

**PETER M. MADRIAGA**

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**Academic Profile:**

**Civil Engineer (Philippines)**

**SUMMARY OF QUALIFICATIONS**

Responsible committed and highly motivated individual with **21 years (Singapore-12yrs, Malaysia-1yr, Dubai, UAE – 5yrs & Philippines-3yrs)** of continuous experience in construction industry. Willingness to work hard, concerned and interested in new work exposures, works well under pressure and working with people to achieve optimum results. Can easily adapt to different working environment.

**PERSONAL INFORMATION**

Date of Birth : 25<sup>th</sup> January 1981 Civil Status : Married  
Visa Status : S Pass (expiration date 12-07-2025) Height : 5' 10  
Passport : P6941851B (expiration date 07-07-2031)

**EDUCATION**

**BACHELOR OF SCIENCE IN CIVIL ENGINEERING (DEGREE) – 1997 to 2001**

Baguio Colleges Foundation, Harrison Road, Baguio City, Philippines

**AUTO CAD 2002**

Informatics Computer Institute, Los Banos, Laguna, Philippines

**ORGANIZATION & AFFILIATES**

TUCSS member (1693) - Singapore  
Registered RTO C&S and Tunnel (5431) with IES - Singapore  
OFCEA Overseas Filipino Civil Engineers And Architecture - Singapore & Dubai Chapter  
Philippines Institute of Civil Engineers (PRC Licensed) - Philippines

**SEMINARS & TRAININGS**

- Amendments to the fire Code 2018 and Technical Requirements for Shelters- (SJ Academy-Singapore)
- Safety Practices in Tunneling Industry - (TUCSS-Singapore)
- Hydrgeology in underground design and construction- (TUCSS-Singapore)
- Rock mass classification and its application in singapore for underground structures - (TUCSS-Singapore)
- From small dia. Pipe Jacking to Super Large Diameter at high Pressure- Developments in Mechanised Tunneling - (TUCSS-Singapore)
- Application of Ground Freezing for Mined Tunnel in T226 Marina Bay Station- (TUCSS-Singapore)
- Tunnelling with Macro Synthetic Fibre Reinforced Concrete- (TUCSS-Singapore)
- Safety in Precast construction (Star Academy)
- Supervision of Pilling works (Star Academy)
- Safety Management lesson from Nicoll Highway Collapse (IES-Singapore)
- Special Considerations for Geotechnical Monitoring in Large Tunnels and Cavens – (TUCSS-Singapore)
- Deep Tunnel Sewerage System (DTSS) phase 2- (TUCSS-Singapore)
- Building Control Regulations for Site Supervisors (BCA-Singapore)
- Building Construction Supervisors Safety Course BCSS/WSHM (Eversafe Academy-Singapore)
- Basic Safety Training- (C921 project- Singapore)
- Welding inspection and Testing – (IES-Singapore)
- Safety Training Course in CIDB (Tanjung Bin Site, Malaysia-Audex/PECM)
- Planning and Time Management Course (Singapore-Audex)
- FIDIC 99 Edition and CESSEM 3 (UAE, Sharjah- Halcrow)
- Basic Safety training on fire fighting and Roads and Bridge structures (UAE, Sharjah- Halcrow)
- Electrical safety and maintenance (UAE, Dubai-JT Metro)
- Underground safety requierments and procedures and Safety on lifting supervisor (UAE, Dubai-JT Metro)

**SKILLS:**

- ❖ Knowledge in Microsoft Office ( Word, Excel, Powerpoint), AutoCAD 2D, Photoshop, Sketchup, MS project.

## CAREER PROFILE

LYL CONSULTANTS PTE LTD (SIONG YU SENG CONSTRUCTION PTE LTD)  
SINGAPORE

### RESIDENT TECHNICAL OFFICER- RTO (C&S/T)

July 12, 2023 to Present:

**Project:** Contract CR106 Design and Construction of Loyang Station (Underground), Tunnels, Elevated Infrastructure (Viaduct) (Cross Island Line) Client: LTA Project Scope : 1.2km Twin bored Tunnel 6.3m dia with 4nos cross passage and retrieval shaft using EPB Type and Station and Launching Shaft (W=40m x L=388m x D=25 to 35m) with 3 entrances, vent shaft and cut & cover L=296m, Viaduct 1.74km with 51 piers, 1 abutment and 2 ramps with 8 piers). Project Start & Completion Date: 1st Qtr 2021 to 4th Qtr 2029 Project Cost: SG \$748M

**Work Done:** Tree fell cutting, Noise hoarding, utilities diversion (Telephone, PUB, SPPG, Starhub, Singtel, M1, pipe jacking 450mm & 600mm dia and road diversion & canal diversion), Bored pile dia 1.2m to 1.5m at depth=20m to 30m / Test pile by ULT & PDA, Guide wall, D-wall width=.8m to 1.2m, depth=30m to 40m, Excavation, Sheetpile, Soldier Pile and Strutting/decking works (S1 to FEL) of Pile Cap at depth=5m to 12m, Pile cap and Pier construction, SI/borehole works, Instrumentations & Monitoring, 22KV substation, Gantry Crane and existing pile survey investigation works for tunnel, Soil improvement using JGP method and WSM, All Materials and rebar, Concrete, Steel testing offsite inspection

