# APPENDIX A

## Distribution List for the Draft Environmental Impact Statement

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# APPENDIX A: DISTRIBUTION LIST FOR THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

**Table of Contents**

**Federal Agencies**

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Edward Boling, Associate Director for NEPA Oversight, Council on Environmental Quality

Federal Regulatory Commission

Amanda Mardiney, Environmental Biologist

John Peconom, General Natural Resources Management and Biological Sciences

Nancy Fox-Fernandez, Environmental Biologist and Project Manager

Cardno

Allen Jacks, Senior Project Scientist

Office of Federal Agency Programs

John Eddins, Advisory Council on Historic Preservation

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Office of U.S Representative Thomas Garrett

Tripp Grant, Legislative Assistant

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Robert Clark, Commander, Wilmington District
David Bailey, Project Manager, Wilmington District

U.S. Department of Agriculture

Conservation and Environmental Program Division

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Forest Service

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Timothy Abing, Energy Program Manager
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Burling Service Center
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Chatham Service Center
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North Carolina
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Milton Cortes, Assistant State Soil Scientist
Steve Troxler, Secretary of Agriculture – Commissioner

Virginia State Office
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U.S. Department of Commerce

National Oceanic and Atmospheric Administration
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U.S. Department of Energy

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Office of NEPA Policy and Compliance
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Division of Natural Gas Regulatory Activities
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Division of Emergency and Environmental Health Services
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Environmental Compliance Division

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Region 4

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Corey Anen, Environmental Engineer
Toby Vinson, Director

Environmental Assistance Outreach

David Lee, Environmental Assistance Coordinator

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Water Resources

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Department of Transportation
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Department of Environmental Protection
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Mike Johnson, Habitat Management
Randy Owen, Project Manager

State Historic Preservation Office
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Roger Kirchen, Director
Stephanie Williams, Deputy State Historic Preservation Officer

**Native American Tribes**

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Edwina Butler-Wolfe, Governor
Erin Thompson, Tribal Historic Preservation Officer

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Caitlin Haire, Tribal Historic Preservation Office
Caitlin Totherow, Tribal Historic Preservation Officer
Darin Steen, Environmental Services Director
Evie Stewart, Tribal Administrator
Wenonah G. Haire, Tribal Historic Preservation Officer
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Cayuga Nation
Clint Halftown, National Representative

Cheroenhaka (Nottoway) Tribe
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Walt Brown, Chief

Cherokee Nation of Oklahoma
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Cheyenne River Sioux Tribe
Steve Vance, Tribal Historic Preservation Officer

Chickahominy Tribe
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Stephen Adkins, Chief

Chickahominy Tribe Eastern Division
Gene Pathfollower Adkins, Chief
Gerald Stewart, Chief

Chickasaw Nation
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Ian Thompson, Tribal Historic Preservation Officer

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Greg Jacobs, Executive Director

Delaware Nation

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Kim Penrod, Director of Cultural Resources
Nekole Alligood, Director of Cultural Resources

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Delaware Tribe of Indians
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Chester Brooks, Chief

Eastern Band of Cherokee Indians
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Russell Townsend, Tribal Historic Preservation Officer

Eastern Shawnee Tribe of Oklahoma
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Haliwa-Saponi Tribe
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Ogletree Richardson, Chief

Jena Band of Choctaw Indians
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Cheryl Smith, Principal Chief

Lumbee Tribe
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Freda Porter, Administrator
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Mattaponi Tribe
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Meherrin Indian Tribe
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James Floyd, Principal
Raelynn Butler, Manager, Historic and Cultural Preservation

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Barry Bass, Chief
Samuel Bass, Chief

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William Wright

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Raymond Halbritter, National Representative

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Pawmunkey Tribe

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Todd Gates, President
Jay Toth, Tribal Archeologist, Tribal Historic Preservation Office

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St. Regis Mohawk Tribe

Arnold Printup, Tribal Historic Preservation Officer
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Stockbridge-Munsee Community of Wisconsin

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Bonney Hartley, Tribal Historic Preservation Officer

Tonawanda Band of Seneca Indians of New York

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Roger Hill, Chief

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Leo Henry, Chief

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Virginia Senate
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Virginia 9th District
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Bryan Hagood, County Manager
Clyde Albright, Attorney
Craig Honeycutt
Marlena Isley, GIS Director
Robert Key, Director of Inspections
Sherry Hook, Human Resources Director

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Bill Lashley, Vice Chair, County Commission
Bob Byrd, Commissioner
Eddie Boswell, Commissioner
Steve Carter, Commissioner
Tim Sutton, Commissioner

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Debbie Hatfield, Emergency Management Coordinator

Alamance County Emergency Medical Service
Teresa Harvey

Alamance County Fire Marshall's Office
John Payne, Fire Marshall

Alamance County GIS
Katherine Liles, Interim Planning Director

Alamance County Historic Properties Commission
Jessica Dockery, Planner

Alamance County Planning Department
Rodney Cheek, Chair
Tonya Caddle, County Planner

Alamance County Sheriff's Office

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Cliff parker, Chief Deputy

Chatham Town Council
William Pace, Mayor

City of Burlington
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Todd Lambert, P.E., City Engineer

City of Danville
Joni House, Preservation Coordinator
Kenneth C. Gillie, Jr., Director of Community Development
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Jerry Epps, City Council Member
Jim Burnette, Council Member and Mayor Pro-Team
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Michael Dougherty, Director of Economic Development
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Paul Dishmon, Director of Municipal Services
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Sylvia Grogan, Council Member

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Griffin McClure, Council Member
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Lee Kimrey, Mayor Pro Tem
Melody Wiggins, Council Member
Nathan Page, Planning Director

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Donna Setliff, Community Development Manager
Harry L. Brown, Council Member
Haywood Cloud Jr, Assistant City Manager
James K. Festerman, Council Member
Jay Donecker, Council Member
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Haw River Police Department
Scott Thomas, Assistant Chief

Haw River Sheriff Department
Toby Harrison, Chief

Haw River Town
Charlie Davis, Attorney

Mebane City
David S. Cheek, Manager

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Charles Miller, Supervisor
David M. Smitherman, County Administrator
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J. Vaden Hunt, County Attorney
Joe Davis, Supervisor
Karen Hayes, Deputy Director
Matt Rowe, Economic Development Director
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Center for Business and Economic Development
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Jan Critz Yokeley

Education Foundation
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Planning Department
Tonya Caddle, County Planner

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Grey Smith, Captain
Samuel Page, Sheriff

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Jerry Smith, Town Council
Johnny Farmer, Town Council
Kenneth Gamble, Town Manager
Ricky Craddock, Mayor

Town of Green Level
Rodney Gunn, Public Works

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Charlie Davis, Attorney
H. Lee Lovette, Mayor Pro Tem
Jeff Fogleman, Council Member
Kelly Allen, Council Member
Melanie Eveker, Asst Finance Officer/Town Clerk
Patty Wilson, Council Member
Sean Tencer, Town Manager
Steve Lineberry,Council Member

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Reagan Chandler Gural, Vice President
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Alamance Community College
Cindy Day Collie, Vice President of Administrative and Fiscal Services
Alamance Community College
Thomas Hartman, Director of Administrative Services
Alamance County Area Chamber of Commerce
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Alamance County Historical Museum
William Murray Vincent, Director
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Appalachian Mountain Advocates
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AQ Contracting, Inc.
Ronald Adams and Cynthia Adams
Archy Grove United Christian Church
AWCK Engineering
Josh Johnson, Principal Engineer/Project Manager
Baggerly Irrevocable Trust
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Belview Baptist Church
Blue Ridge Environmental Defense League (BREDL)
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Bryant Properties & Holdings, LLC
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R. Henderson Scott, Jr., President
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Capital Results
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Cascade Meadows, LLC
CB Enterprises, Inc.
Centro La Comunidad
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Church of God of Prophecy
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Civitas Institute
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Clarence Hale and Lenora Hale, Jason Todd Hale

Commonwealth Forest Investments, Inc.
Copland Fabrics
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Cultural Heritage Partners
Ellen Chapman
Cultural Heritage Partners
Kelli Peterson Attorney at Law
D & W Investment Properties, LLC
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Dan River Basin Association
Jenny Edwards, Rockingham County Project Manager
Dan River Basin Association
Tiffany Haworth, Executive Director
Robin Light, Office & Finance Manager
Danville & Western Railroad
Danville Utilities
Jason Grey, Director
Danville-Pittsylvania County Chamber of Commerce
Alexis Ehrhardt, President & CEO
Danville-Pittsylvania Regional Industrial Facility Authority
Deep Creek Baptist Church
Delta Contracting, Inc.
Duke Power Company
Duke Power Company
Duke Power Company
E S T Enterprises, LLC
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Environmental Solutions and Innovations, Inc.
Taina Pankiewicz, President, COO
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FLMR Properties, LLC
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Haw River 413 Boundary Street
Haw River Assembly
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Haw River Assembly
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Haw River Baptist Church
Haw River Business Center, LLC
Haw River HDC I, LLC, Haw River HDC II, LLC, Haw River HDC III, LLC
Cora Holdings, LLC
Haw River Heritage, LLC
Haw River Historical Society Museum
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Haw River Partners, LLC
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Haw River Sanitary District
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Judy Whitfield, Senior Center Director
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Keystone Foods, LLC
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Lenox Castle Farms
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Lewis Brothers Farms, LLC
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Vanna Connor, Secretary
M. Kendall Lumber Company, Inc.
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Brian North
Martin Marietta Materials, Inc.
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May Memorial Library
Lisa Kodin, Reference Department
Deanna Cunningham, Branch Manager
MBEE Properties, LLC a NC limited liability company
McCandles Performance, LLC
McLeansville Corp.
Melinda H. Coleman, President
Mebane Historical Society and Museum
Traci Davenport, Executive Director
Millercoors LLC
Morningside, LLC
Mountain Valley Pipeline, LLC
Travis Garrett
Moving North Carolina Forward
Tom Hendrickson, Managing Director
NC Manufacturer Extension Partnership
Phil Mintz, Executive Director- Industry Expansion Solutions
Norfolk Southern Railway Co., Property Tax Department
Property Tax Department
Norfolk Southern, Southern Railroad
Herbert Wilson, Real Estate Manager
Normandy Mtg Loan Trust 2016-1
North Carolina Chamber of Commerce
Angela Sutton, Event Sponsorship Manager
North Carolina Chamber of Commerce
Gary Salamido, Vice President, Governmental Affairs
North Carolina Chamber of Commerce
Kate Payne, Vice President, Communications
North Carolina Chamber of Commerce
S. Lewis Ebert, President & CEO
North Carolina Economic Development Association
Lawrence Bivins, Managing Director
North Carolina Natural Heritage Program
Laura Robinson, Botanist
Misty Buchanan, Director
North Carolina Railroad Company
North Carolina Museum of Natural Sciences
Patricia (Trish) Weaver, Collections Manager, Geology and Paleontology
Lisa Herzog, Operations Manager, Paleontology
PFJ Southeast, LLC
Piedmont Triad Partnership
Jed McMillan, Vice President, Government Affairs
Piedmont Triad Partnership
Penny Whiteheart, Executive Vice President
Piedmont Triad Partnership
Stan Kelly, President & CEO
Pittsylvania County Public Library
Jennifer Arthur, Branch Manager
Pittsylvania Historical Society
Larry Aaron, President

Pittsylvania Historical Society
Mary Plaster, President
Protect Our Water Heritage Rights (POWHR)
Russell Chisholm
Ranch Properties, LLC
Reidsville Public Library
Michael Roche, Library Director
Reidsville Rotary Club
John Kolessar, President
Remnants and Textiles, Inc.
Revolution Properties Holdings, LLC
Rock Solid Hardscapes, LLC
Rockingham Community College
Mark Kinlaw, President
Rockingham County Center
Adam Mark, Economic Development
Rockingham County Center for Economic Development
Leigh Cockram, Director of Economic Development and Tourism
Rockingham County Historical Society
Jordan Rossi, Executive Director
Sandy Creek Trail, LLC
Beverly S. White and William S. White
Sandy Oaks Farms, LLC
Brian Lavinder, Registered Agent
Scott Associates
Mike White
Second Partners, LLC
Sierra Club
Caroline Hansley, Organizer, working with the Beyond Dirty Fuels campaign
Smith Family Irrevocable Trust
Sonim, LLC
South Rock Farm, LLC
M. Denise Booth
South Rock Farm, LLC
Tina Pinnix-Broome
Southern Environmental Law Center
Geoff Gisler, Staff Attorney
Southern Railway Co.
Southwestern Virginia Gas Company SCC
Hershel Michaels
Spencers, Inc. of Mount Airy NC
Stone Street Development, LLC
Tall Timber Holdings, LLC
Textile Heritage Museum
Jerrie Nall
Thomas Weaver Construction Company, Inc.
Transcontinental Gas Pipeline Company, LLC
Jim Hutchins
Transcontinental Gas Pipeline SCC
Truby Drive Realty, LLC

United States Cellular Corporation, A Delaware Corporation
Virginia Chamber of Commerce
Barry DuVal, President & CEO
Virginia Economic Development Partnership
Christy Morton, Vice President, External Affairs
Virginia Economic Development Partnership
Jason El Koubi, Executive Vice President
Virginia Economic Development Partnership
Stephen Moret, President & CEO
Virginia Oil and Gas Association
Ian Landon
Virginia Petroleum Council
Miles Morin
Virginia Speleological Survey
Mike Futrell, GIS/DB Manager
Virginia-North Carolina Piedmont Genealogical Society
Diane Barbour, Publicity Chair/Immediate Past President
Watts for Congress
Willow Oaks Plantation, LLC
Wolf Island Forestry, LLC
Kenan C. Wright
Z Trans Property, LLC
Igor Nikolovski

**Landowners and Individuals**

Adam J. Harper
Aimee Smith Tilley and Stephen Edward Smith, II
Estates of Steve E. Smith and Michael David Hardingham
Alan Dale Toler and Sharon B. Toler
Alan Lewis
Alan Lynn Pike and Debra Lovelady Pike
Albert Billie Troxler and Barbara Troxler
Albert Johnson, Sr.
Alfred O. Smith
Alice Doraine B. Shropshire
Allen R. Gardner, Nancy F. Gardner, and Gladys M. Frazier
Allen Scott Mitchell and Cynthia C. Mitchell
Alvin Herbin and Virginia B. Herbin
Alyssa Hamilton and Penny Jones
Amanda D. Bailey and Justin C. East
Amanda M. Roach
Anderson M. Jones and Elizabeth Jones
Andrea Brown
Andrea D. Boothe
Andrew N. Johnson and Wilma Anne Johnson
Angela Marie Hinton
Angela Parham
Angelica Covarrubias
Anglia Gail Reavis
Ann Hilton-Huffsmith
Anna H. Wingate
Anne Lane
Anthony Ray Mull
Anthony Settle, Alphony Settle, Carol J. Cummings and Maxine Settle
Anthony W. Jones and Kellie R. Jones
April Marie Stanfield and Ronald Stanfield
Ardell Harrison
Arnie Thomas Roberts and Martha Roberts
Arthur Brunner and Ann Wegmann
Arvin Van Lemons and Joyce M. Lemons
Asure Grisales and Ellen E. Grisales
Auman French and Pamela B. French
Avet Anderson
B. F. Blanchard and Debra D. Blanchard
B. W. Walker and James R. Walker
Baltazar Cruz and Bonnie R. Cruz
Bambi Farris Hutchinson
Bambi L. Lima and Raymond S. Lima
Barbara B. Perkins
Barbara Booth Hand
Barbara Linville Rebb
Barry Giles Hyler and Katherine Shelton

Hyler
Barry Justin Cochran and Deborah Vernon Cochran
Barry S. Frank
Bart Allen West and Rene Lee West
Beatrice B. Hornaday
Beatrice Evelyn Cochran
Belinda Beeson
Belwood L. Hyler
Ben Edwards
Benjamin A. Luckett
Appalachian Mountain Advocates
Benjamin Joel Andrews and Kimberly Russell Andrews
Bennie L. Anderson
Bernadette Tillman
Betty Williams
General O. Totten Estate c/o Betty Williams
Betsy Jane Jackson
Beulah Kay Danieley and Jesse Steven Gwynn
Bill Hunt
Bob Costa
Bobby Cox
Bobby Daniel Chambers and Wendy Carol Cain Chambers
Bobby Franklin Wall and Lavalon C. Wall
Bobby G. Brown and Peggy W. Brown
Bobby Ray Smith and Catherine Barker Smith
Bobby W. King and Linda C. King
Bonnie Apple Robertson
Bonnie Jean Quanah Colon
Bradford I. Evans, Jr.
Brandon Collins
Brandon Brewer and Crystal Brewer
Brenda Clark
Brenda N. Searcy
Brenda S. Strickland and Glenn C. Strickland
Bret L. Stevens, Jennifer M. Stevens and Timothy G. Stevens
Brian Edward Workman and Misty Renee Workman
Brian N. Kelly and Amy M. Kelly
Brooks Miller
Bruce D. Taylor and Susan A. Taylor
Bruce E. Smith
Bruce W. Forbes and Nancy A. Forbes
Bryan M. Wagoner and Michele F. Wagoner
Bula Fay Conner
Byron Lee Moose
Calvin C. Montgomery and Fran T. Moore
Calvin Timothy Collie
Camden Whitehead and Betty W. Whitehead
Betty W. Whitehead Revocable Trust
Cantelmo Family Irrevocable Trust c/o John R. Cantelmo
Carelton Bass
Carlton Dillard Estes and Janice Estes
Carlton Vaden Morton and Betty Brown Morton
Carol A. Giuliani
Carol Christopher Oliver
Carol H. Emerson
Carol Jean Metcalf
Carol Jean Presnell
Carol Miles Headen and Dan Headen
Carol Williamson Oakes
Caroline Franklin Holliday
Carolyn Harrison
Carrie A. Johnson and William Christopher Reid
Carrie Brown Massey
Carrie Louise G. Smith
Catherine R Wilkerson and Brock M. Wilkerson
Catherine R. Norville et al
Cathy L. Wilson
Cecil Wayne Corum and Brenda D. Corum
Chad E. Rhodes and Shannon A. Simpson
Chad Everett Soyars and Chandra Lynn Soyars
Chad Matthew Randleman
Charissa L. Evans
Charles A. Jones and Deborah A. Jones
Charles B. Mann and Rayanne S. Mann
Charles C. Hylton and Sandra W. Hylton
Charles Danny Lynn
Charles E. Clemmons and Pamela H. Clemmons
Charles Kevin Harris and Angela C. Harris
Charles S. Bumbarner and Elizabeth Bumgarner
Charles S. Clarke and Melissa H. Clarke
Charles William Setliff and Angela Carpenter Setliff
Charlie Thomas Crane
Charlie Worth Lee, Jr. and Brenda Worth
Chelsea H. Corum and Betty J. Carter
Cheryl K. Smith
Cheryl Turner

Chris Edmund Yates and Patricia Anne Donoghue
Christen Scott Wood and James Craig Wood
The Scott Family Irrevocable Trust Agreement
Christie Oliver Oakley
Christine Apple Turner and Thomas Barry Turner, Jr.
Christopher A. Rogers
Christopher Cochran and Frances Cochran
Christopher E. Caddis and Marlo R. Caddis
Christopher G. Powell,Trustee for the Samuel C. Powell Irrevocable Trust & Karen Powell
Christopher Michael Faulkner
Christopher P. Johnson
Christopher P. Maltby
Christopher R. Blair and Anna F. Blair
Christopher T. Benkosky and Jennifer L. Benkosky
Christy Barefoot
Cindy Lou Smith Clark and Elizabeth Ann Bailey
Clara H. Jennings
Clarence E. Piper
Clarence Haymore, Jr.
Claude S. Whitehead
Claudia Belfield
Clayton C. Murphy
Connie R. Mullis
Constance Dickerson and Randy Steven
Cornelius Howlett and Linda Lou Y Howlett
Coy B. Frith, Jr.
Craig Drye
Cruciger
Curtis S. Millner
Cynthia C Cobb
Cynthia King Smith Mance
Cynthia Mae Caudill Cobb, Kenneth W. Cobb and Teresa Cobb Massey c/o Teresa Cobb Massey
D. Dale Page and Sue Brooks Page
D. L. Motley
Dale Frank Tate
Dale L. Proffit and Linda C. Proffit
Dale Ray Combs and Jean W. Combs
Dana H. Sparks
Daniel A. Hughes and Margaret M. Hughes
Daniel Garrett, Janice Garrett and David Hutson
Daniel James Bombardier
Daniel Lee Bates and Emily Talbott Bates
Daniel R. Falk and Anita C. Kuchera
Daniel T. Deutermann and Kelly A. Deutermann
Danny M. Barber
Darrell Hugh Davis
Darrell R. Turner
Darryl D. Pennington and Leigh A. Pennington
Daryl M. Powell and Tina A. Powell and Danny Lee Powell
David and Rene Neff
David and Sharon Middendorf
David C. Dalton and Nancy C. Dalton
David C. Johnson and Karen R. Johnson
David Eugene Fonville
David H. Crane and Joyce J. Crane
David K. Naylor
David Lee Adams and Teressa H. Adams
David Lee Harbour and Nancy Ann Denny
David M. Edwards and Linda L. Edwards
David M. Hughes
David N. Smith and Pamela C. Smith
David Neal Guill and Wanda B. Guill
David Nelson Cox and Sue Nash Cox
David P. Hensley
David R. Mehalko
David Travis
David W. Stowe and Nancy C. Stowe
Dawn Louise Ratliff
Deanna Pinnix Thompson and Stanley Thompson
Debbie Smith
Debra Dayle Driver Blanchard
Deborah Amaral
Deborah L. Bohannon and Betty G. Bohannon
Deborah S. Boothe
Deborah Whittington
DeLane King, Robert King, Sr., and Robert King, Jr.
Delmus S. Broadnax, Bill R. Broadnax & Others
Delores A. Odell
Deloris Poser
Demetria Williamson
Dena A. Lawson
Denise Shotwell
Dennis Lee Hughes and Nancy Hughes
Dennis Scott Harris and Robin A. Harris
Dennis W. Loye and Arlene W. Loye
Dennis Wayne McCollum
Dewey Alton Brown

Dianne E. Adkerson and Boyd W. Adkerson

Donald Clyde Iseley and Phyllis B. Iseley
Donald Deboe and Kim G. Deboe
Donald Eugene Radsick, Jr. and Caron Claudia Radsick
Donald Glenn and Melissa H. Walker
Donald L. Brown and Wilma S. Brown
Donna Buttry Cochran
Donna G. Moser and Brian T. Hamilton
Donnie W. Haymore
Dora Ann Atha
Doris C. Flinchum
Doris C. Gilliam Irrevocable Trust
Dorothy Hamlet
Douglas Settle, Jr.
Duane W. Neal
Dustin and Haley Saul
Dwaine R. Strader, Albert G. Strader et al
Earl B. Horner, Jr. and Ann H. Harris
Earl Melvin Worsham and Joan A. Worsham
Eddie L. Roland and Andy W. Moore
Eddy A. Irving and Jennifer Irving
Edith Kernodle Khateeb
Edna Mae Young
Edward D. Purcell and Norma Jean Purcell
Edward Jay Frisbee and Krystal Siegel Inman Frisbee
Edward Lee Lewis
Efren Salinas and Maria Socorro Guerrero
Elaine Chiosso
Elizabeth Ann McKinney Talley
Elizabeth Holly Ore
Elizabeth Ore and Peter Cowan
Elizabeth Y. Wilkins
    Otis Edward Young Estate & Orak Young Estate
Ella West Bason
    Ella West Bason Life Estate
Ellen S. Roberts
Ellen Willets Turlington and James Anthony Turlington
Elmo Franklin Bridges and Judith Sandridge Bridges
Eloise R. Richardson
Elva Teeters
Emigdio Castro and Humberto Castro
Emily Louise Turner and Christopher Perry Turner
Emma H. McGinnis
Erika Cassell
Ervin Junior King
Estate of Furman E. Coggins and Teresa Ann C. Freeman
Estate of Jeanette G. Hicks
Estate of Mattie N. Harrison c/o Ardell Harrison
Estate of W. H. Matkins c/o Phillip H. Brown
Estate of Walter Sanford Harrison c/o Anna H. Wingate
Esther P. Blanchard
Eunice Kenodle
Evelyn S. Strader, Henry E. Strader, Jr., Sandra K. Strader and Garry D. Strader
Everett Nesbitt Jarrett, Jr.
Faedra Schleif
Fay B. Woods and Sandy E. Woods
Faye Barber-Cook
Faye L. Lowe and Glenn Anthony Lowe
Felix Reymundo Felix
Floyd Dishmon and Ramona Dishmon
Frances Ann Kistler-Gervasio
Frances Anne Kistler
Frances Gwendolyn Page Post
Frances M. Crews and Gail M. Held
Frances S. Gammon
Frances U. Pruitt and Thomas M. Pruitt
Francis D. Grooms and Mary Grooms
Francis M. Martin, Thomas O. Martin and Anna Martin Day
Frank C. Hall and Verlie J. Hall, Trustees
Frank E. Bell and Julian Boyd Bell
Frank Junior Emerson and Mildred W. Emerson
Franklin I. Bass
Fred Allen Vaughn, Jr.
Fred Lehman and Carol Lehman
Fred Preston, III and Fred Preston, IV
Fred Vaughn
Freddie S. Evans and Shirley C. Evans
Freddy Chavez
Furman E. Coggins and Bobby Davis Coggins
G.N. Cochran
Gail A. Brewer and George L. Brewer
Garland Thomas Loy
Garry Michael Faulkner
Gary F. Massey and Mary H. Massey
Gary L. Allred and Robin Allred
Gary Lee Loye
Gary Neil Pennington and Elizabeth Cheek Pennington
Gary Purgason

Geneva Journigan
Geneva M. Carden and Lora C. Davis
George J. Hicks and Jeanette G. Hicks
George T. Freeman and Wanda C. Freeman
George Walter Johnson, III
George Walter Johnson, Jr.
Gerald E. Phaup and Jo Anne A. Phaup
Gerald Franklin Mills and Ratiscqua Tierra-Nicol Mills
Gerald Wayne Stone and Peggy P. Stone
Geraldine Johnson
Geraldine Millner
Glenn Anthony Lowe
Glenn Bozorth
Glenn David Roach
Glenn E. Nordh and Jordan B. Nordh
Glenn L. Cantrell, Gaynell C. Leazer, Janet C. Radford
Glenn R. Chriscoe and Regina W. Chriscoe
Glenna S. Jackson
Gloria H. Allen, et al
Gloria W. Whitfield
Gordon Allen Gunn and Martha Gunn
Gordon Jay Shropshire and Teresa Townsend Shropshire
Graciela E. Cornejo
Gregg Alvin Huffine and Shannon Huffine
Gregory Harold Purdy and Mitzi Joyce Purdy
Gregory J. Gunderson
Gregory Scott Hughes
Gregory Wayne Madren
Gurney E. Montgomery
H. Jackson Lee
Harold H. Tate and Peggy W. Tate
Harris Lee Taylor and Frances A. Taylor
Harry Do Welker, Jr.
Harry Lee Carter and Stacy Somers Carter
Harry Phillips
Harry Porterhouse
Harvey Wayne Joyner and Jannice Williams Joyner
Heather Page Morton
Helen S. Moore and William B. Moore, Jr.; Susan C. Moore
Henry Hall
Henry W. Summers and Marsette C. Summers
Henry Wesley Hair and Brenda Foulks Hair
Herbert E. Hooper and Doris Roberts Hooper
Herman C. Johnson
The Herman Colon Johnson Irrevocable Trust of December 2012
Howard Frank Pickrell
Howard J. Shelton and Lana E. Shelton
Howard L. Dunn, Jr. and Patricia L. Dunn
Ilene Byrd and Eve Sharpe
Ilona Flowers
Irye Ray Emerson and Carol H. Emerson
Irye Ray Emerson, Sr.
Issac C. Hill and Brandy A. Hill
Ivey Dunn Gilliam
J. I. Chandler and Irene Chandler
J. Leon Moser and Martha A. Moser
J. Mack Garrison and M. Earl Garrison
J. Scott Sharp and Paige D. Sharp
J.L. Coleman c/o Faye Barber-Cook
Jack Cecil Willis and Margaret L. Willis
Jackie Burris Johnson and Ted Mack Johnson
Jackie Jobe, Annie Burke, et al
Jackie Lee Reese
Jackie R. Thompson and Eldean W. Thompson
Jackie Ray Atkinson
Jackie Ray Atkinson, Jr.
Jacqueline Howlett Aheron
Jake Elmer Wade
James Arthur Quesinberry
James B. Martin and Rachel B. Martin
James C. Trent, Jr.
James Cecil Stone and June C. Stone
James D. Hauser and Kim S. Hauser
James D. Norris
James D. Smith and Carol W. Smith
James Daniel Fleming and Brandy Bright Fleming
James David Browder
James E. Bolden and Mary L. Bolden
James Early Estes
James Edward Laws and Joan Laws
James Edward Powell
James Elmoe Woods
James F. Curry and Pauline K. Curry
James Felix Stanley
James Franklin Richardson
James Henry Law, Jr., Marguerite Law, Life Tenants, et al c/o Laura P. Law
James J. King
James Knapp
James L. Chaney
James L. Howlett Trust
James Leroy Hazelwood and Alma H. Boaze

James Lowell Kernodle and Mary Ann Kernodle
James McAlister, Jr.
James Michael Buckner and Denise E. Buckner
James Michael Powell
James R. Harper
James Reed Barber and Marion Barber
James Robert Lewis
James T. Walker and Brandi M. Walker
James Thomas Brim and Betty Earline Brim
James Trotter Scearce and Wanda A. Scearce
James Wayne Kernodle
James William Walker
Jamie T. Fonville, Jr.
Janelle Austin and Wesley Austin, Sr.
Janette L. Riggan and Laura S. Hale
Janette L. Riggan and Marsha E. Firth
Janice Timpson
Janie Barber Patterson
Jason M. Broyles and Angela N. Broyles
Jay Michael Smith
Jean H. Caldwell
Jean W. Lucy
Jeanne O. Bagby
Jeff Harbinson
Jeffery B. Harrison, Executor
Jeffrey A. Eichinger and Jeanne R. Eichinger
Jeffrey Carr Whitley and Tonia Pillow Whitley
Jeffrey D. Guill and Gena F. Guill
Jeffrey L. Crutchfield and Barbara C. Crutchfield
Jeffrey Lynn Clayton and Angelia Wyatt Clayton
Jeffrey T. Catherman
Jennifer L. Simpson
Jeremy Walker
Jerry A. Beckom
Jerry A. Lewis and Ardenia W. Lewis, c/o Alan Lewis
Jerry B. Blackwell and Elinor Blackwell
Jerry Ben Betterton and Joyce M. Betterton
Jerry E. Farmer
Jerry Lee Warren and Nancy Martin Warren
Jerry Leon Bell and Pricilla Gerringer Bell
Jerry Richmond and Penny Richmond
Jerry Robertson Davis
Jerry W. Holyfield and Betty W. Holyfield
Jerry Wayne Martin, Jr. and Rebecca Henderlite Martin
Jesse H. Taylor and Dewey T. Taylor
Jesse J. Carty and Kimberly G. Carty
Jesse James Davis and Cheri Booth Davis
Jesse K. Kendrick and Shirley H. Hendrick
Jessica L. Alcon-Bright and David E. Alcon
Jessica Nicole Waller, Stanley Heath Shelton, Leslie Howard Shelton and Betty Heath Shelton
Jo Ann Parrish Atkinson
Joe Torres
Joel Larry Boggs
John A. Alvis Sr. Heirs
John Andrew Kallam
John Auman Alvis, Sr. and Francis Galimore Alvis
John Brewer and Mary Brewer
John G. Mitchell and Phyllis H. Mitchell
John H. Winn, Jr. and Tracy L. Winn
John Herold and Anne Cassebaum
John Inge
John Morton Glenn and Mary Leigh Copeland Glenn
John N. Hester, III et al
John O'Keefe
John P. McMichael and Susan L. McMichael
John R. Schwarz
John Ray Cole and Ravonda Lynn Cole
John Thomas Berry, Jr. and Dorothy C. Berry
John Thomas Hyler and Elizabeth Smith Hyler
John W. Craddock, Jeffrey E. Craddock and Kenneth M. Craddock
John W. McCollum and Ruth M. McCollum
John Wilbur Ring
Johnnie W. Foster, Sr. et al.
Johnny C Porter and Margaret D. Porter
Johns M. Martin and Johnnie M. Martin
Jonathan D. Hall
Jonathan L. Glenn
Jonathan N. Hollie and Christina R. Hollie
Jordan Delano Simmons and Patricia B. Simmons
Jose A. Zamora and Tammy B. Alverez
Joseph Erwin Gant
Joseph Garvin Sutliff
Joseph R. Jacaruso and Susan M. Jacaruso
Joseph Williams and Dina Williams
Joyce C. Vaughn Revocable Trust
Joyce F. and James G. Anderson
Joyce Hyler Marshall
Juanita M. Howlett

Judith Sandridge Bridges
Judy M. Johnson
Julian W. Robertson et al
Julie Wynn Snead
June T. Soyars
Junior Franklin McBride and Joyce W. McBride
Justin Tuggle and Kelly Tuggle
Justin William Smith
K. Raney
Kalyn Hamilton
Karen Amos Hodnett
Karen B. Maute
Karen L. Taulker
Karen M. Harris
Edna Whitlow Revocable Trust
Karen M. Harris and Joseph L. Clark
Karen McMasters
Katherine Fox
Katherine V. Bayless
Kathleen M. VanDerHyde
Kathryn Knapp Collins
Kathryn M. Nicholson
Kathy Crutchfield Nelson and Jeffrey Davis Nelson
Keith C. Hylton, Sr. and Linda B. Hylton
Keith L. Miller, Jr. et al
Kenneth D. Hawkins and Teresia E. Hawkins
Kenneth Hall and Margaret Evelyn South Hall
Kenneth L. Hudson and Patricia A. Hudson
Kenneth R. Hayes and Teresa G. Hayes
Kenneth W. Bates
Kenneth Wayne Bates, Kenneth W Bates, II and David Lee Bates
Kevin Paul Cobb and Christina Rene Cobb
Kevin W. Hogsed and Jane Turner Hogsed
Kim F. Umstadter
Kimberly L. Capps and Alan G. Capps
Kimberly Michelle Kellam and Carol Lavone Kellam
Kyle O. Garner and Sherri S. Garner
Lacosta J. Hayes and Roger D. Hayes
Lacy Allen
Larry B. Kessler
Larry D. Shambley and Donna S. Shambley
Larry Johnson & Julia R. Johnson
Larry K. Thacker and Judy B. Thacker
Larry Lee Denny and Christine L. Doss and Brad Lee Denny
Larry Wayne Pinnix
Laura K. Palmer
Laurence Tipton
Laury M. Hayes
Lawrence E. Hylton and Robin B. Hylton
Lee C. Carr
Lee Nathaniel Johnson and Abby Dalton Johnson
Leila Wright
Lelia H. Brown
Lelia Jones Tranbarger
Len McCauley
Lenore G. Zamora
Leonard T. Johnson, Jr.
Leonard W. Strickland and Doris O. Strickland
Lewis B. Aldridge and Barbara Aldridge
Lewis E. Dishmon and Kay S. Dishmon
Lib Hutchby
Linda Gail Mckinney Kennedy
Linda Rosborough
Maxine K. Rosborough Estate
Lisa B. Shorter
Lisa Rudine W. Gillie
Lisa Rumley Conklin
Lloyd C. Duffey and Deborah Y. Duffey
Lloyd G. Tucker and Faye Isley Tucker
Lonnie and Patricia Seibert
Lonnie M. Williams and Michelle L. Williams
Lora A. Carden, Samuel J. Carden, Karen C. Crusberg and Susan C. Parker
Loretta B. Madren
Lori A. Whitfield
Lori D. Webster and R. Alan Dyer
Lori Dyer Webster
Lori Thorn
Lou Ann Harris
Lowell Strickland, Estate and Glenn C. Strickland
Lue Hester Finch
Luther Marshall Cobb, Jr., Steven L. Cobb, Kenneth W. Cobb and Teresa Cobb Massey
Lyn Carlisle
Lynda Dodd Justice
Lynn C. Horner and Lisa J. Horner
Makayla J. Maness and Colby B. Scott
Malcolm Dale Roach and Jeanette R. Roach
Malcolm Dale Roach, Jr.
Margaret Ann McDaniel Estate
Margaret Earlene Odell Estes, Pamela Estes Ragland and Ralph Edward Estes
Margaret H. Paschal

Margaret Katherine Whitehead and Robert Walton McNutt Jr.
Margaret Marie Kendrick Corum Thomas
Margaret W. Smith and Robert L. Smith
Margie P. Manley
Margie Williamson
Estate of Elnora Miles
Marie O. Bass
Marilyn Tucker
George W. Tucker Estate
Marion H. Gwynn
Mark A. Jarrett and Virginia G. Jarrett
Mark Hampton Kennon
Mark L. Faucette, Trustee of the Betty B Faucette Irrevocable Trust, Mary Emogene Faucette
Mark Leatherwood
Mark M. Johnston and Tammy M. Martin
Mark W. Hallman and Gail G. Hallman, Wanda G. Hallman, and Steve Hutchinson
Mark W. Hallman, Jr.
Marsha Blanchard Hicks
Marsha F. Fernandez
Marshall H. Kendall
Martha B. Brown
Martha Diane Soyars
Martha Vernon McCollum and Robert Edward McCollum
Marva Brim Jumper
Marvin E. Hylton and Margaret E. Hylton
Marvin Lee Strickland
Mary and Joe Gant
Mary Barnes Murphy and Clinton Irene Barnes
Mary Ella Scott
Mary Gant
Mary Hardy Betterton
Mary Hyler Fitch and James David Fitch
Mary Mitchell Thomas
Mary Nelson Underwood
Maureen B. Sweeney
Maurice H. Vaughan, Jr. and Lusanna L. Vaughan
Maxine K. Rosborough Estate c/o Nancy Rosborough
Maxine K. Rosborough Estate, c/o Linda Rosborough
Maynard M. Smith and Lois I. Smith
Mel Aldridge and Angela Hinton Aldridge Family Revocable Trust
Melanie J. Ogletree and Larry D. Clark
Melinda L. Smith
Melissa Summerlin Pruitt and Brian Michael Pruitt
Melody Lynn Speaks
Melvin E. Sheckells
Melvin F. Stone and Deborah S. Stone
Melvin S. King
Michael A. Greene and Jane N. Greene
Michael A. Warren and Karen Warren
Michael Brown
Michael Brown and Laureen Brown
Michael C. Bray and Teresa S. Bray
Michael Edison Rascoe
Michael Glenn Wallace and Paula Rochelle Wallace
Michael Harrison
Michael J. Dishmon and Joyce M. Dishmon
Michael Lee Ward
Michael Lewis Neal and Janine R. Neal
Michael Lynn Barnette and Karen Barnette
Michael O. Paschal and Barbara Knowles Paschal
Michael R. Stowe
Michael Robert Comer and Jonna C. Comer
Michael Stephen Madren
Michael Stephen Madren and Patsy Lloyd
Michael T. Benesch and Darlene B. Benesch
Michael Wheeley and Wanda Wheeley
Michele Aust
Michele P. Moon
Michelle T. Kennon and Melissa Kennon
Mildred W. Emerson, Clarence A. Emerson, Jr. and Robin K. Emerson
Milton Dickerson and Sherrie Darlene Dickerson
Minnie Lee Cox
Mitch and Stephanie
Mitchell M. McEntire and Virginia McEntire
Mogan Blanchard Thompson
Munsey R. Jones and Judieth W. Jones
Myra P. Cathey and Anthony Cathey
Nadine L. Maness Life Estate Indian Village
Nancy H. Weatherford
Nancy M. Evans and Sherry Ellen Evans Reynolds
Nancy Roscoe Hughes
Nasser Hallaji and Violet Ann Hallaji
Neil R. Fedin and George Thomas Foster
Nellie Mann and William Franklin King
Nettie A. Woods, et al
Nicole Spiven
Nicole Tafton Balderas and Jose Juan Balderas Camargo

Norma Blakey
Norman Lehnhardt
Noyd Grayson Eaton and Joseph T. Eaton
Otis L. Foster and Louise J. Foster
Owen McKenzie Living Trust and Marta McKenzie Living Trust c/o Butch McKenzie
Pamela J. Muller
Pamela Knowles Isley and William Jerry Isley
Pamela Susan Scott
Patricia Faye Alvis
Patty Johnson Williams
The Herman Colon Johnson Irrevocable Trust of December 2012
Paul Bennett East, Jr. and Samuel D. EastPaul Edward Robertson
Paul Franklin Wilson
Paul G. and Zenella R. Radford
Pearl T. Mansfield
Peggy R. Dishmon
Peggy W. May and Donnie L. Warren
Perry Blancahrd Slade and Jack Daniel Slade
Perry Slade
Pete Witty
Phaivanh Khamdy and Ketmany Khamdy
Phillip Alexander Christmas and Anita Lou Christmas
Phillip D. Hylton and Brenda L. Hylton
Phillip H. Brown
Phillip McCalister and Sheila McCalister
Phillip V. Cantrell and Donice J. Cantrell
Phillip W. Hutson and Susan H. Hutson
Phillip W. Hutson, Sr. and Susan H. Hutson
Phyllis B. Hunter
Phyllis Mitchell
Porter Lee Raines and Katie Travis Raines
Posey W. McBride
R.E. McCauley Heirs c/o Ralph McCauley
R.M. Jordan
Raeford A. Rogers and Janice A. Rogers
Ralph Loeb and Elizabeth H. Loeb
Ralph Lynn Denny
Ralph Robert Swink and Patricia Dewald Hall
Ramona Bankston Millner
Ramona Faye Millner
Randall and Janna Smith
Randy Alan Bryant
Randy C. Kernodle
Randy E. Bright and Yvonne H. Bright
Raven Lee Broeker and Cathi Jo Broeker
Ray Schaffer
Raymond Carl Thomas
Raymond D. Shisler and Anna M. Shisler
Raymond Devine and Michael L. Devine
Raymond L. Pankratz and Rebecca A. Pankratz
Raymond William Batterman, Jr.
Rebecca B. Devette
Rehwick G. James and Phyllis Rivers James
Reid N. Oakley and James Lynn Oakley
Reid Nash Oakley
Renee Womack
Rex R. Paschal and Bernice Paschal
Richard Belton and Darlene Belton
Richard G. Motley and Reva A. Motley
Richard Garner and Deborah Garner
Richard K. Lowe
Richard L. Rust and Lori R. Rust
Rick King
Rickie S. Manuel
Ricky Dale Jones
Rinda G. Brewbaker
Robert and Marcia Cauthren
Robert Andrew Cagle
Robert B. Stump
Robert Benton Dishmon
Robert C. Teeters and Elva Teeters
Robert C. Warren, Jr. and Lena Kay Warren
Robert Charles Welch Basler and Jami Basler
Robert F. Brown and Karen V. Brown
Robert F. Rhodes
Robert F. Woody, Jr.
Robert H. Gillespie and Estelle Matherly Gillespie
Robert J. Mullis and Connie R. Mullis
Robert L. Carter and Peggy G. Carter
Robert Lee Martin, Jr. and Carolyn Estes Martin
Robert M. Walker and Elizabeth Walker
Robert Matthew Overby and Kathleen M. Overby
Robert Morris Pollok, Jr.
Robert R. Bennett and Mary C. Bennett
Robert S. Fonville
Robert T. Lunsford and Karen M. Lunsford
Robert Travis Mullen
Robert W. Hensley and Mary H. Hensley
Robert William Pollok
Robert Woodson Smith and Carol S. Smith
Robin Denise Morrow
Robin T. Mullins and Rodney E. Turner
Roderick Miller

