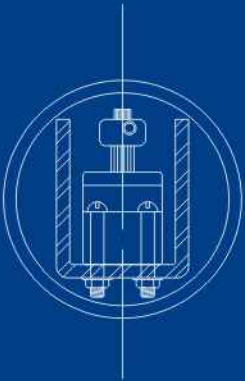


**TECHNA-WEST  
ENGINEERING LTD.**





**TECHNA-WEST  
ENGINEERING LTD.**

"Our team of professionals  
builds lasting client  
relationships through  
excellence, service and  
innovation."

**A Quarter Century of Innovation**

Techna-West designed fall-protection systems for New York's famous Grand Central Terminal.



## Building Confidence and Partnerships

### — A Message from Senior Management



Mahary Gregory, M.Sc., PEng.  
President & CEO



Rolly T. Marcos, B.Arch.  
Director



Janko Mistic, PhD., PEng.  
Chairman of the Board



Siegmar Seida, M.Eng., PEng.  
Vice President-Engineering



James Irving, PEng.  
Director

For more than a quarter century, Techna-West Engineering Ltd. has packaged effective, efficient and innovative multi-disciplinary engineering solutions for a widening circle of clients.

Since our modest beginnings in 1977, Techna-West has been entrusted with increasingly complex and varied challenges, drawing on our engineering capabilities in design, procurement, construction support, project services and project management. Our multi-disciplinary team's expertise covers civil, electrical, instrumentation, environmental, hydraulic, HVAC, mechanical and structural engineering, as well as architecture.

Though our skills are diverse, at Techna-West, we share a common commitment to building lasting client relationships through excellence, service and innovation.

We employ the latest tools for automated design, analysis and engineering calculation. The tools we use and the scope of our work have changed vastly since our first project – a \$1-million potable water storage reservoir on Sylvan Lake, Alberta. Still, we approach each assignment with the same enthusiasm and attention.

Our success stems from working with and listening closely to owners, contractors, suppliers and other consultants. This ensures clients get what they want to meet current and anticipated needs. We believe that delivering superior results is the best way of ensuring we are selected as the expert of choice on future projects.



## Engineering For Success ▼

Techna-West is big enough to manage and small enough to care. At Techna-West we tackle engineering projects valued up to half a billion dollars without abandoning the personalized service that has brought us success. This enables Techna-West to assume significant project management responsibilities while remaining flexible enough to take on smaller assignments – including continuous service and supportive maintenance contracts.

Key sectors served include industrial, manufacturing, materials handling, HVAC, resource extraction, petrochemicals, water management and public infrastructure.

Our reputation continues to grow in Canada as we add international clients. That means good ideas from Techna-West are working and providing safer



environments at sites stretching from Alberta's oilsands in the north to a Chilean molybdenum mine in the south, and from a Maryland cement plant in the east, westward to an earthquake-protected refinery in California. Techna-West also has contributed engineering expertise to several European projects.

A flexible business approach enables us to work as prime or specialty consultants, project co-ordinator, and owner representative, or within project-specific design-build partnerships, alliances and joint ventures.

Techna-West designed these 30-inch water supply and return lines for Suncor Inc.

From its base in Edmonton, Alberta, Techna-West has completed projects in North America, Latin America and Europe.





## Our Strengths ▼

Structural engineering has been a core competency at Techna-West since its formation in 1977. Today, clients continue to select Techna-West for structural design proficiency that is backed by similarly high levels of expertise in other disciplines. Techna-West has a proven record of providing structural engineering services for the design, construction and rehabilitation of:

- Public infrastructure – including bridges, dams, water treatment plants, sanitary and industrial sewers, reservoirs, pump stations, spillways and noise barriers
- Industrial buildings – for administration, maintenance, safety and security services
- Refining, manufacturing and processing plants – including supports for piping, vessels, ducts, towers, silos and conveyors
- Foundations – for all sizes of equipment – from grinding mills to air compressors
- Structures in permafrost areas, or with poor underlying soils or other challenging geotechnical conditions
- Blast-resistant buildings.

Our quick response in analysing structural failures and other emergencies is also widely recognized.

