



PRIOR EXPERIENCE WITH SOLID WASTE FACILITIES

The "Solid Waste Management" list following this section shows representative experience of CTI personnel with disposal facilities.

PRIOR EXPERIENCE WITH STORM WATER PONDS, PUMPING SYSTEMS, SITE GRADING, AND RELATED FACILITIES

These elements are an integral part of our solid waste projects. Additional listings of representative experience in these areas follows.

PROXIMITY TO TVA OFFICE IN CHATTANOOGA

CTI's Chattanooga office and corporate headquarters are approximately one mile from the TVA complex. Travel time is less than 5 minutes.

PROXIMITY TO PROJECT SITE

CTI's Chattanooga office is located approximately 105 miles from the Kingston Fossil Plant. We also have an office in Knoxville, located less than 30 minutes from the Kingston Plant. While the work will be prepared primarily in our Chattanooga headquarters, our Knoxville personnel could be at the job site quickly, should the need arise. All of our offices are linked electronically so that files and drawings can be transmitted instantaneously.

FAMILIARITY WITH TVA PROCESSES AND PROCEDURES

CTI has personnel with recent work experience on TVA projects, including direct involvement with processes and procedures pertinent to this project. Mr. Amos Smith, P.G., rejoined CTI's staff as Senior Geologist after working over 5 years with FPG, Environmental Affairs, as a Senior Solid Waste Specialist. In that time, he worked intimately with Fossil Engineering, RSO&E, Fuel Supply, HED, and KIF plant staff during the siting and hydrogeologic investigation of the KIF gypsum landfill. As a result, he not only has direct working knowledge of TVA processes and procedures, but also has working relationships with staff and personnel at both the Kingston Fossil Plant and the TVA Central Office.



REFERENCES

Mr. Jerry W. Stewart, P.E.
Waste Resource Director
Moccasin Bend Wastewater Treatment Plant
455 Moccasin Bend Road
Chattanooga TN 37405
423/757-0053

Mr. Clifford Ackerson
Station Manager
Environmental Materials, LLC
1387 Wisdom Street
Chattanooga TN 37406
423/629-3710

Mr. Michael C. Mallen
Perimeter Properties, LLC
P.O. Box 6308
Chattanooga TN 37401
423/400-7733

Mr. Jay Stewart
Environmental Manager
J. M. Huber Corporation
P.O. Box 987
Cambria Road
Etowah TN 37331
423/263-4131

Mr. Larry Bowers
Group Environmental Compliance Director
M&H Valve Company
P.O. Box 2088
Anniston, AL 36202
256/237-3527



SOLID WASTE MANAGEMENT Representative Experience

**Bledsoe and Sequatchie
Counties**

*Bledsoe and Sequatchie
Counties, Tennessee*

Closure/Post-Closure Plan

Closure/post-closure plan for sanitary landfill.

**Bledsoe and Sequatchie
Counties**

*Bledsoe and Sequatchie
Counties, Tennessee*

***Municipal Solid Waste Landfill**

Assisted with design and construction phase services for a new municipal solid waste landfill, including design of ground water monitoring facilities.

**Bowater Incorporated,
Southern Division**

Calhoun, Tennessee

***Industrial Solid Waste Landfill**

Design, permitting, and construction observation for a 37-acre, 3-million-cubic-yard landfill. Designed and installed ground water monitoring system.

**Bowater Incorporated,
Southern Division**

Calhoun, Tennessee

Industrial Solid Waste Landfill Modifications

Design of landfill liner and interface of liner with existing landfill slope to meet new Subtitle D regulations; design of leachate collection system on original landfill; and preparation of Closure/Post-Closure Plan for original landfill.

**Bowater Incorporated,
Southern Division**

Calhoun, Tennessee

***Recycled Newsprint Sludge Landfill**

Hydrogeologic and geotechnical studies as part of general siting criteria for a Class II industrial landfill.

**Bowater Incorporated,
Southern Division**

Calhoun, Tennessee

***Recycled Newsprint Sludge Landfill - Design and Permitting**

Full-range design services for a 3-phase, 24-acre fibrous sludge Class II solid waste landfill. Project included hydrogeologic investigation, final design, narrative description of operation, ground water monitoring plan, construction quality assurance plan, permitting, cost estimation, and bid preparation. Design was performed under new Tennessee regulations requiring liner and leachate collection system.

**Bowater Incorporated,
Southern Division**

Calhoun, Tennessee

Recycled Newsprint Sludge Landfill - Construction Quality Assurance

Test fill analysis and construction quality assurance for installation of liner and leachate collection system for initial 12.4-acre phase.



SOLID WASTE MANAGEMENT (Continued)

City of Calhoun
Calhoun, Georgia

***Municipal Solid Waste Landfill**

Design of a 15-acre borrow area; expansion and review of current status, including volume computations, sediment and storm water detention design, methods to establish vegetation cover, and modifications to the existing design and operational plan to facilitate operations and control surface water.

Catoosa County
Catoosa County, Georgia

***Municipal Solid Waste Landfill**

Feasibility analysis for landfill expansion, assistance with scale design and selection, and regulatory compliance assistance with leachate and drainage control.

Champion International
Courtland, Alabama

***Solid Waste Study**

Collected comprehensive data on solid waste generation and made forecast of future solid waste needs at the Courtland Mill. Performed economic feasibility and permissibility study for several disposal options. Developed planning level design and cost for a vertical landfill expansion at an existing landfill and a planning level design for a new solid waste landfill.

City of Chattanooga
Chattanooga, Tennessee

Gas Collection System

Design, bidding, and construction phase services on three separate contracts for the gas collection system in the Phase I and Phase II areas of Birchwood Landfill.

City of Chattanooga
Chattanooga, Tennessee

Birchwood Landfill Permitting

Preliminary design for permitting, final design, bidding/CQA for Area 3 at the Birchwood Landfill.

City of Chattanooga
Chattanooga, Tennessee

Landfill Design and Construction

Design, permitting, construction phase services, and CQA for 17-acre and 15-acre lined cells in Area 2 of Birchwood Landfill, including scales, maintenance facility, office building, and leachate pumping and storage facilities.

City of Chattanooga
Chattanooga, Tennessee

Phase II Closure

Design, permitting, construction services, and CQA for closure of a 21-acre unit at Summitt Landfill, including installation of eight additional gas wells and expansion of gas extraction and collection system.



SOLID WASTE MANAGEMENT (Continued)

City of Chattanooga
Chattanooga, Tennessee

Chattanooga Waste Transfer Station
Permitting and design of transfer facility and sitework.

City of Chattanooga
Chattanooga, Tennessee

Phase II Expansion
Design and permit modification for lined, 21-acre municipal landfill expansion (Phase II) at Summitt Landfill.

City of Chattanooga
Chattanooga, Tennessee

Gas Extraction System
Design and construction services for improvements to gas extraction system for Summitt Landfill, including 16 new gas extraction wells and leachate removal system.

City of Chattanooga
Chattanooga, Tennessee

Closure Design
Design and permit modification for final closure of 80-acre Phase I at Summitt Landfill, including geocomposite layer and gas venting system.

City of Chattanooga
Chattanooga, Tennessee

Hydrogeologic Investigation
Preliminary hydrogeologic investigation of three potential municipal landfill sites at the Volunteer Army Ammunition Plant (VAAP).

City of Chattanooga
Chattanooga, Tennessee

Hydrogeologic Investigation and Design of Upgrade
Hydrogeologic assessment, including test fill construction as part of the design of the upgrade of the horizontal expansion of 160-acre, 1,500-ton-per-day Summitt landfill.

City of Chattanooga
Chattanooga, Tennessee

Hydrogeologic Investigation and Design of Expansion
Preliminary design and a hydrogeologic investigation to determine suitability of a 209-acre tract for landfill expansion.

City of Chattanooga
Chattanooga, Tennessee

North Hamilton County Landfill
Siting assistance, preliminary property research, and geotechnical study for 800-acre landfill site.