Roger D. Moser and Tammy C. Moser
Roger H. Sisson and Marie L. Sisson
Ronald David Smith, Jr. and Johanna C. Smith
Ronald Eugene Turner
Ronald K. Ward and Doris H. Ward
Ronald M. Jordan II
Ronald Michael Jordan, II
Ronnie James Snowdy and Kimberly L. Snowdy
Roscoe D. Anderson Estate c/o Eric C. Anderson
Roy L. Tranbarger and Lelia Jones Tranbarger
Roy R. Loftis and Judy J. Loftis
Roy Vanderhyde and Kathleen M. VanDerHyde
Ruby Hardin
Ruth Moore
Ruth S. Anderson
Ruthie Mae Johnson
Sadee Allen
Sam Bobby Stallings and Jean G. Stallings
Sam L. Coleman and Linda H .Coleman
Samantha Parsons
Samuel Elliott Benton
Samuel Eugene Benton and Deborah Saul Benton
Samuel J. Adkins and Christie O. Adkins
Sandra D. Payne
Sandra Madren Shoe
Sandra Thomas Jones
Sarah Faucette
Scot M. Gilbert and Louise M. Gilbert
Sean Leigh Moore and Lisa Moore
Seth Trevis Edwards and Whitney Poole Edwards
Sharon Patsy Patterson
Shawn Dwight Simpson and Karen Renee Firth
Shawn Gorman
Sherry B. Gunn
Sherry W. Burris and Ken Whitesell
Shiloh Daum
Shirley B. Baggerly
Shirley McCain Miller
Silvia L. Sandoval
Stella H. Emerson
Stephen D. Joyce and Autumn S. Joyce
Stephen P. Wilson
Steve E. Smith and Michael David Hardingham
Steven D. Allen
Steven D. Cannon and Tambitha P. Cannon
Steven L. Cobb and Cynthia Cobb
Steven L. Coleman and Debra C. Coleman
Sue I. Tipton and Laurence W. Tipton
Susan J. Tucker
Susano B. Jaimes
Sylvia Hutson Cusumano and Linda Hutson Green
Sylvia Suriani
Taftan Nicole Balderas
Takwana Stout Hopkins
Tammy Ann Hale
Tangela D. Williams
Taylor Scott Wilson
Terry Haith
Terry J Powell et al c/o Conrad Powell
Terry J. Blackstock and George L. Blackstock, Jr.
Terry Wayne Sawyer
The Allens
Thelma C. Bell
Thomas D. Newcomb, Jr.
Thomas De Wayne Brim and Monique Moore Brim
Thomas E. Annas
Thomas E. Echols, Ronnie W. Echols, Timothy K. Echols, and Norris E. Echols
Thomas E. Marsh
Thomas E. Tomerlin and Frances B. Tomerlin
Thomas Hiatt and Thomas Richard Hiatt
Thomas Michael Edwards
Thomas O. Martin and Amy G. Martin
Thomas R. Buccier
Thomas R. Wangard and Janice U. Wangard
Thomas S. Stump and Kathryn F. Stump
Thomas W. Pritchett and Lydia P. Brincefield
Tiffney Renee Jones
Tim Hamilton
Timothy Duke Roney c/o Carol Roney
Timothy L. Shelton and Elaine K. Shelton
Timothy M. Hale and Michelle P. Hale
Timothy Mark Barber and Danny Madison Barber
Timothy W. Moore and Patricia S. Moore
Todd H. Whitt and Joyce F. Whitt
Todd Sherrill
Toni D. Deaton and Tangela D. Williams
Tony D. Estes and Christina Estes
Torrey L. Roach and Amanda R. Roach

Torry and Amy Roach
Tracey A. White
Travis Garrett
Trenton James Bowman
Trevor Wayne Hale
Trojan Smith and Suzanne Smith
Valerie Mae Stone
Vallie H. Wagoner
Van W. Walker
Velma Lorene Haynes Hutson
Velma Samuel Adkins Heirs c/o John R. Adkins
Vera Kernodle Bullock
Vernon Allen Morris, Jr. and Karen Rudd Morris
Vernon S. Wilson and Cora Marie Wilson
Vince DiGirolamo
Virgil Alexander Cochran
Virginia Ann Jones Wilmouth
Virginia B. Sharpe, et al
Virginia D. Moore
Virginia Mitchell Smithers and Allen Scott Mitchell
Vivian Parsons Parrish
W. Garland Lynn and Susan Lynn
Wade L. Ray and Amber L. Ray
Wallace D. Dishmon and Patricia W. Dishmon
Walter Donald Gerringer and Tammy Haizlip Gerringer
Walter E. Vanhorn and Patricia S. Halley
Walter H. James and Tracey W. James
Walter H. James and Tracey W. James and Byron Lee Moose
Walter James
Walter L. Romine and Tammi H. Romine
Walter Randall Weddle
Walter Sanford Harrison, Jr.
Wanda H. Overby and J. Pete Overby
Wayne B. Perry and Doris R. Perry and Wayne B. Perry, Jr.
Wayne Hilliard Gillie
Wayne P. Rose and Donna T. Rose
Wayne S. Apple
Wendy P. Snow and Robert Lee Pruitt
Wesley T. French and Kristi M. French
Wetona Inez Moore
Willard L. Williams
William A. Emerson, II
William A. Lineberry
William Brian Chapmon and Meredith Lee Chapmon
William Clifford Steele, Jr.
William E Slade and Kay D. Slade
William G. Dougherty and Teresa D. Parks
William G. Williams and Margaret Williams
William H. Fonville and Jill Fonville
William H. Fonville Family Revocable Trust
William H. Johnson and Geraldine Johnson
William H. Rogers, Jr. and Judith R. Rogers
William Henry Price, Jr.
William Holt Boone and Wilma Byrd Boone
William I. Crabtree and Carolyn W. Crabtree Crabtree Family Irrevocable Trust
William Jerry Fonville, Jr.
William Jerry Fonville, Jr. c/o Belinda Beeson
William K. Strader
William K. Tapscott and Roxanne O. Tapscott
William Leonard Merritt
William Lynwood Irving
William M. Hales and Lisa S. Hales
William Melvin Pickrell and Mary Ann Pickrell
William Michael Spain and Ashley Nicole Hardy
William R. Lowry
William Roger Cobb, Jr.
William Roger Moore and Fran T. Moore
William S. Jones et al
William Seth Rascoe
William Simpson and Wanda Simpson
William T. Strickland and Ellen S. Roberts
William Timothy Walker
Wilma Anne Johnson and Andrew Nathaniel Johnson
Xanthan William Lee and Charmin Britt Lee
Yesica Becerra
Yvonne Martin Whitt
Zachary Michael Neefe and Elizabeth Seaks Neefe
Gladys Geneva King Life Estate
The Jimmy H. Coble Revocable Trust dated April 13, 2000

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# APPENDIX B.1

# Southgate Project Maps

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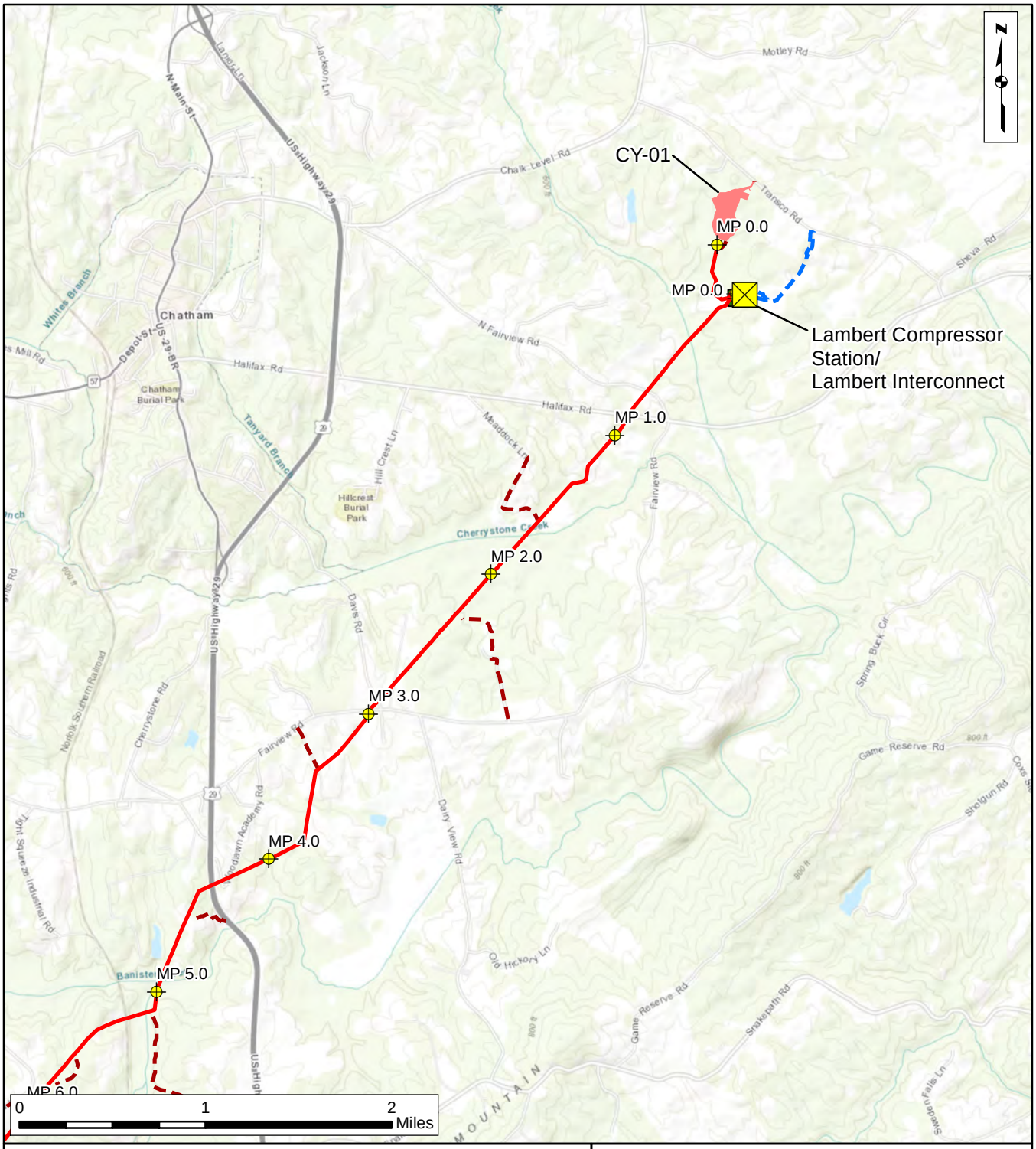


Milepost
Proposed Pipeline Route
Permanent Access Road
Temporary Access Road
Mainline Valve
Yard
Meter Station/Interconnect
Compressor Station

**Appendix B.1**

**Southgate Project**

Project Overview Map
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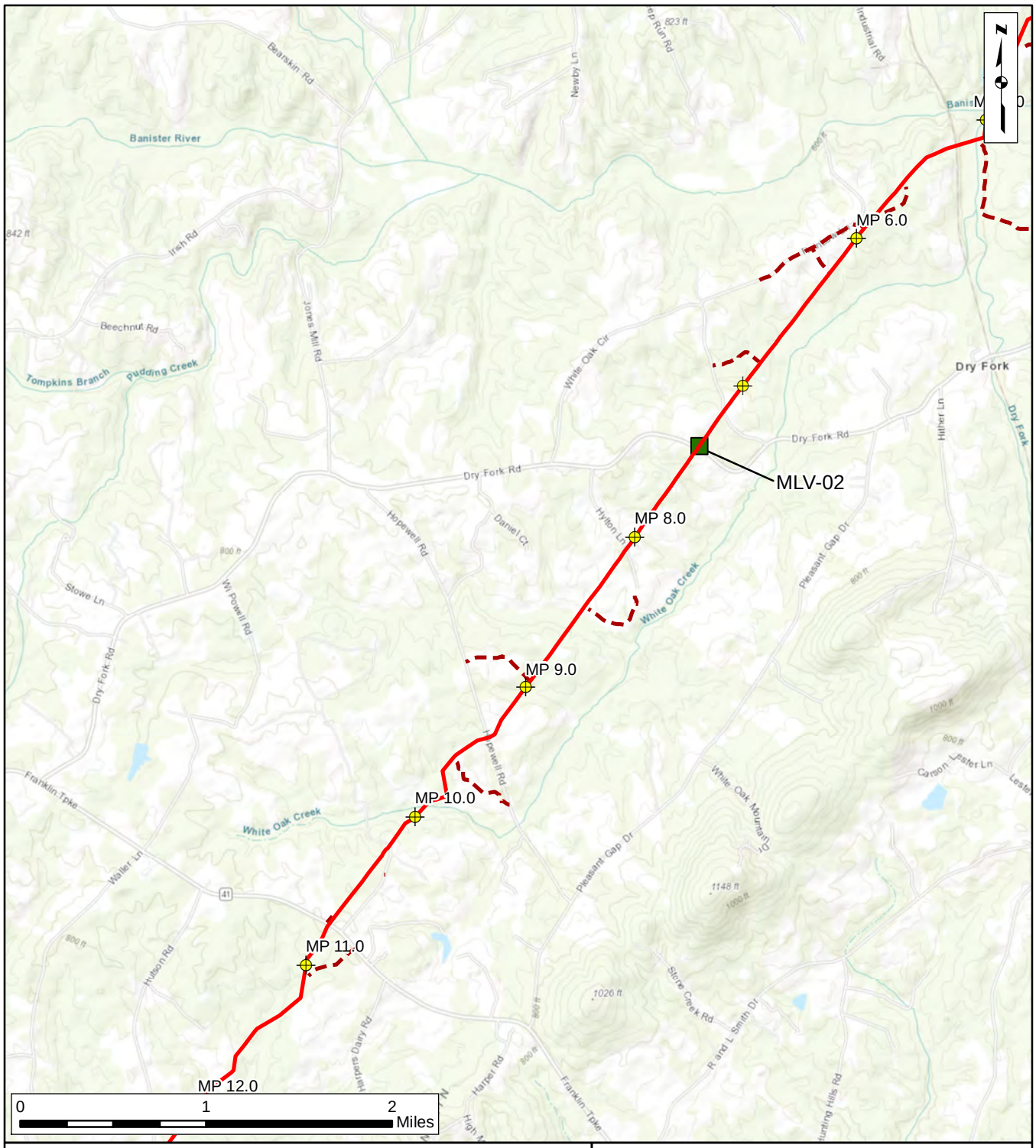
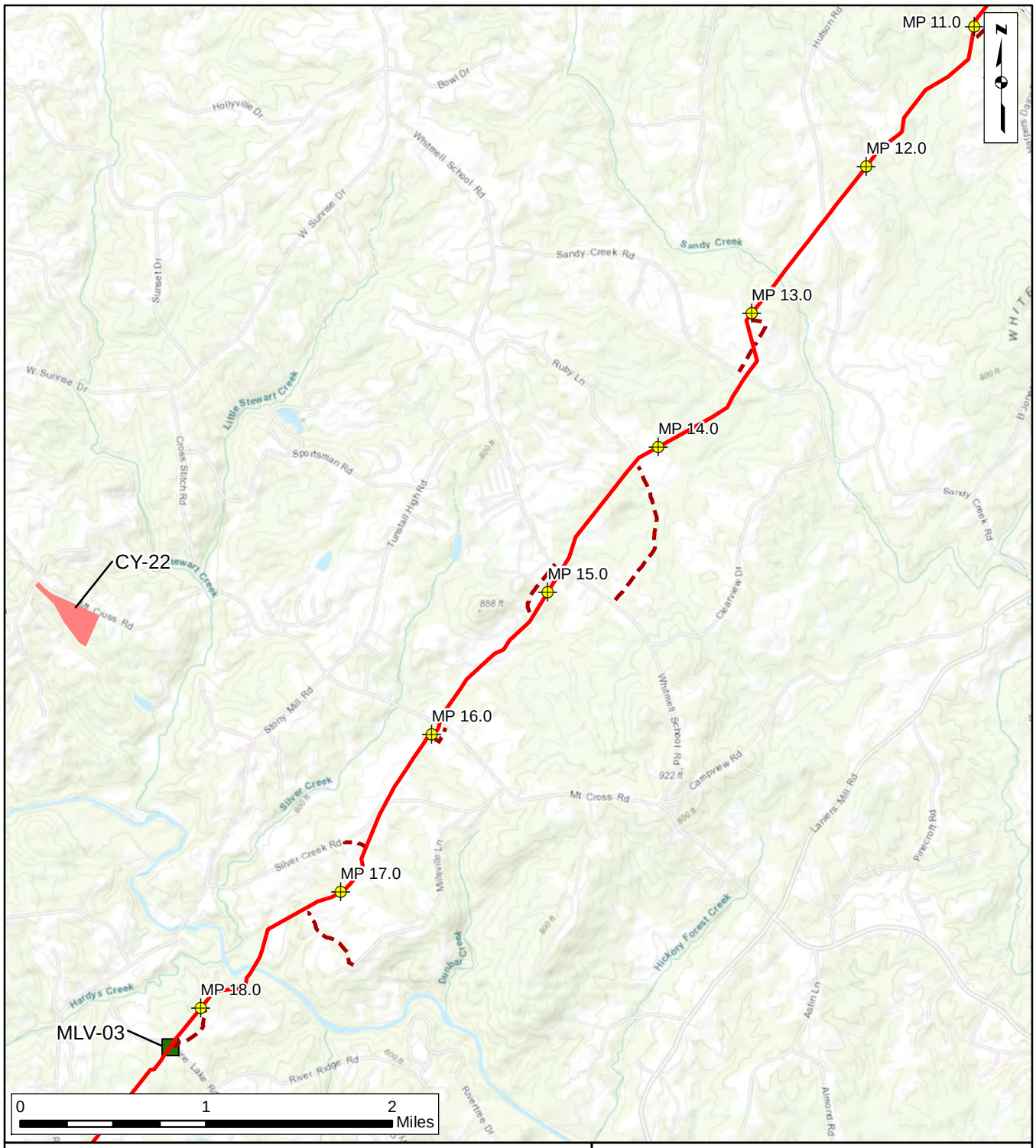



Milepost
Proposed Pipeline Route
Permanent Access Road
Temporary Access Road
Mainline Valve
Yard
Meter Station/Interconnect
Compressor Station

**Appendix B.1**

**Southgate Project**

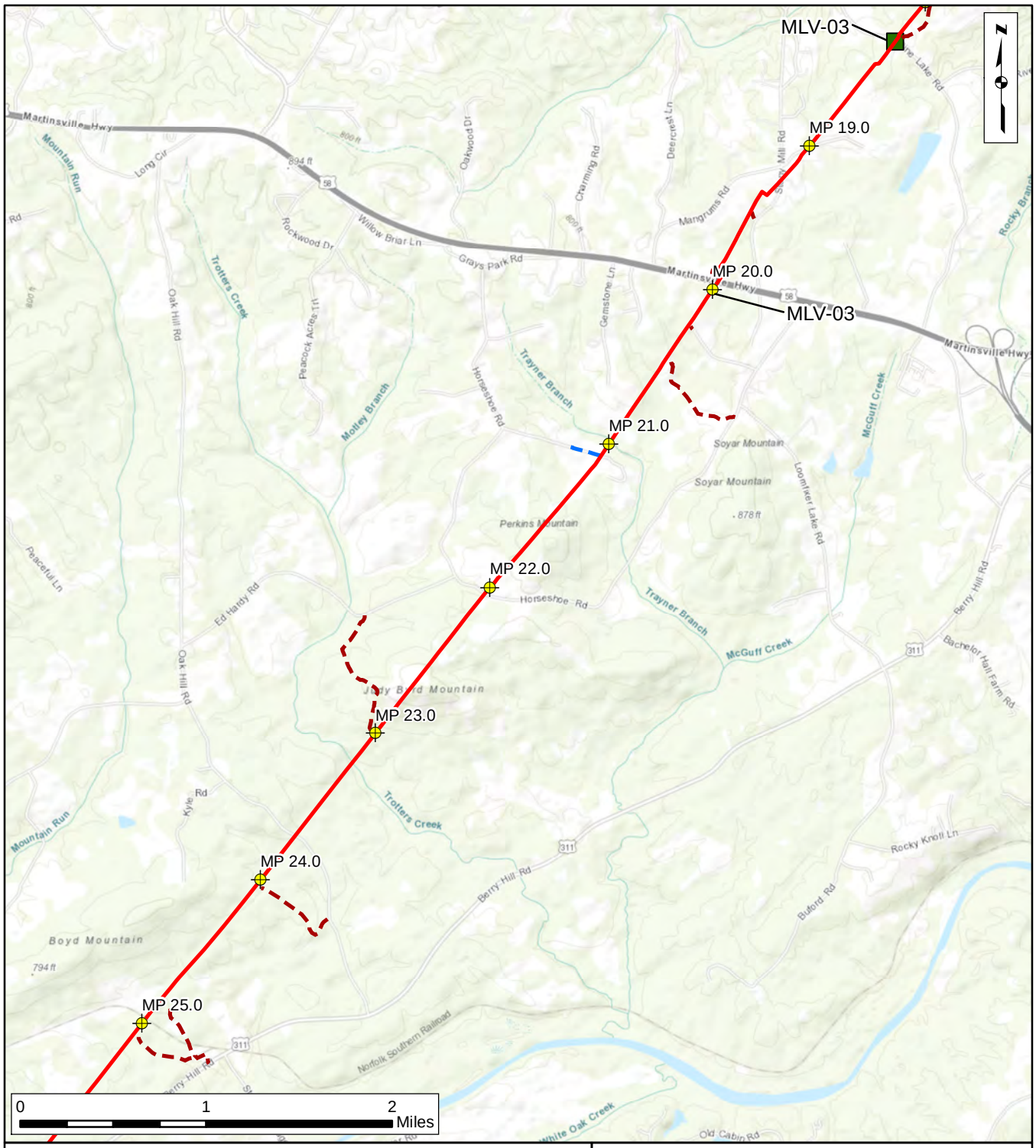
Project Overview Map
Page 2 of 14




**Appendix B.1**

**Southgate Project**

Project Overview Map
Page 3 of 14




Milepost
Proposed Pipeline Route
Permanent Access Road
Temporary Access Road
Mainline Valve
Yard
Meter Station/Interconnect
Compressor Station

**Appendix B.1**

**Southgate Project**

Project Overview Map
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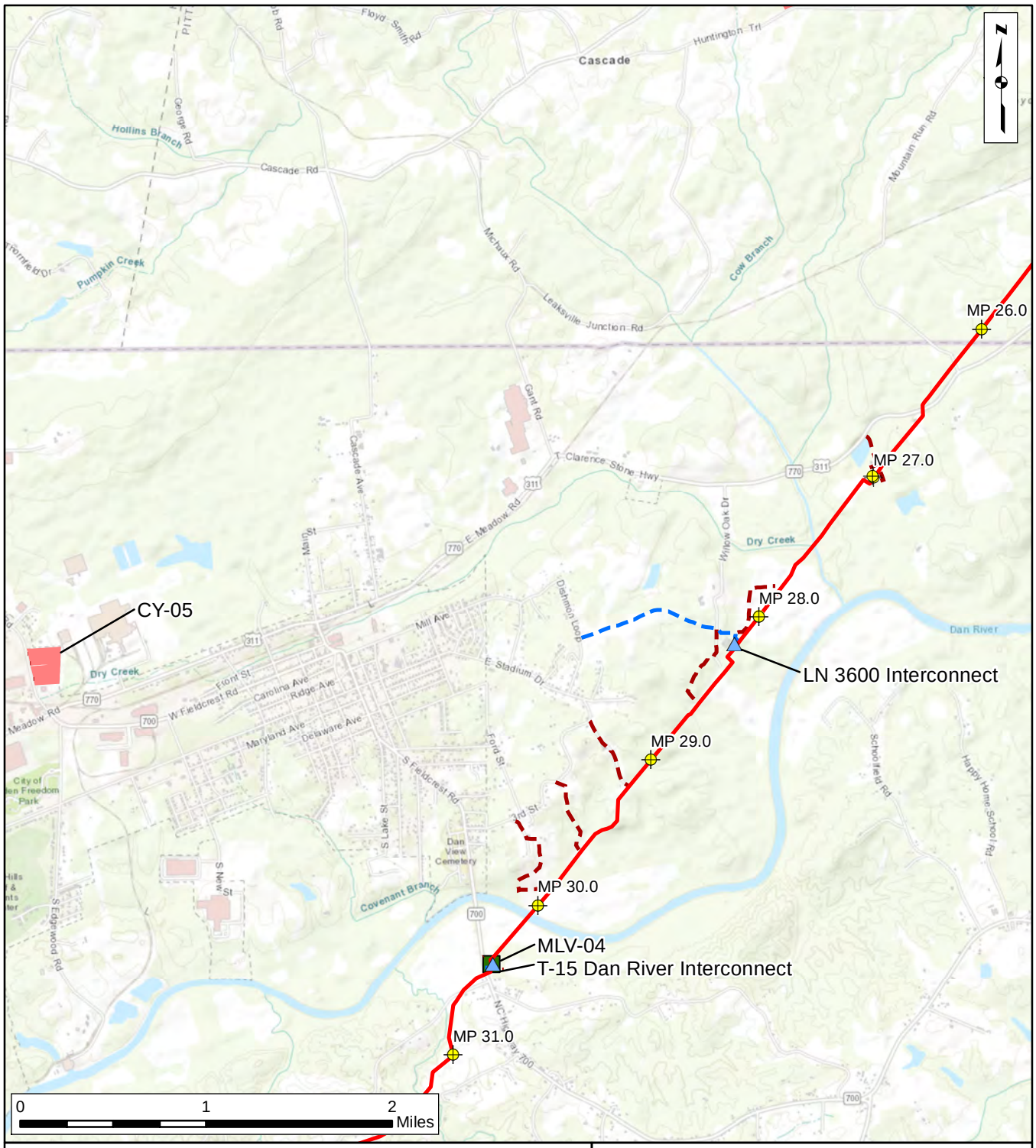
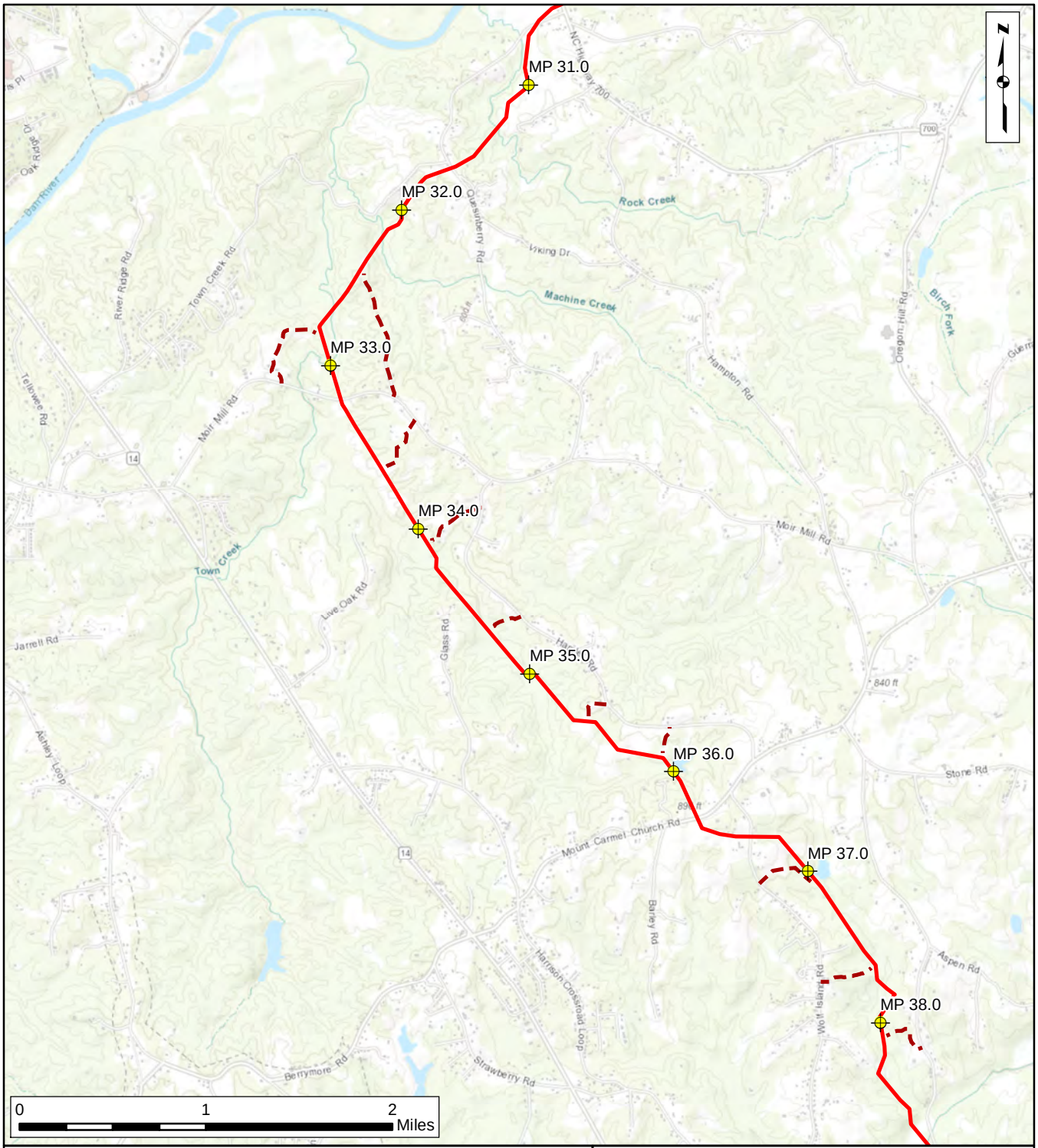



Milepost
Proposed Pipeline Route
Permanent Access Road
Temporary Access Road
Mainline Valve
Yard
Meter Station/Interconnect
Compressor Station

**Appendix B.1**

**Southgate Project**

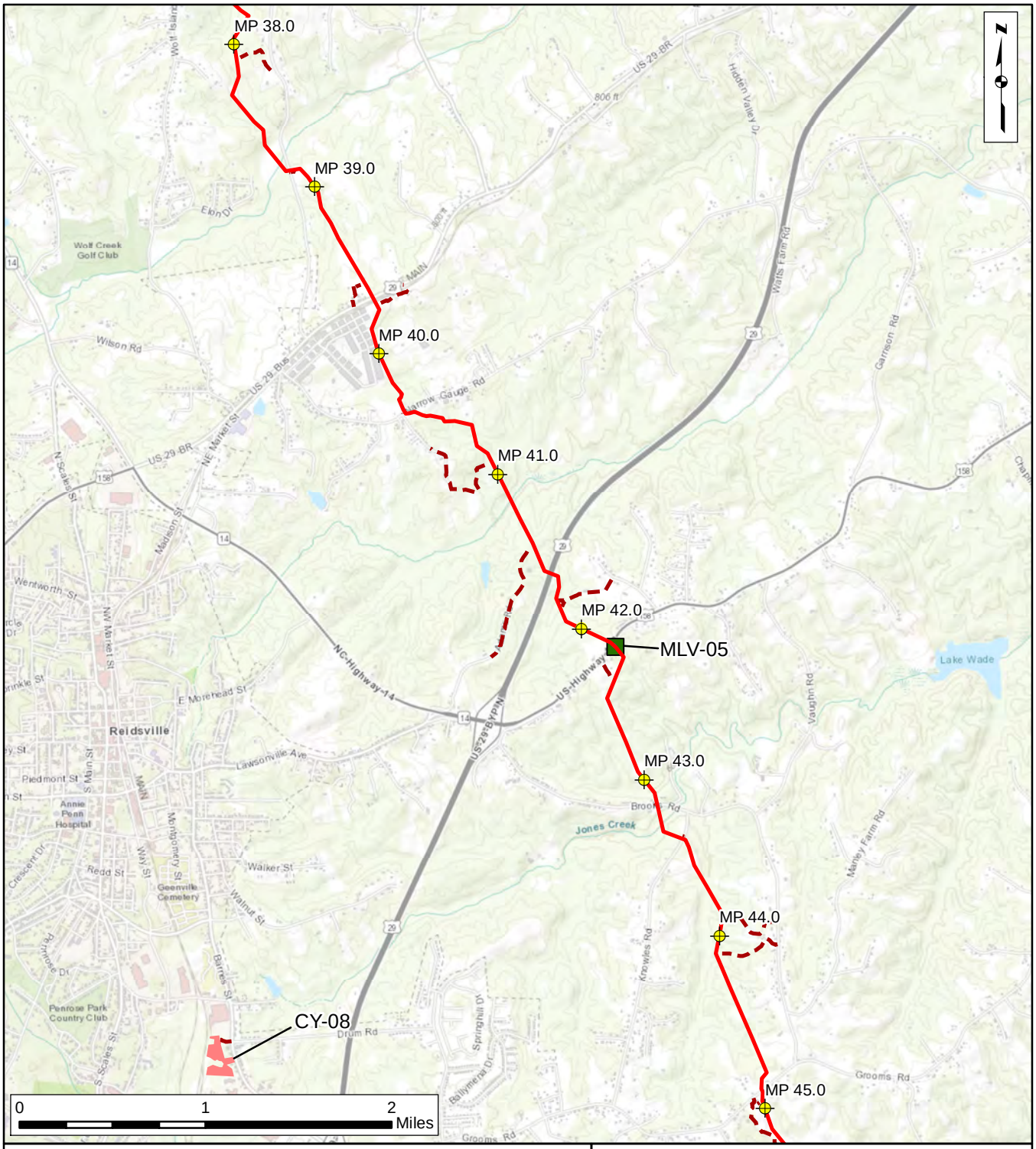
Project Overview Map
Page 5 of 14




**Appendix B.1**

**Southgate Project**

Project Overview Map
Page 6 of 14

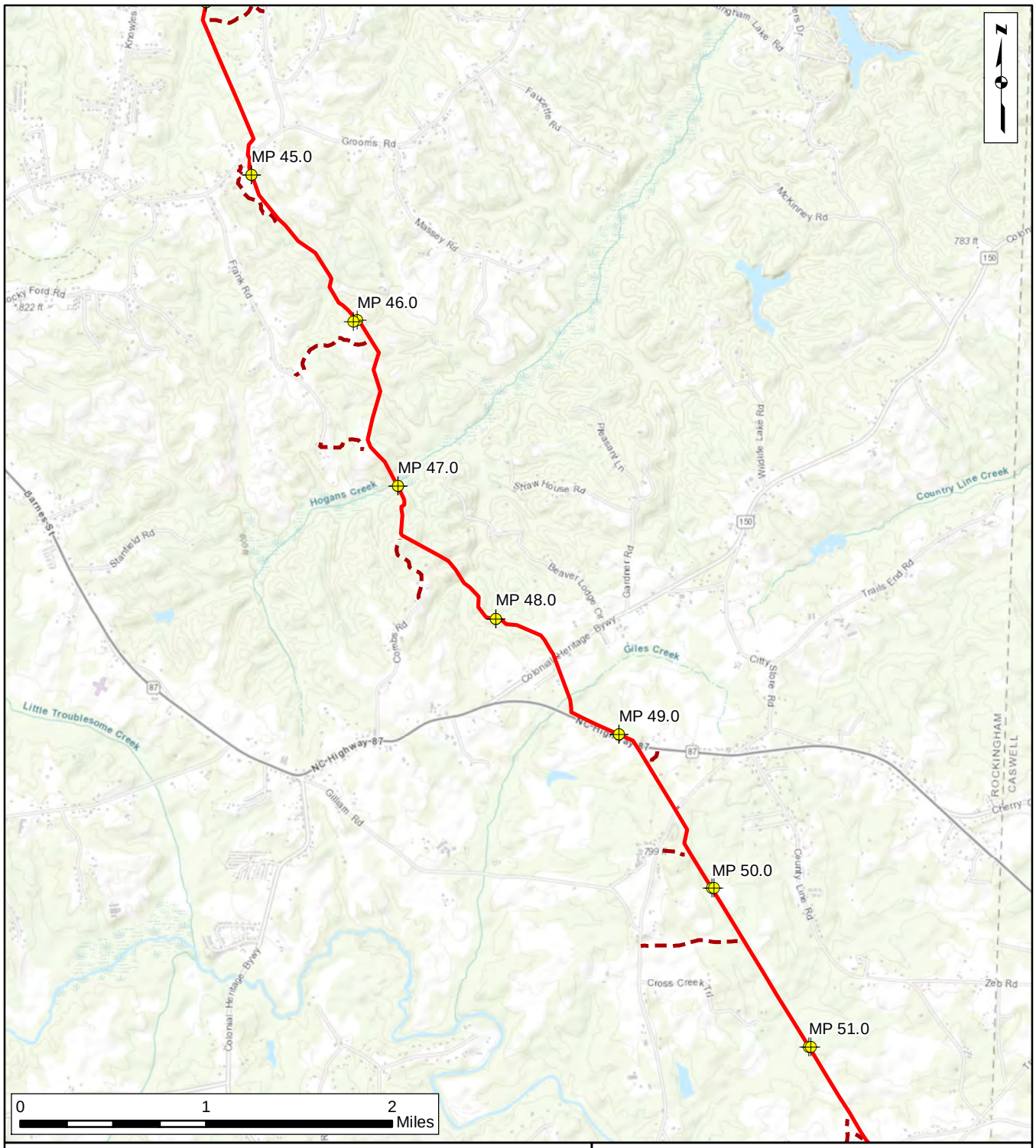



Milepost
Proposed Pipeline Route
Permanent Access Road
Temporary Access Road
Mainline Valve
Yard
Meter Station/Interconnect
Compressor Station

**Appendix B.1**

**Southgate Project**

Project Overview Map
Page 7 of 14

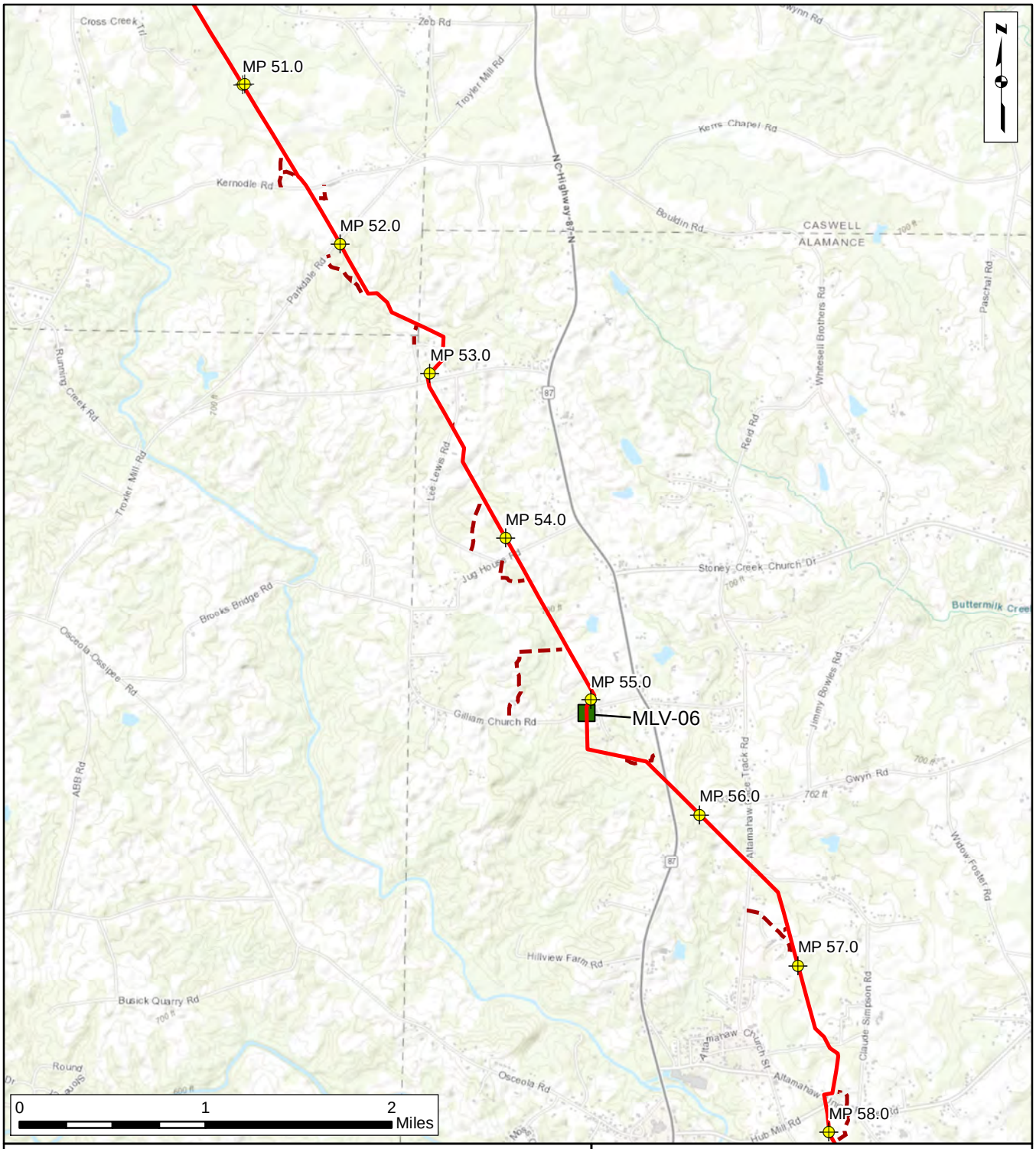



Milepost
Proposed Pipeline Route
Permanent Access Road
Temporary Access Road
Mainline Valve
Yard
Meter Station/Interconnect
Compressor Station

**Appendix B.1**

**Southgate Project**

Project Overview Map
Page 8 of 14

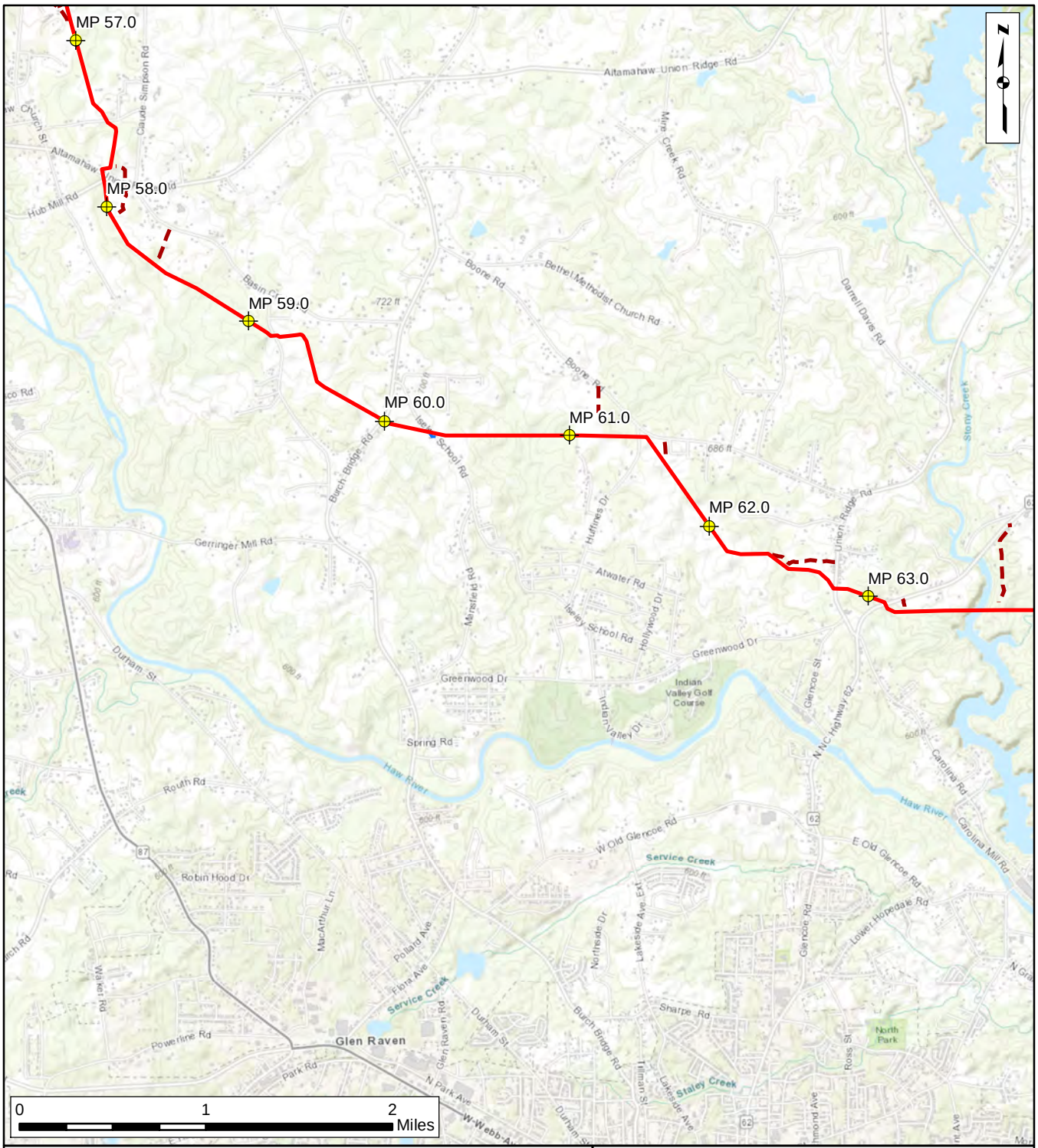



Milepost
Proposed Pipeline Route
Permanent Access Road
Temporary Access Road
Mainline Valve
Yard
Meter Station/Interconnect
Compressor Station