#### Station:

- Construction of Guide Wall width .8m and 1.2m (excavation, lean concrete, rebar, formwork and casting)
- Construction of D-wall (.8m and 1.2m x 4m-6m x 25-40m) and Bored Pile (.8m and 1.2m dia. x 25 to 40m)
- Bentonite checking, excavation by Grabber and BC cutter machine, SEP extraction, trimming/chiseling, base cleaning, Desanding, koden test, lowering of rebar cage and checking and lowering of Tremie pipe, survey top level, final depth checking and casting (checking temperature and slump 160-210mm, G40 4hr RTD, tremie pipe cutting as per concrete casting min 3m below concrete), Install sonic logging and inclinometer pipe including base grouting.
- Checking and install instrumentation and testing parameters (sonic logging test, Prism, recharge well, water standpipe and ground and building settlement marker, inclinometer and noise meter.
- Machineries Working Platform checking and get COS from PE
- Checking delivery and fabrication of rebar cage and final checking on site and factory Yard
- Witnessed and checking of SI boreholes sample taken and testing and drilling and grouting works and instrumentation and monitoring and keep record completed.
- PUB existing canal diversion and casting of new slab and wall width=5m and height=3m including sheet piling, ERSS and excavation.
- Construction of sewer main pumping pipe and pumping station and manhole (excavation, lean concrete, rebar, formwork and casting and testing, commissioning)
- Extraction of existing POB & retaining wall bored pile using 200T Rotary hydraulic jack machine
- Soil improvement using JGP method and WSM
- Attend and witnessed Offsite testing of all materials (rebar, concrete, steel and aggregates/sand and welding's of steel members and others)

#### Viaduct:

- Construction of Bored Pile (.8m and 1.2m dia. x 20m to 40m depth), G111 confirmation and PLT test, toe depth confirmation, rebar cage lowering and casting using tremie pipes and bentonite checking
- Checking and witnessed and excavation and testing of installation of soldier pier, steel plates lagging, waler beam strutting works S1 waler beam to FEL
- Construction of pile head, pile Cap and Pier from lean concrete, rebar, formwork and casting works and with temperature monitoring and including Soldier Pile PDA test
- Attend and witnessed Offsite testing of all materials (rebar, concrete, steel and aggregates/sand and welding's of steel members and others)
- Safety checking and highlights unsafe act and issue near miss report and ECM checking
- Attend Daily Tool Box Meeting and record manpower and machineries in Daily Report with attached photos

#### Tunnel/LS:

- Survey of existing HDB piles and I&M installation and Site Investigation works.
- Construction of 22KV substation with transformers including cable laying and testing commissioning, rest area, site office and work shop
- Construction of LS Gantry Crane including testing and commissioning
- Construction of base slab, Pavement and other RC works
- Attend and witnessed Offsite testing of all materials (rebar, concrete trial mix, steel and aggregates/sand and water stop, and others)
- Attend Daily Tool Box Meeting and record manpower and machineries in Daily Report with attached photos

**RESIDENT TECHNICAL OFFICER- RTO (C&S/T)**

Feb 7,2022 - to June 30,2023:

**Project:** Contract CR105 Design and Construction of Bored Tunnel between Aviation Park Station and Loyang Station (Cross Island Line) Client: LTA Project Scope : 3.2km Single bored Tunnel 12.2m (internal dia) & 12.6m (outer dia) with center wall using TBM slurry Type and Launching Shaft (W=28mxL=60mxD=23-25m),Underpinning works at DNATA Building cargo changi airport and Precast Yard fabrication of Tunnel segment (1450 rings) Project Start & Completion Date: 1st Qtr 2021 to 4th Qtr 2029 Project Cost: SG \$385M

**Work Done:** Site office and boundary fence/hoarding and utility connections and access road & gates Bored pile/Test pile by Bi-directional test Guide wall D-wall WSM & JGP 1.4m to 2.3m dial (Ground Improvement) Capping beam Excavation Strutting works (S1 to S4 layer) SI works Instrumentations & Monitoring Precast Yard fabrication with carousel System including Testing & Commissioning Batching plant (tunnel segment) including Testing & Commissioning Survey works Topo and existing pile survey investigation works Underpinning works of Existing DNATA building and CAFHI Gas (preparation works) All Materials testing offsite inspection

**Launching Shaft:**

- Construction of Guide Wall (excavation, lean concrete, rebar, formwork and casting)
- Construction of D-wall (1.2m x 4m-5.3mx38m) and Bored Pile king post (1.2m dia.x38m)
- Bentonite checking, excavation by Grabber and BC cutter machine, SEP extraction, trimming/chiseling, base cleaning, Desanding, koden test, lowering of rebar cage and checking and lowering of Tremie pipe, survey top level, final depth checking and casting (checking temperature and slump 200-250mm 4hr RTD, tremie pipe cutting as per concrete casting min 3m below concrete)
- Checking and install instrumentation and testing parameters (sonic logging test, recharge well, water standpipe and ground and building settlement marker, inclinometer and noise meter.
- Platform checking and get COS from PE - Checking delivery and fabrication of rebar cage and final checking - Witnessed and checking of WSM, JGP drilling and grouting works and keep record completed.
- Witnessed and checking of SI boreholes sample taken and testing and drilling and grouting works and instrumentation and monitoring and keep record completed.
- Witnessed and checking of Bakau piles probing investigation at PUB existing canal sample taken and testing and drilling and grouting works and instrumentation and monitoring and keep record completed.
- Construction of capping beam and S1 & S2 waler beam (excavation, lean concrete, rebar, formwork and casting)
- Checking and witnessed and excavation and testing of installation of RC beam and strutting works S1 to S4 layer
- Inspection of rebar, formwork and casting of RC base slab
- Attend and witnessed Offsite testing of all materials (rebar, concrete, steel and aggregates/sand and welding's of steel members and others)
- Safety checking and highlights unsafe act and issue near miss report and ECM checking
- Attend Daily Tool Box Meeting and record manpower and machineries in Daily Report

**Precast Yard:**

- Office, Hoarding and gate, parking, rest area installation and 22kv substation connections
- Construction of Slab and footing of Fabrication steel structure and 20T gantry crane and storage slab (excavation, lean concrete, rebar, formwork and casting)
- Checking and witnessed welding test and bolt tightening of fabrication steel structure.
- Checking and witnessed welding test and bolt tightening of EOT 15T overhead crane and 20T gantry crane at fabrication steel structure and get PE COS
- Attend and witnessed Offsite testing of all materials (rebar, concrete, steel and aggregates/sand and weldings and others)
- Safety checking and highlights unsafe act and issue near miss report and ECM checking
- Witnessed and checking of welding and bolt tightening of batching plant and carousel unit and testing and commissioning
- Witnessed and checking of trial mix design sample of steel fiber/cement ratio and attend testing and commissioning
- Safety checking and highlights unsafe act and issue near miss report and ECM checking
- Attend Daily Tool Box Meeting and record manpower and machineries in Daily Report

**Airside/CAG Area/Cargo:**

- Underpinning works (Preparation)
- Noise barrier steel 6m height installation and testing of materials, welding and bolt tightening and column NSG grouting
- Site Office and rest area installation
- C7 drain installation around perimeter of working area
- SI work sample taken and permeability test and vane shear test at depth=30m to 57m and witnessed Pile toe test using parallel seismic test and Borehole Radar Test
- Traffic diversion and installation of strutting member and sheet piles for diversion of existing CAFHI gas.