City of Chattanooga
Chattanooga, Tennessee

Volunteer Army Ammunition Plant Landfill
Evaluation of three potential sites on VAAP property for 450-acre municipal landfill. Preliminary hydrogeological, geotechnical evaluation, wetlands delineation, hazardous contaminant delineation, and site access.



SOLID WASTE MANAGEMENT (Continued)

City of Chattanooga
Chattanooga, Tennessee

Landfill Scale Pad Design

Design of landfill scale pad for truck scales at Hawthorne Street brush burning facility.

City of Chattanooga
Chattanooga, Tennessee

Municipal Solid Waste Landfill

Alternatives for conveying drainage from 500-acre upgradient drainage area through the footprint area of Summitt Landfill.

**City of Chattanooga,
Hamilton County, and
Electric Power Board of
Chattanooga**
Hamilton County, Tennessee

***Resource Recovery Through Solid Waste
Management in Hamilton County - Phase II**

Participated in update of the original feasibility study. Included analysis of weigh data from two major landfills, field sampling and analysis program of the waste entering the landfills, resource recovery technology evaluation, marketing survey, financial and site analysis, and an environmental assessment.

City of Chattanooga
Chattanooga, Tennessee

Tennessee River Drum Removal

Assistance in site investigations and evaluation of contractor's proposals for removal action involving 12 drums of hazardous paint waste from the Tennessee River.

Dallas County
Dallas County, Arkansas

***Sanitary Landfill**

Design of a 40-acre sanitary landfill, including permitting and preparation of operational plan.

**Electric Power Board of
Chattanooga**
Hamilton County, Tennessee

***Resource Recovery Financial Analysis Update**

Update of financial analysis based on current bond market conditions. Included technical assistance and financial analysis computer model.

Environmental Materials, LLC
Chattanooga, Tennessee

Construction and Demolition Landfill

Siting assistance, feasibility study, soil borings, hydrogeologic report, design, and permitting assistance for 150 ton-per-day construction and demolition landfill on 42-acre site.

Gordon County
Gordon County, Georgia

***Municipal Solid Waste Landfill**

Preparation of closure plan for Ranger landfill.



SOLID WASTE MANAGEMENT (Continued)

Great Lakes Chemical Corporation
El Dorado, Arkansas

***Industrial Landfill**

Design of a secure landfill cell with double liner and leachate collection/leak detection system.

Grundy County
Altamont, Tennessee

Closure/Post-Closure Plan

Prepared closure/post-closure plan for sanitary landfill.

Grundy County
Altamont, Tennessee

Preliminary Engineering Report - Solid Waste Transfer Station

Prepared preliminary engineering report, including cost estimates, and assisted with funding applications for solid waste transfer station.

Hamilton County
Hamilton County, Tennessee

***Resource Recovery Through Solid Waste Management in Hamilton County - Phase I**

Participated in evaluation of resource recovery alternatives utilizing all available technologies. Included analysis of ten sites, market survey for recovered materials, financial analysis, and an environmental overview.

Hamilton County
Chattanooga, Tennessee

Area 1 Closure/Post-Closure Plan

Closure/post-closure plan, leachate collection plan, and consultation regarding temporary sedimentation control structures to provide regulatory compliance for 17-acre Area 1 of the Hamilton County Landfill. Construction quality assurance testing and reporting.

Hamilton County
Chattanooga, Tennessee

Hydrogeologic Investigation - Area 2 and Area 3

Performed hydrogeologic investigation on two 30-acre landfill sites.

Hamilton County
Chattanooga, Tennessee

Site Utilization Study - Area 2 and Area 3

Site utilization study to optimize use of Hamilton County's property for landfilling purposes. Prepared preliminary footprints on five potential landfill layouts. Evaluated alternative landfilling practices including bale filling and prepared preliminary cost estimates for alternatives.

Hamilton County
Chattanooga, Tennessee

Dye Trace Analysis

Dye trace analysis on seven receptor sites, including three on-site wells, one off-site public water supply well, and three springs over a four-month period.



SOLID WASTE MANAGEMENT (Continued)

Hamilton County
Chattanooga, Tennessee

Model Landfill Closure/Post-Closure Plan

Modifications to closure/post-closure plan. Construction phase services, including bidding assistance, CQA testing, and CQA reporting for closure of 21-acre landfill.

**Hiwassee Utilities
Commission**
Charleston, Tennessee

Lagoon Cleaning and Land Application

Permitting and preparation of specifications and bidding documents for cleaning of alum sludge lagoons and land application of alum sludge from 7.5-mgd Hiwassee Water Treatment Plant.

**Holston Defense
Corporation**
Kingsport, Tennessee

***Site and Hydrogeologic Evaluation**

Engineering study and hydrogeologic evaluation of ground water quality impact of tar disposal site, including soil borings, ground water monitoring wells, ground and surface water quality sampling, evaluation of extent of leachate migration, and summary report outlining recommendations for hazardous waste site.

City of Huntsville
Huntsville, Alabama

***Solid Waste-to-Energy Facility**

Investigation and development of permit and regulatory requirements for the construction of a solid waste-to-energy facility.

ICI Americas, Inc.
Chattanooga, Tennessee

Volunteer Army Ammunition Plant (VAAP) Landfill Closure

Design and CQA services during landfill closure.

ICI Americas, Inc.
Chattanooga, Tennessee

Volunteer Army Ammunition Plant (VAAP)

Subsurface investigation consisting of 25 soil borings with 75 soil samples and a groundwater monitoring well sample in conjunction with development of a site-specific remediation plan for a waste-burn area.

**Interlocal Solid Waste
Authority**
*Franklin, Lincoln, and
Giles Counties, Tennessee*

Geotechnical and Hydrogeologic Services During Site Selection for a Regional Municipal Waste (MSW) Landfill

Prepared geologic and soils limitation map for a three-county area to assist in the site selection process. Reviewed the geologic setting of existing MSW landfill and reported on the feasibility for expansion. Assisted in field review of candidate sites. Performed preliminary geotechnical and hydrogeologic investigation of the selected site.



SOLID WASTE MANAGEMENT (Continued)

**Jonesboro/Craighead
County**
Jonesboro/Craighead
County, Arkansas

***Solid Waste Study**

Preparation of comprehensive solid waste management study. The study assessed current solid waste management practices, identified long-term solid waste management needs, and developed and evaluated alternatives for meeting future needs. The study evaluated both landfilling and incineration and developed cost and recommendations associated with implementation of various alternatives.

Kirk C. Waite
Nashville, Tennessee

Stringer's Ridge Contamination Investigation

Evaluation of illegal dumping sites on 90-acre tract of land in Chattanooga, Tennessee, and removal action for discarded drum.

Lodge Manufacturing
Chattanooga, Tennessee

Industrial Landfill Expansion

Preliminary design and permitting assistance for expansion of Class II industrial solid waste landfill. Revised closure plan narrative for the previously permitted landfill design.

**Marion County Solid Waste
Disposal, Inc.**
Marion County, Tennessee

Marion County Landfill

Hydrogeologic investigation and design services for expansion and upgrading of 30-acre municipal landfill.

**Marion County Solid Waste
Disposal, Inc.**
Marion County, Tennessee

Municipal Solid Waste Landfill

Closure/post-closure care plan for Area I of this facility, including life projection and estimate of costs for closure and post-closure care period.

**Marion County Solid Waste
Disposal, Inc.**
Marion County, Tennessee

Ground Water Monitoring Program

Ground water monitoring program, including sampling and statistical analysis for new and existing ground water monitoring wells.

McMinn County
Athens, Tennessee

McMinn County Landfill

Preparation of bid documents, bidding assistance, and CQA services for construction of 5.5-acre, 6-acre, and 4.6-acre lined cells for municipal landfill.

McMinn County
Athens, Tennessee

Construction and Demolition Landfill

Hydrogeologic evaluation, design services, and permitting for 17-acre construction and demolition landfill; CQA services for 4.5-acre Phase I of this landfill.



SOLID WASTE MANAGEMENT (Continued)

City of Memphis
Memphis, Tennessee

***Incineration Project**

Preliminary design of sludge management facilities and sludge waste conversion for co-disposal (sludge and solid waste) incineration project.

