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CERTIFIED TO ISO 9001:2015  
CERT. NO. QMS 09497



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# LIST OF RAIL, ROAD, HIGHWAY AND MAJOR INFRASTRUCTURE FOR LAND DEVELOPMENT PROJECTS UNDERTAKEN BY SMHB

\* updated March 2023

| Project   | Client                             | Road Type/<br>Development Area | Year      |
|---|------------------------------------|--------------------------------|-----------|
| <p>1. Upgrading of Bridge Across Sg. Marang at FT003 Route Kuala Terengganu – Kuantan Road, Marang, Terengganu</p> <p>Design and construction of 2.5 kilometres upgrading existing road from two lane single carriageway to four lane dual carriageways</p> <p>Design and construction of new bridges, elevated structure and ramps as the following:</p> <ul style="list-style-type: none"> <li>• Bridge over Sungai Marang</li> <li>• Interchange bridge over junction between Jalan Kuala Terengganu Marang (Route FT003) and Wakaf Tapai (Route T02).</li> <li>• Elevated structure connecting bridge over Sungai Marang and Interchange Bridge over junction between Kuala Terengganu Marang (Route FT003) and Wakaf Tapai (Route T02) including entry and exit ramp at appropriate location to allow smooth flow and accessibility.</li> <li>• Bridge widening from two (2) lane single-carriageways to four (4) lane dual carriageways over Sungai Rinting.</li> <li>• Design and construction of Vehicular Box Culvert (VBC) and culvert where required.</li> <li>• Design and construction of the junction, intersection, service road and U-turn where required based on traffic study done by the registered traffic consultant.</li> <li>• Design and construct of new access roads and and/or upgrading existing access roads to any affected residential area, residential houses, shop area where required.</li> <li>• Demolition of existing structures including motorcycles shelters, bus stops, fencing, pedestrian crossing facilities and etc, design and construction to replace existing structure and building as per local authorities' requirement if required.</li> <li>• Provision in construction of all necessary temporary river crossing, road diversion and temporary access road for the proper and expeditious execution of the contract.</li> </ul> | GPQ – LGBE Joint Venture           | R5                             | 2021-2025 |
| <p>2. Construction of A New Entrance, Fencing and Gateway, and Other Related Works at Istana Munarah, Seremban, Negeri Sembilan</p> <ul style="list-style-type: none"> <li>• New access road at the junction of existing road approximately 200 m length and 7 m width.</li> <li>• Construction of 2-types of new fencing, a Decorative Wall Fence approximately 321 m and another is Anti-</li> </ul>  | Jabatan Kerja Raya Negeri Sembilan | U1                             | 2021-2024 |