- Survey, marking of underpinning new beams and bored piles and extracted piles.
- Conduct all testing and investigation works to existing columns and base slab to demolish and demolishing using wire saw and floor saw cutting machine
- Attend coordination meeting and PGI with JV, LTA and CAG Change Airport Group.
- Safety checking and highlights unsafe act and issue near miss report and ECM checking.
- Attend Daily Tool Box Meeting and record manpower and machineries in Daily Report

#### **RESIDENT TECHNICAL OFFICER- RTO (C&S)**

Aug 01,2021 – Feb 6,2022

**Project:**

**MODIFICATION OF PUNGGOL DRIVE (PART4) &  
ROAD RELATED FACILITIES (RRF) AT PUNGGOL TOWN (PHASE4)  
AT NEW PUNGGOL ROAD  
Client : HDB  
Project Start & Completion Date: 1<sup>ST</sup> Qtr 2021 to 1<sup>st</sup> Qtr 2023  
Project Scope :  
Bus shelter = 4nos  
Road access= 200m-2lane include road markings  
Drain 1.2mx1.2m= 200m  
Footpath & cycling path= 200m  
Slope cutting of 3m heightx10m width and 200m Length & disposal  
Existing sheetpile removal 7m length= 500pcs  
Landscapings & turfing works**

- Inspection of site office and ECM plant prior to start
- Inspection of instrumentation and checking of readings within tolerances/suspension limit
- Inspection/Checking of MOS and permit and removal of existing sheet piles using vibro hammer attached to mobile crane
- Inspection of rebar, formwork & casting of blinding for PC base slab, cast in situ wall (2<sup>nd</sup> lift) & top slab includes cover & frame, Geotextile membrane & backfilling
- Inspection of kerb, drain pipe, road access laying, compaction and testing of formation level, sub base, road base and premix sample test & coring test
- Inspection of RC, Steel including welding and MPI test and final painting works of bus shelter and installation of Link ways and permanent footpath slab with granolithic flooring
- Inspection of all RC base slab footpath and premix cycling path
- Ensure that safety is always observed at site & assist client of all feedback and complaints from public and HDB residents
- Makes daily report and send progress activity photo by what's app group chat to client

**CALIBRE CONSULTING PTE LTD (QPS Consulting Company)  
SINGAPORE**

#### **RESIDENT TECHNICAL OFFICER- RTO (C&S)**

May 01,2021 – July 30,2021

**Project:**

**IMPROVEMENT WORKS TO SURFACE CAR PARK BATCH 75(HDB)  
AT BLOCK 703-706,711-712 HOUGANG AVE 2 CAR PARK HG36  
Client : HDB  
Project Start & Completion Date: 4<sup>th</sup> Qtr 2018 to 1<sup>st</sup> Qtr 2022  
Project Scope :  
Car Park = 25 lot nos (615 units)  
Road access= 1km-2lane  
Linkways= 16nos  
Fitness/gym corner=6nos  
Resident corner=3nos  
Badminton Court & park=1  
Landscapings**

- Inspection of rebar, formwork & casting of blinding for PC base slab, cast in situ wall (2<sup>nd</sup> lift) & top slab includes cover & frame, Geotextile membrane & backfilling of 750mm PC drain

- Inspection of Car park, kerb, drain pipe, road access laying, compaction and testing of formation level, sub base, road base and premix sample test & coring test
- Inspection of RC, Steel including welding and MPI test and final painting works and installation of Link ways and permanent footpath slab with granolithic flooring
- Inspection of RC slab, side bench/chair, Steel including welding and MPI test and final painting works and installation of fitness & gym and steel chairs/bench with granolithic flooring and EPDM rubber flooring
- Inspection of RC, Steel including welding and MPI test and final painting works and installation of children's playground with granolithic flooring and EPDM rubber flooring
- Inspection of RC base slab rebar & casting and installation of bench/chairs & floor tiles and landscaping/turfing works at park
- Inspection of all RC base slab footpath, staircase access with hand railings and floor tiles
- Ensure that safety is always observed at site & assist client of all feedback and complaints from public and HDB residents
- Makes daily report and send progress activity photo by what's app group chat to client

#### **RESIDENT TECHNICAL OFFICER- RTO (STATION & BT)**

July 26,2019 – April 30,2021 (Completed Project/Handover to Client LTA/SMRT)

