

# DATA SHEET

(Personal Information)

Name : **EMILIO M. MORALES**  
Date of Birth : July 6, 1948  
Place of Birth : Nueva Ecija, Philippines  
Profession : Civil Engineer  
Principal

## EDUCATION:

- : **Advanced to PhD Candidacy 2005**  
Geotechnical and Geoenvironmental Engineering Program  
Asian Institute of Technology  
Bangkok, Thailand  
(uncompleted thesis) ***“The Application of Artificial Intelligence to Geotechnical Engineering Site Characterization and Liquefaction Zonation in Metro Manila”***
- : **Master of Science in Civil Engineering**  
Carnegie Institute of Technology  
Carnegie - Mellon University  
Pittsburgh, PA, USA  
CLASS 1980
- : **Bachelor of Science in Civil Engineering**  
Mapua Institute of Technology (1970)

## PROFESSIONAL EXAMINATION:

Philippine Civil Engineering Board Examination (1970)  
**C.E. License No. 11236**

## GRADUATE WORK:

PhD Thesis (under Preparation)

- : ***“The Application of Artificial Intelligence to Geotechnical Engineering Site Characterization and Liquefaction Zonation in Metro Manila”***

MSCE Thesis : Computer Graphics Applications in Civil Engineering  
**Title: “Computer Aided Generation of Soil Profiles for Geotechnical Engineering”**

Graduate

Research Work :

**“Electro kinetics as a Remediation Technique using Carbon Electrodes.”**

**‘Innovations in the Analysis, Design, and Erection of Prestressed Concrete Anchored Bulkheads.’**

**“Study on the Impact Resistance of Fiber Reinforced Prestressed Cylindrical Piles”** for Raymond International

## HONORS & AWARDS:

- : Awardee: 2012 The Outstanding Mapuan (TOM) in the profesisonal field of endeavor-Civil Engineering, Mapua Institute of Technology May 19, 2012
- : Awardee: Outstanding Civil Engineer Award - 2012  
Philippine Institute of Civil Engineers (PICE)
- : Awardee: Outstanding Structural Engineer Award - 2012  
Association of Structural Engineers of the Philippines (ASEP)  
50<sup>th</sup> Anniversary Celebration
- : Outstanding Civil Engineer - 2012  
Mapua Institute of Technology CE-ENSE
- : Certificate of Recognition from the **Professional Regulation Commission Republic of the Philippines** for work in the Field of SOIL MECHANICS and FOUNDATION ENGINEERING.
- : Awarded **Professional Specialist Category** by the Philippine Institute of Civil Engineers in the fields of:
  - **Structural Engineering**
  - **Geotechnical Engineering**
- : **Most Outstanding Mapuan Alumni Award** – National Asociation of Mapua Alumni 2011
- : **Most Outstanding Alumni Award** – Mapua Institute of Technology CE-ENSE 1999
- : **Fellow** – Philippine Institute of Civil Engineers (*PICE*)
- : **Fellow** – Association of Structural Engineers of the Philippines (*ASEP*)
- : **Fellow** – American Society of Civil Engineers (*ASCE*)

## SERVICE TO THE CIVIL ENGINEERING PROFESSION

- CHAIRMAN*      *NSCP 2010 CODE COMMITTEE* Association of Structural Engineers of the Philippines (ASEP) Committee on the updating of the NATIONAL STRUCTURAL CODE for BUILDINGS 2010 Edition. The predecessor Code was 2002 Edition. The Committee was able to prepare the revision in 1 year.
- Chairman*      Joint PICE/ASEP Investigation Team for Cherry Hills Landslide Investigation.
- Chairman*      Committee on Excavations and Foundations and Retaining Walls  
National Structural Code for Buildings, 3rd Edition 1986.
- Member*      Committee on Excavations and Foundations and Retaining Walls  
National Structural Code for Buildings, 2nd Edition 1981
- MEMBER*      CE-Ense Program Academic Advisory Panel, Mapua Institute of  
Technology, Manila

## ACADEMIC TEACHING EXPERIENCE:

*FORMER MEMBER OF FACULTY* : Graduate Division  
*SENIOR LECTURER* College of Engineering  
University of the Philippines  
Diliman, Quezon City  
*Courses:* ADVANCED SOIL & ROCK MECHANICS,  
FOUNDATION ENGINEERING

## PROFESSIONAL ACTIVITIES:

### A. **PUBLISHED AND PRESENTED 9 INTERNATIONAL PAPERS:**

- |                        |   |
|------------------------|---|
| <i>Keynote Speaker</i> | <i>Paper: "A Clear and Preset Danger 2 – The Use of QT/TMT Rears in Seismic Zone 4"</i><br>ASEP 15 <sup>th</sup> International ASEP Conference IAC  |
| <i>Speaker</i>         | <i>Paper: "Full Scale Trial Embakment Test – Acceleration of Consolidation using Rammed Aggregate Piers"</i> ASEP 15 <sup>th</sup> International ASEP Conference IAC. Dusit Thani Hotel, Makati City September 28-30, 2011  |
| <i>Speaker</i>         | <i>GEOFRONTIERS 2011 "Full Scale Trial Embankment Test- Acceleration of Consolidation Using the Rammed Aggregate Pier (RAP<sup>®</sup>) System " Dallas , Texas March 12-17 , 2011</i>  |
| <i>Speaker</i>         | Fifth International Conference on Case Histories in Geotechnical Engineering<br><i>Paper: Settlement of a Light Rail Pier Supported on Large Diameter Bored Piles Remediated by Jet Grouting.</i><br>New York, NY April 13-17, 2004   |
| <i>Speaker</i>         | International Symposium 2003 on Soil/Ground Improvement & Geosynthetics in Waste Containment and Erosion Control Applications<br><i>Paper: A Review of the Electrokinetic Process for Soil Remediation</i><br>AIT , Bangkok, Thailand December 2-3, 2003  |
| <i>Speaker</i>         | The Second Civil Engineering Conference in the Asian Region (2 <sup>nd</sup> CECAR)<br><i>Paper: "The Cherry Hills Landslide Tragedy"</i><br>Hotel Metropolitan, Tokyo, Japan (April 16-20, 2001)   |
| <i>Speaker</i>         | Third International Conference on Case Histories in Geotechnical Engineering<br><i>Paper: "Structural and Functional Distress Due to Slag Expansion"</i><br>University of Missouri-Rolla, St. Louis, MO. U.S.A. (June 1-6, 1993)  |
| <i>Speaker</i>         | First ACI International Conference on Evaluation and Rehabilitation of Concrete Structures and Innovations in Design, 1991<br><i>Paper: "Rehabilitation of a Fire Damaged Building"</i><br>HK Marriott Hotel, Hong Kong   |
| <i>Author</i>          | Seventh International Convention on Structural Engineering:<br>Facing the Challenge of Economic Growth<br><i>Paper: "Stronger is Not Necessarily Better – The Significance of Tests and Properties of Civil Engineering Materials"</i><br>Manila Midtown Hotel, Pedro Gil cor. M. Adriatico Street<br>Ermita, Manila<br>May 15-17, 1999 |