Though designs and functions vary, our commitment always remains constant – to design structures that meet the needs of end users.



Techna-West carried out bridge restoration at the 75th Street overpass to Whitemud Drive in Edmonton.

## Our Projects ▼



The Gate of Happy Arrival provides a colorful entrance to Edmonton's Chinese Quarter. The project demonstrates Techna-West's willingness to tackle modest but unique projects.





Techna-West designed this workshop for Suncor Energy in Fort McMurray.



Techna-West designed a \$5-million fly ash classifying facility for EPCOR Generation's Genesee power plant near Edmonton.



Techna-West designed the Safety Centre and Learning Centre for Petro-Canada's Edmonton refinery. The project demonstrated Techna-West's ability to integrate a functional new structure into an existing industrial setting. Techna-West's responsibilities on this 2044 m<sup>2</sup> project included all architectural details, mechanical/ HVAC and structural components, and detailed electrical and instrumentation designs.



Paxton Polymer's Baton Rouge, Louisiana, plant benefited from Techna-West's expertise in design of pipe racks, support structures and fall-protection systems.

## Our Strengths



Contractors and owners of industrial, manufacturing and materials-handling facilities value Techna-West designs, which lend themselves to quick, cost-effective and easily co-ordinated construction. Our well-established reputation in the structural area complements strong capabilities in electrical, instrumentation, piping and mechanical process engineering. Varied industrial and manufacturing experience allows Techna-West, as project manager or speciality consultant, to handle portions or all parts of projects – starting with preliminary designs and cost estimates, through to training, commissioning and start-up.

Techna-West is a recognized Alberta leader in the design of piping, and materials-handling facilities for receiving, storage and movement of bulk commodities, slurries and fuel within plants.

We are experienced in retrofits, upgrades and add-ons to existing industrial facilities. Many of our designs are first-of-a-kind solutions to adapt technologies to new environments. This pioneering spirit often results in Techna-West subsequently being invited to participate in similar projects.

Techna-West served as the principal engineering consultant for Inland Cement Limited's upgrading and modification of its Edmonton plant.









## Our Strengths

Project management is a Techna-West strength. Drawing on our multi-disciplinary technical skills, Techna-West successfully forms project management teams to oversee engineering, procurement and construction. Emphasis is placed on effectively balancing costs, scheduling and quality. Other priorities are good communication among project participants and ongoing dialogue to meet client needs.

That approach was applied at the \$300-million U.S. modernization and expansion of Lehigh Portland Cement's plant at Union Bridge, Maryland. Reporting to the owner of this fast-track project, Techna-West co-ordinated 10 design consultants. On the same project, Techna-West produced highly constructible designs for the largest pre-heat tower (145m) and kiln (70m) installed in a dry-cycle cement process in North America.

Techna-West further demonstrated its management supervision capabilities during construction of the South Heart Spillway and related water controls in northwestern Alberta.

