

MALIR EXPRESSWAY PROJECT,
ALONG RIGHT BANK OF MALIR RIVER

TABLE OF CONTENT

Page No.

1. INTRODUCTION.....	1
1.1 BACKGROUND	1
1.2 RECONNAISSANCE SURVEY.....	2
1.3 AREA DESCRIPTION	2
1.4 ALIGNMENT DESCRIPTION	3
ANNEXURE-A LOCATION PLAN	
ANNEXURE-B ALIGNMENT PLAN	

1. INTRODUCTION

1.1 BACKGROUND

Karachi Metropolitan, being mega/biggest city of Pakistan has potential to accommodate & attract people from all over the country in providing jobs, business opportunities and housing facilities. Resultantly the population of the city as reported has now reached to the figure of 14.0 million.

Due to the phenomenal population growth, increase in vehicular traffic, congestion and traffic jams issues arise on major roads of city, hence road users are facing inconvenience/hazards like wastage of time/fuel, environmental pollution (Noise + smoke) and accidents etc.

Moreover, Karachi has two sea ports, from where heavy vehicular traffic generates for supply of oil, and other imported goods to up country, thereby adding an extra volume of heavy traffic on city roads up to super highway (Motorway M9) and National Highway N-5.

Considering above situation in view, Local Government Department, Government of Sindh has decided to provide the shortest alternate route to connect Motorway/Super Highway with city center, and after thorough study it is decided that best option is the Construction of a 6-Lane Dualized Expressway along left bank of Malir River, starting from KPT Interchange near Qayyomabad and ending at Super Highway (M9) at 50km, near DHA Phase-IX.

It has also been considered by the Government of Sindh that Development of said expressway may be done under Public Private Partnership mode (PPP), on urgent basis, to bring ease in traffic flows and lives of general public.

To carry out this project under PPP Mode, a consortium of following consultants is engaged:

- | | |
|---------------------------------|------------------------------------|
| 1. M/s. EA Consulting (Pvt) Ltd | Technical Consultant (Lead Member) |
| 2. M/s. Ernst & Young | Financial Consultant |
| 3. M/s. HaidermotBNR & Co | Legal Consultant |

The transaction advisory services of consultants are divided in two phases as follows:

Phase-I (Transaction preparation and approval)

- a. Project kick off/need analysis
- b. Option analysis
- c. Risk analysis
- d. Financial Model Development
- e. Transaction Structuring
- f. Assistance in preparation of RFP documents
- g. Transaction approval

Phase-II (Transaction Execution)

- (i) Assistance in request for proposal process
- (ii) Assistance in bid evaluation process
- (iii) Negotiation, finalization and execution of the concession Agreement

1.2 RECONNAISSANCE SURVEY

An extensive desk study was carried out by Senior Highway, Structure and Hydrology Engineers to consume, analyze and make conclusion out of available data and satellite image to mark different options for the Expressway Route. This exercise was carried out prior to Reconnaissance Survey. During this desk study, various alternate routes were identified on Satellite image for analyzing their strengths and weaknesses.

Consequent to this Desk Study a team of Senior Highway, Structure and Hydrology Engineer and Senior Surveyors, examined the data, mark on maps/image and the possible existing links and approaches to the selected route and laid down their strategies and logistics for field reconnaissance. Following activities were carried out during the site reconnaissance survey:

- Finalize the alignment
- Conduct preliminary survey of the road
- Ground recce. of selected alignment
- Study of alignments solutions-Factors studied
 - River Hydrology
 - Close Proximity of Main Routes
 - Resettlement Problems
 - Environmental Problems like presence of Gardens along the alignment
 - Economy of the Alignment
 - Presence of Utilities along the alignment
 - Presence of Dwellers along the alignment
- Graveyards, Mosques
- Document with photographs, points of special interest for the project were noted
- Identification of utilities

1.3 AREA DESCRIPTION

Presently there is no road along Malir River. However, on Left Bank, a protection bund is available up to National Highway N-5. On this existing protection bund, light vehicles can travel. On right bank also, protection bund is provided upto Quaidabad, but not in continues stretch.