**B. PUBLISHED AND PRESENTED 32 NATIONAL PAPERS:**

- Speaker* 2<sup>nd</sup> ASEP Concrete Convention – a.concept+2010  
Paper: **“A Clear and Present Danger 2 – The Use of QT/TMT Rebars in Seismic Zone 4”**  
Manila Pavillion Hotel, UN Avenue, Manila  
May 20-21, 2010
- Speaker* PICE National Convention 2009  
Paper: **“Geophysical Methods in Civil Engineering – Practical Applications”**  
Camp John Hay Trade and Cultural Center, Baguio City  
November 26 to 28, 2009
- Speaker* PICE Annual Convention 2006  
Paper: **“Slope Stability in Construction”**  
Iloilo Grand Hotel  
November 2006
- Speaker* PICE 29<sup>th</sup> PICE Annual Convention  
Paper: **“The Megadike Transverse Spillway No 3 Failure”**  
The Manila Hotel  
2003
- Speaker* Association of Structural Engineers of the Philippines (ASEP) and  
Philippine Institute of Civil Engineers - Lungson ng Maynila Chapter (PICE-  
LNM)  
Paper: **“Structural Remediation Using CFRP”**  
NIA, Quezon City  
November 24-25, 2000
- Speaker* PICE 26<sup>th</sup> National Convention  
Paper: **“Ground Improvement By Mechanical Means”**  
The Manila Hotel  
November 09-11, 2000
- Speaker* PICE 1999 National Convention  
Paper: **“Cherry Hills Landslide”**  
Waterfront Hotel, Lahug, Cebu City  
November 25-26, 1999
- Speaker* Philippine Constructors Association, Inc. Technology Forum on  
“Ground Improvement Techniques”  
Papers: **“Difficult Foundation Problems Solved by Jet Grouting”** and  
**“Soil Nailing An Innovative Solution to Problems in Ground Support.”**  
November 18, 1999
- Speaker* Vibrametrics ASEP/PICE Slope Stability  
Paper: **“Cherry Hills Landslide Tragedy”**  
Occupational Safety & Health Center, North Avenue cor. Agham Road, Q.C.  
October 9, 1999
- Speaker* PICE Negros Local Mid Year Convention  
Paper: **“The Electric Cone Penetrometer (CPT/CPTU) and Its Use in  
Geotechnical Engineering Services”**  
September 17-18, 1999
- Speaker* PICE 2nd Geotechnical Symposium  
Baguio City  
September 3-4, 1999

- Chairman* ASEPP/PICE First Geotechnical Symposium  
*Paper:* **“The Electric Cone Penetrometer (CPT/CPTU) and Its Use in Geotechnical Engineering Services”**  
 March 12-13, 1999
- Speaker* 21st National Convention  
*Paper* **“Pressure Calibration Using Precision Deadweight Piston Calibrators”**  
 World Trade Center, Roxas Boulevard cor. Gil Puyat, Pasay City  
 November 26 - 28, 1998
- Panelist* PICE 24th National Convention “25 Years of PICE”  
*Paper* **“Total Quality Management in Civil Engineering”**  
 Manila Midtown Hotel,  
 November 14, 1998
- Speaker* CAST ‘98 Conference on Concrete Art, Science & Technology  
*Paper 1:* **“Significance of the Ratio of Tensile Strength to Yield Stress (TS/YS) of Reinforcing Bars”**  
*Paper 2:* **“Rehabilitation of a Fire Damaged Building”**  
 Edsa Plaza Hotel, Mandaluyong City, Philippines  
 June 5-6, 1998
- Speaker* Department of Public Works and Highways (DPWH)  
 Geotechnical Engineering Seminar  
*Paper:* **“Overview of Geotechnical Engineering & Soil Exploration”**  
 September 2 to 6, 1991
- Speaker* University of the Philippines, National Engineering Center  
 Seminar on Earthworks and Heavy Equipment Management  
 UP Engineering Center  
*Paper:* **“Earthworks Planning & Execution - Geotechnical Investigation”**  
 February 26, 27 & 28, 1991
- Author* *Paper* on **“The MCCRRP and Geotechnical Engineering.”**
- Author* *Paper* on **“Dynamic Consolidation as a Method for Soil Stabilization.”**
- Author* *Paper* on **“Rockmound Bulkhead Analysis and Design.”**
- Author* *Paper* on **“Monitoring for Embankment Control and Safety.”**
- Speaker* PICE Mid Year Convention  
 Baguio Convention Center  
*Paper:* **“Innovations in Foundation Engineering”**
- Speaker* The 23rd National Road Safety Convention  
 Road Engineers Association of the Philippines (REAP)  
*Paper:* **“Soil Mechanics Principles Applied to Earthworks”**  
 Occupational Safety Building, Quezon City
- Lecturer* Joint United Nations Development Program (UNDP)/ National Engineering Center International Seminar on Soft Clays-UP Diliman
- Lecturer* PICE Continuing Education Program  
*Paper:* **“Spread Sheets in Civil Engineering”**

|                 |  |
|-----------------|--|
| <i>Lecturer</i> | UST Association of Civil Engineering Students<br><i>Topic: "Soil Stabilization Concepts and Procedures"</i>          |
| <i>Lecturer</i> | PICE Continuing Education Program LNM Chapter<br><i>Topic: "Soil Properties for Analysis and Design"</i>             |
| <i>Lecturer</i> | PICE Continuing Education Program<br><i>Paper: "Role of the Structural Engineer in Geotechnical Investigations."</i> |
| <i>Speaker</i>  | ASEP Conference<br><i>Paper: "Lessons from the Cotabato City Earthquake."</i>  |
| <i>Speaker</i>  | UP College of Architecture<br><i>Paper: "The Cotabato Earthquake Causes of Failure."</i>                             |
| <i>Speaker</i>  | CDCP Seminar on a Seismic Design.  |

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

|                                     |  |
|-------------------------------------|--|
| <i>CHAIRMAN</i>                     | <i>PICE Geotechnical Specialty Group</i>   |
| <i>CHAIRMAN</i>                     | <i>ASEP Geotechnical Committee</i>   |
| <i>FELLOW</i>                       | : American Society of Civil Engineers ( <i>ASCE</i> )  |
| <i>FELLOW</i>                       | : Philippine Institute of Civil Engineers ( <i>PICE</i> )                                      |
| <i>FELLOW</i>                       | : Association of Structural Engineers of the Philippines ( <i>ASEP</i> )                       |
| <i>MEMBER</i>                       | : PCIIRD (Philippine Council for Industry & Energy Research & Development) Technical Committee |
| <i>LIFE MEMBER</i>                  | : Association of Structural Engineers of the Philippines ( <i>ASEP</i> )                       |
| <i>PRESIDENT</i>                    | : <i>International Geosynthetics Society PHILIPPINE CHAPTER</i> 2008-2010                      |
| <i>MEMBER</i>                       | : American Concrete Institute ( <i>ACI</i> )   |
| <i>MEMBER</i>                       | : <i>Industrial Fabrics Association Inc. (IFAI)</i>  |
| <i>MEMBER</i>                       | : American Society for Non Destructive Testing ( <i>ASNT</i> )                                 |
| <i>MEMBER</i>                       | : American Society for Testing and Materials ( <i>ASTM</i> )                                   |
| <i>MEMBER</i>                       | : International Geosynthetics Society ( <i>IGS</i> )   |
| <i>Former MEMBER</i>                | : <b>ASFE</b> (The Association of Engineering Firms Practicing in the Geosciences)             |
| <i>MEMBER &amp; FORMER DIRECTOR</i> | : Philippine Concrete Industry Association ( <i>PCIA</i> )                                     |