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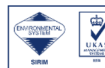
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| <p>climb Wall Fence approximately 708 m and height for both fences are 2.4 m (from ground level).</p> <ul style="list-style-type: none"> <li>Construction of Gateway and Guard Post.</li> </ul>   |  |                                   |                                    |
| 3. Raub to Bentong (Package 5) of the Central Spine Road, Pahang – Package 5A: Raub Bypass (9.6 km)   | Kementerian Kerja Raya Cawangan Kejuruteraan Jalan dan Geoteknik | R5                                | 8/2009 (construction starts: 2017) |
| 4. Raub to Bentong (Package 5) of the Central Spine Road, Pahang – Package 5B: Kg. Orang Asli Sg. Chandan ke Kg. Asap (16 km)   | Kementerian Kerja Raya Cawangan Kejuruteraan Jalan dan Geoteknik | R5                                | 8/2009 (construction starts: 2017) |
| 5. Raub to Bentong (Package 5) of the Central Spine Road, Pahang – Package 5C-1: Kg. Asap ke Kg. Sertik (16 km)   | Kementerian Kerja Raya Cawangan Kejuruteraan Jalan dan Geoteknik | R5                                | 8/2009 (construction starts: 2015) |
| 6. Raub to Bentong (Package 5) of the Central Spine Road, Pahang – Package 5D: Bentong Bypass (10.3 km)   | Kementerian Kerja Raya Cawangan Kejuruteraan Jalan dan Geoteknik | R5                                | 8/2009 (construction starts: 2015) |
| 7. Projek Mass Rapid Transit Laluan 2: Sungai Buloh-Serdang-Putrajaya (SSP) – Southern Kuchai Lama-Serdang<br><br>Detailed design and construction supervision of Packages V204, V205, V206, V207, S204, S205 and S206.   | MMC Corporation Berhad – Gamuda Berhad JV                        | MRT                               | 2014-2021                          |
| 8. East Klang Valley Expressway (Kuala Lumpur Outer Ring Road)<br><br>Design of 16 nos. of Bridges; specifically, Ampang Interchange including Ampang Spur Road, and Ukay Perdana Interchange.  | Ahmad Zaki Resources Berhad                                      | Expressway                        | 2013-2018                          |
| 9. Master Plan for Pengerang Petroleum and Maritime Industrial Park in Teluk Ramunia, Pengerang Johor<br><br>Development of Land Use Master Plan for 1,700 acres to be reclaimed from the sea for an integrated chemical logistic park.   | Spektrum Budi Sdn Bhd (Subsidiary of Benalec Sdn Bhd)            | 1,700 acres                       | 2012-2013                          |
| 10. Klang Valley MRT – Plaza Phoenix to Kajang, Selangor (in association with Mott MacDonald (Malaysia) Sdn Bhd, H&T Associates Sdn Bhd, VERITAS Architects Sdn Bhd, Khairi Consult Sdn Bhd, T&T Konsult Sdn Bhd, KL Prima Sdn Bhd, MMSB Consult Sdn Bhd and Zaidun-Leeng Sdn Bhd)<br><br>Detailed design of Packages V6-V8, construction supervision of Packages V5-V8 including Kajang Depot. | MMC Gamuda KVMRT (PDP) Sdn Bhd                                   | MRT                               | 2011-2017                          |
| 11. Lojing Highland Resort Development in Ulu Nenggiri, Gua Musang, Kelantan<br><br>Consultancy services to obtain planning and EIA approval for development on a land area of 3,713 hectares and detailed design of earthworks and 5 km access road from Simpang Pulai-Gua Musang Highway.   | Lojing Highland Resort Development Sdn Bhd                       | 3,713 hectares                    | 2011-2012                          |



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|--|--|-----------------------------------|-----------|
| 12. Infrastructure Works for Cherating Mainland Coastal Tourism Development at Kuantan, Pahang<br><br>Road improvement to tourism development areas in Cherating (217 acres) and Chandor (744 acres). Detailed Design and Supervision.   | East Coast Economic Development Council (ECERDC)         | 217 acres,<br>744 acres           | 2010-2012 |
| 13. Central Spine Package 3 – Raub to Bentong<br><br>Feasibility study and detailed design of 45 km Federal Route 8 roads upgraded to 2-lane dual carriageway.   | East Coast Economic Development Council (ECERDC)         | R5                                | 2009-2014 |
| 14. KLIA 2 - New LCC Terminal and Associated Works, Sepang, Selangor – Utilities Package, Selangor<br><br>Detailed design, construction supervision and utilities coordination and clash analysis.   | Malaysia Airport Holdings Berhad                         | -                                 | 2009-2011 |
| 15. Universiti Putra Malaysia Development Master Plan 2008<br><br>Traffic study and recommended options to improve traffic flow during peak hours within UPM.  | Arkitek Urbanisma Sdn Bhd                                | -                                 | 2009      |
| 16. Feasibility Study for Mersing to Kg. Sedili Besar New Coastal Road<br><br>Feasibility study and EIA for a new coastal road of 65 km long to enhance tourism activities along that coastal belt.  | Majlis Pembangunan Wilayah Ekonomi Pantai Timur (ECERDC) | R3                                | 2009      |
| 17. Expansion of Masjidil Haram, Makkah, Saudi Arabia<br><br>Conceptual engineering design of traffic tunnel, pedestrian tunnel, utility tunnel, wastewater, solid waste, water supply/recycle water and drainage.   | Hijjas Kasturi Associates Sdn Bhd                        | -                                 | 2008      |
| 18. Internal Roads for Politeknik Hulu Terengganu<br><br>Concept design of roadworks, earthworks, drainage system and utility supply.  | Jabatan Kerja Raya, Malaysia                             | -                                 | 2008      |
| 19. Bukit Lanjan-Jalan Duta Parapet Upgrading<br><br>Study and recommendations to strengthen metal parapet along sections of the North Klang Valley Expressway.  | PLUS Bhd   | Expressway                        | 2007      |
| 20. Interchanges along Johor Bahru Inner Ring Road for Iskandar Malaysia<br><br>Detailed design and construction supervision of an elevated bridge over the existing signalised Jalan Yahya Awal/Johor Bahru Inner Ring Road junction and an elevated Jalan Abu Bakar Interchange and associated works.<br><br><ul style="list-style-type: none"> <li>Dual two-lane carriageway bridge crossing Jalan Yahya Awal/Johor Bahru Inner Ring Road.</li> <li>A Trumpet Interchange for Johor Bahru Inner Ring Road traffic turning east and west to Jalan Abu Bakar with a split ramp to the future Central Malaysian Properties Sdn Bhd's development.</li> <li>Dual two-lane carriageway multi-span viaduct crossing Jalan Sg. Chat/Johor Bahru Inner Ring Road junction.</li> </ul> | South Johor Investment Corporation                       | U5                                | 2007      |



