



Civil & Environmental Consultants, Inc.

Athletic/Recreational Facility Design

CEC provides design, planning and engineering expertise to support academic, institutional and municipal athletic facilities including natural grass and synthetic turf playing fields, tennis courts, running track and field events, outdoor basketball and multi-purpose courts, and stadia.

PRE-DEVELOPMENT SITE INVESTIGATIONS

Preliminary site investigations address infrastructure, accessibility, municipal zoning, land development requirements, state and federal regulations, as well as site planning flexibility. Services include:

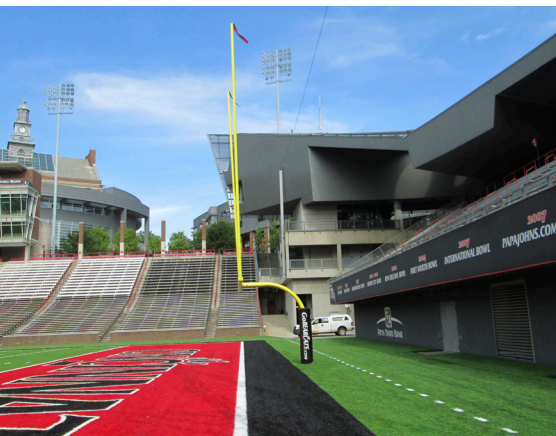
- Geotechnical Exploration
- Zoning Analysis
- Permitting
- Land Survey
- Utility Exploration
- Zoning and Parking Parameters
- Wetlands and other environmental considerations
- Grading/earthwork analysis
- Utility availability and capacity

ATHLETIC/RECREATIONAL SITE DEVELOPMENT

CEC takes into consideration floodplain issues, topographic constraints, existing and proposed infrastructure, stormwater management, preservation of site features such as existing vegetation, water courses and legacy structures, and review of wetlands and other environmental considerations. CEC can include the design of ponds and other water features such as bioswales, rain gardens and creative stormwater treatment measures to limit water resource impacts. CEC is experienced in site planning, layout and design for golf courses, community parks, athletic fields, swimming and wading pools, and outdoor performance facilities including plazas, press box, bleachers, scoreboard, game clocks, field lights, and buildings. Synthetic turf field expertise includes design of the field underdrain layout, stormwater drainage system, perimeter curb, field concept and layout designs for football, soccer, lacrosse, field hockey, baseball and softball, as well as synthetic turf fiber selection, synthetic turf infill selection, stormwater pollution prevention plan, grading plan, and technical specifications. CEC can optimize running track layout, field events, synthetic track surface selection, grading plans, and technical specifications.

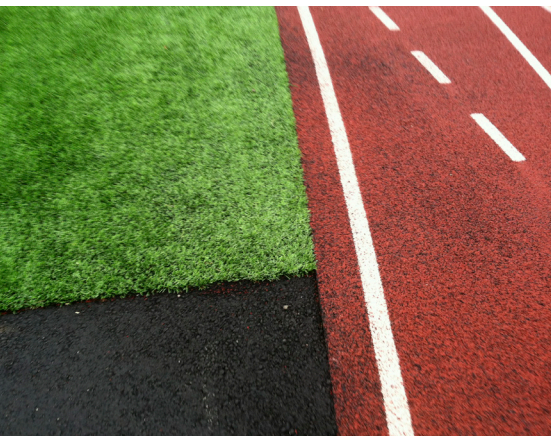
CEC can prepare landscape design and planting plans that address local municipal ordinance requirements and also can prepare irrigation plans to include commercial systems, groundwater and surface water supply irrigation systems, increased water efficiency, fountains and other water amenity features. Services include:

- Turf Analysis and Recommendations
- Site Grading/Earthwork Analysis
- Erosion and Sedimentation Control/NPDES Permitting
- Stormwater Management/Water Quality Design
- Utility Design/Coordination
- Structural Engineering
- Parking Lot Design and Pavement Analysis
- Transportation Engineering, Site Access, DOT Permitting
- Landscape Architecture and Planning
- Sustainability Planning and Design
- Recreational and Competitive Sports Facilities Design





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CONSTRUCTION SERVICES

CEC routinely monitors the construction of earthmoving operations, the installation of erosion control measures, and the construction of turf. CEC's certified technicians test soils, concrete, masonry, steel, and fireproofing. These technicians provide construction quality assurance and construction management services for a wide range of athletic and recreational projects, and are certified to meet International Building Code (IBC) Special Inspection requirements. Services include:

- Conducting Project Meetings
- Preparing Bid Specifications
- Multiple Phase Construction Documents
- Bid Administration
- Construction Administration
- Project Closeout Documentation
- Coordination with Building Inspectors
- Construction Quality Assurance (CQA)
- Density Testing of Soils and Aggregates
- Concrete Testing
- Structural Steel Testing
- Asphalt Pavement Testing
- Fill Placement Monitoring
- Synthetic Track Surfacing Installation Monitoring
- Confirmation Sampling
- Certification Report Preparation
- As-Built Drawing Preparation