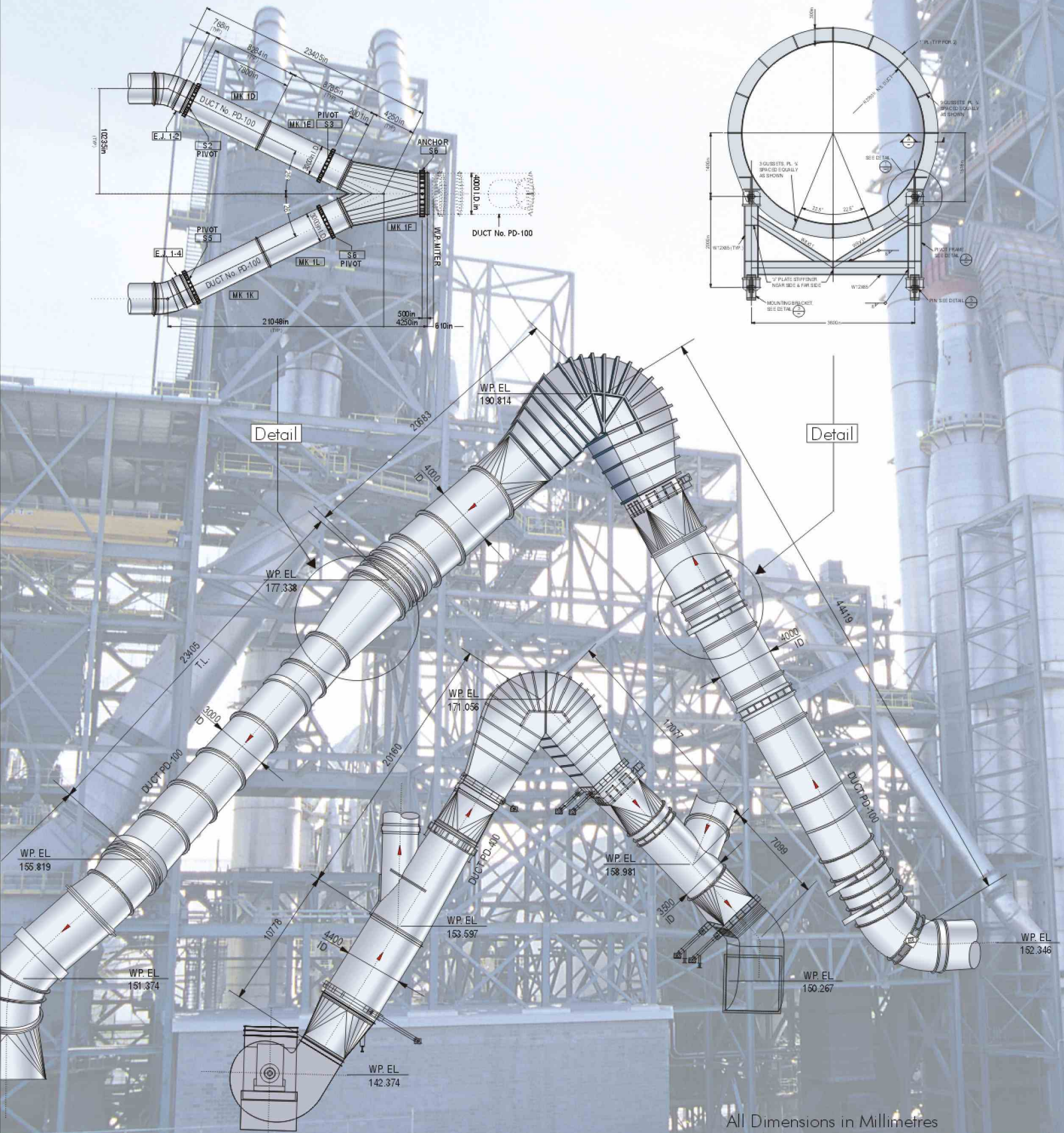


Techna-West served as project manager and designed the administrative and maintenance buildings, and guardhouse for Edmonton-based fuel-additive producer Alberta Envirofuels Inc.

Techna-West demonstrated its effectiveness as a project manager during the expansion of Inland Cement's Edmonton plant.



For the expansion of Lehigh Portland Cement Company's Union Bridge, Maryland, plant, Techna-West designed the main hot gas ducts and related structural steel. The 4-metre-diameter duct reaches a height of 58 metres and is designed to handle temperatures of up to 450° C.