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| <ul style="list-style-type: none"> <li>Single-lane elevated ramp for traffic from Jalan Abu Bakar turning to Johor Bahru Inner Ring Road.</li> </ul>  |   |                                   |           |
| <p>21. Nam Theun 1 HEP, Laos</p> <p>Detailed design of access road to hydropower dam project. Realignment of main access road (5.5km) and access road to the right bank for construction of the diversion tunnel and for excavation of the dam foundation.</p>  | Maunsell Ltd                                      | -                                 | 2007      |
| <p>22. Pahang to Selangor Raw Water Transfer Project</p> <p>Detailed design of access roads to tunnel adit, dam and intakes for water supply project.</p>   | Kementerian Tenaga, Air dan Komunikasi, Malaysia  | -                                 | 2007      |
| <p>23. Grade Separated U-Bar Interchange for Jalan Tebrau/Jalan Harimau, Jalan Tebrau/Jalan Air Kuning, Jalan Lingkaran Dalam/Jalan Tebrau, Jalan Lingkaran Dato' Sulaiman, Johor.</p> <p>Design of bridge utilizing pre-tensioned pre-cast U5 beam of 1 m high and post-tensioned pre-cast U beam of 1.9 m high of various spans.</p>  | Jabatan Kerja Raya Malaysia, Cawangan Jalan       | U5                                | 2005      |
| <p>24. Township Development in Kuantan, Pahang</p> <p>Environmental impact assessments, environmental monitoring programme.</p>   | Kurnia Setia Development Sdn Bhd                  | 600 hectares                      | 2005-2006 |
| <p>25. Gerbang Selatan Bersepadu Project – CIQ Complex Road Network</p> <p>Detailed design and construction supervision of an entry and exit road networks to the new Customs, Immigration and Quarantine (CIQ) Complex at Johor Bahru. Involving a three-tier interchange at Jalan Lingkaran Dalam/Jalan Lumba Kuda junction and light vehicle ramps connecting CIQ to the future dedicated highway to Senai Airport. There are in total 7 bridges, 8 vehicular box culverts, 110,000 m<sup>2</sup> of road pavement and 3,100 m<sup>2</sup> of retaining wall in this project. Three PUB pipelines are affected and need to be relocated/protected.</p> | Gerbang Perdana Sdn Bhd                           | U5, U3 & U1                       | 2002-2008 |
| <p>26. Master Infrastructure Study: Karambunai Peninsular Development, Sabah</p> <p>Detailed design and construction supervision of Phase 1; comprising access road (2 km), drainage, sewerage, water supply and telecommunications.</p>  | Karambunai Resorts Sdn Bhd                        | 1,500 acres                       | 2001      |
| <p>27. Jalan Cheras/Phoenix Plaza Interchange, Kuala Lumpur, Malaysia</p> <p>Detailed design and construction supervision of a grade separated interchange at Jalan Cheras/Taman Len Seng junction. It involves 2 pre-stressed cellular deck concrete bridges, 1 reinforced concrete cellular deck concrete bridge and 2 pre-cast segmented arch underpasses and 16,000 m<sup>2</sup> of retaining walls.</p>   | Dewan Bandaraya Kuala Lumpur/MTD Construction Bhd | U5                                | 2001-2009 |
| <p>28. Common Utility Tunnel (CUT) for Putrajaya Development</p>  | Putrajaya Corporation                             | 10,905 m<br>Utility Tunnel        | 1999-2005 |