## SPECIAL TRAINING:

*ATTENDED DESIGN SEMINAR ON USE OF  
CARBON FIBER REINFORCEMENT CFRP for  
REPAIR & STRENGTHENING OF STRUCTURES  
(First Asian to Undergo Training on CFRP Design)  
Conducted by Ing Ernst Basler and SIKA  
ZURICH, SWITZERLAND*

*CERTIFIED NDT LEVEL I and LEVEL II ULTRASONIC TESTING  
KRAUTKRAMER BRANSON UT COURSE LEVEL I AND LEVEL II  
SAN DIEGO, CALIFORNIA, USA*

*ATTENDED FIELD OPERATION AND TRAINING IN THE USE OF ELECTRIC  
CONE PENETROMETER (ECPTU) TESTING  
HEERENVEEN, THE NETHERLANDS*

*ATTENDED SHORT COURSE ON THE USE OF  
ECPTU, PRESSUREMETER AND FLAT DILATOMETER  
TEXAS A & M UNIVERSITY CONDUCTED BY  
PROF LOUIS BRIAUD  
RADIATION HEALTH SAFETY OFFICER'S COURSE  
Certified RHSO  
Seminar Conducted by Edilberto Cabalfin  
(PNRI Accredited Trainor)*

## INTRODUCED THE FOLLOWING PIONEERING TECHNOLOGIES IN THE PHILIPPINE CONSTRUCTION INDUSTRY

1. Pioneered in the use of CFRP Reinforcement in the Philippines for Structural Retrofitting
2. Pioneered in the use of soil nailing as a slope stabilization measure in the Philippines.
3. Pioneered in the introduction of Jet Grouting in the Philippines.
4. Pioneered in the introduction of GEOPIER Rammed Aggregate Piers in the Philippines.

## WORK ON QUALITY EXCELLENCE *Co-FOUNDER AND TECHNICAL DIRECTOR:*

Philippine GEOANALYTICS Inc. Group of Companies serving the Construction Industry.

[WWW.PGATECH.COM.PH](http://WWW.PGATECH.COM.PH)

In the process, earned for the Group the following Quality Distinctions:

- **First Laboratory** to be accredited **outside the Continental US** under the National Voluntary Laboratory Accreditation Program NVLAP by the US Bureau of Commerce.
- **First Laboratory** to be accredited under the ISO/IEE Guide 25 (*now ISO 17025*) by the Bureau of Product Standards Philippine Government BPS No 001
- **First Filipino Consulting Firm** in the Philippines to be accredited under **ISO 9001** through TUV Germany.
- Set up of the **First Commercial Calibration & Metrology Laboratory** in the Philippines (*ISO 17025 accredited*).

WORK EXPERIENCE:

- *Consulting Geotechnical Engineer*  
**Morrison-Knudsen International**  
Boise, Idaho  
300 Family Housing Units Project  
Subic Naval Base
- *Consulting Geotechnical Engineer*  
**Sundt Corporation**  
Tucson, Arizona  
450 Family Housing Units Project  
Clark AFB
- *Consulting Engineer*  
**San Miguel Corporation**  
Various Projects
- *Consulting Engineer*  
**Caltex (Phils.), Inc.**  
Engineering Department  
Marketing Operations
- *Head of Division, Planning and Engineering Group*  
Construction Management Systems Department  
**Philippine National Construction Corporation (PNCC - formerly CDCP)**  
*Rank: Assistant Vice President*
- *Head of Section*  
Monitoring & Controls Section  
PSCD, TMD  
**Construction Development Corporation of the Philippines (CDCP)**  
*Rank: Senior Manager*
- *Assistant Project Geotechnical Engineer*  
**D'APPOLONIA CONSULTING ENGINEERS**  
10 Duff Road, Pittsburgh, PA, USA
- *Head*  
Geotechnical Department  
Planning & Engineering Group  
**Construction and Development Corporation of the Philippines (CDCP)**  
In Charge of Geotechnical Engineering for MCCRRP reclamation works including Soil Stabilization test works and Quarry Prospecting in Manila Bay.  
Designed most of the Rock Bulkhead works from 1978 to 1979



JOB EXPERIENCES IN SITE CIVIL DESIGN AND GEOTECHNICAL/  
MATERIALS ENGINEERING:

1. ECWES Landfill Cavite (with Birkhan & Nolte Ingenieuresellschaft Germany) Complete site Civil Design of Sanitary Landfill including Earthworks Balancing, Design of Cells, protective dikes and Sanitary Drainage. Undertook Geotechnical Investigation and conducted Stability analyses of Dike system. Made detailed structural design of Landfill facilities and infrastructure such as Office Building, Maintenance shed and recycling shed.
2. VEOLIA Landfill Site Bulacan -Complete site Civil Design including Earthworks balancing, Design of Cells and Sanitary Drainage. Served as Geotechnical and civil consultant including evaluation of site soil Investigation results.
3. Birkhan & Nolte Ingenieuresellschaft Germany-Tarlac Sanitary Landfill site Served as Third Party Quality Control Laboratory on site Monitoring fill compaction of Embankments.
4. San Mateo Landfill \_Undertook remediation Geotechnical studies for Collapse sheetpile wall retention system
5. Birkhan & Nolte Ingenieuresellschaft Germany - made conceptual studies on Middle East Landfill including provision of Animation to demonstrate the Feasibility of Landfill operations
6. VEOLIA- Prepared concept studies on Transfer stations including evaluation of provision for Manual Picking with or without conveyor system. Provided Presentation animation studies to sell the system
7. Dizon Copper Mines-Made conceptual studies on utilization of Abandoned Open pit mine for use as sanitary Landfill . Provided concept studies and provided ananimation video for presentation to investors including sequencing of landfill operations as well as filling operations.
8. Visited Burgess and Niple (B & N)(Ohio, USA) visited Sanitary Landfill site in Columbus Ohio to Benchmark Sanitary Landfill design
9. San Miguel Corporation – Structural Design of UASB – Upflow Anaerobic sludge Bed Reactor Brewery Wastewater Treatment Plant
  - o *Magnolia Nestle – Structural Design of elevation aerobic Wastewater Treatment Plant*
  - o *Nestle Ice Cream Division – Structural Design of Aerobic Wastewater Treatment Plant*
10. Preparation of analyses, evaluation and recommendations for various Soil Investigation projects in the Philippines (see partial list of projects). (1975 to present)
11. As Head of Geotechnical Department P&E Group, CDCP Supervised Monitoring of various Soil Stabilization test works for MCCRRP Project such as:
  - o *Surcharge Method*
  - o *Sand Drain Method*
  - o *Sand Compaction Pile (COMPOZER System)*
  - o *Well point System*
12. Software Design for data reduction and regression analyses MENARD PRESSUREMETER (1979).
13. In-situ measurement of Soil Shear Strength using Field Vane Shear Apparatus.
14. In-situ Plate Load Testing of soils.
15. Prepared Concrete Trial mix designs for ADB HQ Bldg. using own design software (1986)
16. Prepared computerized aggregate blending program for asphalt mix for use at Subic Naval Base, Olongapo City. (1985)