City of Memphis
Memphis, Tennessee

Sludge Landfill Expansion

Vertical expansion of a 25-acre sewage sludge landfill at the M.C. Stiles WWTP. Services included design, subsurface investigation, seismic stability analyses, and construction services.

Mine Road Landfill, Inc.
Athens, Tennessee

Mine Road Landfill

Regulatory compliance assistance on NPDES and ground water monitoring.

Mine Road Landfill, Inc.
Athens, Tennessee

Mine Road Landfill

Preparation of construction drawings, specifications, and contract documents for 5-acre liner.

**Northeast Mississippi
Planning and Development
District**
Booneville, Mississippi

***Solid Waste Resource Recovery Feasibility Study**

Assisted in feasibility study of waste-to-energy resource recovery options in a six-county planning area. Included overview of existing solid waste management systems, verification of waste quantities and composition, technology reviews, general environmental assessment, development of ownership and management alternatives, and transportation, site, market, and financial analyses.

Santek
Cleveland, Tennessee

Geologic Inspection

On-site geologic inspection and soil boring logs for ground water monitoring wells at Bradley County Landfill.

Santek
Cleveland, Tennessee

Hydrogeologic Evaluation

Hydrogeologic evaluation, including 19 soil borings and soils analysis, for 23-acre expansion of Rhea County Landfill.

**City of Sentinel/
Calico Rock**
*City of Sentinel/
Calico Rock, Arkansas*

***Remedial and Closure Plans**

Evaluation of remedial and closure plans for several wood treatment facilities to ensure compliance with Resource Recovery Act regulations.



SOLID WASTE MANAGEMENT (Continued)

Southern Centrifugal, Inc.
Chattanooga, Tennessee

RCRA Cleanup and Hazardous Waste Landfill Closure Construction

Directed the cleanup of solid waste management units and performed construction quality assurance plan for a hazardous waste landfill. The landfill cover contained geosynthetics, flexible membrane liner, and a compacted clay membrane.

Southern Foundry
Chattanooga, Tennessee

Closure Plan

Closure plan for 4.6-acre industrial shredder fluff landfill on Wilson Road.

U.S. Army Corps of Engineers
Huntsville Division

***Hazardous Waste Evaluation**

On-site inspection and evaluation of hazardous waste collection, treatment, storage, and disposal system for Tooele Army Depot, Utah.

W.R. Grace
Chattanooga, Tennessee

Closure Plan

Closure plan for 4-acre calcium phosphate pond at industrial facility.

Wheland Foundry
Chattanooga, Tennessee

Long Street Landfill

Design and CQA services for vertical expansion of 18-acre industrial landfill for foundry sand and baghouse dust, including diversion of drainage around landfill.

Wheland Foundry
Chattanooga, Tennessee

RCRA Cleanup and Hazardous Waste Landfill Closure -Construction Phase - St. Elmo Landfill

Assisted with updating the remedial and closure plan, regulatory permitting and construction bidding for a hazardous waste landfill. Project included construction quality assurance and resident project representation.

*Experience of individual CTI employees.





STORM WATER MANAGEMENT Representative Experience

Allied Signal-Bendix
Cleveland, Tennessee

NPDES Storm Water Permitting

Preparation of an individual National Pollutant Discharge Elimination System (NPDES) permit application for discharge of storm water associated with industrial activity, including storm water monitoring.

American Self Storage
Chattanooga, Tennessee

Storm Drainage Design

Site grading, permitting assistance, drainage plan, and specifications for detention facilities, drainage structures, drainage piping, and oil separator/grit structure. Storm drainage design in accordance with the City of Chattanooga's Storm Water Management Ordinance and the 1993 Best Management Practices (BMP) Manual.

City of Aurora
Aurora, Ohio

Central Residential Area, Northern Watershed, Phase II Storm Water Improvements

Design of storm sewer drainage improvements including 2,000 L.F. of 42-inch and smaller storm sewer pipe to minimize flooding problems in a developed area. Hydraulic analysis to evaluate capacity of proposed and existing facilities.

Belk and Company
Dalton, Georgia

Olympia Condominiums

Hydrology study and development of storm water plan with staged detention.

**Bendix-Friction Materials
Division**
Cleveland, Tennessee

Storm Water Monitoring Station

Design of a storm water monitoring station on a 21-inch sewer. Monitoring of three storm water discharges.

Bi-Lo, Inc.
Chattanooga, Tennessee

Storm Water Permitting

NPDES storm water sampling.

BIT
Copperhill, Tennessee

Storm Water Diversion

Design of storm water diversion structures for gypsum ponds.

BIT
Copperhill, Tennessee

Sediment Dams

Design of sediment dams for Davis Mill Creek.

Bowater-Southern Division
Calhoun, Tennessee

Sedimentation Basin

Design of sedimentation and detention basin for storm water runoff from recycled newsprint sludge landfill.



STORM WATER MANAGEMENT (Continued)

Bromid, LLC
Chattanooga, Tennessee

Plant Demolition SWPPP

Engineering support services associated with the demolition of the former Wheland Foundry Broad and Middle Street plants in Chattanooga. Key elements included environmental work plan, two NPDES permits for construction activities storm water discharges, two Storm Water Pollution Prevention Plans (SWPPP), and air monitoring.

City of Canal Fulton
Canal Fulton, Ohio

East Market Street Storm Sewer Design

Plans and specifications for approximately 1,920 linear feet of 18-inch to 30-inch-diameter storm sewer.

City of Canton
Canton, Ohio

Plain Center Estates Drainage Study

Evaluation of the current drainage areas, with recommendations for improvements to storm sewers, and installation of detention facilities. Utilized StormCad storm sewer modeling software to analyze the hydraulic capacity of several options for storm water detention, utilizing combinations of new detention basins and modified existing retention ponds.

City of North Canton
North Canton, Ohio

Detention Basin General Study

Engineering study to evaluate the current drainage areas, assess condition and capacity of basins, and make recommendations to improve their operation. Hydraulic analyses of existing detention basins using computer modeling for the 2-, 5-, 10-, and 25-year design storm events.

Village of Carey
Carey, Ohio

Storm Water Channel Study

Analysis of existing storm water collection and transport system and alternate improvements to resolve the problems identified. Computer modeling of area hydrology and system hydraulic behavior. Preliminary construction cost estimates. FEMA FIRM and FLOODWAY maps were examined and compared to new aerial topographic mapping in order to identify inconsistencies and recommended studies.



STORM WATER MANAGEMENT (Continued)

City of Chattanooga
Chattanooga, Tennessee

Combined Sewer Overflow (CSO) Plans

Development of Combined Sewer Overflow control plans for the following:

- *19th Street drainage area, which covers approximately 243 acres;*
- *Carter Street drainage area, which covers 165 acres Project was designed to form a portion of the Finley Stadium parking lot;*
- *Citico combined sewer drainage areas, which include four separate drainage basins occupying approximately 600 acres;*
- *Tremont Street drainage area, which includes approximately 300 acres; and*
- *Adams Street and Central Avenue drainage areas, which cover approximately 817 acres; winner of "Tennessee Outstanding Overflow Abatement Project Award for 2000."*

City of Chattanooga
Chattanooga, Tennessee

As-Found Project

"As-Found" project involving mapping the City of Chattanooga's sanitary and storm water drainage systems in a geographical information system using ArcMap 9.0. Surveys utilizing Leica GPS 500 units as well as traditional survey equipment.

City of Chattanooga
Chattanooga, Tennessee

Dalewood School Sidewalk

Installation of storm drainage structures and asphalt street repair in connection with over one-half mile of sidewalk with driveways and streambed relocation.

City of Chattanooga
Chattanooga, Tennessee

Fifth Street Streetscape Project

Installation, relocation, and/or adjustment of storm drainage structures and pipes in conjunction with streetscape project.

City of Chattanooga
Chattanooga, Tennessee

M. L. King Boulevard Historic District Streetscape

Installation, relocation, and adjustment of storm drainage structures and pipes in nine-block streetscape project.

