MARCOS HIGHWAY
under the
NATIONAL ROADS IMPROVEMENT AND
MANAGEMENT PROGRAM, PHASE II

1. BACKGROUND

1.1 The Government of the Philippines, through the Department of Public Works and Highways (DPWH), intends to engage the services of a consulting firm for the construction supervision of MARCOS HIGHWAY, under the financing of World Bank. Location of the Project is indicated in Figure I.

1.2 Severe traffic congestion is considered by those living and working in Metro Manila as the most pressing problem. This is even becoming worse with the high population growth coupled with intense economic activity, rising car ownership and expanding urbanization. To address the problem, major projects such as MRT Line 3, MRT Line 2 and Skyway had been undertaken by the government and private entities.

1.3 However, the design of those projects has not fully accommodated the need for an effective pedestrian management. The Metro Manila Urban Transport Integration Project (MMURTRIP) seeks to address this concern and carry out corridor improvement measures with these “mega-projects”, their benefits are maximized, and the traveling public is better served.

1.4 The proposed activities under the Project were conceived through a study conducted under the supervision of an inter-Agency Committee and in consultation with the Local Government Units (LGUs) in Metro Manila.

With the objectives of managing and reducing traffic congestion in Metro Manila, improving the street level interchange over the road network and reducing congestion in arterial roads, it is imperative that the improvement of the MARIPAS corridors, Marcos Highway, be undertaken.

1.5 In addition, the Project will address issues such as:
   a. refining urban transport policies and objectives;
   b. planning and operational standards for roads, pedestrian facilities, terminals parking, truck routes; and
   c. private sector participation in providing public transport services

1.6 The Project components and activities are the results of extensive consultation processes that took place in the conceptualization and preparation of the Project. During the Feasibility Stage (1997-1998), several coordination meetings were held among concerned agencies until a set of investment proposals was agreed. It was also at this stage where LGUs in the eastern side of Metro Manila (the cities of Marikina and Pasig and the province of Rizal)
identified and agreed on project components that they proposed for inclusion in the Project to provide better access to Metro Manila by their constituents.

1.7 The consultation process is expected to be sustained during project implementation to ensure smooth execution of activities. The LGUs will spearhead the dialogue particularly with respect to frontage management.

1.8 The Marikina Rizal-Pasig (MARIPAS) Access Improvement, which includes the Marcos Highway, has been identified in addressing the common transport problems in Marikina City, Rizal Province and Pasig City.

2. PROJECT DESCRIPTION

2.1 Alignment

Marcos Highway starts where Marikina Bridge and Access Roads Project of the Metro Manila Urban Transport Integration Project (MMURTRIP), Phase I ends and will end at the junction with Sumulong Highway in Antipolo. The road traverses through Marikina City, Antipolo City, Pasig City and Cainta and intersects with the main thoroughfare of Amang Rodriguez Avenue in Pasig and Imelda Avenue/Tuazon Avenue in Marikina.

2.2 Accessibility

Marcos Highway is accessible at the beginning of the Project from Cubao, Quezon City through Marcos Bridge in Marikina and at the end of the Project from Marikina City and Antipolo City through Sumulong Highway. Along the stretch of the road a portion is accessible from Marikina though Amang Rodriguez Avenue and Tuazon Avenue and another portion from Cainta though Amang Rodriguez and Imelda Avenue.

2.3 Description

1. Beginning of Project : Sta 22+700.000
2. End of Project : Sta 27+110.188
3. Length : 4,410.188 m
4. Right of Way : ± 50 m.
5. Travel Way including Public Utility Vehicle Lane : 2 x 14.0 m
6. Bike lanes : Varying 1.00-2.50 m North Side
   Varying 1.00-2.55 m South Side
7. Pavement Structure
   a. Sub-base : 150 mm & 300 mm
   b. Base : None
   c. Surfacing : (a) 50 mm Asphalt Overlay
                  (b) 100 mm PCCP, colored, Bike lane
                  (c) 280 mm PC Concrete Pavement
                  (d) 280 mm PCCP, colored, Bike lane

8. (a) Median and Curbs : 4.00 m.
   (b) Sidestrip : 0.50 m.

9. (a) Curb and Sidewalk : ± 3.00 m.
   (b) Gutter : 0.50 m.

10. Planting Strip : Varying 2.00-4.50 m.

11. Drainage : a) Longitudinal RC Pipelines
                b) Precast and Cast in Place Reinforced Concrete Box Culvert-4.00 x 2.50 m.

12. Road Signs : a) Warning
                 b) Regulatory
                 c) Informatory
                 d) Special Instruction

13. Pavement Markings : Reflectorized Thermoplastic

14. Street Lighting : Single Luminaire
                     Vapor-tight Luminaire

15. Structures : a) Retaining Walls
                 b) Precast and Cast in Place Reinforced Concrete Box Culvert – 4.00 x 2.50 m.