River width i.e. bund to bund distance is variable between 300m to 2,000m, at various locations. Project Expressway is proposed on Right Bank of Malir River, because of availability of land, better geometry and access Several populated areas.

Most of the Expressway influence area is cultivated or barren. No residential area is encountered in the proposed alignment

1.4 ALIGNMENT DESCRIPTION

The Start point of project expressway is located on left bank of Malir River, near Jam Sadiq Bridge.



Near Jam Sadiq Bridge Location, High Tension Power Line is observed. Relocation of this high-power line will be addressed at the detailed design stage.

The geometry of exiting Protection Bund cannot be followed for expressway because it does not meet the geometric design standards. As such, alignment is being proposed between protection bund and left bank of river.



From km 0+000 to km 3+000, the proposed alignment travels almost parallel to the protection bund. The land in this reach is Cultivated and barren.



At km 9+000, the proposed alignment passes through the Korangi Shah Faisal Road and connecting bridge over Malir River. For this existing crossing point, an interchange is proposed which provides conflict free traffic movement for all directions.

A major S-Curve is involve starting from Reta Plot area (km 10+000) to Quaidabad (14+000). At km 14+000, the proposed alignment crosses the Main Railway Line, where a flyover is proposed for the alignment.



Soon after this flyover, the proposed alignment crosses National Highway N-5 (km 14+500). For National Highway, an interchange is proposed which provides conflict free traffic movement for all directions. High Tension Power Line was observed at this location.



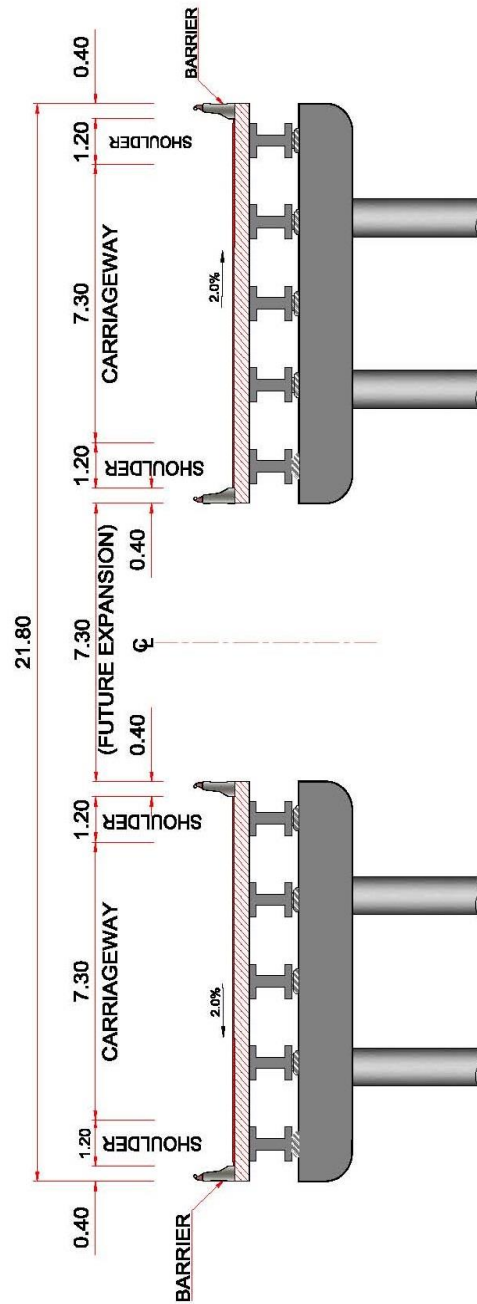
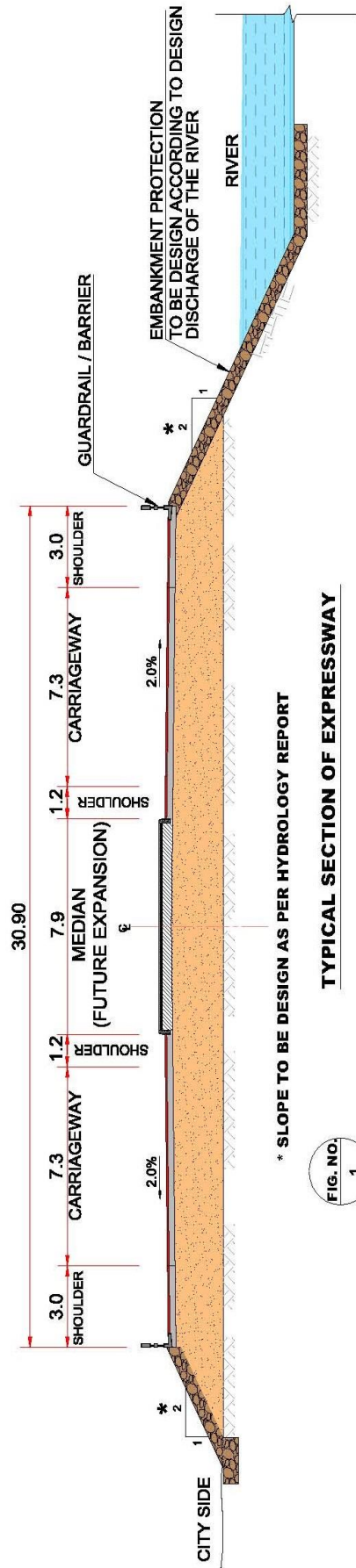
The river protection bund ends at National Highway, and proposed alignment passes through cultivated land beyond National Highway. At km 23+000 alignment crosses a road connecting Memon Goth on right bank of river and Goth Haji Sheedi on left bank. Proposed alignment will be at grade at this location and an under pass is proposed for this existing road.