17. Onshore and offshore Pile Load Testing. (*LUSTEVECO Ship Repair Facility, PRC Boilerhouse, US Embassy Chancery, etc.*)
18. Various Laboratory and Field Testing of soils and operation of Soil Mechanics Laboratory.
19. Use of Inclinometers and Settlement Plates for measurement of soil displacement under load.
20. Slope Stability Analysis of embankments using STABL Software and own software running on microcomputer.
21. Attended Short Course on the Pressuremeter, Static Cone Penetrometer (CPT) and Dilatometer - Texas A&M University under *Professor Louis Briaud*
22. Undertook Training in Static Cone Penetrometer, APVan den Berg, Heerenveen, Netherlands.
23. Offshore and Onshore Soil Investigation procedures such as:
  - *Undisturbed and Disturbed Sampling*
  - *Rock Core Sampling*
  - *Standard Penetration Test*
  - *Dynamic Cone Penetrometer Test*
  - *Static Cone Penetrometer Test*
24. Prospecting for Dredger Sand Quarry areas. (Manila Bay Reclamation Project - MCCRRP).
25. Established monitoring program for assessing Post stabilization results for roadway construction in soft reclaimed land using Wick Drains.
26. Evaluated various Soil Stabilization Technology for possible use at the MCCRRP such as:
  - *Dynamic Consolidation or Heavy Tamping*
  - *Paper Drains*
  - *Lime Stabilization*
27. Observed the use of the following foundation systems:
  - *large diameter bored piling*
  - *Slurry walls using bentonite*
  - *Paper drain installation*
  - *Rock and soil anchor drilling*
  - *Jet Grouting*
  - *Soil Cement Columns*
  - *Tunnelling using Tunnel Boring Machines*
  - *Tunnelling using Jet Grouting for Roof Reinforcement*

### SPECIAL ASSIGNMENTS UNDERTAKEN

1. As Head of Geotechnical Engineering Department, Planning and Engineering Group, CDCP, presided over the Geotechnical engineering aspects of the *Manila Cavite Coastal Road and Reclamation Project* MCCRRP, a 2,000 Hectare Road Reclamation and Development project (1978-1979) to include:
  - Stability Analyses of Rock Bulkheads using personally designed software on an HP Programmable Calculator then, to be utilized as the containment wall and wave protection for the whole reclamation
  - Prospecting for dredger quarry areas including the sinking of numerous boreholes within Manila Bay.

- Presided over the Soil Stabilization Trial Works in Partnership with FUDO Construction / Kawasaki Steel to determine the most cost effective Soil stabilization technologies to be adopted for the Project.
  - Setup of Soil mechanics Laboratory and Soil Exploration Team to monitor quality and condition of the seabed as well as the reclaimed Material.
  - Determine various silt control measures to protect the various aquatic livelihood areas from silt pollution and siltation.
  - Conducted numerous borings for Geotechnical works and for dredger quarry areas.
  - Conducted and interpreted Consolidation settlements over time to determine the necessary make-up volume.
2. Served as Geotechnical Engineering consultants to *Katahira Engineers Inc., for the R-1 Expressway Project* including the stability analyses and wave protection of the Expressway embankment as well the evaluation of the proposed foundation solution for the Bridge crossings. Conducted the necessary Geotechnical Engineering campaign including the conduct of numerous borings to determine soil shear strength and compressibility under loading. Quantification of magnitude of settlements was also performed for the project as well as determination of theoretical Statical pile load capacities.
  3. Served as Geotechnical Consultant to the *Project Planning and Management Office (PPMO) PAGCOR* for the reclamation aspects of the *Ang Bagong Nayon Entertainment City* which encompasses a projected reclamation area of 720 hectares. As consultant was responsible for directing monitoring teams for the quantification of the Dredging Contractor's accomplishment including quantification of Make-up volume due to settlement loss. Projected settlement calculations and looked into foundation solutions for the various proposed structures and amenities. Set up monitoring procedures and Guidelines for the reclamation.
  4. Served as Geotechnical and Site Development Consultant for the *Manila Bay Development Corporation* for their 47 hectare reclamation project at the MCCRRP. Prepared the necessary reclamation methodologies and Geotechnical instrumentation and monitoring.
  5. Served as Geotechnical Engineer and Site Development Consultant for the 100 Hectare CBP 1 A parcel now known as the Mall of Asia complex to include Sanitary Engineering services and conduct of subsurface soil exploration.
  6. Served as Geotechnical, Detailed Structural Engineering and Civil design Group for JG Summit Inc. for the JG Summit Petrochemical plant in Simlong, Batangas City. As part of the engagement by EM<sup>2</sup>A Partners & Co. we performed:
    - a. Design of land reclamation of a 5 Hectare area in Batangas Bay, including the use of Precast Concrete bulkhead/Marginal wharf system to sustain heavy lift of minimum 300 MT single Load from shipside.
    - b. Undertook the site development planning for the whole Petrochemical Facility
    - c. Served as detailed Structural design engineer of record for the design of the Petrochemical plant seconded to *Mitsubishi Heavy Industries (MHI)*.
    - d. Designed an innovative Precast concrete prefabricated cells for use as a Receiving Marginal receiving wharf to handle 300 MT single load .
    - e. Currently retained and engaged as the Geotechnical Consultants as well as Site Development Design Engineers for the JG Summit *Naptha Cracker Project*. This is a downstream complementation and expansion of JG Summits Petrochemical complex.

7. Served as Consultant to *Earth & Style Corporation* for the Geotechnical engineering works and Reclamation Methodology for a 100 Hectare Marginal land in Marilao, Bulacan.
8. Served as Consultant and Engineer of Record for the ongoing NESTLE Frontier project at the FPIP complex in Tanauan , Batangas, to include Site development planning and Design and detailed Structural, Civil and sanitary Engineering Design. This is a Php 12.0 B project on a 27 hectare site which will house the major Manufacturing complex of NESTLE for its various product lines
9. Detailed as Engineering Software Designer with the rank of Assistant Project Engineer at the consultant's office of the Milwaukee Water Pollution Abatement Project - Milwaukee, Wisconsin for the purpose of installing a Computer Graphics Software component for the Integrated Information Retrieval and Interpretation System (IRIS) for Geologic/Geotechnical Mapping and Logging of the City of Milwaukee. JOINT CH2M HILL - D' APPOLONIA PROJECT. (1979)
10. Geotechnical Engineer for the Urban Redevelopment Project of the City of Port Gentil, Gabon, West Africa. This involved extensive soil investigation, field testing, preparation of Geotechnical Maps and prescribed bearing capacities for various structures. Effected considerable savings in field exploration costs thru correlation of results. (1977)
11. Prepared Data Reduction Program for MENARD PRESSUREMETER using mathematical regression techniques. The software includes a Graphics facility for plotting results. MWPAP - D' APPOLONIA CONSULTING ENGINEERS. (1979)
12. Conducted Slope Stability Analyses for various structures using computer software-STABL D' APPOLONIA CONSULTING ENGINEERS. (1979)
13. Sent to CDCP Hong Kong operations to assist in the joint preparation of Conceptual Project Execution Plans for various Civil Works projects. (1981)
14. Sent to Tawau, Sabah, Malaysia in connection with the Sabah East Coast Road Project for various trouble shooting assignments which included studies of Campsite facilities, equipment and construction problems, making technical justifications for revised construction procedures to the Resident Engineer. Also looked into quarry and aggregate processing facility and made recommendations for improving operations. (1977)
15. Investigated and prepared studies on causes and remedial measures for the settlement of various bridge abutments in the Candaba Swamps. (1979)
16. Headed CDCP team as Geotechnical Manager in the soil stabilization study program working with consultants from the *Kawasaki Engineering Corporation* for the purpose of determining the most effective and economical soil stabilization procedure for various land uses of the Reclaimed soils of the Manila Cavite Road and Reclamation Project. (1977)
17. Served as Geotechnical/Materials Engineering Consultant to MORRISON - KNUDSEN INTERNATIONAL for the 300 Family Housing Units Project, Subic Naval Base, Olongapo, Zambales. Engagement resulted in acceptance of Revisions in Compaction Specifications by the **US NAVY** due to Swelling Soils uncovered in the Soil Studies. (1986)
10. Served as Consultant for CALTEX (Phils.)(now CHEVRON) INC. for Investigation and Design of Pollution Containment Dike, Lapu Lapu Terminal, Cebu City. (1985)
11. Undertook Failure Analyses and Studies on Typhoon Damage to Major Structures for PACIFIC CEMENT CO. INC. Subsequently retained for Structural Redesign of said Structures using recommended improvements made on the basis of findings made during the failure analysis. (1985)
12. Sent to CDCP Saudi Construction operations for the purpose of preparing accelerated construction Project Execution Plans. (1981)
13. Served as Geotechnical co-consultant to SUNDT Corporation, Tucson, Arizona for 450 Housing Units at Clark Air Force Base (1987)