2.4 Scope of Work

The improvement would allow for sidewalk, curb and gutter, and covered drainage lines maintaining the existing median. The 4-meter median will be retained to accommodate the support of future LRT Line 2 extension to Masinag area. The sidewalk provision north of Marcos Highway would necessitate replacing the existing interceptor canal with a single barrel 4.0 x 2.5 reinforced concrete box culvert. Bike lanes on both direction is also included in the design.
The Works to be performed in Marcos Highway principally consists of:

1. Concrete Box Culverts
   a. Precast Concrete Box Culverts
      1. 4.00 x 2.50 x 2.00 m = Northside at 2.00 interval between cast-in-place concrete box culvert
   b. Cast-in-place Concrete Box Culverts
      1. 2-4.00 x 2.10 in = 6.90 m @ Sta. 25+890 (Munting Dilao)
      2. 2-4.00 x 2.10 in = 8.80 m @ Sta. 24+988 (Balanti)
      3. 4.00 x 2.50 in = Under Santolan Footbridge, Amang Rodriguez Footbridge, Robinson Footbridge and Tuazon Avenue Footbridge and 1 meter interval between precast concrete box culvert.

2. Reinforced Concrete Retaining Wall
   a. Sta. 24+884.940-Sta. 24+347.720 North Side
   b. Sta. 26+431.820-Sta. 26+507.740 North Side
   c. Sta. 26+602.800-Sta. 26+635.000 North Side
   d. Sta. 26+325.670-Sta. 26+385.160 North Side
   e. Sta. 26+470.320-Sta. 26+495.830 South Side
   f. Sta. 26+507.440-Sta. 26+615.750 South Side

3. Roadworks comprising of:
   a) Earthwork consisting of individual removal of trees, removal of structures and obstructions, surplus excavation, embankment, subgrade preparation.
   b) Pavement structures, consisting of aggregate subbase course, asphalt overlay, Portland cement concrete pavement, Portland cement concrete pavement, with green color cement finish for bikelane and Portland cement concrete pavement restoration.
   c) Drainage structures, consisting of RC pipe culvert, curb inlet manholes, gutter inlet manhole, manhole, gutter inlet, curb inlet, manhole concrete covers, declogging and cleaning of pipe in place and declogging and cleaning of RCBC at Balanti Creek and Munting Dilao Creek.
d) Other structures consisting of steel piles, steel falsework for footbridges, and bored piles.

e) Miscellaneous structures consisting of barrier curb, curb and gutter, curb and sidestrip, drop curb and gutter, sidewalk, pedestrian barrier, project information signs, road signages, reflectorized pavement markings, street lighting, concrete footings and related works for traffic signal lights steel poles, waiting shed, disabled ramp, reinforced concrete driveway and bollard.

4. Landscaping – which include planting of shrubs only.

5. Facilities for the Engineer

6. Traffic Management During Construction

3. ENVIRONMENTAL CONCERNS/ENVIRONMENTAL PROTECTION

3.1 Environmental Management Plan for Control of Noise and Air Pollution for the Construction and Operational Phase

The Marcos Highway forms a minor component of the Master Plan developed under the 1999 Metro Manila Urban Transport Integration Study (MMUTIS) to achieve improvement to the ambient air quality in Metro Manila. The proposed improvement includes widening the existing road utilizing its full right-of-way width 50 meters. It will add one more lane over the two existing lanes in the northern approach, reconstruction sidewalks, a median island with trees, a bike-lane, and plantings along the outer edge of the sidewalks.

The main construction activities for the Marcos Highway include: excavation and filling, utilities construction, grading and earth movement, roadway base construction; and paving and surface restoration.

An Environmental Management Plan (EMP) was prepared under MMURTRIP Phase I, to identify a series of noise and air pollution control measures that will be undertaken to minimize construction related noise and air pollution within construction areas, lay-down areas, and sensitive land uses adjacent to the construction site. It provides a description of the noise and air pollution monitoring programs to assess pollution levels during major construction stages, and to evaluate the effectiveness of the mitigation practices that will be used to minimize impacts; and it describes a field inspection program to verify the implementation of these measures.

While the most significant project impacts on nearby air and noise levels are related to the construction phase of the project, measures to reduce operational impacts are also addressed.

Refer to Appendix 1 for the full content of the Environmental Management Plan.
3.2 Environmental Protection Plan

Within one month of his arrival on site the Contractor shall submit an Environmental Protection Plan with operational details of his proposals to the Engineer for his approval.

