

DNR # 209057
EXPRESSION OF INTEREST



**A/E SERVICES FOR LODGE EXPANSION
AND PARK IMPROVEMENTS AT
CACAPON RESORT STATE PARK**

**STATE OF WV, DIVISION OF NATURAL
RESOURCES PARKS & RECREATION
CHARLESTON, WV**

RECEIVED

2008 DEC -9 A 7:40

CHASING DIVISION
STATE OF WV

December 9, 2008



December 7, 2008

Mr. Frank Whittaker
State of West Virginia
Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130



500 Foxcroft Ave
Martinsburg, WV 25401
304.260.9024
Fax: 304.260.5639
www.woolpert.com

Re: **DNR 209057** - Expression of Interest for the Lodge Expansion and Park Improvements at Cacapon Resort State Park, Berkeley Springs, WV

Dear Mr. Whittaker:

In selecting Woolpert to provide design and related services for the Lodge Expansion and Park Improvements the Division of Natural Resources will be obtaining a team that brings a complete solution with the highest credentials and a history of similar successful projects. Through our previous work in developing the Cost Analysis Report for the various improvements at Cacapon Resort Woolpert is intimately familiar with the needs of the resort and DNR's goals.

As demonstrated in numerous portions of this response, Woolpert is well versed in all aspects of design, construction administration/management and construction observation services to ensure compliance with the plans and specifications we will develop as part of this project.

I believe there are three principal reasons the Division of Natural Resources will want to continue and expand its relationship with Woolpert as a trusted partner for this important project:

- **Qualifications and experience of our staff:** Our proposed team of professionals is one that has worked together on previous similar contracts. As a team we bring a depth of knowledge that includes not only understanding the technical aspects of tasks on this project, but also *first hand and local knowledge of the resort*.
- **Woolpert's experience with Cacapon and DNR:** Our staff has been working hand in hand with DNR over the past few years on similar design and construction projects. We have developed an excellent working relationship based upon mutual trust and respect. Enhancing this relationship, we are able to bring experience from other similar clients (both regionally and nationally) that will benefit DNR.
- **References:** I encourage you to call any of the client references provided in our proposal – they are the greatest testament to our commitment to providing successful civil engineering services.

December 7, 2008

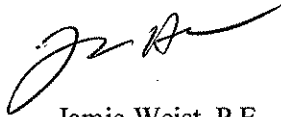
Page 2

Should DNR select Woolpert as a partner in your efforts in addressing this important project for Cacapon Resort we are certain that our performance will exceed your expectations. We believe that our corporate experience and proposed staff will capture your attention and focus your consideration favorably on Woolpert.

If you have any questions regarding this proposal, please contact me directly at 757.399.6882 or via e-mail at jamie.weist@woolpert.com. If given the opportunity to work with DNR, it is my promise that we will deliver the highest level of service.

Sincerely,

WOOLPERT, INC

A handwritten signature in black ink, appearing to read 'J. Weist', with a stylized flourish extending from the end.

Jamie Weist, P.E.
Group Manager, Associate



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
 DNR209057

PAGE
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ADDRESS CORRESPONDENCE TO ATTENTION OF
 FRANK WHITTAKER
 304-558-2316

PURCHASING

RFQ COPY
 TYPE NAME/ADDRESS HERE

SHIP TO

DIVISION OF NATURAL RESOURCES
 PARKS & RECREATION SECTION
 BUILDING 3, ROOM 719
 1900 KANAWHA BOULEVARD, EAST
 CHARLESTON, WV
 25305-0662 304-558-2775

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
11/06/2008				

OPENING DATE: 12/09/2008 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
001	1	LS		906-00-00-001		
ARCHITECT/ENGINEERING SERVICES, PROFESSIONAL EXPRESSION OF INTEREST THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA DIVISION IF NATURAL RESOURCES, IS SOLICITING EXPRESSIONS OF INTEREST FOR ARCHITECTURAL AND ENGINEERING SERVICES FOR LODGE EXPANSION AND PARK IMPROVEMENTS AT CACAPON RESORT STATE PARK LOCATED IN BERKELEY SPRINGS WV, PER THE ATTACHED SPECIFICATIONS. TECHNICAL QUESTIONS MUST BE SUBMITTED IN WRITING TO FRANK WHITTAKER IN THE WEST VIRGINIA PURCHASING DIVISION VIA FAX AT 304-558-4115 OR VIS. EMAIL AT FRANK.M.WHITTAKER@WV.GOV. DEADLINE FOR ALL TECHNICAL QUESTIONS IS NOVEMBER 21, 2008 AT 3:00 PM. ALL TECHNICAL QUESTIONS RECEIVED, IF ANY WILL BE ANSWERED BY ADDENDUM AFTER THE DEADLINE. QUESTIONS CONCERNING THE PROCESS BY WHICH A VENDOR MAY SUBMIT AN EXPRESSION OF INTEREST TO THE STATE OF WEST VIRGINIA ARE NOT CONSIDERED TECHNICAL QUESTIONS AND MAY BE SUBMITTED AT ANY TIME PRIOR TO THE BID OPENING DATE AND TIME. EXHIBIT 10 ADDENDUM ACKNOWLEDGEMENT I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *Jamie H. West* TELEPHONE: 757.399.6882 DATE: 12/8/08
 FEIN: 20-1391406 ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, this Contract may be deemed null and void, and terminated without further order.
14. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
15. **WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT:** If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in case of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

**Request for
 Quotation**

RFQ NUMBER
 DNR209057

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ADDRESS CORRESPONDENCE TO ATTENTION OF
 FRANK WHITTAKER
 304-558-2316

VENDOR

RFQ COPY
 TYPE NAME/ADDRESS HERE

SHIP TO

DIVISION OF NATURAL RESOURCES
 PARKS & RECREATION SECTION
 BUILDING 3, ROOM 719
 1900 KANAWHA BOULEVARD, EAST
 CHARLESTON, WV
 25305-0662 304-558-2775

DATE PRINTED 11/06/2008	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
BID OPENING DATE: 12/09/2008	BID OPENING TIME 01:30PM			

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.						
ADDENDUM NOS. :						
NO. 1						
NO. 2						
NO. 3						
NO. 4						
NO. 5						
I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF THE BIDS.						
VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.						
 WOOLDERT				SIGNATURE		
				COMPANY		
12/8/08				DATE		
REV. 11/96						
BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THIS CONTRACT IS AUTOMATI-						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE 	TELEPHONE 757.399.6882	DATE 12/8/08
TITLE ASSOCIATE	FEIN 20-1391406	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
 DNR209057

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ADDRESS CORRESPONDENCE TO: ATTENTION OF
 FRANK WHITTAKER
 804-558-2316

RFQ COPY

TYPE NAME/ADDRESS HERE

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DIVISION OF NATURAL RESOURCES
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 1900 KANAWHA BOULEVARD, EAST
 CHARLESTON, WV
 25305-0662 304-558-2775

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
11/06/2008				

BID OPENING DATE: 12/09/2008 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>CALLY NULL AND VOID, AND IS TERMINATED WITHOUT FURTHER ORDER.</p> <p>REV. 1/2005</p> <p>NOTICE</p> <p>A SIGNED BID MUST BE SUBMITTED TO:</p> <p>DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130</p> <p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:</p> <p>SEALED BID</p> <p>BUYER: 44</p> <p>REQ. NO.: DNR209057</p> <p>BID OPENING DATE: 12/09/08</p> <p>BID OPENING TIME: 1:30 PM</p> <p>PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:</p> <p>----- 757.399.6869 JAMIE H. WEIST</p> <p>PLEASE PRINT OR TYPE NAME OF PERSON TO CONTACT</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS		
SIGNATURE 	TELEPHONE 757.399.6882	DATE 12/8/08
TITLE ASSOCIATE	FEIN 20-1391406	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
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BID OPENING DATE: 12/09/2008 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
CONCERNING THIS QUOTE:						
----- JAMIE H. WEIST -----						
***** THIS IS THE END OF RFQ DNR209057 ***** TOTAL:						N/A

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *Jamie H. Weist* TELEPHONE: 757.399.6882 DATE: 12/8/08

TITLE: ASSOCIATE FEIN: 20-1391406 ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



DNR# 209057—A/E SERVICES FOR LODGE EXPANSION AND PARK IMPROVEMENTS AT CACAPON RESORT STATE PARK

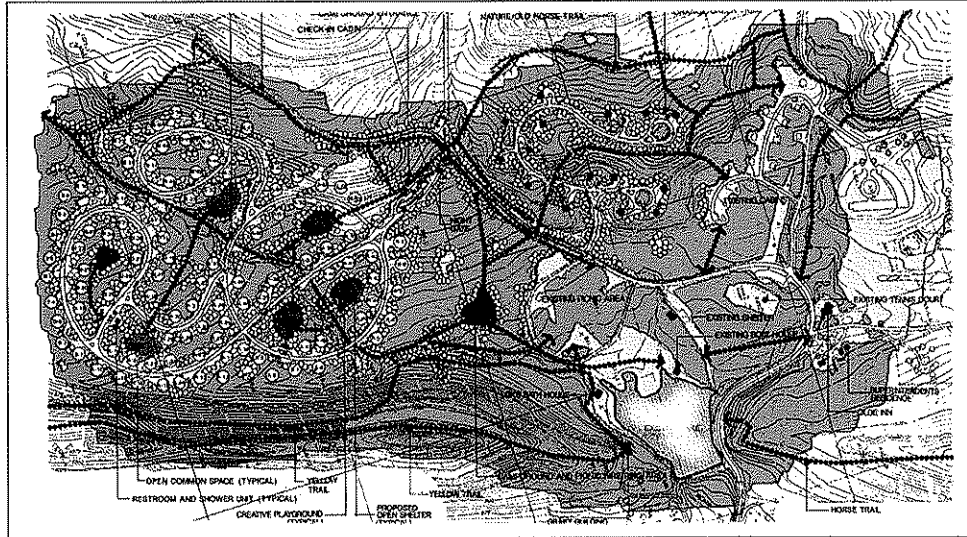
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SECTION 1: CREDENTIALS OF FIRM

Woolpert provides dynamic consulting and design services worldwide to clients who require technology integration, architecture/engineering, or a combination of both. Ranging from nationwide military programs to the smallest town and from college campuses to private industry, we solve clients' problems through results-focused consulting, creative yet practical design, and the appropriate use of technology. The firm is top-ranked among national design firms. Clients benefit from Woolpert's professional expertise in a wide range of services, including, enterprise information management (EIM), facilities design and management, photogrammetry and remote sensing, planning and design, site/civil design, surveying, and water management.



With more than 800 professionals in more than 23 offices across the United States, the firm has the relevant experience, professional expertise, technical support, and quality review personnel to complete virtually any assignment in the given timeframe and budget.

WOOLPERT OFFICE LOCATION

The Woolpert West Virginia office is located at the following address:

500 Foxcroft Avenue
Martinsburg, WV 25401
304.260.9024 phone
304.260.5639 fax
www.woolpert.com

The person authorized to enter into an agreement with the State of West Virginia, and the project point of contact will be:

Jamie Weist, PE
Associate
500 Foxcroft Avenue
Martinsburg, WV 25401
304.260.9024 Phone, 304.260.5639 Fax, email address: Jamie.weist@woolpert.com

WOOLPERT HISTORY

Woolpert's history spans nine decades of client satisfaction. Founded in 1911, the firm's original services included civil engineering, land surveying, and landscape engineering performed by founder Charlton D. Putnam. In 1931, a partnership was established in the name of Putnam & Woolpert.

In 1938, the firm began engineering projects funded by the Rural Electric Cooperative under the Rural Electrification Administration. The company rapidly expanded and in 1942 became known as the Ralph L. Woolpert Company, Consulting Engineers.

Services added in the 1960s and 1970s included community development, photogrammetry, airport planning and design, park planning, landscape architecture, traffic engineering, and environmental studies. In 1979, the firm's name was changed to Woolpert Consultants. Soon afterward, Woolpert began providing GIS and architectural services. In 1997, the firm became a limited-liability partnership, and the name was changed to Woolpert LLP. In 2005, Woolpert converted to a corporation and changed its name to Woolpert, Inc.

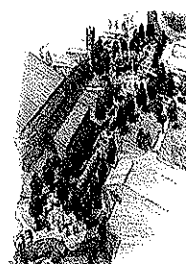
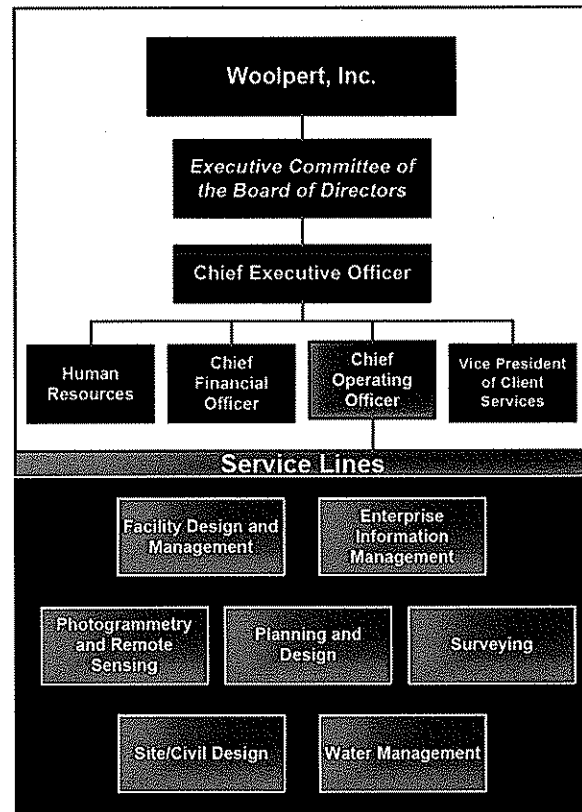
WOOLPERT ORGANIZATION

Woolpert is a corporation consisting of employee shareholders. Woolpert policy is set by its executive committee of the board of directors which is elected by the employee shareholders. **Gary L. Stewart, RLA** is chairman of the board, **Michael R. Flannery, PE** is the chief executive officer, **Paul A. Grodecki, PE**, is the chief operating officer, and **Mark M. Haberstroh, CPA**, is the chief financial officer. They are responsible for directing the following functions: operations, finances, technical development, marketing, sales, human resources, and business planning.

Woolpert has seven service lines, each with a director who reports to the chief operating officer. The service line directors constitute Woolpert's Leadership Team. Approximately 800 professional and technical personnel deliver Woolpert's services through the following service line disciplines:

- Facilities Design and Management
- Enterprise Information Management (EIM)
- Photogrammetry and Remote Sensing (PRS)
- Planning and Design
- Site/Civil Design
- Surveying
- Water Management

Facilities Design and Management. Services for facility projects encompass predesign efforts such as feasibility and master plan studies, programming, and architectural design, with all the associated construction documentation and construction phases. Because all required mechanical, electrical, and plumbing engineering is in house, our design services ensure that solutions are



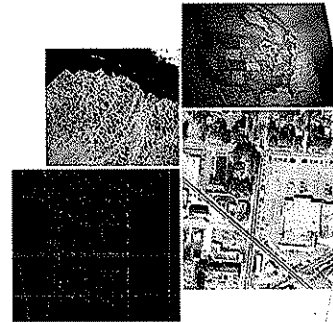
not only functional, but also high quality and cost effective. This integrated group of architects and engineers also provides consulting services for physical assets throughout the life of facilities. Their experience at creating sustainable value in the built environment spans public and private markets and many building types.

Enterprise Information Management. Across the country, Woolpert is the leader in comprehensive GIS and IT services for public utilities, federal agencies, local governments, and institutions. As a long-time GIS practitioner, we cover all aspects of GIS program building, from planning to maintenance. Along the way, we offer business process reengineering (BPR) and data conversion. We also develop award-winning web, wireless, and desktop applications, complemented by documentation and training. And because GIS demands have burst the boundaries of workstations stuck in one office, we specialize in integrating GIS with other mission-critical systems, such as computerized maintenance management systems (CMMS) for work order and inventory management; field data collection technology; permitting systems; utility system modeling; and more.



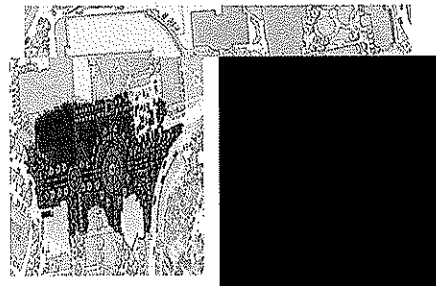
Throughout these processes, we use our own software products, such as the SmartBase™ suite. That suite contains product families such as SmartMapper®, SmartGov®, and SmartSurveyor™. This blend of services and technology results in enterprisewide technology environments that distribute planning, analysis, and management capabilities throughout our clients' organizations.

Photogrammetry and Remote Sensing. Woolpert provides end-to-end solutions for acquiring, processing, and implementing primary base map data, including high-accuracy imagery, terrain data, and feature mapping. Woolpert uses the latest remote sensing and data processing technologies, such as digital imaging for color, multispectral, and hyperspectral data as well as airborne LiDAR and softcopy feature extraction workstations.

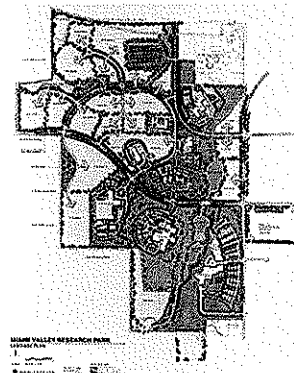


Furthermore, Woolpert offers lifecycle solutions for updating, maintaining, and analyzing these primary base map datasets to ensure continuous usefulness to clients.

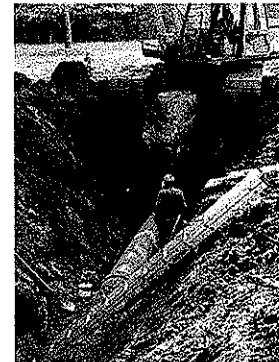
Planning and Design. Planning and design are the first steps in creating distinct and memorable places people can enjoy, whether at home, work, or play. Our diverse practices of planning, urban design, landscape architecture, natural resources, and visualization technology include dedicated and experienced professionals who help lead innovative land planning and design approaches that result in highly successful projects.



Site/Civil Design. Woolpert offers a full range of site and civil design services supporting real estate projects ranging in scope from design to development including implementing facility management services for corporate or industrial properties. The company's experience includes office/industrial projects, theme park design, master-planned community design, multi and single family housing, and support for resort and retail real estate projects. Woolpert's site/civil design services include electrical engineering, information technology, landscape architecture, planning, site/civil engineering, traffic engineering, and zoning assistance.



Surveying. Surveying is where Woolpert began in 1911. Today, survey crews and registered surveyors work across the country to combine technology and experience to provide complete surveying services. The firm takes pride in supplying clients with full-service control surveys using GPS, total stations, and digital leveling technologies. These projects range from a handful to more than 1,000 points. Woolpert has performed over 3,000 second-order class II surveys and over 1,000 miles of first-order class I and second-order class II geodetic leveling projects following FGCS and NGS standards. The recipient of NGS awards, Woolpert offers a full range of surveying services: from traditional surveying to the latest GPS technology with integrated field data collection. One unique ability is the collection of utility system location and attribution data while building the GIS network in the field. The firm also does 3-D scanning for terrestrial laser mapping and subsurface utility engineering (SUE) to prevent utility conflicts, construction delays, and redesign costs. Through surveying, Woolpert enables clients to get the information they need faster and more accurately than ever.



Water Management. Water Management service offers expertise in the fields of water, sanitary sewer, and storm water. Water Management works with local, state, and federal clients on projects including permitting; stream restoration; watershed management; and water distribution. Other project types include sewer collection analysis, studies, and improvements as well as water and wastewater treatment alternatives.