14. Served as Co Consultant for Foundations Tagaytay Highlands Belleview Condos along Marginal Slopes.
15. Engaged in various projects for mitigation and remediation of damage due to Swelling/Heaving Soils.
16. Served as Consultant for the J.G. Summit Petrochemical Plant involving massive cuts in residual soils and rock.
17. Serve as Consultant for the Design of Piled Bulk Grains Handling Per for San Miguel Corporation Integrated Bulk Handling Terminal, Mariveles, Bataan.
18. Served as Geotechnical Consultant for Manila Bay Reclamation Project of Manila Bay Development Corporation.
19. Prepared Foundation Studies for PSPC Refinery, Tabangao, Batangas.
20. Designed Soil Nailed Retaining Walls and Remediation for Collapsed Sections of Meridien Properties - Essensa Tower Project.
21. Served as Geotechnical Engineer Designer for Soil Nailing Works - Katipunan Station LRT II for Hanjin Itochu Joint Venture.
22. Served as Geotechnical Consultant for West Leyte Road Improvement Project.

### **STRUCTURAL DESIGN EXPERIENCE:**

#### **Frontier Project (27 Has)**

Sto. Tomas, Batangas

A&E Design

As Engineer of Record

Principal In-Charge

- Biomass
- Flood Control
- Guard House

Structural Engineering Design

Principal In-Charge

#### **Greenline Onyx**

120 Has. Waste Management Project

San Jose del Monte, Bulacan

Civil Works Design

Principal In-Charge

#### **Caltex Service Stations**

- MJ Traders, Benguet
- Rosemarie Rosal, Santolan, Pasig
- Ditas Garcia, Makati
- Liberato Laus, San Fernando, Pampanga
- Hernaez, Antique
- Capas, Tarlac
- SP Tabanda, Baguio
- Villalobos, Lipa, Batangas
- Susan Entrata, Pasong Tamo, Makati
- Sincere Lumber, Quirino Avenue
- Elizaga Property, Cagayan de Oro
- Hyco Property, Cebu
- Jardeleza Property, Ilo-Ilo
- Policarpio, Mabalacat, Pampanga
- Maligaya Dev't Corp., Edsa, Q.C.
- Marcelo Platon, Calamba

#### **Nestle Phils., Inc.**

Cabuyao, Laguna

- Tote Bin Area Load Upgrade
- SQAL
- INF Building

Structural Engineering Design

Principal In-Charge

Structural Engineering Design

Principal In-Charge

#### **Nestle Phils., Inc.**

Cagayan de Oro

- Sieve Washing Room Extension
- Tote Bin Storage Extension
- Genset Building
  - Main Building
  - Fuel Treatment Building
  - EGB Area
  - Cooling Tower Area
  - Pipebridge / Racks
  - Transformer Area
  - Day Tank Area
  - Oil Separator Area

#### **Nestle Phils., Inc.**

Lipa, Batangas

Cold Storage Low Temperature

Structural Engineering Design

Principal In-Charge

**Earth + Style Corporation**

Biñan, Laguna

- South Jubillation
- JNB Common Areas

Civil Works Design

Principal In-Charge

**Fastcargo Logistics**

Bo. Batino, Laguna

Flat Floor Pavement Design

Pavement Design

Principal In-Charge

**Pilipinas Shell Petroleum Corp.**

Buli Depot Bundwall Upgrade

Muntinlupa

Structural Engineering Design

Principal In-Charge

**Hayama Corporation**

PET Recycling Plant

San Fernando, Pampanga

Structural Engineering Design

Principal In-Charge

**Supima Holdings**

Flat Floor Slab

Meycauayan, Bulacan

Structural Engineering Design

Principal In-Charge

**Bangko Sentral ng Pilipinas**

Roofdeck Slab Investigation

Cash Department Building

East Avenue, Quezon City

Structural Engineering Design

Principal In-Charge

**Biscom Inc.**

Binalbagan, Negros Occidental

- Biscom Refinery
- Condensate Tank

Structural Engineering Design

Principal In-Charge

**Alcan Packaging Inc.**

Hoist Beam and Canopy

Structural Investigation

Principal In-Charge

**Nestle Philippines, Inc.**

Cabuyao, Laguna

- Tote Bin Extension
- Milo Tipping at Central Tipping
- UHT Filling Room
- Incubator
- MCC Room & AHU Room
- Egron C
- New Receiving Silo at Evaporator Bldg.
- Roof Truss Modification
- Milk Tote Bin Extension 2

- Milk Tote Bin Access
- Milk Tote Bin Roofdeck

Structural Engineering Design

Principal In-Charge

**Wyeth Philippines, Inc.**

Canlubang, Laguna

- New CIP Room
- Basketball Court

Structural Engineering Design

Principal In-Charge

**Nestle Philippines, Inc.**

Lipa, Batangas

- Elevator Tower
- Basketball Court
- Rotary Dryer

Structural Engineering Design

Principal In-Charge

**Pilipinas Shell Petroleum Corp.**

Anibong, Tacloban

Anibong Catwalk and Pipe Trestle

Structural Engineering Design

Principal In-Charge

**Pilipinas Shell Petroleum Corp.**

Pandacan, Manila

Shell Demolition

Structural Engineering Design

Principal In-Charge

**Unilever Philippines, Inc.**

UN Avenue, Manila

Retrofitting of Basketball Court

Structural Engineering Design

Principal In-Charge

**Church of Jesus Christ of Latter Day Saints**

Pampanga

Retrofitting of M-170-13SC Building

Structural Engineering Design

Principal In-Charge

**Nestle Phils., Inc.**

Cagayan de Oro

- Water Chiller Tank
- Extraction 54 and 45
- Melting Room
- Sprinkler Loading
- Air Dehumidifier
- S Laboratory Extension
- Auxilliary Structures
- Genset Building & Genset Foundation

Structural Engineering Design

Principal In-Charge



**Earth + Style Corporation**

Biñan, Laguna

- Villaggio de Xavier Mondo Bambini
- Mayflower County

Civil Works Design

Principal In-Charge

**Mitsubishi Heavy Industries, Inc. (MHI)**

Al Jobail, Kingdom of Saudi Arabia

- Central Control Building
- Main Substation
- Plant V Substation
- Local / ASU Substation
- 02 Backup Substation
- Sabtank Substation
- Laboratory Building
- Sabtank E.D.G. Building
- 02 Backup E.D.G. Building
- Local E.D.G. Building
- Plant V E.D.G. Building

Structural Engineering Design

Principal In-Charge

**Church of Jesus Christ of Latter Day Saints**

Lahug, Cebu

Base Pollution Study

Structural Engineering Design

Principal In-Charge

**Magnolia Inc.**

Canlubang, Laguna

Refrigeration Building

Structural Engineering Design

Principal In-Charge

**CICI General Insurance Corporation**

Guadalupe, Makati City

Investigation of Burned Four (4) Storey Bldg.