3.3 Environmental Officer

The Contractor shall have on his staff on Site for the duration of the Contract a designated officer qualified to promote and maintain sound environmental management during construction and specifically the implementation of the approved Environmental Protection Plan. This officer shall have authority to issue instructions and shall take precautionary measures to prevent environmental damage, including but not limited the establishment of environmentally sound working practices and the training of staff and labour in their implementation.

3.4 Environmental Protection during Construction

1. In particular, the Contractor shall note that side-casting of spoil will not normally be permitted.

2. Borrow areas and quarries shall be sited, worked and restored in accordance with provisions in the contract (Borrow Pits and Quarries). Spoil shall be disposed of at approved disposal sites prepared, filled and restored in accordance with the provision in the contract (Spoil and Spoil Disposal). **Spoils shall be hauled daily to avoid accumulation of loose soil that may re-suspend during dry weather days.**

3. Following excavation, the Contractor shall take all steps necessary to complete drainage works in advance of each rainy season. Sediment deposition arising from operations not in accordance with the Specifications shall be made good immediately by the Contractor at his expense.

4. Notwithstanding approval of the intended method of working, the Contractor shall at all times be responsible for constructing the earthworks in accordance with the Specifications and Drawings.

5. The project area can experience inclement weather-fog, heavy rainfall and typhoons – and earthquakes. It will be deemed that the Contractor is familiar with these conditions and has formulated his work programme considering possible loss of time due to these causes, and it shall be the obligation of the Contractor to revise his work programme and enhance his construction efforts as necessary to ensure timely completion of the work scheduled for each working season. Where damage from rainfall, flooding or earthquake is exceptional the Contractor shall if and to the extent require by the Project Manager, rectify the loss or damage and the Project Manager after due consultation and the Contractor shall determine an addition to the Contract Price and shall notify this Contractor accordingly with a copy to the Employer and being such as fairly to entitle the Contractor to an extension of the Time for Completion of the Works, or any section or part thereof, the Engineer shall, after due consultation with the Employer and the
Contractor, determine the amount of such extension and shall notify the Contractor accordingly, with a copy to the Employer.

3.5 Prevention of Pollution

1. The Contractor shall ensure that his activities do not result in any contamination of land or water by polluting substances. He shall implement physical and operational measures such as earth bunds of adequate capacity around fuel, oil and solvent storage tanks and stores, oil and grease traps in drainage systems from workshops, vehicle and plant washing facilities and service and fuelling areas and kitchens, the establishment of sanitary solid and liquid waste disposal systems, the maintenance in effective condition of these measures, the establishment of emergency response procedures for pollution events, and dust suppression, all in accordance with normal good practice and to the satisfaction of the Engineer, which include among others the following:

   a) Regular wetting of exposed grounds to prevent re-suspension of particulates.
   
   b) Regular maintenance of heavy equipment to avoid emission of pollutants.
   
   c) Coverage with tarps or screens of all haul truck cargoes before exiting construction areas.
   
   d) Removal and immediate clean up of all loose materials from public roadways.

2. Should any pollution arise from the Contractor's activities including the improper deposition of sediment he shall clean up the affected area immediately at his own cost and to the satisfaction of the Engineer, and shall pay full compensation to any affected parties.

3.6 Protection of Trees and Vegetation

1. Unless otherwise provided in the Specifications, the Contractor shall ensure that no trees or shrubs are felled or harmed except for those required to be cleared for execution of the Works. The Contractor shall protect trees and vegetation from damage to the satisfaction of the Engineer. The Contractor shall be responsible for obtaining any necessary felling permits and for ensuring the disposal of felled trees in accordance with prevailing regulations. No tree shall be removed without the prior approval of the Engineer and any competent authorities. Should the Contractor became aware during the period of the Contract that any trees designated for clearance have cultural or religious significance, he shall immediately inform the Engineer and await his instructions before proceeding clearance.

2. In the event that trees or other vegetation not designated for clearance are damaged or destroyed, they shall be repaired or replaced to the satisfaction of the Engineer.
3.7 Use of Wood as Fuel

The Contractor shall not use or permit the use of wood as a fuel for the execution of any part of the Works, including but not limited to the heating of bitumen and bitumen mixtures, and to the extent practicable shall ensure that fuels other than wood are used for cooking, space and water heating in all his living accommodations.

3.8 Fire Prevention

The Contractor shall provide adequate fire-fighting equipment at his site office and other facilities to the satisfaction of the Engineer.

3.9 Relations with Local Communities and Authorities

1. In siting and operating his plant and facilities and in executing the Works the Contractor shall at all times bear in mind and to the extent practicable minimize the impact of his activities on existing communities. Where communities are likely to be affected by major activities such as road widening or the establishment of a site office or quarry or extensive road closure or bypassing, he shall liaise closely with the concerned communities and their representatives and if so directed, shall attend additional meetings arranged by the Engineer or Employer to resolve issues and claims and minimize impacts on local communities.

