

RELIABLE  
RESOURCES®



Civil & Environmental Consultants, Inc.

A wide-angle photograph of an industrial facility, likely a refinery or chemical plant. In the foreground, several large, parallel pipes run across the frame, supported by concrete blocks. The pipes are light blue or grey. In the background, there are several tall, cylindrical towers and distillation columns, some with ladders and scaffolding. A large building with a corrugated metal roof is visible. The sky is clear and blue. The overall scene is brightly lit, suggesting a sunny day.

**RELIABLE**  
RESOURCES

*from exploration to market*

**CEC OIL & GAS  
MARKET GROUP**

This diverse team of engineers, scientists, and professionals is our conduit to the latest thinking and advancements in the oil & gas market, providing clients with concise, timely information and regulatory updates to facilitate informed decision-making.



**ON THE COVER:** This fractionation, storage, and marketing complex processes 355 million cubic feet of gas each day.

Energy companies, drillers, and operators seek a resource with the expertise to successfully navigate evolving federal, state, and local regulations.

*Legislative and regulatory bodies race to keep pace with the fastest-growing segment of an expanding domestic energy industry. CEC helps clients obtain the necessary permits, clearances, and certificates for their upstream developments, midstream pipeline projects, and processing and infrastructure facilities – allowing clients to keep their primary focus on operations.*

*The experienced managers and principals at CEC are involved in the outreach and advocacy efforts of industry trade groups to stay in front of emerging issues, while maintaining long-standing relationships with the regulatory community.*

*CEC has continually expanded service offerings and opened regional offices with a focus on performance, delivery, and client satisfaction. A diverse scope of consulting services offered to the oil & gas industry has led to CEC's emergence as a proven, reliable resource.*

*Civil & Environmental Consultants, Inc. (CEC) provides comprehensive market-oriented consulting services that advance the strategic business objectives of our clients. CEC is recognized for its innovative design solutions and integrated expertise in air quality, civil engineering, ecological sciences, environmental engineering and sciences, survey/geospatial, waste management, and water resources.*

# THE CEC ADVANTAGE

*With long-standing ties to the oil & gas industry, CEC understands that time, cost, accuracy, and regulatory insight are of the essence.*

## **Regulatory Insight**

CEC leverages its relationships with agency personnel to stay on top of and contribute to the development of evolving regulations and policies, taking an integral advocacy role on behalf of clients. CEC also offers specialized training to regulatory agency employees.

## **Industry Knowledge**

Active involvement in major industry groups keeps CEC at the forefront of best management practices (BMPs), and CEC has developed several BMP guideline documents in use today. In-house professionals offer a tiered CPESC training program for clients.

## **Diverse Expertise**

Capabilities range from the ability to mobilize an army of trained professionals to accommodate tight schedules due to limited ecological survey windows, to critical gas migration expertise using compositional and isotopic analyses, to detailed water management plans that provided the basis for a portion of WVDEP's application forms for Horizontal Oil & Gas Well Permits.

## **Critical Response**

Greater flexibility to respond to immediate client needs means CEC can help implement a targeted solution faster. For spills and releases, CEC characterizes and assesses impacts and also develops and implements efficient and effective remediation plans and activities.



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*TOP: This large rail-loading facility fills 24 tanker cars at a time, moving purified products to market.*

*LEFT: This constructed rock riffle structure within a stream channel is part of a natural gas pipeline exposure repair project in Kentucky.*

*RIGHT: State- and federally certified surveyors conduct habitat assessments and offer mitigation alternatives for threatened and endangered bat species.*

## EXPLORATION & PRODUCTION

*Upstream companies face a complex interplay between schedule, cost, industry demands, and regulations. Balancing these elements requires resources, proven experience, and regional familiarity to tackle the regulatory and physical landscapes.*

### Well Pads

Site conditions pose geotechnical challenges that often require slope stability evaluations. Earth-retaining structures or specialized stabilization practices may be required, while earthwork quantities are considered to help minimize construction costs and duration.