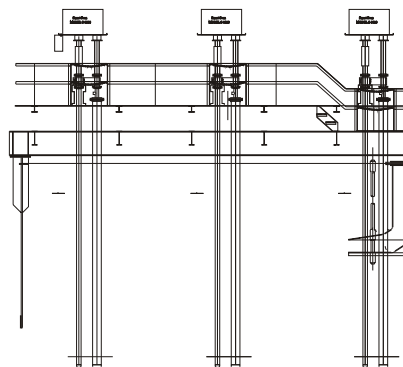






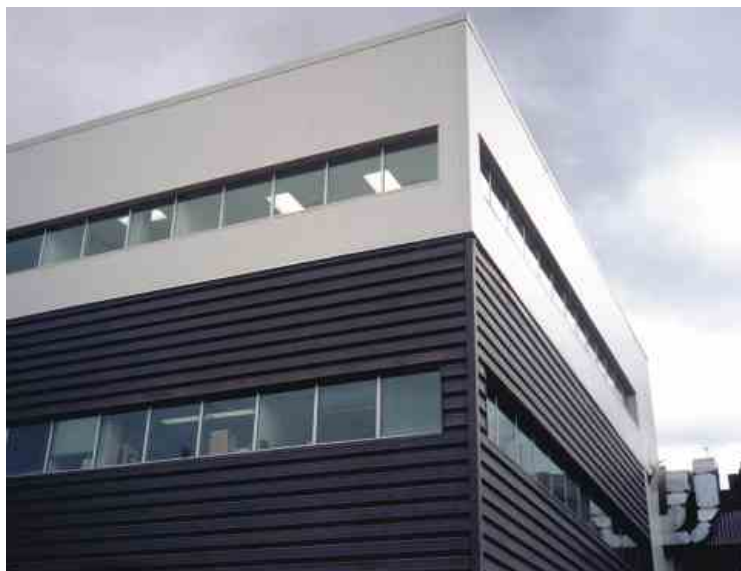
## Our Strengths

The oilsands represent a major focus economic activity in Alberta. At Techna-West, we have an established reputation for providing innovative solution for oilsands-related mining, extraction and environmental protection. We have worked on more than 700 project-specific and supportive maintenance contracts for Suncor Energy Inc. and Syncrude Canada Ltd. A more recent oilsands arrival, Albion Sands Energy Inc., is also a Techna-West client. Our on-site familiarity and our reputation for getting the work done on time and on budget mean that these companies repeatedly hire Techna-West to modify existing oilsands facilities and structures.



Techna-West modified this nuclear density measuring device for Suncor in Fort McMurray.

The award-winning design for a pre-cast concrete conveyor crossing designed by Techna-West for Syncrude Canada in 1989 has stood the test of time and the weight of ever-larger trucks. Syncrude has demonstrated its continuing confidence in Techna-West, which has provided several design modifications to permit use of the crossing by heavier equipment.



Techna-West has a close working relationship with Suncor Energy and has provided engineering services for numerous projects related to Suncor's processing and administrative facilities at Fort McMurray.

When Suncor added a 930-square-metre third floor to the administration building in the oilsands extraction area at Fort McMurray, Alberta, Techna-West, as the original design consultant for the building, was a logical choice for the architectural and mechanical design for the \$3-million addition.



Techna-West provided the design when the internationally recognized heavy-lifting specialists Mommoe of the Netherlands built a specialized system for Albion Sands Energy Inc. at Fort McMurray.



## Our Strengths



Techna-West designed the extension of the clarifiers at the Goldbar Sewage Treatment Plant in Edmonton.

At Techna-West, we pay close attention to sound environmental planning, sustainable development and risk management on all assignments. Some projects specifically focus on environmental protection and development of Alberta's renewable resources, including forests and water.

With our strong credentials in hydraulic engineering, Techna-West has successfully completed a variety of water-related infrastructure projects, such as reservoirs, water treatment plants, pump stations, as well as sanitary and industrial sewer systems.

Techna-West's multi-disciplinary team has demonstrated its strengths on water management projects designed to regulate stream flows and to enhance water quality. Projects, such as the South Heart Dam spillways and related controls on Winagami Lake in northwestern Alberta, benefit local communities and the natural environment.

