



Storm Water Drainage

In the Libya Project, the storm water drainage design including open drains and piped drains were undertaken for all settlements. The piped storm drains ranged from 315mm to 1500mm in diameter. The design included 314 km Collection Network, 123 nos. of Collection Reservoirs and produced about 2000 Engineering Drawings for Storm Water Drainage Design. The design consisted of road inlets, manholes, uPVC and GRP pipes and disposal to natural water courses and collection reservoirs.



Geographical Information System

TTI has completed GIS Projects viz. "Preparation of L/S for South Sumatra - West Java Gas Pipeline Project in Indonesia," "GIS Conversion of As Built Drawings for Oman Gas Pipeline," "GIS Data Preparation for 84km Water Supply Pipeline for Singapore Project" and "GIS Based Mapping for Sewer Rehabilitation in New Delhi."

TTI offer the complete spectrum of GIS and Civil Engineering services combined with proven process and effective delivery mechanism.

The capabilities of TTI Include:

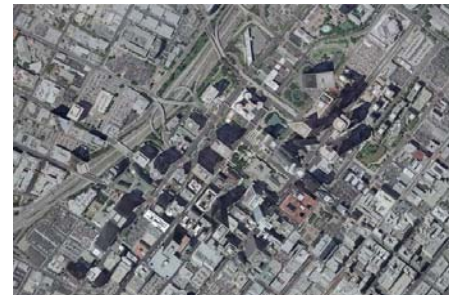
Data Conversion Studies

- Engineering CAD drawing conversion (Civil, Mechanical and Electrical)
- Digitization of contour drawings, survey of India toposheets, civil topographical drawings, navigational charts, hydrographic charts, oil, water and gas pipeline etc.
- L/S and C/S creation and alignment corrections



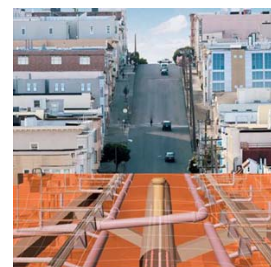
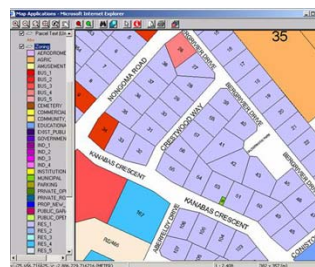
Base Map

- Topographic Mapping
- Base Map Creation for Urban Planning
- Digital Terrain Modeling (DTM)
- Property Information System & Market Research Support



Utility Mapping & Planning

- Electrical, Telecommunication Transmission & Distribution Network
- Water & Sewerage Systems
- Road Management System



Environmental

- Environmental Impact Assessment
- Industrial Plans
- Waste Disposal Site Selection
- Land Reclamation



TTI Consulting Engineers (India) Pvt. Ltd.

New Delhi
Delhi Project Office
DJB Pumping Station
Opp. Azad Bhavan
I.T.O New Delhi 110 002
Tel 91 11 23378736
Fax 91 11 23378489

Bangalore
Sri Maruthi Chambers
No.5,1st Main Road
Thimmaiah Garden, R.T. Nagar
Bangalore 560 032
Tel Fax 91 80 23436022
www.ttieng.com

TTI Consulting Engineers

Sydney
32, Newington Technology Park,
8 Avenue of Americas
Newington NSW 2127
Sydney, Australia
612 9648 3644
Fax 612 9648 3944
www.ttieng.com



TTI CONSULTING ENGINEERS

THE STAMP OF PROFESSIONALISM



Trenchless Technology

Water Supply

Sewerage

Storm Water Drainage

Geographical Information System

Towards Being The First Choice For Excellence

! Sydney ! New Delhi ! Bangalore !

TTI's Profile

TTI Consulting Engineers Pvt. Ltd. is a specialist engineering company established in 1990 in Sydney, Australia to provide professional services in trenchless technology based utility infrastructure development and renovation works. Over the last 17 years, TTI has earned a pre eminent position in this field and has been commissioned by many institutions including Sydney Water Company. It scored a first in India with the Microtunneling project in Mumbai in 1997. TTI established its wholly owned Indian Subsidiary TTI Consulting Engineers India Pvt. Ltd in 2005 and set up office in Bangalore. The office in Bangalore and the Project office in Delhi now spearhead TTI's foray into infrastructure designs include Master Planning, Feasibility Studies, Detailed Engineering Designs, Tender Documents and Project Management in Water Supply, Sewerage and Storm Water Drainage.

In addition, TTI is providing specialised infrastructure design services, viz. Trenchless Engineering, Condition Assessment & Rehabilitation, UFW Studies and GIS mapping.

TTI was contracted, in April 2006, as part of a consortium of design Consultants for Designing infrastructure - Water Supply, Sewerage & Storm Water Drainage design for a 2 billion US Dollar Project in Libya. By end of 2007, TTI has completed detailed design for 16 settlements in the Tripoli Region, spreading over 5100 Ha.

