

NAME : Ir. Jagjeet Singh Sidhu a/l Charan Singh (Mobile: 60-12-252-0665)

Date of Birth : 2nd MARCH 1960

EDUCATION : B.S.C.E. (Civil) (Univ. of Alabama, Tuscaloosa, Alabama, USA, 1984)
M.Eng. (Structural) (Univ. of Florida, Gainesville, Florida, USA, 1986)

MEMBERSHIP : M.I.E.M., P.Eng., Member of Chi Epsilon (National Civil Engr. Honor Society, USA)
Reg. Prof'l Engineer in Florida (Structural) and Arizona (Civil), U.S.A.
(Panel member of Engineering Accreditation Council at Board of Engineers, Malaysia), (Committee member of Tunnelling and Underground Space Technical Division at Institution of Engineers, Malaysia), (Interviewer for P.Eng. candidates at IEM).

EXPERIENCE

Feb. 2000 : **JS ENGINEERING**
To present : (Managing Director)

Proposed Tumpat Global City International Oil & Gas, Industrial and Commercial Centre
Responsible for all engineering design works and construction of the multi-modal development on 4500 acres of reclamation works, comprising deep sea dry docks for VLCC's with mooring facilities, refineries, industrial and commercial centre, barter trade centre, etc. (US\$30Bil)

Proposed Perlis International Port
Preliminary design and detailing for 2500 acre reclamation works. Design includes seawalls consisting of precast prestressed concrete sheet piles, bored piles, bulkheads, piled piers/jetties/platforms, highway layout and design, 1.5km long bridge. Soil improvement techniques and consolidation methods. (USD\$10Bil).

KTMB Rawang-Ipoh Railway Double Track (Consultant to/for Ranhill Bersekutu Sdn Bhd)
Responsible for the design of railway station buildings and, railway, road & pedestrian bridges. Includes design, drafting and civil-infra works design and layout for station buildings. (RM3 Bil)

Proposed Dedicated KL-Putrajaya Expressway Package 4
Technical advisor to Zabima Engineering and Construction Sdn. Bhd. on geotechnical/soil conditions during construction works of the highway.

Kem Gerup Gerak Khas, Mersing Johor
Complete Design and detailing of RM10mil piled 2-storey mosque building at military camp.

Two 61m (200ft) TM Touch (Telekom) Communication Steel Space-Frame Towers
Complete analysis and design of 3D-space-frame, connections and piled foundations (a) at Km 25-Seremban-Port Dickson Highway and (b) at Tanjung Agas, Negeri Sembilan. (RM 600K/Tower)

Design and detailing of various 2 to 3 storey detached houses (RM1.5Mil/house).

Complete design and detailing of with/without piled foundations, retaining walls, and structural beams, slab and columns.

Dec. 1994 : T.Y. LIN (SEA) SDN. BHD. (PETALING JAYA, MALAYSIA)
-Jan.2000 : Senior Structural Engineer

Asian Village Antigua, West Indies

Responsible for the design, detailing and coordination of various resort hotels. Includes water supply and sewerage demand. Antigua is subjected to hurricane winds, earthquake and volcano associated forces. Use of ACI, AISC, AITC and British Standard Codes. (US\$1.5Bil)

Damansara City Phase 1 (Parcel D), Kuala Lumpur

Responsible for the various structural analyses, design and submissions to various authorities for approval. Consists of 5-basement carpark, 6-storey annexe block and 28-storey tower block comprising post-tensioned floor slabs. Etabs analysis and Adapt floor. (RM85mil)

Senawang Industrial Park, Negeri Sembilan Factory for Totokiki

Responsible for the design, detailing and submission to various authorities for approval. Approximate double story factory size is 1.5 acres. (RM 16mil for C&S works)

Hongkong Bank, Melaka

Responsible for the design, detailing and submission to various authorities for approval of a three storey bank-office building (RM 7mil).