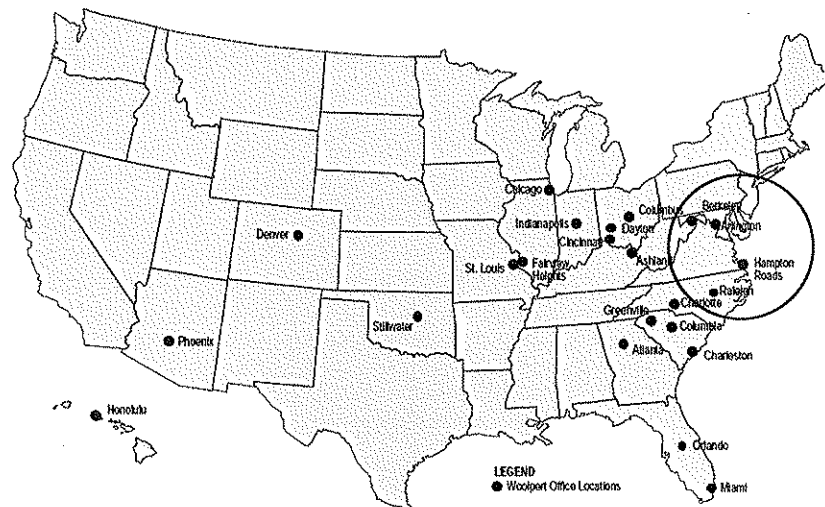
OFFICE LOCATIONS

Over the years, Woolpert has established and built up offices, and in the process, has developed skills at obtaining and managing project assignments. This is true even when the project area is some distance from the Woolpert office that provides most or all of the services. In fact, our project managers have experience with clients as near as just across the street and as far as the other side of the world.

Woolpert has offices throughout the United States, including our headquarters in Dayton, Ohio.

Project location has never been a disadvantage to our successful performance of a project, whether in the United States or overseas. By using the latest in communication technologies, Woolpert successfully manages projects throughout the world, including North America, Europe, Central America, and South America.

Our strong project managers are adept at managing the diverse disciplines found on each Woolpert team. They use state-of-the-art communication methods to maintain clear, continuous contact with the client and users. They also exercise effective administrative control over all project team members and the components of the overall work program staying focused **on the critical path and project budget.**



Geographically, our **Berkeley County/Martinsburg, West Virginia office** is in an ideal location to respond quickly to your needs. Furthermore, this office will provide fast access to work assignments located in the state. Woolpert team members are located within a reasonable distance of the park, and have a long history of working in West Virginia. This enables us to make any number of site visits during design and construction and to respond to unexpected situations.

CLIENT RELATIONSHIP

Woolpert is dedicated to partnering. We understand the need for solid commitments to achieve successful results and our many partnering efforts have been characterized by open and effective communication while always adhering to the highest professional standards. We are familiar with working at Cacapon State Park having recently completed the Facility Improvements Cost Analysis for the WV DNR. We look forward to continuing our relationship on this project.

Clients benefit from Woolpert's ability to draw on professional in-house expertise across a wide service range and geographic base. This ability to approach projects from a "big picture" perspective combine with Woolpert's relationship-based philosophy for real-world problem solving that goes beyond traditional consulting.

CLIENT SATISFACTION

Ensuring our clients' complete satisfaction with our service offerings has always been a high Woolpert priority. As a part of standard project closeout procedure, Woolpert provides clients with a questionnaire for gauging satisfaction with the firm's performance. Analysis of the forms, combined with post-project interviews, helps the firm determine its strengths and identify areas for improvement.

How would you rate our performance?
Please take a moment to complete the pre-assignment and ratings and questionnaire or forward to the project lead called to rate our performance. Your satisfaction is greatly appreciated.

Client: _____
Project/Project Location: _____

Overall Evaluation

1. Overall quality	1	2	3	4	5
2. Timeliness	1	2	3	4	5
3. Budget	1	2	3	4	5
4. Communication	1	2	3	4	5
5. Client satisfaction	1	2	3	4	5
6. Project quality	1	2	3	4	5
7. Client satisfaction	1	2	3	4	5
8. Overall quality	1	2	3	4	5
9. Client satisfaction	1	2	3	4	5
10. Overall quality	1	2	3	4	5
11. Client satisfaction	1	2	3	4	5

Project Manager

1. Availability	1	2	3	4	5
2. Communication	1	2	3	4	5
3. Client satisfaction	1	2	3	4	5
4. Overall quality	1	2	3	4	5
5. Client satisfaction	1	2	3	4	5
6. Overall quality	1	2	3	4	5
7. Client satisfaction	1	2	3	4	5

Project Documents

1. Overall quality	1	2	3	4	5
2. Client satisfaction	1	2	3	4	5
3. Overall quality	1	2	3	4	5
4. Client satisfaction	1	2	3	4	5

What are your recommended comments to help you or Woolpert? _____
How can we better serve you in the future? _____

Name: _____ Title: _____
Address: _____
Phone: _____

QUALITY COMMITMENT PROGRAM

At Woolpert, quality is an attitude that is built into every project. Our strong project management (SPM) approach results in a single point of contact that ensures your project will be completed on time and within budget. The SPM managers are key to each project's success. In addition, a principal guides each project from start to finish to ensure proper client communication and resource allocation. This team will carefully pre-plan the production of your deliverables to ensure that they are right—the *first* time. The reputation and growth of the firm depends on this quality commitment.

COST CONTROL AND SCHEDULING

Woolpert is well aware of the importance of cost control. We are successful with cost control by carefully planning, programming, and designing facilities that can be implemented with the available apportioned funds. Woolpert uses a detailed Management Information System (MIS) that provides timely and detailed data on all project tasks. The firm also involves its key professional staff in all cost control and project estimating activities to meet budgetary requirements at all levels.

Woolpert also works directly with a number of local contractors to stay abreast of the current costs of recreation projects. Our best evidence to demonstrate our cost control ability is to review our past track record. For the last 11 years, our cost estimating performance has averaged at 8.9% under budget.

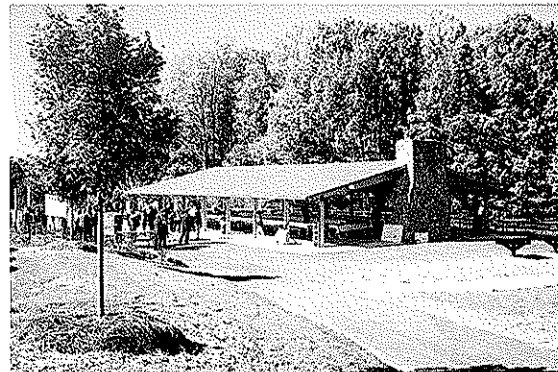


PROPOSED DESIGN APPROACH FOR THE PROJECT

Woolpert approaches design for park projects as a process involving a team of experienced, multi-disciplinary professionals. A Project Manager is selected to head this Team, based on the project requirements. The client and user are considered Key Team Members and are actively involved in the process. The process has been developed over time. It is continually refined to provide the client and user with the most productive and effective way to participate in identifying specific issues, opportunities, and solutions that will result in a successful project.

Woolpert is committed to meeting client and user requirements through active participation in the planning and design process. The foundation of the process is communication. Woolpert strives to develop programs, planning approaches, design concepts, and plans that reflect the importance of meeting client needs.

- We believe in gaining a thorough understanding of the specific renovation requirements for each assignment, rather than following a “standard approach” to design. A thorough field analysis of the existing conditions and the coordination with the client on the exact program issues for the ultimate solutions of the renovation projects helps develop a solution the client can ultimately be proud of.
- A successful design solution is one that meets all requirements: Mission, purpose, program, user needs, content, standards and design criteria, technical, phasing, budget, and schedule.
- The process ensures a thorough and methodical approach with the objective of conducting the steps in a personal way to accomplish the goal of producing a project that fully satisfies all requirements.
- The Project Team remains intact throughout the project to provide the continuity that is a necessary ingredient of ensuring success.
- Team Members are carefully selected to provide the experience and expertise, and the personal and professional commitment that it takes to do good work.
- When the project or task at hand requires expertise and collaboration with special experts, or visits to recently complete successful projects that demonstrate effective design solutions to similar requirements, Woolpert arranges for the collaboration and visits, including the client and user as a part of the process.



Successful projects are a result of hard work, thorough research, creativity, communication, persistence, and seeing things through—from start to finish. When all is said and done, the design process with renovation in mind requires dedication, commitment to quality, the involvement of experienced professionals, trust, confidence, and personal service. This type of performance is an expectation at Woolpert—it is embedded in our culture.

SEVEN SUSTAINABLE DESIGN PRINCIPLES

Our planners and designers approach each project with an eye to the future. We not only realize our responsibility to the society and environment of the present, but also understand we have a responsibility of providing an economically, socially, and ecologically diverse community. Woolpert has been planning for Park Services for a number of years and we have adopted these core values as it relates to sustainable

design. Within Woolpert, we have developed Seven Sustainable Design Principles to guide our professionals when approaching projects.

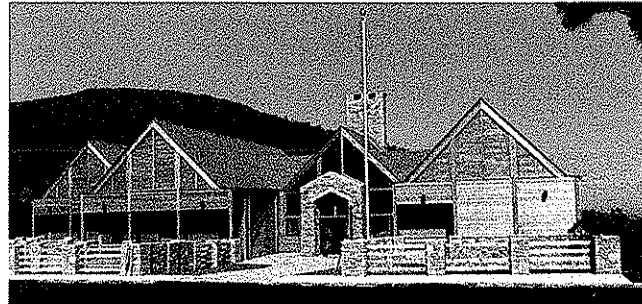
Recognize and respect ecological, social, and economic interdependence.

1. Continually educate our clients and the public on the sustainable design process.
2. Minimize the short-term and long-term use of non-renewable resources.
3. Maximize accessibility for all citizens.
4. Develop fiscally responsible designs through life-cycle analysis.
5. Promote harmony between the natural and built environments.
6. Apply an interdisciplinary approach to all planning and design projects.



CONSTRUCTION ADMINISTRATION CAPABILITIES

The Woolpert team realizes that effective construction administration is vital to the project. A well thought out design and a good set of construction documents play a key role in construction administration. Developing and maintaining good working relationships with the on-site field superintendents facilitates a better design and a better project. Site inspections by the design team will assure that the design intent of the drawings and specifications are implemented. Our goal is to establish positive and supportive relationships that result in the early identification and resolution of potential problems before they become major obstacles.



The construction administration services include: pre-construction conference, review of shop drawings, site inspections, responding to RFIs, formal monthly meetings, final inspections and project close-out process.



SECTION 2: PROJECT EXPERIENCE

The Woolpert Team offers a multi-disciplined depth of qualified and experienced staff offered by few companies. This depth provides the Woolpert Team the necessary strengths and capabilities to fully meet the project requirements on the Cacapon Resort Park project. Woolpert's experienced team of LEED professionals and water resource experts will provide extensive benefits to West Virginia Division of Natural Resources Parks and Recreation. The Cacapon Resort project design by Woolpert will be environmentally sensitive, responsive to the natural surrounding environment and designed utilizing LEED and Sustainable principals, which in turn will provide both a successful and environmentally responsible project.

A few benefits the Woolpert Team will bring to WVDNR, for a successful Cacapon Resort Park project include:

- Local, West Virginia Staff in Martinsburg
- Key LEED accredited team members
- Experience in West Virginia State Park Design
- Environmental Specialists as Design resources
- Organization and quality approach
- Technology leadership
- Established working relationships
- Quality assurance/quality control
- Experience working with the State Construction Office.
- Immediate access
- Successful consensus building

SUSTAINABLE PLANNING

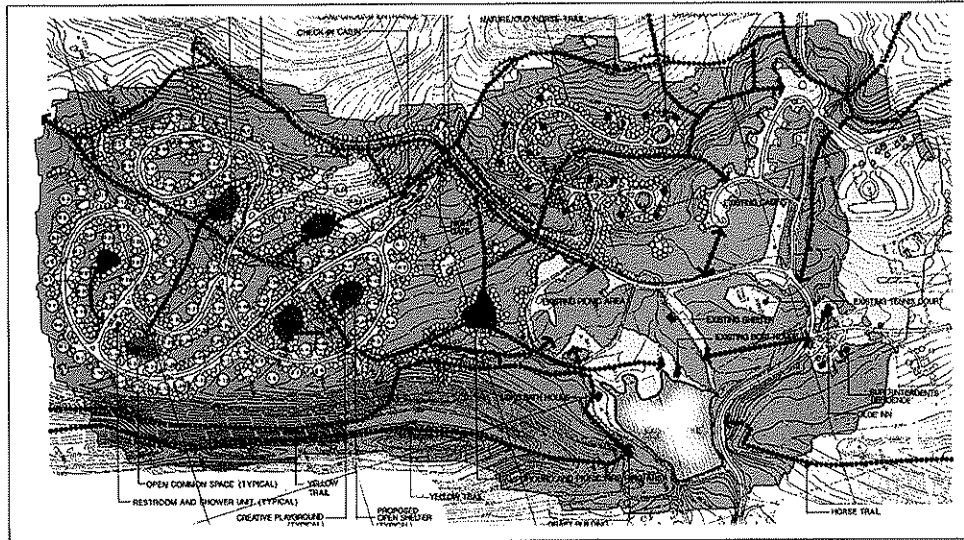
The Woolpert team has broad experience in sustainable design, sustainable planning, energy efficiency, water conservation, building materials conservation, and indoor environmental quality. Our architects, engineers and planners continually look for opportunities to incorporate sustainable design principles into all our work. sustainable design and planning is an integral part of the comprehensive process utilized by the Woolpert team. Woolpert is a member of the United States Green Building Council, and we have multiple LEED™ accredited designers and planners as a part of our designated team. Our team has completed sustainable design and planning projects for federal agencies, state agencies, and local governments.

PARK AND RECREATION EXPERIENCE

An area in which Woolpert has continuously excelled is Park and Recreation Design. The Woolpert Team's experience is holistic in nature and includes all phases of design and in-house professionals including: Architecture, Building Engineering, Landscape Design and Master Planning, Surveying, Environmental Assessments, Civil Design and Permitting, Water and Waste Water Systems design. The Woolpert Team's comprehensive mix of Park Projects relate directly to the scope of the proposed Cacapon Resort State Park project. Previous experience and depth of the Design Team is the key to the

success of this project. Woolpert has provided architecture, engineering, natural and cultural resources, master planning, surveying, environmental documentation, support to the National Park Service, U.S. Fish and Wildlife Service, cultural heritage parks, state and regional park systems for decades. We have developed a strong core group of professionals with on-the-ground experience and a deep understanding of park related projects.

Woolpert has provided professional services to the State of West Virginia, Division of Natural Resources for over 15 years and is familiar with the parks vision of future development and improvements for the enjoyment of the many visitors that visit the park. The most recent projects were:



- Cacapon State Park; Well III, West Virginia Division of Natural Resources. Provided design of a new water treatment plant, three groundwater wells, 250,000-gallon storage tank, and a replacement of 18,000 LF of water distribution system piping at this State Park facility.
- Pendleton County State Park Design including a lodge and cabin design plus a park master plan at four different sites, for the West Virginia State Department of Resources.
- Tomlinson Run, West Virginia Division of Natural Resources
- Cacapon State Park; Cost Estimation, West Virginia Division of Natural Resources. Provided cost estimating services.

SIMILAR PROJECT EXPERIENCE

North Carolina Arboretum Baker Center - Asheville, North Carolina

Date: 2007

Construction Budget: \$4.8 million

The Woolpert team also recently completed the sustainable design and utilizing Triangle J High Performance Building Guidelines for the Baker Exhibit Center at the North Carolina Arboretum. The proposed facility serves as the primary visitor portal for the entire 462-acre complex. It defines a new vocabulary and presents a new image for the institution through the organization of forms, materials, systems, and spatial experiences. The design complements the contours of the land, the qualities of the natural environment, and the characteristics of the seasons specific to the site.

Sustainable design principles used on this project include a rain garden to treat storm water on-site. Rainwater runoff from the site and roof will be captured and reintroduced into the irrigation system. Energy modeling was done to identify desired R-values and insulation strategies, and trellis elements that double as exterior sunshades were incorporated into the design. An entrance façade oriented to the west forced balance between the desire for a transparent skin and the mitigation of solar heat. Workshop portion of the building will not be air conditioned, but will have natural air circulation; Geothermal heat pumps will be used as a heating and cooling source, reducing the HVAC requirements greatly.

Greenhouse clearstory windows will be operable, which will allow for natural air flow, minimizing HVAC requirements. This is a partial list of things being done in this building, but the entire design concept was one of being "Green", innovative and environmentally responsible. Design disciplines include plumbing, mechanical and electrical utilizing Triangle J High Performance Building Guidelines. The design of systems follow special design guidelines including providing documentation required to meet TJHBG strategies or LEED certifications.

Saluda Shoals Regional Park Interpretive Center and Conference Center - Columbia, South Carolina

Date: 2002 Construction Budget: \$6,500,000

The planning process included a number of critical review sessions and public meetings as orchestrated by the Irmo Chapin Recreation Commission and well attended by the citizens in the area. The project design was environmental sensitive, by preserving hundreds of trees, skirting right-to- flood restrictions, and addressing trout stream ecosystems of the Saluda River and Rawls Creek. In addition expanses of energy efficient glazing accented natural vistas, while minimizing solar gain and glare.

Environmental Center: The design of the Environmental Center is sited on a knoll that overlooks a creek that feeds the Saluda River thus highlighting the natural habitat. The curved "spine" of the building is derived from the existing topography. The facility was designed to accommodate classes, restrooms, stationary exhibits, a "smart" classroom and a Harvard-style auditorium that seats 99 for an orientation and/or a presentation on the area. This museum-like space offers an environment for ever-changing exhibits about the region, and an aquarium for native fish.

Meeting Facility: Another component of the park program was a facility that could house conferences and receptions. The entrance lobby is a large open space with wood ceilings a large stone fireplace. The meeting area is flexible, and can seat 500 for lecture and 300 for banquet when used as one large space. The meeting facility is an excellent example of crafting functional interior space, while connecting the interior to the exterior.

Waccamaw - Georgetown South Carolina

Date: 2007 (Start of Construction) Construction Budget: \$1,800,000

The Woolpert team completed the sustainable design for the United States Fish and Wildlife Service Waccamaw National Wildlife Refuge Visitor Center in SC. An integrated sustainable design approach included cool roof technology to minimize heat gain, split mechanical systems that respond to building massing, while using architectural dormers to receive fresh air. The project also included the potential of tidal wetlands Living Machine System to treat wastewater on site, exhibit designs and an auditorium for lectures and other programs.

Celery Bog Nature Center - West Lafayette, Indiana

Date: 1999 Construction Budget: \$1,000,000

The nature center provides a place to educate people about the bog, specifically wetlands, watershed management, and the value of each. It also serves as a place for displays and research projects. The facility was constructed in phases as funding permitted, with the first phase consisting of the caretaker's residence, maintenance garage, mechanical room sized for the total future facility, toilet rooms accessed from outside or inside, and a large unobstructed open area for educational activities. A plaza outside gathers visitors where they may head to the trail, the amphitheater formed naturally in the hillside, or the interior multipurpose area.