**Appendix B.1**

**Southgate Project**

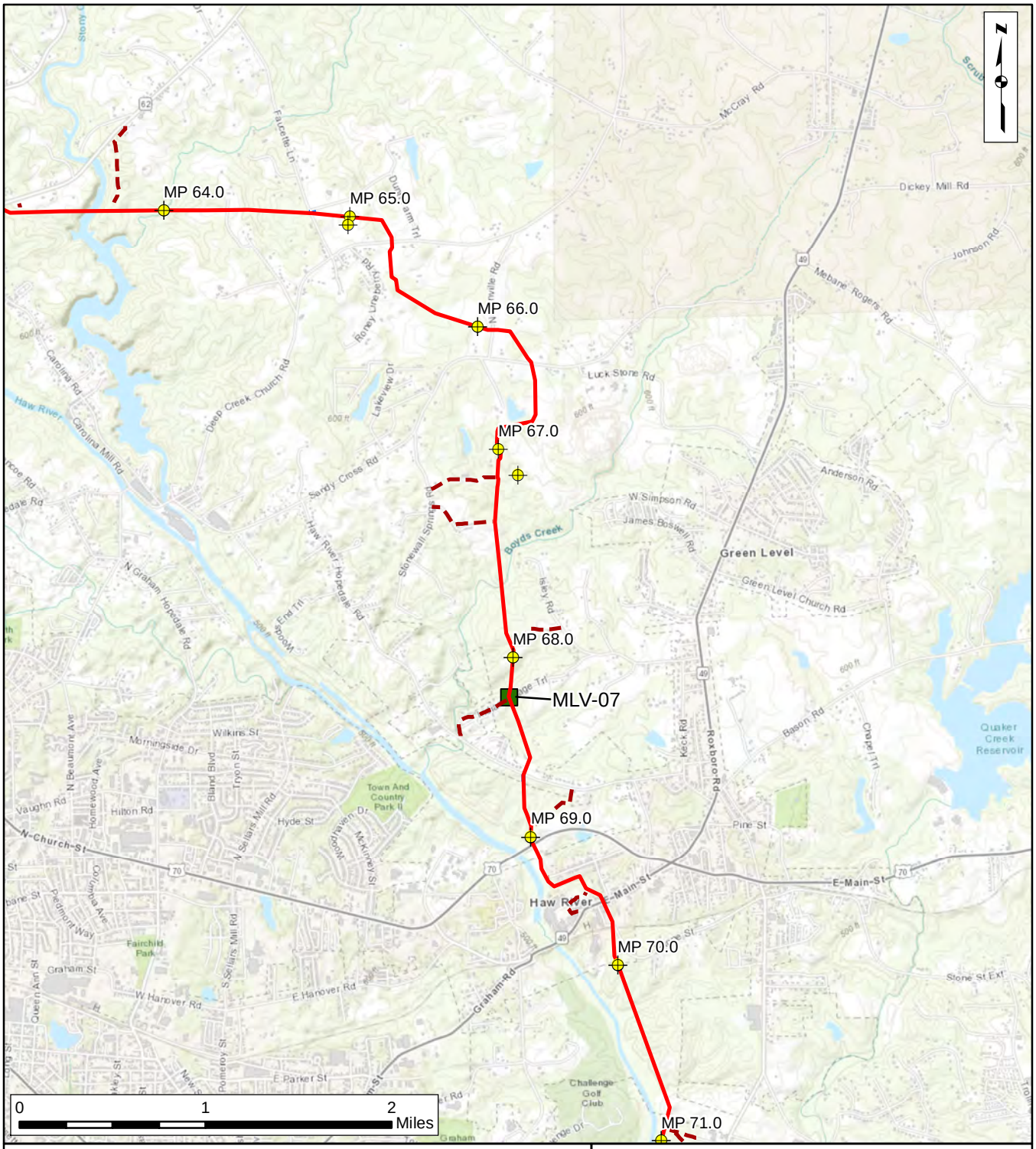
Project Overview Map
Page 9 of 14




**Appendix B.1**

**Southgate Project**

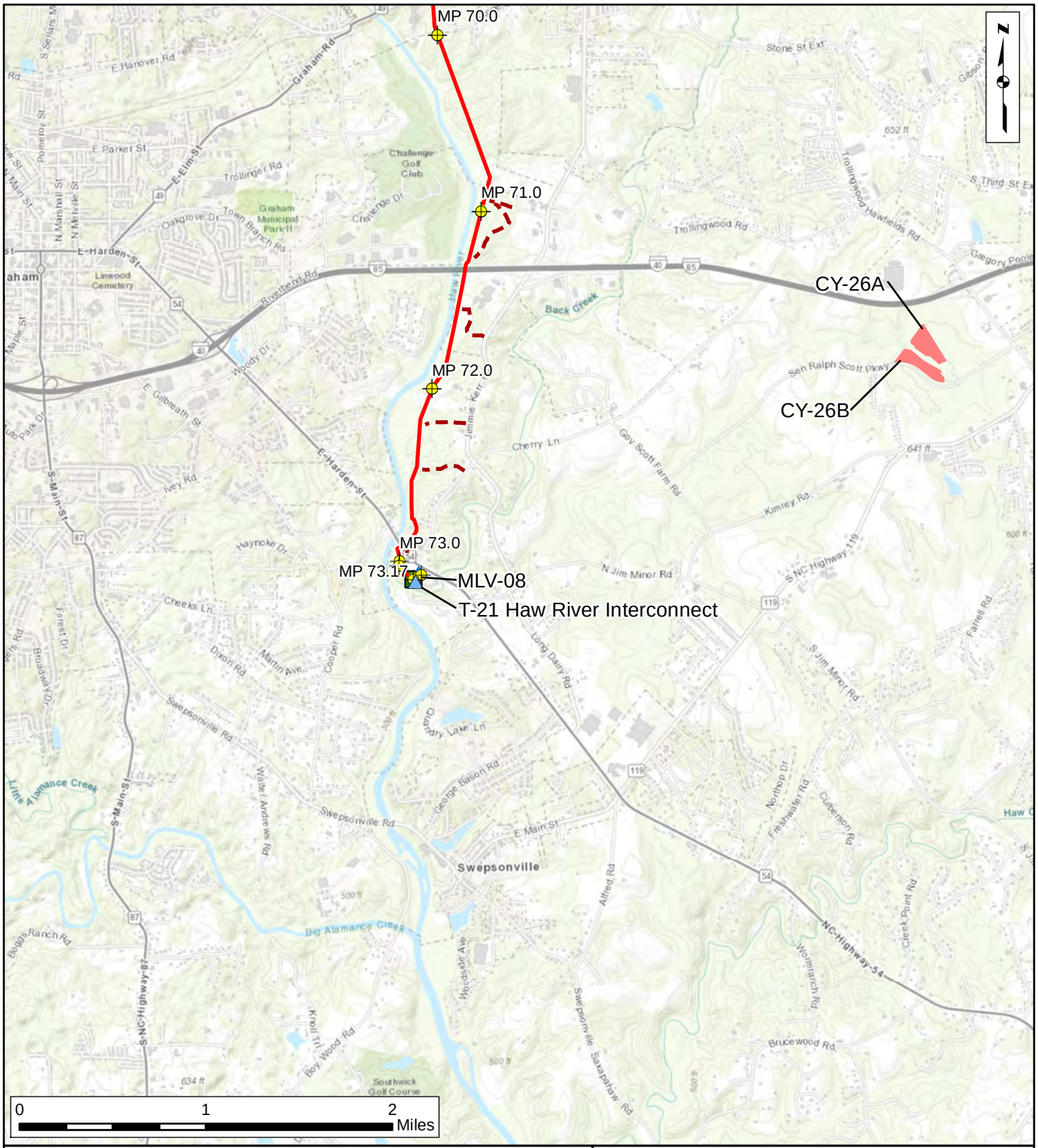
Project Overview Map
Page 10 of 14




**Appendix B.1**

**Southgate Project**

Project Overview Map
Page 11 of 14

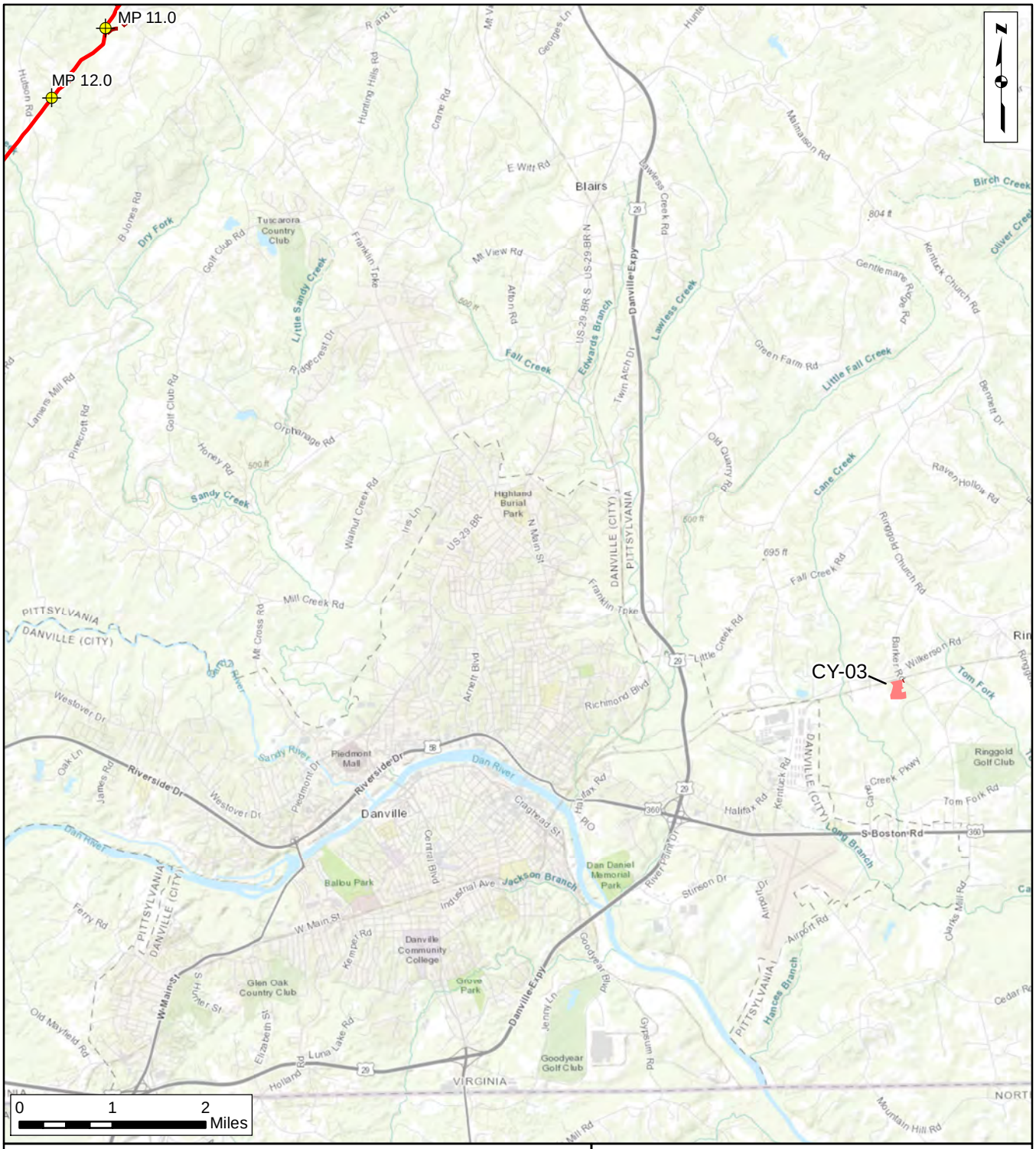



Milepost
Proposed Pipeline Route
Permanent Access Road
Temporary Access Road
Mainline Valve
Yard
Meter Station/Interconnect
Compressor Station

**Appendix B.1**

**Southgate Project**

Project Overview Map
Page 12 of 14

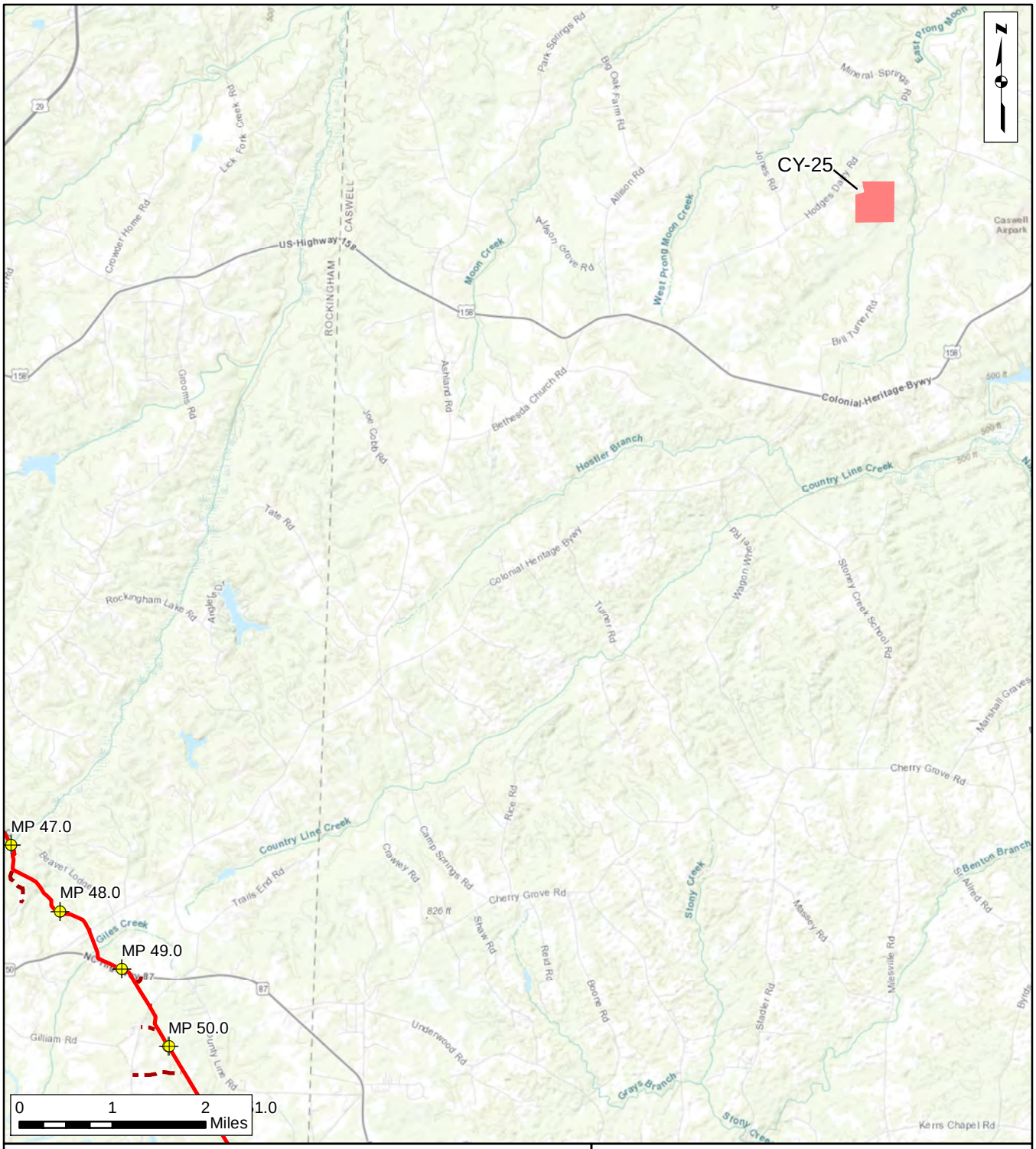



Milepost
Proposed Pipeline Route
Permanent Access Road
Temporary Access Road
Mainline Valve
Yard
Meter Station/Interconnect
Compressor Station

**Appendix B.1**

**Southgate Project**

Project Overview Map
Page 13 of 14




Milepost
Proposed Pipeline Route
Permanent Access Road
Temporary Access Road
Mainline Valve
Yard
Meter Station/Interconnect
Compressor Station

**Appendix B.1**

**Southgate Project**

Project Overview Map
Page 14 of 14

# APPENDIX B.2

# Typical Right-of-Way Configurations

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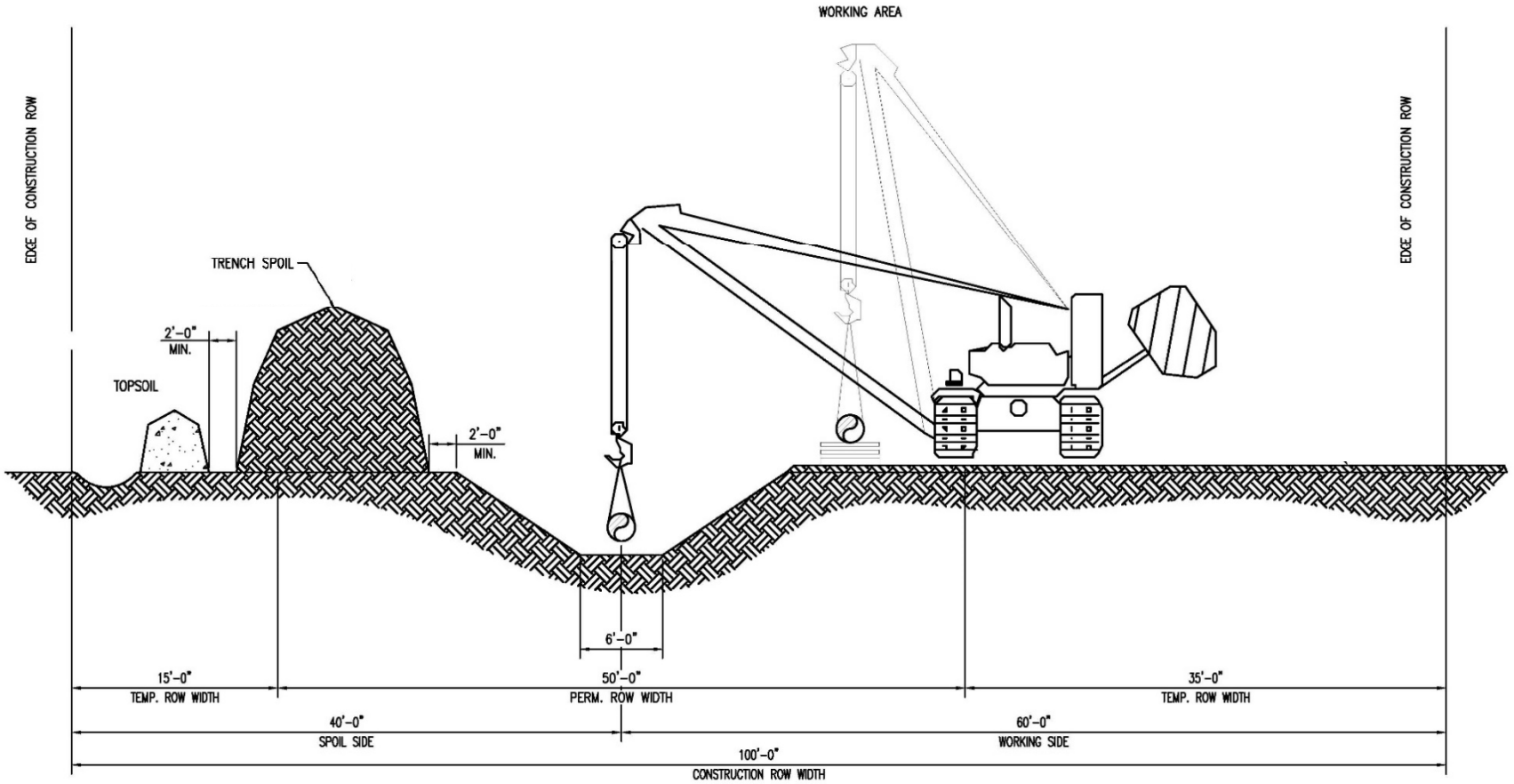
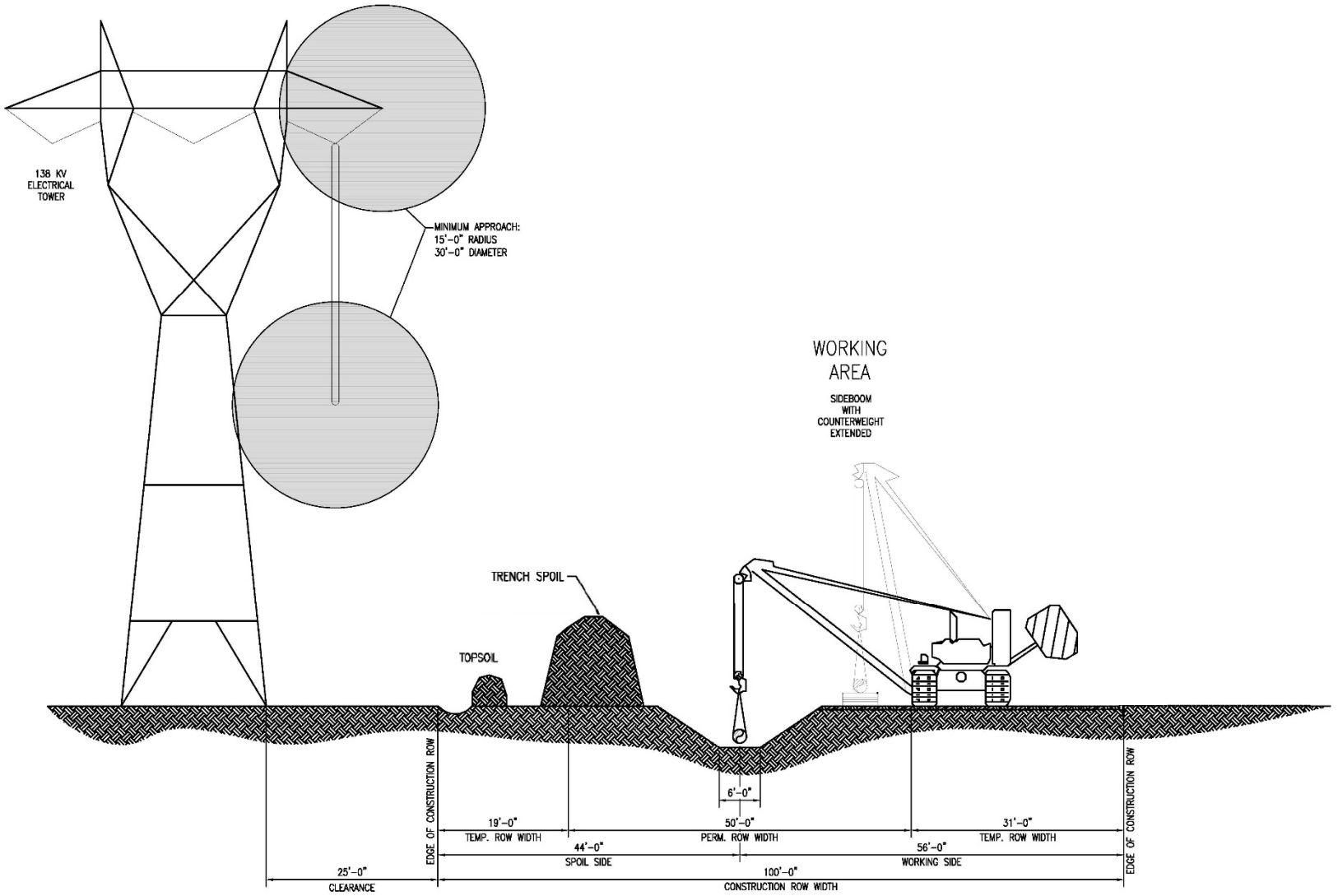



NOTE:
1. DRAWING DEPICTS SOIL SWELL OF 20% AND ROCK SWELL OF 40%.
2. DRAWING ASSUMES TYPE "C" SOIL

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Pipeline LLC FERC Application

**B.2-1**
**Southgate Project**
Mainline Construction
Non-Parallel Construction
With Top Soil Segregation
100' Right of Way

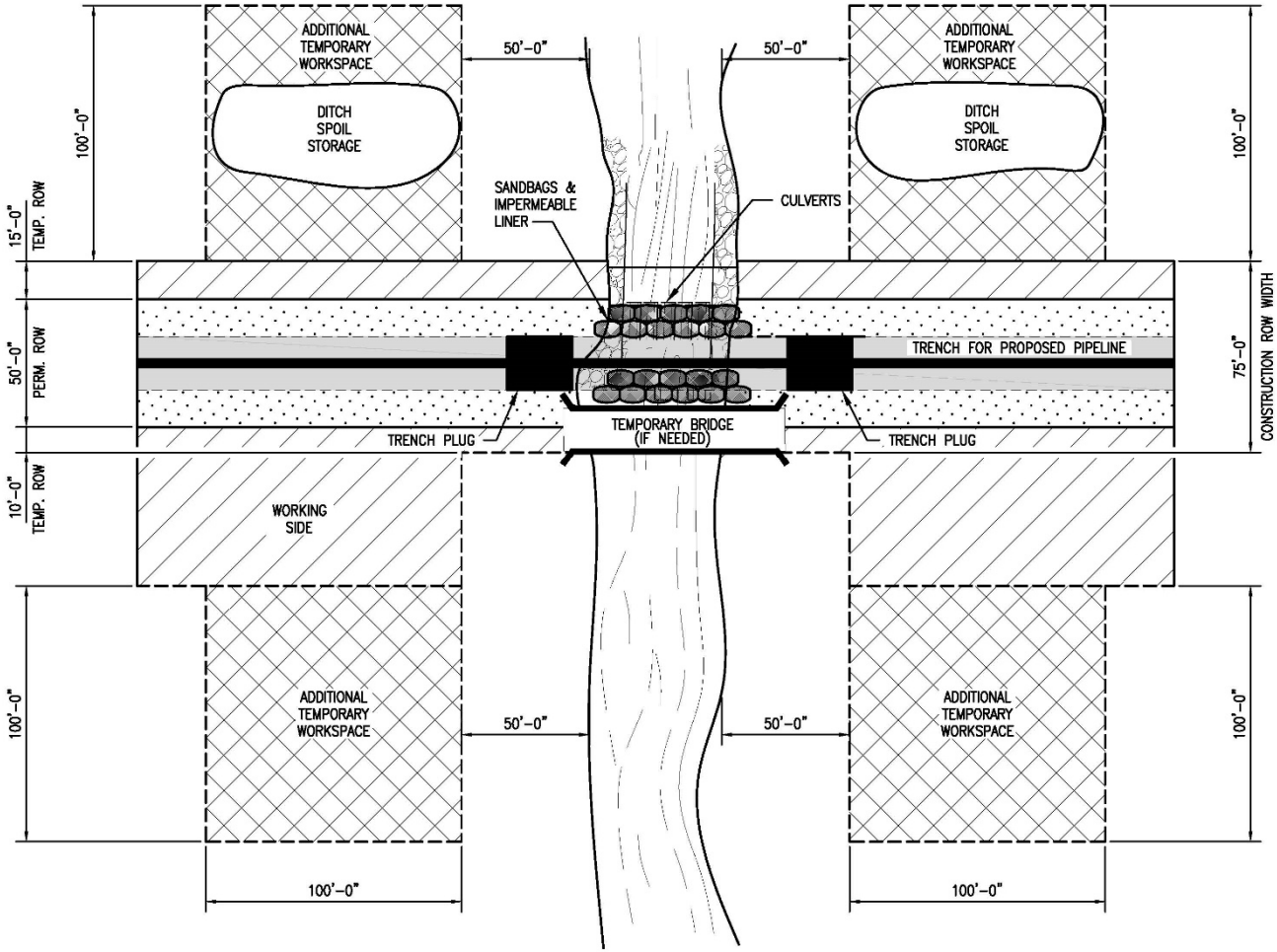



THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "C" SOIL

Source: Mountain Valley Pipeline LLC FERC Application

**B.2-2**
**Southgate Project**
Mainline Construction
Parallel to Power Lines
100' Right-of-Way




THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "C" SOIL

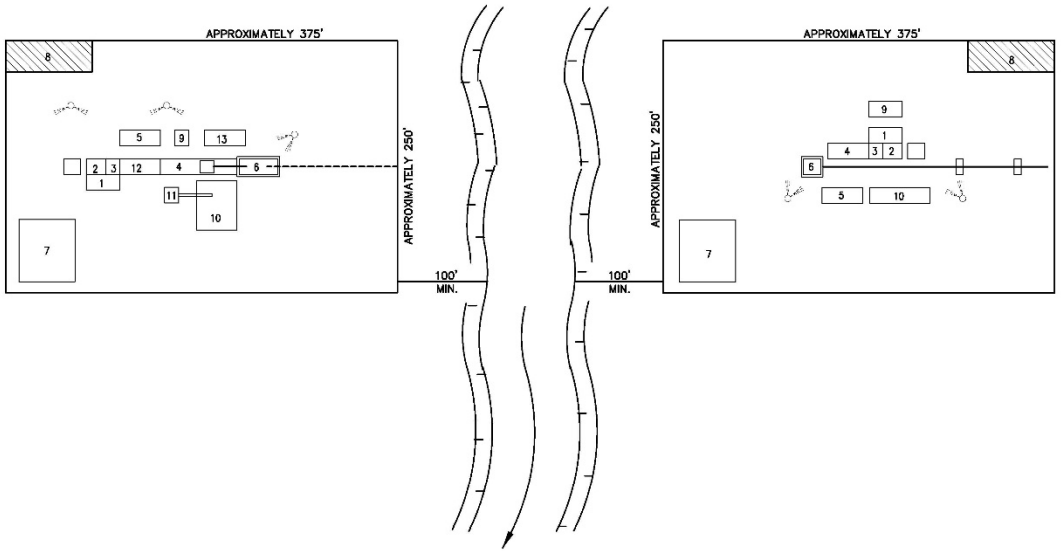
Source: Mountain Valley Pipeline LLC FERC Application

**B.2-3**
**Southgate Project**
Mainline Construction
Waterbody Crossing
Open Cut – Flume

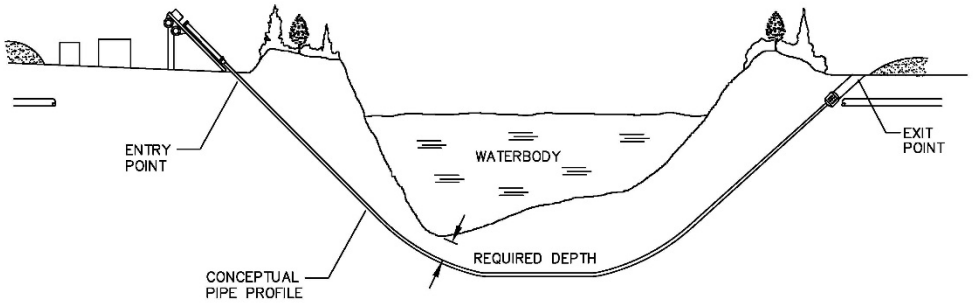
EQUIPMENT:

1. SPOIL CONTAINER: 8' X 20'
2. SHAKER: 8' X 12'
3. DESILTER: 8' X 8'
4. MUD RIG: 8' X 25'
5. SUPPLY TRAILER: 8' X 25'
6. EXIT PIT: 8' X 10'
7. STORAGE: 30' X 30'
8. VEHICLE PARKING: 15' X 50'
9. DEWATERING UNIT: 8' X 20'
10. PIPE TRAILER: 8' X 40'

## HORIZONTAL DIRECTIONAL DRILL METHOD 7




PLAN




PROFILE

NOTES:

1. SET UP DRILLING EQUIPMENT A MINIMUM OF 100 FEET FROM THE EDGE OF THE WATERCOURSE. DO NOT CLEAR OR GRADE WITHIN THE 100 FOOT ZONE.
2. ENSURE THAT ONLY BENTONITE BASED DRILLING MUD IS USED. DO NOT ALLOW THE USE OF ANY ADDITIVES TO THE DRILLING MUD WITHOUT THE APPROVAL OF COMPANY INSPECTOR.
3. INSTALL SUITABLE DRILLING MUD TANKS OR SUMPS TO PREVENT CONTAMINATION OF WATERCOURSE.
4. INSTALL BERMS DOWNSLOPE FROM THE DRILL ENTRY AND ANTICIPATED EXIT POINTS TO CONTAIN ANY RELEASE OF DRILLING MUD.
5. DISPOSE OF DRILLING MUD IN ACCORDANCE WITH THE APPROPRIATE REGULATORY AUTHORITY REQUIREMENTS.
6. A SEDIMENT BARRIER SHALL BE PLACE ON THE DOWN SLOPE SIDE OF THE RIGHT-OF-WAY, PER THE PROJECT NARRATIVE.

NOTES:

1. EQUIPMENT ORIENTATION MAY VARY DEPENDING ON CONTRACTOR OR SITE CONDITIONS.
2. EQUIPMENT TO BE SUPPORTED ON THE GROUND SURFACE OR TIMBER MATS AS CONDITIONS DICTATE.
3. SILT FENCE, BERMS AND/OR STRAW BALE BARRIER TO BE USED AS REQUIRED TO PREVENT IMPACTS FROM OCCURRING OUTSIDE OF PROJECT LIMITS.
4. HAND CLEARED ACCESS PATH WILL BE USED TO OBTAIN WATER FROM SOURCE WHERE PERMITTED.
5. ENTRANCE & EXIT ANGLES VARY BY LOCATION. REFER TO BORE PROFILE FOR DETAILED INFORMATION.

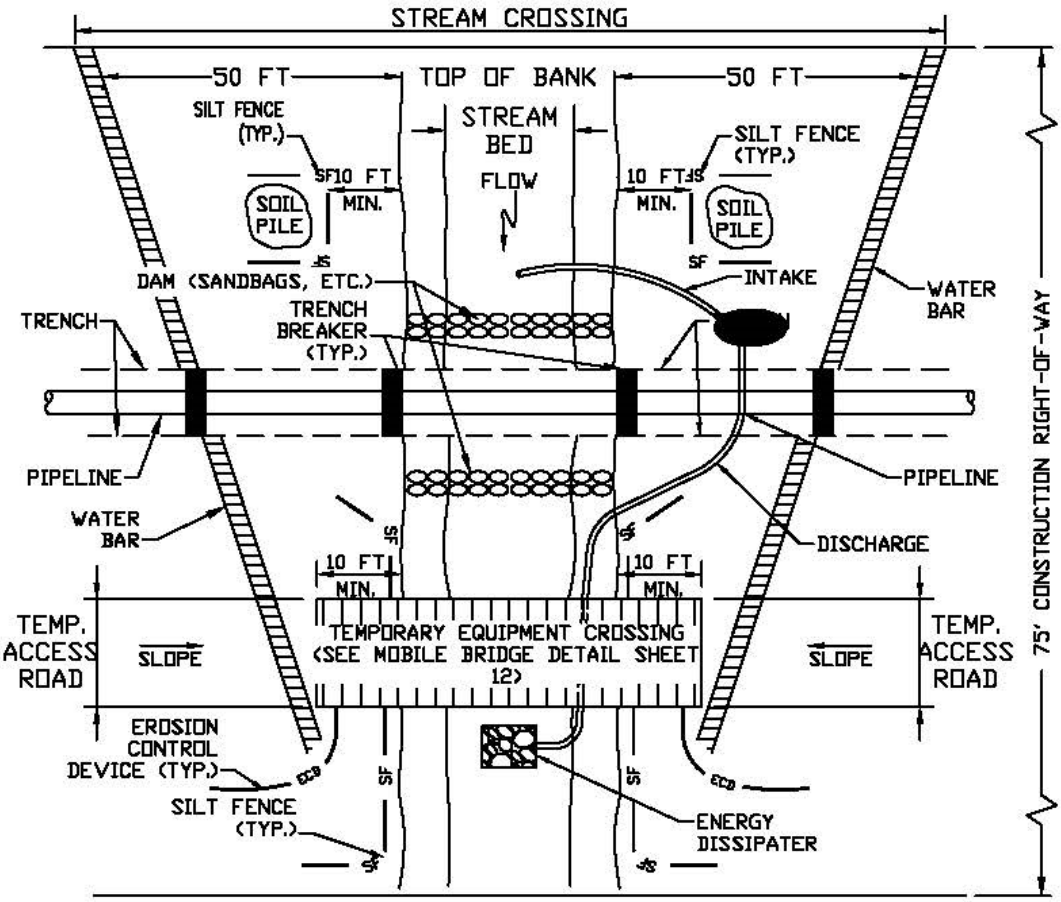
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "C" SOIL

Source: Mountain Valley Pipeline LLC FERC Application

B.2-4

**B.2-4**
**Southgate Project**
Mainline Construction
Horizontal Directional Drill
(HDD)



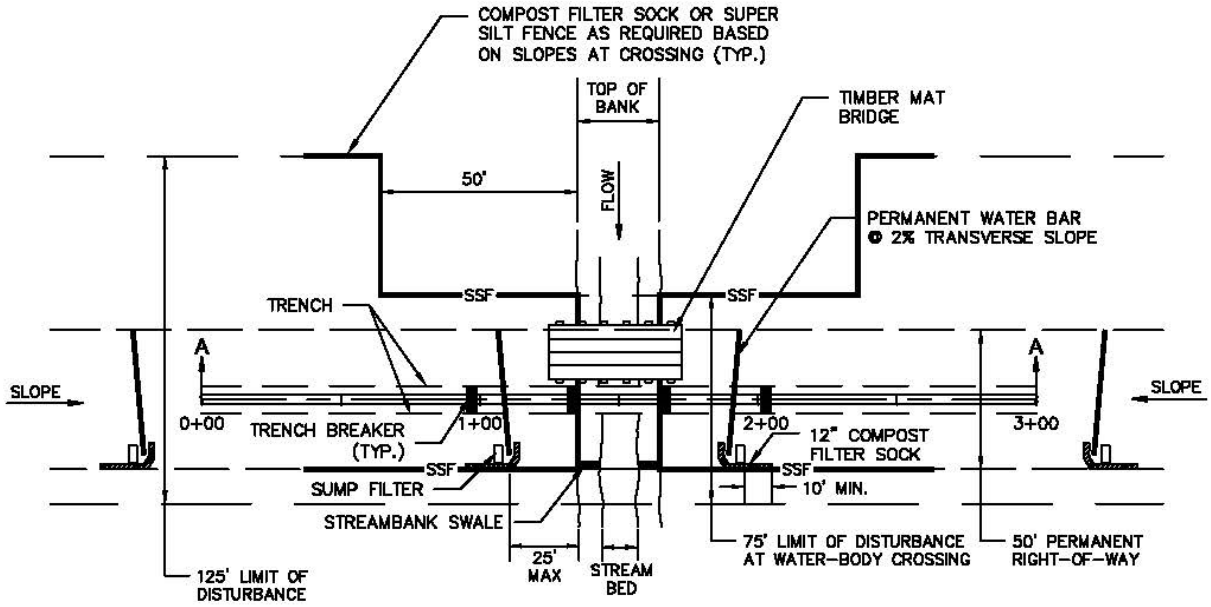

**PLAN VIEW**

NOTES:

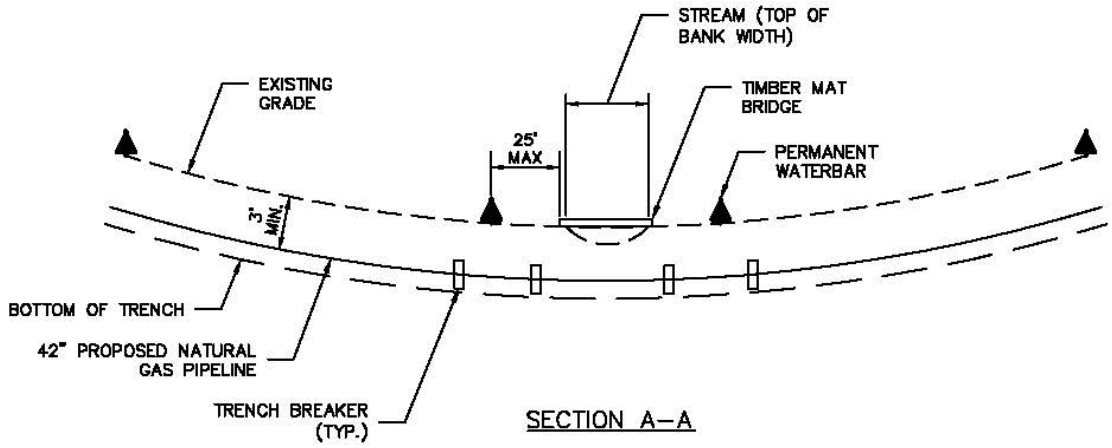
1. INSTALL EROSION CONTROL DEVICES, TRENCH BREAKERS, PUMP, ENERGY DISSIPATER, AND DAMS BEFORE TRENCHING STREAM.
2. PUMP MUST BE OF SUFFICIENT CAPACITY TO CONVEY NORMAL AND/OR EXISTING STREAM FLOW OVER TRENCH. A BACK-UP PUMP OF EQUAL CAPACITY MUST BE AVAILABLE ON-SITE DURING CONSTRUCTION OF THE PIPELINE CROSSING. PUMPS WILL BE PLACED WITHIN SECONDARY CONTAINMENT.
3. PLACE SOIL PILES A MINIMUM OF 10 FEET FROM TOP OF BANK.
4. INSTALL WATER BARS AT APPROACHES TO STREAM CROSSING AND EROSION CONTROL DEVICES, SILT FENCE, OR SUPER SILT FENCE (AS INDICATED ON PLAN SHEETS).
5. MAINTAIN SURFACE OF TEMPORARY EQUIPMENT CROSSING TO PREVENT SOIL DISCHARGES TO STREAM.
6. APPROACHES TO CROSSINGS ARE NOT TO EXCEED A DEPTH OF 6 INCHES ABOVE ORIGINAL GRADE.
7. RESTORE AREA TO ORIGINAL CONTOURS.