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|--|---|-----------------------------------|-----------|
| <p>Detailed engineering design of an underground tunnel which housed and provides a protected environment for power and telecommunication cables, potable water supply pipes, gas pipes and telemetry cables.</p> <p>Length: Primary CUT 7,633 m, Secondary CUT 1,154 m, Tertiary CUT 2,118 m. Total 10,905 m.</p>   |   |                                   |           |
| 29. Putrajaya Bus and Taxi Terminal – Precincts 1 & 9 Putrajaya  | Perbadanan Putrajaya  | Public Transportation Terminal    | 1999-2000 |
| <p>Detailed engineering design and construction supervision of civil and structural, mechanical and electrical and testing and commissioning of the terminals.</p>   |   |                                   |           |
| 30. Integrated Utility Planning and Design Consultant for Phase 1A and 1B of Putrajaya Development   | Putrajaya Holdings Sdn Bhd  | 4,400 hectares                    | 1997-2000 |
| <p>Utility planning and design coordination for Putrajaya Township comprising government complex, residential areas, comprehensive public transportation network and infrastructure.</p>   |   |                                   |           |
| 31. Shah Alam to Bandar Baru Batu Arang Trunk Road, Phase 1 & 2, Selangor, Malaysia  | Oxford Alliance Sdn Bhd   | U5                                | 1996-2002 |
| <p>PED, EIA study, detail design and construction supervision for 16 km single 2-lane carriageway.</p>   |   |                                   |           |
| 32. Internal roads for Universiti Malaysia Sabah, Malaysia   | Syabas Hakikat Sdn Bhd  | U1                                | 1996-1999 |
| <p>Detailed design and HOD during construction of the project.</p>   |   |                                   |           |
| 33. Utilities Coordination Services and Preparation of Utility Master Plan   | Kuala Lumpur International Airport Berhad                                   | -                                 | 1996-1998 |
| <p>Detailed design of five underground utility systems and related facilities (potable water distribution, recycle water distribution, medium and low pressure gas distribution, telecommunication ducts and wastewater collection), design review of wastewater treatment facilities, feasibility study of solid waste system, utility coordination, construction supervision and preparation of airport utilities master plan.</p> |   |                                   |           |
| 34. Kajang Traffic Dispersal Ring Road Section 2 (SILK), Selangor, Malaysia  | Sunway Construction Berhad/Sistem Lingkaran Lebuhraya Kajang Sdn Bhd (SILK) | U5                                | 1995-2004 |
| <p>Detailed design and construction supervision of 14.4 km dual 3-lane carriageway with 2 m wide median. Section 2 comprises two interchanges and five concrete bridges.</p>   |   |                                   |           |
| 35. Infrastructure for Bandar Nusajaya, Gelang Patah, Johor, Malaysia  | Prolink Development Sdn Bhd   | Expressway                        | 1995-2000 |
| <p>Preliminary Engineering Design and detailed design of 20 km of dual 2 and 3 carriageway, bridges and interchange.</p>   |   |                                   |           |
| 36. Bandar Nusajaya, Gelang Patah, Johor-Infrastructure Works  | Prolink Development Sdn Bhd   | 3,300 hectares                    | 1995-2000 |
| <p>Planning, detailed design, project management, contract administration and construction supervision of:</p>   |   |                                   |           |