Viewed from the road, one sees a wall designed to buffer the facility from buses and to provide a screen for the facility where only hints of the forms beyond are visible. It seemed appropriate for the building to be experienced as an organic part of the surroundings. It grows out of its surroundings, yet at the same

time remains distinctly different from them. In contrast to the mechanical nature of a linear building, complex natural forms, absent of traditional ornament, are more responsive to the nature of the site to be interpreted. While the structural framing was kept linear, the roof forms have gentle waves reflecting the topography of the site and the movement of the water. The walls on the bog side of the facility are not truly vertical and the exterior materials reflect the colors of the site. Inside the floors are of polished concrete and the structure is exposed. The use of more innovative forms helps to support the change in thinking that occurs as visitors' transition to another place and learn about the bog. Electrical design integrated the use of natural day lighting and solar exterior lighting fixtures. The interior lighting scheme incorporated a flexible system of high efficiency track lighting that can be directed for use in displays as well as general overall lighting. Multiple switching allows the user to create areas that can be set apart for various functions. Electric radiant floor heat in one area allows for school age groups to sit on a warm floor for presentations. The mechanical design incorporated the use of multiple split system, high efficiency gas-fired furnaces and DX cooling to allow flexibility in operation and efficiency. The units utilize electronic programmable thermostats to optimize energy efficiency.

State Park State-wide Infrastructure and Facility Construction and Renovation - North Carolina

Date: Late 1990's

Construction Budget: \$4 million

The Division of Parks and Recreation was appropriated six million dollars by the 1989 Legislature to implement a State-wide improvement program at fifteen state park facilities. Woolpert Consultants was selected to provide architectural, engineering, landscape architectural, environmental, archaeological, and surveying services for a 4.4 million dollar portion of the capital improvement program, an unprecedented decision by the Parks and Recreation Division to procure one firm to serve as a "super consultant". Following are the projects completed under this contract.

Hanging Rock State Park: Projects include new 5,000-square-foot visitor's center, park wide water distribution and sanitary sewer collection system improvements, a new ranger residence, along with renovations to two existing ranger residences, four new rental cabins and storage buildings, renovations and additions to the park maintenance facility, renovations to the employee barracks, renovations to the boathouse, handicapped accessibility to the bathhouse, and picnic grill renovations.

The other park locations include:

- Jordan Lake State Recreation Area, Goose Creek State Park, Merchant's Mill Pond State Park, Jones Lake State Park, Eno River State Park, William B. Umstead State Park: These Projects provided design for a new water distribution system for the parks
- New River State Park: Project included an archaeological study, roadway, parking lot and picnic area improvements.
- Kerr Reservoir State Recreation Area: Project included a new ranger residence and toilet building.
- Fort Fisher Outdoors Recreation Area: Project included a new water distribution system within the park.
- Mt. Jefferson State Park: Assignment included a new water distribution system through the park.
- Mt. Mitchell State Park: The existing observation tower and restaurant were renovated.
- Boones Cave State Park: Project included new picnic shelters with stone fireplaces, water system improvements and drinking fountain installations.
- Carolina Beach State Park: Project included new ranger residences, site survey and utility adaptation.
- South Mountain State Park: Survey services provided for the location of mountain trails and two overlook platforms.

WOOLPERT'S PAST EXPERIENCE WITH FEDERAL, STATE AND LOCAL PARK SYSTEMS

Woolpert boasts an active recreation portfolio that not only includes expertise with many eastern State Departments of Natural Resources but also our team has experience with many local park agencies as well as many federal park agencies. This experience includes a number of different projects ranging from planning, architectural, renovation/retrofit, interpretive areas (both architectural and exterior), dam impoundments, utility infrastructure projects and general park develop within the realm of active and passive recreation facilities.

Federal Agencies

- National Park Service Open Ended Contract
- US Fish & Wildlife Open Ended Contract
- US Soil Conservation Service
- USGS

State Agencies

- West Virginia Department of Natural Resources
- Ohio Department of Natural Resources
- Indiana Department of Natural Resources
- Kentucky Department of Natural Resources
- Illinois Department of Natural Resources
- Alabama Department of Natural Resources
- North Carolina Department of Natural Resources

Local Agencies

- Over 50 Local Community Park Systems within West Virginia, Ohio, North Carolina, Illinois, Indiana and South Carolina

The following list outlines a number of clients that have many of the similar aspects of the Cacapon Resort State Park project. These projects are a mixture of different Federal, State and Local park agencies:

- Cumberland Falls Visitor Center renovation, exhibit area and public spaces for the Kentucky Department of Natural Resources.
- Triad Park includes multiple day use picnic, active play and hiking areas along with a regional amphitheater. This is being completed for the Forsyth and Guilford County Commissions in Kernersville, NC.
- Gulf Shores State Park renovation of cabins and the addition of an eighteen hole golf course for the Alabama Department of Natural Resources.
- Integrated Environmental Assessment / Cultural Landscape Report—Hot Springs National Park, Arkansas - integrated Environmental Assessment and Cultural Landscape Report
- Robert Allerton Park Circulation Master Plan—Monticello, Illinois

-
- Natural and Cultural Resource Analysis for Alternative Transportation Facilities—Lewis and Clark National Historical Park, Oregon -Biological Assessment.
 - Cumberland Falls State Park Visitor Center Renovation and Expansion, Corbin, KY
 - USFWS Southeast Region National Wildlife Refuge Facility Evaluation Study (region wide), Florida, Georgia, Alabama, North Carolina, South Carolina.
 - Lewis and Clark Bicentennial River Day-Use Area and Park-and-Ride Facility—Fort Clatsop National Memorial, Oregon.

The following pages represent additional details of Woolpert's similar project experience:



TOMLINSON RUN STATE PARK MASTER PLAN STUDY

New Manchester, West Virginia

Client

West Virginia Department of Commerce
Division of Natural Resources

Nature of Work

Woolpert prepared a master plan that encompassed the review of the existing Tomlinson Run State Park located in New Manchester, West Virginia. The park site is composed of 1,398 acres of property that is under the operation of the West Virginia Department of Natural Resources.

Contact

Steve Barr
304.558.2775 phone

Fee

\$75,000

Date

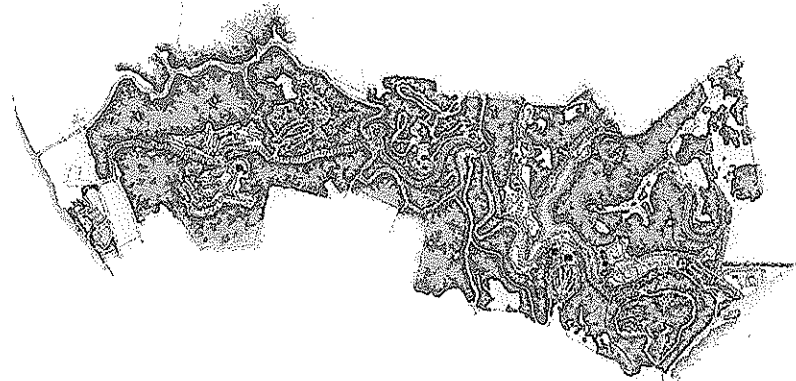
2002

Within the limits of the park are a number of different uses including 33 acres of lake and pond configurations that supports both small (non powered) boating and fishing, three day use areas that includes three (3) shelters and picnic areas, a miniature golf course, three (3) tennis courts, a small snack bar and boat house, an outdoor swimming pool with water slide, one (1) outdoor basketball court, outdoor volley ball courts, fifty four (54) structured camping sites with associated bath houses and a camp store, an extended camp facility that features ten (10) cabins, one (1) counselor's cabin and a kitchen/dining hall, a maintenance and office complex and an historic park feature. There is also a group camping area and a number of hiking trails through the central core of the park.

The existing park was reviewed from a number of perspectives including the expandability of the park along with what current uses could be expanded and/or improved by the addition of new use venues. The extent of the proposed park development was determined based upon a number of public and committee information gathering sessions that determined a defined program of uses. A final program list of facilities was determined and approved by both the WVDNR Staff and the Hancock County Commission.

Master Plan

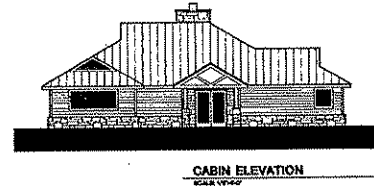
Woolpert's report outlined the process of the study and includes discussions on the potential property expansion, a marketing analysis of the park and the region, recommendations for the park development, determination of architectural elements including a detailed study of the proposed lodge, and estimate of probable cost for all of the improvements and a comparison of the different uses within the recommended master plan regarding costs for operation and maintenance and the determination of revenue projections for each of the proposed venues.



The list of program additions to the park included the following:

- A new Park Lodge facility

- A Conference Center
- A potential Spa and Exercise Facility
- Family Style Cabins
- An Outdoor Amphitheater
- Expansion of the existing Campground
- RV Camping
- An Indoor Hockey Rink
- An Indoor Aquatic Facility
- An Equestrian Facility with Barns and Trails
- A Mountain Bike Course
- An 18 Hole Golf Course



Lodge/Conference Center





PRELIMINARY STATE PARK DEVELOPMENT

Pendleton County, West Virginia

Client

West Virginia Department of Commerce, Division of Natural Resources

Nature of Work

The primary buildings that were planned for the proposed State Park have been designed to blend with the character and rural nature of the scenic Pendleton County area. Facilities are designed with simple elements of stone, wood siding, exposed wood structure, standing seam metal roof and glass. The materials used will be native to the Pendleton County area. The overall feel and proportion of each of the buildings is to be warm and inviting with a great deal of attention to introduction of human scale and natural light. The design is to be planned to be sustainable with the implementation of natural and recycled elements.

Three of the main park facilities have been planned to define the scale and overall general look for the park architectural style. These three buildings include the Lodge/Conference Center, the Golf Clubhouse and a single Cabin design that would be recommended for use in the park. Detailed discussions for each of the facilities are as follows:

Lodge/Conference Center (79,800 Sq. Ft.)

The Lodge/Conference Center was designed with simple massing and well-proportioned articulation in mind. The layout of the building yields the appearance of a cluster of buildings which allows the overall building mass to fit the site but not be overwhelming in scale and proportion. The design concept breaks the overall building down into several smaller components more related to human scale.

The orientation of the building footprint was done to take advantage of the passive solar opportunities and views. The placement of window and clerestory glass takes advantage of extraordinary views and natural light. Interior spaces will be open and airy with exposed wooden beams. The floors and interior finishes are seen to be a combination of wood, stone and concrete with carpet used in some of the private meeting spaces and within the individual room areas. Three fireplaces are provided in the main gathering areas to add charm and scale throughout the year. Multiple support spaces including conference spaces, a restaurant and an indoor pool/spa are included in the building along with 72 patron rooms.

Contact

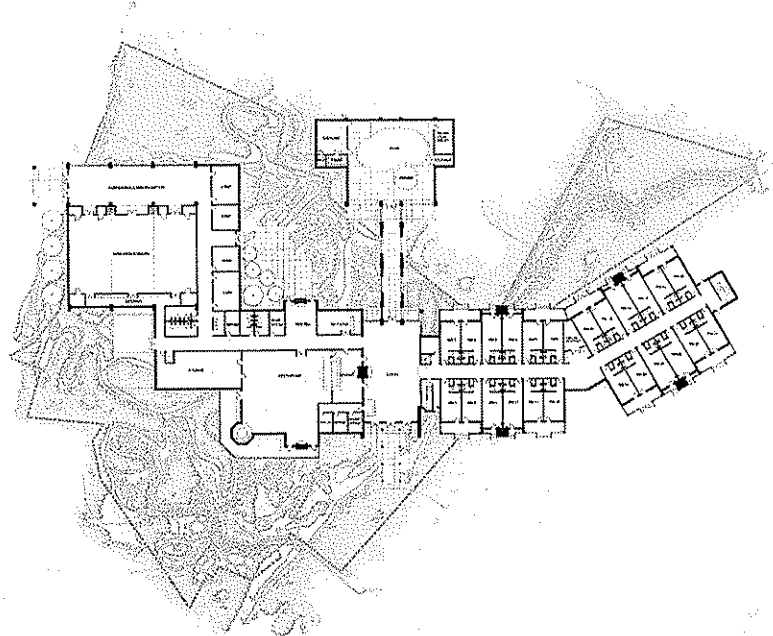
Steve Barr
304.558.2775 phone

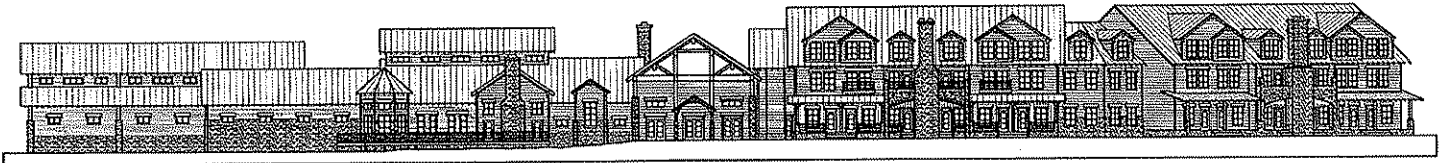
Fee

\$250,000

Date

2003



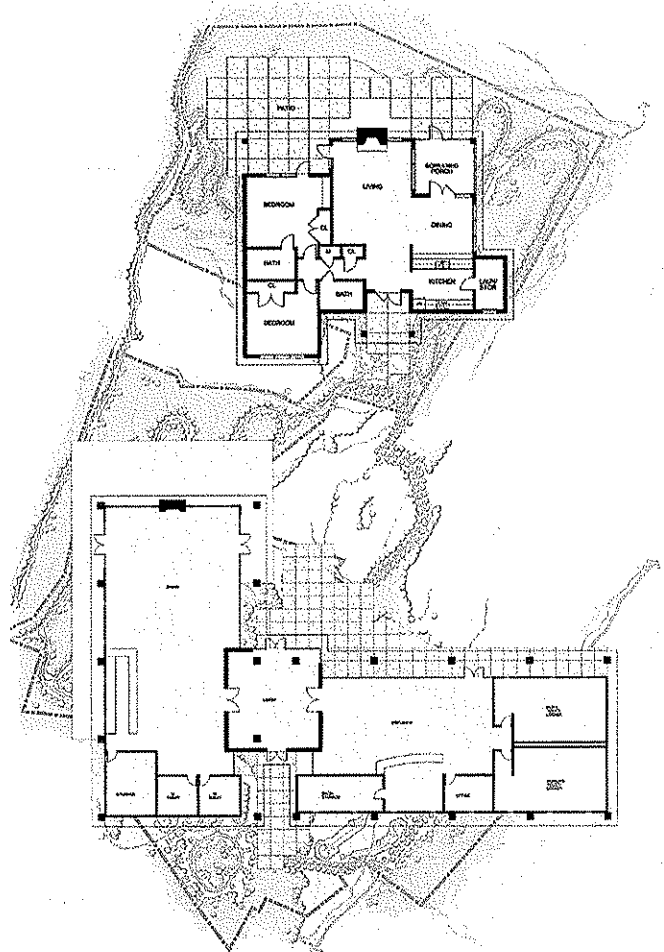


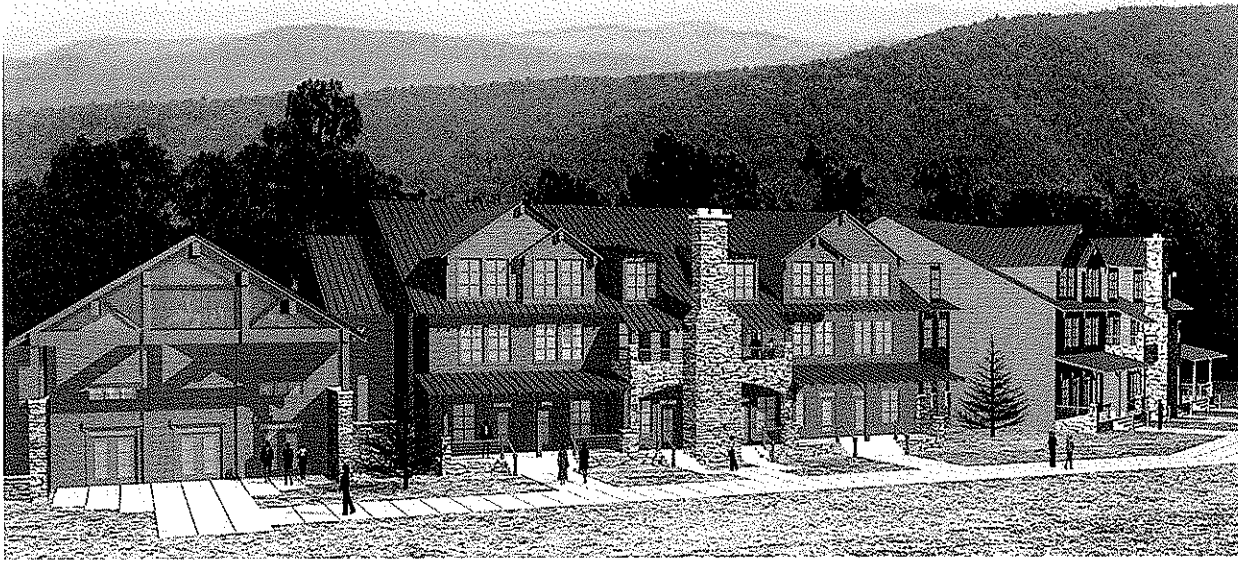
Golf Pro-Shop (8,635 sq. ft.)

The approach to form, massing, materials, and design of the golf pro-shop is much like the main lodge/conference center. The configuration of the building could almost be seen as a small grouping of barns which would hold to the character of the buildings that are present within the area. Conceptually the building is divided between golf and eating functions with entries addressing the parking lot on one side and the golf course on the other. The primary views for both sections are directed to the golf course. It is the intent of the facility design to create the feeling that although you are inside, you are still a part of the golf course and the overall park atmosphere. The existing site topography will permit the storage and distribution of the golf carts under the proposed building.

Cabin (1,000-1,500 sq. ft.)

It is perceived that there will be several types of cabins used in the park. These cabins can run from the upscale two-bedroom type to one room cabins with or without a loft. The variety of cabin types can therefore appeal to different types of families for differing type of site locations, experiences, and lengths of stay. Materials will be stone, wood siding and some degree of exposed wood depending on the particular unit type. The roof will be standing seam metal construction and the interior spaces will include bedrooms, baths, a kitchen and a combined living and dining area. There also will be a screened in porch area and an attached laundry/storage area for the cabin.





Additional Buildings

There are a number of additional buildings that are anticipated for the development of the park. While a detailed study for each of these structures has not been completed, the materials and general look for the facility will be in conjunction with the appearance that is offered for the three main buildings that have been planned for the park. The buildings that are included to complete the overall building pallet for the park(s) are:

- Chalets (4,800 sq. ft. per building)
- Golf Villas (900-1,500 sq. ft.)
- Maintenance Building (12,000 sq. ft.)
- Rangers Office (1,500 sq. ft.)
- Check-in Security Kiosks (350 sq. ft.)
- Bath House/Toilet Buildings (1,000-2,000 sq. ft.)
- Conference Retreat (5,000 to 6,000 sq. ft.)
- Equestrian Barn (9,000 sq. ft.)



NORTH CAROLINA ARBORETUM GATEWAY CENTER Asheville, North Carolina

Client

North Carolina Arboretum

Nature of Work

Woolpert was selected by The North Carolina Arboretum (TNCA) for programming and design of the proposed, new Gateway Center. Woolpert's services include programming and design for Phases 1 and 2, definition of Phase 1, and full services for implementation of Phase 1 development.

Completion of the proposed Greenhouse Exhibition & Gateway Center will mark a new day for the North Carolina Arboretum. The proposed facility will serve as the primary visitor portal for the entire 462-acre complex. It will define a new vocabulary and present a new image for the institution through the organization of forms, materials, systems, and spatial experiences. In many respects the facility must represent a cohesive dichotomy.