Source: Mountain Valley Pipeline LLC FERC Application

**B.2-5**
**Southgate Project**
Stream Crossing
Dam and Pump



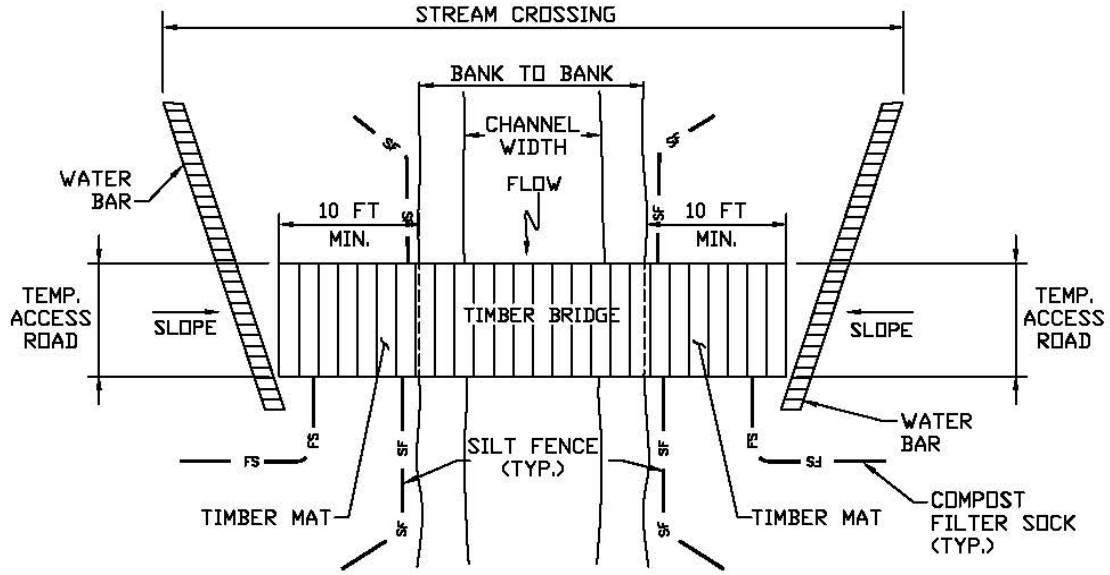

PLAN



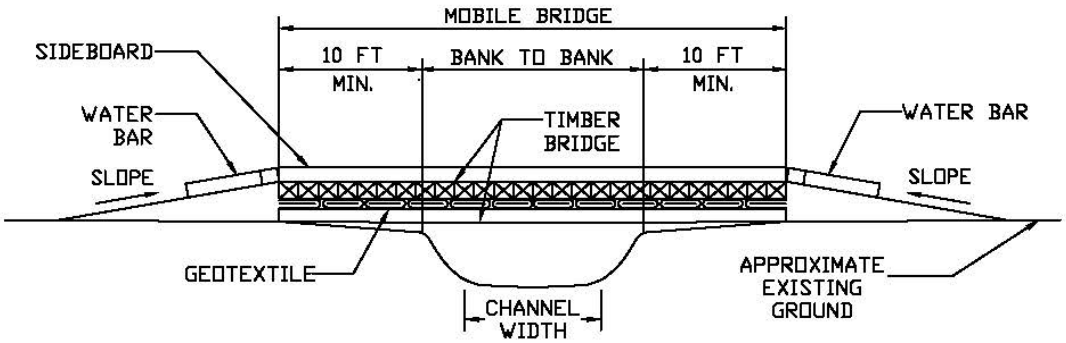

SECTION A–A

Source: Mountain Valley Pipeline LLC FERC Application

**B.2-6**
**Southgate Project**
Timber Mat Bridge
Stream Crossing




**PLAN VIEW**




**CROSS SECTION - MOBILE BRIDGE**

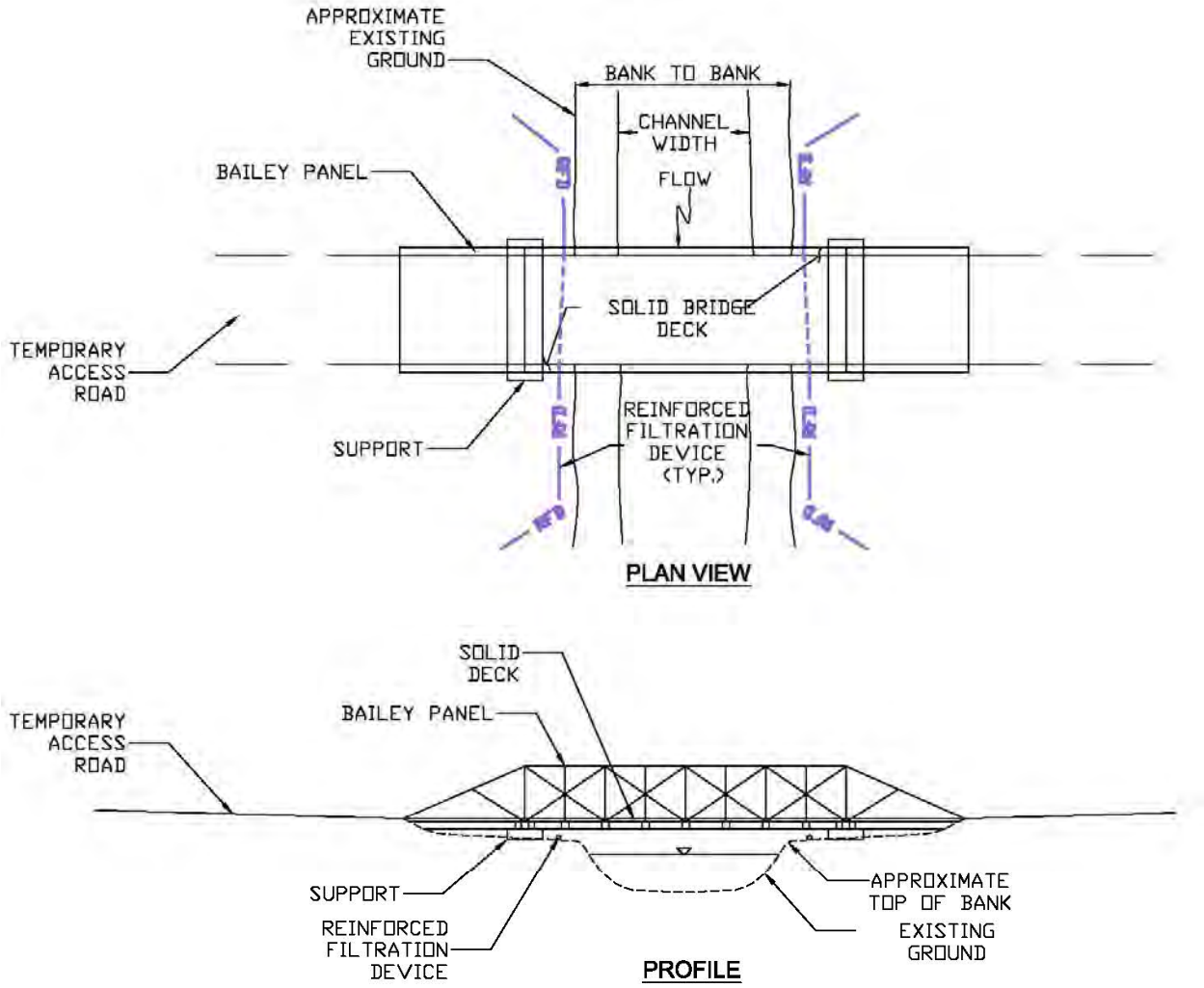
NOTES:

1. INSTALL WATER BARS OR SILT FENCE AT APPROACHES TO STREAM CROSSING AND COMPOST FILTER SOCKS ALONG STREAM BANKS. INSTALL COMPOST FILTER SOCK AT OUTLET OF WATER BARS.
2. MAINTAIN SURFACE OF TEMPORARY EQUIPMENT CROSSING TO PREVENT SOIL DISCHARGES TO STREAM.
3. APPROACHES TO CROSSINGS ARE NOT TO EXCEED A DEPTH OF 6 INCHES ABOVE ORIGINAL GRADE.
4. GEOTEXTILE LINER TO COME UP ON THE SIDES OF THE BRIDGE A MINIMUM OF 18".
5. SIDEBOARDS TO BE ATTACHED TO THE UPPER DECK. GEOTEXTILE TO BE WRAPPED AROUND SIDEBOARDS PRIOR TO FASTENING.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Pipeline LLC FERC Application

**B.2-7**
**Southgate Project**
Mobile Bridge

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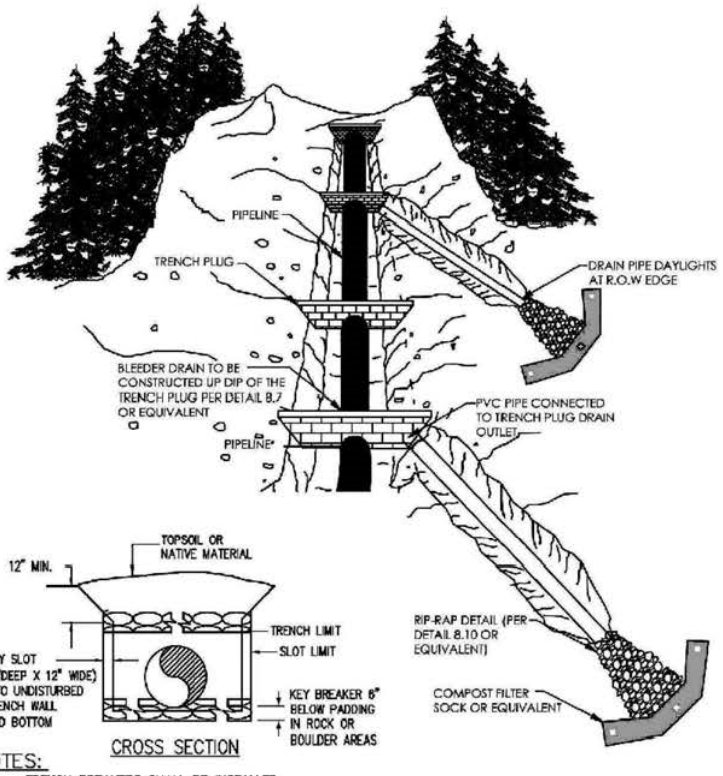
Source: Mountain Valley Pipeline LLC FERC Application

**B.2-8**
**Southgate Project**
Modular Temporary
Bailey Bridge

| SLOPE % | DISTANCE | PLUG MATERIAL |
|---|---|---|
| 0% – 5% | SEE NOTE 6 | CONCRETE FILLED SACKS |
| 5% – 15% | 500 FT | SANDBAGS OR CONCRETE FILLED SACKS |
| 15% – 25% | 300 FT | SANDBAGS OR CONCRETE FILLED SACKS |
| 25% – 35% | 200 FT | SANDBAGS OR CONCRETE FILLED SACKS |
| 35% – 100% | 100 FT | SANDBAGS OR CONCRETE FILLED SACKS |
| > 100% | 50 FT | CONCRETE FILLED BAGS (WETTED) |

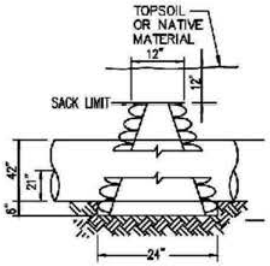
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.







CROSS SECTION




SIDE VIEW

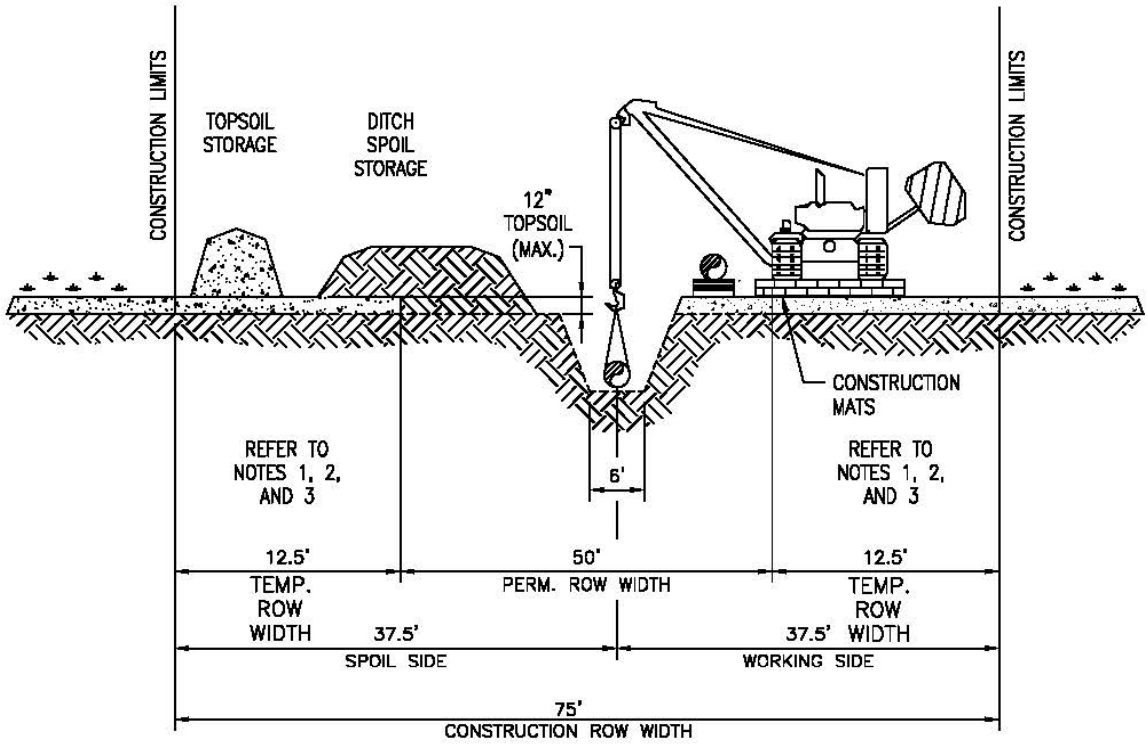
NOTES:

1. TRENCH BREAKERS SHALL BE INSTALLED:
   - ON SLOPES ALONG THE TRENCH LINE WHERE THE NATURAL DRAINAGE PATTERN, PROFILE, AND TYPE OF BACKFILL MATERIAL MAY RESULT IN LOSS OF BACKFILL MATERIAL OR ALTERATION OF THE NATURAL PATTERN;
   - AT THE BASE OF SLOPES ADJACENT TO WATERBODIES AND WETLANDS;
   - WHERE NEEDED TO AVOID DRAINING A WETLAND;
   - ON UPLAND SLOPES, AT THE SAME SPACING AS SLOPE BREAKERS AND UP SLOPE OF SLOPE BREAKERS;
   - IN CULTIVATED LAND AND RESIDENTIAL AREAS WHERE PERMANENT SLOPE BREAKERS ARE NOT TYPICALLY INSTALLED, AT THE SAME SPACING AS IF PERMANENT SLOPE BREAKERS WHERE REQUIRED.
2. MATERIALS APPROPRIATE FOR USE AS PERMANENT TRENCH BREAKERS INCLUDE SANDBAGS OR CONCRETE FILLED SACKS. TOPSOIL SHALL NOT BE USED FOR TRENCH BREAKERS.
3. TRENCH BREAKERS INSTALLED AT WATERBODY AND WETLAND CROSSINGS SHALL BE CONSTRUCTED OF IMPERVIOUS MATERIALS (CONCRETE FILLED SACKS).
4. BREAKER SPACING AND CONFIGURATION MAY BE CHANGED AS DIRECTED BY MVP. DEPTH OF DITCH MAY VARY WITH SITE CONDITIONS.
5. ALL MATERIALS SHALL BE SUPPLIED BY CONTRACTOR.
6. TRENCH BREAKERS ARE REQUIRED AT ALL WATERBODY CROSSINGS REGARDLESS OF TRENCH SLOPE. OTHERWISE NOTE REQUIRED AT SLOPES < 5%.
7. SINGLE TRENCH BREAKERS WILL BE A MINIMUM WIDTH OF 24" AND DOUBLE TRENCH BREAKERS WILL BE A MINIMUM WIDTH OF 36".
8. FOR SUBSURFACE AND TRENCH BREAKER DRAINAGE DETAILS INCLUDING THOSE FOR STEEP SLOPES, SEE LANDSLIDE MITIGATION TYPICAL DETAILS.
9. FOR SLOPES EXCEEDING 50%, CONCRETE FILLED SACKS ARE REQUIRED UNLESS OTHERWISE APPROVED BY MVP.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Pipeline LLC FERC Application

**B.2-9**
**Southgate Project**
Typical Trench Breaker Requirements




**NOTES:**

**1. TOPSOIL SEGREGATION/REMOVAL WILL ONLY BE CONDUCTED WITHIN THE PERMANENT EASEMENT AT ALL WETLAND CROSSINGS IN VIRGINIA.**

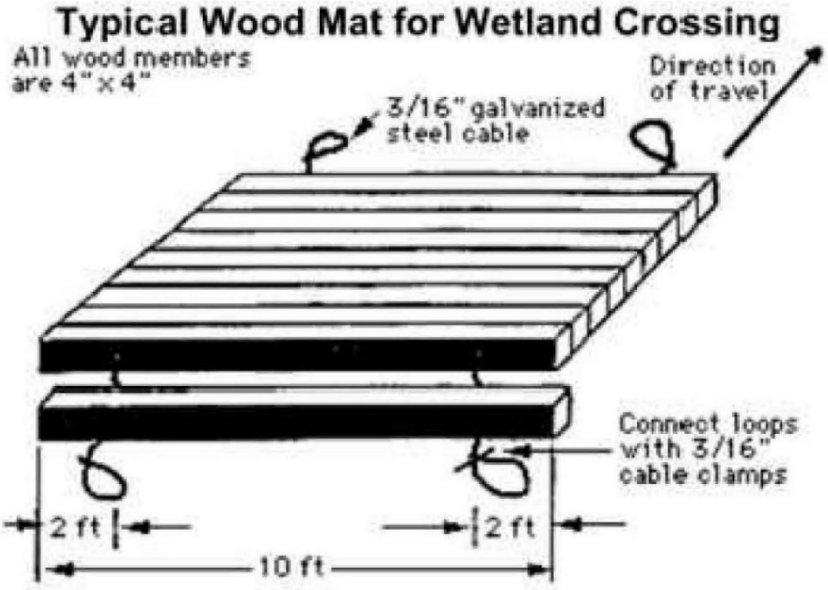
**2. GRUBBING ACTIVITIES SHALL BE LIMITED TO THE PERMANENT EASEMENT AT ALL WETLAND CROSSINGS IN VIRGINIA. OUTSIDE OF THE PERMANENT EASEMENT, WETLAND VEGETATION SHALL ONLY BE REMOVED AT OR ABOVE THE GROUND SURFACE. WOODY VEGETATION WITHIN THE TEMPORARY EASEMENT SHALL BE CUT AT GROUND SURFACE WITH THE STUMPS TO REMAIN IN-PLACE.**

**3. WETLAND CROSSINGS IN VIRGINIA SHALL BE CONDUCTED IN ACCORDANCE WITH NWP12 GENERAL AND NORFOLK DISTRICT REGIONAL CONDITIONS.**

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Pipeline LLC FERC Application

**B.2-10**
**Southgate Project**
Wetland Crossing Typical for
USACE Norfolk (VA) District



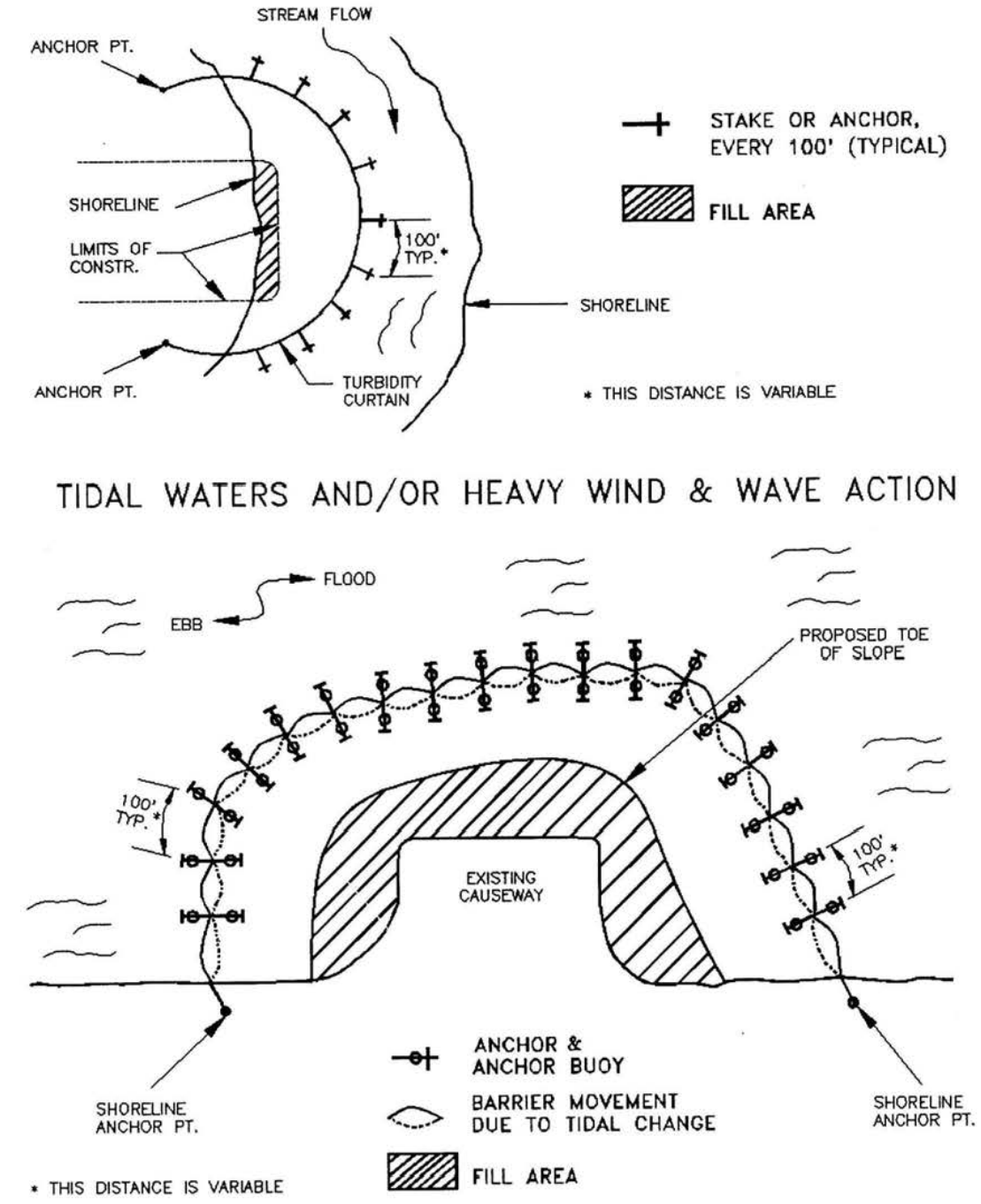

University of Minnesota FS 07009

**A geotextile underlayment shall be used under the wood mat.**

Source: PaDEP, E&S Pollution Control Manual, March 2012

Source: Mountain Valley Pipeline LLC FERC Application

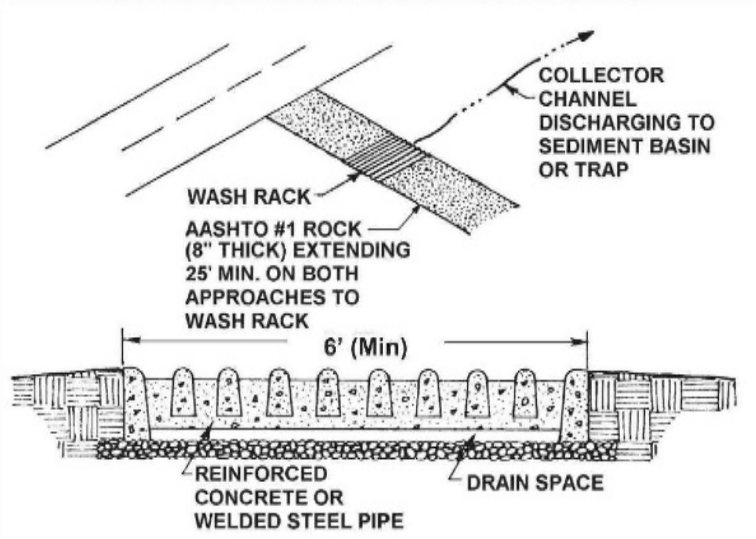
**B.2-11**
**Southgate Project**
Timber Mat / Wetland Crossing




Source: Mountain Valley Pipeline LLC FERC Application

**B.2-12**
**Southgate Project**
Turbidity Curtain Detail

## Rock Construction Entrance with Wash Rack




Modified from Smith Cattleguard Company

**IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 70 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK.**

Wash rack shall be 20 feet (min.) wide or total width of access.

Wash rack shall be designed and constructed to accommodate anticipated construction vehicular traffic.

A water supply shall be made available to wash the wheels of all vehicles exiting the site.

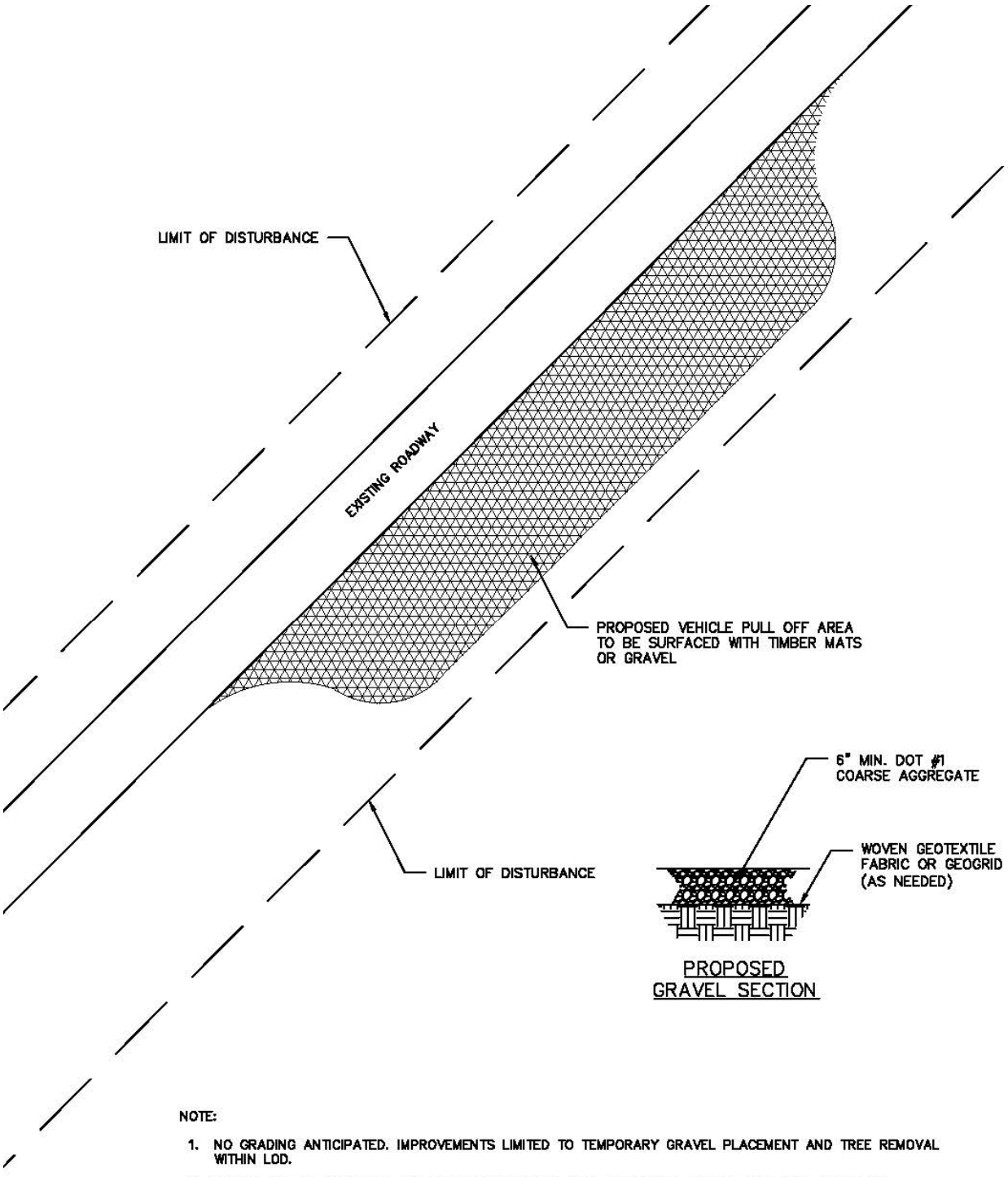
MAINTENANCE: Rock construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile of rock material shall be maintained on site for this purpose. Drain space under wash rack shall be kept open at all times. Damage to the wash rack shall be repaired prior to further use of the rack. All sediment deposited on roadways shall be removed and returned to the construction site immediately. Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable.

**A metal wash rack or livestock grate is an acceptable alternative to the reinforced concrete one shown in the standard detail. Approaches to the wash rack should be lined with aashto #1 at a minimum of 25' on both sides. The wash rack should discharge to a sediment removal facility, such as a vegetated filter strip or into a channel leading to a sediment removal device (e.g. a sediment trap or sediment basin). Rock construction entrances with wash racks should be maintained to the specified dimensions by adding rock when necessary at the end of each workday. A stockpile of rock material should be maintained on site for this purpose. Sediment deposited on paved roadways should be removed and returned to the construction site.**

**NOTE: Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable. Damaged wash racks should be repaired as necessary to maintain their effectiveness. In lieu of washrack installation, MVP will extend the RCE by 70' increments until mud tracking condition is alleviated.**

Source: Mountain Valley Pipeline LLC FERC Application

**B.2-13**
**Southgate Project**
Rock Construction Entrance
With Wash Rack




Source: Mountain Valley Pipeline LLC FERC Application

**B.2-14**
**Southgate Project**
Temporary Vehicle
Pull Off Detail

# APPENDIX B.3

## Additional Temporary Workspaces – Within 50 Feet of a Waterbody or Wetland

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Appendix B.3

**ATWS Within 50 feet of Wetland or Waterbody**

| ATWS ID | Milepost | Feature within 50 feet | Feature ID | Distance from Resource Area (feet) a/ | Justification | Variance Required (Y/N) | FERC Comment |
|---|---|---|---|---|---|---|---|
| **Virginia, Pittsylvania County** | | | | | | | |
| 1001C | 0.5 | Waterbody | AS-APP-6001 | 12 | ATWS situated in this location to provide support of Lambert construction. | Y | The request for ATWS within 50 feet of the waterbody appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1020 | 1.3 | Wetland | W-F18-5 | 38 | ATWS situated in this location for storage of material, pumps, mats, pipe for wetland and stream crossing. | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1030 | 4.0 | Waterbody | S-F18-67 | 43 | ATWS situated in this location for storage of material, pumps, mats, pipe for wetland and stream crossing. | N | The request for ATWS within 50 feet of the waterbody appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1052 | 5.2 | Wetland | W-D18-1 | 0 | ATWS situated in this location to support conventional bore and associated equipment. | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1088B | 9.8 | Wetland | W-F18-58 | 47 | ATWS situated in this location for storage of material, pumps, mats, pipe for wetland crossing and point of intersect. | N | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1113 | 13.4 | Wetland | W-E18-28 | 19 | ATWS situated in this location to support conventional bore and associated equipment. | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |

Appendix B.3

**ATWS Within 50 feet of Wetland or Waterbody**

| ATWS ID | Milepost | Feature within 50 feet | Feature ID | Distance from Resource Area (feet) a/ | Justification | Variance Required (Y/N) | FERC Comment |
|---|---|---|---|---|---|---|---|
| 1136C | 17.7 | Wetland/ Waterbody | S-A19-295/<br>S-E18-44/<br>W-A19-296 | 1<br>49<br>0 | ATWS situated in this location for storage of material, pumps, mats, pipe for wetland and stream crossing. | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation |
| 1169 | 22.0 | Wetland | W-A18-204 | 32 | ATWS situated in this location to support conventional bore and associated equipment. | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1178 | 23.0 | Wetland | W-A19-318 | 24 | ATWS situated in this location to support staging and storage of materials and timber mats for foreign pipeline crossing, multiple stream /wetland crossings with ROW width restrictions. | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| **North Carolina, Rockingham County** | | | | | | | |
| 1213 | 27.0 | Wetland | W-A18-44 | 0 | This ATWS is in an agriculture field and will be used for pipeline crossing. | N | The request for ATWS within 50 feet of the wetland appears justified in order to cross Transco facilities. Potential impacts would be minimized by the proposed mitigation. |
| 1213A | 27.0 | Wetland | W-A18-44 | 6 | This ATWS is in an agriculture field and will be used for pipeline crossing. | N | The request for ATWS within 50 feet of the wetland appears justified in order to cross Transco facilities. Potential impacts would be minimized by the proposed mitigation. |
| 1213D | 27.3 | Wetland | W-A18-44 | 0 | ATWS in this location to be used for support during stream crossing. | Y | The request for ATWS within 50 feet of the wetland appears justified in order to cross Transco facilities. Potential impacts would be minimized by the proposed mitigation. |

Appendix B.3

**ATWS Within 50 feet of Wetland or Waterbody**

| ATWS ID | Milepost | Feature within 50 feet | Feature ID | Distance from Resource Area (feet) a/ | Justification | Variance Required (Y/N) | FERC Comment |
|---|---|---|---|---|---|---|---|
| 1222 | 27.6 | Wetland | W-A19-274 | 0 | ATWS in this location to be used for support during stream crossing. | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1224A | 28.0 | Wetland | W-A18-26/ W-A19-39 | 48 | This ATWS is in an agriculture field and will be used for pipeline crossing. | N | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1244/1244A | 29.9 | Wetland | W-A18-18 | 0 | ATWS situated in this location to support HDD and associated equipment. | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| | | | S-B18-38 | 0 | ATWS situated in this location to support HDD and associated equipment | Y | The request for ATWS within 50 feet of the waterbody appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1249 | 30.4 | Wetland/ Waterbody | W-B18-34 | 35 | ATWS situated in this location to support HDD and associated equipment | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| | | | AW-B18-36 / W-B18-36 | 0 | ATWS situated in this location to support HDD and associated equipment// hydrostatic testing equipment. | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1250 | 30.5 | Wetland | W-B18-34 | 0 | ATWS situated in this location to support conventional bore and associated equipment. | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1251/1251A | 30.4/30.3 | Wetland | W-B19-36/ W-B18-34 | 0 | ATWS situated in this location to support HDD and associated equipment. | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |

Appendix B.3

**ATWS Within 50 feet of Wetland or Waterbody**

| ATWS ID | Milepost | Feature within 50 feet | Feature ID | Distance from Resource Area (feet) a/ | Justification | Variance Required (Y/N) | FERC Comment |
|---|---|---|---|---|---|---|---|
| 1253D | 30.9 | Waterbody | S-B19-153 | 49 | ATWS in this location to be used for support during stream crossing. | N | The request for ATWS within 50 feet of the waterbody appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1368 | 41.5 | Waterbody | S-B18-44 | 15 | ATWS situated in this location to support conventional bore and associated equipment. | Y | The request for ATWS within 50 feet of the waterbody appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1369 | 41.6 | Waterbody | AS-B18-44 | 44 | ATWS situated in this location to support conventional bore and associated equipment. | Y | The request for ATWS within 50 feet of the waterbody appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1426A | 46.7 | Waterbody | S-A19-291 | 38 | ATWS for vehicle passage along access road. | Y | The request for ATWS within 50 feet of the waterbody appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1426B | 46.7 | Waterbody | S-A19-291 | 9 | ATWS for vehicle passage along access road. | Y | The request for ATWS within 50 feet of the waterbody appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1446A | 48.5 | Wetland | W-B18-139 | 29 | ATWS in agricultural field to support wetland crossing and associated equipment. | N | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| **North Carolina, Alamance County** | | | | | | | |
| 1511 | 55.5 | Wetland | W-B18-61 | 23 | This ATWS is inside an agriculture field and will be used to support crews at PI. | N | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |

Appendix B.3

**ATWS Within 50 feet of Wetland or Waterbody**

| ATWS ID | Milepost | Feature within 50 feet | Feature ID | Distance from Resource Area (feet) a/ | Justification | Variance Required (Y/N) | FERC Comment |
|---|---|---|---|---|---|---|---|
| 1588G | 65.3 | Wetland/ Waterbody | S-A19-324/ W-A19-323 | 37/0 | ATWS for staging / storage of material, pumps, mats, pipe, boring equipment for road crossing. | N | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1588K | 65.5 | Wetland | W-B19-168 | 0 | This ATWS is inside an agriculture field and will be used to support crews at PI. | N | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1588Y1 | 67.1 | Waterbody | AS-APP-1568 | 17 | ATWS for staging / storage of material, pumps, mats, pipe, boring equipment for road crossing. | N | The request for ATWS within 50 feet of the waterbody appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1653B | 69.7 | Waterbody | S-B19-147 | 34 | This ATWS to be used as support for crews working in the congested area | Y | The request for ATWS within 50 feet of the waterbody appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1653C | 69.8 | Waterbody | S-B19-147 | 38 | This ATWS to be used as support for crews working in the congested area | Y | The request for ATWS within 50 feet of the waterbody appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1653D | 69.8 | Wetland/ Waterbody | AS-B19-174<br>S-B19-174<br>W-B19-173 | 17<br>0<br>0 | ATWS situated in this location for staging / storage of material, pumps, mats, pipe, boring equipment to support railroad crossing and stream crossing. | Y | The request for ATWS within 50 feet of the wetland/waterbody appears justified and potential impacts would be minimized by the proposed mitigation. |
| 1692A | 73.0 | Wetland | W-A18-111 | 0 | ATWS situated in this location to support conventional bore and associated equipment. | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |

Appendix B.3

**ATWS Within 50 feet of Wetland or Waterbody**

| ATWS ID | Milepost | Feature within 50 feet | Feature ID | Distance from Resource Area (feet) a/ | Justification | Variance Required (Y/N) | FERC Comment |
|---|---|---|---|---|---|---|---|
| | | | AS-B19-149 | 40 | This ATWS to be used as a support for crews performing multiple pipeline crossings in this area | Y | The request for ATWS within 50 feet of the waterbody appears justified and potential impacts would be minimized by the proposed mitigation |
| 1692 | 73.1 | Wetland/ Waterbody | W-A18-111 | 0 | ATWS situated in this location to support conventional bore and associated equipment / hydrostatic test support equipment. | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |
| | | | W-B19-151 | 0 | This ATWS to be used as a support for crews performing multiple pipeline crossings in this area. | Y | The request for ATWS within 50 feet of the wetland appears justified and potential impacts would be minimized by the proposed mitigation. |

a/ Distance from resource area of 0 feet indicate the wetland or waterbody is located within the ATWS.