**Project:**

**MRT - T213 CALDECOTT STATION & TUNNELS (LTA)**

**Upper Thomson road**

**Project Cost = 285M SG DOLLAR**

**Project Completion Date: Dec 2020**

**Project Scope :**

**Cut & Cover = 25m Wide x 30m Depth**

**Mined Tunnel (2 Arch = 20m length x 6m dia. & 3Arch 42m length x 10m dia.**

**Station 1no (Top Down Method): L= 213m x W=23m x D=30m including 3 entrances & 1 linkway**

#### **STATION CONSTRUCTION & AA works**

- Witnessed & inspection of sheet piling works average depth=4m- 6m for seepage tank
- Witnessed & inspection of strutting work for seepage tank S1 & S2 layer at depth 5m
- Inspection of rebar, formwork/false work & casting of RC base slab, wall & roof slab includes waterproofing membrane, CJ water stop and re-inject able/grouting tube (RC wall, retaining wall, apron slab, drain, cover link way, bus taxi shelter, CCTV & post light footing)
- Witnessed for drilled depth hole inspection & planting of anchor bolts for wall cladding, ceiling, kerb, cat/cage ladder, railing, roller shutter, fire shutter, glass wall, granite wall)
- Surface inspection prior to ceiling & wall cladding works
- Welding inspection & witnessed MPI/UT test for steel structural of entrances & cover link way, bus & taxi shelter (column, beam, canopy, roof & purlins)
- Inspection of RC Box drain, C7, C8 drain, sump pit & perimeter drain
- Inspection of utility diversion, Road diversion & permanent road work (kerb, sub base, base course, premix, road marking, signage & bus stop shelter
- Inspection of Pipe jacking work 300mm dia with 100m length and 2 manholes includes water test & CCTV test
- Inspection & supervised of slope protection includes (soil backfilling NDT test, membrane, anchor bar & geotextile cell & coconut membrane)
- Supervised miscellaneous work (temporary footpath, scaffolding erection, access, fence/hoarding, PU grouting works, NSG grouting, cutting & hacking of capping beam & SBP piles)
- Witnessed material testing at approved laboratory testing (rebar's, concrete cubes, asphalt, base course (graded stone, sheet pile, strut materials, steel I-beam, column, & others)
- Assist in architectural works (Cladding, ceiling, VE panel, Painting, granite & tile works, Public staircase railings, roofing & others) everyday progress activity & photos send to client
- Inspection of Bus shelter, Taxi shelter, Link ways and permanent footpath inspection of all RC, Steel and final painting works.
- A&A works at existing Caldecott station inspection of all permanent RC and steel works and M& E brackets/c Supports including coring, hacking of existing wall and removal of all existing panels & glass wall, cabinets
- Attend to closed all NCR and punch list, defects/comments by LTA/SMRT
- Make RFI record & SATURN documentation
- Make daily report after shift & save all activity photos to computer for client submission
- Attend meeting with QP and client if required and PGI safety walk every once a week
- Attend PGI safety walk every once a week
- Ensure that safety is always observed at site & assist Client to issue SSPC

#### **TUNNEL/MINED CONSTRUCTION**

- Inspection of drilled hole depth, pull out test, torque test and installation of cage ladder/railing & SWC brackets
- Supervised PU grouting & inspection and closing all defects prior to handover to LTA & SMRT

## **PROJECT ENGINEER/OWNER**

**PARK JV BUILDER & CONSTRUCTION SUPPLY (PRIVATE COMPANY)- PHILIPPINES**

November 1,2018 – July 25,2019

### **Project:**

**HARDWARE & OFFICE BUILDING – LA UNION,PHILIPPINES**

**1 STOREY RESIDENTIAL BUILDING – TARLAC, PHILIPPINES**

**Project Cost = 200,000 SG DOLLAR**

**Project Completion Date: 2018-2019**

**Project Scope : Excavation to Finishing (includes land development,road and access)**

**Hardware building = 6m width x 15m Length**

**Office & toilet building = 4m width x 12m Length**

**Residential building= 8m width x 12m Length**

- Assist in getting of permits, approved drawings and NOC (No Objection Certificate).
- Make plan drawings & bill of quantities for (Civil, Architectural, plumbing & electrical)
- Monitors materials delivery/ receiving procedures and storage facilities.
- Quality Inspector and Quality checking of materials for sampling concrete, structural testing & submit report to government building inspector & client
- Supervision and monitoring of construction and operations of the projects.
- Scheduling and reporting work progress to client/owner.
- Conducting daily meetings to sub-contractor to uphold the company's goal and objective.
- Plan and schedule labor, materials and equipment's efficiently within set time frames.
- To ensure all the materials used are according to plans specifications and client's satisfaction
- Providing all the information and drawings to the foreman in order to carry out the works properly.
- Prepare daily activity report, daily, weekly & monthly progress report
- Prepare monthly billings, expenses and claims & submit to client
- Ensure that safety is always observed at site

## **RESIDENT TECHNICAL OFFICER- RTO (BT)**

**CALIBRE CONSULTING PTE LTD (QPS Consulting Company)**

**SINGAPORE**

January 3,2015 – October 31,2018

### **Project:**

**MRT - T212 UPPER THOMSON STATION & TUNNELS (LTA)**

**Upper Thomson road**

**Project Cost = 350M SG DOLLAR**

**Project Completion Date: 2020**

**Project Scope :**

**Rectangular shaft = 25m x 40m x 30m Depth**

**Bored Tunnel (4 TBM) = 3.826km length x 6.88m dia. Slurry type TBM & 6 nos Cross Passages**

**Station 1no (Top Down Method): L=228m x W=21m x D=20m including 4 entrances & Pipe roofing subway**

## **SHAFT CONSTRUCTION**

- Witnessed installation of instrumentation works and soil investigation along shaft and tunnel alignments
- Witnessed & inspection of pilling works secant piles (dia=1.5m & 1.8m) average depth= 45m
- Witnessed & inspection of fissure & WSM grouting works, strutting works, excavation works, RC ring beam & slab.
- Witnessed for installation of approved cat ladder & temporary staircase & take COS approval from PE.
- Witnessed pile strengthening/repairing works & Pu grouting/concreting for water ingress coming from the piles.
- Witnessed survey monitoring report & instrumentation report for any settlement/profile change and inform RE if water ingress/settlement is not within acceptable limit/tolerance.
- Inspection of rebar, formwork/false work & casting of base slab, internal/external wall & roof slab includes waterproofing membrane, CJ water stop and re-injectable/grouting tube
- Completion and handover of shaft to Tunnel Team Main con