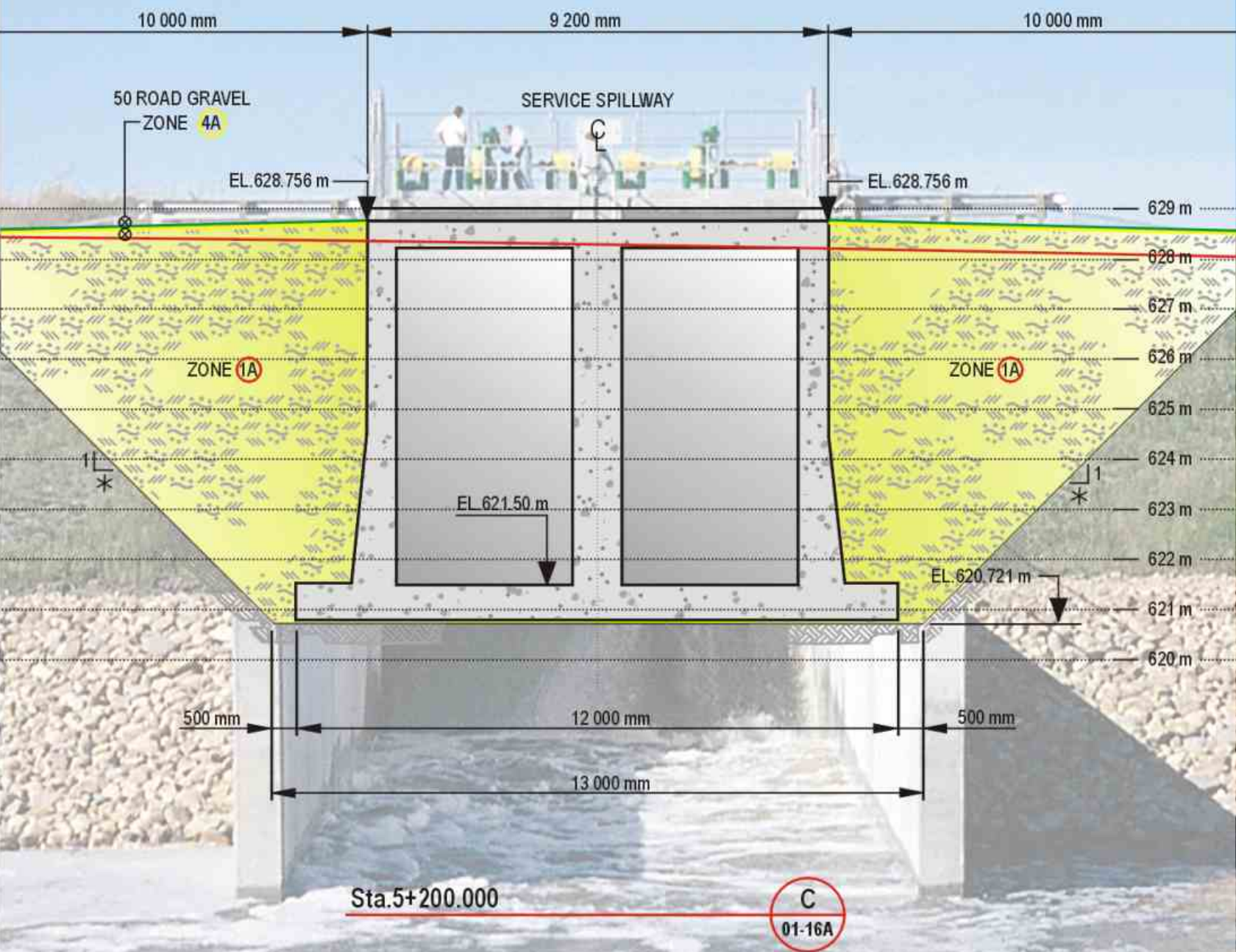
The Dunluce/Warwick Sanitary Sewer and Rehabilitation Storage Tank and Pump Station in Edmonton demonstrate Techna-West's ability to provide innovative environmental engineering solutions. A 3,000 m<sup>3</sup> tank and related facilities control infiltration of rainwater into the sanitary-sewer system.



Techna-West designed and provided construction management for the South Heart Dam spillways and related controls on Winagami Lake, a project carried out for Alberta Transportation on behalf of Alberta Environment, the owner/operator.









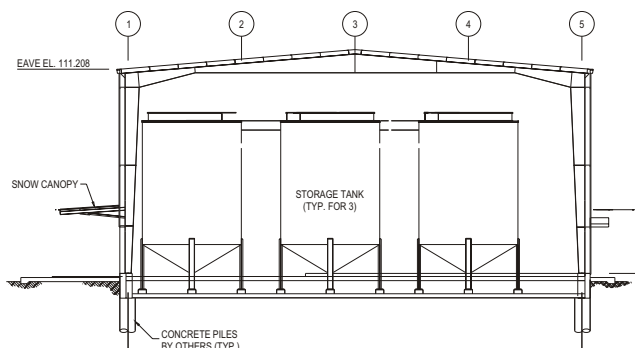
## Our Strengths ▼

A solid reputation gained from Alberta projects has resulted in consulting opportunities abroad for Techna-West. Techna-West professionals are licensed to practice in a number of U.S. states and have contributed to several sizable American projects, notably:

- Modernization of one of North America's largest cement plants, operated by Lehigh Portland Cement Company at Union Bridge, Maryland, and owned by Germany's Heidelberger Zement Group
- Structural designs of a \$12-million addition to Chevron's El Segundo Refinery, in California.

