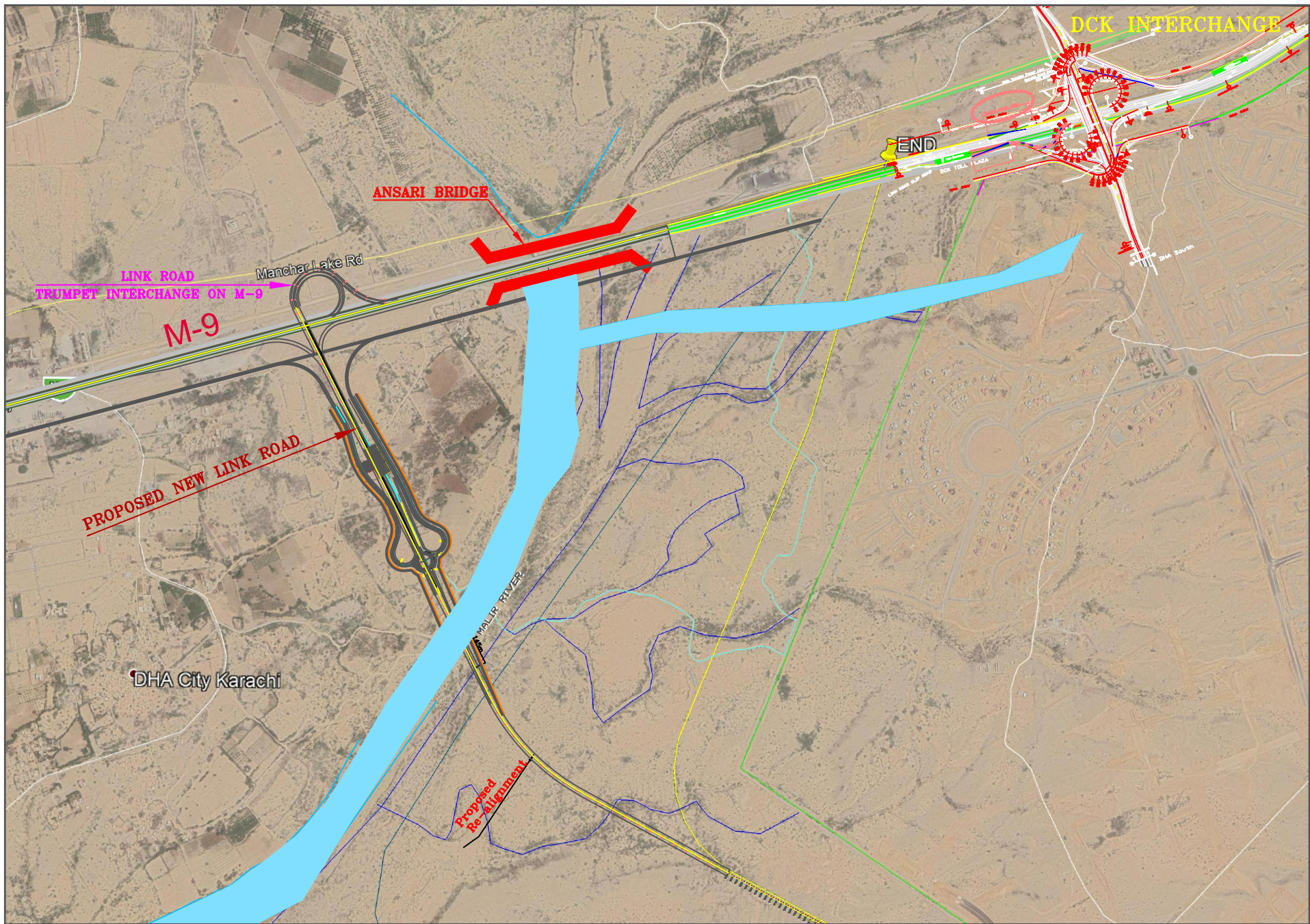
LOCATION PLAN SHOWING
FINAL APPROVED ALIGNMENT

Project:-

LINK ROAD BETWEEN N-5 & M-9

DATE:-
11-10-2019

FIGURE NO.4



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**LOCATION PLAN SHOWING
 REALIGNMENT AND TRUMPET
 ON (M-9)**

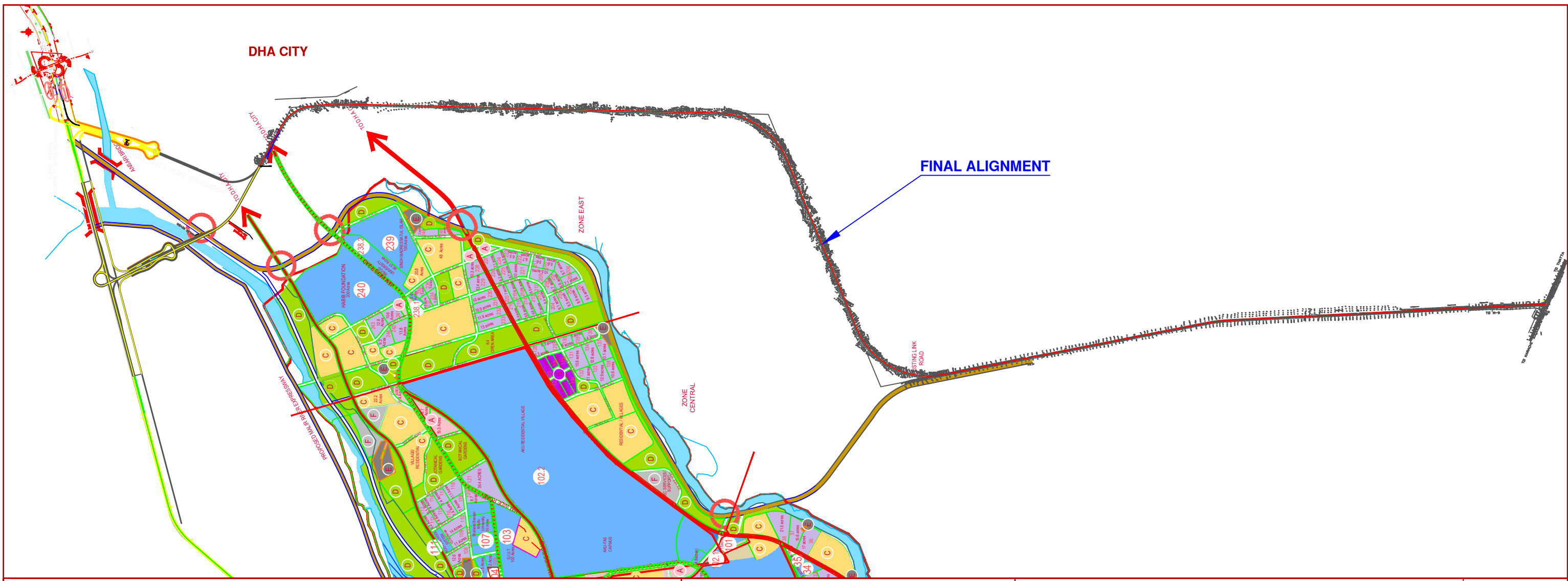
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11-10-2019

FIGURE NO.5



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LOCATION PLAN SHOWING
 FINAL ALIGNMENT

Project:-

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FIGURE NO.6