- It will be a signature building but the facility will be understated in deference to the gardens and mountain surroundings.
- The architecture and the landscape architecture of the building will be married into a single expression of unity throughout the project.
- The exterior aesthetic and performance will be as critical as the interior.
- The facility will draw order and organization from the site while simultaneously projecting order and a sense of progression.
- The success of the project as a shelter and vessel for activity will be judged equally on its tangible and intangible characteristics and qualities.

When the project was originally conceived in the Arboretum's master plan, it was to be a Greenhouse Exhibition building. Master plans are fluid documents, and as the North Carolina Arboretum has grown in its mission and prestige as an institution, the concept for this project has grown as well.

The Greenhouse Exhibition/Gateway Center project will be completed in two phases. These phases will encompass a number of functions for the growing of the Arboretum campus. The first phase will maximize the functionality of its space, accommodating as many program elements as practical. The

Contact

Matt Jarvis, Project Manager
The North Carolina Arboretum
100 Frederick Law Olmsted Way
Asheville, North Carolina 28805
828.665.2492
828.665.3574 FAX

Date

March 2003 to current

Construction Cost

\$17 million



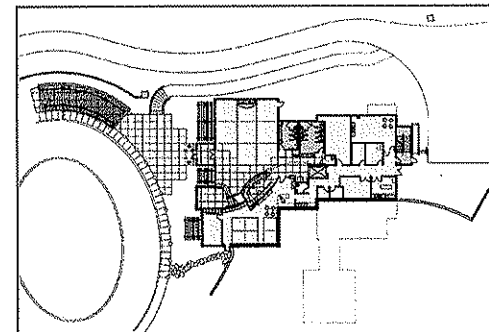
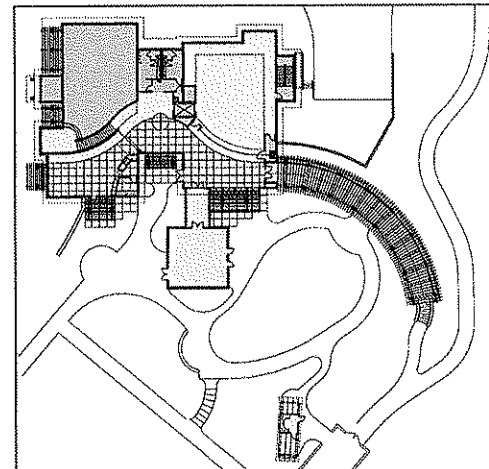
expression and systems of the building will stand-alone as if the second phase would never be built, and yet the first phase must be designed with the final build-out anticipated. The project's scope has changed in the years between the Arboretum master plan and the current plans, therefore we understand that we must anticipate how the program needs for the second phase might change between today and the day the project is ultimately funded. This uncertainty poses a definite challenge, but one that can be overcome and dealt with effectively – provided its implications are fully understood at the outset of the project.

From a tangible perspective, the project will likely include some or all of the following functions:

- Demonstration Greenhouse – indoor horticultural facility providing a year-round attraction
- Small Conservatory for year round indoor education
- Bonsai Exhibition Area
- Gift Shop and Foodservice/Concession Facilities
- Auditorium space for crowds larger than in the existing 180 seat auditorium in the Visitors Education Center
- Visitors Admissions/Ticketing
- Individual and Group Orientation Spaces
- Exhibit Hall Space
- Administrative and Support Spaces

In addition, the facility will embody less tangible qualities and characteristics that still combine to make the total arboretum function as a single entity:

- The design will need to work with the contours of the land, the qualities of the natural environment, and the characteristics of the seasons specific to the site.
- The approach and entry to the new facility will be an extension to Fredrick Law Olmsted Way as an entry to the institution. Movement from the parking lot to the Gateway Center will have a natural and organic quality like the entry road, but with the same inherent sense of progression and slowly revealed drama that Olmsted characteristically provided in his approach systems.
- The Gateway Center will express itself as the initial element in a system of progression through the Arboretum. Many key elements of this system are already in place – the Visitors Education Center, the



Formal Gardens, the trail system. The new facility will impose a new order of progression upon all these elements without diminishing the experience of the individual elements and their relationships as they currently exist.



SALUDA SHOALS REGIONAL PARK INTERPRETIVE CENTER AND CONFERENCE CENTER

Columbia, South Carolina

Client

Irmo Chapin Recreation Commission

Nature of Work

This park is situated on approximately 270 acres located 1½ miles downstream from the Lake Murray Dam. The southern border of the site parallels the Saluda River. The primary access to the park is Bush River Road. The site is a mixture of open utility right-of-ways, wetland areas, and wooded areas. A number of different ecosystems are present throughout the site, offering a variety of wildlife and plant life opportunities.

Rawls Creek splits the western portion of the site vertically from Bush River Road to the Saluda River. The perimeter of the park is composed of residential subdivisions, a church, undeveloped privately held properties, industry, and the Saluda River.

The planning process for this regional park included a number of critical review sessions and public meetings that were well orchestrated by the Irmo Chapin Recreation Commission and well attended by the citizens in the area. The total process happened over a period of four months with the final master plan report presented on October 30, 1996. The final master plan was broken down into four different phases, with elements including a park meeting facility, picnic areas, an environmental center, volleyball courts, a tennis court complex, and much more.

Complete engineering services were provided also. This includes structural, mechanical, plumbing, fire protection, and electrical. The structural design was driven by the form and layout of the architectural design. The mechanical systems were designed to maximize energy efficiency and to provide the flexibility necessary to provide a high level of comfort within the unique spaces. Electrical systems provided efficient, decorative lighting and all technology requirements to properly serve the users and public. A significant amount of site lighting for parking, trails and support spaces was also provided.

Contact

Dan Wells
Irmo Chapin Recreation Commission
200 Leisure Lane
Columbia, South Carolina 29210
803.772.1228

Date

December 1997 to July 2002

Construction Cost

\$6,500,000



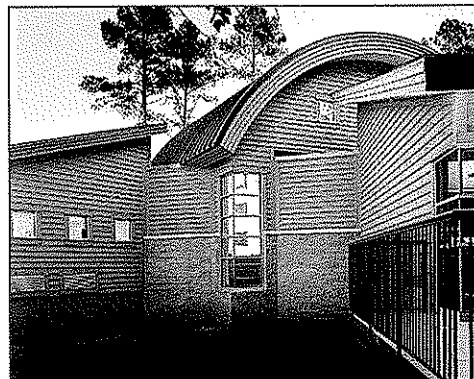
Architectural Identity

One of the primary goals of the design of the planned facilities is to establish an architectural style that is both appropriate for the region and park design. The chosen approach was to utilize similar architectural elements and materials to link each building to the other. For example, each facility shares a curved roof element at the main entrance to the building. This allows the user to better function within a familiar context. Predominant windows are articulated with a mosaic mullion design, which mimics the irregularity found in nature. A common material palette was selected to further unify the facilities. The stone, wood, and glass elements are contrasted by exposed red steel that accents the elevations and furthers the notion of a building turned inside-out in order to invite the outside in. These and other design considerations help create a cohesive architectural vocabulary.

Environmental Center

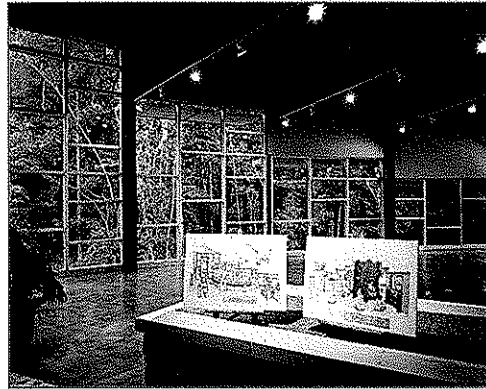
The design of the Environmental Center was shaped by the desire to create a sustainable facility that serves as an example of the subject it represents. The building is sited on a knoll that overlooks a creek that feeds the Saluda River. A tree survey of the site was conducted to identify large specimens, and the building was sited around those trees. The curved “spine” of the building is derived from the existing topography, and the spine masonry wall element is continuous inside and out. Glazing is limited on the east and west facades, and solar shades supplement a large overhang for shading on the south elevation. The main entrance space has a curved roof and is rotated to present a full height glass corner. Corner windows are another architectural element that is consistent throughout each facility.

The facility was designed to a capacity of three classes, or three groups of about 30 students each. Restrooms that serve both interior and exterior are located along the main entrance path, to allow groups of students to organize prior to entry. Once inside, the curved corridor takes you past some stationary exhibits toward a Harvard-style auditorium that seats 99 for an orientation and/or a presentation on the area. The group is then divided into classes, and each class rotates through a group of three spaces. The first group visits the two classrooms along the west elevation, for an interactive presentation of the surrounding environment. The classrooms open up to a large



learning patio overlooking the bank down to the creek, providing an outdoor classroom to further the experience. The second group moves outdoors to a series of paths that link to the trail network of the park. Here students learn first hand about the wildlife and vegetation of the region. The third group heads down the hall to the Display Area, which is the main element of the program.

This museum-like space offers a controlled interior environment for ever-changing exhibits about the region. Students meander through custom designed exhibits, and pass by a large tank in the wall with fish found in the Saluda River. This space is primarily dark, but the radial wall opens up with a large window mosaic that provides a captured view down Rawl's Creek to the Saluda River. Once the groups have rotated through the center, the classes then exit back to the parking lot, or pass by the gift shop along the way out. The Saluda Shoals Environmental Center is a facility that serves as an example of functional and sustainable design.



Meeting Facility

Another component of the park program was a facility that could house conferences and receptions. There is no building of this type in the area, so the need for this facility was evident. It also serves as a revenue generator for the park. In keeping with the park identity, the main entrance is a large glass mosaic beneath a curved roof. The material palette is also consistent. An exposed steel canopy leans over the cul-de-sac to welcome visitors.

The entrance lobby is a large open space with wood ceilings and a large stone fireplace. The meeting area is flexible, and can seat 500 for lecture and 300 for banquet when used as one large space. Operable walls allow the space to be subdivided into up to 5 meeting rooms varying in size. Each meeting space opens onto an outdoor patio to provide a variety of serving possibilities. Catering is simplified with two kitchens, one located on each end to allow service to multiple meeting spaces without increasing main hallway traffic. A gated service area with loading for catering is subdued by stepping retaining walls ending in columns. The meeting facility is an excellent example of crafting functional interior space, while connecting the interior to the exterior.





CHESAPEAKE MARSHES NATIONAL WILDLIFE REFUGE COMPLEX, BLACKWATER UNIT VISITOR CENTER Cambridge, Maryland

Client

US Fish and Wildlife Service Region 5

Nature of Work

Woolpert worked with the US Fish and Wildlife Service for the renovation and expansion of the existing Visitor Center at the Backwater Refuge Center located near Cambridge Maryland, on the Eastern Shore of the Chesapeake Bay.

The project included renovation of the existing 5,800 square foot Visitor Center and the design of a 4,300 square foot, two-floor Administrative Offices addition. The scope of work included replacement of the existing Visitor Center lighting and mechanical systems as well as renovation for ADA compliance.

Fee

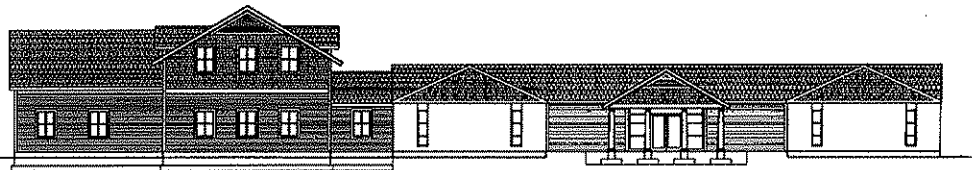
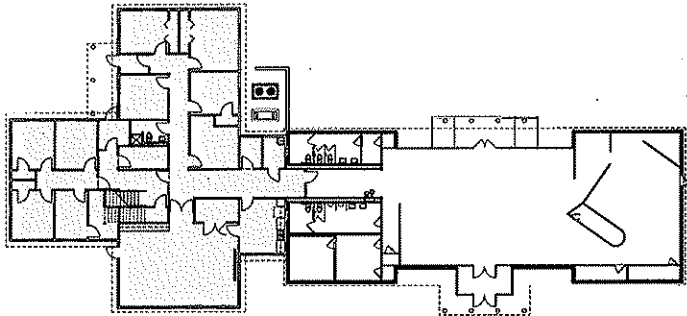
\$83,385

Date

June 2002 to December 2002

Construction Cost

\$632,000





CELERY BOG NATURE CENTER

West Lafayette, Indiana

Client

West Lafayette IN Parks & Recreation

Nature of Work

The nature center provides a place to educate people about the bog, specifically wetlands, watershed management, and the value of each. It also serves as a place for displays and research projects. The facility was constructed in phases as funding permitted, with the first phase consisting of the caretaker's residence, maintenance garage, mechanical room sized for the total future facility, toilet rooms accessed from outside or inside, and a large unobstructed open area for educational activities. A plaza outside gathers visitors where they may head to the trail, amphitheater formed naturally in the hillside, or interior multipurpose area. Viewed from the road, one sees a wall designed to buffer the facility from buses and provide a screen for the facility where only hints of the forms beyond are visible.

It seemed appropriate for the building to be experienced as an organic part of the surroundings. It grows out of its surroundings, yet at the same time remains distinctly different from them. In contrast to the mechanical nature of a linear building, complex natural forms, absent of traditional ornament, are more responsive to the nature of the site to be interpreted. While the structural framing was kept linear, the roof forms have gentle waves reflecting the topography of the site and the movement of the water. The walls on the bog side of the facility are not truly vertical and the exterior materials reflect the colors of the site. Inside the floors are of polished concrete and the structure is exposed. The use of more innovative forms helps to support the change in thinking that occurs as visitors transition to another place and learn about the bog.

Electrical design integrated the use of natural daylighting and solar exterior lighting fixtures. The interior lighting scheme incorporated a flexible system of high efficiency track lighting that can be directed for use in displays, as well as general overall lighting. Multiple switching allows the user to create areas that can be set apart for various functions. Electric radiant floor heat in one area allows for school age groups to sit on a warm floor for presentations.

The mechanical design incorporated the use of multiple split system, high efficiency gas-fired furnaces, and DX cooling to allow flexibility in operation and efficiency. The units use electronic programmable thermostats to optimize energy efficiency.

Contact

Joe Payne

City of West Lafayette IN

609 West Navajo Street

West Lafayette, Indiana 47906

765.775.5110

765.775.5248 Fax

Fee

\$57,135

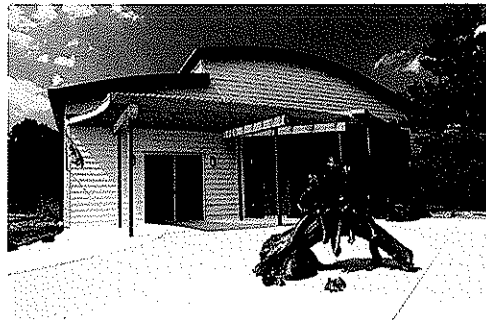
Date

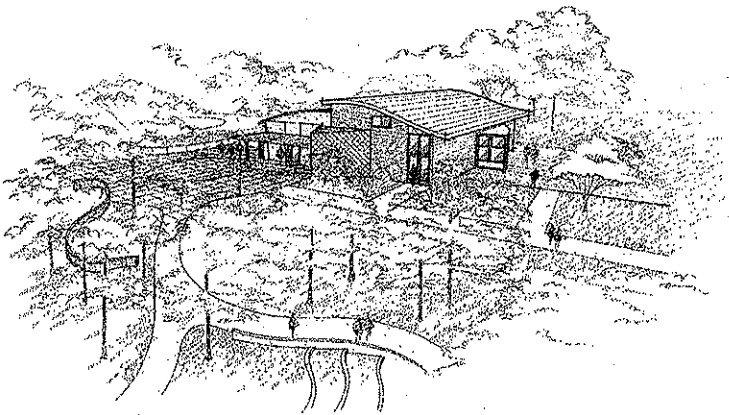
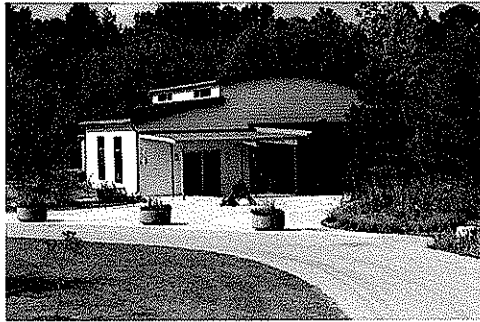
May 1998 to April 1999

Construction Cost

Phase I—\$500,000

Phase II—\$500,000

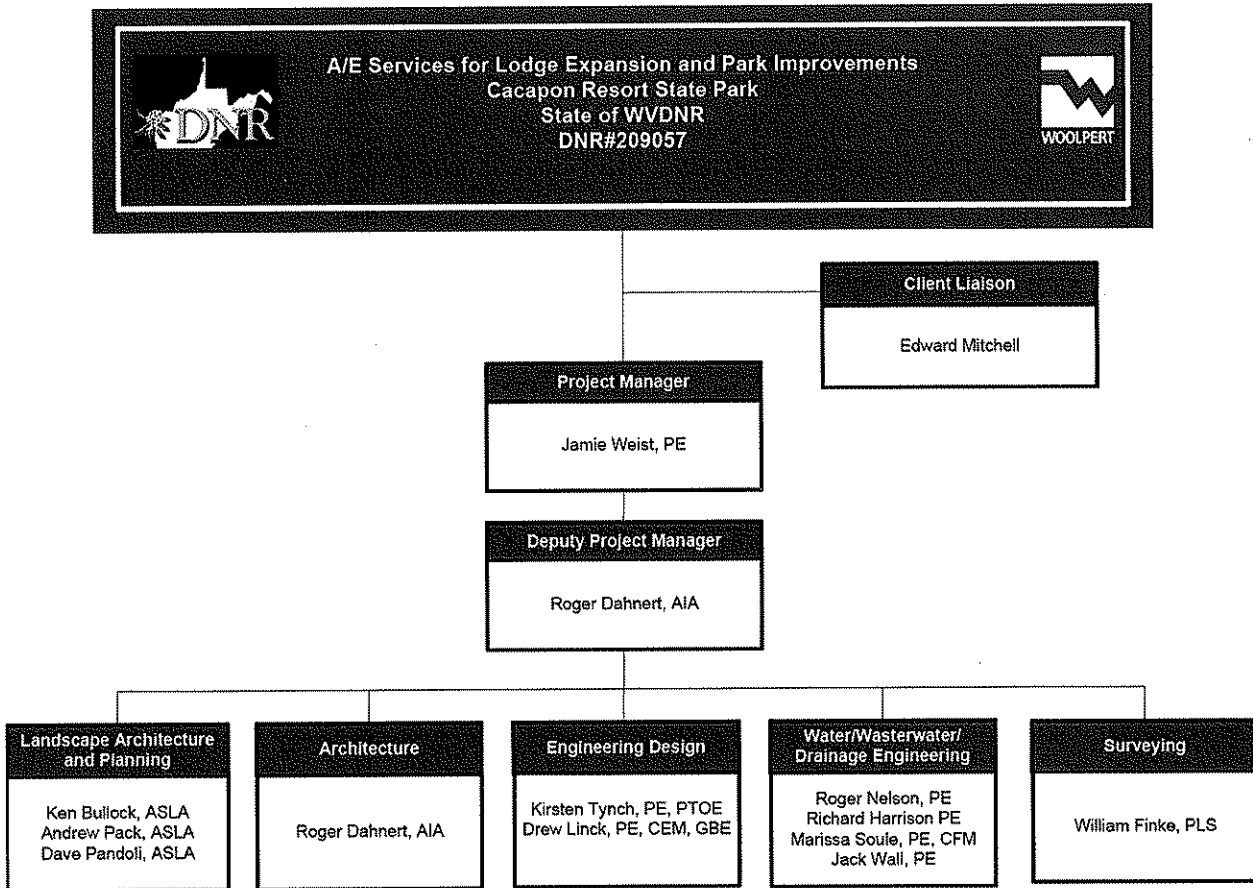






SECTION 3: STAFF EXPERIENCE

Woolpert’s greatest strength is in our project management and production personnel—highly trained professionals who work efficiently as a team on all aspects of a project. Our methods use the talents and creative energy of proven performers who have been involved in every aspect of engineering and design projects for many years. We have assembled a team of professionals who, on both the national and local levels, demonstrate the highest degree of expertise available. The figure below shows Woolpert’s proposed organization chart for this project. After the chart, we have included the staff resumes.