# APPENDIX B.4

# Access Roads

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Appendix B.4

**Proposed New, Improved, and Private Access Roads for the Southgate Project**

| State/ Facility/ Road ID a/ | Road Name | Milepost b/ | New or Existing | Proposed for Temporary or Permanent Use | Ownership / Management | Road Dimensions | | Existing Surface c/ | Existing Land Use d/ | Proposed Improvement e/ | Construction Area (acres) f/ | Operation Area (acres) g/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Width (feet) | Length (feet) | | | | | |
| **Virginia** | | | | | | | | | | | | |
| TAR | TA-PI-000 | 0.0 | Existing | Temporary | Mountain Valley Pipeline, LLC | 25 | 334 | Gr | FW, OL | G, S | 0.19 | 0.00 |
| TAR | TA-PI-000A | 0.0 | Existing | Temporary | Mountain Valley Pipeline, LLC | 25 | 12 | G | CI, OL | S, W | 0.02 | 0.00 |
| TAR | TA-PI-000B | CY-03 | Existing | Temporary | Private | 25 | 62 | A | CI | None | 0.10 | 0.00 |
| PAR | PA-PI-001A | 0.0 | Existing | Permanent | Transcontinental Gas Pipeline Company, LLC Private Mountain Valley Pipeline, LLC | 25 | 3,028 | A, G, D | AG, CI, FW, OL | S, W | 1.46 | 1.46 |
| PAR | PA-PI-001B | 0.0 | New | Permanent | Transcontinental Gas Pipeline Company, LLC Private Mountain Valley Pipeline, LLC | 25 | 827 | Gr | AG, FW, OL | S, W | 0.49 | 0.49 |
| PAR | PA-PI-001C | 0.0 | Existing | Permanent | Private | 25 | 713 | D | OL | S, W | 0.34 | 0.34 |
| TAR | TA-PI-003 | 1.2 | Existing | Temporary | Private | 25 | 2,369 | G, Gr | CI, OL, RD | S, W | 1.38 | 0.00 |
| TAR | TA-PI-004 | 1.6 | Existing | Temporary | Private | 25 | 2,874 | D | CI, FW, OL, RD | S, W | 1.71 | 0.00 |
| TAR | TA-PI-005 | 2.3 | Existing | Temporary | Private | 25 | 3,736 | G, D, Gr | CI, FW, OL, OW, RD, WL | S, C, W | 2.17 | 0.00 |
| TAR | TA-PI-006 | 3.4 | Existing | Temporary | Private | 25 | 1,285 | G, D, Gr | AG, CI, OL | S, C, W | 0.75 | 0.00 |
| TAR | TA-PI-006A | 3.7RR | Existing | Temporary | Private | 25 | 3,498 | D | AG, CI, FW, OL | S, W | 2.01 | 0.00 |
| TAR | TA-PI-007 | 4.6 | Existing | Temporary | Private | 25 | 896 | G, D, Gr | OL, RD | S, W | 0.53 | 0.00 |
| TAR | TA-PI-008 | 4.5 | Existing | Temporary | Private | 25 | 304 | G | CI, RD | S, W | 0.17 | 0.00 |
| TAR | TA-PI-009 | 4.8 | Existing | Temporary | Private | 25 | 3,961 | G | CI, FW, OL | S, W | 2.28 | 0.00 |
| TAR | TA-PI-011 | 5.1 | Existing | Temporary | Private | 25 | 5,364 | D | AG, CI, FW, OL, RD, WL | S, W | 3.09 | 0.00 |
| TAR | TA-PI-015 | 5.6 | Existing | Temporary | Pittsylvania County, VA | 25 | 1,076 | G | FW, OL | S, W | 0.62 | 0.00 |
| TAR | TA-PI-016 | 5.9 | Existing | Temporary | Pittsylvania County, VA | 25 | 3,461 | G, Gr | CI, FW, OL | S, W | 1.99 | 0.00 |
| TAR | TA-PI-017 | 6.2 | Existing | Temporary | Pittsylvania County, VA | 25 | 823 | G | CI, OL | S, W | 0.51 | 0.00 |
| TAR | TA-PI-018 | 6.8 | Existing | Temporary | Private | 25 | 1,530 | D | FW, OL | S, W | 0.89 | 0.00 |
| PAR | PA-PI-018A | 7.2 | New | Permanent | Private | 25 | 18 | Gr | CI, OL | S, W | 0.00 | 0.00 |
| PAR | PA-PI-018B | 7.4 | New | Permanent | Private | 25 | 50 | Gr | CI | S, W | 0.03 | 0.03 |
| TAR | TA-PI-021 | 8.2 | Existing | Temporary | Private | 25 | 414 | D | CI, FW, OL | S, W | 0.25 | 0.00 |
| TAR | TA-PI-022 | 8.5 | Existing | Temporary | Private | 25 | 2,071 | D | FW, OL, RD | S, W | 1.19 | 0.00 |
| TAR | TA-PI-023 | 8.9 | Existing | Temporary | Private | 25 | 2,121 | G | AG, CI, FW, OL, RD | S, W | 1.23 | 0.00 |
| TAR | TA-PI-024 | 9.1 | Existing | Temporary | Private | 25 | 1,396 | G, D, Gr | AG, FW, OL | S, W | 0.81 | 0.00 |
| TAR | TA-PI-025 | 9.6 | Existing | Temporary | Private | 25 | 2,226 | D, Gr | AG, CI, FW, OL | S, W | 1.37 | 0.00 |
| TAR | TA-PI-026B | 10.3 | New | Temporary | Private | 25 | 31 | D, Gr | CI, OL | S, W | 0.03 | 0.00 |
| PAR | PA-PI-026C | 10.7 | New | Permanent | Independent Timber, Inc. | 25 | 30 | Gr | OL | S, W | 0.01 | 0.01 |

Appendix B.4

**Proposed New, Improved, and Private Access Roads for the Southgate Project**

| State/ Facility/ Road ID a/ | Road Name | Milepost b/ | New or Existing | Proposed for Temporary or Permanent Use | Ownership / Management | Road Dimensions | | Existing Surface c/ | Existing Land Use d/ | Proposed Improvement e/ | Construction Area (acres) f/ | Operation Area (acres) g/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Width (feet) | Length (feet) | | | | | |
| TAR | TA-PI-027 | 11.1 | Existing | Temporary | Independent Timber, Inc. | 25 | 1,590 | G, D | FW, OL | S, W | 0.92 | 0.00 |
| PAR | PA-PI-029 | 12.4 | Existing | Permanent | Private | 25 | 214 | G | AG, CI, OL | S | 0.13 | 0.13 |
| TAR | TA-PI-032 | 13.0 | Existing | Temporary | Private | 25 | 1,052 | G | OL | S, W | 0.60 | 0.00 |
| TAR | TA-PI-033 | 13.2 | Existing | Temporary | Private | 25 | 735 | G | FW, OL | S, W | 0.43 | 0.00 |
| TAR | TA-PI-034 | 13.7 | Existing | Temporary | Private | 25 | 2,643 | G, D, Gr | CI, FW, OL, OW | S, W | 1.53 | 0.00 |
| TAR | TA-PI-035 | 14.1 | Existing | Temporary | Private | 25 | 4,378 | D, Gr | AG, FW, OL, OW, RD | S, W | 2.52 | 0.00 |
| TAR | TA-PI-036 | 14.9 | Existing | Temporary | Private | 25 | 199 | G | AG | S, W | 0.11 | 0.00 |
| TAR | TA-PI-037 | 15.2 | Existing | Temporary | Private | 25 | 1,809 | G | AG, CI, OL | S, W | 1.05 | 0.00 |
| TAR | TA-PI-038 | 15.8 | Existing | Temporary | Private | 25 | 1,053 | G, Gr | FW, OL, OW, RD | S, W | 0.65 | 0.00 |
| TAR | TA-PI-039 | 16 | Existing | Temporary | Private | 25 | 573 | G | AG, CI, FW, OL, RD | S, W | 0.34 | 0.00 |
| TAR | TA-PI-041 | 16.7 | Existing | Temporary | Private | 25 | 639 | G | FW, OL, RD | S, W | 0.38 | 0.00 |
| TAR | TA-PI-042 | 16.7 | Existing | Temporary | Private | 25 | 2,509 | G, D | AG, CI, FW, OL | S, W | 1.45 | 0.00 |
| TAR | TA-PI-043 | 17.2 | Existing | Temporary | Private | 25 | 2,123 | D | AG, CI, FW, OL, OW, RD | S, W | 1.23 | 0.00 |
| TAR | TA-PI-046 | 18.0 | Existing | Temporary | Private | 25 | 1,543 | G, D, Gr | AG, CI, FW, OL | S, W | 0.89 | 0.00 |
| PAR | PA-PI-046A | 18.3 | New | Permanent | Private | 25 | 24 | Gr | AG, CI | S, W | 0.02 | 0.02 |
| TAR | TA-PI-048 | 18.7 | Existing | Temporary | Private | 25 | 1,289 | G, D, Gr | AG, CI, FW, OL, RD | S, W | 0.74 | 0.00 |
| TAR | TA-PI-049 | 19.5 | Existing | Temporary | Private | 25 | 273 | G | OL, RD | S, W | 0.17 | 0.00 |
| TAR | TA-PI-050 | 19.9 | Existing | Temporary | Private | 25 | 307 | A | CI, OL | None | 0.19 | 0.00 |
| TAR | TA-PI-051A | 20.2 | Existing | Temporary | Private | 25 | 94 | D | CI, RD | S, W | 0.05 | 0.00 |
| TAR | TA-PI-052 | 20.4 | Existing | Temporary | Private | 25 | 2,871 | D | AG, CI, FW, OL | S, W, C | 1.66 | 0.00 |
| PAR | PA-PI-053 | 21.1 | Existing | Permanent | Private | 25 | 744 | G, Gr | OL, RD | S, W | 0.43 | 0.43 |
| TAR | TA-PI-055 | 21.6 | Existing | Temporary | Private | 25 | 2,938 | G, D, Gr | AG, CI, FW, OL, RD | S, W | 1.71 | 0.00 |
| TAR | TA-PI-061 | 23.0 | Existing | Temporary | Danville-Pittsylvania Regional Industrial Facility Authority | 25 | 4,103 | G, D, Gr | FW, OL, OW, WL | S, W, C | 2.36 | 0.00 |
| TAR | TA-PI-063 | 24.0 | Existing | Temporary | Danville-Pittsylvania Regional Industrial Facility Authority | 25 | 2,750 | G, D, Gr | CI, FW, OL, OW | S, W, C | 1.59 | 0.00 |
| TAR | TA-PI-064 | 24.6 | Existing | Temporary | Danville-Pittsylvania Regional Industrial Facility Authority | 25 | 2,669 | G, D, Gr | CI, FW, OL | S, W | 1.54 | 0.00 |
| TAR | TA-PI-066 | 24.8 | Existing | Temporary | Private | 25 | 2,345 | G, D, Gr | CI, FW, OL | S, W | 1.38 | 0.00 |

Appendix B.4

**Proposed New, Improved, and Private Access Roads for the Southgate Project**

| State/ Facility/ Road ID a/ | Road Name | Milepost b/ | New or Existing | Proposed for Temporary or Permanent Use | Ownership / Management | Road Dimensions | | Existing Surface c/ | Existing Land Use d/ | Proposed Improvement e/ | Construction Area (acres) f/ | Operation Area (acres) g/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Width (feet) | Length (feet) | | | | | |
| TAR | TA-PI-067 | 25.1 | Existing | Temporary | Private | 25 | 1,917 | G, D, Gr | FW, OL, OW, WL | S, W | 1.19 | 0.00 |
| TAR | TA-PI-068 | 26.0 | Existing | Temporary | Private | 25 | 1,202 | D | FW, OL | S, W | 0.23 | 0.00 |
| | | | | | | | | | | *Virginia Subtotal:* | *51.08* | *2.91* |
| **North Carolina** | | | | | | | | | | | | |
| TAR | TA-PI-068 | 26.0 | Existing | Temporary | Private | 25 | 731 | D | FW, WL | S, W | 0.48 | 0.00 |
| TAR | TA-RO-070 | 26.2 | Existing | Temporary | Private | 25 | 513 | G, D, Gr | FW, OL | S, W | 0.30 | 0.00 |
| TAR | TA-RO-071 | 26.7 | Existing | Temporary | Private | 25 | 3,340 | G, D | CI, FW, OL, RD | S, W | 2.00 | 0.00 |
| TAR | TA-RO-072 | 26.9 | Existing | Temporary | Private | 25 | 1,040 | G | CI, FW, OL, RD | S, W | 0.61 | 0.00 |
| TAR | TA-RO-072A | 27.0 | New | Temporary | Private | 25 | 226 | Gr | AG, OL, RD | S, W | 0.14 | 0.00 |
| TAR | TA-RO-073 | 27.1 | Existing | Temporary | Private | 25 | 1,349 | G, D, Gr | AG, CI, FW, OL, WL | S, W | 0.80 | 0.00 |
| TAR | TA-RO-073A | 27.4 | Existing | Temporary | Private | 25 | 2,772 | G, D, Gr | AG, CI, OL, OW, WL | S, W | 1.67 | 0.00 |
| TAR | TA-RO-075 | 27.8 | Existing | Temporary | Private | 25 | 2,206 | G, D, Gr | AG, OL, WL | S, W | 1.27 | 0.00 |
| PAR | PA-RO-000 | 28.2 | Existing | Permanent | Private | 25 | 4,956 | G, Gr | CI, FW, OL, WL | S, W | 2.86 | 2.86 |
| TAR | TA-RO-000A | CY-08 | Existing | Temporary | Private | 25 | 344 | A | CI, OL | None | 0.21 | 0.00 |
| TAR | TA-RO-076 | 28.6 | Existing | Temporary | Private | 25 | 2,477 | G, D | FW, OL | S, W | 1.43 | 0.00 |
| TAR | TA-RO-078 | 29.2 | Existing | Temporary | Private | 25 | 2,209 | C, G, D | CI, FW, OL, RD | S, W | 1.29 | 0.00 |
| TAR | TA-RO-079 | 29.6 | Existing | Temporary | Private | 25 | 288 | G, D, Gr | AG, OL | S, W | 0.17 | 0.00 |
| TAR | TA-RO-079A | 29.6 | Existing | Temporary | Private | 25 | 1,832 | G, D, Gr | OL, RD | S, W | 1.06 | 0.00 |
| TAR | TA-RO-080 | 29.9 | Existing | Temporary | Private | 25 | 3,587 | G, D, Gr | AG, CI, OL, RD | S, W | 2.08 | 0.00 |
| TAR | TA-RO-081 | 30.4 | New | Temporary | Private | 25 | 17 | G | OL | S, W | 0.02 | 0.00 |
| PAR | PA-RO-082 | 30.4 | Existing | Permanent | Public Service Company of North Carolina, Inc. | 25 | 161 | G | CI, OL, WL | S, W | 0.12 | 0.12 |
| PAR | PA-RO-082A | 30.4 | Existing | Permanent | Public Service Company of North Carolina, Inc. | 25 | 115 | G | CI, OL | S,W | 0.06 | 0.06 |
| TAR | TA-RO-082A | CY-04 | Existing | Temporary | Private | 25 | 413 | Gr | CI, OL | S, W | 0.25 | 0.00 |
| TAR | TA-RO-082C | CY-05 | Existing | Temporary | Private | 25 | 8 | C | CI | None | 0.02 | 0.00 |
| TAR | TA-RO-082D | CY-05 | Existing | Temporary | Private | 25 | 6 | A | CI | None | 0.01 | 0.00 |
| TAR | TA-RO-082E | CY-05 | Existing | Temporary | Private | 25 | 7 | A | CI | None | 0.01 | 0.00 |
| TAR | TA-RO-084 | 31.7 | New | Temporary | Private | 25 | 93 | Gr | CI, OL | S, W | 0.06 | 0.00 |
| TAR | TA-RO-085 | 32.4 | Existing | Temporary | Private | 25 | 3,670 | G, D | CI, FW, OL, RD | S, W | 2.12 | 0.00 |
| TAR | TA-RO-086 | 32.5 | Existing | Temporary | Private | 25 | 370 | D | OL | S, W | 0.29 | 0.00 |
| TAR | TA-RO-087 | 32.8 | Existing | Temporary | Private | 25 | 2,654 | G, D, Gr | FW, OL, RD | S, W | 1.54 | 0.00 |

Appendix B.4

**Proposed New, Improved, and Private Access Roads for the Southgate Project**

| State/ Facility/ Road ID a/ | Road Name | Milepost b/ | New or Existing | Proposed for Temporary or Permanent Use | Ownership / Management | Road Dimensions | | Existing Surface c/ | Existing Land Use d/ | Proposed Improvement e/ | Construction Area (acres) f/ | Operation Area (acres) g/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Width (feet) | Length (feet) | | | | | |
| TAR | TA-RO-088 | 33.6 | Existing | Temporary | Private | 25 | 1,752 | G, D, Gr | CI, FW, OL, RD | S, W | 1.03 | 0.00 |
| TAR | TA-RO-089 | 34.1 | Existing | Temporary | Private | 25 | 1,812 | G, Gr | CI, FW, OL, RD | S, W | 1.05 | 0.00 |
| TAR | TA-RO-091 | 34.7 | Existing | Temporary | Private | 25 | 1,001 | D | FW, OL | S, W | 0.58 | 0.00 |
| TAR | TA-RO-092 | 35.4 | Existing | Temporary | Private | 25 | 867 | G, D | FW, OL, RD | S, W | 0.51 | 0.00 |
| TAR | TA-RO-093 | 35.7 | Existing | Temporary | Private | 25 | 732 | D | AG, CI, FW, OL | S, W | 0.42 | 0.00 |
| TAR | TA-RO-094 | 35.9 | Existing | Temporary | Private | 25 | 778 | D | AG, FW, OL | S, W | 0.46 | 0.00 |
| TAR | TA-RO-095 | 36.2 | Existing | Temporary | Private | 25 | 611 | G, D | AG, FW, OL | S, W | 0.36 | 0.00 |
| TAR | TA-RO-099 | 36.7 | Existing | Temporary | Private | 25 | 744 | D | AG, CI, FW, RD | S, W | 0.44 | 0.00 |
| TAR | TA-RO-100 | 37.1 | Existing | Temporary | Private | 25 | 1,936 | D | FW, OL | S, W | 1.12 | 0.00 |
| TAR | TA-RO-102 | 37.6 | Existing | Temporary | Private | 25 | 1,532 | A, G, D, Gr | OL, RD | S, W | 0.89 | 0.00 |
| TAR | TA-RO-103 | 38.1 | Existing | Temporary | Private | 25 | 1,440 | G, D | FW, OL, RD | S, W | 0.87 | 0.00 |
| TAR | TA-RO-104 | 38.6 | Existing | Temporary | Private | 25 | 352 | D | CI, FW, OL | S, W | 0.21 | 0.00 |
| TAR | TA-RO-106 | 38.9 | Existing | Temporary | City Of Reidsville | 25 | 426 | G | FW, OL | S, W | 0.25 | 0.00 |
| TAR | TA-RO-107 | 39.4 | Existing | Temporary | Private | 25 | 1,950 | D | AG, CI, FW, OL, RD | S, W | 1.13 | 0.00 |
| TAR | TA-RO-108 | 39.6 | New | Temporary | Private | 25 | 195 | Gr | FW, OL | S, W | 0.12 | 0.00 |
| PAR | PA-RO-109 | 39.7 | Existing | Permanent | Private Duke Power Company | 25 | 1,153 | G | CI, OL | S, W | 0.67 | 0.67 |
| TAR | TA-RO-111 | 40.9 | Existing | Temporary | Private | 25 | 4,482 | G, D, Gr | AG, CI, FW, OL, RD | S, W | 2.58 | 0.00 |
| TAR | TA-RO-112 | 41.4 | Existing | Temporary | Private | 25 | 3,433 | G, D | CI, FW, OL | S, W | 1.97 | 0.00 |
| TAR | TA-RO-113 | 41.8 | Existing | Temporary | Private | 25 | 162 | D, Gr | FW, OL | S, W | 0.11 | 0.00 |
| PAR | PA-RO-113A | 41.8 | Existing | Permanent | Private | 25 | 1,982 | D, Gr | FW, OL, WL | S, W | 1.09 | 1.09 |
| PAR | PA-RO-114A | 42.2 | New | Permanent | Private | 25 | 83 | Gr | CI, FW, OL | S, W | 0.05 | 0.05 |
| TAR | TA-RO-115 | 42.4 | Existing | Temporary | Private | 25 | 585 | G | CI, FW, OL, RD | S, W | 0.34 | 0.00 |
| TAR | TA-RO-115A | 43.2 | New | Temporary | Private Duke Power Company | 25 | 87 | G, Gr | CI, FW, OL | S, W | 0.06 | 0.00 |
| TAR | TA-RO-117 | 43.4 | New | Temporary | Private | 25 | 44 | Gr | CI, OL | S, W | 0.03 | 0.00 |
| TAR | TA-RO-118 | 43.4 | New | Temporary | Private | 25 | 148 | Gr | CI, OL | S, W | 0.09 | 0.00 |
| TAR | TA-RO-119 | 43.9 | Existing | Temporary | Private | 25 | 1,889 | G, D | CI, FW, OL, RD | S, W | 1.11 | 0.00 |
| TAR | TA-RO-122 | 44.1 | Existing | Temporary | Private | 25 | 1,845 | G, D | CI, FW, OL, RD | S, W | 1.09 | 0.00 |
| TAR | TA-RO-124 | 44.8 | Existing | Temporary | Private | 25 | 252 | D | AG, CI, FW, OL | S, W | 0.15 | 0.00 |
| PAR | PA-RO-124A | 44.9 | New | Permanent | Private | 25 | 27 | Gr | AG, CI | S, W | 0.01 | 0.01 |
| TAR | TA-RO-125 | 45.0 | New | Temporary | Private | 25 | 227 | Gr | AG, FW | S, W | 0.14 | 0.00 |
| TAR | TA-RO-126 | 45.3 | Existing | Temporary | Private | 25 | 2,268 | D | AG, FW, OL, RD | S, W | 1.31 | 0.00 |
| TAR | TA-RO-127 | 46.1 | Existing | Temporary | Private | 25 | 2,143 | G, D | AG, FW, OL, RD | S, W | 1.23 | 0.00 |

Appendix B.4

**Proposed New, Improved, and Private Access Roads for the Southgate Project**

| State/ Facility/ Road ID a/ | Road Name | Milepost b/ | New or Existing | Proposed for Temporary or Permanent Use | Ownership / Management | Road Dimensions | | Existing Surface c/ | Existing Land Use d/ | Proposed Improvement e/ | Construction Area (acres) f/ | Operation Area (acres) g/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Width (feet) | Length (feet) | | | | | |
| TAR | TA-RO-129 | 46.8 | Existing | Temporary | Private | 25 | 1,636 | G, D | AG, CI, FW, OL | S, W | 0.96 | 0.00 |
| TAR | TA-RO-130 | 47.3 | Existing | Temporary | Private | 25 | 2,200 | G, D | CI, FW, OL, RD | S, W | 1.27 | 0.00 |
| TAR | TA-RO-131 | 48.2 | Existing | Temporary | Private | 25 | 1,859 | G, D, Gr | AG, OL | S, W | 1.08 | 0.00 |
| TAR | TA-RO-133 | 48.6 | Existing | Temporary | Duke Power Company Private | 25 | 1,207 | D, Gr | AG, CI, FW, OL | S, W | 0.72 | 0.00 |
| TAR | TA-RO-134 | 48.9 | Existing | Temporary | Private | 25 | 26 | G | CI | S, W | 0.03 | 0.00 |
| TAR | TA-RO-135 | 49.2 | Existing | Temporary | Private | 25 | 446 | D | CI, OL | S, W | 0.27 | 0.00 |
| TAR | TA-RO-136 | 49.5 | New | Temporary | Private | 25 | 134 | Gr | OL | S, W | 0.09 | 0.00 |
| TAR | TA-RO-138 | 49.8 | Existing | Temporary | Private | 25 | 858 | D, Gr | FW, OL | S, W | 0.49 | 0.00 |
| TAR | TA-RO-139 | 50.3 | Existing | Temporary | Private | 25 | 2,833 | D | AG, FW, OL | S, W | 1.53 | 0.00 |
| TAR | TA-RO-140 | 51.4 | Existing | Temporary | Private | 25 | 913 | D | AG, FW, OL | S, W | 0.53 | 0.00 |
| TAR | TA-RO-141 | 51.6 | Existing | Temporary | Private | 25 | 471 | D | AG, OL | S, W | 0.28 | 0.00 |
| TAR | TA-RO-142 | 51.7 | Existing | Temporary | Private | 25 | 657 | D | AG, CI, OL | S, W | 0.39 | 0.00 |
| TAR | TA-RO-144 | 52.2 | Existing | Temporary | Private | 25 | 1,204 | D | AG, FW, OL | S, W | 0.71 | 0.00 |
| TAR | TA-RO-145 | 52.3 | Existing | Temporary | Private | 25 | 600 | D | FW, OL | S, W | 0.36 | 0.00 |
| TAR | TA-RO-146A | 52.6 | Existing | Temporary | Private | 25 | 549 | G | CI, OL | S, W | 0.31 | 0.00 |
| TAR | TA-GU-000 | CY-09 | Existing | Temporary | Private | 25 | 23 | G, D | OL | S, W | 0.19 | 0.00 |
| TAR | TA-AL-147 | 53.0 | Existing | Temporary | Private | 25 | 116 | D | CI, FW, OL, RD | S, W | 0.08 | 0.00 |
| TAR | TA-AL-149 | 53.3 | New | Temporary | Private | 25 | 20 | Gr | CI, OL | S, W | 0.02 | 0.00 |
| TAR | TA-AL-152 | 53.5 | Existing | Temporary | Private | 25 | 483 | G | OL, RD, SC | S, W | 0.29 | 0.00 |
| TAR | TA-AL-153 | 53.8 | Existing | Temporary | Private | 25 | 1,411 | D | AG, OL | S, W | 0.82 | 0.00 |
| TAR | TA-AL-154 | 54.3 | Existing | Temporary | Private | 25 | 2,294 | D | AG, FW | S, W | 1.34 | 0.00 |
| TAR | TA-AL-155 | 54.7 | Existing | Temporary | Private | 25 | 3,351 | D | AG, FW, OL, OW | S, W | 1.95 | 0.00 |
| PAR | PA-AL-155A | 55.1 | New | Permanent | Private | 25 | 40 | Gr | AG, OL | S, W | 0.03 | 0.03 |
| TAR | TA-AL-156 | 55.5 | Existing | Temporary | Private | 25 | 599 | D | AG, FW, OL | S, W | 0.34 | 0.00 |
| TAR | TA-AL-157 | 55.6 | Existing | Temporary | Private | 25 | 427 | D | FW, OL | S, W | 0.25 | 0.00 |
| TAR | TA-AL-159 | 56.3 | Existing | Temporary | Private | 25 | 224 | G | CI, FW, OL | S, W | 0.14 | 0.00 |
| TAR | TA-AL-159B | 56.8 | Existing | Temporary | Private | 25 | 212 | G, D, Gr | CI, OL | S, W | 0.13 | 0.00 |
| TAR | TA-AL-159A | 56.9 | Existing | Temporary | Private | 25 | 1,816 | A, G, Gr | CI, OL | S, W | 1.06 | 0.00 |
| TAR | TA-AL-161 | 57.7 | New | Temporary | Private | 25 | 651 | G, Gr | FW, OL, RD | S, W | 0.37 | 0.00 |
| TAR | TA-AL-162 | 58.1 | Existing | Temporary | Private | 25 | 1,020 | Gr, D | AG, FW, OL | S, W | 0.59 | 0.00 |
| TAR | TA-AL-163 | 58.4 | Existing | Temporary | Private | 25 | 1,044 | OL, G | CI, OL | S, W | 0.60 | 0.00 |
| PAR | PA-AL-164 | 58.8 | Existing | Permanent | Private | 25 | 1,068 | D | CI, FW, OL | S, W | 0.61 | 0.61 |
| TAR | TA-AL-165 | 60 | New | Temporary | Private | 25 | 151 | Gr | CI, OL | S, W | 0.10 | 0.00 |
| PAR | PA-AL-166 | 60.3 | Existing | Permanent | Private | 25 | 144 | Gr | CI, OL | S, W | 0.09 | 0.09 |

Appendix B.4

**Proposed New, Improved, and Private Access Roads for the Southgate Project**

| State/ Facility/ Road ID a/ | Road Name | Milepost b/ | New or Existing | Proposed for Temporary or Permanent Use | Ownership / Management | Road Dimensions | | Existing Surface c/ | Existing Land Use d/ | Proposed Improvement e/ | Construction Area (acres) f/ | Operation Area (acres) g/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Width (feet) | Length (feet) | | | | | |
| TAR | TA-AL-167 | 61.1 | Existing | Temporary | Private | 25 | 739 | D | AG, CI, FW, OL | S, W | 0.43 | 0.00 |
| TAR | TA-AL-168 | 61.6 | Existing | Temporary | Private | 25 | 578 | G, Gr | AG, CI, FW, OL | S, W | 0.34 | 0.00 |
| TAR | TA-AL-169 | 62.4 | Existing | Temporary | Private | 25 | 1,945 | D | FW, OL, OW, RD, WL | S, W | 1.12 | 0.00 |
| TAR | TA-AL-171 | 63.4 | Existing | Temporary | Private | 25 | 561 | D, Gr | AG, OL | S, W | 0.33 | 0.00 |
| TAR | TA-AL-172 | 63.7 | New | Temporary | Private | 25 | 2,384 | Gr | CI, FW, OL, SC | S, W | 1.38 | 0.00 |
| PAR | PA-AL-175A | 64.8 | New | Permanent | Private | 25 | 40 | Gr | CI, OL | S, W | 0.01 | 0.01 |
| TAR | TA-AL-179A | 66.7 | Existing | Temporary | Private | 25 | 3,927 | G, Gr | CI, FW, OL | S, W | 2.25 | 0.00 |
| TAR | TA-AL-180 | 67.3 | New | Temporary | Private | 25 | 2,269 | G, Gr | AG, CI, FW, OL, RD | S, W | 1.33 | 0.00 |
| TAR | TA-AL-181 | 68.0 | Existing | Temporary | Private | 25 | 1,546 | G, D | CI, FW, OL, RD | S, W | 0.89 | 0.00 |
| PAR | PA-AL-181A | 68.2 | Existing | Permanent | Private | 25 | 2,089 | G | FW, OL, RD | S, W | 1.20 | 1.20 |
| TAR | TA-AL-185 | 68.9 | Existing | Temporary | Private | 25 | 1,586 | Gr | FW, OL | S, W | 0.92 | 0.00 |
| TAR | TA-AL-186 | 69.2 | Existing | Temporary | Private | 25 | 11 | G, Gr | FW, RD | S, W | 0.02 | 0.00 |
| TAR | TA-AL-187 | 69.5 | Existing | Temporary | Private | 25 | 1,258 | A, G, Gr | CI, FW, RD | S, W | 0.72 | 0.00 |
| TAR | TA-AL-188 | 70.9 | Existing | Temporary | Private | 25 | 1,702 | C, D | CI, FW, OL | S, W | 1.02 | 0.00 |
| TAR | TA-AL-189 | 71.2 | Existing | Temporary | Private | 25 | 2,151 | Gr | FW, OL | S, W | 1.32 | 0.00 |
| TAR | TA-AL-190 | 71.5 | Existing | Temporary | Alamance Community College | 25 | 1,512 | A, G, Gr | CI, FW, OL | S, W | 0.88 | 0.00 |
| TAR | TA-AL-192 | 72.2 | Existing | Temporary | Private | 25 | 1,275 | G, D, Gr | CI, FW, OL, RD | S, W | 0.74 | 0.00 |
| TAR | TA-AL-193 | 72.4 | Existing | Temporary | Private | 25 | 1,293 | Gr | CI, FW, OL | S, W | 0.74 | 0.00 |
| PAR | PA-AL-194 | 73.1RR | Existing | Permanent | Transcontinental Gas Pipeline Company, LLC Public Service Company Of North Carolina, Inc. Private | 25 | 205 | G | CI, FW, OL | S | 0.12 | 0.12 |
| | | | | | | | | | | *North Carolina Subtotal:* | *76.11* | *6.92* |
| | | | | | | | | | | **PROJECT TOTAL:** | **127.19** | **9.82** |

Note: The totals shown in this table may not equal the sum of addends due to rounding.

a/ TAR=Temporary, PAR=Permanent Access Road.

b/ Milepost (MP) at final intersection of access road with construction workspace. Approximate MP rounded to the nearest tenth.

c/ Dominant surface condition provided. A=Asphalt, C=Concrete, G=Gravel, D=Dirt, Gr=Greenfield.

d/ AG = Agricultural; CI = Commercial / Industrial; FW = Upland Forest / Woodland; OL = Upland Open Land; OW = Open Water; RD = Residential; SC = Silviculture; WL = Wetland. Where wetlands (WL) are identified within permanent access roads, permanent impacts are not anticipated.

e/ P=Paving, G=Grading, S=Stone, C=Culverts, W=Widening, R=Realignment. No improvements to occur within WLs crossed by the access road.

f/ Does not include area overlapping with pipeline, aboveground facility, or contractor/pipe storage yard construction workspaces.

g/ Does not include area overlapping with pipeline permanent right-of-way or aboveground facility permanent facility boundary (fence line/footprint). Only PARs will have an operational area impact.

# APPENDIX B.5

# Waterbodies Crossed by the Southgate Project

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**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| **Virginia - Pittsylvania** | | | | | | | | |
| ***H-605 Pipeline*** | | | | | | | | |
| S-F18-6 | 0.1 | Trib. To Little Cherrystone Creek | Intermittent | 6 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| ***H-650 Pipeline*** | | | | | | | | |
| S-F18-65 | 0.4 | Little Cherrystone Creek | Perennial | 22 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-F18-63 | 0.6 | Trib. To Little Cherrystone Creek | Intermittent | 14 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-E18-18 | 1.1 | Trib. To Cherrystone Creek | Perennial | 5 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-F18-56 | 1.4 | Trib. To Cherrystone Creek | Intermittent | 4 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-D18-18 | 1.7 | Cherrystone Creek | Perennial | 29 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-E18-2 | 3.2 | Trib. To Banister River | Intermittent | 8 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-D18-6 | 3.6 | Trib. To Banister River | Intermittent | 10 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-D18-10 | 4.0 | Trib. To Banister River | Intermittent | 6 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-D18-9 | 4.1 | Trib. To Banister River | Intermittent | 4 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-E18-4 | 4.8 | Trib. To Banister River | Intermittent | 4 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-E18-3 | 4.9 | Banister River | Perennial | 48 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-D18-2 | 5.0 | White Oak Creek | Perennial | 33 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |

**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-D18-2 | 5.1 | White Oak Creek | Perennial | 23 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-D18-36 | 6.6 | Trib. To White Oak Creek | Intermittent | 5 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-E18-7 | 7.0 | Trib. To White Oak Creek | Intermittent | 4 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-E18-6 | 7.0 | Trib. To White Oak Creek | Intermittent | 6 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-D18-13 | 7.6 | Trib. To White Oak Creek | Perennial | 3 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-F18-13 | 8.0 | Trib. To White Oak Creek | Intermittent | 9 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-E18-16 | 8.5 | Trib. To White Oak Creek | Intermittent | 8 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-E18-14 | 8.6 | Trib. To White Oak Creek | Perennial | 9 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| WB-E18-24 | 9.0 | Trib. To White Oak Creek | Pond | 23 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-F18-15 | 9.9 | Trib. To White Oak Creek | Perennial | 3 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-F18-17 | 9.9 | White Oak Creek | Perennial | 14 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-F18-22 | 11.0 | Trib. To Sandy Creek | Intermittent | 0 | Minor | WWH | AL, R, FC, W | N/A |
| S-F18-20 | 11.0 | Trib. To Sandy Creek | Perennial | 27 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-F18-20 | 11.0 | Trib. To Sandy Creek | Perennial | 4 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-F18-20 | 11.0 | Trib. To Sandy Creek | Perennial | 9 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-F18-28 | 11.4 | Trib. To Sandy Creek | Intermittent | 0 | Minor | WWH | AL, R, FC, W | N/A |

## Appendix B.5

## Waterbodies Crossed by the Southgate Project

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-F18-20 | 11.4 | Trib. To Sandy Creek | Perennial | 12 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-C18-85 | 11.6 | Trib. To Sandy Creek | Perennial | 4 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-C18-86 | 11.9 | Trib. To Sandy Creek | Perennial | 23 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-D18-21 | 12.8 | Sandy Creek | Perennial | 15 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-E18-27 | 13.4 | Trib. To Sandy Creek | Perennial | 11 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-D18-22 | 14.3 | Trib. To Sandy Creek | Perennial | 12 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-E18-47 | 14.7 | Trib. To Sandy Creek | Perennial | 3 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-A18-188 | 15.2 | Trib. To Silver Creek | Perennial | 5 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-D18-37 | 15.7 | Trib. To Silver Creek | Perennial | 24 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-A18-190 | 15.9 | Trib. To Silver Creek | Intermittent | 6 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-A18-194 | 16.0 | Trib. To Silver Creek | Perennial | 7 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-A18-195 | 16.2 | Trib. To Silver Creek | Perennial | 2 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-G18-10 | 16.2 | Trib. To Silver Creek | Intermittent | 0 | Minor | WWH | AL, R, FC, W | N/A |
| S-C18-97 | 16.8 | Trib. To Sandy River | Intermittent | 6 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-B18-202 | 17.0 | Trib. To Sandy River | Perennial | 3 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-E18-51 | 17.3 | Trib. To Sandy River | Perennial | 12 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |

## Appendix B.5

## Waterbodies Crossed by the Southgate Project

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-E18-44 | 17.7 RR | Sandy River | Perennial | 113 | Intermediate | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-A19-292 | 17.8 RR | Trib.to Sandy River | Perennial | 6 | Minor | WWH | AL,R,W | Open Cut – Dam and pump, Flume |
| S-E18-42 | 18.0 | Trib. To Hardys Creek | Perennial | 6 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-D18-38 | 19.4 | Trib. To Sandy River | Ephemeral | 4 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-F18-50 | 19.7 | Trib. To Sandy River | Perennial | 9 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-E18-52 | 20.4 | Trib. To Trayner Branch | Perennial | 14 | Intermediate | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| S-E18-54 | 20.6 | Trib. To Trayner Branch | Perennial | 6 | Minor | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| S-D18-34 | 21.0 | Trayner Branch | Perennial | 7 | Minor | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| S-D18-40 | 21.2 | Trib. To Trayner Branch | Perennial | 5 | Minor | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| S-C18-94 | 21.7 | Trib. To Trotters Creek | Intermittent | 0 | Minor | WWH | AL, R, FC, W | N/A |
| WB-C18-93 | 21.9 | Trib. To Trotters Creek | Pond | 0 | Minor | WWH | AL, R, FC, W | N/A |
| S-A18-205 | 22.0 | Trib. To Trotters Creek | Intermittent | 19 | Intermediate | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| S-A18-203 | 22.1 | Trib. To Trotters Creek | Intermittent | <1 | Minor | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| S-A18-206 | 22.2 | Trib. To Trotters Creek | Intermittent | 9 | Minor | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| S-F18-43 | 23.0 | Trib. To Trotters Creek | Intermittent | 4 | Minor | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| S-F18-42 | 23.2 | Trib. To Trotters Creek | Ephemeral | 10 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |

**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-F18-40 | 23.2 | Trotters Creek | Perennial | 22 | Intermediate | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| S-F18-38 | 23.5 | Trib. To Dan River | Intermittent | 4 | Minor | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| S-F18-35 | 23.8 | Trib. To Dan River | Ephemeral | 7 | Minor | WWH | AL, R, FC, W | Open Cut - Dam and pump, Flume |
| S-E18-34 | 23.9 | Trib. To Dan River | Intermittent | 0 | Minor | WWH | AL, R, FC, W, PWS | N/A |
| S-F18-34 | 24.4 | Trib. To Dan River | Ephemeral | 7 | Minor | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| S-F18-33 | 24.8 | Trib. To Dan River | Perennial | 9 | Minor | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| S-C18-89 | 25.1 | Trib. To Dan River | Perennial | 19 | Intermediate | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| S-C18-90 | 25.7 | Trib. To Dan River | Perennial | 11 | Intermediate | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| S-C18-92 | 25.9 | Trib. To Dan River | Intermittent | 7 | Minor | WWH | AL, R, FC, W, PWS | Open Cut - Dam and pump, Flume |
| **North Carolina - Rockingham** | | | | | | | | |
| S-B18-99 | 26.5 | Trib. To Cascade Creek | Intermittent | 1 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-42 | 27.3 | Trib. To Cascade Creek | Intermittent | 20 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-40 | 27.5 | Cascade Creek | Perennial | 108 | Major | WWH | Class C | Conventional Bore |
| S-A19-273 | 27.5 | Dry Creek | Perennial | 29 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-31 | 28.3 RR | Trib. To Dan River | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-A18-32 | 28.4 RR | Trib. To Dan River | Perennial | 14 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |

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**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-A18-34 | 28.4 RR | Trib. To Dan River | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-A18-36 | 28.4 RR | Trib. To Dan River | Perennial | 0 | Minor | WWH | Class C | N/A |
| S-A18-37 | 28.6 RR | Trib. To Dan River | Perennial | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-49 | 28.8 | Trib. To Dan River | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-47 | 29.1 | Trib. To Dan River | Ephemeral | 1 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-160 | 29.3 RR | Trib. To Dan River | Ephemeral | 0 | Minor | WWH | Class C | N/A |
| S-A18-47 | 29.6 | Trib. To Dan River | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-17 | 30.1 | Dan River | Perennial | 247 | Major | WWH | Class C | HDD |
| S-B18-38 | 30.3 | Trib. To Dan River | Ephemeral | 3 | Minor | WWH | Class C | HDD |
| S-B18-104 | 30.8 RR | Trib. To Rock Creek | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B19-153 | 30.9 RR | Trib. To Rock Creek | Intermittent | 2 | Minor | WWH | Class C | Open Cut – Dam and pump, Flume |
| S-B18-105 | 31.1 | Trib. To Rock Creek | Intermittent | 1 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-102 | 31.1 | Trib. To Rock Creek | Perennial | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-95 | 31.3 | Rock Creek | Perennial | 28 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-143 | 31.9 | Trib. To Machine Creek | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-140 | 31.9 | Trib. To Machine Creek | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |

**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-A18-144 | 32.0 | Trib. To Machine Creek | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-140 | 32.0 | Trib. To Machine Creek | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-148 | 32.1 | Trib. To Machine Creek | Ephemeral | 0 | Minor | WWH | Class C | N/A |
| S-A18-147 | 32.2 | Machine Creek | Perennial | 20* | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-150 | 32.5 | Trib. To Town Creek | Ephemeral | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-153 | 32.6 | Trib. To Town Creek | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-151 | 32.7 RR | Town Creek | Perennial | 55 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-151 | 33.0 | Town Creek | Perennial | 48 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-154 | 33.0 | Trib. To Town Creek | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-A18-154 | 33.0 | Trib. To Town Creek | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-154 | 33.0 | Trib. To Town Creek | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-A18-220 | 33.3 | Trib. To Town Creek | Ephemeral | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-221 | 33.3 | Trib. To Town Creek | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-52 | 33.4 | Trib. To Town Creek | Intermittent | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-51 | 33.5 | Trib. To Town Creek | Intermittent | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-223 | 33.7 | Trib. To Town Creek | Intermittent | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |

**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-A18-225 | 33.7 | Trib. To Town Creek | Perennial | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-49 | 33.9 | Trib. To Town Creek | Intermittent | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-48 | 34.0 | Trib. To Town Creek | Ephemeral | 0 | Minor | WWH | Class C | N/A |
| S-C18-38 | 34.2 RR | Trib. To Town Creek | Perennial | 33 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-39 | 34.5 | Trib. To Town Creek | Ephemeral | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-38 | 34.6 | Trib. To Town Creek | Perennial | 17 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-53 | 34.7 | Trib. To Town Creek | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-38 | 34.8 | Trib. To Town Creek | Perennial | 23 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-74 | 34.8 | Trib. To Town Creek | Ephemeral | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-38 | 35.0 | Trib. To Town Creek | Perennial | 7 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-57 | 35.1 | Trib. To Town Creek | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-35 | 36.0 | Trib. To Town Creek | Perennial | 10 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-94 | 37.0 | Trib. To Wolf Island Creek | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-97 | 37.2 | Trib. To Wolf Island Creek | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-101 | 37.3 | Trib. To Wolf Island Creek | Perennial | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B19-157 | 37.6 RR | Trib. To Wolf Island Creek | Perennial | 3 | Minor | WWH | Class C | Open Cute – Dam and pump, Flume |

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**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| AS-B18-117 | 37.7 | Trib. To Wolf Island Creek | Perennial | 12 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-2 | 38.2 | Trib. To Wolf Island Creek | Perennial | 21 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-9 | 38.4 | Trib. To Wolf Island Creek | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-4 | 38.5 | Trib. To Wolf Island Creek | Perennial | 0 | Minor | WWH | Class C | N/A |
| S-A18-4 | 38.5 | Trib. To Wolf Island Creek | Perennial | 0 | Minor | WWH | Class C | N/A |
| S-A18-8 | 38.8 | Wolf Island Creek | Perennial | 53 | Intermediate | WWH | Class C | Conventional Bore |
| S-A19-269 | 38.8 RR | Trib. To Wolf Island Creek | Intermittent | 2 | Minor | WWH | Class C | Open Cut – Dam and pump, Flume |
| S-B18-72 | 39.0 | Trib. To Wolf Island Creek | Ephemeral | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-73 | 39.1 | Trib. To Wolf Island Creek | Ephemeral | 0 | Minor | WWH | Class C | N/A |
| S-B18-74 | 39.1 | Trib. To Wolf Island Creek | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-74 | 39.6 | Trib. To Wolf Island Creek | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-108 | 40.2 | Trib. To Lick Fork | Perennial | 27 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-109 | 40.2 | Trib. To Lick Fork | Ephemeral | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-210 | 40.5 RR | Trib. To Lick Fork | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-210 | 40.5 RR | Trib. To Lick Fork | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-51 | 40.6 | Trib. To Lick Fork | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |

**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-B18-52 | 40.7 | Trib. To Lick Fork | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-57 | 41.1 | Trib. To Lick Fork | Perennial | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-56 | 41.2 RR | Lick Fork | Perennial | 39 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-171 | 41.2 | Trib. To Lick Fork | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| AS-B18-44 | 41.6 | Trib. To Lick Fork | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-B18-45 | 41.7 | Trib. To Lick Fork | Ephemeral | 0 | Minor | WWH | Class C | N/A |
| S-B18-44 | 41.7 | Trib. To Lick Fork | Intermittent | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-41 | 41.8 | Trib. To Lick Fork | Perennial | 19 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-89 | 42.3 | Trib. To Jones Creek | Ephemeral | 1 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-256 | 42.9 | Trib. To Jones Creek | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-92 | 43.1 | Trib. To Jones Creek | Perennial | 12 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-176 | 43.3 | Jones Creek | Perennial | 26 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-181 | 43.3 | Trib. To Jones Creek | Perennial | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-80 | 43.7 | Trib. To Jones Creek | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-105 | 43.7 | Trib. To Jones Creek | Perennial | 53 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-25 | 44.1 | Trib. To Jones Creek | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |

**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-A18-102 | 44.1 | Trib. To Jones Creek | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-226 | 44.4 | Trib. To Jones Creek | Ephemeral | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-228 | 44.5 | Trib. To Jones Creek | Ephemeral | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-213 | 45.7 | Trib. To Hogans Creek | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-B18-71 | 45.7 | Trib. To Hogans Creek | Perennial | 23 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-68 | 45.8 | Trib. To Hogans Creek | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-231 | 46.4 | Trib. To Hogans Creek | Ephemeral | 0 | Minor | WWH | Class C | N/A |
| S-A18-234 | 46.5 | Trib. To Hogans Creek | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-235 | 46.5 | Trib. To Hogans Creek | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-76 | 47.0 | Hogans Creek | Perennial | 19 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-79 | 47.4 | Trib. To Hogans Creek | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-90 | 47.6 | Trib. To Hogans Creek | Perennial | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B19-167 | 47.7 RR | Trib. To Hogans Creek | Intermittent | 3 | Minor | WWH | Class C | Open Cut – Dam and pump, Flume |
| S-A18-242 | 47.7 | Trib. To Hogans Creek | Perennial | 19 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-60 | 48.7 | Giles Creek | Perennial | 4 | Minor | WWH | Class C, WS-IV, NSW | Open Cut - Dam and pump, Flume |
| S-A18-55 | 49.3 | Trib. To Giles Creek | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |

**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-A18-183 | 49.9 RR | Trib. To Haw River | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-185 | 49.9 RR | Trib. To Haw River | Intermittent | 1 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| AS-A18-182 / S-A18-182 | 49.9 RR | Trib. To Haw River | Intermittent | 1 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-244 | 50.2 RR | Trib. To Haw River | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A19-289 | 50.7 RR | Trib. To Haw River | Intermittent | 0 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A19-286 | 50.8 RR | Trib. To Haw River | Perennial | 43 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A19-286 | 50.8 RR | Trib. To Haw River | Perennial | 29* | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| AS-A19-285 | 51.2 RR | Trib. To Haw River | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-C18-22 | 51.3 RR | Trib. To Haw River | Ephemeral | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-21 | 51.4 RR | Trib. To Haw River | Perennial | 0 | Minor | WWH | Class C | N/A |
| WB-C18-19 | 51.4 RR | Trib. To Haw River | Pond | 0 | Minor | WWH | Class C | N/A |
| S-C18-15 | 52.1 | Trib. To Haw River | Intermittent | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-217 | 52.1 | Trib. To Haw River | Intermittent | 0 | Minor | WWH | Class C | N/A |
| AS-A18-219 | 52.4 RR | Trib. To Haw River | Perennial | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| **North Carolina - Alamance** | | | | | | | | |
| S-B18-94 | 52.7 | Trib. To Haw River | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |

## Appendix B.5

## Waterbodies Crossed by the Southgate Project

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-A18-84 | 53.7 | Trib. To Haw River | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-87 | 53.7 | Trib. To Haw River | Perennial | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-89 | 54.0 | Trib. To Haw River | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-C18-63 | 54.5 | Trib. To Haw River | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-62 | 54.6 | Trib. To Haw River | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-60 | 54.9 | Trib. To Haw River | Intermittent | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-143 | 54.9 | Trib. To Haw River | Ephemeral | 0 | Minor | WWH | Class C | N/A |
| S-B18-142 | 54.9 | Trib. To Haw River | Intermittent | 1 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-61 | 54.9 | Trib. To Haw River | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-68 | 55.2 | Trib. To Haw River | Perennial | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-59 | 55.3 | Trib. To Haw River | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-59 | 55.3 | Trib. To Haw River | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-59 | 55.3 | Trib. To Haw River | Perennial | 0 | Minor | WWH | Class C | N/A |
| S-B18-65 | 56.4 | Trib. To Haw River | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-120 | 56.4 | Trib. To Haw River | Perennial | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| WB-A18-121 | 56.5 | Trib. To Haw River | Pond | 32 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |

**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-A18-125 | 56.5 | Trib. To Haw River | Perennial | 0 | Minor | WWH | Class C | N/A |
| S-A18-125 | 56.6 | Trib. To Haw River | Perennial | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-126 | 56.6 | Trib. To Haw River | Ephemeral | 1 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-125 | 56.6 | Trib. To Haw River | Perennial | 0 | Minor | WWH | Class C | N/A |
| S-A18-132 | 57.1 | Trib. To Haw River | Perennial | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A19-290 | 57.5 RR | Trib. To Haw River | Ephemeral | 0 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-2 | 57.9 | Trib. To Haw River | Intermittent | 1 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-13 | 58.7 | Trib. To Haw River | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-11 | 58.7 | Trib. To Haw River | Perennial | 79 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-12 | 58.7 | Trib. To Haw River | Intermittent | 0 | Minor | WWH | Class C | N/A |
| AS-NHD-1549 | 59.6 | Trib. To Haw River | Intermittent | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-30 | 60.7 | Trib. To Haw River | Intermittent | 13 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-28 | 60.8 | Trib. To Haw River | Intermittent | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-78 | 61.8 | Trib. To Haw River | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-77 | 61.8 | Trib. To Haw River | Ephemeral | 0 | Minor | WWH | Class C | N/A |
| S-A18-70 | 62.4 | Trib. To Haw River | Perennial | 19 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |

**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-A18-72 | 62.5 | Trib. To Haw River | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-23 | 63.0 | Trib. To Stony Creek Reservoir | Ephemeral | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-24 | 63.0 | Trib. To Stony Creek Reservoir | Perennial | 0 | Minor | WWH | Class C | N/A |
| S-B18-22 | 63.0 | Trib. To Stony Creek Reservoir | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-B18-22 | 63.1 | Trib. To Stony Creek Reservoir | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-B18-26 | 63.1 | Trib. To Stony Creek Reservoir | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-B18-12 | 63.1 | Trib. To Stony Creek Reservoir | Perennial | 6 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-12 | 63.1 | Trib. To Stony Creek Reservoir | Perennial | 6 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-29 | 63.1 | Trib. To Stony Creek Reservoir | Ephemeral | 0 | Minor | WWH | Class C | N/A |
| S-B18-12 | 63.1 | Trib. To Stony Creek Reservoir | Perennial | 6 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-14 | 63.2 | Trib. To Stony Creek Reservoir | Ephemeral | 0 | Minor | WWH | Class C | N/A |
| S-B18-12 | 63.2 | Trib. To Stony Creek Reservoir | Perennial | 0 | Minor | WWH | Class C | N/A |
| S-B18-12 | 63.2 | Trib. To Stony Creek Reservoir | Perennial | 21 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-15 | 63.5 | Trib. To Stony Creek Reservoir | Intermittent | 0 | Minor | WWH | Class C | N/A |
| AS-B18-16 / S-B18-16 | 63.6 | Stony Creek Reservoir | Perennial | 305 | Major | WWH | Class C, WS-II, HQW, NSW, CA | HDD |
| AS-B18-20 | 63.8 | Trib. To Deep Creek | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |

**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| AS-NHD-1547 | 64.0 | Deep Creek | Perennial | 9 | Minor | WWH | Class C, WS-II, HQW, NSW, CA | Conventional Bore |
| AS-NHD-3040 | 64.5 | Trib. To Deep Creek | Intermittent | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A19-319 | 65.0 RR | Trib. To Boyds Creek | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-A19-321 | 65.1 RR | Trib. To Boyds Creek | Intermittent | 2 | Minor | WWH | Class C | Open Cut – Dam and pump, Flume |
| S-A19-324 | 65.1 RR | Trib. To Boyds Creek | Perennial | 3 | Minor | WWH | Class C | Open Cut – Dam and pump, Flume |
| S-A18-251 | 65.6 | Trib. To Boyds Creek | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| AS-NHD-3025 | 66.8 RR | Trib. To Boyds Creek | Intermittent | 5 | Minor | WWH | Class C | Open Cut – Dam and pump, Flume |
| AS-A18-177 | 67.3 RR | Trib. To Boyds Creek | Perennial | 5 | Minor | WWH | Class C | Open Cut – Dam and pump, Flume |
| AS-A18-180 | 67.3 RR | Trib. To Boyds Creek | Intermittent | 3 | Minor | WWH | Class C | Open Cut – Dam and pump, Flume |
| AS-A18-177 | 67.3 RR | Trib. To Boyds Creek | Perennial | 0 | Minor | WWH | Class C | N/A |
| S-B18-80 | 67.3 RR | Trib. To Boyds Creek | Intermittent | 1 | Minor | WWH | Class C | Open Cut – Dam and pump, Flume |
| S-A18-250 | 65.6 | Trib. To Boyds Creek | Perennial | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| AS-A18-233 / S-A18-233 | 67.6 | Boyds Creek | Perennial | 24 | Intermediate | WWH | Class C, WS-V, NSW | Open Cut - Dam and pump, Flume |
| AS-NHD-1551 | 68.1 | Trib. To Boyds Creek | Intermittent | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-7 | 68.4 | Trib. To Boyds Creek | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| AS-NHD-1552 | 68.6 | Trib. To Boyds Creek | Intermittent | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |

**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-B18-8 | 68.8 | Trib. To Haw River | Intermittent | 12 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-11 | 68.9 | Trib. To Haw River | Intermittent | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-10 | 69.1 | Trib. To Haw River | Ephemeral | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-15 | 69.2 | Trib. To Haw River | Intermittent | 4 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| AS-B18-132 | 69.5 | Trib. To Haw River | Perennial | 8 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B19-147 | 69.7 | Trib. To Haw River | Ephemeral | 1 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B19-174 | 69.8 | Trib. To Haw River | Intermittent | 0 | Minor | WWH | Class C | N/A |
| AS-A18-115 | 69.9 | Trib. To Haw River | Perennial | 18 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-135 | 70.3 | Trib. To Haw River | Ephemeral | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-134 | 70.3 | Trib. To Haw River | Intermittent | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-133 | 70.3 | Trib. To Haw River | Perennial | 11 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-82 | 70.4 | Trib. To Haw River | Intermittent | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-C18-81 | 70.7 | Trib. To Haw River | Perennial | 24 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-109 | 70.9 | Trib. To Haw River | Perennial | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-108 | 71.0 | Trib. To Haw River | Intermittent | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-107 | 71.0 | Trib. To Haw River | Ephemeral | 1 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |

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**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-A18-64 | 71.5 | Trib. To Haw River | Perennial | 26 | Intermediate | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-65 | 71.6 | Trib. To Haw River | Intermittent | 1 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-68 | 71.8 | Trib. To Haw River | Perennial | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| AS-NHD-1560 | 72.1 | Trib. To Haw River | Intermittent | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-A18-207 | 72.2 | Trib. To Haw River | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-B18-125 | 72.4 | Trib. To Haw River | Intermittent | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-127 | 72.5 | Trib. To Haw River | Intermittent | 5 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-128 | 72.5 | Trib. To Haw River | Ephemeral | 2 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B18-129 | 72.6 | Trib. To Haw River | Ephemeral | 3 | Minor | WWH | Class C | Open Cut - Dam and pump, Flume |
| S-B19-150 | 73.0 RR | Trib. To Back Creek | Perennial | 0 | Minor | WWH | Class C | N/A |
| ***Aboveground Facilities*** | | | | | | | | |
| **North Carolina - Rockingham** | | | | | | | | |
| AS-A18-248 / S-A18-248 - CY-05 | 30.6 | Trib. To Dry Creek | Ephemeral | 0 | Minor | WWH | Class C | N/A |
| S-B18-38 - T-15 Dan River Interconnect | 30.3 | Trib. To Dan River | Ephemeral | 0 | Minor | WWH | Class C | N/A |
| ***Access Roads*** | | | | | | | | |
| **Virginia - Pittsylvania** | | | | | | | | |
| S-D18-20 - TA-PI-005 | 2.2 | Trib. To Cherrystone Creek | Intermittent | 0 | Minor | WWH | AL, R, FC, W | N/A |

**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-F18-61 - TA-PI-035 | 14.2 | Trib. To Sandy Creek | Perennial | 0 | Minor | WWH | AL, R, FC, W | N/A |
| S-F18-47 - TA-PI-043 | 17.2 | Trib. To Sandy River | Intermittent | 1 | Minor | WWH | AL, R, FC, W | Bridge or Flume |
| S-E18-39 - TA-PI-061 | 22.6 | Trib. To Trotters Creek | Intermittent | 4 | Minor | WWH | AL, R, FC, W | Bridge or Flume |
| S-E18-38 - TA-PI-061 | 22.6 | Trib. To Trotters Creek | Intermittent | 0 | Minor | WWH | AL, R, FC, W | N/A |
| S-E18-41 – TA-PI-061 | 22.7 | Trib. To Trotters Creek | Ephemeral | 0 | Minor | WWH | AL, R, FC, W | N/A |
| S-E18-32 - TA-PI-063 | 24.0 | Trib. To Dan River | Intermittent | 5 | Minor | WWH | AL, R, FC, W | Bridge or Flume |
| S-C18-88 - TA-PI-067 | 25.0 | Trib. To Dan River | Intermittent | 0 | Minor | WWH | AL, R, FC, W | N/A |
| **North Carolina - Rockingham** | | | | | | | | |
| S-A18-23 - TA-RO-076 | 28.3 RR | Trib. To Dan River | Perennial | 0 | Minor | WWH | Class C | N/A |
| S-A18-27 - TA-RO-076 | 28.4 RR | Trib. To Dan River | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-A18-19 - TA-RO-080 | 29.8 | Trib. To Dan River | Perennial | 0 | Minor | WWH | Class C | N/A |
| S-A18-19 - TA-RO-080 | 29.7 | Trib. To Dan River | Perennial | 0 | Minor | WWH | Class C | N/A |
| S-A18-1 - TA-RO-103 | 38.1 | Trib. To Wolf Island Creek | Ephemeral | 1 | Minor | WWH | Class C | Bridge or Flume |
| S-B18-42 - TA-RO-113A | 41.8 | Trib. To Lick Fork | Intermittent | 4 | Minor | WWH | Class C | Bridge or Flume |
| S-A18-239 - TA-RO-129 | 46.7 | Trib. To Hogans Creek | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-A18-238 – TA-RO-129 | 46.7 | Trib. To Hogans Creek | Intermittent | 0 | Minor | WWH | Class C | N/A |

**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|
| S-C18-71 - TA-RO-139 | 50.2 RR | Trib. To Haw River | Ephemeral | 0 | Minor | WWH | Class C | N/A |
| S-C18-15 - TA-RO-144 | 52.2 | Trib. To Haw River | Intermittent | 0 | Minor | WWH | Class C | N/A |
| **North Carolina - Alamance** | | | | | | | | |
| S-A18-216 - TA-AL-155 | 54.6 | Trib. To Haw River | Intermittent | 2 | Minor | WWH | Class C | Bridge or Flume |
| S-A18-215 - TA-AL-155 | 54.6 | Trib. To Haw River | Perennial | 6 | Minor | WWH | Class C | Bridge or Flume |
| S-A18-70 - TA-AL-169 | 62.4 | Trib. To Haw River | Perennial | 0 | Minor | WWH | Class C | N/A |
| S-A18-72 - TA-AL-169 | 62.5 | Trib. To Haw River | Intermittent | 0 | Minor | WWH | Class C | N/A |
| S-B18-138 - TA-AL-172 | 63.7 | Trib. To Stony Creek Reservoir | Perennial | 3 | Minor | WWH | Class C | Bridge or Flume |
| S-B18-137 - TA-AL-172 | 63.7 | Trib. To Stony Creek Reservoir | Intermittent | 2 | Minor | WWH | Class C | Bridge or Flume |

a/ Data is based on waterbody field delineations completed through May 9, 2019 where access has been obtained, National Hydrography Database (NHD), and desktop analysis of approximated resources. "S" indicates stream, "WB" indicates pond, "AS" indicates approximate stream or pond. Approximated streams are also indicated with "*"

b/ MP is closest milepost to waterbody. Mileposts with an “RR” indicate locations where a re-route was incorporated into the pipeline alignment.

c/ Perennial: flowing throughout the year for all or most years, Intermittent: flowing water during certain times of the year, Ephemeral: flowing water only during short periods of the year. For delineated waterbodies, flow type in North Carolina was determined using the NCDWQ Stream Identification Form Version 4.11 and flow type in Virginia has been field estimated. For approximated waterbodies, flow type was estimated based on aerial imagery unless the approximated stream is directly associated with a delineated waterbody in which the approximated waterbody was assigned the same flow type as the associated delineated waterbody.

d/ Crossing width is the intersection of the waterbody and the centerline of the pipeline or access road (unless followed by “*” which indicates the stream width for a parallel pipeline crossing),. For approximated streams, the crossing width was measure using aerial imagery if wide enough to discern, and defaulted to 5 feet if too narrow to be measured using aerial imagery. If the crossing width is “0”, the waterbody is not crossed by the centerline.

e/ FERC Classification from the 2013 FERC Procedures. Minor (<10 feet); Intermediate (>10 - <100 feet); Major (>100 feet).

f/ WWH - Warm Water Habitat.

**Appendix B.5**

**Waterbodies Crossed by the Southgate Project**

| Facility/ State/ County/ Waterbody ID a/ | Approx. MP b/ | Waterbody Name | Flow Type c/ | Crossing Width (Feet) d/ | FERC Class e/ | Fishery Classification f/ | State Water Quality Classification / Designations g/ | Crossing Method h/ i/ |
|---|---|---|---|---|---|---|---|---|

g/ Virginia Water Quality Designations (VADEQ, 2016b). North Carolina Water Quality Classifications (NCDEQ, 2018d). In Virginia AL = Aquatic Life, R = Recreation, W = Wildlife, FC = Fish Consumption, PWS = PUBLIC Water Source. In North Carolina WS-II = Water Supply II, WA-IV = Water Supply IV, WS-V = Water Supply V, HQW = High Quality Waters, NSW = Nutrient Sensitive Waters

h/ June 1 through November 30 is the FERC mandated warmwater habitat construction window; in-water work, except that required to install or remove equipment bridges, must be completed between these dates unless expressly permitted or further restricted in writing on a site-specific basis by the appropriate federal or state agency. Construction timing windows for mussels may be applicable depending on final consultation with the applicable agencies.

i/ Conventional Open-Cut Crossing will only be used when there is no discernable flow within the waterbody at the time of crossing. Dry Open-Cut Crossing will consist of either Flume, Dam and Pump, or Cofferdam. N/A indicates that the waterbody is not crossed by centerline.

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# APPENDIX B.6

# Wetlands Crossed by the Southgate Project

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## Appendix B.6

## Wetlands Crossed by the Southgate Project

| Wetland ID a/ | State | County | Facility | Wetland Type b/ | Approx. MP | Crossing Length (feet) c/ | Total Construction Impacts (acres) d/ | Total Operation Impacts (acres) e/ | Construction Crossing Method f/ |
|---|---|---|---|---|---|---|---|---|---|
| W-F18-7 | Virginia | Pittsylvania | H-605 Pipeline | PEM | 0.1 | 11 | <0.01 | <0.01 | Open-cut |
| W-F18-11 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 0.2 | 57 | 0.12 | 0.04 | Open-cut |
| W-F18-66 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 0.4 | 377 | 0.48 | 0.08 | Open-cut |
| W-F18-66 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 0.4 | 0 | 0.14 | 0 | Workspace |
| W-F18-64 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 0.6 | 234 | 0.36 | 0.05 | Open-cut |
| W-G18-2 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 1 | 13 | 0.04 | <0.01 | Open-cut |
| W-G18-2 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 1 | 0 | <0.01 | <0.01 | Workspace |
| W-F18-57 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 1.1 | 0 | <0.01 | 0 | Workspace |
| W-F18-57 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 1.1 | 0 | <0.01 | 0 | Workspace |
| W-F18-5 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 1.4 | 156 | 0.16 | 0.1 | Open-cut |
| W-F18-5 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 1.4 | 0 | 0.01 | <0.01 | Workspace |
| W-F18-5 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 1.4 | 11 | 0.01 | <0.01 | Open-cut |
| W-F18-5 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 1.4 | 255 | 0.39 | 0.16 | Open-cut |
| W-F18-5 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 1.6 | 770 | 1.25 | 0.18 | Open-cut |
| W-F18-5 | Virginia | Pittsylvania | H-650 Pipeline | PSS | 1.5 | 0 | 0.14 | 0 | Workspace |
| W-F18-5 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 1.7 | 55 | 0.07 | 0.01 | Open-cut |
| W-F18-5 | Virginia | Pittsylvania | H-650 Pipeline | PSS | 1.8 | 362 | 0.45 | 0.08 | Open-cut |
| W-F18-5 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 1.9 | 290 | 0.34 | 0.2 | Open-cut |
| W-F18-5 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 2 | 1470 | 2.9 | 0.34 | Open-cut |
| W-D18-5 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 3.6 | 44 | 0.07 | 0.02 | Open-cut |
| W-D18-5 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 3.6 | 2 | <0.01 | <0.01 | Open-cut |
| W-D18-11 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 4 | 0 | <0.01 | 0 | Workspace |
| W-D18-11 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 4 | 5 | <0.01 | <0.01 | Open-cut |
| W-D18-7 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 4.9 | 373 | 0.46 | 0.25 | Open-cut |
| W-D18-7 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 4.9 | 9 | 0.2 | 0.01 | Open-cut |
| W-D18-1 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 5 | 14 | 0.02 | <0.01 | Open-cut |
| W-D18-1 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 5 | 123 | 0.18 | 0.07 | Open-cut |
| W-D18-1 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 5.1 | 87 | 0.15 | 0.05 | Open-cut |
| W-D18-1 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 5.2 | 309 | 0.51 | 0.21 | Open-cut |
| W-D18-1 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 5.2 | 0 | 0.06 | 0 | Workspace |

## Appendix B.6

## Wetlands Crossed by the Southgate Project

| Wetland ID a/ | State | County | Facility | Wetland Type b/ | Approx. MP | Crossing Length (feet) c/ | Total Construction Impacts (acres) d/ | Total Operation Impacts (acres) e/ | Construction Crossing Method f/ |
|---|---|---|---|---|---|---|---|---|---|
| W-D18-1 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 5.2 | 112 | 0.31 | 0.08 | Open-cut |
| W-D18-1 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 5.2 | 10 | 0 | 0 | Bore |
| W-D18-10 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 6.5 | 0 | 0.01 | 0 | Workspace |
| W-D18-10 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 6.6 | 0 | 0.14 | <0.01 | Workspace |
| W-D18-10 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 6.6 | 53 | 0.1 | 0.04 | Open-cut |
| W-D18-8 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 7 | 0 | <0.01 | 0 | Workspace |
| W-D18-8 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 7 | 0 | <0.01 | 0 | Workspace |
| W-D18-14 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 7.6 | 0 | <0.01 | 0 | Workspace |
| W-D18-14 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 7.6 | 0 | <0.01 | 0 | Workspace |
| W-F18-14 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 8 | 0 | <0.01 | 0 | Workspace |
| W-F18-14 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 8 | 0 | <0.01 | 0 | Workspace |
| W-F18-14 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 8 | 3 | 0.01 | <0.01 | Open-cut |
| W-F18-14 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 8 | 0 | 0.01 | <0.01 | Workspace |
| W-F18-14 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 8 | 5 | <0.01 | <0.01 | Open-cut |
| W-E18-17 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 8.4 | 98 | 0.16 | 0.02 | Open-cut |
| W-E18-13 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 8.5 | 94 | 0.15 | 0.05 | Open-cut |
| W-E18-13 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 8.5 | 0 | 0.02 | 0 | Workspace |
| W-E18-13 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 8.6 | 32 | 0.05 | 0.01 | Open-cut |
| W-E18-13 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 8.6 | 0 | 0.01 | 0 | Workspace |
| W-E18-13 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 8.6 | 47 | 0.07 | 0.03 | Open-cut |
| W-E18-13 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 8.6 | 0 | 0.01 | 0 | Workspace |
| W-E18-24 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 9 | 0 | 0.01 | <0.01 | Workspace |
| W-E18-24 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 9.1 | 23 | 0.09 | 0 | Workspace |
| W-F18-58 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 9.7 | 393 | 0.09 | 0 | Open-Cut |
| W-F18-16 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 9.9 | 27 | 0.05 | 0.01 | Open-cut |
| W-F18-18 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 9.9 | 0 | 0.01 | <0.01 | Workspace |
| W-F18-18 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 9.9 | 0 | <0.01 | 0 | Workspace |
| W-F18-18 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 9.9 | 40 | 0.06 | 0.03 | Open-cut |
| W-E18-23 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 10.1 | 0 | <0.01 | 0 | Workspace |
| W-E18-23 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 10.1 | 4 | 0.01 | <0.01 | Open-cut |

## Appendix B.6

## Wetlands Crossed by the Southgate Project

| Wetland ID a/ | State | County | Facility | Wetland Type b/ | Approx. MP | Crossing Length (feet) c/ | Total Construction Impacts (acres) d/ | Total Operation Impacts (acres) e/ | Construction Crossing Method f/ |
|---|---|---|---|---|---|---|---|---|---|
| W-F18-24 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 11 | 0 | 0.03 | 0 | Workspace |
| W-F18-21 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 11 | 0 | <0.01 | 0 | Workspace |
| W-F18-21 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 11.1 | 0 | <0.01 | 0 | Workspace |
| W-F18-29 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 11.4 | 0 | <0.01 | 0 | Workspace |
| W-F18-27 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 11.4 | 0 | <0.01 | <0.01 | Workspace |
| W-C18-84 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 11.6 | 29 | 0.06 | 0.01 | Open-cut |
| W-C18-84 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 11.6 | 20 | 0.02 | <0.01 | Open-cut |
| W-F18-53 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 12.8 | 8 | <0.01 | <0.01 | Open-cut |
| W-F18-53 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 12.8 | 0 | <0.01 | 0 | Workspace |
| W-F18-53 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 12.8 | 6 | <0.01 | <0.01 | Open-cut |
| W-F18-53 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 12.8 | 0 | <0.01 | 0 | Workspace |
| W-E18-28 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 13.4 | 63 | 0.11 | 0.03 | Open-cut |
| W-E18-28 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 13.4 | 0 | <0.01 | 0 | Workspace |
| W-E18-28 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 13.5 | 26 | 0.06 | 0.02 | Open-cut |
| W-E18-28 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 13.5 | 24 | 0.04 | 0.02 | Open-cut |
| W-D18-23 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 14.3 | 56 | 0.12 | 0.04 | Open-cut |
| W-E18-45 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 14.7 | 0 | <0.01 | 0 | Workspace |
| W-E18-45 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 14.7 | 0 | <0.01 | 0 | Workspace |
| W-E18-45 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 14.7 | 3 | <0.01 | <0.01 | Open-cut |
| W-E18-45 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 14.7 | 0 | <0.01 | 0 | Workspace |
| W-A18-198 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 16.2 | 39 | 0.03 | 0.01 | Open-cut |
| W-A18-198 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 16.2 | 0 | <0.01 | 0 | Workspace |
| W-A18-200 | Virginia | Pittsylvania | H-650 Pipeline | PSS | 16.7 | 0 | 0.05 | 0 | Workspace |
| W-A18-201 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 16.7 | 0 | 0.02 | 0 | Workspace |
| W-A18-201 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 16.8 | 0 | 0.02 | <0.01 | Workspace |
| W-A19-296 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 17.7 | 34 | 0.16 | 0.02 | Open-cut |
| W-E18-43 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 18 | 0 | 0.01 | 0 | Workspace |
| W-E18-43 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 18 | 0 | <0.01 | 0 | Workspace |
| W-E18-43 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 18 | 0 | <0.01 | 0 | Workspace |
| W-D18-42 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 19.4 | 0 | 0.03 | 0 | Workspace |

## Appendix B.6

## Wetlands Crossed by the Southgate Project

| Wetland ID a/ | State | County | Facility | Wetland Type b/ | Approx. MP | Crossing Length (feet) c/ | Total Construction Impacts (acres) d/ | Total Operation Impacts (acres) e/ | Construction Crossing Method f/ |
|---|---|---|---|---|---|---|---|---|---|
| W-F18-51 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 19.7 | 0 | <0.01 | 0 | Workspace |
| W-E18-53 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 20.4 | 0 | 0.04 | 0 | Workspace |
| W-E18-53 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 20.4 | 0 | <0.01 | 0 | Workspace |
| W-E18-53 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 20.4 | 0 | <0.01 | 0 | Workspace |
| W-E18-53 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 20.4 | 0 | <0.01 | 0 | Workspace |
| W-E18-53 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 20.4 | 6 | <0.01 | <0.01 | Open-cut |
| W-E18-53 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 20.4 | 0 | <0.01 | 0 | Workspace |
| W-E18-53 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 20.4 | 3 | <0.01 | <0.01 | Open-cut |
| W-E18-55 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 20.6 | 0 | <0.01 | 0 | Workspace |
| W-E18-55 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 20.6 | 3 | <0.01 | <0.01 | Open-cut |
| W-D18-35 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 21 | 54 | 0.08 | 0.04 | Open-cut |
| W-D18-35 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 21 | 0 | 0.04 | 0 | Workspace |
| W-D18-41 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 21.2 | 47 | 0.09 | 0.01 | Open-cut |
| W-D18-41 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 21.2 | 7 | 0.01 | <0.01 | Open-cut |
| W-D18-41 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 21.2 | 75 | 0.09 | 0.04 | Open-cut |
| W-D18-41 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 21.3 | 7 | 0.09 | 0.02 | Open-cut |
| W-C18-95 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 21.7 | 0 | 0.03 | 0 | Workspace |
| W-A18-204 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 22 | 0 | <0.01 | 0 | Workspace |
| W-A18-204 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 22 | 2 | 0.02 | <0.01 | Open-cut |
| W-A18-204 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 22 | 40 | 0.1 | 0.03 | Open-cut |
| W-A18-204 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 22.1 | 0 | 0.02 | 0 | Workspace |
| W-A18-204 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 22.1 | 0 | 0.01 | 0 | Workspace |
| W-A18-204 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 22.1 | 18 | 0.02 | 0.01 | Open-cut |
| W-F18-44 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 23 | 0 | 0.01 | 0 | Workspace |
| W-G18-16 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 23.5 | 0 | 0.01 | 0 | Workspace |
| W-F18-36 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 23.8 | 0 | <0.01 | 0 | Workspace |
| W-E18-33 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 23.9 | 0 | <0.01 | 0 | Workspace |
| W-E18-33 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 23.9 | 0 | 0.01 | 0 | Workspace |
| W-A19-297 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 24.6 | 0 | 0.01 | 0 | Workspace |
| W-C18-91 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 25.9 | 18 | 0.04 | 0.01 | Open-cut |

## Appendix B.6

## Wetlands Crossed by the Southgate Project

| Wetland ID a/ | State | County | Facility | Wetland Type b/ | Approx. MP | Crossing Length (feet) c/ | Total Construction Impacts (acres) d/ | Total Operation Impacts (acres) e/ | Construction Crossing Method f/ |
|---|---|---|---|---|---|---|---|---|---|
| W-C18-91 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 25.8 | 0 | <0.01 | 0 | Workspace |
| W-C18-96 | Virginia | Pittsylvania | H-650 Pipeline | PEM | 26.1 | 0 | 0.03 | <0.01 | Workspace |
| W-C18-96 | Virginia | Pittsylvania | H-650 Pipeline | PFO | 26.1 | 97 | 0.08 | 0.05 | Open-cut |
| W-C18-96 | North Carolina | Rockingham | H-650 Pipeline | PEM | 26.1 | 0 | 0.03 | <0.01 | Workspace |
| W-C18-96 | North Carolina | Rockingham | H-650 Pipeline | PFO | 26.1 | 0 | <0.01 | <0.01 | Workspace |
| W-C18-96 | North Carolina | Rockingham | H-650 Pipeline | PFO | 26.1 | 97 | 0.08 | 0.05 | Open-cut |
| W-B18-98 | North Carolina | Rockingham | H-650 Pipeline | PFO | 26.5 | 15 | 0.03 | 0.01 | Open-cut |
| W-A18-22 | North Carolina | Rockingham | H-650 Pipeline | PEM | 26.7 | 78 | 0.15 | 0.02 | Open-cut |
| W-A18-44 | North Carolina | Rockingham | H-650 Pipeline | PEM | 27 | 0 | <0.01 | 0 | Workspace |
| W-A18-44 | North Carolina | Rockingham | H-650 Pipeline | PEM | 27.1 | 1,197 | 3.07 | 0.27 | Open-cut |
| W-A18-44 | North Carolina | Rockingham | H-650 Pipeline | PFO | 27.3 | 38 | 0.05 | 0.01 | Open-cut |
| W-A19-274 | North Carolina | Rockingham | H-650 Pipeline | PEM | 27.6 | 42 | 0.19 | 0.01 | Open-cut |
| W-A19-274 | North Carolina | Rockingham | H-650 Pipeline | PEM | 27.6 | 38 | 0.04 | 0.01 | Open-cut |
| W-A19-274 | North Carolina | Rockingham | H-650 Pipeline | PEM | 27.6 | 0 | 0.17 | 0 | Workspace |
| W-A19-39 | North Carolina | Rockingham | H-650 Pipeline | PEM | 28 | 0 | 0.02 | 0 | Workspace |
| W-A18-26 | North Carolina | Rockingham | H-650 Pipeline | PEM | 28.1 | 24 | 0.06 | 0.01 | Open-cut |
| W-A18-30 | North Carolina | Rockingham | H-650 Pipeline | PEM | 28.3 | 26 | 0.03 | 0.01 | Open-cut |
| W-A18-30 | North Carolina | Rockingham | H-650 Pipeline | PFO | 28.3 | 18 | 0.01 | 0.01 | Open-cut |
| W-A18-38 | North Carolina | Rockingham | H-650 Pipeline | PEM | 28.6 | 0 | 0.02 | <0.01 | Open-cut |
| W-A18-38 | North Carolina | Rockingham | H-650 Pipeline | PFO | 28.6 | 41 | 0.04 | 0.03 | Open-cut |
| W-B18-48 | North Carolina | Rockingham | H-650 Pipeline | PFO | 29.1 | 23 | 0.05 | 0.02 | Open-cut |
| W-B18-48 | North Carolina | Rockingham | H-650 Pipeline | PEM | 29.1 | 0 | 0.01 | <0.01 | Workspace |
| W-A18-18 | North Carolina | Rockingham | H-650 Pipeline | PFO | 29.7 | 935 | 2.33 | 0.64 | Open-cut |
| W-A18-18 | North Carolina | Rockingham | H-650 Pipeline | PEM | 29.9 | 50 | 0.07 | 0.01 | Open-cut |
| W-B18-39 | North Carolina | Rockingham | H-650 Pipeline | PEM | 30.2 | 25 | <0.01 | 0 | HDD |
| W-B18-39 | North Carolina | Rockingham | H-650 Pipeline | PEM | 30.2 | 40 | <0.01 | 0 | HDD |
| W-B18-39 | North Carolina | Rockingham | H-650 Pipeline | PEM | 30.2 | 30 | <0.01 | 0 | HDD |
| W-B18-39 | North Carolina | Rockingham | H-650 Pipeline | PEM | 30.2 | 32 | <0.01 | 0 | HDD |
| W-B18-36 | North Carolina | Rockingham | H-650 Pipeline | PEM | 30.2 | 37 | <0.01 | 0 | HDD |
| W-B18-36 | North Carolina | Rockingham | H-650 Pipeline | PEM | 30.3 | 17 | <0.01 | 0 | HDD |

## Appendix B.6

## Wetlands Crossed by the Southgate Project

| Wetland ID a/ | State | County | Facility | Wetland Type b/ | Approx. MP | Crossing Length (feet) c/ | Total Construction Impacts (acres) d/ | Total Operation Impacts (acres) e/ | Construction Crossing Method f/ |
|---|---|---|---|---|---|---|---|---|---|
| W-B18-36 | North Carolina | Rockingham | H-650 Pipeline | PFO | 30.3 | 31 | <0.01 | 0 | HDD |
| W-B18-36 | North Carolina | Rockingham | H-650 Pipeline | PEM | 30.3 | 18 | <0.01 | 0 | HDD |
| W-B18-36 | North Carolina | Rockingham | H-650 Pipeline | PEM | 30.4 | 0 | 0 | 0 | HDD |
| W-B18-36 | North Carolina | Rockingham | H-650 Pipeline | PEM | 30.4 | 26 | 0.03 | 0.01 | Open-cut |
| W-B18-36 | North Carolina | Rockingham | H-650 Pipeline | PEM | 30.4 | 0 | <0.01 | 0 | Open-cut |
| W-B18-34 | North Carolina | Rockingham | H-650 Pipeline | PFO | 30.5 | 180 | 0.3 | 0.12 | Open-cut |
| W-A18-54 | North Carolina | Rockingham | H-650 Pipeline | PEM | 30.7 | 11 | 0.01 | <0.01 | Open-cut |
| W-B18-103 | North Carolina | Rockingham | H-650 Pipeline | PEM | 31.1 | 0 | <0.01 | 0 | Workspace |
| W-A18-141 | North Carolina | Rockingham | H-650 Pipeline | PFO | 32 | 183 | 0.34 | 0.13 | Open-cut |
| W-A18-141 | North Carolina | Rockingham | H-650 Pipeline | PEM | 32 | 0 | 0.02 | 0 | Workspace |
| W-A18-149 | North Carolina | Rockingham | H-650 Pipeline | PEM | 32.2 | 52 | 0.16 | 0.01 | Open-cut |
| W-A18-149 | North Carolina | Rockingham | H-650 Pipeline | PSS | 32.2 | 51 | 0.07 | 0.01 | Open-cut |
| W-A18-152 | North Carolina | Rockingham | H-650 Pipeline | PEM | 32.6 | 21 | 0.06 | 0.01 | Open-cut |
| W-A18-152 | North Carolina | Rockingham | H-650 Pipeline | PFO | 32.6 | 29 | 0.03 | 0.02 | Open-cut |
| W-A18-155 | North Carolina | Rockingham | H-650 Pipeline | PEM | 33.1 | 0 | 0.06 | 0 | Workspace |
| W-A18-155 | North Carolina | Rockingham | H-650 Pipeline | PSS | 33.1 | 0 | <0.01 | 0 | Workspace |
| W-A18-155 | North Carolina | Rockingham | H-650 Pipeline | PSS | 33.1 | 69 | 0.16 | 0.02 | Open-cut |
| W-A18-222 | North Carolina | Rockingham | H-650 Pipeline | PFO | 33.4 | 43 | 0.08 | 0.03 | Open-cut |
| W-A18-222 | North Carolina | Rockingham | H-650 Pipeline | PEM | 33.4 | 0 | <0.01 | 0 | Workspace |
| W-A18-224 | North Carolina | Rockingham | H-650 Pipeline | PFO | 33.7 | 10 | 0.02 | 0.01 | Open-cut |
| W-A18-224 | North Carolina | Rockingham | H-650 Pipeline | PEM | 33.7 | 0 | <0.01 | 0 | Workspace |
| W-C18-40 | North Carolina | Rockingham | H-650 Pipeline | PEM | 34.6 | 0 | <0.01 | 0 | Workspace |
| W-A18-95 | North Carolina | Rockingham | H-650 Pipeline | PEM | 37 | 8 | 0.02 | <0.01 | Open-cut |
| W-A18-98 | North Carolina | Rockingham | H-650 Pipeline | PFO | 37.2 | 0 | 0.01 | 0 | Workspace |
| W-S18-1 | North Carolina | Rockingham | H-650 Pipeline | PFO | 37.3 | 8 | 0.01 | 0.01 | Open-cut |
| W-A18-6 | North Carolina | Rockingham | H-650 Pipeline | PFO | 38.5 | 130 | 0.15 | 0.08 | Open-cut |
| W-A18-6 | North Carolina | Rockingham | H-650 Pipeline | PFO | 38.5 | 0 | <0.01 | 0 | Workspace |
| W-A18-6 | North Carolina | Rockingham | H-650 Pipeline | PFO | 38.5 | 92 | 0.09 | 0.06 | Open-cut |
| W-A18-6 | North Carolina | Rockingham | H-650 Pipeline | PEM | 38.5 | 46 | 0.09 | 0.01 | Open-cut |
| W-A18-7 | North Carolina | Rockingham | H-650 Pipeline | PFO | 38.6 | 0 | <0.01 | 0 | Workspace |

## Appendix B.6

## Wetlands Crossed by the Southgate Project

| Wetland ID a/ | State | County | Facility | Wetland Type b/ | Approx. MP | Crossing Length (feet) c/ | Total Construction Impacts (acres) d/ | Total Operation Impacts (acres) e/ | Construction Crossing Method f/ |
|---|---|---|---|---|---|---|---|---|---|
| W-A18-7 | North Carolina | Rockingham | H-650 Pipeline | PEM | 38.6 | 76 | 0.18 | 0.02 | Open-cut |
| W-A18-7 | North Carolina | Rockingham | H-650 Pipeline | PSS | 38.6 | 33 | 0.08 | 0.01 | Open-cut |
| W-A18-7 | North Carolina | Rockingham | H-650 Pipeline | PEM | 38.6 | 0 | <0.01 | 0 | Workspace |
| W-A18-7 | North Carolina | Rockingham | H-650 Pipeline | PEM | 38.7 | 16 | 0.05 | <0.01 | Open-cut |
| W-A18-7 | North Carolina | Rockingham | H-650 Pipeline | PEM | 38.7 | 29 | 0.07 | 0.01 | Open-cut |
| W-A18-7 | North Carolina | Rockingham | H-650 Pipeline | PEM | 38.7 | 17 | 0.04 | <0.01 | Open-cut |
| W-A19-270 | North Carolina | Rockingham | H-650 Pipeline | PFO | 38.8 | 0 | 0.02 | <0.01 | Workspace |
| W-B18-78 | North Carolina | Rockingham | H-650 Pipeline | PFO | 39.7 | 56 | 0.06 | 0.03 | Open-cut |
| W-B18-112 | North Carolina | Rockingham | H-650 Pipeline | PEM | 40.1 | 0 | 0.01 | 0 | Workspace |
| W-B18-110 | North Carolina | Rockingham | H-650 Pipeline | PFO | 40.2 | 0 | 0.02 | <0.01 | Workspace |
| W-B18-55 | North Carolina | Rockingham | H-650 Pipeline | PEM | 41.1 | 0 | 0.01 | 0 | Workspace |
| W-B18-55 | North Carolina | Rockingham | H-650 Pipeline | PFO | 41.1 | 84 | 0.13 | 0.06 | Open-cut |
| W-B18-46 | North Carolina | Rockingham | H-650 Pipeline | PFO | 41.7 | 6 | 0.02 | 0.01 | Open-cut |
| W-C18-77 | North Carolina | Rockingham | H-650 Pipeline | PFO | 47 | 46 | 0.08 | 0.03 | Open-cut |
| W-B18-139 | North Carolina | Rockingham | H-650 Pipeline | PFO | 48.5 | 24 | 0.03 | 0.02 | Open-cut |
| W-A18-62 | North Carolina | Rockingham | H-650 Pipeline | PSS | 48.6 | 40 | 0.11 | 0.01 | Open-cut |
| W-A18-62 | North Carolina | Rockingham | H-650 Pipeline | PSS | 48.6 | 0 | <0.01 | 0 | Workspace |
| W-A18-61 | North Carolina | Rockingham | H-650 Pipeline | PEM | 48.7 | 1 | 0.01 | <0.01 | Workspace |
| W-A18-184 | North Carolina | Rockingham | H-650 Pipeline | PEM | 49.9 | 0 | 0.01 | 0 | Workspace |
| W-A18-184 | North Carolina | Rockingham | H-650 Pipeline | PEM | 49.9 | 0 | 0.01 | 0 | Workspace |
| W-A18-184 | North Carolina | Rockingham | H-650 Pipeline | PFO | 49.9 | 39 | 0.06 | 0.03 | Open-cut |
| W-A19-284 | North Carolina | Rockingham | H-650 Pipeline | PSS | 51.2 | 0 | 0.01 | 0 | Workspace |
| W-C18-20 | North Carolina | Rockingham | H-650 Pipeline | PFO | 51.4 | 19 | 0.02 | 0.01 | Open-cut |
| W-C18-20 | North Carolina | Rockingham | H-650 Pipeline | PFO | 51.4 | 135 | 0.21 | 0.09 | Open-cut |
| W-C18-20 | North Carolina | Rockingham | H-650 Pipeline | PEM | 51.4 | 0 | <0.01 | 0.01 | Workspace |
| W-A18-83 | North Carolina | Alamance | H-650 Pipeline | PEM | 53.3 | 27 | 0.06 | 0.01 | Open-cut |
| W-A18-85 | North Carolina | Alamance | H-650 Pipeline | PEM | 53.6 | 9 | 0.03 | <0.01 | Open-cut |
| W-A18-85 | North Carolina | Alamance | H-650 Pipeline | PSS | 53.7 | 0 | 0.04 | 0 | Workspace |
| W-A18-85 | North Carolina | Alamance | H-650 Pipeline | PEM | 53.7 | 0 | <0.01 | 0 | Workspace |
| W-C18-67 | North Carolina | Alamance | H-650 Pipeline | PFO | 54.3 | 103 | 0.26 | 0.07 | Open-cut |