Structural Engineering Design

Principal In-Charge

**Acerhomes Development Corporation**

Marilao, Bulacan

Marilao Reclamation Project

Structural Engineering Design

Principal In-Charge

**Nestle Phils., Inc.**

Cagayan de Oro

- Third Line Wet Mix
- Ex Evaporator Retrofitting
- Slab Milk – Tote Bin Tilting Station
- Air Dehumidifier
- Extraction 45 Additional Equipment for CVAX
- Extraction 54 Additional Equipment for CVAX

Structural Engineering Design

Principal In-Charge

**Nestle Phils., Inc.**

Cabuyao, Laguna

- Satellite Canteen
- Egron C
- Flavored Adult Milk

Structural Engineering Design

Principal In-Charge

**Earth + Style Corporation**

Biñan, Laguna

- Jubillation East
- Evergreen County

Civil Works Design

Principal In-Charge

**Wyeth Philippines, Inc.**

Canlubang, Laguna

- Wyeth Various Extension
- Skim Milk Dumping Platform Level

Structural Engineering Design

Principal In-Charge

**Caltex Philippines, Inc.**

Caltex NLEX Station

San Fernando, Pampanga

Structural Engineering Design

Principal In-Charge

**Alcan Packaging Inc.**

Cainta, Rizal

Inspection and Certification of

Hoist Beams and Frames

Structural Inspection

Principal In-Charge

**Church of Jesus Christ of Latter Day Saints**

GMA, Cavite

GMA Retaining Wall

Structural Engineering Design

Principal In-Charge

**Goya Philippines, Inc.**

Marikina City

- Bag Dumping Building
- Goya Production Structural Investigation

Structural Engineering Design

Principal In-Charge

**Benguet Corporation**

Benguet, Abra

Benguet Open Pit Water Reservoir

Principal In-Charge

**Pacific Cement Co., Inc.**

Structural Investigation , Forensic Engineering & Remediation Measures  
 Total Structural Rehabilitation of Typhoon Damaged Structures  
 Principal In-Charge

- *Fabrication Shop*
- *New Weight Bridge*
- *Coal Shead Extension*
- *Packhouse and Bagging Plant*
- *Kiln Feed End Building*
- *Plant Control Center*
- *Kiln Burner Roof*
- *Portsite Warehouse and Pier*
- *Dust Collector Building*
- *New Motorpool Building*
- *Power Plant*
- *Primary and Secondary Crushers, Silica Crushers*

**San Miguel Corporation**

Bacolod Beer Brewery Project  
 Principal In-Charge  
 Estimated Total Project Cost P650M (On-going)

- *Bottling and Warehouse Building*
- *Brewhouse Building*
- *Power and Services Building*
- *Filtration Building*
- *Vertical Beer Tank/Cellars*
- *Water Conditioning Plant*
- *7.5 MVA Outdoor Sub Station*
- *Equipment & Machineries Foundation*
  - ❖ *For Brewhouse Building*
  - ❖ *For Filtration Building*
  - ❖ *For Power & Services Building*
- *Malt Milling System*
- *Tanks Foundation*
  - ❖ *Caustic & Recovery Water Tanks*
  - ❖ *Cooling Tower System*
  - ❖ *Malt Silo Tank*
  - ❖ *Bunker Fuel & Diesel Oil Tank*
  - ❖ *Oil & Water Separator Tank*
- *Pipe Bridge*
- *Waste Water Treatment Lagoon*

**Philippine Refining Co., Inc.**

Sulphation Plant Bldg.  
 Structural Design Engineering  
 Principal In-Charge

**Nestle Philippines, Inc.**

Design and Monitoring  
**Superflat** Floor Construction for South and North Distribution Center

**Intramuros Administration**

Puerta Parian Archeological/Structural Rehabilitation of Various Spanish Fortifications  
 Consulting Engineer

**San Miguel Corporation**

Magnolia Division  
 Cagayan de Oro Ice Cream Plant  
 Structural Engineering & Architectural Design  
 Principal In-Charge

**San Miguel Corporation**

Magnolia Division  
 Structural Design Engineering  
 SL 900 Foundation Platform

**Caltex (Phils.) Inc.**

Structural Design of Standard Service Stations  
 Estimated Total Project Cost (Whole Program)

**Caltex (Phils.) Inc.**

Pandacan Terminal Office Building  
 Principal In-Charge  
 Estimated Total Project Cost

**Philippine Refining Company**

Boilerhouse Building  
 Structural & Architectural Design  
 Principal In-Charge

**Philippine Refining Co.**

PRC Generator Building  
 Principal In-Charge

**Shell Chemicals Corporation of the Phils., Inc.**

Principal In-Charge  
 Structural Design  
 Mosquito Coil Plant
 

- *Factory Building*
- *Drying Chamber*
- *Powder Plant*

**San Miguel Corporation**

Magnolia Corporation  
 Structural Design  
 Principal In-Charge  
 Iloilo Ice Cream Plant

**San Miguel Corporation**

NCB Building Structural Rehabilitation & Seismic Upgrade

**Caltex Phils. Inc.**

Aparri Depot Shore Protection

**San Miguel Corporation**

SMC R & D Building  
 Structural Investigation & Remedial Measures

**National Marine Corporation**

Finger Pier Structural Rehabilitation & Repair

**Southeast Taxiway Cubi NAS**

Subic Naval Base (US Navy)  
 Pavement Structural Investigation



**Pilipinas Shell Petroleum Corporation**

Aparri Depot Shore Protection  
Investigation and Remedial Measures

**Caltex (Phils.) Inc.**

Amlan Depot Shore Protection  
Investigation & Remedial Measures

**Armed Forces of the Philippines****General Head Quarters**

Construction Manager

**Consultant Management Services Inc. (CMSI)**

Mine Shaft Collar  
Engineering Inspection & Evaluation

**Mariwasa Manufacturing Inc.**

Three Covered Roadway Sections  
Roofing Structure

**Purefoods, Inc.**

Casings Room  
Structural Design

**Burgos Building**

Underpinning of Foundations using Jet Grouted  
Piles

**Electronic Telephone Systems Industries, Inc.**

Structural Design of:

- *PLDT X-Relay Stations*
- *PLDT Manhole Types I to V*
- *PLDT Standard Service Box*
- *PLDT Manhole Types 1 to 20*
- *Concrete Encased PVC Conduit*
- *PLDT Bridges at Various Locations*

**Manila Bay Development Corporation**

Value Engineering Activities for  
Seaside Outfall Relocation

**San Miguel Corporation**

Mandaue Beer Brewery  
Waste Water Treatment Plant  
Structural Design Engineering  
Principal In-Charge