JAMIE WEIST, PE

Associate

Project Manager, Water Management

Mr. Weist has extensive experience working with a variety of clients in public works such as the City of Franklin and the United States Navy Public Works Center in Norfolk, Virginia. He has vast experience in the planning and design of civil, environmental, and structural engineering projects. Additional experience includes the planning, design, and inspection of new and existing roadways, storm drainage design and management, new and existing water lines and sanitary sewer mains, fuel storage facilities, as well as, Spill Prevention Control and Countermeasure Plans (SPCC), parking studies, structural design/inspection of existing buildings, and demolition of structures.

As Group Manager of the Hampton Roads Water Management Division, Mr. Weist is responsible for overseeing the firm's water resources projects and managing the firm's water management staff in Virginia and surrounding regions. His previous experience as the City of Franklin Director of Public Works had him managing street maintenance, storm systems, engineering, and surveying projects as well as the overall operations of the City.

Project Experience

Water System Improvements, Town of Pineville—Pineville, West Virginia. Woolpert completed plans, specifications and permitting for eight miles of water line extensions, new customer connections, one booster station and one 150,000 gallon storage tank. Work also included rehabilitation of sand filters, chemical feed equipment, chemical contact tank and a clearwell at the existing water treatment plant. Filter replacement and presedimentation basins at the existing water treatment plant were also included in the project.

Wastewater Treatment Plant, Berkeley County Public Service Sewer District—Berkeley County, West Virginia. Project Manager The project consists of the design and construction management of a 1.1 mgd sewage treatment facility; 9 sewage pump stations; 28 miles of gravity sewer main; and 7 miles of sewage force main. As part of a regional plan, the project encompasses several square miles of service area and provides a centralized sewer system for existing residential and commercial customers currently served by septic systems. It also allows for additional customers as the area continues to experience rapid growth.

Fountain PSD-Preliminary Report, Fountain PSD—West Virginia. Plans, specifications and permitting for the design and construction of a new deep well raw water source, a new treatment plant, a 150,000 and a 50,000 gallon water storage tank, and approximately 68,600 linear feet of water distribution lines serving approximately 200 users. Supervised complete survey and evaluation of the well

Years of Experience

17 years

Education

Bachelor of Science, Civil Engineering,
Virginia Military Institute

Master of Engineering, Civil Engineering, Old
Dominion University

Professional Registration

Professional Engineer, West Virginia, 17805

Professional Engineer, Virginia, 0402 028891

Professional Engineer, North Carolina,
030729

Professional Engineer, Delaware, 14690

Professional Membership

American Public Works Association (APWA) -
Board of Directors, 1st Vice President
(member # 152677)

American Society of Civil Engineers

American Water Works Association

Certified DCR Erosion & Sediment Control
Program Administrator

Hampton Roads Public Works Academy -
Board of Directors

National Society of Professional Engineers

YMCA - Board of Directors

fields and design services for the selected well site, treatment plant, storage tank and distribution system. Supervised construction engineering, administration and resident inspection.

Flow Monitoring and Rain Gauge Service for Sanitary Sewer System Evaluation, Department of Public Utilities—Virginia Beach, Virginia. Woolpert provided flow monitoring and rain gauge services for the City of Virginia Beach to meet the required compliance schedule of the State Issued Regional Consent Order to meet the long term goal of controlling sanitary sewer overflows (SSO) from the sanitary sewer system.

Water System GIS, City of Suffolk Department of Utilities—Suffolk, Virginia. Project Director working with the City of Suffolk Department of Utilities to develop a water distribution system layer on the GIS. The work also includes preparing GASB 34 related documents, water distribution system modeling and developing a CMMS for the Utilities Department. Project activities include data collection, GPS survey, design and development of the data model, system maintenance, training, development of a system inventory and value that is GASB-34 compliant, business practice development and program customization.

Raleigh Square Neighborhood Water and Sewer Rehabilitation/Replacement, James City Service Authority VA—Williamsburg, Virginia. Project Director responsible for providing engineering services on an "as needed" basis by James City County and James City Service Authority in 2004. These services were on an annual contract to provide basic Civil Engineering services for both agencies. James City County is a local government located near Williamsburg, Virginia and the James City Service Authority provides water and sewer transmission services within the County. Woolpert provided Design Engineering Services including reviewing existing system records and conducting interviews. Included was the conceptual layout and sizing of the water distribution system and improvements to the existing sanitary sewer system using trenchless technology. Performed surveying and mapping. Prepared construction documents and specifications. Developed a construction sequence plan. Developed a traffic control plan for the project, maintaining access for the residences and public safety vehicles. Provided construction management services throughout the duration of the contract.



EDWARD MITCHELL

Client Liaison

Mr. Mitchell has been with Woolpert for over ten years. His prior experience has been with two (2) major industrial corporations located in the Kanawha Valley, Nineteen (19) years service with Union Carbide Corporations and one (1) year service with the McJunkin Corporation. Mr. Mitchell, has had extensive exposure to all facets of the Construction Industry with hands on experience, working the Inspection, Planning, Cost and Management ends of projects and from a Professional aspect.

Project Experience

Point Pleasant River Front Park, City of Point Pleasant—Point Pleasant, West Virginia. Amenities for Point Pleasant River Front Park include a 900-lineal-foot esplanade along the Ohio River, 900-seat amphitheater, one-mile walking/bicycle trail, and comfort station. The \$4.8-million project was designed to recreate the Battle of Point Pleasant, recognized by Congress as the first battle of the Revolutionary War. The riverfront development was seen as an important tool for the city in its effort to attract visitors to the area and stimulate downtown economic growth.

Water System Improvements, Town of Pineville—Pineville, West Virginia. Woolpert completed plans, specifications and permitting for eight miles of water line extensions, new customer connections, one booster station and one 150,000 gallon storage tank. Work also included rehabilitation of sand filters, chemical feed equipment, chemical contact tank and a clearwell at the existing water treatment plant. Filter replacement and presedimentation basins at the existing water treatment plant were also included in the project.

Wastewater Treatment Plant, Berkeley County Public Service Sewer District—Berkeley County, West Virginia. The project consists of the design and construction management of a 1.1 mgd sewage treatment facility; 9 sewage pump stations; 28 miles of gravity sewer main; and 7 miles of sewage force main. As part of a regional plan, the project encompasses several square miles of service area and provides a centralized sewer system for existing residential and commercial customers currently served by septic systems. It also allows for additional customers as the area continues to experience rapid growth.

Wastewater System Improvements—City of Mullens, West Virginia. The project included plans and specifications for trenchless rehabilitation of approximately 22,000 LF of deteriorated eight-, 10-, 15- and 18-inch sanitary sewer. Also included as a part of the system rehabilitation was repair of approximately 80 manholes, reinstatement of service laterals, cleaning and internal inspection of existing lines and miscellaneous point repairs. Approximately 7,000 LF of eight-, 10-, 15- and 18-inch gravity sewer was replaced by conventional open trench techniques. Improvements at the City's wastewater treatment plant included constructing a new 333,000 GPD sequencing batch reactor unit, sludge belt press, primary screening facilities, laboratory building and control/maintenance building.

Years of Experience

35 years

Education

Bachelor of Science Business Administration

Continuing Education

Union Carbide Corp. Craft Training Program
Custom Welding School (Certified Welder)

Inspection classes taken for A.S.M.E. & State
Qualifications

Working knowledge of air and water testing
procedures.

Water System Improvements—City of White Sulphur Springs, West Virginia. Plans, specifications and construction administration for this project to replace sections of the City's water distribution system and upgrade system flows for fire protection. Project included over two-miles of water distribution lines, 15 fire hydrants, and replacing customer service connections and other appurtenances.

Mt. Hope Sewer System Improvements—Fayette County, West Virginia. The project included plans for approximately 15,500 LF of eight-, 10-, and 12-inch gravity sewer pipe and 100 manholes, reinstating service laterals, cleaning and internal inspection of existing lines and miscellaneous point repairs to alleviate inflow/infiltration problems for the City of Mount Hope.

Sewer Project—City of Glenville, West Virginia. This project consisted of planning, engineering, design, construction administration and resident inspection for a sewer system rehabilitation project. Work included replacing two miles of sewer main and rehabilitating 12 pump stations. Woolpert provided a full range of services from the conceptual design stage through start-up for this fast-moving project.

Kopperston Public Service District, Water System Improvements—Kopperston, West Virginia. Performed construction observation/administration for the water system improvements. This project was directly related to the upgrade/expansion of the Oceana Water Treatment Facility. Woolpert's responsibility on this project consisted of design and plan preparation for approximately 60,000 LF of eight-inch and six-inch water distribution lines. This project also included a new 200,000 gallon water storage tank, booster pump stations, and a telemetry system. This project services approximately 426 families who previously had no approved water supply.

Woolpert provided a full range of engineering services, including surveys, mapping, design, construction plans, and specifications/bidding documents. Woolpert also provided construction engineering, administration and resident inspection during the course of construction

Sewer System Improvements and Wastewater Treatment Plant—Town of Fayetteville, West Virginia. Performed construction observation/administration for sewer system and wastewater treatment improvements. This project involved the design, plan preparation, and development of specifications/bid documents associated with installing approximately 34,000 LF of both new and rehabilitated interceptor and six- and eight-inch sewage collection lines. Some of the service area previously had no sewer service and suffered from raw sewage being discharged into the creeks and rivers. Existing sanitary sewers in the service area were also in need of sewer line rehabilitation. Also included in this "fast-track" sewer design project was the design of a 1.2 MGD sequencing batch reactor wastewater treatment plant to maintain EPA compliance to accept additional sanitary sewage flow. Woolpert worked closely with the funding agencies to secure additional funds as needed.

Union Carbide Corporation Pipe Fabrication Shop—West Virginia. Assisted in helping train Union Carbide Corporation personnel in the fabrication, specification and procedures of pipe and pressure vessel construction. Assisted different craft personnel in all areas of the construction industry.

Cost and Planning Experience

Prepared preliminary and definitive estimates, schedules and budget analysis on major capital projects and smaller working budget projects. Developed detailed schedules, planning construction activities (i.e., concrete, steel erection, piping, etc.). Issued periodic reports that monitor costs, productivity, and schedules to project management.

Inspection Experience

Inspected Union Carbide Corporation equipment made at outside vendor location. Extensive knowledge of A.S.M.E. code, State and Federal welding guideline and procedures. Visually inspected welding procedures, specification and fabrication practices.



KENNETH BULLOCK, ASLA

Vice President

Senior Landscape Architect

Mr. Bullock serves as project manager and senior landscape architect for Woolpert's Carolinas and West Virginia region. Throughout his career, Mr. Bullock has been responsible for projects involving university master planning, historic preservation, land design, land development design, urban/regional planning, Americans with Disabilities Act (ADA) compliance plans, and streetscapes. Mr. Bullock's experience encompasses project design/implementation, construction administration, and specification and document preparation.

Project Experience

Saluda Shoals Regional Park, Irmo Chapin Recreation Commission—Columbia, South Carolina. Project Manager for a river front with courses, water sports, and passive recreation. The planning process for this regional park included a number of critical review sessions and public meetings that were well orchestrated by the Irmo Chapin Recreation Commission and well attended by the citizens in the area. The final master plan was broken down into four different phases, with elements including a park meeting facility, picnic areas, an environmental center, volleyball courts, a tennis court complex, and much more.

Saluda Shoals Phase II, Irmo Chapin Recreation Commission—Columbia, South Carolina. The planning process for this regional park included a number of critical review sessions and public meetings that were well orchestrated by the Irmo Chapin Recreation Commission and well attended by the citizens in the area. The total process happened over a period of four months with the final master plan report presented on October 30, 1996.

The final master plan was broken down into four different phases, with elements including a park meeting facility, picnic areas, an environmental center, volleyball courts, a tennis court complex, and much more.

Cacapon State Park; Well III, West Virginia Division of Natural Resources—West Virginia. Project Manager for a park master plan update for the state of West Virginia park system. Included an expansion of the main lodge, a new camp ground, an outdoor pool facility, a nine-hole golf course expansion, and a golf clubhouse expansion. Woolpert was selected to design of a new water treatment plant, three groundwater wells, 250,000-gallon storage tank, and a replacement of 18,000 LF of water distribution system piping at this State Park facility.

Lodge Expansion and Park Improvements At Cacapon Resort State Park
State of WV, Division of Natural Resources, DNR 209057
December 9, 2008

Years of Experience

33 years

Education

Bachelor of Science, Landscape Architecture,
West Virginia University

Professional Registration

Registered Landscape Architect, North Carolina, 658, Registered Landscape Architect, South Carolina, 497, Registered Landscape Architect, Virginia, 375, Registered Landscape Architect, West Virginia, 165, Registered Landscape Architect, Alabama, 534, Registered Landscape Architect, Ohio, 1080, Registered Landscape Architect, Maryland, Pending, Registered Landscape Architect, Georgia, Pending

Presentations and Publications

"The Downtown Mooresfield Streetscape" The West Virginia Architects Magazine 1986

"Cedar Lakes Garden Seminar" West Virginia State Extension Services 1988

Park Master Planning Workshop NC State University Recreation Resources Services--Western Region 1993

Park Planning and Citizen Board Member North Carolina Recreation and park Society Annual Conference 1994

Park Master Planning Workshop NC State University Recreation Resources Services--Central Region 1994

Park Planning and Citizen Board Member Southern Region National Parks and Recreation Association 1996

Awards

Triad Park Merit Award, 1995

Freedom Park Award of Merit for Lake Design, 1991

Honor Award for Charlestown Streetscape Design, 1988

Recipient of West Virginia State Garden Association Award, 1974

Bird Building/McKee Classroom Renovation, Western Carolina University—Cullowhee, North Carolina. The Bird Building renovation project consisted of converting an existing 14,000-square-foot administrative support facility building for reuse as the Campus Health Clinic and the Campus Psychology Clinic. The McKee classroom renovation consisted of redesigning and updating the existing 50,000-square-foot classroom and office facility for designing new laboratories.

North Carolina Arboretum Gateway Center, North Carolina Arboretum—Asheville, North Carolina. Team Member responsible for assisting with the landscape architecture portion of the project. The \$17 million project, constructed in phases, included planning and design for the ultimate build-out, and full architecture and engineering services for the first phase of development. The design is sensitive to the site context of the existing arboretum gardens. The project employs sustainable design principles and will seek LEED™ Silver certification.

Martha Rivers Park—Gastonia, North Carolina. Project Manager and Senior Landscape Architect responsible for site analysis and master planning for a 58-acre park as well as the development of the \$3.2 million first phase construction of a 35-acre "first class" active recreation complex. Award winning project. The development plan included the installation of a little league ballfield field complex, with a girls' softball field. Three youth tournament soccer fields were also included in the design. These facilities were supported with a practice field for both soccer goals and batting and pitching areas. The project also included a 20,000 to 25,000-square-foot community center. Adjacent to the community center was the passive day use area with two small picnic shelters and a large picnic shelter equipped with restrooms. This area was accompanied with a playground, volleyball courts and horseshoe pits. A corporate picnic shelter was also provided in the park for rental use only. This facility was supported with amenities such as a playground, volleyball court, and horseshoe pits. The master plan contained paved and soft surface trails, which meandered through the site and wooded areas of the site.

Comprehensive Parks and Recreation Master Plan—Greensboro, North Carolina. Project Manager responsible for assisting with analyzing the existing programs and facilities offered by the City, which include 3,160 acres of park land, six regional parks, 12 recreation centers, nine swimming pools, and four golf courses. Work included analyzing the existing programs and facilities offered by the City, which included 3,160-acres of park land, six regional parks, 12 recreation centers, nine swimming pools, and four golf courses. **Award Winning Project**

Fairmont Industrial Park—Fairmont, West Virginia. Designer and project manager for the lake and park areas of a highly visible industrial park.

Town Square Mall/Office Complex—Parkersburg, West Virginia. Landscape architect for site development and landscape plans.

Cross Lanes Industrial Park—Cross Lanes, West Virginia. Project manager responsible for the road layout and site geometry.

Grantsville Industrial Park—Grantsville, West Virginia. Project manager responsible for the site plan, grading, utilities, and road layout.



ANDREW PACK, ASLA

Senior Associate

Landscape Architect

Mr. Pack is a senior project director for parks and recreation with Woolpert. His experiences range from master planning, site analysis, site design and construction documents of park and recreational facilities, golf course communities, and waterfront master planning.

Project Experience

Tomlinson Run State Park—New Manchester, West Virginia. Project landscape architect for the park master plan update to an existing 1400-acre state park. New improvements in the master plan included a lodge facility, 18-hole golf course, equestrian center and trails, cabin & campground area, Amphitheater and conference center, pool and tennis facility. Estimated construction costs of \$ 87-million dollars.

Pendleton County State Park, Franklin, West Virginia. Project landscape architect for the park master plan update to an proposed 2000-acre state park. New improvements in the master plan included a lodge facility, family cabin areas, outdoor amphitheater, group day use area, RV campsite, new outdoor recreation facilities for snow boarding, athletic fields, mt. bike trails, 18-hole golf course, indoor hockey rink and pool facilities. Estimated construction costs of \$ 52-million dollars.

Saluda Shoals Regional Park, Irmo Chapin Recreation Commission—Columbia, South Carolina. The planning process for this regional park included a number of critical review sessions and public meetings that were well orchestrated by the Irmo Chapin Recreation Commission and well attended by the citizens in the area. The final master plan was broken down into four different phases, with elements including a park meeting facility, picnic areas, an environmental center, volleyball courts, a tennis court complex, and much more.

Salisbury Community Park Design, City of Salisbury NC—Salisbury, North Carolina. Project Manager responsible for the master planning for a 300-acre active/passive community park. Unique facilities include an “old water tower”, wood plank bridge, “field of dream,” athletic fields, and an historic house as the old farm stead.

Catawba Riverfront Park Master Plan, Mecklenburg County, North Carolina—Mecklenburg County, North Carolina. Project Manager on greenway layout, river access, and deck overlook designs. Woolpert was selected by the Mecklenburg County Park and Recreation Department to provide technical services on the planning of a 270-acre riverfront park. The approved master plan consisted of three main attractions: day use amenities, high adventure facilities, and historic and environmental amenities.

Years of Experience

20 years

Education

Bachelor of Science, Landscape Architecture,
West Virginia University

Professional Registration

Registered Landscape Architect, North
Carolina, 798

Presentations and Publications

"Renovating Polls - NC Rec & Park Assoc.
Annual Conf. 11/2004

Park Master Plan Workshop - SC Rec & Park
Assoc. 50th Annual Conf. 1/11 "Working
Together to Keep Construction Projects Within
Buyer" - NC Rec

SC Recreation and Park Association 50th
Annual Conference 1995

"The Economics of Urban Park Planning"
Parks & Recreation (coauthor) 2005

Awards

Team Member on:

ASLA Merit Award - Catawba River Greenway
- 1998; ASLA Merit Award - Saluda Shoals
Park - 1998; ASLA Merit Award - Greensboro
PSR Comp Plan 1998; ASLA Merit Award -
Martha Rivers Park - 2000.