## **TUNNEL – BORED**

- Inspection of rebar, formwork & casting of muck pit & STP slab & other temporary works (road & utility diversion).
- Witnessed and monitor assembly of STP, workshop, site containers installation & other miscellaneous works prior to tunneling works
- Witnessed & testing of rebar, steel, cement & grout mixture & other approved materials at approved testing lab
- Witnessed & visit approved precast concrete segment factory yard
- Witnessed assembly of Gantry crane and service crane (75,250,600T) including load testing
- Witnessed tunnel eye probe drilling and hacking of SBP
- Witnessed assembly and testing of cradle beam, skid beam, working platform, tunnel eye, entrance seal and Thrust frame installation until PE COS approval

- Witnessed lowering of TBM machine (tail=75, body=138, hood=146 and cutter=95T) by 250T & 600T tandem crane
- Witnessed assembly of TBM machine with back up cars and STS including testing and commissioning
- Witnessed/inspection of initial & main drive for TBM#1 to 4 (segment inspection, ring building, KPI test and backfill grout test)
- Witnessed CHI (Cutter Head Intervention) work in Compressed Air @ 1.2bar to 1.9bar and free Air (change cutters and modify cutters) due to blockage of Discharge line/crusher and cutter chamber
- Miscellaneous works include (PU grouting works, Clay shock injection, TAM grouting on surface, Surface grouting at TBM cutter due to cavity (CHI work)
- TBM 1 to 4 Total ring completed = 2706 rings (3.8km)
- TBM 1 to 4 first stage and SWC bracket completed

### TUNNEL – CROSS PASSAGES (6Nos.)

- Witnessed and Inspection of temporary segment support, probe drilling, water ingress, segment stitch coring, excavation by sequence (top and bench section) using drilling/splitting and blasting work, waterproofing/PU grouting and Permanent structures (Lintel beam and Permanent RC base slab, wall & roof slab).
- Cross Passages completed = 6 no's

#### **RESIDENT TECHNICAL OFFICER- RTO**

**AECOM SINGAPORE PTE LTD (QPD/QPS Consulting Company)**

**SINGAPORE**

**May 21,2014 – Jan 01,2015**

**Project:**

**EW2 TRANSMISSION CABLE TUNNEL (SPPA - Singapore Power PowerAssets)**

**May,Holland,Dunearn & Rangoon Shaft**

**Project Cost = 310.6M SG DOLLAR**

**Project Scope :**

**4 circular shaft = 20m dia. x 60-70m Depth**

**Mined Tunnel (3 bound) = 20m length (for back –up truck space)**

**Bored Tunnel (1 bound) = 6.8km length x 6.88m dia. Slurry type TBM**

**4 circular shafts with equipment/cable-entry/ventilation buildings, adit, tunnel enlargement, including fit-out, architectural, electrical and mechanical works.**

### SHAFT CONSTRUCTION

- Witnessed & inspection of grouting works, excavation works, RC ring beam & slab.
- Witnessed dwall strengthening & Pu grouting/TAM grouting for water ingress coming from the dwall.
- Witnessed for installation of cat ladder & temporary staircase & take COS approval from PE.
- Witnessed survey monitoring report & instrumentation report for any settlement/profile change and inform RE if water ingress/settlement is not within acceptable limit/ tolerance.

### TUNNEL - MINED

- Witnessed installation of survey prism for monitoring and checking alignment/profile.
- Witnessed survey marking and drilling & grouting of pipe roof, probe, Face bolt, Fore Polling & grouting.
- Inspection of excavation profile, wire mesh, lattice girder & concreting (1<sup>st</sup> & 2<sup>nd</sup> layer) of top heading & invert level.
- Inspection of rebar, formwork & casting of base slab.
- Witnessed survey monitoring report for any settlement and inform RE if not within acceptable limit/ tolerance.

### TUNNEL - BORED

- Witnessed preparation & inspection of tunnel eye, installation (casting/concreting) prior to TBM assembly.
- Witnessed preparation & inspection of RC cradle beam casting & welding and witnessed MPI test & UT.
- Witnessed lowering of TBM machine parts (cutter, front, middle & rear body) by 600T & 200T crane.
- Witnessed assembly & testing of TBM parts (cutter, man-lock, front, middle, rear body & working platform)
- Witnessed assembly of STP Slurry treatment plant & testing/ commissioning.
- Witnessed assembly of STS Slurry pipe/utility pipe & cable works for TBM.
- Witnessed assembly of Backfill Grout Plant & testing/ commissioning.
- Witnessed testing of backfill grout liquid A & B and bentonite (slurry).
- Witnessed preparation & inspection of tunnel eye, installation (casting/concreting) prior to TBM assembly.
- Witnessed assembly & inspection of RC cradle/thrust frame, rolling stock/locomotive working platform & temporary supports.
- Witnessed assembly of backup gantry/trucks) from temporary rings & initial drive & installation of segment railing for segment car & locomotive truck.
- Visual inspection of segment, EPDM rubber gasket, plywood prior to lowering to tunnel.
- Witnessed gel time, viscosity and compressive test for backfill grout (1hr, 3hr, 6hr & 28 days).
- Witnessed and inspection of TBM performance indicator, slurry KPI & excavation management.

- Monitor and check the volume of excavation per advance and bentonite & backfill grout for initial drive.
- Monitor the face pressure, volume and pressure of primary backfill grouting, volume of tail seal grease, cutter speed, jack speed, torque, thrust force and others.
- Monitor the VMT to see whether the direction of the TBM is within the tolerance of the DTA.
- Ring inspection for lips and steps, roll, plane after ring building together with the second shove to see whether it is within the tolerance.
- Witnessed material & visual inspection all other related temporary & permanent structures on site (sheet piling, STP base & backfill grout plant base slab, Noise barrier, fence, storage area and additional gate/fence/drain, ventilation fan & Man-lift.

