



Pavement Design and Maintenance Services

CEC's team of geotechnical and civil engineers provides pavement designs and evaluations for a variety of vehicular traffic and loading conditions along with cost-effective recommendations for maintenance and rehabilitation.



PAVEMENT DESIGN

Utilizing AASHTO methodology to design flexible (asphalt) and rigid (concrete) pavement systems, CEC evaluates pavement and subgrade conditions to provide cost-effective designs for pavement construction/rehabilitation based on the required design life and proposed traffic loading. Engineers perform on-site soil sampling and geotechnical explorations to identify poor subgrade conditions while remedial ground improvement methodologies, such as geosynthetic reinforcement, lime stabilization, soil/cement mixtures, etc., can be explored.

PAVEMENT EVALUATION

For existing pavements, CEC utilizes the Pavement Surface Evaluation and Rating (PASER) or ASTM Pavement Condition Index (PCI) systems to assess the current pavement condition. PASER or PCI system ratings provide an easy comparative evaluation that provides for cost-effective decisions relative to the maintenance and rehabilitation of the existing pavement. CEC performs subsurface explorations to assess the as-built conditions and thicknesses of the existing pavement components and the pavement subgrade materials. Along with an analysis of the existing pavement, site pavement rehabilitation plans, details and bid documents are prepared for use during maintenance and rehabilitation. CEC incorporates a wide variety of pavement rehabilitation/maintenance techniques, such as overlays, seals, joint repairs, subgrade improvements, etc., to maximize cost-effectiveness.

PARKING LOT LAYOUT AND ADA ACCESSIBILITY

CEC provides civil engineering design services to prepare efficient parking lot layouts – specifically parking lot layouts that provide parking areas, internal access roads and external driveways, as well as those that promote pedestrian and vehicular safety. CEC also evaluates the site parking fields relative to current federal/state Americans with Disabilities Act (ADA) criteria, including the number/type of accessible spaces, loading aisle and accessible path criteria, maximum gradients and curb ramps. Pavement rehabilitation provides a unique opportunity to upgrade the parking lots and roadways in an economical manner to meet local zoning requirements, state Department of Transportation requirements, and/or ADA criteria.

STORMWATER MANAGEMENT AND BEST MANAGEMENT PRACTICES

Stormwater collection and conveyance is an integral component of any pavement system. The performance of a new pavement, as well as the various forms of distress to an existing pavement, often correlates with the effectiveness of the site stormwater management system. With pavement design and rehabilitation services, CEC designs a cost-effective system of Best Management Practices (BMPs) in accordance with local and/or state criteria. CEC also inspects and evaluates the condition and effectiveness of existing stormwater management systems/BMPs and provides recommendations for rehabilitation or alternative methods. BMPs such as porous pavement, rain gardens and bioswales are routinely utilized to reduce the runoff from paved areas and promote water quality.