Billion Court Condominiums, Genting Highlands, Pahang

Responsible for the design of three 28-storey buildings, one 9-storey apartment block, one 8-storey apartment block and one 8-storey carpark+clubhouse block. Design of several retaining walls (r.c. walls and soil nail wall). Used ETABS to analyse highrise blocks. Responsible for the submission to various authorities for approval. (RM 86mil)

Kuala Batang Baram Bridge, Miri, Sarawak

Responsible for the completion of design and drafting of the cable-stayed bridge (3-spans with a 330m main span) with 6 approach spans at each end and an approach access road/embankment (RM 170mil).

Preliminary Alignment Design of KTMB Rawang-Ipoh Railway Double Track

Responsible for the entire preliminary alignment design and drafting of 110km stretch from Rawang to Bidor for Ranhill Bersekutu. Alignment includes planning and detailing of transition and circular curves for maximum design speeds of upto 160kph, station yard layouts with crossovers, looplines and sidings, cross-sections of track at every 100m and various other track related details and jointing. (RM 3 Bil)

Klang Development (Lot 6883), Klang, Selangor

Responsible for the design of 8-storey retail mall and carpark building and civil works.

Dec. 1992 : RANHILL BERSEKUTU SDN. BHD. (KL, MALAYSIA)
-Nov 1994 : **Senior Structural Engineer**

Jalan Ampang/Jalan Jelatek Underpass, Kuala Lumpur. (part of Eastern Route).

Responsible for the design and detailing of the bridge. The structure consists of a single 20 m span by 82 m wide pseudo-box girder superstructure consisting of 82 Type M4 precast prestressed beams. The substructure consists of tied-back diaphragm walls.

Mada Canal Bridge at Darul Aman, Kedah.

Replanned and redesigned bridge superstructure to reduce number of beams. Supervised changes in detailing. Bridge consists of post-tensioned modified AASHTO Type VI (2.13m x 40m) beams. Substructure consists of piled foundations.

New Telekom Headquarters Building at Jalan Pantai Baharu, K.L.

Responsible for modeling the 93-storey uniquely shaped building in 3-D using SAP90 and studying the structural behaviour under dead loads, live loads and wind loads. Prepared a wind tunnel quotation report for the selection of a wind tunnel consultant. This study was used for the job proposal and presentation. The building consists of a central elevator shear wall core flanked by two unique "sail-shaped" wings which house office premises. One of the "sail-shaped" wings is 50 stories high with a helipad on top. The other wing, is 93 stories high at the apex point which will house communication antenna disks above the 60th level. (Project Cost: RM\$600mil)

Telekom Tower, Alor Setar, Kedah.

Responsible as project manager for the job. This was a unique job as Ranhill was also the superintending officer (SO). Responsible for the design of the tower which included ground facility buildings. Prepared a wind tunnel quotation report for the selection of a wind tunnel consultant. The tower consists of a 126 m concrete cylindrical core which is supported by five unique column legs. A lattice steel mast is located above at the 126m level and is 41m in height. (Project cost: RM\$30mil)

Malaysia-Singapore Second Crossing Bridge.

Responsible for project coordination of the job and liaising between the client and various authorities. The bridge is about 1.75 km long, consisting of approach viaducts and main spans. The segmental bridge will be constructed using the balanced cantilever method.

NSE, Central Link & KLIA Expressway

Responsible for the completion of design and drafting of several box culverts, ramps and bridges.

Jul.1989 : T.Y. LIN INTERNATIONAL (PHOENIX, ARIZONA, U.S.A.)

-Dec 1992 : Project Engineer

I-880 Reconstruction (Cypress Freeway Replacement), Oakland, California, U.S.A.

Responsible for preliminary and final designs, quantity estimate and price of elevated bridge structure replacement which was damaged in the October 1989 Loma Prieta earthquake.