## **RESIDENT TECHNICAL OFFICER- RTO**

**TRITECH CONSULTANTS PTE LTD (Consulting Company)**

**SINGAPORE**

**April. 01,2012 – May 10,2014**

**Project:DTL**

**C921- MRT DOWNTOWN LINE 2**

**Little India and Rochor Stations including Mined & Bored tunnel**

**Project Cost = 803.3M SG DOLLAR**

**Project Scope :**

**2 Stations = 165m length x 50m width x 30m Depth**

**1 Cut & Cover = 340m length x 20m width x 11m Depth**

**1 Mined Tunnel (2 bound) = 57.6m length x 5.80m dia.(inner) & 7.16m dia. (outer)**

**1 Bored Tunnel (2 bound) = 300m length x 6.35m dia.**

**1 RC Permanent Canal on top of station & cut/cover = 1100m length x 20m width x 3.5 to 4m Depth**

### ***Duties and Responsibilities:***

- Supervise and verify designated contractors' work and prepare site progress reports.
- Conducts inspections and carry out project supervisions.
- Study drawings and specifications highlighting discrepancies for decision making.
- Co-ordinate with managers and engineers from contractors as well as subcontractors.
- Carry out inspection and periodic standby duty to ensure such as approved method statement and shop drawings, correct work procedures, contract drawings and specifications.
- Maintenance and control of daily site records/situation in site safety aspects, housekeeping, and report preparation.
- Assist Resident Engineer in preparing monthly report and RFI compilation for submission to LTA.
- Other duties as assigned by QPS/CRE/Resident Engineer.
- Familiar with BCA local & international codes and standards.
- Issue NCR Nonconformance & coordinate with QA/QC to resolve the defects.
- Ensure that safety is always observed at site.

## **STATION**

- Carry on inspection for structural works, false work, form work, rebar work and casting of base slab, platform slab, concourse slab, roof slab, RC wall, lift wall, vent shaft for the station and Entrance D & link way to existing NEL MRT.
- Carry on inspection for structural works, false work, form work, rebar work and casting of base slab, RC wall and roof slab for permanent canal diversion.
- Witnessed and inspection of trial trench, utility diversion and traffic diversion for construction of permanent works.
- Carry on drill depth inspection and planting of rebar for temporary and permanent structural works.
- Witnessed pull out test for rebar's all RC works & bolts and load test for Steel beam/support of escalator & lift.
- Inspection of D-wall (1200mm thick) confirmed toe level & verticality by koden after boring works, rebar cage inspection, rebar cage installation and casting by tremie pipe.
- Inspection of toe level after boring works for 900mm diameter CBP & secondary pile, rebar cage inspection, rebar cage installation and casting (Inside MRT1<sup>st</sup> reserve line).
- Inspection of installation for Deck post, kingpost, primary beam, secondary beam, metro deck and strut members.
- Carry on inspection for welding (visual), witnessed MPI test., UT test, life line load test, casting of packing concrete and pre-loading test for strutting works.
- Witnessed & inspection of sheet pile and soldier pile driving, extraction of sheet pile and soldier pile. Using vibro hammer and silent piler (Inside the MRT 1<sup>st</sup> reserve line).
- Witnessed concrete crack repair for dry and wet cracks by epoxy grouting and PU grouting.
- Witnessed & inspection of coring, cutting & hoisting up of D-wall for entrance & fireman's access opening.
- Witnessed cutting, dismantling and hoisting of strutting members, kingpost, deck post and metro deck.
- Witnessed & inspection of TAM grouting between sheet pile/and shotcrete works for water leaking area.
- Carry on inspection for waterproofing works (primer, 1st, 2nd & 3<sup>rd</sup> layer membrane).
- Witnessed visual & NDT for excavation & backfilling works and casting of LSS type 2 backfilling.
- Casting of lean concrete & LSS type 2 backfilling for protective membrane of waterproofing works.

- Removal of all temporary works (noise barrier fence, waiting shed, bus stop, drain, parking lots, bicycle & car Parking and reinstatement of all permanent works.

## TUNNEL - BORED

- Physical inspection of segment, rubber gasket, plywood prior to lowering to tunnel.
- Witnessed gel time, viscosity and compressive test for backfill grout (1hr, 3hr, 6hr & 28 days).
- Monitoring of available segment (ring) on the site.
- Monitor and check the volume of excavation per advance and muck skip (12m<sup>3</sup>).
- Monitor the face pressure, volume and pressure of primary backfill grouting and volume of tail seal wire brush grease.
- Monitor the VMT to see whether the direction of the TBM is within the tolerance of the DTA.
- Ring inspection for lips and steps after ring building together with the second shove to see whether it is within the tolerance.
- Witnessed and inspection of construction of sump pit at launch shaft surface level near the 35T gantry crane.
- Witnessed for the testing of backfill grouting mixture, rebar and steel materials at third party (SETSCO laboratory)
- Carry on inspection for construction (hacking, drilling, planting rebar, form works, rebar works and casting) of entrance and exit.
- Witnessed preparation of tunnel eye, hacking and concreting for prior to initial drive.
- Carry on material inspection, visual inspection (welding) and witnessed MPI test for the construction of cradle beam/frame, thrust frame, launching shaft working platform, rail works & beam/column support for TBM at retrieval shaft.
- Witnessed TBM assembly (installation of backup gantry) from initial drive to main drive and installation of Y-switch for locomotive truck.
- Carry on inspection on invert level for first stage & 2<sup>nd</sup> stage concrete casting.
- Carry on inspection for preparation, cutting of segment, manual excavation, shotcreting, rebar works, formworks and casting of sump pump area inside the tunnel segment.
- Keep in touch with the surveyor monitoring on surface above the TBM location.
- Close monitoring and reporting all to RE immediately any work not comply with quality & safety standard.