Greenville Recreation Ctr. & Master Plan, City of Greenville NC—Greenville, North Carolina. The major components of the park included a 22,000 square foot state-of-the-art recreation center, tournament play softball and baseball complex, and passive recreational facilities including outdoor picnic pavilions. The recreation center master plan included two gymnasiums, racquetball courts, a senior citizen meeting room, a weight-training room, a play area, indoor swimming pool and outdoor swimming pools. The planned complex was planned to meet the growing recreational needs of residents on the south side of the city.

Comprehensive Master Plan, Greenville Parks & Recreation—Greenville, North Carolina. The work included review of existing programs and facilities, needs assessment review, formulation of park standards, public presentation of recommendations and proposals, and providing an action plan for implementation of the plan proposals and recommendations.

Thomas Brooks Park, City of Cary NC—Cary, North Carolina. Woolpert was selected to provide a park master plan study and construction documents for the 126-acre site and Phase I construction document design for the Town of Cary, North Carolina, for the new \$5.5 million Thomas Brooks Park project. The park elements and amenities include an adult and youth baseball complex; scorer's towers; picnic shelters; restroom/concession facilities; recreational fields for soccer; multi-use courts for tennis, basketball, and volleyball; and playgrounds. In addition, the park includes passive recreation with connections to the Town's greenway system.

Parks and Recreation Master Plan Update, Union County Parks and Recreation Department, North Carolina—Union County, North Carolina. The primary focus of the comprehensive master plan was to simplify the recommendations and the implementation strategy to make them more palatable for public support. Work included updating demographic and community needs information, revising the recommendations and proposals, and developing a new action plan for implementing these recommendations. The action plan included estimated costs for system-wide operations and capital improvements through the year 2010. The comprehensive master plan process included a separate work item for preparing of a site-specific master plan for the 1,000-acre Cane Creek Park.

Parks & Recreation Master Plan Through 2010, Town of Davidson—Davidson, North Carolina. Project Manager for existing lake study to develop renovation options. The primary focus of the plan was to coordinate the proposals with new Town planning initiatives such as the Adequate Public Facility Ordinance (APFO), Subdivision Ordinance, open Space Preservation Plan, Town Center Plan, and the Davidson Land Plan. Making new recommendations and proposals for the plan included scope of work items such as reviewing population characteristics, preparing a community needs assessment, conducting focus group and public input meetings, and reviewing acceptable recreation standards to see how they apply to the Town. An "Action Plan" was developed to implement these recommendations and it included estimated costs for system-wide operations and capital improvements.

Bird Building/McKee Classroom Renovation, Western Carolina University—Cullowhee, North Carolina. The Bird Building renovation project consisted of converting an existing 14,000-square-foot administrative support facility building for reuse as the Campus Health Clinic and the Campus Psychology Clinic. The McKee classroom renovation consisted of redesigning and updating the existing 50,000-square-foot classroom and office facility for designing new laboratories.

Redevelopment Plan-Forest Park Neighborhood, Spartanburg Economic and Community Development Department—Spartanburg, South Carolina. Work for this project included the development of a plan that would redevelop the neighborhood into a safer environment by eliminating the

current drug house locations, through streets and unsafe neighborhood spaces. The design included significant public involvement and coordination with the City agencies and the local police to develop a residential improvement that removed the current obstacles while still maintaining the integrity of the positive portions of the neighborhood.

North Carolina Arboretum Gateway Center, North Carolina Arboretum—Asheville, North Carolina. The \$17 million project, constructed in phases, included planning and design for the ultimate build-out, and full architecture and engineering services for the first phase of development. The design is sensitive to the site context of the existing arboretum gardens. The project employs sustainable design principles and will seek LEED™ Silver certification.

Waccamaw National Wildlife Refuge Visitor's Center, US Fish and Wildlife Service, Southeast Region—Georgetown, South Carolina. Woolpert was responsible for designing a new 7,300-square-foot visitor center for the Waccamaw NWR located on the Pee Dee River north of Georgetown, South Carolina. The design concept for the facility and site is based on 19th century rice plantations, an important part of the vernacular found along the river banks of the region. The site is rich with heritage, and an ongoing archaeological excavation has uncovered multiple opportunities for exhibit. The program spaces include a large exhibit area, a 50-seat auditorium, a wet lab, retail, and the refuge offices. The scope of the design includes a master plan and Phase 1 implementation. Phase 1 design includes roadway, parking lot, site utilities, septic system, walkway, and the visitor center. The project is LEED certified.

Piedmont Forestry Center - Oconee County, South Carolina. Project landscape architect responsible for the master planning to an existing 700-acre forestry/ seedling farm property. New improvements in the master plan included a 500- person meeting facility and dining hall supported by 15 cabins and group cabin area. Estimated construction costs of \$ 3-million dollars. The project employed sustainable design principles in the planning of the proposed facilities.

Morrow Mountain State Park—Stanly County, North Carolina. Project team member involved with the redesign of a 1,800-square-foot swimming pool, bathhouse, concession building, restrooms, and water distribution system during the renovation of this 50-year-old park.

Cumberland Falls Interpretive Center—Daniel Boone National Forest, Kentucky. Project team member assisting with the site work for the renovation of the existing 2,500-square-foot Cumberland Falls State Park Food Service facility into an Interpretive Center and Snack Area including creation of an outdoor patio/eating area. The interpretive center area was coordinated with the exhibit designer to house the necessary museum quality displays and learning areas focused on the very unique.



DAVID PANDOLI, RLA, ASLA

Associate

Senior Landscape Architect

Mr. Pandoli is a registered landscape architect with over 24 years of private development master planning experience in community planning, resort and recreational planning, mixed use planning and office / industrial park projects. He has managed all phases of these projects from initial client contact, through programming and design, as well as construction implementation and administration.

Prior to joining Woolpert, Mr. Pandoli was the Assistant Director of Planning and Development for the City of Sunrise, Florida. He was responsible for the design and implementation of the on-going \$250-million citywide Capital Improvement Project.

Mr. Pandoli spent the majority of his previous career as a Vice-President for Edward D. Stone Jr. and Associates (EDSA) in south Florida. While at EDSA he was responsible for project management for many large scale master planned projects as well as numerous large recreational / resort projects.

Mr. Pandoli has extensive experience providing the following landscape architectural services: due diligence, site analysis, conceptual design, design development services, construction documentation and administration, cost estimates and analysis, multi-disciplinary team coordination, permitting, and code compliance analysis and evaluation.

Project Experience

Conceptual Site Master Plan—North Myrtle Beach, South Carolina. Project Director, Project Manager. The City of North Myrtle Beach (NMB) contracted with Woolpert to prepare a conceptual master plan and vision for the downtown of NMB. The plan was intended to provide a phased development approach identifying adjacent land acquisition, expanding city facilities, and relocating other city departments away from the proposed downtown plan.

Stouffers Pine Island Resort—Lake Lanier Islands, Georgia. Project director for renovation to existing master plan facilities. Responsibilities included preparing a new master landscape plan as well as implementing a plan to add 30 private spa gardens to ground-level lakefront rooms. Provided contract documents and specifications for Phases I and 2 of a new entrance and arrival sequence to the hotel.

Longwood Plantation, Horry County—Georgetown, South Carolina. Project director for 3,000-acre residential/golf course community master plan. Responsibilities included preparation of two master plan alternatives.

Lodge Expansion and Park Improvements At Cacapon Resort State Park
State of WV, Division of Natural Resources, DNR 209057
December 9, 2008

Years of Experience

26 years

Education

Bachelor of Landscape Architecture,
Landscape Architecture, The Ohio State
University

Continuing Education

Developing Resort, Second Home, and Golf
Course Communities, Urban Land Institute
(ULI), Tampa, FL, March 14-15, 2007

Woolpert Project Management Training, May
5-6, 2006

Professional Registration

Registered Landscape Architect, Texas, 869

Registered Landscape Architect, Florida,
LA000869

Registered Landscape Architect, Ohio, 592

Registered Landscape Architect, North
Carolina, 1346

Registered Landscape Architect, South
Carolina, 923

Professional Membership

American Society of Landscape Architects

Council of Landscape Architectural
Registration Builder

Design Build Institute of America (DBIA)

Urban Land Institute (ULI) (Council Member)

Presentations and Publications

ULI Advisory Panel, East Bank, Norfolk,
Virginia, 1998

American Society of Landscape Architects
(ASLA), Ohio Chapter, "Outstanding
Graduating Senior", The Ohio State
University, 1979.

Beavercreek Golf Club—Beavercreek, Ohio. Prepared preliminary master plan for 425-acre residential golf project and associated municipal golf course. Provided zoning documentation and support for preliminary and conceptual residential layout alternatives.

Glenmoor Country Club—Canton, Ohio. Project director for master plan for 550-acre residential/golf community. Prepared master plan and preliminary golf routing for 18-hole championship course and 300-350 residential lots. Provided construction documents for main entrance as well as graphic/signage packages for project identity.

Bardmoor Country Club—Tampa, Florida. Project manager for a large-scale, 350-acre residential/golf community. Project responsibilities included master landscape plan, graphics and signage packages, and overall maintenance quarters preparation. Also responsible for all parcel site development and out-parcel acquisitions.

Divided Ridge—Washington Township, Ohio. Project director for 350-acre residential master planned community in Southern Ohio. Prepared zoning application and support documents for Phase One implementation.

City Park—Sunrise, Florida. Project manager for a 50-acre park renovation and redesign. Provided master plan alternatives and cost estimates. Provided detailed design, contract documents, and construction administration.

Boynton Beach Oceanfront Park—Boynton Beach, Florida. Staff landscape architect for master plan renovation/redesign of existing 45-acre oceanfront park. Responsibilities included site analysis and evaluation, design development, construction documents and construction administration.

C.B. Smith Park—Hollywood, Florida. Staff landscape architect for 300-acre recreation park. Responsibilities included construction administration and on-site coordination with engineering, architectural, and environmental consultants.

Parks Enrichment Plan—City of Sunrise, Florida. Project manager for site analysis and evaluation of nine potential and existing city park sites. Responsible for due diligence, cost analysis, preliminary design development, construction documents and construction administration.

Westlake Park—Hollywood, Florida. Staff landscape architect for large-scale environmental park. Provided master plan services and graphical design studies.



ROGER DAHNERT, AIA

Associate

Deputy Project Manager and Senior Architect

Mr. Dahnert has extensive experience and exposure in the field of architectural design, construction documentation, and construction administration. As principal designer, facilitator, and administrator on a vast number of public and private projects over his career, Mr. Dahnert has continuously demonstrated exceptional abilities on many levels of complexity. He has been instrumental in establishing construction document policy standards and procedures for several architecture firms. His experience includes recreational, office, medical, hospital, correctional, municipal, state, and college architecture. He has proven time and again that he is an expert at listening to and hearing what clients are requesting and in creatively making their dreams and desires become realities.

Project Experience

Tomlinson Run State Park—New Manchester, West Virginia. Project architect for the park master plan update to an existing 1400-acre state park. New improvements in the master plan included a lodge facility, 18-hole golf course, equestrian center and trails, cabin & campground area, Amphitheater and conference center, pool and tennis facility. Estimated construction costs of \$ 87-million dollars.

Pendleton County State Park, Franklin, West Virginia. Project architect for the park master plan update to an proposed 2000-acre state park. New improvements in the master plan included a lodge facility, family cabin areas, outdoor amphitheater, group day use area, RV campsite, new outdoor recreation facilities for snow boarding, athletic fields, mt. bike trails, 18-hole golf course, indoor hockey rink and pool facilities. Estimated construction costs of \$ 52-million dollars.

Saluda Shoals Regional Park, Irmo Chapin Recreation Commission—Columbia, South Carolina. Team Member serving as lead architect on this project. The planning process for this regional park included a number of critical review sessions and public meetings that were well orchestrated by the Irmo Chapin Recreation Commission and well attended by the citizens in the area. The final master plan was broken down into four different phases, with elements including a park meeting facility, picnic areas, an environmental center, volleyball courts, a tennis court complex, and much more.

Thomas Brooks Park, City of Cary NC—Cary, North Carolina. Team Member serving as project architect responsible for the design and construction documents for a two-story scorers/concession/restroom building at the softball field complex and a restroom pavilion for phase one

Lodge Expansion and Park Improvements At Cacapon Resort State Park
State of WV, Division of Natural Resources, DNR 209057
December 9, 2008

Years of Experience

38 years

Education

Bachelor of Architecture, Architecture, Kent State University

Professional Registration

National Council of Architectural Registration Bd, 33832

Registered Architect, Alabama, 5457

Registered Architect, California, C31316

Registered Architect, Delaware, S50006627

Registered Architect, Illinois, 001-019095

Registered Architect, Maryland, 12956

Registered Architect, Minnesota, 12494

Registered Architect, North Carolina, 5162

Registered Architect, New Jersey, 21A11017335

Registered Architect, Ohio, ARC 0213095

Registered Architect, South Carolina, 4080

Registered Architect, Virginia, 011107

Registered Architect, West Virginia, 3400

Professional Membership

Building Officials and Code Administrators International (BOCA)

Charlotte Historic District Commission

Society of American Military Engineers (SAME)

The American Institute of Architects (AIA) - Member ID #30025275

Presentations and Publications

"Corrective Vision. American City & County 2002

"A Natural Challenge." Parks & Recreation 2002

of a 127-acre multi-use park. Woolpert was selected to provide a park master plan study and construction documents for the 126-acre site and Phase I construction document design for the Town of Cary, North Carolina, for the new \$5.5 million Thomas Brooks Park project. The park elements and amenities include an adult and youth baseball complex; scorer's towers; picnic shelters; restroom/concession facilities; recreational fields for soccer; multi-use courts for tennis, basketball, and volleyball; and playgrounds. In addition, the park includes passive recreation with connections to the Town's greenway system.

Les Myers Park, City of Concord NC—Concord, North Carolina. Team Member serving as project architect responsible for preparing architectural construction documents for a \$1-million renovation to the existing park. New improvements included parking lot renovation, walks/trails, basketball court, tennis court renovations, new restroom building, amphitheater renovation, playground improvements, new shelters, shelter renovations and misc. landscaping and site furnishings.

Bird Building/McKee Classroom Renovation, Western Carolina University—Cullowhee, North Carolina. Project Manager and architect of record for conversion of existing Bird Building administrative support facility building for reuse as the Campus Health Clinic and the Campus Psychology Clinic. The Bird Building renovation project consisted of converting an existing 14,000-square-foot administrative support facility building for reuse as the Campus Health Clinic and the Campus Psychology Clinic. The McKee classroom renovation consisted of redesigning and updating the existing 50,000-square-foot classroom and office facility for designing new laboratories.

Reedy/McKee Creeks Interceptor-Cabarrus, Charlotte Mecklenburg NC Utilities—Charlotte, North Carolina. Woolpert was responsible for routing and designing 63,000 linear feet of 24-inch to 48-inch sanitary sewer, flow metering stations, and force main along Reedy Creek and McKee Creek in the eastern portion of Cabarrus County, including alternative routings, preparing plans, specifications, bidding documents, and pump station design for discharge into an existing forcemain.

Azalea Road Park-Soccer Complex, City of Asheville NC Parks & Recreation—Asheville, North Carolina. Team Member and project architect responsible for the design and construction documents for a 4,000 square foot facility with a catering kitchen and a meeting room for over 30 people plus restrooms to support the four soccer fields.

Waccamaw National Wildlife Refuge Visitor's Center, US Fish and Wildlife Service, Southeast Region—Georgetown, South Carolina. Woolpert was responsible for designing a new 7,300-square-foot visitor center for the Waccamaw NWR located on the Pee Dee River north of Georgetown, South Carolina. The design concept for the facility and site is based on 19th century rice plantations, an important part of the vernacular found along the river banks of the region. The site is rich with heritage, and an ongoing archaeological excavation has uncovered multiple opportunities for exhibit. The program spaces include a large exhibit area, a 50-seat auditorium, a wet lab, retail, and the refuge offices. The scope of the design includes a master plan and Phase 1 implementation. Phase 1 design includes roadway, parking lot, site utilities, septic system, walkway, and the visitor center. The project is LEED certified.

Mountain Longleaf National Wildlife Refuge, U.S. Fish and Wildlife Service—Anniston, Alabama. The project consisted of the development of road and parking lot design plans. Detailed tasks included site investigations, geotechnical and environmental studies, surveys, and design work to prepare construction drawings and specifications.

Reedy Creek and McKee Creek Basin, Charlotte Mecklenburg Utilities—Charlotte, North Carolina. Woolpert was hired to provide engineering services to Charlotte-Mecklenburg Utilities (CMU) and the Water & Sewer Authority of Cabarrus County (WSACC) for the planning, design, permitting, and construction administration services for over 22 miles of gravity sewer (8 inch-48 inch), a 20 MGD pump station, and a 24-inch force main.

Jack D. Hughes Memorial Park, Town of Pineville—Pineville, North Carolina. Woolpert provided construction documents, bidding and construction administration services for the Jack D. Hughes Memorial Park. Woolpert also prepared building schematic plans and site schematics as well as a storm water management plan and construction cost estimates.



KIRSTEN TYNCH, PE, PTOE

Associate

Civil Engineer

Ms. Tynch has extensive experience as a transportation and traffic engineer. Her experience includes roadway design, interstate design and rehabilitation, and transportation system analysis and design. She has designed complete projects from conceptual through construction plans including: maintenance of traffic plans, temporary road design and traffic control plans, and roadway construction plans for interstate, urban, rural, and interchange highway projects.

Ms. Tynch has experience in all areas of traffic analysis and transportation planning. She has performed traffic impact studies, corridor studies, accident analyses, traffic calming studies, intersection evaluations, signal timing studies, and area-wide modeling studies. Ms. Tynch has designed signals for individual intersections and interconnected systems. She currently manages the Hampton Roads Planning and Design Group. She is also an experienced project manager, certified by Woolpert's project management training program.

Project Experience

Route 674 / Hunter Mill Road Over Colvin Run, Virginia Department of Transportation (VDOT)—Fairfax County, Virginia. Project activities included reconstructing Hunter Mill Road to improve roadway approaches and replacing the existing one-lane bridge over Colvin Run. The project was constructed in phases. Provided a design to widen and upgrade Route 674.

Route 674 / Hunter Mill Over Difficult Run, Virginia Department of Transportation (VDOT)—Fairfax County, Virginia. Project activities included professional engineering services for design of roadway improvements to Hunter Mill Road. Performed an in-depth study and developed a preliminary construction plan for the project. Performed limited hydrologic analysis for the crossing over Difficult Run and performed a proposed condition analysis using an existing water surface profile developed for the Department.

Marshall & Pendleton Streets, Virginia Department of Transportation (VDOT)—Virginia. Project Manager for widening project that includes curb and gutter, sidewalk, retaining wall, and storm sewer improvements for two urban streets. Project was being developed to metric standards and the design speed for both roads was 50 km/h. Woolpert was responsible for widening project that includes curb and gutter, sidewalk, retaining wall, and storm sewer improvements for two urban streets. Project was being developed to metric standards and the design speed for both roads was 50 km/h.