CEC evaluates potential water withdrawal locations using geological and geophysical interpretations to locate groundwater production wells and aquifer testing to determine a sustained well yield. CEC also develops greenhouse gas emissions testing and air monitoring programs, and a tailored set of operating procedures ensures maintenance of these programs.

When drilling operations are temporarily or permanently complete, revegetation, closure, and reclamation services enable site restoration.

### Impoundments and Dams

Civil and geotechnical engineers and geologists assist with site selection, investigate subsurface conditions, evaluate slope stability, assess groundwater conditions, design liner and leak detection systems, and prepare construction plans for fluid containment, transfer, and storage facilities. Regulatory familiarity helps streamline the permitting process for dams, erosion and sedimentation controls, and sensitive resource impacts.



*TOP: CEC manages the design, approval, and construction quality assurance of production well projects.*

*LEFT: Impoundments often require the installation of groundwater protection and monitoring systems, including the installation of monitoring wells.*

*RIGHT: CEC provides options for the storage of hydraulic fracturing fluids, as well as flowback and produced water.*

## MIDSTREAM

*Whether installing gathering and transmission pipeline systems or constructing processing, loading, or transfer facilities, midstream companies need to implement a strategic approach to stay on schedule and get their products to market.*

### Pipeline Systems

CEC has extensive experience with gathering system components and large-diameter transmission pipelines, including those requiring FERC certification. Routing studies and surveying help identify the most efficient pipeline alignments. GIS analysts perform daily data analysis to track field team progress and evaluate potential re-routes, delivering real-time access.

To assist clients with permit-required sampling data and reporting, CEC prepares custom data management, illustration, and reporting programming. CEC conducts pipeline as-built surveying to document construction and for use during future maintenance and integrity analyses.

### Facilities

CEC has consulted on natural gas liquids (NGL) compression, fractionation, and treatment facilities development, assisting midstream clients with the civil design, engineering, and construction of meter and compression stations, processing and fractionation plants, and rail transport and railroad transloading facilities. CEC's innovative plans optimize site layouts and allow for planned and scalable expansions.



*TOP: CEC offers environmental design and permitting services for large-diameter pipelines.*

*LEFT: Geotechnical engineers perform subsurface investigations to support Horizontal Directional Drilling (HDD) activities.*

*RIGHT: Environmental engineers prepare air emissions permit documents among the numerous services offered for compressor stations.*

800.365.2324

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**Manufacturing**

**Mining**

**Oil & Gas**

**Power**

**Public Sector**

**Real Estate**

**Solid Waste**

### **Civil Engineering & Surveying**

Surveying  
GIS mapping and data management  
Geotechnical engineering and subsurface investigations  
Well site layout, grading, and earthwork  
Water management planning  
Pit, impoundment, and dam design and permitting  
Erosion and Sedimentation (E&S) control design and permitting  
Post-Construction Stormwater Management (PCSM) design and permitting

### **Ecological**

Stream identification and wetland delineation  
Stream and wetland impacts permitting  
Threatened and endangered species surveys  
Cultural resources assessments and management

### **Environmental**

Environmental assessments  
Federal Energy Regulatory Commission (FERC) environmental reporting and certification assistance  
Air permitting and emissions testing  
Stray gas migration studies  
Gas storage field leakage assessments  
Gas intrusion abatement services  
Spill Prevention, Control, and Countermeasure (SPCC) plans  
Spill response, cleanup, characterization, and remediation  
Hydrogeologic studies and groundwater monitoring  
Pre- and post-drill water sampling

### **Construction Phase**

Construction Quality Assurance (CQA) monitoring services  
Construction management  
Site infrastructure maintenance and rehabilitation services  
E&S BMP inspections  
PCSM BMP inspections  
Stream and wetland post-construction monitoring

### **Waste Management**

Centralized above-ground storage tank permitting  
Drill pad above-ground storage tank permitting  
Drilling waste characterization studies  
Above-ground storage tank liner installation CQA



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