Preliminary work included sizing of superstructure type and substructure type using approximate methods. Structure type includes concrete box girder, steel I-girders, curtain walls and piled foundations. Managed and assisted junior engineer on static and dynamic modeling concepts of structure using GTSTRUDL (a 3-D structural analysis and dynamic analysis frame program). Performed entire design of Post-Tensioned box girder with intermediate hinges. Performed entire substructure analysis and design to meet latest Seismic codes. Substructure consists of piled footings using cast-in-drilled hole concept. Some of the footings were combined piled footing with 2 columns. Detail sketches and supervision of detailing to completion. Geometry check of entire project. Performed independent design verification of other consultants' designs since part of project was let to others. Coordination and rectification of mistakes for other consultants. (Project Cost: USD\$200mil)

West Connector Overcrossing, Concord, California, U.S.A. (Earthquake-Retrofit)

Earthquake analysis and retrofit scheme for an existing, curved, post-tensioned box girder ramp. Analysis includes calculating complex coordinate geometry of ramp (with varying superelevation) for 3-D static and dynamic analysis using GTSTRUDL. Structure consists of two unique built-up tubular steel hinges with cable restrainers and pin members and piled footings. Retrofit design strategy report and final design of retrofit scheme of foundation and detailing to completion. (Project Cost: USD\$1mil)

Route 92/101, San Mateo, California, U.S.A. (Earthquake-Retrofit)

Retrofit design of existing structure consisting of single/multiple columns on piled foundation. Task includes retrofit design of columns and foundation. Detailing and supervision of detailing to completion. (Project Cost: USD\$2.3mil)

Jackson Drive Extension Segmental Bridge, San Diego, California, U.S.A.

Performed an independent design check for the segmental bridge using SAP86. Performed static and dynamic load analyses and checked design of structural components and detailing. The original design was performed by the San Francisco office. (Project Cost: USD\$12mil)

East Papago Freeway (202L) Section 6 (Salt River Bridge), Phoenix, Arizona, U.S.A.

(1-mile long bridge). Responsible for the analysis and design of multi-column substructure which includes design of post-tensioned inverted-T cap beams, reinforced cap beams, reinforced columns, precast post-tensioned segmental hollow columns and drilled shafts (used LPILE for foundation subgrade analysis and design of drilled shafts). Responsible for the design check of entire superstructure. Responsible for detailing and supervision of detailing to completion and guidance to junior engineers. (Project Cost: USD\$20mil)

Squaw Peak 29th Ave. Pedestrian Bridge Overcrossing, Phoenix, Arizona.

This is a pedestrian bridge overcrossing a freeway consisting of unique architectural finishes. Responsible for the design and detailing for pier 2 in order to meet a deadline. (Project Cost: USD\$2mil)

Sun Yat Sen Freeway, Taipei, Taiwan. (R.O.C.)

Performed analysis and design of continuous non-composite steel box girders superstructure and substructure in an active seismic zone (Taipei Basin). Used SAP90 for static and dynamic 3-D frame analysis. Portions of structure crosses Tamshui river. Substructure consists of multiple and single column bents supported on drilled pile/caisson footings. Soil-structure interaction was accounted for by use of equivalent soil spring stiffness. Designs conformed to CALTRANS and AASHTO seismic design requirements. Superstructure designed for HS25 loadings. Drilled piles designed with the aid of LPILE (a soil-pile interaction program). Complete details and supervision of detailing to completion and assistance to junior engineers. (Entire design was performed and detailed in metric units.) Other portions of freeway design completed by other T.Y.Lin branch offices throughout the U.S.A. (Project Cost: USD\$2.0 billion)

Meta Railway Line (San Francisco, California, USA)

Responsible for the detailed design and drafting of the 75km long 140kph railway line which includes cross-overs, loop lines, sidings, joints, cross-sections. Other duties include design of bridge structures and culverts.

Jan. 1987 : LEAP ASSOCIATES INTERNATIONAL, INC. (TAMPA, FLORIDA, USA.)
-Jul 1989 : Project Engineer

I-95 HOV Connector Lanes widenings, Florida.

Responsible for the design of the four span bridge consisting of AASHTO Type IV prestressed concrete beams supported on pile foundations. Supervised detailing.

Cypresswood Drive Overpass, Houston, Texas.

Performed a design check of the five span continuous bridge consisting of prestressed AASHTO beams with drop beams. Check performed using STAAD-III/ISDS.

S.R. 111 Over Big Soddy Creek, Tennessee.

Responsible for the design of the 3 span continuous bridge consisting of prestressed PCI Bulb-T beams. Deck made continuous compositely over piers. Performed handling and stability check for contractor as beams were long (141 ft).

S.R. 80 over Orange River, Lee County, Florida.