## TUNNEL - MINED

- Witnessed for the testing of shotcrete material, grouting mixture, rebar and steel materials at third party (SETSCO laboratory)
- Witnessed installation of survey prism for monitoring and checking alignment.
- Witnessed survey marking and drilling & grouting of pipe roof (L=12m x 76.10mm dia.x 7 deg inclined), probe drilling (L=6m x 39mm dia x perforated PVC pipe material), Face bolt (L=15m, R32 1BO material x 3 no's), Fore Polling (L=6m, R32 1BO material, 12 dig inclined).
- Witnessed hacking & cutting rebar of 1200mm D-wall using excavator machine.
- Inspection of excavation, wire mesh, lattice girder & shotcreting of top heading & invert level.
- Inspection of rebar, formwork & casting of base slab, 1st stage wall & 2<sup>nd</sup> stage wall/crown (350mm thick).
- Inspection of waterproofing materials (geotextile, WP membrane, water stop) and witnessed testing of welding seams, air test & vacuum test.
- Inspection of rectification works (PU grouting, surface grinding/preparation).
- Witnessed installation of cable bracket and testing 2% of total no of bracket by pull out test.
- Final inspection of all sections prior to handing over

**Work Done :** Trial pit, utility diversion, traffic diversion, decking, soldier & sheet, bored piling (CBP,SBP), retaining wall, diaphragm wall, deep excavation, strutting, RC works (base, concourse & roof slab, lift, vent shaft, linkways & Entrances), waterproofing, Grouting, Shotcrete, backfilling, reinstatement works, Mined & Bored Tunnel.

### **CIVIL ENGINEER**

AUDEX PTE LTD/PECM (Oil & Gas Company)

SINGAPORE/MALAYSIA

Jan. 01,2011 – March 27,2012

### **Project:**

**Proposed Hydrocarbon Storage Terminal And Distribution Facility at Tanjung Bin, Johor Malaysia For ATT TANJUNG BIN SDN BHD.**

**Project Scope :**

**Area = 1500m<sup>2</sup>**

**40 Storage Tanks steel =Diameter (20 to 60m) x height (10 to 20m)**

**3 nos Pumping Station = 50m length x 40m width**

**2 nos Sub Station =2 storey (20m length x 5m width)**

**1 Jetty = 800m length x 4m width**

**1 office = 3 storey (L=40m length x 10m width) with RC fence, parking & landscape**

**Road = 8km approx. concrete pavement (including RC crossing drain, crossing pipe bridge,culvert, sump pit and streetlight pole & perimeter fence.**

**Duties and Responsibilities:**

- Carry on installation & inspection with client representative for permanent structural works & temporary works from piling, excavation, formation level, lean concrete, rebar work, false work, form work and casting.
- Conduct material testing and mock up sampling of all permanent structures (Rebar, steel, soil, aggregate, concrete, waterproofing materials and etc.)
- Inspect and supervise the works in accordance with specification, standard drawings, and method statement.
- Make Request for Inspection (RFI) and Maintain record of Inspection requests.
- Conduct survey checking & material testing with the contractor prior to approval of works.
- Ensure that requirements for quality are fulfilled and meet the client's satisfaction.
- Checking materials delivered to site are correct and report discrepancies to the Project Manager.
- Preparing daily logs, reports and maintaining records of inspections made, tests performed.
- Coordinate and attend meeting with sub-contractor, consultant and client.
- Participate in kick off meetings where required before project execution.
- Provide updated performance/progress report as required.
- Monitor internal and sub-contractor's progress on site.
- Assist in preparing contract/sub-contract agreement and tender documents including bill of quantity.
- Prepare daily, weekly and monthly report (including progress photos) for client.
- Prepare submissions of method statements and drawings for client to review.
- Coordination between sub-contractors, supplier, purchasing dept. and client.
- Ensure that safety is always observed at site.

**Work Done : Trial pit, utility diversion, soldier & sheet piling, retaining wall, piling (precast), deep excavation, RC works, Steel structural works, buildings, roadworks, Tank Foundations, Jetty, waterproofing, backfilling, reinstatement works, Architectural/Finishing works & Landscaping.**

**PROJECT ENGINEER/QC/QS**

**ALULA TRANSPORT AND GENERAL CONTRACTING COMPANY**

**ABU DHABI, UAE**

**April 25, 2010 – Sept. 30, 2010**

**Project:**

**R Sweihan/Ajban/Dubai Road Improvement and Dualling**

**R Sweihan Airbase Military H.Q Expansion**

**R Abu Dhabi Airport Expansion**

**R 2022-ADWEA Waste Water Treatment Plant BOOT (ISTP1) EPC PROJECT**

**Duties and Responsibilities:**

- Plan and execute daily activities and coordinate to foreman, surveyor, QC engineer, and consultant.
- Ensuring all measurement records are kept and maintained properly and assisting the manager in the preparation of rates.
- Assisting the manager in preparing and compiling records for claims submissions
- Ensuring proper records and measurements are kept for the sub-contract works and that sub-contractors' payments are paid accordingly to their proper entitlement.
- Submission of quotations for variation works.
- Getting quotations from sub-contractors and suppliers.
- Certification of sub-contractor's work for payment.
- Closing of final accounts for projects.
- Performing on-site measurements to verify and validate monthly progress claims from the contractors.
- Inspect and supervise the works in accordance with specs/drawings and statutory regulations.
- Review and submit shop drawings, materials and method statements.
- Record changes on site and review as-built drawings/ submissions.
- Make master programme and cash flow of the projects.
- Ensure all assigned responsibilities relating to quality are carried out in accordance with the company quality procedures.
- Make Inspection Test Request (ITR) and Maintain record of Inspection requests.
- Submit Material Inspection Request (MIR) and Material Submittal Request (MSR) Take approval by QC Engineer/Consultant.
- Ensure that safety is always observed at site.