City of Chattanooga
Chattanooga, Tennessee

M.L. King Boulevard Underground Storm Water Detention

Analysis of alternatives to eliminate surcharging in a seven-block area of M.L. King Boulevard; design through construction phase services for 300,000 gallons of underground storm water storage, catch basins, manholes, and 12x8-foot culvert; streetscape with stamped concrete and lighting; replacement of aging brick and clay sewers; and retaining wall along right-of-way.



STORM WATER MANAGEMENT (Continued)

City of Chattanooga
Chattanooga, Tennessee

Olive Street Drainage

Analysis of existing conditions and design of improvements. Key elements include calculation of storm water runoff, pipe capacity, and slope stability; constructability review to identify utility conflicts and easement requirements; analysis of trench drain vs. pervious concrete. (City received an award for innovative design on this project.)

City of Chattanooga
Chattanooga, Tennessee

Second Street Streetscape

Installation, relocation, and/or adjustment of storm drainage structures and asphalt repair in conjunction with streetscape project.

City of Chattanooga
Chattanooga, Tennessee

Seventeenth Street Facility

Design and construction phase services for 750,000-gallon underground storm water detention facility at 17th and Market Streets. Storm water from a 25-block area is collected; pumped to a 16-foot-diameter, 75-foot-tall stainless steel storage tank; and recycled through an irrigation system for downtown landscaping. The tank was named the Steel Plate Fabricators' Tank of the Year.

City of Chattanooga
Chattanooga, Tennessee

Vine Street Study

Hydrologic and hydraulic analysis, field inspections and surveys, and report on causes and alternative solutions for combined sewer overflows affecting businesses in downtown Chattanooga from Vine Street to the Tennessee River.

City of Chattanooga
Chattanooga, Tennessee

Storm Water Drainage Projects

Design of over 75 storm drainage improvement projects totaling \$3.5 million in construction cost, including runoff calculations for a 25-year storm event, pipe capacity calculations, slope stability and erosion control measures, constructability review, identification of possible utility line conflicts, and preparation of easement documents.

City of Chattanooga
Chattanooga, Tennessee

SWPPPs for Two Landfills

Preparation of Storm Water Pollution Prevention Plans (SWPPP) and Notices of Intent (NOI) associated with the NPDES Multi-Sector Permits for the Summitt Landfill and City Landfill on Birchwood Pike.



STORM WATER MANAGEMENT (Continued)

Chattanooga Waste Transfer, LLC
Chattanooga, Tennessee

Storm Drainage Design

Design of two detention ponds and first-flush reservoir capable of filtering the first 3/4 inch of runoff at a 12-acre solid waste transfer station.

Civil Design Associates
New Philadelphia, Ohio

Oldtown Creek Stream Modeling

Evaluation of the impact of stream bank modifications, along with the additional runoff generated by the proposed development, on flooding frequency and elevation. Performed field visits, delineated the watershed, and prepared a drainage area map preparation to calculate the runoff rates of flow. Utilized HEC-RAS computer-assisted stream modeling to analyze hydraulic characteristics and generate cross-sectional printouts for presentation of results.

City of Cleveland
Cleveland, Tennessee

Woolen Mill Creek Drainage Improvements

Flood mitigation for Woolen Mill Branch drainage basin, including design of two regional detention ponds, FEMA hydraulic model update and revisions, flood map revisions, and stream alterations and improvements. Services include detailed storm drainage collection system inventory; topographic surveys; extensive multi-phase permitting through USACOE, FEMA, and TDEC; construction management services; and record drawings. Detention pond work involves earthen dam design, regional hydrology studies, hydraulic modeling, utility relocation, road realignment, site grading, and extensive erosion and sedimentation control management.

Copelands, Inc.
Ooltewah, Tennessee

NPDES Storm Water Permitting

Preparation of an individual NPDES permit application for discharge of storm water associated with industrial activity, including design of flow monitoring station.

Corker Group
Chattanooga, Tennessee

Theater Site Development

Preliminary design of 20-acre theater site in Chattanooga, including grading plan, parking lot, storm water system, landscaping, and utilities.

Corker Group
Chattanooga, Tennessee

Design of Roadway, Outparcels, and Storm Drainage

Design of grading and drainage for approximately 1,100 lineal feet of roadway dedicated to the City of Chattanooga; design of grading, drainage, and erosion control for four outparcels adjacent to the new roadway; permitting assistance for the NPDES and City permits required for the project, including SWPPP and NOI.



STORM WATER MANAGEMENT (Continued)

City of Cuyahoga Falls
Cuyahoga Falls, Ohio

Reserve at East Bath Drainage Study

Study of drainage areas and capacity of storm sewers and detention basins. Analyzed field conditions and used StormCad and Pond Pack software to evaluate the storm sewers and basins and recommend potential solutions to flooding problems.

City of Cuyahoga Falls
Cuyahoga Falls, Ohio

Drainage Study and Storm Sewer Design

Drainage study and storm sewer design for the Burnham Jump Road area and surrounding watershed. Also prepared the 12th Street storm sewer design.

Derthick, Henley, Wilkerson
Chattanooga, Tennessee

Seventh Day Adventist Church Site

Design of grading and drainage for a 3.6-acre site for a new church facility, including erosion control, detention facilities, and assistance with NPDES Construction Activities permit (including preparation of SWPPP and NOI) and City permits.

The Dixie Group, Inc.
Chattanooga, Tennessee

Distribution Site

Design of site improvements required for the construction of a 19-acre carpet distribution center. Project included site grading, drainage, and storm water retention; an environmental site assessment; and negotiations with local regulators regarding erosion control requirements.

The Dixie Group, Inc.
Chattanooga, Tennessee

Best Management Practices Plans

Best Management Practices and SPCC Plans for three Alabama textile facilities in compliance with Alabama Department of Environmental Management general storm water permitting requirements.

City of Dunlap
Dunlap, Tennessee

Coops Creek Stream Restoration

Design of restoration facilities and bank stabilization along 3,000 feet of stream; coordination with regulatory authority.

City of Green
Green, Ohio

Boettler Road Drainage Study

Study of drainage characteristics and other conditions to determine their effect on a wetland area.

Hamilton County
Hamilton County, Tennessee

Storm Water Pollution Prevention Plans

Prepared SWPPP's for two solid waste landfills serving a large portion of the county.



STORM WATER MANAGEMENT (Continued)

Hamilton County Water and Wastewater Treatment Authority
Hamilton County, Tennessee

Storm Water Pollution Prevention Plans

SWPPPs for the Signal Mountain Wastewater Treatment Plant in compliance with Sector T requirements for industrial activities associated with treatment works of the Tennessee Multi-Sector Storm Water Permit.

Hamilton County and Seven Municipalities
Hamilton County, Tennessee

Phase II Storm Water Program

Individual Permit application for Hamilton County and seven other municipalities covered under an NPDES General Permit for Discharges from Small Municipal Separate Storm Sewer Systems. Assistance with implementation of this program, which is unique in Tennessee because it covers a large program area (=75,000 acres) and serves eight public bodies. Tasks include:

- *Development of the legal and operational characteristics of this multi-jurisdictional program, preparation of legal framework formally adopted by each community.*
- *Creation of management committee.*
- *Identifying, by tax parcel number, all properties included in the Phase II program area*
- *Measuring and calculation of the industrial and commercial property impervious areas by GIS in order to establish an equitable rate basis for residential and commercial areas.*
- *Development of rate structure to support the program during and after completion of the phase-in period.*
- *Coordination of the implementation of the storm water quality "fee" with the local taxing authority(ies).*

Harpeth Ford Plaza
Franklin, Tennessee

***Site Grading, Utilities, and Storm Water Detention Facilities**

Design of grading, utilities, and drainage facilities for 33-acre automotive dealership. Project included stringent storm water control facilities which required a total of nine storm water detention basins.

Harris/Day Architects, Inc.
Canton, Ohio

New Strausser Street Elementary School

Building location, site grading plan, and site utilities including a design of the storm water collection system and detention basin.