**San Miguel Corporation**

Polo Beer Brewery  
Design of Flood Containment Wall  
Principal In-Charge

**San Miguel Corporation**

Polo Beer Brewery  
Structural Design of Additional Pipe Bridge  
Principal In-Charge

**San Miguel Corporation**

Mandaue Beer Brewery  
Raw Water Tank  
Structural Design Engineering  
Principal In-Charge

**Pilipinas Shell Petroleum Corporation**

Structural Design Engineering

Northern Mindanao LPG Depot

Principal In-Charge

**Raytheon Phils., Inc.**

Investigation of Manufacturing Building

**Caltex (Phils.) Inc.**

Earthquake Damaged Assessment  
Caltex Service Stations Facilities

**SMC-Magnolia Division**

NCB Plant Waste Water Treatment Facilities  
Principal In-Charge

**Manila Bay Development Corporation**

Water Park Horizontal Development Project  
Structural Design Engineering  
Principal In-Charge

**Coca Cola Bottlers Phils., Inc.**

Proposed Fire Pump Intake Gallery  
Design Engineering  
Principal In-Charge

**San Miguel Yamamura**

Glass Batching Plant  
Structural Design Engineering  
Principal In-Charge

**La Tondeña Distillers, Inc.**

Structural Design Engineering  
Alcohol Tank Foundations  
Ouano Port, Cebu

**La Tondeña Distillers, Inc.**

Structural Design Engineering  
Alcohol Distillery  
Bago City, Negros Occidental

**GHT Services, Inc.**

Structural Design Engineering  
ASTEC Warehouse  
Principal In-charge

**Nestle Phils. Inc.**

Structural Design Engineering  
Proposed Cooling Tower Basin Expansion  
Principal In-charge

**JG Summit Petrochemical Plant**

Structural Design Engineering Review  
Product Warehouse  
Principal In-charge

**Philippine Dairy Products Corp.**

Structural Design Engineering  
Proposed Dry Goods Bodega  
Principal In charge

**Sunjin Co. Ltd.**

Structural Design Engineering  
Proposed 20TPH Feedmill Plant  
Principal In charge

**Universal Rightfield**

Structural Design Engineering  
The Moorings  
Principal In charge

**Pilipinas Shell Petroleum Corp.**

Structural Design Engineering  
Service Station  
Principal In charge

**Nestle Phils. Inc.**

Structural Design Engineering  
Staff Houses  
Lipa, Batangas  
Principal In charge

**Roos Industrial Const. Corp.**

Structural Design Engineering  
Proposed 250 TPD Extraction Building  
Principal In charge

**Technoserve International Comp. Inc.**

Structural Design Engineering  
Proposed TIC Building  
Principal In charge

**Equipro Corp.**

Structural Design Engineering  
Fatty Acid and Alcohol Plant  
Principal In charge

**Edeleanu Asia Pte Ltd.**

Structural Design Engineering  
BASF Acrylic Dispersion Plant  
Principal In charge

**Philippine Resins Inc.**

Structural Design Engineering  
Proposed PRII Housing  
Principal In charge

**Middleby Corp.**

Structural Adequacy Investigation  
MPC Building  
Principal In charge

**Phil. Cocoa Corp.**

Structural Design Engineering  
Warehouse Renovation Project  
Principal In charge

**Eun Sung Ltd.**

Structural Design Engineering  
Feedmil Plant  
Principal In charge

**Hidden Spring & Perrier, Inc.**

Structural Design Engineering  
Transformer Room/Genset Foundation  
Principal In charge

**Philippine Geoanalytics Inc.**

Structural Design Engineering  
PGA Technical Center  
Principal In charge

**Fastcargo Logistics Corp.**

Structural Design Engineering  
FCLC Warehouse  
Principal In charge

**Nestle Philippines Inc.**

Structural Design Engineering

- Egron Building
- Tipping Station
- Dry Mixing

Principal In charge

**Roos Industrial Const. Corp.**

Structural Design Engineering  
Philips Power Plant  
Principal In charge

**Pilipinas Shell Petroleum Corp.**

Structural Design Engineering  
Cabadbaran Tank Foundation  
Principal In charge

**Nestle Philippines Inc.**

Structural Design Engineering  
Cagayan de Oro Warehouse  
Principal In charge

**Hidden Spring & Perrier Inc.**

Structural Design Engineering  
Mineral Water Plant Extension  
Principal In charge

**Belle Corporation**

Structural Design Engineering  
High Tension Tower Foundation  
Principal In charge

**Nestle Phils. Inc.**

Structural Design Engineering

- Pipe Bridge Extension
- Wet Cleaning Room & Clean Room
- Milo Warehouse Canopy Extension
- Egron Building
- Milk Tipping Pit

Principal In charge

**Goya Philippines Inc.**

Structural Design Engineering  
Goya Factory  
Principal In charge

### **Church of Jesus Christ of Latter Day Saints**

Structural Design for:

- RM-15
- Manila Temple Workers Apartment
- Micronesia Rural Meeting House
- I-13 Congregational Hall
- H-24 Micronesia Rural Meeting House
- Buendia Chapel
- RM-15 Meeting House Isolated Footing Scheme
- I-23 Meeting House
- I-36 Meeting House

### **The Church of Jesus Christ of the Latter Day Saints**

Structural Design Engineering

Pedestrian Tunnel Crossing

Principal In charge

### **The Church of Jesus Christ of the Latter Day Saints**

Manila Temple Workers Apartment

Structural Engineering Design

Principal In-Charge

**M-Standard M-170113SC Building**

San Fernando, Pampanga

**Cebu Project (Miranda & Big Foot Properties)**

Lahug, Cebu

**Review of RM-15**

**Manila Temple Workers Apartment**

Greenmeadows Subdivision, Temple Drive  
Quezon City

**Micronesia Rural Meeting House**

Guam, USA

**I-13 Congressional Hall**

Guam, USA

**I-36 Meeting House**

Various Locations

**M-39 Meeting House (Std. Two Storey Buildings)**

Ebeye, Kwajelein Marcial Island

**S-33 Meeting House & CES Facility**

Cubao, Quezon City

**Buendia Chapel**

Buendia, Makati City

**H-24 Micronesia Rural Meeting House**

Guam, USA

**I-15 Congregational Hall**

Guam, USA

**RM-15 Meeting House**

**I-23 Steel Trussed Meeting House**

**M-36 Meeting Houses**

Baesa, Quezon & Buan, Sorsogon

**Retrofit for RM 15 Meeting House**

**I-4 Meeting House**

Libis, Quezon City

**GMA Retaining Wall**

Gen. Mariano Alvarez, Carmona, Cavite

**Pedestrian Tunnel Crossing**

Temple Drive, Greenmeadows Subdivision

Quezon City

**Buendia Chapel**

Buendia, Makati City

**Meeting House**

Muñoz, Nueva Ecija

**Single Storey Meeting House**

Nandacan, Bautista, Pansasinan

**Single Storey Meeting House**

Pakil, Laguna

**Meeting House**

Gen. Mariano Alvarez, Cavite

**Single Storey Meeting House**

Calamba, Laguna

**Tunnel Portal Investigation**

Greenmeadows Subdivision, Temple Drive

Quezon City

**Cebu Project (Miranda & Big Foot Properties)**

Lahug, Cebu

## RELEVANT PROJECT EXPERIENCE:

### **General Santos Road Project**

- *Rigid Pavement Design*  
Sector 2 Malapatan-Glan Road  
Section 3 - Sta 20+139 to STA 20+650
- *Flexible Pavement Design*  
Sector 2 Malapatan-Glan Road  
Section 3 - Sta 20+650 to STA 47+175
- *Rigid Pavement Design*  
Sector 4 Polo to Landan  
Section 3 - STA 13+540 to STA 15+269.18
- *Rigid Pavement Design*  
Sector 4 Polomolok to Polo  
Section 1 & Section 2
- *Pavement Design*  
Sector 3 Section 4  
Kiamba Maitum Road Section
- *Pavement Redesign*  
Road Sector 2  
GSC-Alabel Malapatan Road  
Buayan Lun Padidu Road  
Lun Padidu-Malapatan Road