Techna-West meets the challenge of working in international settings that have different standards and business expectations. For example, structural and mechanical modules designed by Techna-West and built in Alberta were shipped to a molybdenum plant in Chile.

Familiarity with Canadian standards and building codes also makes Techna-West a logical choice for designing HVAC, mechanical and electrical support for process equipment sold by foreign suppliers to resource and manufacturing operations in Alberta.



Techna-West designed these modular structural and mechanical units for a molybdenum plant in Chile. The units, fabricated and then disassembled in Edmonton, were shipped to Chile for reassembly.



Techna-West provided all of the structural designs, including seismic analysis for earthquake resistant foundations and fractionation columns and heat exchangers for a \$12-million butamer unit at Chevron's El Segundo Refinery, near Los Angeles. Structural modules – for support equipment, vessels, drums and heat exchangers – were manufactured in Alberta and transported to California.



Techna-West worked with Floquip Engineering Company, of Riceboro, Georgia, on the design of the flocculation building at the Alban Sands Energy facility at Fort McMurray.













## Our Strengths



Techna-West electrical engineers developed drawings and standards for lightning protection and safety grounding procedures for Edmonton's Light Rail Transit.



An award-winning fall-protection system designed by Techna-West allows workers to work safely at elevated locations at New York's historic Grand Central Terminal.

The multi-disciplinary approach that Techna-West applies on broad-based projects also proves useful for special engineering challenges.

### Fall Protection

Techna-West engineers award-winning fall-protection systems manufactured and marketed through MSA Rose. Techna-West's designs have been installed on industrial and other structures, including many railway bridges in Canada and the United States. New York's legendary Grand Central Terminal is among the sites where workers move with greater safety thanks to fall-protection systems designed by Techna-West.

### Blast Protection and Forensic Investigation

Using its varied and specialized engineering skills, Techna-West provides post-incident forensic evaluations, including fire investigations, and preventive safety analyses, such as blast assessment of buildings.

### Audits

Techna-West offers second opinions on bids and third-party audits in contract disputes.

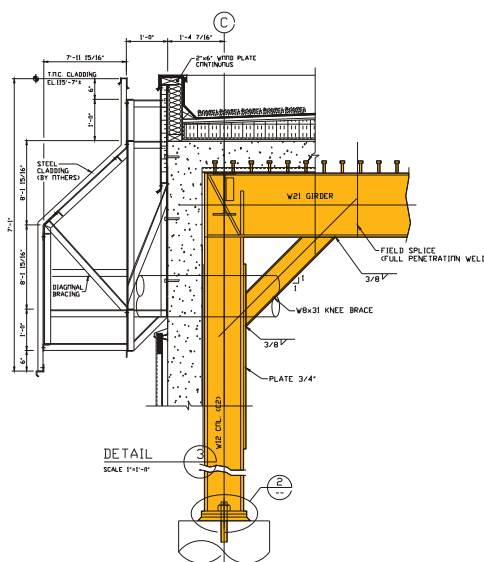
### Documentation Control

Techna-West creates searchable database and distribution systems for drawings and documentation.

### Electrical Safety Standards Development

Techna-West develops electrical training procedures and standards used in several sectors, including transportation and food processing.

Techna-West specialists in structural, electrical, HVAC, instrumentation, mechanical and piping engineering joined forces to design this blast-resistant building at Petro-Canada's Edmonton refinery.





Friendly staff members greet visitors to Techna-West's spacious offices located on two floors of Highfield Place in downtown Edmonton.

Techna-West is committed to a strong field presence to ensure projects proceed smoothly and to satisfy clients' requirements and schedules.