Forest Glen Section Master Plan Update, Walter Reed Army Medical Center—Forest Glen, Maryland. The master plan incorporated changes resulting from the Army's release of the Seminary

Years of Experience

17 years

Education

Master of Science, Transportation Engineering, University of Virginia

Bachelor of Science, Transportation Engineering, University of Virginia

Professional Registration

Professional Engineer, Ohio, 61793

Professional Engineer, Virginia, 032034

Professional Engineer, Florida, 057268

Professional Engineer, Maryland, 026194

Professional Engineer, South Carolina, 021210

Professional Engineer, North Carolina, 027663

Professional Engineer, Michigan, 6201049679

Professional Traffic Operations Engineer, National

Presentations and Publications

"Characteristics and Causal Factors of Large-Truck Crashes on Two-Lane

"Final Report: Advanced Technologies for Improving Large-Truck Safety

Historic District and associated properties. The update incorporated changes resulting from constructing the 474,000-square-foot WRAIR building and associated improvements.

Lorton Road Park and Ride, Virginia Department of Transportation (VDOT)—Fairfax County, Virginia. Project activities included providing complete engineering services for the new park and ride facility. Included parking lot layout and circulation, site lighting, on site signing and pavement markings and direction signing to the lot and landscaping plans.

Gambrill Road Park & Ride Facility, Virginia Department of Transportation (VDOT)—Fairfax County, Virginia. Team Member and senior traffic engineer responsible for new park and ride facility. Reviewed generation and distribution of traffic onto the existing roadway network. Analyzed existing, opening day, and design year conditions of the road network using Synchro. Project was part of a Traffic Management Plan for a major multi-phased interchange construction project for I-495, I-95, and I-395 junction. Reviewed generation and distribution of traffic onto the existing roadway network. Analyzed existing, opening day, and design year conditions of the road network using Synchro. Project was part of a traffic management plan for a major multi-phased interchange construction project for I-495, I-95, and I-395 junction. The environmental portion of this project included providing ecological design services for developing the enhanced extended detention facility for storm water management. Determined proposed grades and designed the facility with forebays, shallow marshes, and high marshes to provide water quality treatment of runoff from the new facility.

Little River Turnpike (Route 236), Virginia Department of Transportation (VDOT)—Fairfax County, Virginia. Project Manager and Design Engineer responsible for two-miles of a six-lane urban divided principle arterial. Design included aligning horizontally and vertically with the existing four-lane divided highway. Challenges during design entailed maintaining relatively equal elevations on both sides of the road with minimal impact to homes, driveways and frontage roads. This project involved a great deal of public input. Close coordination with VDOT, Fairfax City and Fairfax County representatives was maintained to incorporate all design considerations into the plans. Participated in a citizen's information meeting that was attended by approximately 200 people. Created all of the displays for this meeting, which included the proposed design shown on a digital orthographic photo. Woolpert was selected to provide survey and design services for this two-mile urban widening from four to six lanes. The work included survey, interchange study, road design, drainage and stormwater management design, public involvement, and development of full construction plans.

Ten Thousand Island National Wildlife Refuge, U.S. Fish and Wildlife Service—Naples, Florida. The project consisted of the development of an asphalt entrance road and parking lot improvements. Detailed tasks included site investigations, geotechnical and environmental studies, surveys, and design work to prepare construction drawings and specifications.



DREW LINCK, PE, CEM, GBE

Mechanical/Electrical/Plumbing Utilities

Mr. Linck has more than 35 years of experience in design, engineering, and project management of mechanical systems. He is Group Manager of Woolpert's Energy Utilities division. In this role he is responsible for managing a variety of large engineering projects, many of which combine multiple planning, design and engineering disciplines. As a Certified Energy Manager, he provides leadership for energy compliance programming.

Mr. Linck is also a certified Green Building Engineer (GBE™). This certification is held by an elite group of engineering professionals that have demonstrated a high level of competence and ethical fitness for green building engineering, design and construction.

Mr. Linck's career includes experience as partner in a design/build, mechanical/electrical contracting firm, engineering manager in a mechanical contracting firm, partner in a mechanical/electrical consulting firm, and project manager and design/build engineer for a mechanical contractor. He also served as the Mechanical Department Manager at a major engineering design/construction firm and as Principal Engineer providing technical leadership and mentoring while functioning as a mechanical lead engineer on large projects. He has also worked as an aerospace engineer involved in research and development with the U.S. Navy.

Project Experience

Wastewater Treatment Plant, Berkeley County Public Service Sewer District—Berkeley County, West Virginia.

The project consists of the design and construction management of a 1.1 mgd sewage treatment facility; 9 sewage pump stations; 28 miles of gravity sewer main; and 7 miles of sewage force main. As part of a regional plan, the project encompasses several square miles of service area and provides a centralized sewer system for existing residential and commercial customers currently served by septic systems. It also allows for additional customers as the area continues to experience rapid growth.

Kermit Wastewater System Design, Town of Kermit WV—Kermit, West Virginia. Woolpert provided engineering,

Years of Experience

37 years

Education

Bachelor of Science, Aerospace Engineering,
University of Cincinnati

Professional Registration

Professional Engineer, Indiana, 60018161
Professional Engineer, Florida, 41565
Certified Energy Manager, National, 2752
Professional Engineer, Kentucky, 11126
Professional Engineer, Massachusetts, 39928
Professional Engineer, Michigan, 6201034652
Professional Engineer, Missouri, EN-024639
Professional Engineer, North Carolina, 029707
Certified Green Building Engineer, National
Professional Engineer, Nebraska, E-9270
Professional Engineer, Ohio, E-43676
Professional Engineer, West Virginia, 15899
Professional Engineer, Minnesota, 40553
Professional Engineer, New Mexico

Presentations and Publications

"Setting the Pace, Leading the Way" Presenter,
International District Energy Association, 98th
Annual Conference and Trade Show (June 2007)

"Central Chilled Water Plant#2 at Duke University"
Presented at SRAPPA Conference, October 2006

"Duke University District Cooling System—A Case
Study" Presented to IDEA Conference, with Darin
Smith (Duke University) June 2007

"Central Chiller Plants" Presentation to ASHRAE,
Dayton Chapter, February 2005

"Specifying Electrically Driven Centrifugal
Chillers," Drew W. Linck, PE, CEM, HPAC, HPAC
Engineering Magazine (November 2003) 2003

Awards

ASHRAE Regional Technology Award, 1st Place,
Commercial Buildings - Grand Baldwin Building,
Cincinnati, Ohio 1990

design, surveying, mapping and construction administration services to the town of Kermit. Kermit created a new wastewater treatment plant and collection system intended to service 50,000 gallons of wastewater daily.

Bird Building/McKee Classroom Renovation, Western Carolina University—Cullowhee, North Carolina. The Bird Building renovation project consisted of converting an existing 14,000-square-foot administrative support facility building for reuse as the Campus Health Clinic and the Campus Psychology Clinic. The McKee classroom renovation consisted of redesigning and updating the existing 50,000-square-foot classroom and office facility for designing new laboratories.

Surveying and Mapping for the Stone Mountain Data Complex, Global Data Corporation—Carter County, Kentucky. This unique project involves the construction of data centers for the storage of electronic data in an abandoned limestone mine located in Carter County, Kentucky. Services provided included the preparation of aerial photographic and planimetric mapping, preliminary boundary survey analysis of the multi-tract site, and preliminary planning associated with a comprehensive design/build effort for the construction of the data centers and multiple support facilities. The project also created infrastructure and utilities on the exterior of the mine ultimately resulting in a highly secure complex.

Reedy Creek and McKee Creek Basin, Charlotte Mecklenburg Utilities—Charlotte, North Carolina. Woolpert was hired to provide engineering services to Charlotte-Mecklenburg Utilities (CMU) and the Water & Sewer Authority of Cabarrus County (WSACC) for the planning, design, permitting, and construction administration services for over 22 miles of gravity sewer (8 inch-48 inch), a 20 MGD pump station, and a 24-inch force main.

Campus Comprehensive Utility Master Plan, Duke University—Durham, North Carolina. Project Manager and Mechanical Engineer responsible for chilled water analysis of the combined academic and medical center/hospital campuses of Duke University. Determined 25 year plan requires combined capacity of 44,000 tons of chilled water and potentially four central chilled water plants. Proposed district cooling system enhancement using a five million gallon thermal energy storage tank for peak shaving and emergency resource for medical center.



ROGER NELSON, PE

Waste Water Engineer

Mr. Nelson has more than 30 years of experience in project management, studies, and design of storm water, wastewater and potable water facilities. Mr. Nelson's responsibilities include study, design and project management of storm water systems, pump stations, sewer systems, wastewater treatment facilities, water mains, elevated storage tanks, booster pump stations, wells, and water treatment facilities. His responsibilities also include client coordination, construction administration, and developing project budget estimates.

Project Experience

Wastewater Treatment Plant, Berkeley County Public Service Sewer District—Berkeley County, West Virginia.

The project consists of the design and construction management of a 1.1 mgd sewage treatment facility; 9 sewage pump stations; 28 miles of gravity sewer main; and 7 miles of sewage force main. As part of a regional plan, the project encompasses several square miles of service area and provides a centralized sewer system for existing residential and commercial customers currently served by septic systems. It also allows for additional customers as the area continues to experience rapid growth.

Opequon Creek Wastewater Treatment Plant—Berkeley County PSSD, West Virginia. Design review and revisions of a 1.0 MGD SBR wastewater treatment plant, including screening, blowers, UV disinfection system, and plant water system.

Sewer System Improvements—City of Mt. Hope, West Virginia. Designed sanitary relief sewers and rehabilitated existing sewer for approximately 15,500 LF of eight-inch, 10-inch, and 12-inch gravity sewers. Reviewed videotapes of the existing internal pipe conditions and determined where point repairs were required to alleviate inflow/infiltration problems and where pipe rehabilitation could be used versus pipe replacement.

Sanitary Sewer Replacement and Pump Station Rehabilitation—Town of Glenville, West Virginia. Prepared final plans and specifications for approximately 10,000 LF of gravity sewer main replacement and rehabilitated 12 pump stations.

Water Treatment Plant Improvements—Town of Wayne, West Virginia. Design of water treatment plant improvements consisting of river intake, coagulation basins improvements, filters, clearwell, and controls.

Marlbank Cove Ravine Restoration, York County—York, Virginia. Woolpert was selected to provide engineering services for ravine bank stabilization project in York County, Virginia. The ravine banks have severe erosion for a distance of 1,500 linear feet and the erosion would have endangered existing adjacent structures if not stabilized. A study was performed to evaluate and provide cost estimates for options to stabilize the banks. The recommended design included 700 linear feet of 60" diameter pipe with 6 drop inlets. Stream restoration design included placement of 6 Newbury rock weirs

Years of Experience

38 years

Professional Registration

Professional Engineer, Indiana, PE 60018053

Professional Engineer, North Carolina, 27157

Professional Engineer, Ohio, PE-54024

Professional Engineer, Pennsylvania,
PE026348E

Professional Engineer, South Carolina, 11245

Professional Engineer, West Virginia, 17698

Professional Membership

American Water Works Association (AWWA)

Water Environment Federation #01488035
(WEF)

and bank stabilization located downstream of the pipe outfall. Plans, specifications, and a cost estimate were prepared for this project.

Reedy/McKee Creeks Final Design, Charlotte Mecklenburg NC Utilities—Charlotte, North Carolina. Team Member serving as project engineer. Woolpert responsible for the routing and design of 31,000 LF of 12” to 36” sanitary sewer along Reedy Creek and 25,000 LF of 8” to 24” sanitary sewer along McKee Creek in the western portion of Mecklenburg County.

First Colony Water and Sanitary Sewer Replacement, James City Service Authority, Virginia—James City County, Virginia. Woolpert was selected for this neighborhood water and sanitary sewer replacement project. The existing sanitary sewer was evaluated with manhole inspections, CCTV inspections, and smoke testing. Design plans included complete replacement of approximately 20,500 linear feet of the water distribution system. The sanitary sewer pipe sections with sags and leaks were recommended to be replaced.

Manchester Meadows Soccer Complex, Rock Hill Parks, Recreation and Tourism Department—Rock Hill, South Carolina. The City of Rock Hill selected Woolpert to assist in developing the city's new recreation facility, Manchester Meadows. The facility will provide numerous recreation opportunities and also boost the local economy. For this project, the Woolpert design team provided landscape architecture, architecture, water management, and civil engineering services through developing construction documents, bidding, and construction administration services.



RICHARD HARRISON, PE

Waste Water Engineer

Mr. Harrison has extensive experience in the planning, design, construction, and operation of wastewater collection and treatment systems with specific expertise in pump station design and application of instrumentation and control systems. His diverse and extensive experience allows him to be an effective project manager that can assure successful execution of all types and sizes of projects. Mr. Harrison's background includes: collection system master planning and design; wastewater treatment facilities planning; preparation of detailed design plans, technical specifications, cost estimates and final contract bid documents; construction project management; and, start-up, trouble-shooting and operation of wastewater facilities. Much of his experience has been in the public sector where he has learned to be sensitive to public needs and concerns.

Project Experience

Water System Improvements, Town of Pineville—Pineville, West Virginia. Woolpert completed plans, specifications and permitting for eight miles of water line extensions, new customer connections, one booster station and one 150,000 gallon storage tank. Work also included rehabilitation of sand filters, chemical feed equipment, chemical contact tank and a clearwell at the existing water treatment plant. Filter replacement and presedimentation basins at the existing water treatment plant were also included in the project.

Wastewater Treatment Plant, Berkeley County Public Service Sewer District—Berkeley County, West Virginia. The project consists of the design and construction management of a 1.1 mgd sewage treatment facility; 9 sewage pump stations; 28 miles of gravity sewer main; and 7 miles of sewage force main. As part of a regional plan, the project encompasses several square miles of service area and provides a centralized sewer system for existing residential and commercial customers currently served by septic systems. It also allows for additional customers as the area continues to experience rapid growth.

Dry Run Sewer Design—Phases I and 2, Metropolitan Sewer District of Greater Cincinnati—Cincinnati, Ohio. The project included determining flow rates, based upon area to be served and future land use planning. The alignment was carefully planned so as to meet the requirements of Ohio EPA's stream crossing regulations and to minimize loss of trees and interference with existing homeowners.

C.S.O./Facilities Plan Phase 4, Sanitation District #1 of Northern KY—Kentucky. These regulators discharge to 73 outfalls located predominantly on the Ohio River and the Licking River. Leaping weirs, diversion dams, regulator gates, and elevated overflow pipes were the most common regulators inventoried. The information gathered for each CSO regulator included a description of the regulator operation, a listing of the industries whose wastewater flows were tributary to the regulator, the physical attributes of the regulator and the outfall structure, and a description of any backwater intrusion into the regulator from river flooding. Field surveys and photographs complemented the records research. A

Years of Experience

29 years

Education

Bachelor of Science, Civil Engineering,
Bucknell University

Continuing Education

Certificate of Participation, BIM-How to Avoid

Professional Registration

Professional Engineer, Kentucky, 23940

Professional Engineer, Ohio, 68901

Professional Engineer, Indiana, 19300362

Professional Membership

American Water Works Association (AWWA)

Water Environment Federation (WEF)
member # 01625365

report summarizing the collected data was submitted to the District as part of the overall facilities planning study for the three-county area.

Springfield Wastewater Treatment Plant Improvements, City of Springfield OH—Springfield, Ohio. Project Engineer responsible for the design of a CSO by-pass screen and influent screenings screw conveyor collection system. The CSO by-pass screen is located at the influent to the plant and provides fine screening (4mm) for all excess wet weather flows which must be by-passed. The screenings screw conveyor was designed to provide collection, dewatering and compaction of screenings which were subsequently incinerated. Project consisted of a 7,500-square-foot maintenance facility and renovation of the 6,000-square foot administration building.

Fountain PSD-Preliminary Report, Fountain PSD—West Virginia. Plans, specifications and permitting for the design and construction of a new deep well raw water source, a new treatment plant, a 150,000 and a 50,000 gallon water storage tank, and approximately 68,600 linear feet of water distribution lines serving approximately 200 users. Supervised complete survey and evaluation of the well fields and design services for the selected well site, treatment plant, storage tank and distribution system. Supervised construction engineering, administration and resident inspection.

Smoke Testing Program and Combined Sewer Overflow Inventory Program, Sanitation District #1 of Northern KY—Various Counties, Kentucky. Project Engineer responsible for the planning, sizing, site location, and cost estimating for proposed collection and treatment facilities to satisfy the Districts wastewater treatment needs through the year 2020. The recommended facilities, estimated at over \$200 million, included: new 4 mgd and 25 mgd wastewater treatment facilities, approximately 50 miles of force mains and collector sewers which range in size from 15 inch to 60 inch, and 7 pump stations which range in size from 1,920 gpm to 42,000 gpm. Project Description not required per Charlie Moore-12/06

Pauldoe Sanitary Sewer Evaluation Survey (SSES), Athens-Clarke County GA—Athens-Clarke, Georgia. Woolpert provided professional engineering services along with SSES analysis. Athens-Clarke County requested Woolpert to provide additional professional engineering services related to the existing Middle Oconee River/Ben Burton Park Interceptor project. Then Woolpert installed four flow meters along the Pauldoe Interceptor to determine areas influenced by infiltration and inflow. Rainfall gauging was performed concurrently. Eighteen structures were inspected along the interceptor prior to smoke testing and CCTV inspection of 2,900 linear feet of the gravity system was conducted.

Reedy/McKee Creeks Interceptor-Cabarrus, Charlotte Mecklenburg NC Utilities—Charlotte, North Carolina. Woolpert was responsible for routing and designing 63,000 linear feet of 24-inch to 48-inch sanitary sewer, flow metering stations, and force main along Reedy Creek and McKee Creek in the eastern portion of Cabarrus County, including alternative routings, preparing plans, specifications, bidding documents, and pump station design for discharge into an existing forcemain.



MARISSA SOULE, PE, CFM

Stormwater / Drainage Engineer

Ms. Soule joined the Woolpert team in 2006 as a Phase Manager in their Water Management group. She has eight years of experience in water resources engineering with an emphasis in hydraulics and hydrology. She obtained her Professional Engineering license in 2005 and became a Certified Floodplain Manager in 2002. She is skilled in many software programs including HEC-RAS, AutoCAD, ArcGIS, Geo-RAS, and WISE.

Project Experience

Little River Turnpike (Route 236), Virginia Department of Transportation (VDOT)—Fairfax County, Virginia.

Woolpert was selected to provide survey and design services for this two-mile urban widening from four to six lanes. The work included survey, interchange study, road design, drainage and stormwater management design, public involvement, and development of full construction plans.

High Street Lifestyle Center, Roseland Property Company—Williamsburg, Virginia. Project activities include boundary and topographic surveying, site planning, site-civil design, traffic study, analysis and design, environmental permitting coordination, as well as construction oversight and inspection services were performed by Woolpert for this project to assist from design through the completion of project construction. . This is the largest commercial/residential project in the history of the City of Williamsburg.

Middle Potomac Watershed Management Plan, Fairfax County, Virginia—Fairfax, Virginia. Team Leader for development of a watershed management plan for Fairfax County. The project included an assessment of management needs and a prioritization of solutions. A watershed management plan strategy was developed to address watershed issues identified by the project team and the public. Watershed hydrologic, hydraulic, and water quality models were created and used to evaluate the recommended actions. Preliminary cost estimates for the capital projects were prepared and a cost/benefit analysis was performed. Public involvement was an integral part of the entire watershed management development process.

AAFES Shoppette at Fort Belvoir, Army & Air Force Exchange Service—Ft. Belvoir, Virginia. Facilities consisted of an approximately 10,000-square-foot Shoppette building housing a convenience store, fast food restaurant, and ancillary spaces. Site amenities included single-bay automatic car wash, multi-product fuel dispensers, restaurant drive-through, and free standing canopy.