2. Any problems arising from his operations and which cannot be resolved by the Contractor shall be referred to the Employer through the Engineer. The Contractor shall be responsible for any compensation due or reinstatement necessary with respect to any damage caused by him to areas outside the Site and no separate payment will be made in this regard.

3.10 Privately or Community-Owned Services and Structures

1. The Contractor shall take all necessary precautions to ensure that not public or private services, utilities or similar facilities are damaged or interrupted by the Works. These precautions shall include but not be limited to liaison with public and private service providers, local government units, and private owners; a condition survey of all affected services; provision of a satisfactory permanent facility after completion of the Works in such area.

2. No services or utilities shall be disturbed or cut before arrangements have been made for a satisfactory alternative service, or the Contractor has obtained agreement in writing from the service provider or owner to a temporary cessation of service.

3. Not less than 14 days before commencing work on any particular section of road in accordance with his agreed Programme of Work, the Contractor shall supply the Engineer for his approval a copy of his condition survey of all utilities and services to be affected, copies of any agreements with service providers and owners, his plans for providing temporary service, and his plans for reinstating service following construction of the Works.
4. Provision of temporary and permanent services shall be to at least the pre-existing level of service and to the satisfaction of the Engineer.

3.11 Water Supply for Construction

1. The Contractor shall make his own arrangements at his own expense for water supply, for construction and other purposes. Only clean water free from deleterious materials and of appropriate quality for its intended use shall be used. In providing water the Contractor shall ensure that the rights of and supply to existing users are not affected either in quality, quantity or timing.

2. In the event of dispute over the effect of the Contractor's arrangements on the water supply of others, the Engineer shall be informed immediately and shall instruct the Contractor as to appropriate remedial actions to be undertaken at his expense.

3.12 Hot Mix, Screening and Crushing Plants

The Contractor shall not locate any hot-mix, screening, crushing or similar potentially polluting plant closer than 200 m to any settlement, unless such plant is fitted with dust suppression equipment and be operated and maintained at all times in conformity with the manufacturer’s specifications, instructions and manuals.

3.13 Staging of Construction Materials

The Contractor shall coordinate with the Engineer on a location for staging area. Selection of staging areas are subject to the approval of the Engineer. The staging areas shall be located away from school zones and/or other populated areas. Construction materials shall be stored at the approved staging area.

3.14 Mitigation Measures for Noise

Noise from heavy equipment operation shall be mitigated at all times to prevent disruption in the construction site, quarry site and immediate vicinity by the use of attenuators/silencers for construction equipment.

3.15 Environmental Compliance Certificate

The Department of Environmental and Natural Resources-National Capital Region (DENR-NCR) granted the Environmental Compliance Certificate (ECC) for Marcos Highway under the MMURTRIP, Phase I on 05 December 2000. Attached in Appendix 2 is a copy of the ECC for Marcos Highway.
4. PROJECT FINANCING PLAN

The Project will cost about 1,248.74 million pesos. Below is the summary of the Project Cost per component.

<table>
<thead>
<tr>
<th>Package B.2: Marcos Highway</th>
<th>Cost (In Million Pesos)</th>
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<tbody>
<tr>
<td>Civil Works</td>
<td>978.00</td>
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<tr>
<td>Physical Contingencies</td>
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<tr>
<td>Construction Supervision</td>
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<tr>
<td>Price Contingencies (Escalation)</td>
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<tr>
<td>Eng’g. and Admin. Expenses</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>1,248.74</strong></td>
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5. PROJECT IMPLEMENTATION

5.1 The Department of Public Works and Highway (DPWH) will be the Executing Agency through the Urban Road Projects Office – Project Management Office (URPO-PMO). URPO as the lead DPWH office will ensure progress in project implementation with funding for Marcos Highway coming from the NRIMP Loan.

5.2 The Bids and Awards Committee (BAC) for Consulting Services will handle procurement of consultancy services, while the Bids and Awards Committee (BAC) for Civil Works will handle procurement of civil works contracts.

6. PROJECT PROCUREMENT PLAN/IMPLEMENTATION PLAN

6.1 URPO-DPWH has prepared a Procurement Plan for the Civil Works and Consulting Services. Procurement will be in accordance with the Guidelines on Selection and Employment of Consultant by World Bank Borrowers and the Implementing Rules and Regulation of Republic Act No. 9184 otherwise known as the Government Procurement Reform Act. Attached in Appendix 3 are the Procurement Plans for Civil Works and Construction Supervision.

6.2 The implementation of the Project is targeted on October 2007, with a duration of twenty one (21) months.