## Appendix B.6

## Wetlands Crossed by the Southgate Project

| Wetland ID a/ | State | County | Facility | Wetland Type b/ | Approx. MP | Crossing Length (feet) c/ | Total Construction Impacts (acres) d/ | Total Operation Impacts (acres) e/ | Construction Crossing Method f/ |
|---|---|---|---|---|---|---|---|---|---|
| W-C18-69 | North Carolina | Alamance | H-650 Pipeline | PFO | 55.3 | 37 | 0.07 | 0.03 | Open-cut |
| W-B18-60 | North Carolina | Alamance | H-650 Pipeline | PSS | 55.3 | 0 | <0.01 | 0 | Workspace |
| W-B18-61 | North Carolina | Alamance | H-650 Pipeline | PEM | 55.5 | 39 | 0.06 | 0.01 | Open-cut |
| W-A18-119 | North Carolina | Alamance | H-650 Pipeline | PFO | 56.4 | 95 | 0.11 | 0.06 | Open-cut |
| W-A18-119 | North Carolina | Alamance | H-650 Pipeline | PEM | 56.4 | 0 | 0.06 | <0.01 | Workspace |
| W-A18-119 | North Carolina | Alamance | H-650 Pipeline | PFO | 56.5 | 297 | 0.47 | 0.21 | Open-cut |
| W-A18-119 | North Carolina | Alamance | H-650 Pipeline | PEM | 56.5 | 0 | 0.06 | 0 | Workspace |
| W-A18-127 | North Carolina | Alamance | H-650 Pipeline | PEM | 56.6 | 0 | 0.02 | <0.01 | Workspace |
| W-A18-127 | North Carolina | Alamance | H-650 Pipeline | PFO | 56.6 | 61 | 0.07 | 0.04 | Open-cut |
| W-A18-127 | North Carolina | Alamance | H-650 Pipeline | PEM | 56.6 | 0 | 0.02 | <0.01 | Workspace |
| W-A18-130 | North Carolina | Alamance | H-650 Pipeline | PEM | 56.8 | 0 | 0.01 | 0 | Workspace |
| W-A18-130 | North Carolina | Alamance | H-650 Pipeline | PFO | 56.9 | 17 | 0.09 | 0.03 | Open-cut |
| W-A18-133 | North Carolina | Alamance | H-650 Pipeline | PFO | 57.1 | 56 | 0.1 | 0.04 | Open-cut |
| W-A18-133 | North Carolina | Alamance | H-650 Pipeline | PEM | 57.1 | 0 | 0.02 | 0 | Workspace |
| W-A18-133 | North Carolina | Alamance | H-650 Pipeline | PEM | 57.1 | 0 | 0.01 | 0 | Workspace |
| W-A18-135 | North Carolina | Alamance | H-650 Pipeline | PFO | 57.2 | 146 | 0.2 | 0.1 | Open-cut |
| W-A18-135 | North Carolina | Alamance | H-650 Pipeline | PEM | 57.2 | 0 | 0.02 | 0 | Workspace |
| W-A18-254 | North Carolina | Alamance | H-650 Pipeline | PFO | 57.6 | 154 | 0.22 | 0.1 | Open-cut |
| W-C18-3 | North Carolina | Alamance | H-650 Pipeline | PEM | 57.8 | 13 | 0.04 | <0.01 | Open-cut |
| W-C18-3 | North Carolina | Alamance | H-650 Pipeline | PFO | 57.9 | 0 | <0.01 | 0 | Workspace |
| W-C18-3 | North Carolina | Alamance | H-650 Pipeline | PEM | 57.9 | 12 | 0.02 | <0.01 | Open-cut |
| W-C18-3 | North Carolina | Alamance | H-650 Pipeline | PFO | 57.9 | 8 | 0.01 | 0.01 | Open-cut |
| W-C18-5 | North Carolina | Alamance | H-650 Pipeline | PSS | 58 | 52 | 0.07 | 0.01 | Open-cut |
| W-C18-5 | North Carolina | Alamance | H-650 Pipeline | PEM | 58 | 0 | 0.03 | <0.01 | Workspace |
| W-C18-29 | North Carolina | Alamance | H-650 Pipeline | PFO | 60.8 | 317 | 0.55 | 0.21 | Open-cut |
| W-A18-79 | North Carolina | Alamance | H-650 Pipeline | PFO | 61.8 | 0 | <0.01 | 0 | Workspace |
| W-A18-73 | North Carolina | Alamance | H-650 Pipeline | PFO | 62.5 | 0 | <0.01 | <0.01 | Workspace |
| W-A18-74 | North Carolina | Alamance | H-650 Pipeline | PFO | 62.5 | 9 | 0.01 | 0.01 | Open-cut |
| W-A18-80 | North Carolina | Alamance | H-650 Pipeline | PEM | 62.7 | 64 | 0.09 | 0.01 | Open-cut |
| W-B18-32 | North Carolina | Alamance | H-650 Pipeline | PEM | 62.9 | 0 | <0.01 | 0 | Workspace |

## Appendix B.6

## Wetlands Crossed by the Southgate Project

| Wetland ID a/ | State | County | Facility | Wetland Type b/ | Approx. MP | Crossing Length (feet) c/ | Total Construction Impacts (acres) d/ | Total Operation Impacts (acres) e/ | Construction Crossing Method f/ |
|---|---|---|---|---|---|---|---|---|---|
| W-B18-28 | North Carolina | Alamance | H-650 Pipeline | PFO | 63.1 | 313 | 0.5 | 0.21 | Open-cut |
| AW-B18-19 | North Carolina | Alamance | H-650 Pipeline | PFO | 63.8 | 50 | 0.08 | 0.03 | Open-cut |
| W-A19-320 | North Carolina | Alamance | H-650 Pipeline | PEM | 65 | 0 | 0.03 | 0 | Workspace |
| W-A19-326 | North Carolina | Alamance | H-650 Pipeline | PFO | 65.1 | 6 | 0.02 | 0.01 | Open-cut |
| W-A19-323 | North Carolina | Alamance | H-650 Pipeline | PEM | 65.3 | 0 | 0.33 | 0 | Workspace |
| W-B19-168 | North Carolina | Alamance | H-650 Pipeline | PEM | 65.6 | 0 | 0.28 | 0 | Workspace |
| W-B19-164 | North Carolina | Alamance | H-650 Pipeline | PFO | 66.6 | 9 | 0.03 | 0.01 | Open-cut |
| AW-B19-164 | North Carolina | Alamance | H-650 Pipeline | PFO | 66.6 | 32 | 0.05 | 0.02 | Open-cut |
| W-B18-5 | North Carolina | Alamance | H-650 Pipeline | PFO | 68.4 | 16 | 0.02 | 0.01 | Workspace |
| W-B19-173 | North Carolina | Alamance | H-650 Pipeline | PEM | 69.8 | 0 | 0.13 | 0 | Workspace |
| W-A18-67 | North Carolina | Alamance | H-650 Pipeline | PFO | 71.8 | 43 | 0.04 | 0.03 | Open-cut |
| W-A18-67 | North Carolina | Alamance | H-650 Pipeline | PFO | 71.8 | 0 | <0.01 | 0 | Workspace |
| W-A18-208 | North Carolina | Alamance | H-650 Pipeline | PEM | 72.2 | 0 | <0.01 | 0 | Workspace |
| W-B19-151 | North Carolina | Alamance | H-650 Pipeline | PEM | 72.9 | 258 | 0.56 | 0.06 | Open-Cut |
| W-A18-111 | North Carolina | Alamance | H-650 Pipeline | PEM | 73 | 0 | 0.04 | 0 | Workspace |
| W-B19-151 | North Carolina | Alamance | H-650 Pipeline | PEM | 73 | 45 | 0.04 | 0.01 | Open-Cut |
| W-F18-11 | Virginia | Pittsylvania | Lambert CS / Interconnect / MLV 1 | PFO | 0 | 0 | 0.02 | 0.02 | Under evaluation |
| W-A18-39 | North Carolina | Rockingham | LN 3600 Interconnect | PEM | 28 | 0 | <0.01 | 0 | Workspace |
| W-B18-36 | North Carolina | Rockingham | T15 Dan River Interconnect | PEM | 30.3 | 0 | 0.47 | 0 | Workspace |
| AW-B18-36 | North Carolina | Rockingham | T15 Dan River Interconnect | PEM | 30.3 | 0 | <0.01 | 0 | Workspace |
| W-B18-36 | North Carolina | Rockingham | T15 Dan River Interconnect | PEM | 30.3 | 0 | <0.01 | 0 | Workspace |
| W-B18-36 | North Carolina | Rockingham | T15 Dan River Interconnect | PEM | 30.4 | 0 | 0.05 | 0 | Workspace |
| W-B18-36 | North Carolina | Rockingham | T15 Dan River Interconnect | PEM | 30.4 | 0 | 0.01 | 0 | Workspace |
| W-B18-36 | North Carolina | Rockingham | T15 Dan River Interconnect | PEM | 30.4 | 0 | <0.01 | 0 | Workspace |
| W-B18-34 | North Carolina | Rockingham | T15 Dan River Interconnect | PFO | 30.5 | 0 | 0.15 | 0 | Workspace |
| AW-F18-5 | Virginia | Pittsylvania | Temporary Access Road | PEM | 2.2 | 58 | 0.03 | 0 | Workspace |
| W-F18-1 | Virginia | Pittsylvania | Temporary Access Road | PSS | 5.2 | 110 | 0.05 | 0 | Workspace |
| W-F18-54 | Virginia | Pittsylvania | Temporary Access Road | PEM | 20.5 | 0 | <0.01 | 0 | Workspace |
| W-E18-37 | Virginia | Pittsylvania | Temporary Access Road | PFO | 22.6 | 0 | <0.01 | 0 | Workspace |
| W-E18-37 | Virginia | Pittsylvania | Temporary Access Road | PFO | 22.6 | 0 | <0.01 | 0 | Workspace |

**Appendix B.6**

**Wetlands Crossed by the Southgate Project**

| Wetland ID a/ | State | County | Facility | Wetland Type b/ | Approx. MP | Crossing Length (feet) c/ | Total Construction Impacts (acres) d/ | Total Operation Impacts (acres) e/ | Construction Crossing Method f/ |
|---|---|---|---|---|---|---|---|---|---|
| W-C18-87 | Virginia | Pittsylvania | Temporary Access Road | PFO | 25 | 106 | 0.08 | 0 | Workspace |
| W-C18-87 | Virginia | Pittsylvania | Temporary Access Road | PFO | 25 | 0 | <0.01 | 0 | Workspace |
| W-A18-39 | North Carolina | Rockingham | Temporary Access Road | PEM | 27.9 | 14 | 0.01 | 0 | Workspace |
| W-A18-39 | North Carolina | Rockingham | Temporary Access Road | PEM | 28.1 | 0 | <0.01 | 0 | Workspace |
| W-B18-43 | North Carolina | Rockingham | Temporary Access Road | PEM | 41.8 | 0 | <0.01 | 0 | Workspace |
| W-B18-43 | North Carolina | Rockingham | Temporary Access Road | PEM | 41.8 | 0 | 0.01 | 0 | Workspace |
| W-A18-75 | North Carolina | Alamance | Temporary Access Road | PEM | 62.5 | 0 | 0.01 | 0 | Workspace |
| W-A18-75 | North Carolina | Alamance | Temporary Access Road | PEM | 62.5 | 0 | 0.01 | 0 | Workspace |
| W-A19-280 | North Carolina | Rockingham | Permanent Access Road | PEM | 28.7 | 0 | 0.01 | 0 | Existing Road; no improvements |
| W-A19-280 | North Carolina | Rockingham | Permanent Access Road | PEM | 28.7 | 0 | 0.02 | 0 | Existing Road; no improvements |
| W-B18-34 | North Carolina | Rockingham | Permanent Access Road | PFO | 30.5 | 0 | <0.01 | 0 | Existing Road; no improvements |

a/ Data is based on wetland field delineations completed through May 9, 2019 where access has been obtained, National Wetland Inventory (NWI) data, and desktop analysis of approximated resources. Wetland IDs starting with "W" have been field delineated and wetland ID starting with "AW" are approximated based on NWI data and desktop analysis.

b/ Wetland Classifications PEM = palustrine emergent wetland, PSS = palustrine scrub shrub wetland, PFO = palustrine forested wetland

c/ Crossing length is measured at the intersection of the wetland and centerline of the pipeline or center of the access road. Crossing length of “0” indicates the wetland is not crossed by the centerline of the pipeline, but is located within the construction workspace. Sums may not equal the total of addends due to rounding. Addends consist of six-decimal digits.

d/ Total construction impacts include all wetland impacts (PEM, PFO, PSS) associated with the construction workspace and those within the operational footprint. Wetland impacts of “<0.01” indicates the impact is less than 0.01 acre, but the impact is included in the project totals. Sums may not equal the total of addends due to rounding. Addends consist of six-decimal digits.

e/ Total operation vegetation impacts include PEM, PSS and PFO impacts for vegetation maintenance. Operational vegetation impacts for PEM and PSS wetlands include a 10-foot-wide vegetation maintenance corridor; operational vegetation maintenance impacts for PFO wetlands include a 30-foot-wide vegetation maintenance corridor (i.e., 10-foot-wide cleared corridor and selective removal of trees within 15 feet of the pipeline). Wetland impacts of “<0.01” indicates the impact is less than 0.01 acre, but the impact is included in the project totals. Minor discrepancies in totals are due to rounding.

f/ Construction crossing method will ultimately be determined based on field conditions observed during construction. “Workspace” indicates that the wetland is not crossed by the pipeline but is located within construction workspace.

# APPENDIX B.7

# Residential Construction Plans

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# MVP SOUTHGATE PROJECT

PROPOSED H-650 PIPELINE
ENGINEERING SERVICES DESIGN; JOB NUMBERS 300423
RESIDENTIAL DRAWING NOTES

GENERAL NOTES:

SAFETY FENCE, IN CONJUNCTION WITH ANY PROPOSED EROSION AND SEDIMENTATION CONTROL DEVICES, WILL BE INSTALLED AT THE EDGE OF THE LIMIT OF DISTURBANCE (LOD) FOR A DISTANCE OF 100 FEET ON EITHER SIDE OF THE RESIDENCE OR COMMERCIAL ESTABLISHMENT. FENCING WILL BE MAINTAINED THROUGHOUT ACTIVE CONSTRUCTION IN THE AREA. WHERE NECESSARY, HARD BARRIERS SUCH AS JERSEY BARRIERS WILL BE INSTALLED TO PROVIDE A SOLID, PROTECTIVE BARRIER.

STRUCTURES WITHIN LOD WILL BE REMOVED, RELOCATED, OR PROTECTED PER LAND OWNER AGREEMENT.

PROPERTY LINES DEPICTED ON THIS PLAN ARE BASED ON GIS TAX MAP DATA AND/OR FIELD LOCATED PROPERTY EVIDENCE. THEY SHOULD NOT BE RELIED ON AS AN ACCURATE DEPICTION OF THE ACTUAL PROPERTY LINE LOCATIONS. THEY MAY NOT REPRESENT THE RESULTS OF A BOUNDARY SURVEY.

AREAS OF PERMANENT EASEMENT WILL BE PERMANENTLY MAINTAINED PER USDOT PHMSA REQUIREMENTS. TEMPORARY WORKSPACES WOULD BE ALLOWED TO REVERT BACK TO PRE-EXISTING USES. OTHER MINOR ITEMS WILL BE ADDRESSED THROUGH LANDOWNER STIPULATIONS SPECIFIC TO THE PROPERTY.

CONSTRUCTION CREWS WILL UTILIZE DUST CONTROLS MEASURES AS NEEDED, INCLUDING WETTING AND BRUSHING OF ROADS.

WORK HOURS WILL BE LIMITED TO 7 AM TO 7 PM OR SUNSET (WHICHEVER IS LATER) UNLESS OTHER ARRANGEMENTS HAVE BEEN AGREED UPON WITH LANDOWNER.

CONSTRUCTION METHODS:

THE STOVE PIPE METHOD IS A LESS EFFICIENT ALTERNATIVE TO THE MAINLINE METHOD OF CONSTRUCTION. IT IS TYPICALLY USED WHEN THE PIPELINE IS TO BE INSTALLED IN VERY CLOSE PROXIMITY TO AN EXISTING STRUCTURE OR WHEN AN OPEN DITCH WOULD ADVERSELY IMPACT A COMMERCIAL/RESIDENTIAL ESTABLISHMENT. THE TECHNIQUE INVOLVES INSTALLING PIPE ONE JOINT AT A TIME WHEREBY THE WELDING, X-RAY AND COATING ACTIVITIES ARE ALL PERFORMED IN THE OPEN TRENCH. AT THE END OF EACH DAY THE NEWLY INSTALLED PIPE IS BACKFILLED OR THE OPEN TRENCH IS COVERED WITH STEEL PLATES OR TIMBER MATS.

THE DRAG SECTION CONSTRUCTION METHOD, WHILE LESS EFFICIENT THAN MAINLINE METHODS, IS NORMALLY PREFERRED OVER THE STOVE PIPE ALTERNATIVE. THIS TECHNIQUE INVOLVES THE TRENCHING, INSTALLATION AND BACKFILL OF A PREFABRICATED LENGTH OF PIPE CONTAINING SEVERAL SEGMENTS ALL IN ONE DAY. AT THE END OF EACH DAY THE NEWLY INSTALLED PIPE IS BACKFILLED AND/OR COVERED WITH STEEL PLATES OR TIMBER MATS.

MAINLINE CONSTRUCTION IS THE MOST EFFICIENT CONSTRUCTION METHOD. THIS METHOD IS SIMILAR TO STOVE PIPE AND DRAG SECTION INSTALLATION, BUT ON A LARGER SCALE. ALL STEPS OF THE CONSTRUCTION PROCESS (CLEARING, GRADING, TRENCHING, STRINGING & BENDING, WELDING & COATING, LOWERING & BACKFILL) OCCUR OVER LARGE STRETCHES OF RIGHT-OF-WAY TO MAXIMIZE EFFICIENCY OF THE CONSTRUCTION SPREADS. MAINLINE CONSTRUCTION IS TYPICALLY UTILIZED WHERE LARGE STRETCHES OF PIPELINE ROW ARE UNINTERRUPTED. THIS METHOD MAY BE USED NEAR STRUCTURES WHERE OFFSET FROM WORKSPACES IS LARGE ENOUGH TO FACILITATE SAFE AND PRACTICAL IMPLEMENTATION



| | |
|---|---|
| DRAWN TRC | DATE 05/01/2019 |
| CHECKED SSL | DATE 05/01/2019 |
| APP'D | DATE |
| SCALE N.T.S. | SHEET 1 OF 2 |
| JOB NO. | |
| PROJECT ID: | |

RESIDENTIAL NOTES

MOUNTAIN VALLEY PIPELINE
SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
RESIDENTIAL DRAWING NOTES

| DRAWING NO. | REV. |
|---|---|
| RES-NOTES | P |

# MVP SOUTHGATE PROJECT

PROPOSED H-650 PIPELINE
ENGINEERING SERVICES DESIGN; JOB NUMBERS 300423
RESIDENTIAL DRAWING NOTES

CLEANUP AND REVEGETATION PLANS

SUBSOIL AND TOPSOIL (UP TO 12 INCHES) IN RESIDENTIAL AREAS WILL BE SEGREGATED AND RETURNED TO PRE-CONSTRUCTION GRADE AS SHOWN ON DRAWINGS.

IF SOILS ARE REQUIRED TO BE IMPORTED (E.G. IF TOP SOILING IS NOT PRACTICAL), THEY WILL BE CERTIFIED AS FREE OF NOXIOUS WEEDS AND SOIL PESTS, UNLESS OTHERWISE APPROVED BY THE LANDOWNER. IF TREES ARE NEEDED TO BE REMOVED FROM THE LANDSCAPE FOR CONSTRUCTION, THEY WILL BE REPLACED WITH THE SAME SPECIES OR SIMILAR BASED ON LANDOWNER REQUESTS.

RESTORE ALL TURF, ORNAMENTAL SHRUBS, AND SPECIALIZED LANDSCAPING IN ACCORDANCE WITH THE LANDOWNER'S REQUEST, OR COMPENSATE THE LANDOWNER. RESTORATION WORK MUST BE PERFORMED BY PERSONNEL FAMILIAR WITH LOCAL HORTICULTURAL AND TURF ESTABLISHMENT PRACTICES.

ALL DISTURBED RESIDENTIAL UPLAND AREAS WILL BE MULCHED BEFORE SEEDING IF FINAL GRADING AND INSTALLATION OF PERMANENT EROSION CONTROL MEASURES WILL NOT BE INSTALLED WITHIN 10 DAYS OF COMPLETION.

ALL LAWN AREAS AND IMPACTED LANDSCAPING WILL BE RESTORED FOLLOWING CLEAN-UP OPERATIONS AS SOON AS REASONABLY POSSIBLE, OR AS SPECIFIED IN THE LANDOWNER AGREEMENT. IF SEASONAL OR OTHER WEATHER CONDITIONS PREVENT COMPLIANCE WITH THESE TIME FRAMES, TEMPORARY EROSION CONTROLS (SEDIMENT BARRIERS AND MULCH) WILL BE MAINTAINED UNTIL CONDITIONS ALLOW COMPLETION OF RESTORATION.

IF CRUSHED STONE ACCESS PADS ARE USED IN RESIDENTIAL AREAS THEY WILL BE INSTALLED ON TOP OF SYNTHETIC FABRIC TO FACILITATE EASY REMOVAL.

EXCESS ROCK FROM THE TOP 12 INCHES OF SOIL IN RESIDENTIAL AREAS WILL BE REMOVED UNLESS OTHER ARRANGEMENTS WITH LANDOWNER HAVE BEEN AGREED UPON.

TOPSOIL AND SUBSOIL COMPACTION WILL MEET PRECONSTRUCTION CONDITIONS AND WHERE NECESSARY, SOIL COMPACTION MITIGATION MAY BE REQUIRED TO MITIGATE FOR SEVERELY COMPACTED RESIDENTIAL AREAS.

OTHER RESTORATION DETAILS, INCLUDING REVEGETATION REQUIREMENTS RELATED TO LAWNS, MAY BE SPECIFIC TO LANDOWNER STIPULATIONS.

CONDUCT FOLLOW-UP INSPECTIONS OF ALL DISTURBED AREAS, AS NECESSARY, TO DETERMINE THE SUCCESS OF REVEGETATION AND ADDRESS LANDOWNER CONCERNS. AT A MINIMUM, CONDUCT INSPECTIONS AFTER THE FIRST AND SECOND GROWING SEASONS.

LANDOWNER COMPLAINT RESOLUTION PROCESS

IN THE EVENT OF AN ISSUE, LANDOWNERS ARE DIRECTED TO CONTACT THEIR LOCAL MVP SOUTHGATE LAND REPRESENTATIVE. LANDOWNERS CAN ALSO REACH PROJECT PERSONNEL BY CALLING 1-833-MV-SOUTH OR EMAILING MAIL@MVPSOUTHGATE.COM

AFTER WORKING WITH THE SOUTHGATE PROJECT REPRESENTATIVE AND APPROPRIATE RIGHT-OF-WAY AGENT, IF THE LANDOWNER IS STILL NOT COMPLETELY SATISFIED WITH THE RESOLUTION, THE INDIVIDUAL SHOULD CONTACT THE COMMISSION'S LANDOWNER HELPLINE AT (877) 337-2237, OR BY EMAIL, LANDOWNERHELP@FERC.GOV.



| | |
|---|---|
| DRAWN TRC | DATE 05/08/2019 |
| CHECKED | DATE |
| APP'D | DATE |
| SCALE N.T.S. | SHEET 2 OF 2 |
| JOB NO. | |
| PROJECT ID: | |

RESIDENTIAL NOTES

MOUNTAIN VALLEY PIPELINE
SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
RESIDENTIAL DRAWING NOTES

| DRAWING NO. | REV. |
|---|---|
| RES-NOTES CONT. | P |

# MVP SOUTHGATE PROJECT

PROPOSED H-650 PIPELINE
ENGINEERING SERVICES DESIGN; JOB NUMBERS 300423
RESIDENTIAL DRAWING NOTES

| Residential Plan Drawing | Anticipated Construction Method | Approximate Construction Duration | Additional Measures | Restoration Plans |
|---|---|---|---|---|
| RSS-H6S0-001 | Mainline | 1S Days | None identified at this time. | See General Restoration Notes |
| RSS-H6S0-002 | Mainline | 1S Days | None identified at this time. | See General Restoration Notes |
| RSS-H6S0-003 | NA - Yard | 400 Days | Install hard barriers | See General Restoration Notes |
| RSS-H6S0-004 | Mainline | 1S Days | None identified at this time. | See General Restoration Notes |
| RSS-H6S0-005 | Mainline | 1S Days | None identified at this time. | See General Restoration Notes |
| RSS-H6S0-006 | Stove Pipe | 3S Days | None identified at this time. | See General Restoration Notes |
| RSS-H6S0-008 | Mainline | 1S Days | None identified at this time. | See General Restoration Notes |
| RSS-H6S0-009 | Mainline | 1S Days | None identified at this time. | See General Restoration Notes |
| RSS-H6S0-015 | Mainline / Drag | 1S Days | None identified at this time. | See General Restoration Notes |
| RSS-H6S0-016 | Mainline | 1S Days | None identified at this time. | See General Restoration Notes |
| RSS-H6S0-017 | Stove Pipe | 50 Days | Install hard barriers | See General Restoration Notes |
| RSS-H6S0-018 | Stove Pipe | 7S Days | None identified at this time. | See General Restoration Notes |
| RSS-H6S0-024 | NA - Access Road | 200 Days | Install hard barriers | See General Restoration Notes |
| RSS-H6S0-025 | NA - Access Road | 200 Days | None identified at this time. | See General Restoration Notes |
| RSS-H6S0-026 | NA - Access Road | 200 Days | Install hard barriers | See General Restoration Notes |
| RSS-H6S0-027 | NA - Access Road | 200 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-028 | NA - Access Road | 200 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-029 | NA - Access Road | 200 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-030 | NA - Access Road | 200 Days | Install hard barriers | See General Restoration Notes |
| RSS-H650-031 | Mainline | 25 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-032 | Mainline | 15 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-033 | NA - Yard | 400 Days | Install hard barriers | See General Restoration Notes |
| RSS-H650-034 | Mainline | 35 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-035 | Mainline | 15 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-036 | Mainline | 15 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-037 | NA - Access Road | 200 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-038 | NA - Access Road | 200 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-039 | Mainline / Road Bore | 25 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-040 | NA - Access Road | 200 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-041 | Mainline | 15 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-042 | Mainline | 15 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-043 | NA - Yard | 400 Days | None identified at this time. | See General Restoration Notes |
| RSS-H650-044 | NA - Yard | 400 Days | None identified at this time. | See General Restoration Notes |

NOTE:

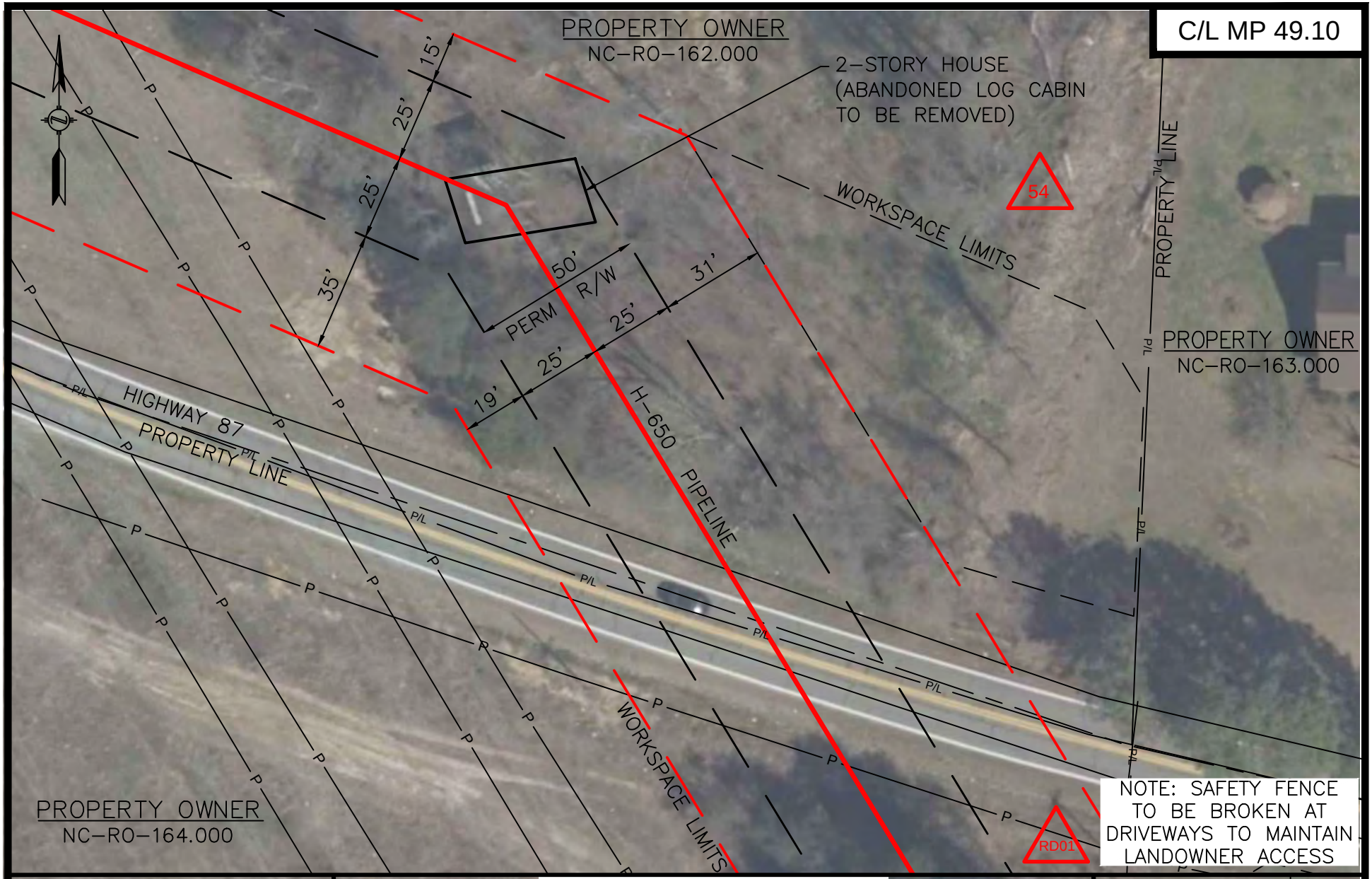
CONSTRUCTION METHOD AND DURATION MAY CHANGE DUE TO LANDOWNER REQUESTS, FIELDS CONDITIONS, AND OTHER CONSIDERATIONS.

| | |
|---|---|
| DRAWN TRC | DATE 05/08/2019 |
| CHECKED SSL | DATE 05/09/2019 |
| APP'D | DATE |
| SCALE N.T.S. | SHEET 1 OF 2 |
| JOB NO. | |
| PROJECT ID: | |

RESIDENTIAL NOTES

MOUNTAIN VALLEY PIPELINE
SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
RESIDENTIAL DRAWING NOTES

| DRAWING NO. | REV. |
|---|---|
| RES-NOTES SITE SPECIFIC | P2 |




Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | | |
|---|---|---|
| DRAWN BY: | TBH | 10/05/18 |
| DRAFTING CK: | SJO | 10/19/18 |
| ENVIRONMENTAL CK: | | |
| ENGINEERING CK: | . | . |
| DETAIL SHEET: | | |
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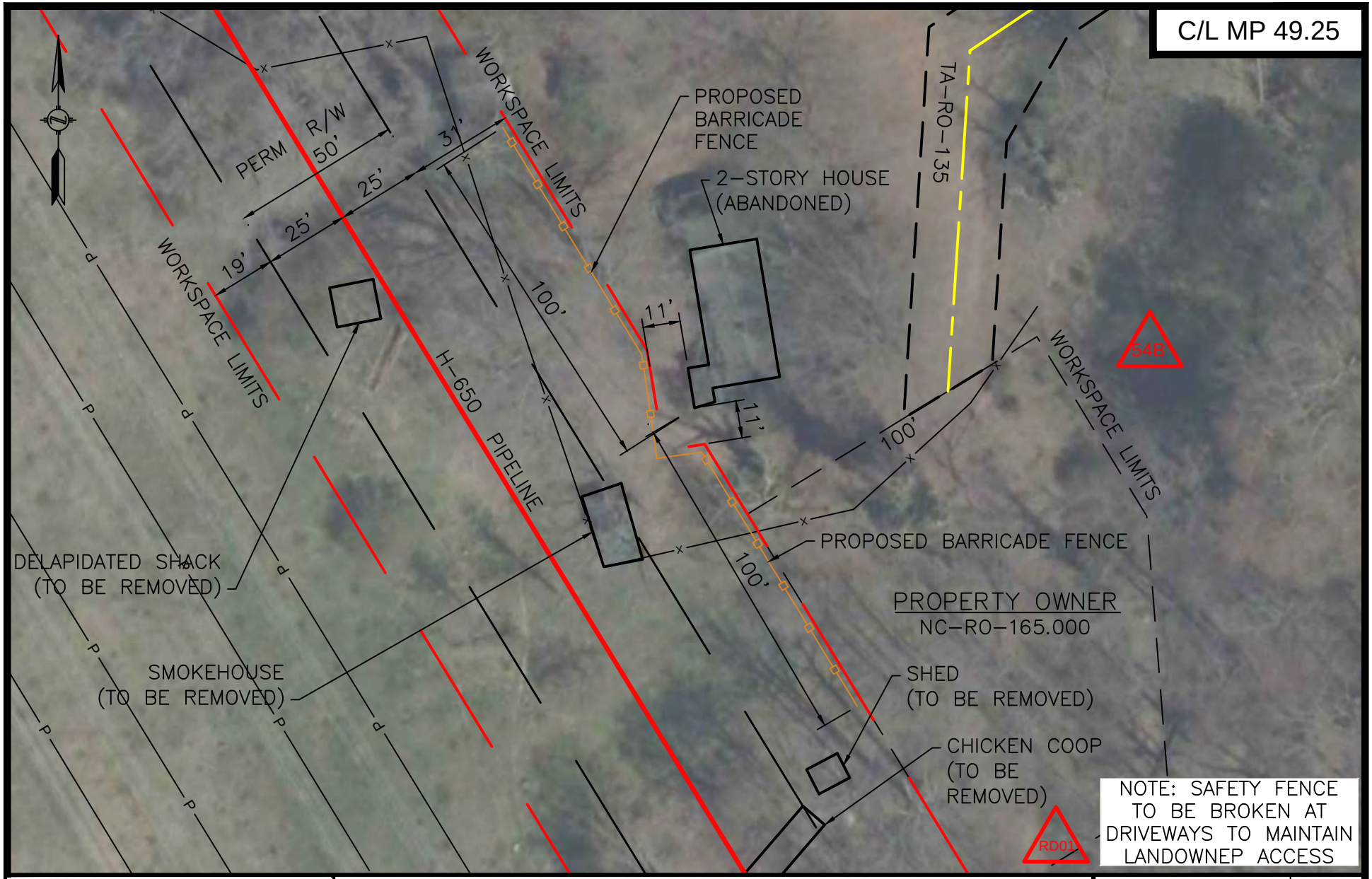


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | | |
|---|---|---|
| DRAWN BY: | TBH | 10/05/18 |
| DRAFTING CK: | SJO | 10/19/18 |
| ENVIRONMENTAL CK: | | |
| ENGINEERING CK: | . | . |
| DETAIL SHEET: | | |
| DRAWING NO.: | **RSS-H650-002** | |
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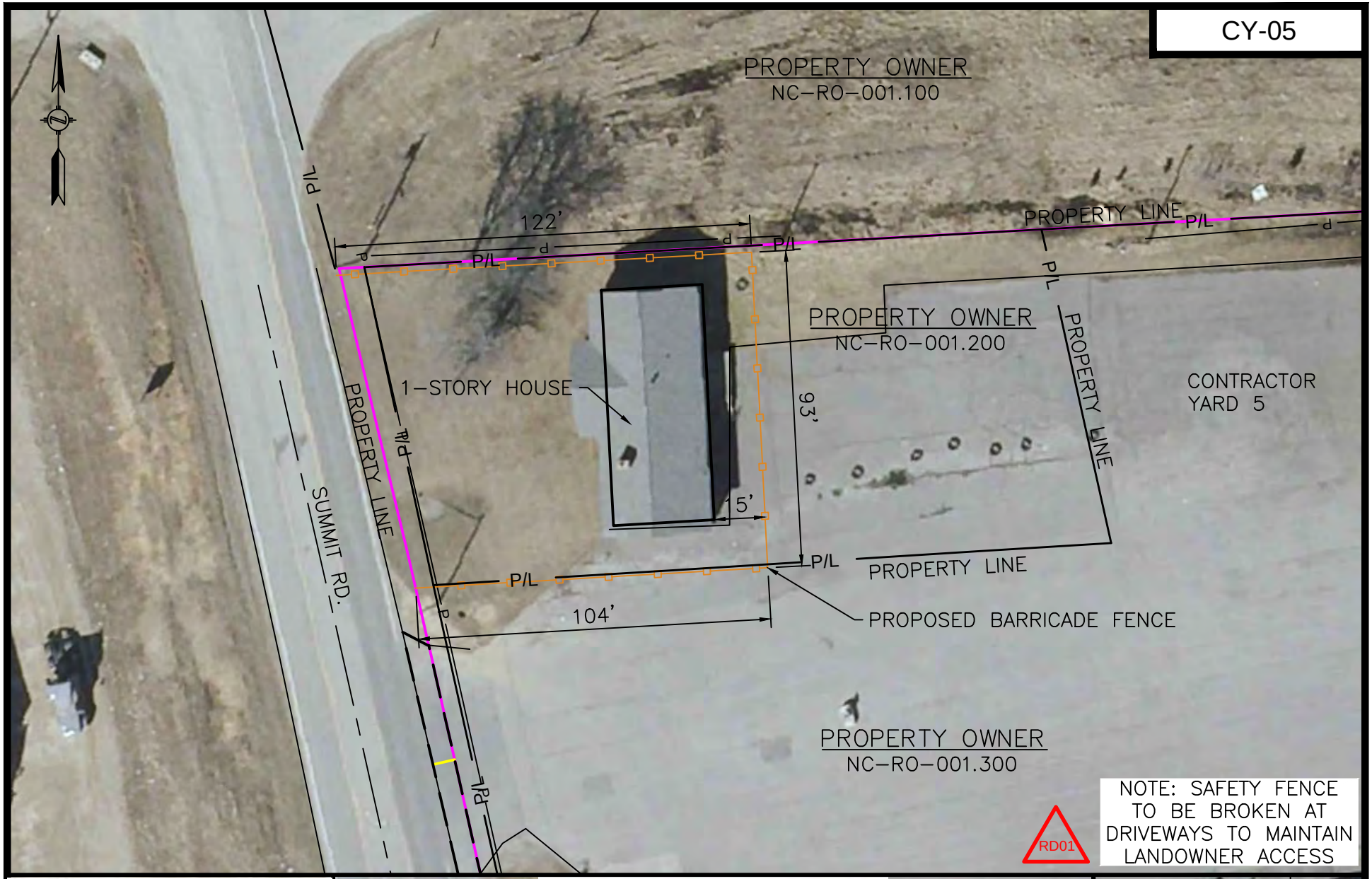
CY-05




Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: TBH | 10/08/18 |
| DRAFTING CK: SJO | 10/19/18 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: . | . |
| DETAIL SHEET: | |
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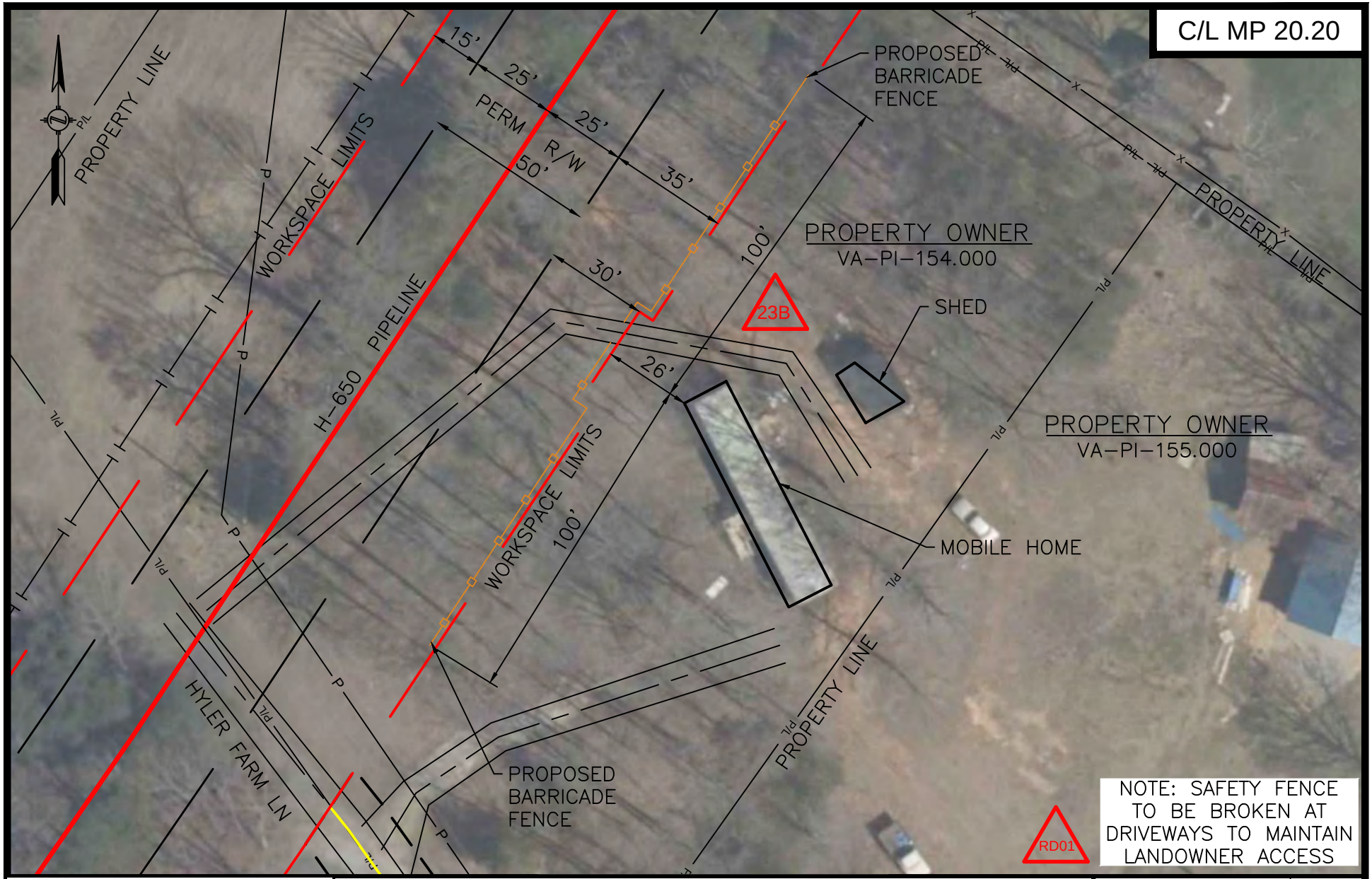


