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Please attach a letter from the FIDIC MA/Associate or Affiliate in your country validating your submission.

Why do you think this project should receive an award? How does it demonstrate:

- innovation, quality, and professional excellence
- the principles of transparency and integrity
- sustainability and respect for the environment

The Waterway Relocation Project on Changzhou Urban Area of the Grand Canal is located at Changzhou City. It is an important component of the Grand Canal in south Jiangsu section. The length of the designed waterway regulation work is 25.764 km. The project also includes the construction of 11 cross-river bridges. The overall layout and construction of projects is scientific and reasonable, the structure is applicable, economic, safety and artistic. In order to facilitate fishermen, the first serving area is set up in south Jiangsu section of the Grand Canal. After the completion of the project, it will be the demonstration project of inland water transportation in the Ministry of Communication water transport department, and this project will be promoted nationally.

1. The Waterway Relocation Project on Changzhou Urban Area of the Grand Canal is one of the inland water transport demonstration project in the Ministry of Communication water transport department.

   During the design and construction, the function and status of the canal was fully considered in the project design, combined with strain of urban earth resources, the difficulty of land acquisition, relocation and the application of the excessive earthwork. Successfully complete the task to construct the Waterway Relocation Project on Changzhou Urban Area of the Grand Canal into an ecological, environmental and landscape type channel. This provides an example of reference and popularization for the further waterway construction of The Yangtze River delta region.

2. Fully and detailed analysis on the geology and landform along the line. And the reasonable line type should be selected in the complex environment.

   The length of the designed waterway regulation work is 25.764 km. 4.09km utilize the Datong River and the remaining 21.674km is river excavation on the flat ground. The relocated routine cross G312, Changjin Road, Wuyi Road, Qingliang Road and Cailing Road. Reducing the land acquisition, earth excavation and engineering cost, selecting the line type scientificly, the success of The Waterway Relocation Project on Changzhou Urban Area plays the leading role of The Grand Canal south Jiangsu section Class 3 waterway improvement

3. Adjust measures to local conditions, according to the practical situation of canal, applying several suitable ecological revetment types.

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In order to better connect to the western part of Changzhou, Class II ecological slope protection is adopted at the entrance. Combining the urban construction and highway construction, the global design refers to the concept: "ecology, environmental, artistic, convenience". The design focuses on the plant landscaping and emphasizes the overall environmental effect. The remaining revetment types are selected according to the geology and landscape: gravity type by using filled rubble, Equilibrium-weigh type by using filled rubble, reinforced concrete cantilever type and reinforced concrete buttress type.

4. Integrate small ports and construct large-scaled, standard, intensive and mechanized harbor district.

   Integrate the current ports at the Changzhou urban channel area, and construct western and eastern harbor district at the rerouted area. The shoreline is 2705m long in all and 42 berths are arranged. The annual throughput capacity exceeds 12 million tons. The integrated western and eastern harbor district is the large-scaled, standard, intensive and mechanized harbor district. This will improve the collection and distribution capacity on the river. Also this can further optimizes the integrated transport system in Changzhou.

5. Establish the serving area on water, which presents the new serving concept: People First.

   According to the geographic feature that the waterway relocation project is at the urban area, the first serving area on water for the Grand Canal is established by considering the urban governance planning. This design satisfies fisherman's requirements and reflects the new concept: "People First".

6. To realize the comprehensive utilization of earthwork, saving the earth resource and engineering construction cost. To realize the concept: "Resource Saving".

   The total earth excavation of the Waterway Relocation Project on Changzhou Urban Area of the Grand Canal exceeds 18 million m^3. According to the different aspects' research and several highway construction projects, using the abandoned excavated earth to fill the roadbed can solve the road overloaded because of the earth excavation and the road over excavate for the highway construction.

   5.23 million m^3 earth which is not suitable for the highway construction is excavated during the Waterway Relocation Project on Changzhou Urban Area of the Grand Canal. After the experiment, they can be applied in the highway project after the soil improvement. This has a good economic benefit and environment benefit. Also this is good for the construction of environmental and intensive waterway and highway project.

7. Innovative technology of cross-river Bridge.

   11 cross-river bridges are constructed in the Waterway Relocation Project on Changzhou Urban Area of the Grand Canal. The whole 11 bridges all select to design one crossing and no pier is designed in the water. These bridges have a main span around 110m and the total length is about 600m. During the bridge design and construction, designers took the coordinate of bridge landscape and surrounded environment into account and also promote new structures, new technology, new material and new technology. This is the most difficult in technology and has the most technology content in the Waterway Relocation Project on Changzhou Urban Area of the Grand Canal.

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8. Complex Geological Conditions and difficult foundation treatment.

   For this project, the foundation and the lower parts of revetments is silt clay layer, so the foundation treatment is rubble replacement, small wood pile for reinforcement, reinforced concrete small square pile and cement mixing pile to reinforce. Also at the revetment foundation, different foundation treatment types are applied for the sealed soft soil at sub-rivers, the deep soft soil at the bridge foundation and extra-deep foundation for informal soil excavation.

9. The green landscape along the line can improve the urban environment quality and make the urban development more continuous. Also the surrounded area's development can be driven and the investment environment can be improved.

   The Waterway Relocation Project on Changzhou Urban Area of the Grand Canal has a approximately 26 km of greening. And the whole greening area is about 1.186 million square meters. This greening project contributes a "three bands" and bridge landscape nodes' overall layout with the new 312 national road. Greening is close connected with surrounded environment and form local plant community and human cultural landscape. This can uttermost meets the visual effect for both waterway and road.

   The Waterway Relocation Project on Changzhou Urban Area of the Grand Canal consist FIDIC concept in the consultation service and bidding and procurement aspects. Engineering Consultation Company provides service on the basis of quality and provides professional, objective and fair service and suggestions, keeps maintaining owner's interest. Do the "Integrity, risk prevention and control manual" and "special project management" well. This project insists on regular inspections, special supervision and inspection at special items and complaints and appeal investigation and treatment regulation. Thus, this helps to ensure that The Waterway Relocation Project on Changzhou Urban Area of the Grand Canal's construction is "safe, high quality, transparent and integrity'.