Krystal Aviation
Chattanooga, Tennessee

Storm Water Plans

SWPPP, SPCC Plan, and Erosion Control Plan for fixed-base operations (FBO) facility consisting of seven hangars, two fueling operations, and one maintenance hangar at Lovell Field.

M&M Mars
Cleveland, Tennessee

Hydraulic Analysis

Hydraulic analysis of South Mouse Creek to support no-rise certification due to artificial wetlands construction.



STORM WATER MANAGEMENT (Continued)

McMinn County Landfill
Athens, Tennessee

Storm Water Pollution Prevention Plan
Prepared SWPPP for County landfill operations.

McMinn County Landfill
Athens, Tennessee

Sedimentation Basin
Design and permitting assistance for sedimentation basin and 1,500 linear feet of 36-inch discharge pipe to convey storm water to non-303D-limited receiving stream.

Memorial Baptist Church
Chattanooga, Tennessee

Site Grading, Drainage, and Utilities
Design of site grading, drainage, and utilities for church expansion. Project included unique underground storm water retardation/percolation system.

MEP Engineering
Chattanooga, Tennessee

UTC Engineering Facility
Site grading and drainage plan, specifications, and drawings for detention facilities, drainage structures, drainage piping, and oil separator/grit structures. Storm drainage design in accordance with the City of Chattanooga's Storm Water Management Ordinance and the 1993 Best Management Practices (BMP) Manual.

MEP Engineering
Chattanooga, Tennessee

University Center Addition
Site drainage plan, specifications, and drawings for detention facilities, drainage structures, drainage piping, and other components associated with the storm drainage system. Storm drainage design in accordance with the City of Chattanooga's Storm Water Management Ordinance and the 1993 Best Management Practices (BMP) Manual.

Village of Minerva
Minerva, Ohio

Lynnwood Drive Drainage Study
Evaluation of alternative drainage improvements to mitigate flooding problems at percolation pond and connecting storm sewers.

City of North Canton
Canton, Ohio

Storm Drainage Study
Computer modeling to evaluate drainage area and assess condition of four regional storm water detention basins. Preliminary design of improvements to provide flood relief.

Oak Meadows Subdivision
Chattanooga, Tennessee

***Site Drainage and Utility Design**
Design of sewers and storm water detention facilities, including two storm water detention ponds, for 30-lot subdivision.



STORM WATER MANAGEMENT (Continued)

- Prebul Kia**
Chattanooga, Tennessee
- Parking Lot and Storm Drainage Design**
Design of grading and drainage for a car lot expansion. Project included a "first flush" basin, detention pond improvements, and existing drainage component modifications.
- Village of Richfield**
Richfield, Ohio
- Storm Water Detention Facilities**
Site grading plan; design of storm water detention facilities along with detention ponds and outlet structures.
- Village of Silver Lake**
Silver Lake, Ohio
- Storm Water Inventory**
Preparation of storm sewer maps showing the location and vertical datum of storm sewer structures. Maps are used for utility maintenance, planning, and as a tool for the EPA Phase IV Storm Water Regulations. Mapping incorporated a strategy using local GIS datum and field surveying to identify and record the storm sewer structures.
- City of Stow, Ohio**
Stow, Ohio
- Drainage Districts 6 and 7**
A computer model of two drainage areas totaling approximately 875 acres using CivilStorm software. Evaluated hydraulic areas of concern and proposed alternative solutions based on model results.
- Tennessee Valley Performance Products**
Dayton, Tennessee
- NPDES Storm Water Permitting**
Preparation of an individual NPDES permit application for discharge of storm water associated with industrial activity, including storm water site drainage plan.
- U.S. Department of Energy**
Oak Ridge, Tennessee
- Melton Valley Transuranic (TRU) Waste Remediation Facility**
Prepared Storm Water Pollution Prevention Plan for Oak Ridge National Laboratory (ORNL) TRU Waste Remediation Facility for compliance with Sector K (industrial activity from hazardous waste treatment, storage, or disposal facilities) requirements of the Tennessee Multi-Sector Stormwater Permit.
- Wheland Foundry**
Chattanooga, Tennessee
- Storm Water System - Broad Street Foundry**
Planning, design, specifications, and construction phase services for 850,000-gallon detention basin and 5,600-gpm pump station at 23.7-acre foundry operation.
- Wheland Foundry**
Chattanooga, Tennessee
- Storm Water System - Middle Street**
Planning, design, specifications, and construction phase services for 600,000-gallon detention basin and 5,600-gpm pump station to handle storm water flow at 12-acre foundry operation.



STORM WATER MANAGEMENT (Continued)

City of Wooster
Wooster, Ohio

**Storm Sewer, Water Line, and Detention Basin
Improvements Design**

Design, drawings, and specifications for about 4,000 linear feet of storm sewer and water line improvements; determination of volume and depth, and layout of the proposed storm water detention basin on City park property; design of outlet structure; design and pipe sizing based on the City's "Master Plan for Sewer Separation."

Various Clients
Georgia

**NPDES - Required Soil Erosion and Sedimentation Pollution
Control Plans, Computer Hydrologic Studies, Inspection,
and Complete Site Design**

*Creek's Edge (120 acres), Dalton, Georgia
Hammond Creek (32 acres), Dalton, Georgia
O'Neal Subdivision (86 acres), Chatsworth, Georgia
Cross Creek (27 acres), Ringgold, Georgia
Cloudland Station (450 acres), including trout stream and over 50
individual bioretention centers, Walker County, Georgia
Ringgold Heights (49 acres), Catoosa County, Georgia*

Various Clients
North Georgia

**Hydrology Analysis and Design of Site Grading, Drainage,
and Detention Facilities**

*Savannah Subdivision, Dalton, Georgia
Century Place, Dalton, Georgia
Beaver Creek Subdivision, Dalton, Georgia
Mariott Courtyard, Dalton, Georgia
Becklers Carpet, Dalton, Georgia
11th Avenue Baptist Church, Dalton, Georgia
Dalton Industrial Park, Dalton, Georgia
Randy McEntyre Office Development, Calhoun, Georgia
Billy Lewis Warehouses, Calhoun, Georgia*



STORM WATER MANAGEMENT (Continued)

Various Clients Southeastern U.S.

Storm Water Pollution Prevention Plans for Construction Activities

Calhoun-Charleston Utility District, two water line extension projects, Calhoun, Tennessee

Chattanooga Transfer, LLC, 12-acre solid waste transfer station site, included two detention ponds and first-flush device; NOI, SWPPP, Land Disturbance, Chattanooga, Tennessee

Corker Group, Roadway Construction, Chattanooga, Tennessee

City of Memphis, M.C. Stiles WWTP, Memphis, Tennessee

Dry Valley collection system and Lakeview sewer (2 contracts), Walker County, Georgia

City of Dunlap; Sanitary sewer replacement, three water line extensions, WTP expansion, two water storage tanks, Dunlap, Tennessee

Etowah Utilities, NOI/SWPPP for Mecca Pike Water Line Extension, two 3-mg water storage tanks, Hwy. 411 water line relocation, Etowah/Englewood water system connection, Etowah, Tennessee

Town of Jasper water and sewer line extensions, Jasper, Tennessee

Lakeshore Engineering, Inc., Lock Replacement Project, Chattanooga, Tennessee

Ray Marler Site Inspections, Soddy-Daisy, Tennessee

Subdivisions/Site Work:

- *Walmart Access Road at Brainerd*
- *Heritage Green*
- *Friar Branch Townhomes*
- *Highland Woods Subdivision in Polk County (45 acres)*
- *Prebul Kia*

Tennessee-American Water, Mountain Creek Water Storage Tank, Chattanooga, Tennessee

Town of Trenton, STEP System Extension, Trenton, Georgia

Dade County, Low Pressure Sewer System, Dade County, Georgia

Firefly Communities, Cloudland Station Low Pressure Sewer System, Walker County, Georgia



STORM WATER MANAGEMENT (Continued)

Various Clients Southeastern U.S.

