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**CONSTRUCTION SUPERVISION FOR COMMON
TANNERY EFFLUENT PRE TREATMENT PLANT
(CTEPTP), TANNERY SOLID WASTE DISPOSAL SITE
(TSWDS) AND APPROACH ROAD AT KASUR**

CONSULTANT'S REPORT (as on 31st January 2001)

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**Construction Supervision
of
Common Tannery Effluent Pre Treatment Plant (CTEPTP)
and
Tannery Solid Waste Disposal Site (TSWDS) at Kasur**

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**Construction Supervision
of
Common Tannery Effluent Pre Treatment Plant (CTEPTP)
and
Tannery Solid Waste Disposal Site (TSWDS) at Kasur**

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1. General

The project was conceived long back and after passing through various channels and lots of up & down, ultimately was designed by TEH Projekt, Rajika as far as the concept is concerned.

Under a contract signed in December 1998 the conceptual design was converted to a construction document by IN Consult (Pvt) Ltd. The construction document was approved by the project implementation agency (the Project Authorities) named as Kasur Tannery Waste Management Agency (KTWMA) and tenders were invited.

The construction documents were divided into two parts viz. CTEPTP- Common Tannery Effluent Pre Treatment Plant, and the second part as TSWDS-Tannery Solid Waste Disposal Site.

The second part, relatively smaller, was awarded first i.e. on 4th August 1999 to M/s Guarantee Engineers, Lahore for a contract price of Rs. 16,511,624. The contractor mobilized to the site on the same day. No payment in foreign currency was proposed or agreed.

The CTEPTP part was awarded to M/s Habib Rafiq (Pvt) Ltd. on 31st August 1999 for a contract price of Rs.126,654,429. This contractor mobilized on 1st September 1999.

Under the directives of the provincial government, the target completion date was fixed as 31st December 1999, which was rather an ambitious target.

The work was started at a high pace and faced the hazards which normally a high pace work faces, like quick placement of orders, lesser time for review, night work, premature approvals and high cash flow requirements.

With the change in government, the work pace initially continued but ultimately it was slowed down.

Although the work physically started on 4th August 1999, yet due to various reasons the Consultants could not be engaged till beginning of November 1999. The Consultants mobilized on 5th November 1999.

Delayed selection of Consultants invited complications as prior to their induction work was being supervised by the KTWMA itself. Due to variation in supervision practices, confusion arises and fixation of responsibility gets difficult. It ultimately ends up in a bitter taste.

The equipment to be installed at the CTEPTP also became an issue. In fact no other major technical problem was encountered so far during construction phase. The project authorities desired that all sort of approvals should be obtained from them, whereas UNIDO had a different opinion. Further the deviation from specifications also created bitterness between the project authorities and UNIDO.

The Consultants role, which was anticipated till July 2000 was extended upto 31st January 2001, as the project could not be completed. This report is prepared on the basis of achievements made till January 2001. The Final Completion Report shall be prepared when the project is completed and commissioned.

The civil works are almost completed and waiting for installation of the equipment. It is anticipated that after the issues pertaining to the equipment are finalized, the same will be installed and the project commissioned.

2. The Project

Conceptual Design by	TEH Projekt, Rajika Croatia
Construction Documents by	IN Consult (Pvt.) Ltd. Lahore.
Supervising Consultants	IN Consult (Pvt.) Ltd. Lahore.
Supervising Consultants Mobilization Date	5 th November 1999

3. The Segments

(1) TSWDS

Contractor	Guarantee Engineers ((Pvt.) Ltd.
Contract date	04.08.1999
Contract Price	Rs. 16,511,624
Contractor Mobilization Date	04.08.1999

Components

- Approach Road
- Bridge over Old Railway Track
- Solid waste Disposal Site

(2) CTEPTP

Contractor	Habib Rafiq ((Pvt.) Ltd. Lahore
Contract date	31.08.1999
Contract Price	Rs. 126,654,429
Contractor Mobilization Date	01.09.1999

Components of CTEPTP

A. Civil Works

- Control Building
- Screen House
- Tubewell Room
- Supply Channel
- Culvert under Depalpur Road
- Equalization Tanks
- Settling Tanks
- Lime Mixing Tanks
- Measuring Channel
- Pipe Supports
- Effluent Lagoons
- Sludge Lagoons
- Supernatant Return Pipeline

B. Mechanical Works

- Coarse Screen
- Stainless Steel Pipeline
- Agitators
- Fiber glass Pipeline
- Flow Control Gates

C. Public Health Works

D. Fire Fighting Works

E. Storm Drainage System

F. Electrical System

G. Installation of Imported Equipment

- Automatic Screens
- Aerators
- Pumps
- Valves
- Settling Tank Equipment

(3) Other Components (out of area of responsibility of the Supervising Consultants)

- Dingarh Collector
- Dingarh Pumping Station
- Pressure Pipeline
- Younus Nagar Pumping Station
- Supply Channel
- Storm Drain Channel
- Road to Tannery Clusters
- Final Out Fall Drain

4. The Progress of Work

Progress achieved at the end of
January 2001 for TSWDS and
Approach Road

93.5% (financially). The
Contractor was awarded with the
Substantial Completion
Certificate on 19.11.2000

Progress Achieved at the end of
January 2001 for CTEPTP

86.5% (financially)

Progress of components other than TSWDS and CTEPTP was not available with supervisory consultants.