Water System GIS, City of Suffolk Department of Utilities—Suffolk, Virginia. Project activities include data collection, GPS survey, design and development of the data model, system maintenance, training, development of a system inventory and value that is GASB-34 compliant, business practice development and program customization.

Years of Experience

7 years

Education

Bachelor of Science, Civil/Environmental Engineering, University of Michigan

Continuing Education

AutoCAD 2007 - Level I: Fundamentals

Professional Registration

Professional Engineer, Virginia, 0402-040807

Certified Floodplain Manager, Virginia, 02-00466

Professional Membership

Association of State Floodplain Managers (ASFPM)

Identification of Non-Residential Parcels and Impervious Surfaces for Storm Water Billing System, City of Trotwood—Trotwood, Ohio. Woolpert gathered and analyzed county and city data for parcel boundaries, ownership, land use, and city billing records for existing utility customers. Woolpert GIS technicians used address-matching techniques to link city parcels with billing records, and then classified all parcels by land use using existing classification data and orthophotography. Next they delineated impervious surfaces for the non-residential parcels and calculated the total impervious area for each parcel. Using the impervious area calculations, they created reports for the city to import into their billing system for the creation of storm water bills.

Smith River Sports Complex, The Harvest Foundation—Henry County, Virginia. Woolpert was responsible for the development of a soccer complex of six fields, complete with irrigation and sports lighting for five fields, supported by a large restroom / concession / meeting building. Two fields will be synthetic turf. Other elements include a new park road and entrance, parking lot, connector walks and associated utilities and landscaping.

Hills of Aquia Sediment Study, Stafford, Virginia—Stafford, Virginia. Team Leader for evaluation of the Hills of Aquia development site to determine if the construction of the development has caused excessive sedimentation in Aquia Creek. The study included an assessment of the erosion and sediment controls on the site, a limited depth survey, soil loss computations using the RUSLE equation, theoretical soil loss computations, and field investigations of the site and surrounding areas.

Water System GIS, City of Suffolk Department of Utilities—Suffolk, Virginia. Project activities include data collection, GPS survey, design and development of the data model, system maintenance, training, development of a system inventory and value that is GASB-34 compliant, business practice development and program customization.

Lake Sediment Survey Reports – Huntington, WV District, US Army Corps of Engineers. As Project Engineer assisted in the preparation of sediment survey reports for the Fishtrap and Dewey Lake reservoirs in Floyd County, KY, the North Branch of the Kokosing River Lake in Knox County, OH, and Summersville Lake in Nicholas County, WV. Gathered updated climate and stream inflow data and helped conduct analyses to estimate sediment deposition amounts and rates for each study site by comparing a TIN of resurveyed reservoir bathymetry to a TIN of original site conditions. *(Prior to joining Woolpert.)*



JACK WALL, PE

Associate

Water Resources Engineer

Mr. Wall provides a strong background in water resources engineering experience gained from over eight years in storm drain system modeling, drainage improvement design and alternatives analysis, pump station design and improvement analysis, and NPDES permitting. Mr. Wall is experienced with MicroStation, HEC-HMS, HEC-RAS, XP-SWMM, and Access. In addition, he is experienced with ARC/INFO GIS software.

Project Experience

Wastewater Treatment Plant, Berkeley County Public Service Sewer District—Berkeley County, West Virginia.

The project consists of the design and construction management of a 1.1 mgd sewage treatment facility; 9 sewage pump stations; 28 miles of gravity sewer main; and 7 miles of sewage force main. As part of a regional plan, the project encompasses several square miles of service area and provides a centralized sewer system for existing residential and commercial customers currently served by septic systems. It also allows for additional customers as the area continues to experience rapid growth.

Greenwood Drive/Victory Boulevard Drainage and Street Improvements, City of Portsmouth, VA—Portsmouth, Virginia.

Project activities included providing surveying, planning and engineering services to improve Greenwood Drive. The project also entailed the preparation of plans and specifications for the reconstruction of a 1-mile section of Greenwood Drive and a 1/2 mile section of Victory Boulevard. The design included demolition of existing streets and utilities, road improvements, coordination of the relocation of overhead facilities to underground facilities, landscape development, irrigation design and electrical design.

Princess Anne Plaza (Section 4) Sanitary Sewer Rehabilitation, City of Virginia Beach, Virginia—Virginia Beach, Virginia. Team Member responsible for ensuring data was correctly converted from field database to XP-SWMM format, XP-SWMM model development and calibration, and calibration of infiltration and inflow data. This project was part of a groundwater infiltration and stormwater inflow study. Woolpert was selected to perform hydraulic modeling and design of approximately 140,000 LF of gravity sewers and 560 structures in five pump station service areas. The project involved flow monitoring, rainfall/groundwater gauging, manhole inspections, CCTV pipeline inspections, smoke and dye testing and night flow isolations. The hydraulic analysis was used to identify piping systems with capacity limitations and any pumping system upgrade requirements. A report was prepared that identifies the results of the inspection and modeling with recommendations for system rehabilitation. Construction documents were prepared with the recommended system rehabilitation.

Stormwater Pump Station Needs Assessment, City of Virginia Beach—Virginia. Project Engineer responsible for identifying capital improvements and enhancement of the inspection procedures for the City of Virginia Beach's fourteen stormwater pump stations. The project involved an inspection and

Years of Experience

14 years

Education

Bachelor of Science, Civil Engineering,
Virginia Polytechnic Institute and State
University

Master of Science, Civil Engineering,
Tennessee Technological University

Professional Registration

Professional Engineer, Virginia, 0402037095

Professional Membership

American Society of Civil Engineers (ASCE),
2007 dues paid \$217

Society of American Military Engineers
(SAME)

Presentations and Publications

Semi-Automated Illicit Discharge Tracking and
Elimination Procedures March 20, 2006 -
Virginia Lakes and Watersheds Association
Annual Conference

"Demonstrating a holistic approach to
identifying and costing needs on Presented at
the National Clean Water Needs Survey
Meeting

inventory of the pump stations, identification of necessary maintenance and capital improvements, maintenance and capital improvement cost analysis, evaluation of current inspection practices, and a recommendation of an operation and maintenance service alternative. Conceptual engineering was performed for capital improvement recommendations that included adding forced air ventilation in the wet wells to meet OSHA requirements, electrical system updates, emergency pump connections, SCADA system installation, check valve repair, repairs to pumps and piping due to corrosion, and building improvements. Woolpert was selected for modeling and analysis of eight separate storm drain systems at Fort Story. The purpose of the hydraulic analysis of the storm drain system at Fort Story was to determine system inadequacies and to ensure that proposed enhancements are hydraulically viable. The storm drainage systems modeled for this project include eight individual systems that drain to the Atlantic Ocean or to the Chesapeake Bay. A total of 129 manholes, inlets, and outfalls and 121 pipes or channels were included in the XP-SWMM model. ArcView GIS was used to create the watershed hydrologic parameters for the XP-SWMM model. Most of the recommendations are to remove pipes with negative slopes and replace them with positively sloped pipes with adequate capacity for the 10-year rainfall event.

Goodspeed Road Drainage Improvements, City of Virginia Beach—Virginia Beach, Virginia.

Woolpert was selected for an alternatives study and preparation of design plans for drainage improvements to Goodspeed Road. The existing drainage system consists of pipes and ditches that do not provide adequate drainage during heavy rain events. The proposed alternative consists of a stormwater pump station and new gravity drainage system to collect stormwater runoff. Work includes determining the size of the stormwater pump station, storm drain system design, utility relocation and force main design. The pump station design included approximately 350 feet of 8" force main and two of 500 GPM submersible pumps at approximately 25' TDH. Construction plans, technical specifications, and a cost estimate were prepared. A joint environmental permit application was also prepared and a permit was received for this project.

Pungo Ridge Court Drainage Improvements, City of Virginia Beach—Virginia Beach, Virginia.

Project Engineer responsible for preliminary design, alternative feasibility, and cost estimate preparation for drainage improvements in Pungo Ridge Commons subdivision. Located in a poorly draining, low-lying area of Virginia Beach, Pungo Ridge Commons has experienced flooding problems, inundation of local septic field ditches and non-functional best management practices (BMPs). Mr. Wall determined the feasibility and the cost of different design alternatives that could potentially be used to alleviate the drainage problems. Woolpert was selected for preliminary design, alternative feasibility, and cost estimate preparation for drainage improvements in Pungo Ridge Commons subdivision. Located in a poorly draining, low-lying area of Virginia Beach, Pungo Ridge Commons has experienced flooding problems, inundation of local septic field ditches and non-functional best management practices (BMPs). The feasibility and costs were determined for different design alternatives that could be used to alleviate the drainage problems. Design plans were prepared for widening the outfall ditch. A joint environmental permit application was prepared for the proposed improvements.

Rosemont Road Drainage Improvements, City of Virginia Beach—Virginia.

Project Manager Woolpert was selected to design drainage improvements to reduce flooding near the intersection of Rosemont Road and South Plaza Trail. The project work includes site visits to talk to adjacent property owners to get information for design of the drainage improvements. Hydrologic parameters such as drainage area, times of concentration, "C" factors, and rainfall intensity were calculated. The ten-year frequency rainfall event was used to calculate the peak runoff discharge. Hydraulic calculations using this peak discharge were performed to design the drainage improvements. The proposed improvements may include adding drop inlets at the low areas near the intersection and connecting the new drop inlets to the existing drainage system. A plan drawing was prepared to show the location, diameter, and inverts of the proposed pipes and drainage structures.

Paradise Creek Drainage Study and Culvert Design, City of Portsmouth, Virginia—Portsmouth, Virginia. Woolpert provided hydrologic and hydraulic analysis for the 2 square mile Paradise Creek watershed. The goal of the project was to determine the need for replacement of the existing 7' x 11' box culvert located under George Washington Highway. The peak flows for several storm return period frequencies were calculated using HEC-HMS and the maximum water surface elevations were determined using HEC-RAS. The design options for increasing the capacity of the box culvert were analyzed and the construction costs were estimated.

Portsmouth Commerce Park Pond Design, City of Portsmouth VA—Portsmouth, Virginia. Project Engineer responsible for engineering services to design a four-acre stormwater retention pond for a future high-end office park. Woolpert performed hydrologic and hydraulic analysis to determine the size of the pond and to determine the size of the future storm drain pipes. Woolpert performed the topographic survey for the project area. The pond features included; landscaping, fountains, decorative false bridges, sediment forebays, and a wetland bench. Woolpert prepared construction drawings, specifications, and a cost estimate for this project. This project was funded in part by a Water Quality Improvement Grant and volunteers were used to plant the wetland benches. Woolpert was selected for engineering services to design a four-acre stormwater retention pond for a future high-end office park. Woolpert performed hydrologic and hydraulic analysis to determine the size of the pond and to determine the size of the future storm drain pipes. Woolpert performed the topographic survey for the project area. The pond features included; landscaping, fountains, decorative false bridges, sediment forebays, and a wetland bench. Woolpert prepared construction drawings, specifications, and a cost estimate for this project. This project was funded in part by a Water Quality Improvement Grant and volunteers were used to plant the wetland benches.



WILLIAM FINKE, PLS

Associate

Survey Manager

Mr. Finke has experience performing horizontal and vertical ground control, topographic and location, boundary/cadastral, land title, subdivision design and other related field surveying services. Mr. Finke's management experience includes preparation of proposals and contracts for survey projects defining scope, fee estimates and schedules; contract negotiations, client contact and billings; day-to-day scheduling and supervision of project surveyors, survey technicians, and survey crews; coordination with Project Engineers and Architects in other groups; and QA/QC review of survey plans and documents.

Project Experience

Fourth of July Park, Town of Kernersville, NC—Kernersville, North Carolina. Team Member responsible for field surveys and preparation of survey base maps to facilitate the design of the park facilities. The work included establishing horizontal and vertical control points in the project areas, performing topographic and utility surveys, preparing base topographic mapping, and preparation of a boundary plat of survey of the entire park. Other responsibilities included quality control of survey deliverables and tracking budgets and schedules.

Triad Park Phase 6, Forsyth County—North Carolina. Woolpert was selected by the joint park committee of both Forsyth and Guilford Counties to develop a multi-use passive park on the border between Forsyth and Guilford Counties. This project included design of a roadway within the park across Reed Fork. The stream crossing was designed using multiple culvert – five 8'x6' box culverts. The entire watershed is approximately 3 square miles. The project also included a detailed hydrologic and hydraulic analysis using HEC-RAS for the Reedy Fork stream crossing in preparation of a no-rise certification.

Cane Creek Phase II, Union County—North Carolina. Project Manager responsible for field surveys and preparation of survey base maps to facilitate the design of various park facilities including the day use facility and the public campground. The work included establishing horizontal and vertical control points in the project areas, performing topographic and utility surveys, and preparing base topographic mapping. Other responsibilities included quality control of survey deliverables, and tracking budgets and schedules. The project park renovations included paved trails, soccer fields, volleyball courts, and ADA improvements throughout the 1050-acre park.

Years of Experience

31 years

Continuing Education

Ohio PLS exam preparation course, PLSO

West Virginia PLS exam preparation, WVALS

GPS/GIS seminar, Ohio State University

Clark on Surveying and Boundaries, North Star Enterprises

Professional Registration

Professional Land Surveyor, Illinois, 035-003282

Professional Land Surveyor, Tennessee, 2536

Professional Land Surveyor, Kentucky, 3028

Professional Land Surveyor, Ohio, 7144

Professional Land Surveyor, West Virginia, 892

Professional Land Surveyor, Indiana, 9300003

Professional Land Surveyor, North Carolina, L-4161

Professional Membership

American Congress on Surveying and Mapping (ACSM)

Indiana Society of Professional Land Surveyors (ISPLS)

Kentucky Association of Professional Surveyors (KAPS)

Mecklenburg Surveyors Society

National Society of Professional Surveyors (NSPS)

North Carolina Society of Surveyors

Professional Land Surveyors of Ohio (PLSO)

West Virginia Association of Land Surveyors (WVALS)

Triad Park, Phase 7, Forsyth County—North Carolina. Woolpert was selected by the joint park committee of both Forsyth and Guilford Counties to develop a multi-use passive park on the border between Forsyth and Guilford Counties. This project included design of a roadway within the park across Reed Fork. The stream crossing was designed using multiple culvert – five 8'x6' box culverts. The entire watershed is approximately 3 square miles. The project also included a detailed hydrologic and hydraulic analysis using HEC-RAS for the Reedy Fork stream crossing in preparation of a no-rise certification.

Briar Creek/Woodland Neighborhood Improvement, City of Charlotte—Charlotte, North Carolina. Project Manager who performed cost estimating, developed scope and schedule, coordination of field crews and CADD technician. Other responsibilities included researching properties and easements at the county courthouse and other public agencies, data reduction, quality control of survey deliverables, and tracking budgets and schedules.

Addison/Deveron Storm Drainage Improvement Project, City of Charlotte—Charlotte, North Carolina. Project Manager on this project. Established horizontal and vertical control pairs within the study area in order to facilitate field ground surveying efforts. This control was tied to Mecklenburg County Control (NAD 83 & NAVD 88 datums) using the Global Positioning System (GPS). Performed survey cross sections on 3,000 LF of McMullen Creek. Performed a full topographic and location survey on approximately 4,000 LF along a tributary through the neighborhood. Surveyed and obtained attribute data on all drainage structures in the watershed area. Properties along the creek and tributary were researched and pertinent deeds and plats were obtained to develop a base map of the properties.

Wastewater Collection and Water Distribution Systems Survey and Inventory, Fulton County Department of Public Works—Atlanta, Georgia. Professional Surveyor Woolpert teamed with Camp, Dresser and McKee to provide comprehensive water and wastewater utility GIS data for most of the geographic area of Fulton County. The team conducted a field inventory of manholes, pipelines, fire hydrants, water valves and water meters. Woolpert's main tasks included: reviewing county source documentation; developing a procedures manual; developing a project safety manual; developing a data dictionary; installing and configuring Continuously Operating Reference Stations (CORS) for RTK surveying; developing required GIS applications; providing wastewater system connectivity and GIS services; recommending GPS equipment for purchase; and providing training to county staff.

South Carolina Flood Map Modernization Initiative, South Carolina Department of Natural Resources—Spartanburg County, South Carolina. Woolpert was contracted to provide the State of South Carolina, through the Federal Emergency Management Agency's (FEMA's) Cooperating Technical Partner (CTP) initiative, data acquisition and post-processing services related to the Flood Mitigation Program. Woolpert created continuous, accurate and cost-effective statewide mapping for use by many state and federal agencies. Services included: aerial photography, geodetic surveying, LiDAR, GPS surveying, digital terrain modeling, digital orthophotography, topographic mapping and quality assurance/quality control.

Flood Map Modernization Initiative, South Carolina Department of Natural Resources—York County, South Carolina. Woolpert provided the State of South Carolina data acquisition and post-processing services related to the Flood Mitigation Program. Woolpert helped the state create continuous, accurate and cost-effective statewide mapping for use by many state and federal agencies. Services included: aerial photography, geodetic surveying, LiDAR, GPS surveying, digital terrain modeling, digital orthophotography, topographic mapping and quality assurance/quality control.

Waccamaw National Wildlife Refuge Visitor's Center, US Fish and Wildlife Service, Southeast Region—Georgetown, South Carolina. Woolpert was responsible for designing a new 7,300-square-foot visitor center for the Waccamaw NWR located on the Pee Dee River north of Georgetown, South Carolina. The design concept for the facility and site is based on 19th century rice plantations, an important part of the vernacular found along the river banks of the region. The site is rich with heritage, and an ongoing archaeological excavation has uncovered multiple opportunities for exhibit. The program spaces include a large exhibit area, a 50-seat auditorium, a wet lab, retail, and the refuge offices. The scope of the design includes a master plan and Phase 1 implementation. Phase 1 design includes roadway, parking lot, site utilities, septic system, walkway, and the visitor center. The project is LEED certified.

Barber Park-Phase I, City of Greensboro—Greensboro, North Carolina. Team Member responsible for field surveys and preparation of survey base maps to facilitate the design of the park facilities. The work included establishing horizontal and vertical control points in the project areas, performing topographic and utility surveys, and preparing base topographic mapping. Other responsibilities included quality control of survey deliverables, and tracking budgets and schedules. Based on the 2003 Master Plan, Woolpert created schematic design, construction documents, and construction bidding/administration services for the development of a new +/- 6,100 square foot community center, maintenance complex with storage, and a +/- 65 car parking lot.

Cane Creek Park Phase III, Union County—North Carolina. Woolpert provided design development and construction documents for the third phase of Cane Creek Park renovation. Work in this phase included the campgrounds, an amphitheater, a climbing wall, game courts and horseshoe pits. Parking lots, boat ramps and playgrounds were among the areas completed in earlier phases.

Tanglewood Park - Maintenance Feasibility, Forsyth County—North Carolina. Woolpert's Architects and Engineers were commissioned to program, perform site selection, design and phase new, replacement facilities for parks and golf maintenance for Tanglewood Park, a 1,200 acre park with active and passive recreation and two 18 hole golf courses. Programming included site visits and meetings to discuss lessons learned at the new Forsythe County Maintenance facility in Winston-Salem and at the new, sustainable maintenance facility at The North Carolina Arboretum in Asheville, NC.

Mackay Island National Wildlife Refuge Land Surveying Services, U.S. Fish and Wildlife Service, Region 4—Knotts Island, North Carolina. Team Member responsible for a boundary survey, tract map and tract report preparation for several parcels adjacent to the Wildlife Refuge. Tasks included extensive courthouse research, boundary calculations, drawing preparation, legal descriptions and monumentation of boundary corners. Also responsible for performing QA/QC for all survey documents.