### ***Prepared Foundation Studies for the following Bridge Sites:***

- Lun Masla Bridge
- Tuyan Bridge
- Molo Bridge
- Pangalong Bridge
- Lasang Bridge
- Saub Bridge

### **Parallel Runway Project**

Clark Air Base

*Pavement & Road Structure Testing*

### **Moldex Realty, Inc.**

Metrogate Dasmariñas Estate

*Provided Professional Design Engineering for:*

- Site Development & Earthworks
- Roadway Alignment & Pavement Design
- DTM & Earthwork Analyses
- Specifications Review
- Value Engineering on Existing Details

### **Moldex Realty, Inc.**

Metrogate Marilao, Bulacan

*Provide Site Soil Investigation and Consultancy for Remediation of Various Problem such as:*

- Bridge Site Erosion
- River Protection Works
- Slope Instability Remediation

### **Port Gentil Urban Redevelopment**

*Provided Geotechnical Consultancy and Site Investigation Supervision for Road Network City of Port Gentil, Gabon*

### **Provided Supervision and Consultancy Services for Geotechnical Works:**

#### **Proposed Access Road**

*(Daang Hari Project)*  
Las Piñas, Metro Manila

#### **Proposed Two Bridges**

*(Villa de Calamba)*  
Calamba, Laguna

#### **350 Navy Family Housing Units**

Subic Naval Base

#### **450 Family Housing Units**

Clark Air Base

#### **560 Family Housing Units**

Clark Air Base

#### **400 Navy Housing Units**

Subic Naval Base

#### **P-51 Maintenance Hangar Facility**

Subic Naval Base

#### **MDC Housing**

Sta. Rosa, Laguna

#### **Proposed Palm Ridge Clubhouse**

Taal, Batangas

#### **Proposed Metrogate Subdivision**

Sta. Rosa, Laguna

#### **Proposed Lakeview Condominium**

Tagaytay City

#### **Camella Homes**

South

#### **Villa de Calamba Bridge Sites**

Calamba, Laguna

#### **Proposed Laguna Technopark**

Sta. Rosa, Laguna

#### **Sta. Rosa Village 2A**

Sta. Rosa, Laguna

#### **Proposed Biñan Mass Housing**

Biñan, Laguna

## **Tagaytay Highlands Golf Club**

*Site Soils Investigation & Consultancy for*

- *Slope Stability Studies*
- *Elevated Cable Car Pylon Foundations*
- *Pinecrest Roadway and Earthworks Development*

## **Sta. Elena Golf & Country Club**

### SLOPE PROTECTION EXPERIENCE:

- **Slope Protection for EDC Leyte Geothermal Production Field (LGPF)**  
Evaluation and quantification of the existing slope stability and required remediation and mitigation measures.
- **Slope Protection for EDC Northern Negros Geothermal Production Field (NNGPF)**  
Evaluation and quantification of the existing slope stability and required remediation and mitigation measures.
- **Slope Protection for Essensa Project**  
Design of Soil Nailing up to 9.0 meter height of unsupported excavation including remedial measures for collapsed portion using Jet Grouting and Soil nailing.
- **Slope Protection for Tagaytay Highlands Pinecrest Project**  
Design of Soil Nailing Protection for 11.0 meter high unsupported cut.
- **Slope Stability and Remediation Study for Imperial Homes, Sta. Rosa, Laguna**  
  
Landslide vulnerability analyses and remediation study.
- **Slope Stability and Remediation Study for Imperial Homes, San Pablo, Laguna**  
Landslide vulnerability analyses and remediation study.

### **Soil Investigation and Materials Testing for:**

- Boso-Boso Sanitary Landfill  
San Mateo, Rizal
- C-5 Package B-5  
Bicutan, Taguig, Metro Manila
- Plaridel Pulilan Bridge  
Bulacan
- Rehabilitation of Bocaue Bridge  
Bulacan

### **Roadway Soil Stabilization Studies for Manila Cavite Coastal Road and Reclamation Project**

### **Slope Protection for Tagaytay Belleview Condominium**

### **FIELD SUPERVISION OF THE FOLLOWING PROJECTS:**

- Pile Load Test  
US Embassy Chancery Building for OV Roy Construction Inc. (1985)
- Reinvestigation of LUSTEVECO Ship Repair Facility, Batangas (1979)  
and Offshore Pile Load Testing
- Intrusion-Prepakt Piling for IRRI Rice Genetics Laboratory (1976)
- Soil Investigation Program for the North Luzon Expressway Extension Project
- 40 Boreholes Drilling Project for PNB Headquarters Building (1977)
- Pavement Investigation for Pavement Recycling of the METRO MANILA Better Streets Program
- Plate Load Testing for PHRDC Oyster Farm Project
- Geotechnical Investigation and Mapping of the City of Port Gentil, Gabon, Africa
- Plate Load Test Analysis and Evaluation for Taisei Corporation
- Engineering Investigation #39 Narra Residence (1988)
- Magnolia Plant Pavement Distress Investigation for San Miguel Corp. (1988)
- Sandfill Investigation of Tank #15 Foundation for Pilipinas Shell Petroleum Corp. (1988)
- Load Test Instrumentation for Calasiao Plant, Coca-Cola Bottlers Phils. Inc.
- Basement Seepage Investigation & Remediation for SMC Magnolia Main Ice Cream Plant
- Pavement Distress Investigation for PSPC Pandacan Lube Warehouse
- PRC Edibles Building Fire Damage at Third Floor Level
- AFP GHQ Building Fire Damage Assessment
- PNCC Headquarters Building Reconstruction

***Other Significant Projects Where Involved as Structural Designer:***

- *Insular Bank of Asia & America Bldg.*
- *IRRI Rice Genetics Laboratory Bldg.*
- *Iligan Cement Coal Conversion and Expansion Project*
- *Philippine Airlines Jumbo Jet Hangar*
- *Majalco Building*
- *IRRI Laboratory & Training Bldg.*
- *5-Storey Commercial Bldg.*
- *Caltex Pandacan Pier Design*
- *National Marine Corp. Pier Design*
- *NCB Seismic Upgrade, San Miguel Corporation*
- *Caltex Navotas Depot Storage Tanks and Pier Facility*
- *Caltex Pasacao Depot & Warehouse Facility*
- *PRC PAS Paste Storage Tanks*
- *Caltex Pasig LPG Warehouse*

**SUBSURFACE SOIL EXPLORATION:**

**Involved as *GEOTECHNICAL ENGINEER* for various projects:**

***Complete detailed list of projects can be submitted on request***