TTI's Core Areas of Expertise

Trenchless Technology

TTI Consulting Engineers is a pioneer in the field of Trenchless Engineering in India. It provides specialist engineering services in trenchless pipeline construction and renovation/ rehabilitation using microtunnelling & pipe jacking, horizontal directional drilling, pipe bursting technology, and a host of trenchless rehabilitation techniques such as CIPP, Close Fit Lining, Slip Lining including Spiral Wound Liners, Segmental Lining (GRP), etc.

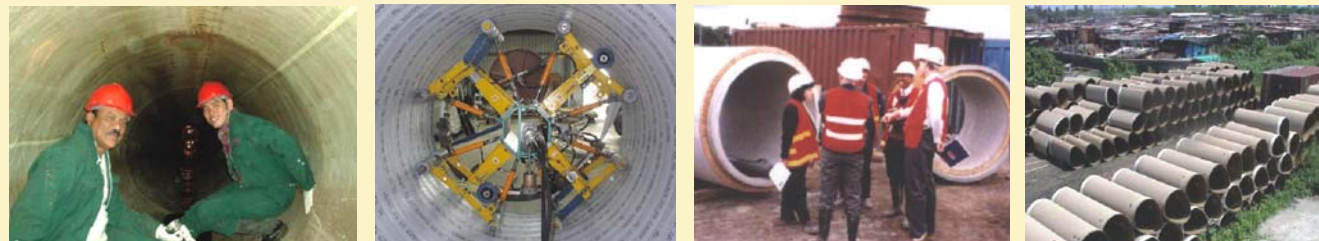
Three major trenchless engineering projects were executed during 1997- 2004 in Mumbai under the Bombay Sewage Disposal Project - all World Bank Funded Projects.

Rehabilitation of Sewers.

Rehabilitated about 16km of ovoid brick and RC sewers at a cost of US\$ 4.0 million; 2002-2003

Completed Project Management Services for Rehabilitation of 16km of brick and concrete (circular) sewers using the state of the art Cast-In-Place Pipe (CIPP) technology 2003-2005; Delhi Jal Board, New Delhi

The Joint Venture of Sewer Assessment Specialists – TTI Consulting Engineers provide specialist engineering services to Sydney Water Corporation (SWC) for 1) Rehabilitation of Sewers 2) Rehabilitation of Structures and 3) Structural Analysis and Condition Assessment of SWC's assets.



Water Supply

TG Halli Water Treatment Plant Rehabilitation Project: TTI designed the rehabilitation of existing 135 MLD Water Treatment Plant including M&E works at TG Halli in Bangalore. The project includes rehabilitation of 135 MLD WTP, 16 km of 1000mm dia water mains and mechanical and electrical works at Water Pumping Stations.

TTI has also prepared Detailed Project Reports for "Bulk Flow Metering Monitoring Systems" for Bangalore Transmission Network, "Augmentation of additional 100 MLD of water from CWSS Stage-IV Phase-I" and "Replacement and Rehabilitation of existing old water supply pipelines upto 300mm dia".

The source of water supply is the GMMR (The Great Man Made River), with the existing wells being considered as standby source. New Storage reservoirs and distribution network are designed, adequate to provide a minimum of 15m pressure to all consumers. The network has up to 500mm diameter PE&DI pipeline. The designs for these settlements included 110 km-Pumping Mains, 20-Ground Level Tanks (GLTs), 15-Elevated Water Tanks (EWTs) and 560km - Distribution Network. TTI produced about 2500 Engineering Drawings for Water Supply Designs.

TTI has completed "Preparation of detailed layout and Profile for Transmission Main of Size ranging from 900mm to 2200mm for CH2MHILL, "NEWater Infrastructure Plan (NIP)", Singapore.

TTI is Providing "Water Audit, UFW, Condition Assessment of Water Distribution Network and GIS Mapping" Services to Indian Institute of Science, Bangalore.



Sewerage

In Libya Project, the sewer mains were uPVC till 600mm and GRP from 700mm to 900mm diameter. The 16 settlements had 350km collection network, 26 nos. Sewage Pumping Stations (SPS) and 7 Sewage Treatment Plants. TTI has produced about 2000 Engineering Drawings for Sewerage System Design. The STP designs consist of Stabilisation Ponds and Extended Aeration Systems. The biggest was 30 MLD capacity.

Detailed Project Report for rehabilitation of Trunk Sewer Mains in Bangalore

TTI prepared a Detailed Project Report to upgrade and rehabilitate about 100km of sewers. The Project cost is about Rs.177 crores, approved by JnNURM. The project was part of BWSSB's Environmental Action Plan to convey sewage to STPs, Protecting Lakes, Water Bodies and Storm Water Drains.

TTI is Providing "Sewage Flows, Condition Assessment and GIS Mapping" services to Indian Institute of Science" Bangalore.