Performed a design check of an entire three span bridge subjected to overload crawler-crane loading used for deck construction. A method statement was delivered to the contractor on how to construct the deck.

Main Street Bridge No. 3 over Speers Run, Pittsburgh, Pennsylvania.

Designed multibeam precast prestressed box girder bridge. Responsible for the coordination and inspection of the construction of the bridge.

Turnpike over Glades Road, Florida.

Performed the computations for deflections for construction purposes for a three span continuous bridge consisting of haunched plate I-girders. The computed deflections were reported to the contractor.

Sheetpile Pasco County, Florida.

Prestressed concrete sheetpile analysis and design for sea wall and end abutments. Mooring station dock-pier for Tampa Electric Co. Performed pile-group analysis (with battered piles) to determine deflection and pile forces using STAAD-III ISDS.

Hunter's Green Markborough, Florida, Inc.

Design of timber bridges used for pickup truck and golf carts, and timber bridges for pedestrian crossings.

36th Street Causeway Over Biscayne Bay(I-195), and Julia Tuttle Causeway, Miami, Florida.

Numerous analyses and designs of bridge end-bents and pier foundations on piles. Developed pile group analysis spreadsheet using Lotus 1-2-3 which determines beam shears, punching shears and moments as required by current AASHTO codes and load combinations. Designed several bridge bent piers.

Belcher Oil Terminal at Port Everglades, Key Largo, Florida.

Design of combined foundation for metal framed building.

Bridge 1209-Little Canada Road, New York.

Analysis and design of a 3-sided rigid frame reinforced concrete bridge using edge beams as main frames. Utilized STAAD-III/ISDS frame program.

For Kistner Concrete Products, Inc., Pembroke New York.

Design of several Box culverts with footings on timber piles, deep vaults, precast inlet structures, manholes and retaining walls subjected to earth loads and HS20 live loads.

Pinellas County Florida-Bridges.

Planned and performed bid estimates of several bridge design proposals for the county.

Strategic Defences Facility, Alberquerque, New Mexico.

Responsible for the design of the building consisting of prestressed double-T roof beams, inverted-T beams (spandrel beams) columns, wall panels and connections for precast building.

Carnegie-Mellon University, Pittsburgh, Pennsylvania.

Responsible for the design of the parking garage structure; design of precast prestressed Double-T decks, inverted-T beams, columns and connections.

Commercial Building for Robert T. Bradley, Miami, Florida.

Responsible for the design of the building consisting of precast prestressed double-T beams, spandrel beams, columns and connections.

Baltimore Signing and Marking Shop Renovation.

Responsible for the design of the building consisting of hollow core slabs, inverted-T beams columns and connections. Prestressed poles and pile designs for Southeastern Florida.

Programming, Analysing and Checking structural engineering programs. Includes using Qbasic and C programming languages, hand-calculating and documentation of complete calculations for user manuals for: Simple and Continuous spanned prestressed bridges, Bridge piers, Precast prestressed sections with composite design, Biaxial column designs, Pole design, Tilt-up thin-wall design, PCI torsion and stress-strain compatibility, PCI connections designs. Extensive use of AUTOCAD.

Jan. 1985 : FLORIDA DEPARTMENT OF TRANSPORTATION, FLORIDA, USA.

-Dec.1986 : Research Assistant (Univ. of Florida, Gainesville, Florida, USA)

A Florida Department of Transportation funded research project. Performed analysis, design and testing of a post-tensioned, tapered, cantilever bridge pier with encased prestressed continuous Bulb-T AASHTO girders subjected to Combined Flexure, Shear and Torsion. Constructed a model of a bridge pier. Developed computer programs (Fortran) to analyze pier design, to optimize prestress force graphically and to predict cracking strength by using partial prestress concept. Utilized strain gages with data acquisition system to analyze structural behaviour of pier from recorded strains and deflections. A thorough Finite Element Method analysis of model using SAP86 program. A frame analysis of bridge was also performed to obtain loadings on individual beams. A report was compiled based on this research project and findings for the Florida Department of Transportation. This report also formed the basis of my master's thesis. (Project Cost: USD\$100,000.00)