Similarly, at km 27+500 another existing road crosses the proposed road, near Goth Dur Muhammad Baloch. Proposed alignment will be at grade at this location and an underpass is proposed for the existing road.

At km 31+000 alignment passes near an existing dam on Malir River. At km 36+750 the proposed alignment joins the existing M9-N5 Link Road (or Eastern Bypass). From this location, the alignment will follow the route of existing link road and will terminate at the exiting trumpet interchange at M9 which is about 14 km from Main gate of Bahria Town (about 25 km from Toll Plaza of M-9). At End Point the existing Trumpet type interchange will be upgraded to expressway requirement. As per preliminary alignment design, the length of this expressway is about 39.1 km

Location Plan of the proposed expressway is shown in **Annexure-A** of this report, whereas, Alignment Plan on Satellite Image is provided in **Annexure-B**. The proposed Expressway is 2-Lane Dual Carriageway (7.3m) with a wide raised central median 7.9m wide, for future expansion, and 3.0m outer shoulders, as shown in Typical Cross-Sections given overleaf



TYPICAL SECTION OF BRIDGE

Salient features of the proposed Expressway are provided as follows:

Project Length	39.1 km on Right Bank of Malir River
Facility Type	Access Controlled High Speed Toll Expressway
Typical Cross - Section	4-Lane with 3m side Shoulders dual carriageway and 7.9m raised central median, for future expansion
Design Speed	80 km per hour
Mode of Financing	PPP Equity Mode
Design & Construction Period	36 Months
Concession Period	25 + 3 Years
Interchanges	
1. Korangi – Shah Faisal Colony Road	
3. Shahre-Faisal/N5 near Quaidabad	
4. At suitable location between km 20 to 24	
5. At suitable location between km 25 to 30	
7. At end point i.e. M9 (to be remodelled for Expressway requirement)	
No Flyovers	3
No of Other Bridges	5
No. of Underpass	8
No. of Cattle Creeps	8
No of Culvers	22
No of Weigh Bridges	6
No of Toll Plaza	21

Annexure-A
LOCATION PLAN

Annexure-B
ALIGNMENT PLANS