Storm Water Pollution Prevention Plans

A-1 Shipley's Waste Oil, Chattanooga, Tennessee
Asphalt Concepts, Athens, Tennessee
Bi-Lo Stores, Chattanooga, Tennessee
Bunge Foods Corporation, Chattanooga, Tennessee
Carriage Industries (four plants), Calhoun, Georgia
Chattanooga's Birchwood Landfill, Birchwood,
Tennessee
Chattanooga's Summitt Landfill, Ooltewah, Tennessee
Chem-Tech, Dalton, Georgia (7 plants)
Conasauga River Lumber, Benton, Tennessee
Conasauga River Lumber, Cleveland, Tennessee
Copelands, Inc., Chattanooga, Tennessee
Cymer LLC, Decatur, Tennessee
The Dixie Group, Watkins Street Plant, Chattanooga,
Tennessee
The Dixie Group, Lupton City Plant, Chattanooga, Tennessee
Duracell, Cleveland, Tennessee
Electric Systems, Inc., Chattanooga, Tennessee
Hamilton Concrete, Chattanooga, Tennessee
Lenmar Chemical, Dalton, Georgia
M&M Mars, Cleveland, Tennessee
M&M Mars, Albany, Georgia
Manufacturers Soap & Chemicals, Cleveland, Tennessee
Marion County Landfill, Jasper, Tennessee
McMinn County Landfill, Athens, Tennessee
Nashville Block, Nashville, Tennessee
Paver Systems, Lithonia, Georgia
Paver Systems, Orlando Florida
Philips Metals (Southern Foundry), Chattanooga,
Tennessee
PSC Metals (formerly Philips Metals), Shelbyville, Tennessee
Philips Metals (Southern Foundry), Cookeville, Tennessee
Philips Metals (Southern Foundry), Knoxville, Tennessee
Philips Metals (Southern Foundry), Union City, Georgia
R.L. Stowe Mills, Inc., Lupton Plant
R.L. Stowe Mills, Inc., Chattanooga Plant
RWT, Inc., Chatsworth, Georgia
Specialty Chemical, Cleveland, Tennessee
Specialty Chemical, Piney Flats, Tennessee
Suburban Manufacturing, Dayton, Tennessee
Wheland Foundry, Long Street Landfill, Chattanooga,
Tennessee
Wheland Foundry, Middle Street Plant, Chattanooga,
Tennessee
Wheland Foundry, St. Elmo Landfill, Chattanooga,
Tennessee
Wheland Foundry, Warrenton, Georgia
Willcan Ready Mix, Dalton, Georgia

*Experience of individual CTI employees.



SITE DEVELOPMENT Representative Experience

Akron Storage and Warehouse
Green, Ohio

American Rug Craftsman
Sugar Valley, Georgia

American Self Storage
Chattanooga, Tennessee

Belk and Company
Dalton, Georgia

Jim Boring
Dalton, Georgia

Village of Canal Fulton
Canal Fulton, Ohio

City of Chattanooga
Chattanooga, Tennessee

Warehouse Site Development

Complete site design for storage and distribution facilities on 9-acre site.

Site/Paving Design

Site and asphalt paving design for parking area for 400 cars and tractor trailers; plans for lighting, security, and guardhouse.

Storm Drainage Design

Site grading, permitting assistance, drainage plan, and specifications for detention facilities, drainage structures, drainage piping, and oil separator/grit structure. Storm drainage design in accordance with the City of Chattanooga's Storm Water Management Ordinance and the 1993 Best Management Practices (BMP) Manual.

Olympia Condominiums

Plans and permitting for storm water and soil erosion; design of water facilities, storm and sanitary sewers, and roadways for 46-acre development.

Whitfield County Industrial Park

Soil erosion plans and permitting for EPD compliance, storm water sampling, and earthwork computations.

***Site Drainage, Utilities, and Storm Water Detention**

Design of all site drainage, water, storm sewer, and sanitary sewer systems within the Village. Sanitary and storm sewer studies.

Dalewood School Sidewalk

Complete design, bidding assistance, and consultation during construction. Key elements include installation of approximately 3,000 linear feet of new concrete sidewalk and planter strip; concrete driveway aprons; installation of storm drainage structures; streambed relocation; excavation and grading; sodding and seeding; and asphalt street repair.



City of Chattanooga
Chattanooga, Tennessee

East Lake Park

Plans to correct leakage from a grouted stone-lined pond constructed by the Work Projects Administration (WPA) in the 1930's. Plan involved draining the pond in sections, thus avoiding impacts on the aquatics downstream from the pond; cleaning the pond; repairing the grouted stone liner; installation of a clay cutoff seal to prevent leaking; and modification of the aeration system to improve water quality.

City of Chattanooga
Chattanooga, Tennessee

Fifth Street Streetscape Project

Planning, design, and consultation during construction. Key elements include pedestrian light poles; planter strip with sod and trees; demolition and removal of existing sidewalk; construction of new concrete sidewalks; stamped concrete street corners with handicap ramps; new detached curb and gutter; full-width asphalt paving; coordination with utility companies regarding underground service; and installation, relocation, and/or adjustment of storm drainage structures and pipes.

City of Chattanooga
Chattanooga, Tennessee

M. L. King Boulevard Historic District Streetscape

Complete engineering services from design through construction administration. Nine-block streetscape project with pedestrian light poles; planter strip with sod and trees; demolition and removal of existing sidewalks; construction of new concrete sidewalks; new detached curb; stamped concrete street corners with handicap ramps; stamped concrete cross-walks, freestanding cantilever retaining walls; full-width asphalt paving; coordination with utility companies regarding underground service; and the installation, relocation, and/or adjustment of storm drainage structures and pipes.

City of Chattanooga
Chattanooga, Tennessee

Olive Street Drainage

Analysis of existing conditions and design of improvements. Key elements include calculation of storm water runoff, pipe capacity, and slope stability; constructibility review to identify utility conflicts and easement requirements; analysis of trench drain vs. pervious concrete. (City received an award for innovative design on this project).



City of Chattanooga
Chattanooga, Tennessee

Second Street Streetscape
Design and consultation during construction. Key elements include pedestrian light poles; trees; demolition and removal of existing sidewalks; new brick paver sidewalks; new detached curb and stamped concrete cross-walks; installation, relocation, and/or adjustment of storm drainage structures and pipes; and asphalt repair.

City of Chattanooga
Chattanooga, Tennessee

Seventeenth Street Plaza
*Design and construction phase services for 750,000-gallon underground storm water detention facility at 17th and Market Streets in Chattanooga. Collected storm water from a 25-block area is pumped to a storage tank and recycled through an irrigation system for downtown landscaping. **The tank was named the Steel Plate Fabricators' Tank of the Year.***

City of Chattanooga
Chattanooga, Tennessee

Sixty-Eight Storm Water Drainage and Water Quality Improvements Projects
Analysis of existing conditions and design of improvements at 68 individual sites in downtown Chattanooga. Key elements include calculation of storm water runoff, pipe capacity, and slope stability; constructibility review to identify utility conflicts and easement requirements.

City of Chattanooga
Chattanooga, Tennessee

Plant Design
Design of site improvements for new warehouse and biosolids handling facilities at Moccasin Bend Wastewater Treatment Plant.

Cherokee Warehouses
Chattanooga, Tennessee

Facility Expansion
Site improvements for 8-acre tract to accommodate 150,000-square-foot expansion of warehouse facility.

Chestnut Street City Scape
Chattanooga, Tennessee

***Street Landscaping and Utility Relocation**
Design of sewer relocation and landscaping of Chestnut Street as part of an urban renewal project.

Chickamauga Wastewater Treatment Plant
Chickamauga, Georgia

***Flood Control Facilities**
Site grading and drainage, including flood control dike for 3.5-mgd wastewater treatment plant.

Cleveland Utilities
Cleveland, Tennessee

Site and Security Improvements
Demolition of existing retaining walls, fencing, gate, brick building, piping; installation of fencing, personnel and vehicular gates, storm drain basins, manholes, and piping, cast in place concrete retaining wall, and site grading for Sunset Trail water storage tank.