**Work Done: Roads, Services, Diversion, Buildings, Fountains, Bridge, Retaining Walls, Landscape.**

## **SITE CIVIL INSPECTOR**

HALCROW INTERNATIONAL PARTNERSHIP (Consultant company)

Transportation/Highway Division

Sharjah, UAE

May 01,2007- April 25,2010

**Project:** R 248 Sharjah Dhaid Road Improvement (VO 1 to 12), R 372 University Perimeter Road I (VO 1 to 9)  
R 530 Teachers Accomodation & (VO 1,2,3), R 545 University Perimeter Road Phase II & (VO 1 to 3)  
R 575 University Perimeter Road III & (VO 1 to 13), R 596 University City Slip Road (VO 1 & 2)  
R 513 UOS Teaching Hospital Internal Roads, R 567 UOS Infrastructure Development Works

### **Duties and Responsibilities:**

- Inspecting the construction of temporary and permanent works to ensure compliance with the contract documents and approved shop drawings and submittals.
- Checking materials delivered to site are correctly stored and report discrepancies to RE.
- Assist ARE in reviewing RFA, progress reports, valuations/payments & As-built/As-Constructed Drawings.
- Review of the current general specifications & standard drawings of the approved drawing to identify any inconsistencies and deficiencies in the project.
- Prepare daily, weekly and monthly progress report.
- Attend inspection on site for approval of request.
- Inspection of all temporary and permanent works inclusive of testing and commissioning.
- Familiar with testing requirements and monitor procedures for construction materials.
- Conduct survey checking & material testing with the contractor prior to approval of works.
- Observing, monitoring site safety practices & prepares safety reports.
- Assisting with the inspection of completed works, snags & final handing over to client.
- Preparing daily logs and reports and maintaining records of inspections made, tests performed and work executed.

**Work Done:** Roads, Water & Sewer pipeline/manholes, Traffic & underground services Diversion, Buildings, Fountains, Bridge, Retaining Walls & landscaping works.

## **SITE ENGINEER/OFFICE ENGINEER**

DGS (Drilling and Grouting Services)

Post Tension/ Pilling Geotechnical Division

Sharjah, UAE

January 06,2007- April 30,2007

**Project:** BUILDINGS(G+22-Complex,G+26,G+B+17,G+13,Mall,School)

### **Duties and Responsibilities:**

- Assist Design team in making shop drawings using AutoCAD and Excel.
- Encode and check final stressing prior for approval of consultant.
- Coordinate with contractor, main consultant and building officials.
- Assist construction manager in estimating quotation of proposed project.
- Familiar with post tension procedure, post tension materials & pilling works.
- Monitors materials delivery/ receiving procedures and storage facilities.
- Estimate post tension material, reinforcement bar, and vol. of concrete of slab.
- Review of the current general specifications of the approved drawing to identify any inconsistencies and deficiencies in installation of post tension.
- Supervise and monitor installation of post tension, stressing initial and final, grouting of concrete, waterproofing and pilling works.
- Attend inspection of post tension, pilling works and reinforcement bar for final approval for concreting with consultant and municipal building inspector.
- Prepare daily activity report, daily, weekly & monthly progress report.

**Work Done:** POST TENSION, PILLING, SHORING, WATERPROOFING & ANCHORING.

## **SITE ENGINEER**

JT METRO JV (Kajima Corp.)

Dubai, UAE

September 05, 2005 – January 03,2007

**Project:** Dubai Metro Rail- MRT

Underground Station City Center

**Project Cost =7.8B US dollar**

**Project Scope :**

**25Elevated Stations = 52.1km length**

**4 underground Stations including Bored Tunnel ( 1 bound) = 4.7 km length**

**Duties and Responsibilities:**

- Coordinate with DEWA, Etisalat, Irrigation, horticulture, traffic Inspector.
- Assist in getting of permits, approved drawing and NOC (No Objection Certificate).
- Monitors materials delivery/ receiving procedures and storage facilities.
- Quality Inspector and Quality checking of materials for sampling concrete, structural testing, Bentonite checking for Diaphragm wall to stabilize the excavated soil of almost 50 meter depth and checking the steel fabricated rebar's for assigned panels.
- Assigned in the Utility diversion works to ensure that all existing pipes will be well diverted safely.
- Monitors the compliance with the requirements of the approved Quality plan and report deficiencies as per the Quality Plan.
- Coordinate with survey team for checking of references, vertical and horizontal alignment, structural plumbness, elevation and final check prior to concreting.
- Ensure that all works being done is according to latest drawings, method statement, specifications & standard drawings.
- Ensure that requirements for quality are fulfilled and meet the client's satisfaction.
- Prepare daily activity report, daily work schedule, weekly, monthly schedule and monthly report.
- Ensure that safety is always observed at site.
- Make Inspection Test Request (ITR), dealing with consultant and sub-contractors
- Attend inspection of rebar and concreting with sub-con, QC and consultant.
- Make progress photos, reports and proper documentations.
- Site Supervision of all structural works from temporary works to permanent works.

**Work Done :** Trial pit, soil investigation, utility diversion, traffic diversion, decking, soldier & sheet piling, retaining wall, diaphragm wall, deep excavation, Raft & roof slab, site and D-wall plant office.

**PROJECT ENGINEER**

Rockford Development Corporation  
Manila, Philippines  
September 2003 to May 2005

**Project:** School buildings, Residential buildings, Commercial buildings

**Duties and Responsibilities:**

- Supervision and monitoring of construction and operations of different projects of the Company.
- Scheduling and reporting work progress to project manager and building officials/ Inspector.
- Conducting daily meetings to sub-contractor to uphold the company's goal and objective.
- Plan and schedule labor, materials and equipment's efficiently within set time frames.
- To ensure all the materials used are according to plans specifications and client's satisfaction
- Responsible for day by day report.
- Providing all the information and drawings to the foreman in order to carry out the works properly.

**SITE CIVIL ENGINEER**

PACADA CONSTRUCTION  
Laguna, Philippines  
November 2001 to July 2003

**Project:** School buildings, Residential buildings, Commercial buildings & Roads,

**Duties and Responsibilities:**

- Recording daily progress of work executed on previous day for further submittal to client/ consultant.
- Submittal of daily request for inspection of Client/ Consultant.
- Coordination with Civil Contractor operations.
- Coordination and supervision with site foreman and surveyor for the execution of works.
- Preparation of concrete daily orders.
- Providing all the information and drawings to the foreman in order to carry out the works
- Quantifying, estimating and ordering of materials.
- Updating cost report of the project.
- Implementation of Project based on plans and specifications.

*I hereby certify that the above information are true and correct to the best of my knowledge and belief."*



**PETER M. MADRIAGA**