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|---|------------------------------------|-----------------------------------|-----------|
| <ul style="list-style-type: none"> <li>20 km of dual-two and dual-three carriageway expressway, bridges and interchange.</li> <li>25 km of steel water supply mains with diameter ranging from 300 mm to 1200 mm, reservoirs and pumping station to provide 100 Mld of supply.</li> <li>25 km of trunk sewer network with diameter ranging from 300 mm to 2000 mm to serve an population equivalent of 450,000 (Estimated Population).</li> <li>A new sewage treatment plant to serve 450,000.</li> <li>Trunk drains up to 40 m width designed to discharge 1:100 year flood returns with interconnected retention ponds.</li> <li>Coordination of fiber optic and coaxial network for advanced telecommunication system.</li> <li>Coordinating of power supply infrastructure to provide 155,000 kW comprising 132 kV and 22 substations, underground cabling network for 132 kV and 22 kV lines.</li> </ul> |                                    |                                   |           |
| 37. Commonwealth Games Facilities - National Aquatic Centre<br>Civil and Structural and Mechanical and Electrical design, and site supervision works, testing and commissioning of the aquatic centre.  | United Engineers (Malaysia) Berhad | -                                 | 1995-1998 |
| 38. Kuala Lumpur Middle Ring Road Package 9, Kuala Lumpur, Malaysia<br>Detailed design and construction supervision of 8.3 km dual 3-lane carriageway. Package 9A involves the construction of 6 concrete bridges while Package 9B has 1.3 km long viaduct.   | Jabatan Kerja Raya, Malaysia       | U5                                | 1994-1999 |
| 39. Geotechnical advise on Butterworth to Changkat Jering Toll Expressway<br>Provide geotechnical expertise to ESA involving slope stability analysis, settlement prediction, trial embankments and foundation treatment on very soft marine clay.  | ESA Jurutera Perunding Sdn Bhd     | Expressway                        | 1990      |
| 40. North Klang Valley Expressway: Bukit Lanjan to Jalan Duta<br>Detail design and construction supervision for the 3-lane dual carriageway of 8.5 km from Bukit Lanjan to Jalan Duta via a 3-tiered interchange.   | PLUS Bhd                           | Expressway                        | 1989-1992 |
| 41. Access road to Linggiu Dam, Johor, Malaysia<br>Detailed design and construction supervision of a 2-lane single carriageway rural road of 6 km including a single span bridge.   | Public Utilities Board, Singapore  | R5                                | 1988      |
| 42. Pembinaan Jalan dari TUDM Subang ke Jalan Puchong, Selangor, Malaysia<br>Detailed design of a diamond interchange and upgrading of a 2-lane dual carriageway. The works also include 12 bridges and 2 foot bridges.   | Jabatan Kerja Raya, Malaysia       | R6                                | 1984      |

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| <p>43. Diversion of Sungai Semenyih Dam access road, Selangor, Malaysia</p> <p>Detailed design and construction supervision of a 2-lane single carriageway rural road of 7.5 km on mountainous terrain.</p>   | Jabatan Bekalan Air, Selangor, Malaysia | R4                                | 1984 |
| <p>44. Pembinaan Jalan Alternatif/Gantian Jalan Kg. Baru Subang/Kg. Batu Tiga, Selangor. Malaysia</p> <p>Detailed design of a 2-lane single carriageway rural road of 6 km including a 3-span bridge and 2 box culverts.</p>  | Jabatan Kerja Raya, Malaysia            | R5                                | 1983 |
| <p>45. Pembinaan Jalan Alternatif/Gantian Jalan Kg. Baru Subang/Kg. Batu Tiga, Selangor. Malaysia</p> <p>Detailed design and construction supervision of a 2-lane single carriageway rural road of 6.6 km and upgrading of 3 km of existing road including a 3-span bridge and a box culvert.</p> | Jabatan Kerja Raya, Malaysia            | R5                                | 1982 |