SITE DEVELOPMENT (Continued)

Colquitt Regional Medical Center
Moultrie, Georgia

***Storm Water Detention Facilities**

Design of storm water drainage improvements and detention facilities for 9.6-acre drainage basin using TR-55 tabular discharge method to develop inflow hydrograph.

Corker Group
Chattanooga, Tennessee

Design of Roadway, Outparcels, and Storm Drainage

Design of grading and drainage for approximately 1,100 lineal feet of roadway dedicated to the City of Chattanooga; design of grading, drainage, and erosion control for four outparcels adjacent to the new roadway; permitting assistance for the NPDES and City permits required for the project.

Corker Group
Chattanooga, Tennessee

Theater Site Development

Preliminary design of 20-acre theater site in Chattanooga, including grading plan, parking lot, storm water system, landscaping, and utilities.

Council Fire Subdivision
Chattanooga, Tennessee

***Site Utilities**

Design of water and sewer facilities to serve 400-lot subdivision. Water facilities included computer hydraulic analysis for residential demand and fire protection.

The Dixie Group, Inc.
Chattanooga, Tennessee

The Dixie Group, Inc.

Design of site improvements required for the construction of a 19-acre carpet distribution center. Project included site grading, drainage, and storm water retention; an environmental site assessment; and negotiations with local regulators regarding erosion control requirements.

City of Dunlap
Dunlap, Tennessee

Site Design

Design of 1,900 lineal feet of access road, including geometric design, hydrologic calculations, and culvert design. Road elements designed in accordance with Tennessee Department of Transportation specifications.

Foothills Pointe Retirement Development
Loudon County, Tennessee

Site Utilities

Design of septic tank effluent pump (STEP) sewage collection system and water line extensions to serve subdivision additions.

Fox Run Subdivision
Franklin, Tennessee

***Site Grading, Drainage, and Utilities**

Design of grading, storm water detention facilities, and utilities for 160-lot subdivision. Utility design included wastewater pumping station and river crossing with force main.

Girls Preparatory School
Chattanooga, Tennessee

***Design/Build**

Design/build of reinforced concrete bleacher extension, site grading, retaining wall, and sidewalks.



Hamilton Island Subdivision
Hamilton County, Tennessee

***Site Drainage, Utilities, and Roadways**
Design of site drainage, water lines, and roadways for exclusive 26-unit planned unit development.

Hollis and Hollis LLC
Dalton, Georgia

Olympia Site Development
Roadway design, water and sewer design (including connecting force main), storm water design, earthwork calculations, soil and erosion design, and highway entrance permitting for 59-acre commercial development.

Hollis and Hollis LLC
Dalton, Georgia

Cobblestone Subdivision
Site layout; soil erosion plan and storm water permitting; design of storm and sanitary sewers, water, and roadways.

Hargis Estates Subdivision
Sequatchie County, Tennessee

***Site Utilities**
Design of water system to serve 60-lot subdivision, including computerized hydraulic analysis of water system to optimize line size and provide adequate water pressures in isolated areas.

Harpeth Ford Plaza
Franklin, Tennessee

***Site Grading, Utilities, and Storm Water Detention Facilities**
Design of grading, utilities, and drainage facilities for 33-acre automotive dealership. Project included stringent storm water control facilities which required a total of nine storm water detention basins.

Kinder and Morgan
Dalton, Georgia

Power Plant Site
Site development design for 80-acre power plant, including Phase II environmental assessment; wetland delineation; earthwork; storm water permitting; soil erosion plan; design of storm and sanitary sewers, water, and roadways.

Lesco, Inc.
Chattanooga, Tennessee

Lesco Corporate Office and Truck Facility
Complete site development for corporate office addition, employee parking, truck display and truck storage yards, truck turnaround area, grading, storm drainage and storm water detention systems. Extensive concrete pavement project included extensive design and detailing of reinforced and nonreinforced slabs-on-grade.

Lose and Associates
Nashville, Tennessee

Greenway Farms
Alternative analysis to identify most feasible wastewater disposal method. Design of site utilities, including water and sewer.



Marriott Courtyard Motel
Dalton, Georgia

Site Layout

Soils investigation; final topo; hydrology study; complete site layout; construction specifications, earthwork calculations, and construction cost estimate for storm water; parking; large concrete detention tank; and retaining walls.

McCallie School
Chattanooga, Tennessee

***Outdoor Tennis Courts**

Design of site grading, drainage, and retaining walls for six new outdoor, professional-grade tennis courts.

McCallie School
Chattanooga, Tennessee

***Parking Lot Design**

Design of facilities to correct drainage problems and slope failures necessary to convert old tennis courts to parking lots.

McCallie School
Chattanooga, Tennessee

***Storm Water Control System**

Design of storm water facilities for entire McCallie School Campus, including ½-acre storm water detention pond.

McCallie School
Chattanooga, Tennessee

***Varsity Baseball Field**

Design of site grading, drainage, and layout for Tennessee's largest high school baseball field.

Frank McDonald Architects
Chattanooga, Tennessee

Site Design

Design of 54-inch culvert for stream crossing to merge separate lots into one business facility for Prebul Jeep. Crossing details prepared in conformance with TDEC Aquatic Resource Alteration General permit requirements.

Randy McEntyre
Calhoun, Georgia

Commercial Development

Hydrology studies and site design work for detention, buildings, and parking.

McKee Foods Corporation
Collegedale, Tennessee

Site Design

Design of site improvements for industrial process wastewater pretreatment facility, including drainage, access roadway, water supply, and site drainage.

McKibbon Brothers, Inc.
Chattanooga, Tennessee

Sitework

Design and construction phase services for sitework in connection with the Marriott Courtyard Hotel in downtown Chattanooga. Major construction elements include demolition; coordination and design of site utility connections (water, sewer, and gas); site grading and drainage; service corridor; sidewalk modifications; and drop-off lane.



MEP Engineering
Chattanooga, Tennessee

UTC Engineering Facility
Site grading and drainage plan, specifications, and drawings for detention facilities, drainage structures, drainage piping, and oil separator/grit structures. Storm drainage design in accordance with the City of Chattanooga's Storm Water Management Ordinance and the 1993 Best Management Practices (BMP) Manual.

MEP Engineering
Chattanooga, Tennessee

University Center Addition
Site drainage plan, specifications, and drawings for detention facilities, drainage structures, drainage piping, and other components associated with the storm drainage system. Storm drainage design in accordance with the City of Chattanooga's Storm Water Management Ordinance and the 1993 Best Management Practices (BMP) Manual.

Memorial Baptist Church
Chattanooga, Tennessee

Site Grading, Drainage, and Utilities
Design of site grading, drainage, and utilities for church expansion. Project included unique underground storm water retardation/percolation system.

Metro Nashville
Nashville, Tennessee

***Central Wastewater Treatment Plant**
Planning, surveying, and design of sitework and storm water facilities for \$80 million expansion.

Moccasin Bend Wastewater Treatment Plant
Chattanooga, Tennessee

***Site Drainage**
Design of site drainage facilities for 65-mgd wastewater treatment plant.

Moeller Manufacturing Company
Sparta, Tennessee

***Site Design**
Planning, design, and construction administration for grading, paving, storm water management, and landscaping of a 40-acre site with truck unloading facilities and storm water detention.

Nagle Development
Dalton, Georgia

Dalton Industrial Park
Site layout; design of roadways, water, sewer force main, and storm water detention; and soil erosion plan and permitting for 30-acre site.

Oak Meadows Subdivision
Chattanooga, Tennessee

***Site Drainage and Utility Design**
Design of sewers and storm water detention facilities, including two storm water detention ponds, for 30-lot subdivision.

Orange Grove Center
Chattanooga, Tennessee

***Design/Build**
Design/build of site grading, drainage, and paving for recycling bins and parking lot.



Prebul Kia
Chattanooga, Tennessee

Parking Lot and Storm Drainage Design
Design of grading and drainage for a car lot expansion. Project included a "first flush" basin, detention pond improvements, and existing drainage component modifications.