## Our Strengths

At Techna-West our technically competent and client-focused employees are critical to the firm's success and marketplace acceptance.

A wide variety of projects requiring innovative, multi-disciplinary solutions continuously challenge Techna-West staff and contribute to job satisfaction. Our collegial working environment further supports Techna-West personnel in producing the best solutions for our clients.

Techna-West has established relationships of trust with other consulting firms that offer specialized services in fields such as geotechnical engineering. Our staff and clients benefit from the ready access to internationally recognized researchers and facilities at the University of Alberta in Edmonton.

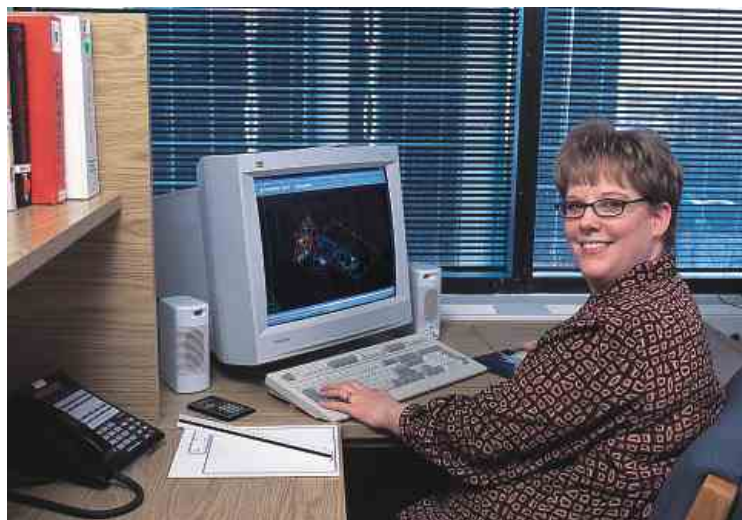


Video conferencing is among the technologies that permit Techna-West to remain in contact with clients and personnel.

Senior managers meet regularly to review progress on Techna-West's varied North American and international projects. Photo shows (left to right): Siegmund Seida, James Irving, Mahary Gregory, Janko Mistic, Rolly Marcos, Jim Hamilton, Darin Hucul and Geoff Rawlinson.







Field personnel work in close co-ordination with Techna-West's well co-ordinated and highly qualified design team.



People are Techna-West's strength. Photo shows some of the more than 70 members of Techna-West's staff based in the Edmonton office.



## Techna-West Gains Recognition ▼

Clients recognize Techna-West Engineering's innovative approaches. In addition, several Techna-West projects have received acknowledgment from industry and professional peers. The awards include:

- The Consulting Engineers of Alberta 2002 Showcase Award of Excellence (International) for the Lehigh Cement Plant Modernization, Union Bridge, Maryland.
- Recognition by the Consulting Engineers of Alberta in 2000 and 2001. Techna-West received Showcase Awards of Excellence and an Award of Merit for Fall Protection, and an Award of Merit for Project Partnering.
- American Concrete Institute Award of Excellence – for Precast Concrete Conveyor Crossing – Syncrude Canada Ltd., Fort McMurray, Alberta.

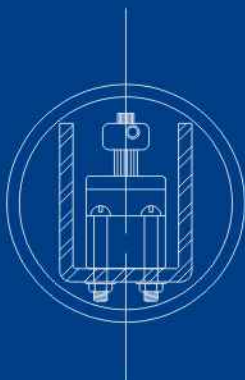


## The Future ▼

In its second quarter century, Techna-West Engineering remains dedicated to building on the success and excellence demonstrated throughout our first 25 years of operation. Our multi-disciplinary team will continue to work with clients to produce practical, innovative and up-to-date engineering solutions that will stand the test of time.



# TECHNA-WEST ENGINEERING LTD.



600 Highfield Place  
10010-106 Street  
Edmonton, Alberta  
T5J 3L8  
Canada

Phone: (780) **451-4800**  
Fax: (780) 451-5900  
E-mail: [info@techna-west.com](mailto:info@techna-west.com)

[www.techna-west.com](http://www.techna-west.com)