5. Deviations recorded and Compromises made:

(1) TSWDS

Approach Road

Storm drain at the toe of Approach road eliminated (Clients desire)

Disposal Site

- Gobri leap at the bed replaced with compacted clay layer
- Geomembrane eliminated from the bed (Client's desire)

Bridge on Old railway Track

Designed by IN Consult and included in the scope of work of the contractor (Clients requirement)

(2) CTEPTP

A. Civil Works

Control Building

- Lighting arrangement modified (Client's desire)
- Guards Cabin added near entrance (Client's desire)
- Fence in front of building replaced with grill (Client's desire)
- Architectural look changed (Client's desire)
- Entrance paving suggested and implemented.

Screen House

No major alteration recorded. However this shall require modification to adjust the screens due to lower inclinations. Design shall be altered after decision of the Experts Committee is finalized.

Tubewell Room

Location of tubewell altered based on requirements

Supply Channel

No major deviation recorded except minor variation in the overflow weir.

Culvert under Depalpur Road

Initially it was anticipated that complete road was already crossed by the existing culvert, but it was found that it was half way, quantity of work was therefore altered.

Equalization Tanks

Length of railing was increased for safety reasons, No major deviation recorded in pumping pit or delivery tanks. The interconnection between the tanks was inadvertently skipped it was recommended to be constructed.

Settling Tanks

Slot provided for Effluent pipe. Conduit for electrical cable suggested (80mm), not implemented yet.

Lime Mixing Tanks

- Alteration in grating size proposed
- Lime pipeline alteration recommended

Measuring Channel

No major changes recorded

Pipe Supports

Changes proposed in mechanical arrangements at the top of supports.

Effluent Treatment Lagoons

Anchoring system for Geomembrane with concrete structures revised. Compaction level was increased from ramming to 85%, partially

implemented. This was done after seeing the effects of rain on the dike slopes.

Permanent Sludge Lagoons

- Anchoring system for Geomembrane on top of dikes was revised
- Design of one wall of the supernatant pump station eliminated.
- Compaction level was increased from ramming to 85%, partially implemented. This was done after seeing the effects of rain on the dike slopes.

Supernatant Return Pipeline

Supernatant return pipe slope adjusted according to site requirements

B. Mechanical Works

Coarse Screen

Design alteration proposed (Client's desire) but still not implemented. Implementation stopped by the Client.

Stainless Steel Pipeline to Delivery Tank

No major alteration proposed

Agitators

Design changes proposed by Contractor approved after review

Fiber glass Pipeline

Pipeline route amended, only small part implemented till the reporting period

Flow Control Gates

Design altered (Client's desire), gates have been installed as per new design

C. Public Health Works

No major changes recorded

D. Fire Fighting Works

No major changes recorded

E. Storm Drainage System

No major changes recorded

F. Electrical System

External light poles type alteration proposed by contractor, implemented after approval.

G. Installation of Imported Equipment

No activity done except documentation review of equipment and reported variations/deviations from the specifications, as demanded by KTWMA. Material mismatch, and deviations from specifications were highlighted and taken up by the project authorities. The Governor of Punjab constituted an Experts Committee to recommend the actions. The Committee met and prepared the recommendations however no final decision has been formally taken. This is the major hurdle in project implementation currently.

6. Additional Services provided to KTWMA

- Proposed landscape for the Plant area
- Proposed Plantation Scheme for the Plant area
- Worked out proposals for Auditorium at site
- Worked out possibilities of preparation of Conference Room
- Proposals prepared for construction of toe walls
- Proposal for tension wire at the top of fence
- Review of imported equipment
- Preparation of presentation materials for presentations made by PM
- Designed Guard's cabin near entrance
- Prepared the design of area in front of the Control Building
- Prepared proposals for design of the Plant Sign Board
- Evaluation of Tenders for Lab. Furniture

- Assistance provided to Project Manager while defending design and concepts already accepted by Project Authorities
- Assistance provided to PM during various queries from outside agencies e.g. Governor Inspection Team

7. Reports Already Submitted

The monthly reports for Nov. 1999 to January 2001 submitted for the project along with the Consultants Report as of 31st July 2000, shall also be read in conjunction with this report,

8. Recommendations for future Projects

The project is still incomplete and clear recommendations are to be provided at the end of the project, yet, the lessons learnt to date translate into the recommendations stated in our previous report as of 31st July 2000 which are as under:

- The completion targets should be realistic
- The Consultants should be hired in time.
- There is a need for defining more precisely the role of Consultants.
- The national level coordination of the project should be handed over to a team rather than a single person.