T. U. Parks Construction Co.
Chattanooga, Tennessee

East Brainerd Church of Christ Design-Build Expansion Project
Complete site development design and permitting for fast track site work package. Design included site grading, storm drainage, storm water detention, utilities, parking and access drives, and modification of existing facilities.

Rave Motion Pictures
Dallas, Texas

Theater Site
Design revision for theater site development near Eastgate.

RiverCity Company
Chattanooga, Tennessee

***Parking Lots**
Design/build of site grading, drainage, and paving for several parking lots serving the Tennessee Aquarium.

Gene Rogers Construction
Dalton, Georgia

Site Layout for 11th Avenue Baptist Church
Complete site layout, soils investigation, final topo, hydrology study, construction specifications, earthwork calculations, and construction cost estimate for storm water, parking, large concrete detention tank, and retaining walls.

Savannah Development
Dalton, Georgia

Savannah Subdivision
Site layout; soil erosion plan; storm water permitting; design of storm and sanitary sewers, water, and roadways.

Shaw Industries
Cartersville, Georgia

***Cartersville Distribution Center**
Complete site design, railroad siding, storm water planning, roadways and parking, building design, project management, and water and sewer for 656,000-square-foot distribution, manufacturing, and office facility on 46-acre site.

Shaw Industries
Dalton, Georgia

***Contract Sample Building and Offices**
Total site design (storm water, parking lots, and roads), building design (structural, roofing, floors, etc.), and office design (electrical, plumbing, HVAC) for 237,000-square-foot manufacturing, 30,000-square-foot office.

Shaw Industries
Dalton, Georgia

***DCI Distribution Center**
Total site design (storm water, parking lots, and roads), building design (structural, roofing, floors, etc.), and office design (electrical, plumbing, HVAC) for 530,000-square-foot warehouse, 3,500-square-foot office.



SITE DEVELOPMENT (Continued)

Shaw Industries
Dalton, Georgia

***DC South Distribution Center**

Total site design (storm water, parking lots, and roads), building design (structural, roofing, floors, etc.), and office design (electrical, plumbing, HVAC) for 660,000-square-foot distribution center, 8,000-square-foot office.

Shaw Industries
Dalton, Georgia

***Contract Carpet Facility**

Total site design (storm water, parking lots, and roads), building design (structural, roofing, floors, etc.), and office design (electrical, plumbing, HVAC) for 650,000-square-foot manufacturing, 22,000-square-foot office.

City of Shelbyville
Shelbyville, Tennessee

***Shelbyville Municipal Airport**

Planning, design, and construction administration services for a 3,200-foot taxiway extension, expansion of aircraft parking apron, relocation of a fuel farm, and taxiway lighting. Design elements included grading, paving, and storm water piping.

Showboat Suites
Chattanooga, Tennessee

Site Design

Site design, layout, and CADD drawings for 100-boat timeshare resort with two ponds, retaining walls, and access bridges.

Signal Forest Subdivision, LLC
Walden's Ridge, Tennessee

Utilities Design

Design of 12-inch-diameter ductile iron transmission main and site water for 175-lot subdivision.

Silver Crest Subdivision
Chattanooga, Tennessee

Site Drainage and Roadway

Design of site drainage and roadways for subdivision with topographic constraints.

Solid Waste Disposal Authority, Inc.
Jasper, Tennessee

Preliminary Site Design

Preliminary design of six 5-acre sites on north tract and one 50-acre site on south tract.

City of Sparta
Sparta, Tennessee

***Sparta Recreational Facility**

Planning, design, and construction administration for demolition, grading, paving, sitework, and utilities for a community recreation complex. Facilities included regulation-sized swimming pool and diving well, infant pool, gymnasium, and fitness centers.

The Sports Barn
Chattanooga, Tennessee

***Design/Build**

Design/build of site grading, drainage, and paving of customer and employee parking lots.

Standifer Chase Subdivision
Chattanooga, Tennessee

***Site Drainage, Roadways, and Utilities**

Design of roadways, sewers, and storm water drainage and detention facilities for 26-lot subdivision.



SITE DEVELOPMENT (Continued)

Standifer Oaks Subdivision
Chattanooga, Tennessee

***Site Drainage, Roadways, and Utilities**
Design of storm water drainage and detention system, sewer design, and roadways for 11-unit subdivision.

Stanley Simpson
Calhoun, Georgia

Industrial and Commercial Site Development
Water, sewer, and roadway design for 58.5-acre.

Steele Estates Subdivision
Catoosa County, Georgia

***Roadway Design, Site Grading, Drainage, and Utilities**
Design of 101-lot subdivision layout, roadway design, site grading, drainage and sewer facilities, including wastewater pumping station and 2,000-foot force main.

Taccoa River Park
McCaysville, Georgia

***Site Grading, Drainage, and Utilities**
Design of site grading, drainage, and utilities for 2-acre recreation park funded by Soil Conservation Service along Taccoa River. Project included design of masonry pavilion and 140-foot promenade, cantilevered over river.

**Tellico Reservoir
Development Agency**
Vonore, Tennessee

***3.5-Million-Gallon Reservoir**
Site grading, access road, fencing, parking, underground utilities, surface drainage, and gabion retaining walls.

**Tellico Reservoir
Development Agency**
Monroe County, Tennessee

***Industrial Park**
Site studies, surveys, design, construction phase services, and observation of 20,000 feet of water lines, 2 miles of roads, 0.25-mgd wastewater treatment plant, pumping stations, and other utilities for industrial park development.

Tennessee Valley Authority
Hayesville, North Carolina

***Chatuge Infuser Weir Access**
Site grading, access road, parking, and canoe portages for access to the Hiwassee River.

Tennessee Valley Authority
Guntersville, Alabama

***Guntersville Dam Recreation Area**
Site grading, access roads, and parking for recreation facilities at Guntersville Dam.

Tennessee Valley Authority
Bristol, Tennessee

***South Holston Regulation Weir**
Site grading, trails, pedestrian bridge, and approaches for access to the South Holston River.

Tennessee Valley Authority
Decatur, Tennessee

***Watts Bar Dam Recreation Area**
Restoration of public use area including site grading, parking, lakeside walkway, and drainage.

21st Century Council
Lawrenceburg, Tennessee

***Industrial "Spec" Building**
Planning, design, and construction administration phases for a 50,000-SF speculative industrial building. Design included grading, paving, utilities, storm water management, and a tractor-trailer staging/storage area.



SITE DEVELOPMENT (Continued)

Valmont Industries
Marion County, Tennessee

Site Design

Design, bidding, and construction phase services for entrance road and industrial building site development in Marion County, Tennessee, including hydrologic study, storm drainage design, grading plan, and subgrade stabilization measures.

Walker County
Rock Spring, Georgia

Business Park Site Development

Water and sewer, earthwork calculations, roadway design, storm water permitting, and soil and erosion design for 55-acre site.

Wal-Mart Shopping Center
Garden City, Kansas

***Site Utilities and Drainage**

Design of water and sewer and storm water drainage facilities for 30-acre shopping center. Drainage facilities included parking lot detention, six detention ponds, and 1,000 linear feet of 48-inch off-site storm water pipe.

Bert Watts
Dalton, Georgia

Classic Estates Subdivision

Site layout; soil erosion plan; permitting for stream crossing and storm water; design of storm and sanitary sewers, water, and roadways.

Wheland Foundry
Chattanooga, Tennessee

28th Street Recreation Area

Filling and sitework for 4-acre recreation park and walking trail constructed by Wheland Foundry.

Wonju Air Station (R401)
Wonju, South Korea

***Site Development for Air Station**

Hydrologic studies for creek relocation. Design of site grading, drainage, roads, water lines, sewer lines, and wastewater treatment plant for 120-acre site for tactical helicopter wing.

Various Clients

***Miscellaneous Site Development Projects**

Design of site development features for major water and wastewater facilities, including roadways, parking areas, drainage, storm water management, and utilities for facilities in Nashville, Oak Ridge, Athens, Lebanon, Sparta, and Cookeville, Tennessee; Myrtle Beach, South Carolina; and Tulsa Oklahoma.

*Experience of individual CTI employees.