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY,VIRGINIA

SHEET 1 OF 1

| | | |
|---|---|---|
| DRAWN BY: | TBH | 10/08/18 |
| DRAFTING CK: | SJO | 10/19/18 |
| ENVIRONMENTAL CK: | | |
| ENGINEERING CK: | | |
| DETAIL SHEET: | | |
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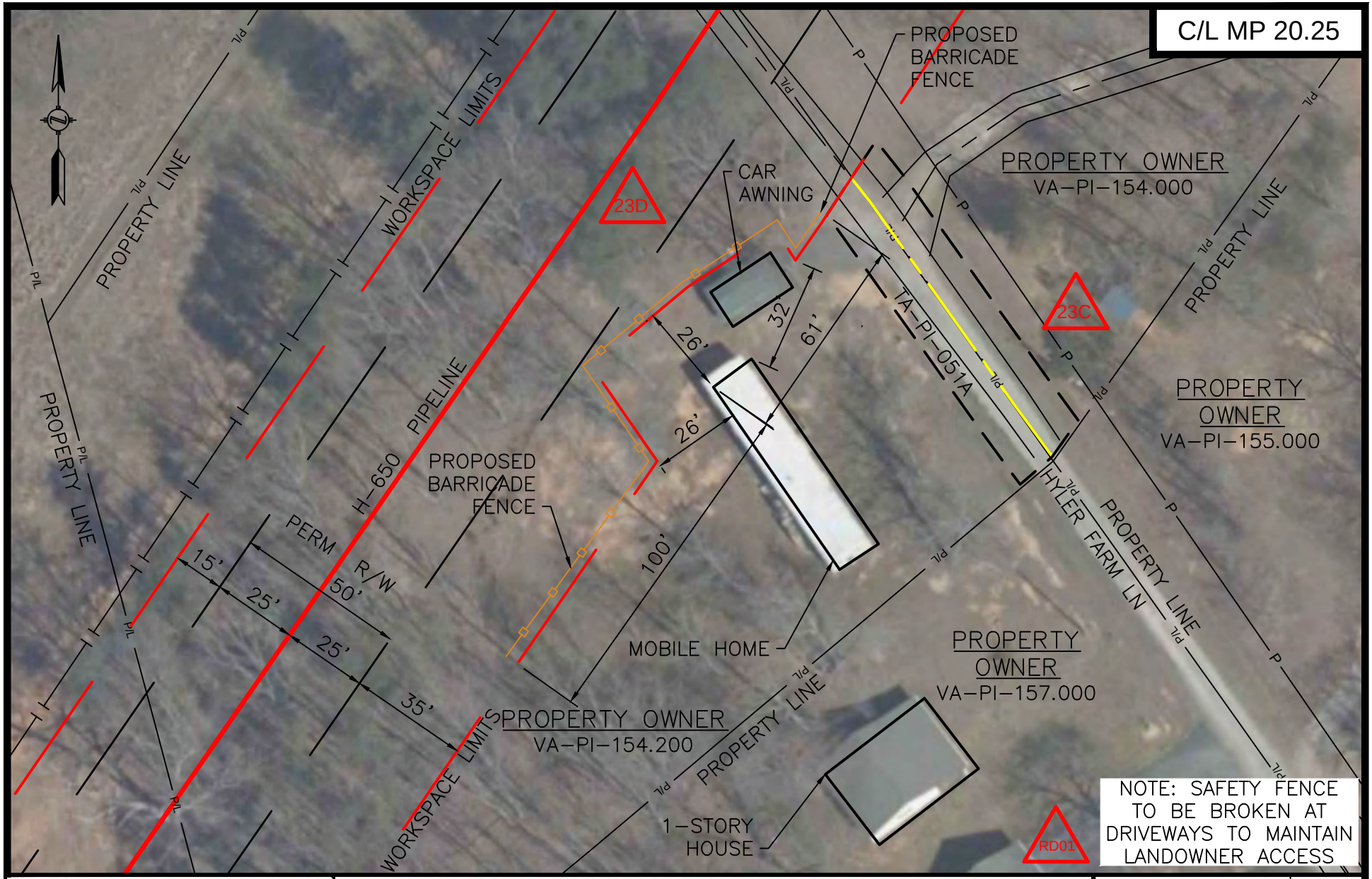


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY, VIRGINIA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: TBH | 10/09/18 |
| DRAFTING CK: SJO | 10/19/18 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: | |
| DETAIL SHEET: | |
| DRAWING NO.: **RSS-H650-005** | |
| SCALE: 1" = 40' | REV. P3 |
| DATE OF PLOT: 6/17/2019 12:31 PM | |


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | | |
|---|---|---|
| DRAWN BY: | TBH | 10/17/18 |
| DRAFTING CK: | SJO | 10/19/18 |
| ENVIRONMENTAL CK: | | |
| ENGINEERING CK: | . | . |
| DETAIL SHEET: | | |
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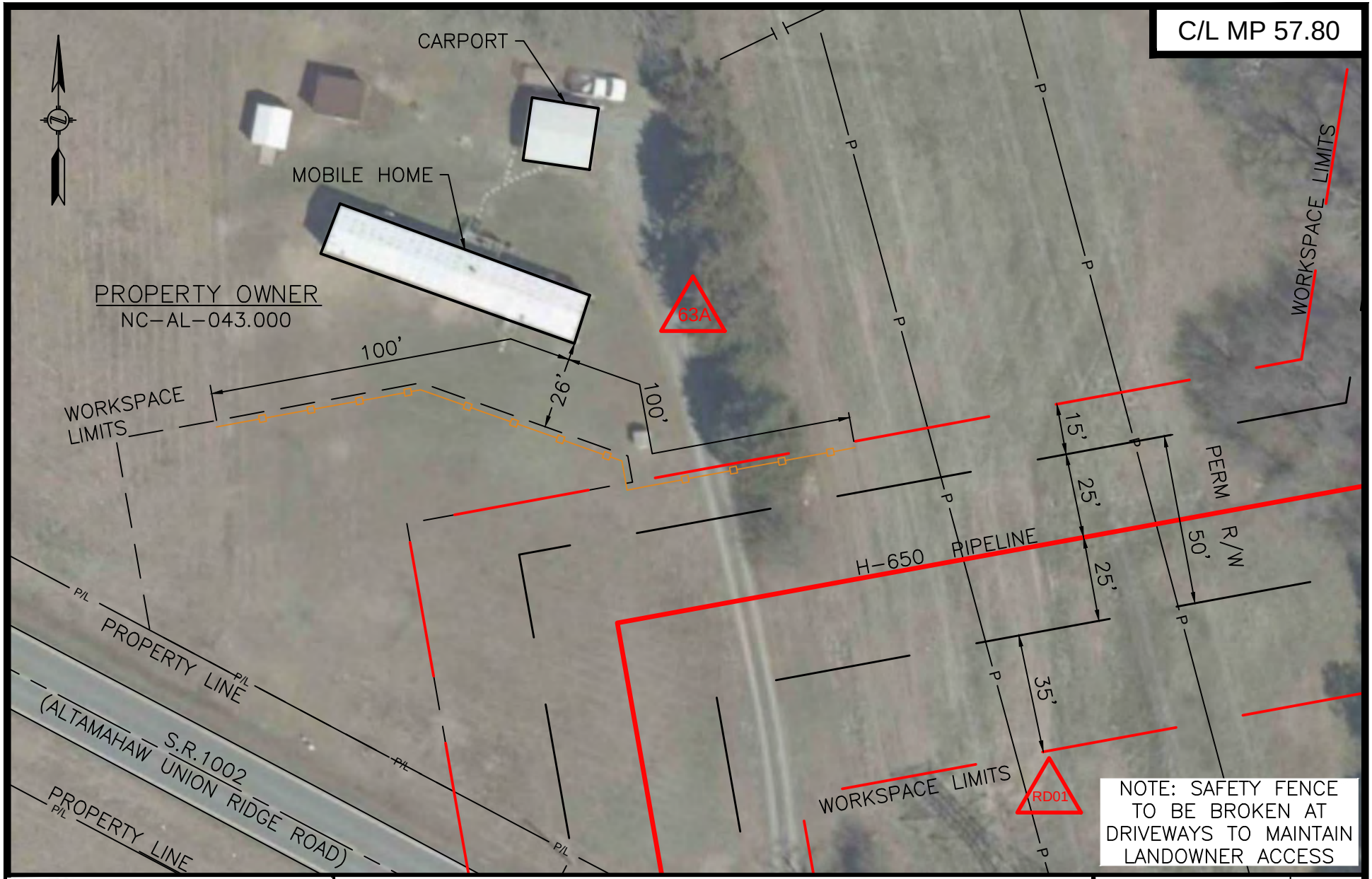
C/L MP 57.80
CARPORT
MOBILE HOME
PROPERTY OWNER
NC-AL-043.000
63A
100'
26'
100'
WORKSPACE LIMITS
WORKSPACE LIMITS
15'
25'
25'
PERM R/W
50'
H-650 PIPELINE
35'
PROPERTY LINE
(ALTAMAHAW UNION RIDGE ROAD)
S.R.1002
PROPERTY LINE
WORKSPACE LIMITS
RD01
NOTE: SAFETY FENCE TO BE BROKEN AT DRIVEWAYS TO MAINTAIN LANDOWNER ACCESS
Legend
Pipeline Centerline
Temporary Workspace
Permanent ROW
Barricade Fence
Access Road
Contractor Yard Boundary
Mountain Valley PIPELINE LLC
CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC
MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA
SHEET 1 OF 1
DRAWN BY: TBH 10/10/18
DRAFTING CK: SJO 10/19/18
ENVIRONMENTAL CK:
ENGINEERING CK:
DETAIL SHEET:
DRAWING NO.:
RSS-H650-008
SCALE: 1" = 40'
REV. P3
DATE OF PLOT: 6/17/2019 12:31 PM


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | | |
|---|---|---|
| DRAWN BY: | TBH | 10/10/18 |
| DRAFTING CK: | SJO | 10/19/18 |
| ENVIRONMENTAL CK: | | |
| ENGINEERING CK: | . | . |
| DETAIL SHEET: | | |
| DRAWING NO.: | **RSS-H650-009** | |
| SCALE: 1" = 40' | | REV. P2 |
| DATE OF PLOT: 6/17/2019 12:32 PM | | |


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | | |
|---|---|---|
| DRAWN BY: | TBH | 10/17/18 |
| DRAFTING CK: | SJO | 10/22/18 |
| ENVIRONMENTAL CK: | | |
| ENGINEERING CK: | . | . |
| DETAIL SHEET: | | |
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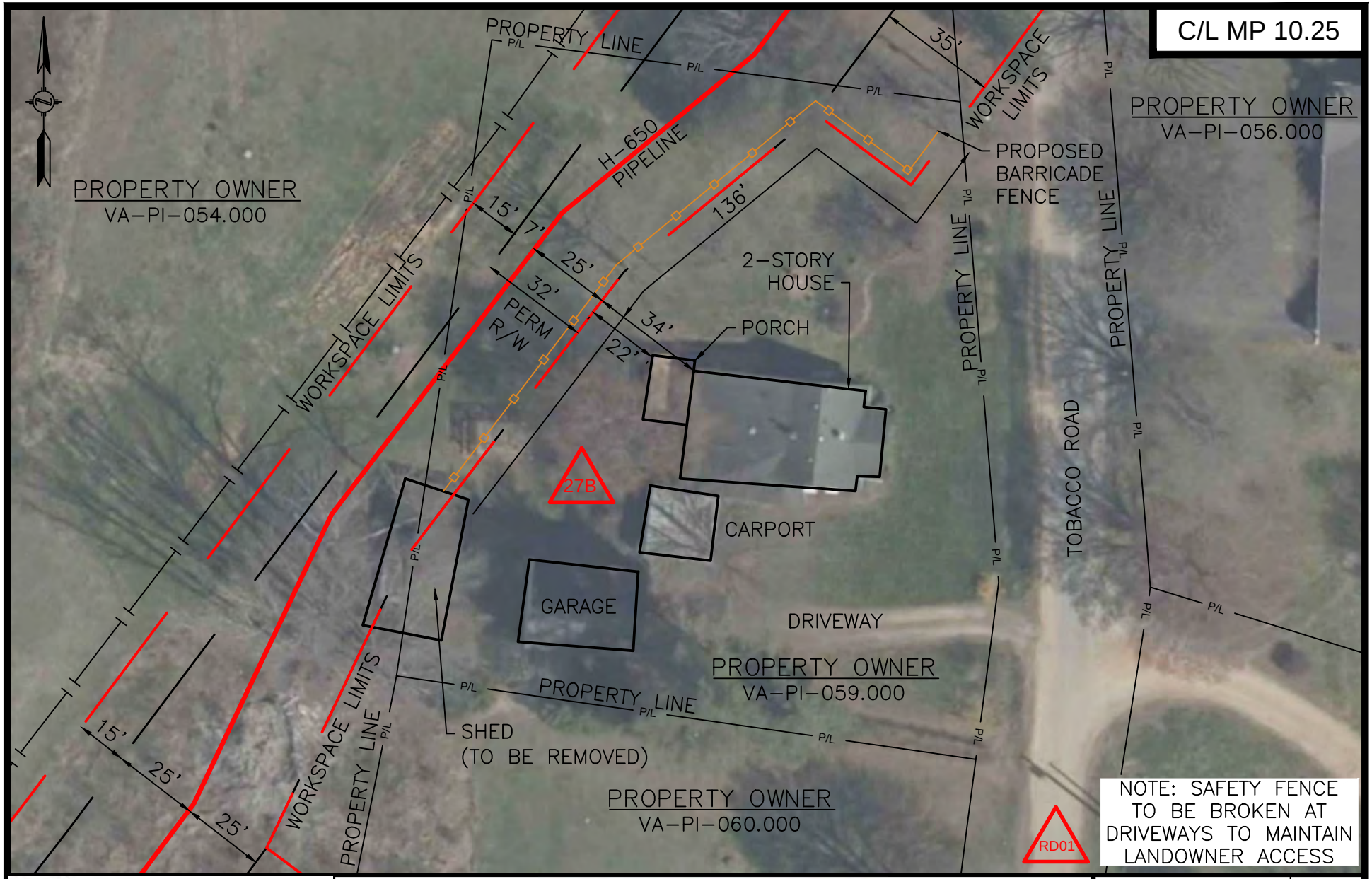


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY, VIRGINIA

SHEET 1 OF 1

| | | |
|---|---|---|
| DRAWN BY: | TBH | 10/17/18 |
| DRAFTING CK: | SJO | 10/22/18 |
| ENVIRONMENTAL CK: | | |
| ENGINEERING CK: | . | . |
| DETAIL SHEET: | | |
| DRAWING NO.: | **RSS-H650-016** | |
| SCALE: 1" = 40' | | REV. P1 |
| DATE OF PLOT: 6/17/2019 12:32 PM | | |


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: TBH | 10/17/18 |
| DRAFTING CK: SJO | 10/22/18 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: . | . |
| DETAIL SHEET: | |
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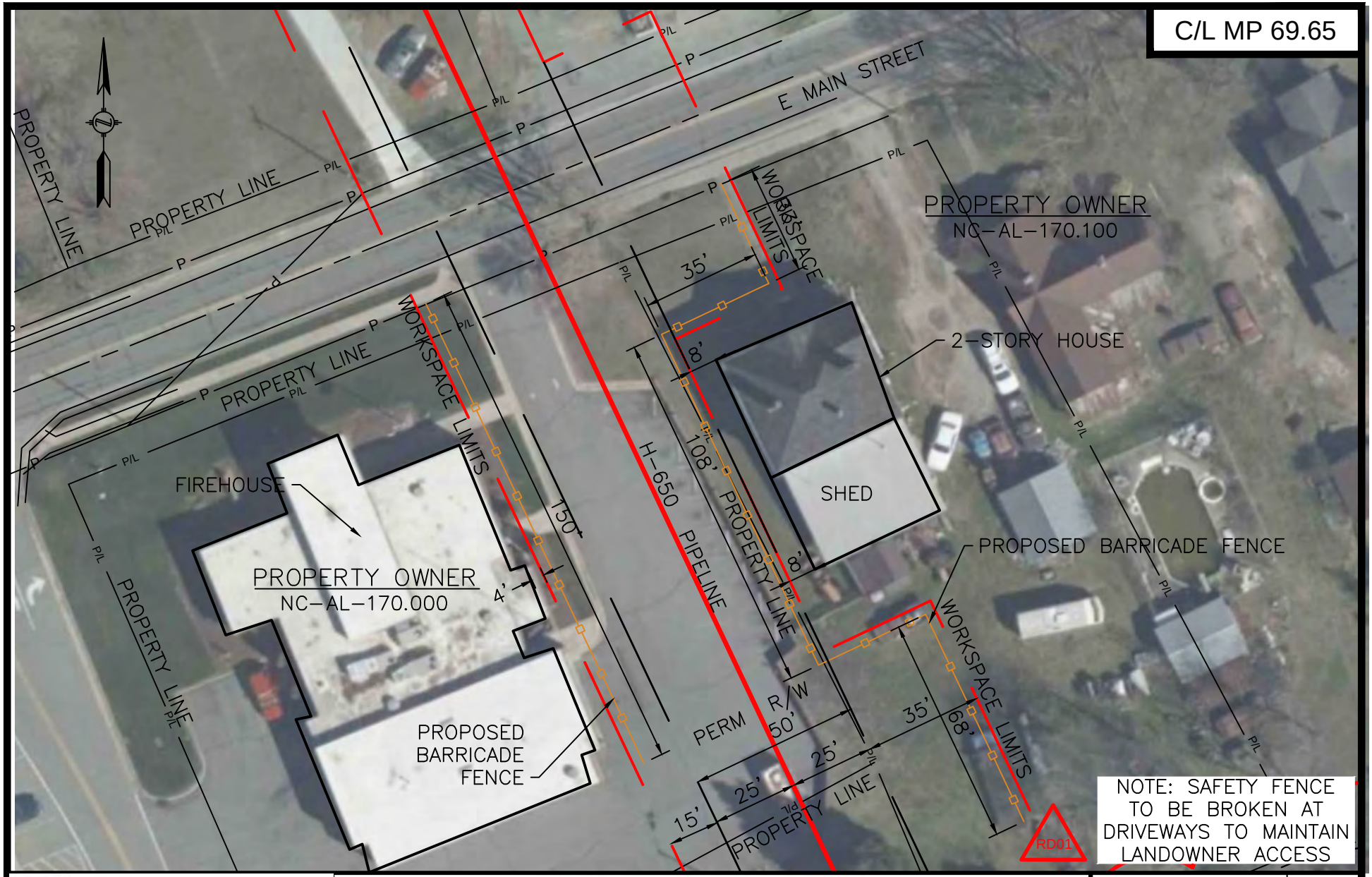


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: TBH | 10/17/18 |
| DRAFTING CK: SJO | 10/22/18 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: . | . |
| DETAIL SHEET: | |
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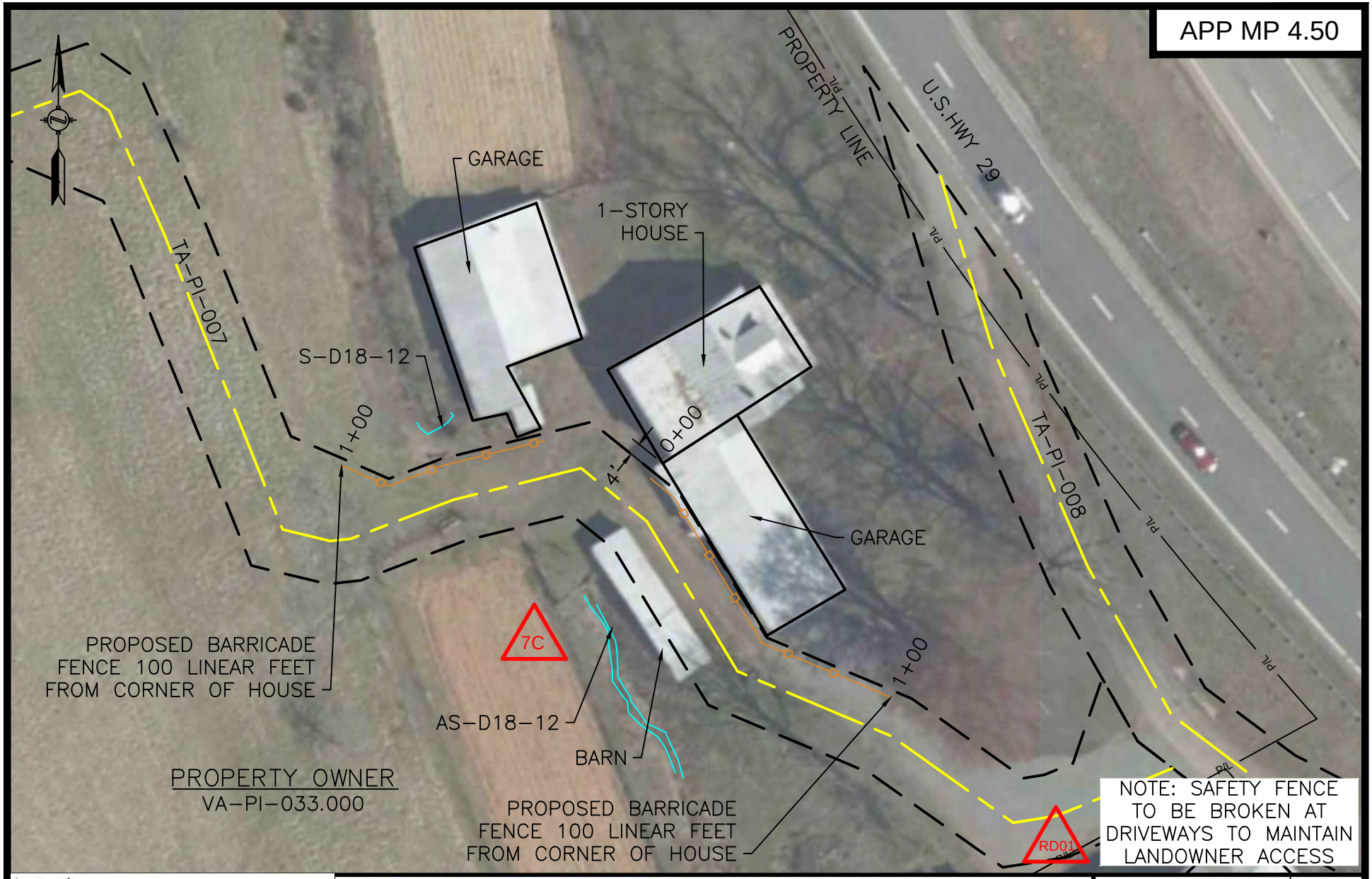


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary
- Stream

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY,VIRGINIA

SHEET 1 OF 1

| | | |
|---|---|---|
| DRAWN BY: | SJS | 03/19/19 |
| DRAFTING CK: | DEM | 03/20/19 |
| ENVIRONMENTAL CK: | | |
| ENGINEERING CK: | . | . |
| DETAIL SHEET: | | |
| DRAWING NO.: | **RSS-H650-024** | |
| SCALE: 1" = 40' | | REV. P1 |
| DATE OF PLOT: 6/17/2019 12:33 PM | | |


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | | |
|---|---|---|
| DRAWN BY: | SJS | 03/19/19 |
| DRAFTING CK: | DEM | 03/20/19 |
| ENVIRONMENTAL CK: | | |
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| DETAIL SHEET: | | |
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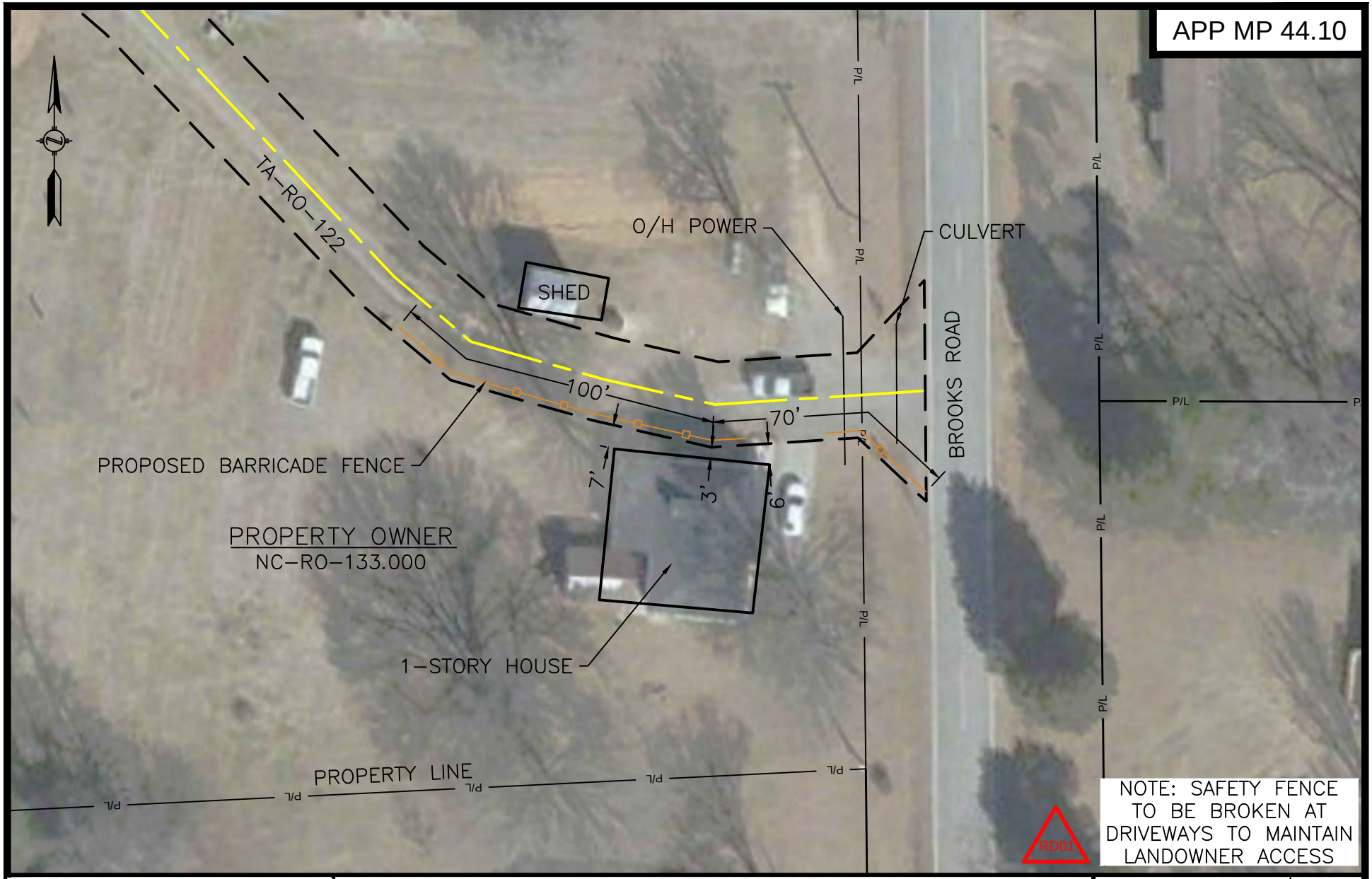


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: SJS | 03/19/19 |
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| ENVIRONMENTAL CK: | |
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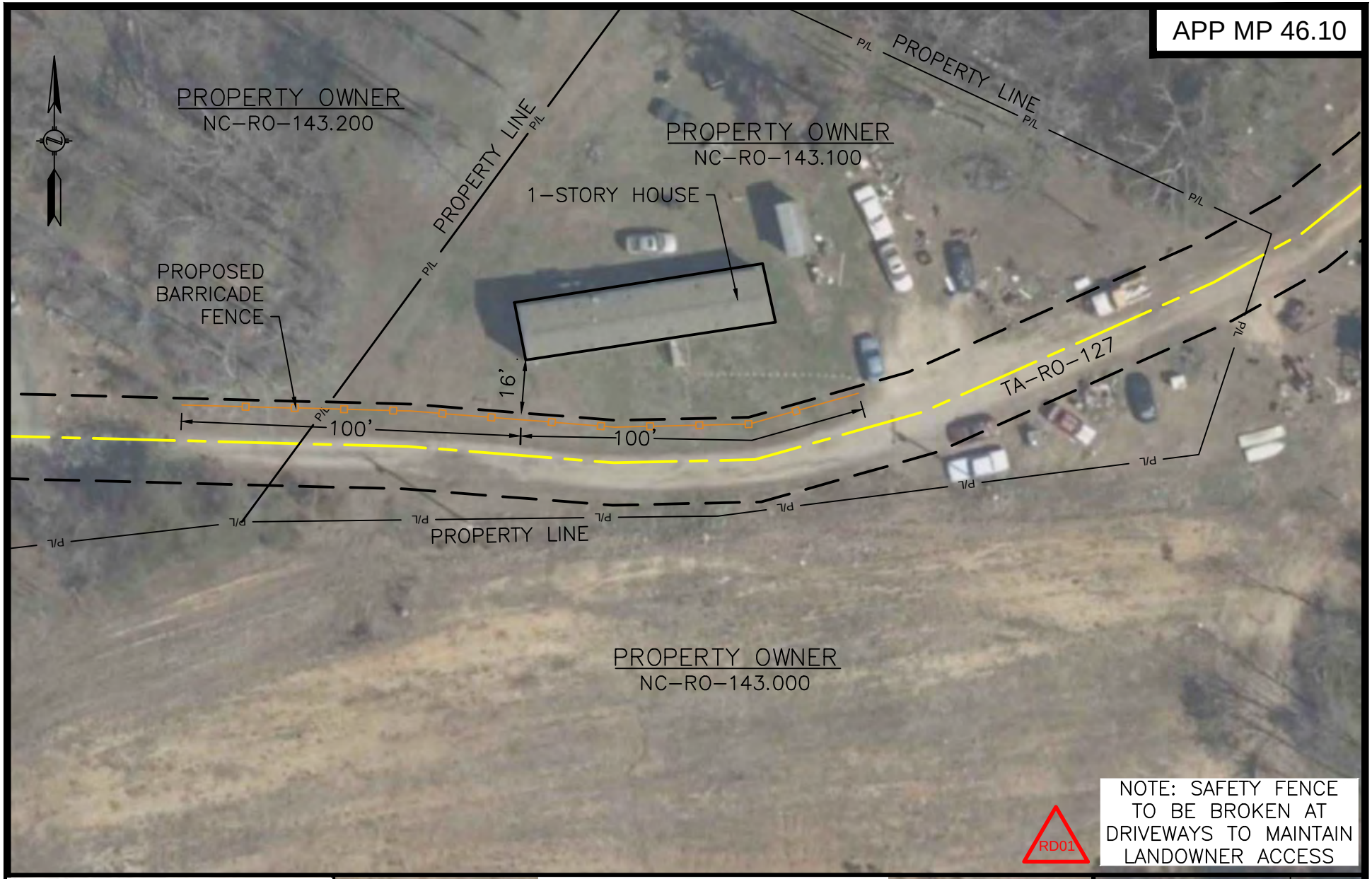


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: SJS | 03/19/19 |
| DRAFTING CK: DEM | 03/20/19 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: . | . |
| DETAIL SHEET: | |
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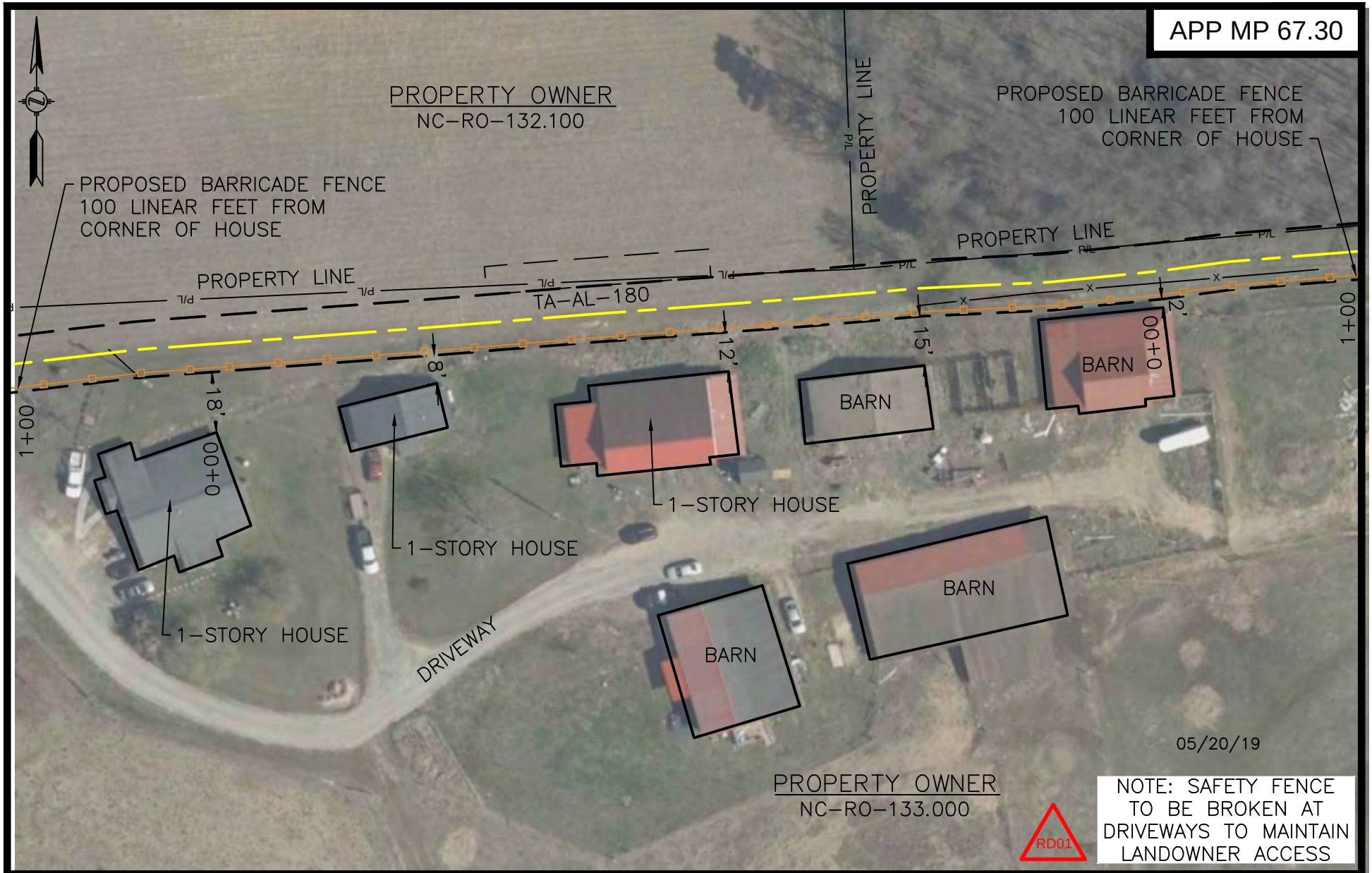


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: TBH | 10/17/18 |
| DRAFTING CK: DEM | 03/20/19 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: . | . |
| DETAIL SHEET: | |
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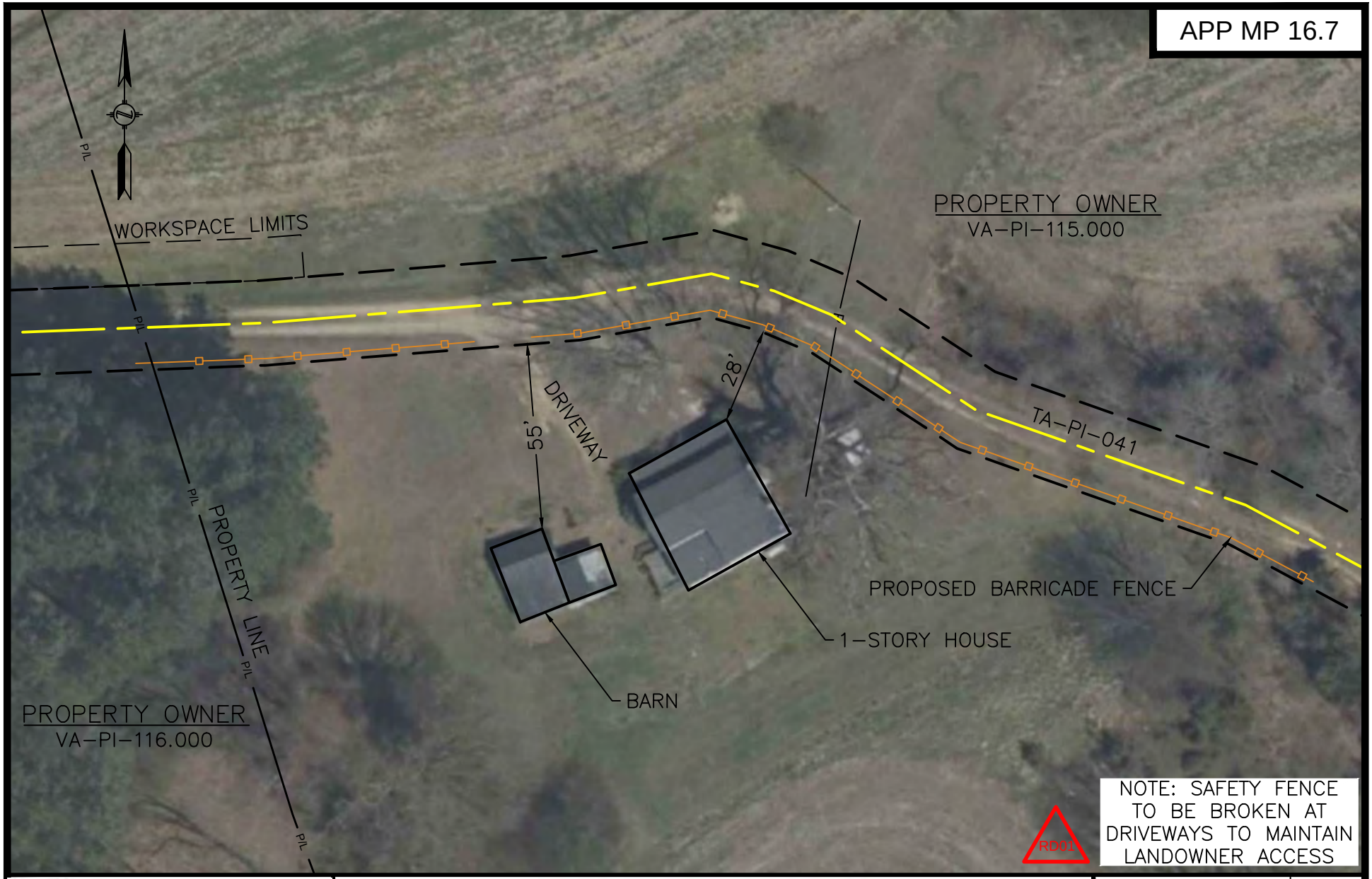


NOTE: SAFETY FENCE TO BE BROKEN AT DRIVEWAYS TO MAINTAIN LANDOWNER ACCESS

Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY, VIRGINIA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: KMB | 05/02/19 |
| DRAFTING CK: SSL | 05/03/19 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: | |
| DETAIL SHEET: | |
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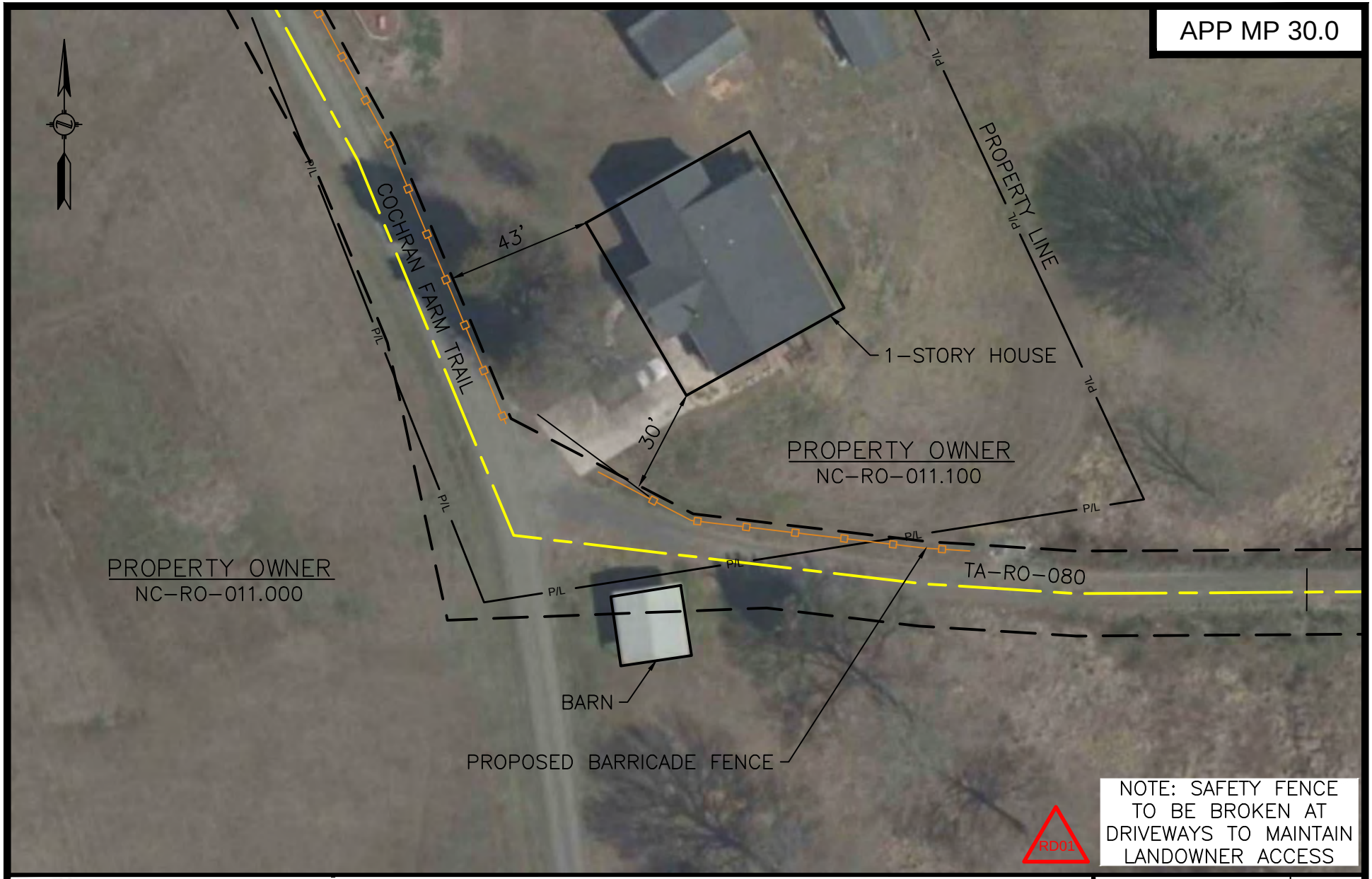


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: KMB | 05/02/19 |
| DRAFTING CK: SSL | 05/03/19 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: | |
| DETAIL SHEET: | |
| DRAWING NO.: **RSS-H650-030** | |
| SCALE: 1" = 40' | REV. P |
| DATE OF PLOT: 6/17/2019 12:35 PM | |


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: KMB | 05/03/19 |
| DRAFTING CK: SSL | 05/07/19 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: | |
| DETAIL SHEET: | |
| DRAWING NO.: **RSS-H650-031** | |
| SCALE: 1" = 40' | REV. P |
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Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | | |
|---|---|---|
| DRAWN BY: | KMB | 05/06/19 |
| DRAFTING CK: | SSL | 05/07/19 |
| ENVIRONMENTAL CK: | | |
| ENGINEERING CK: | | |
| DETAIL SHEET: | | |
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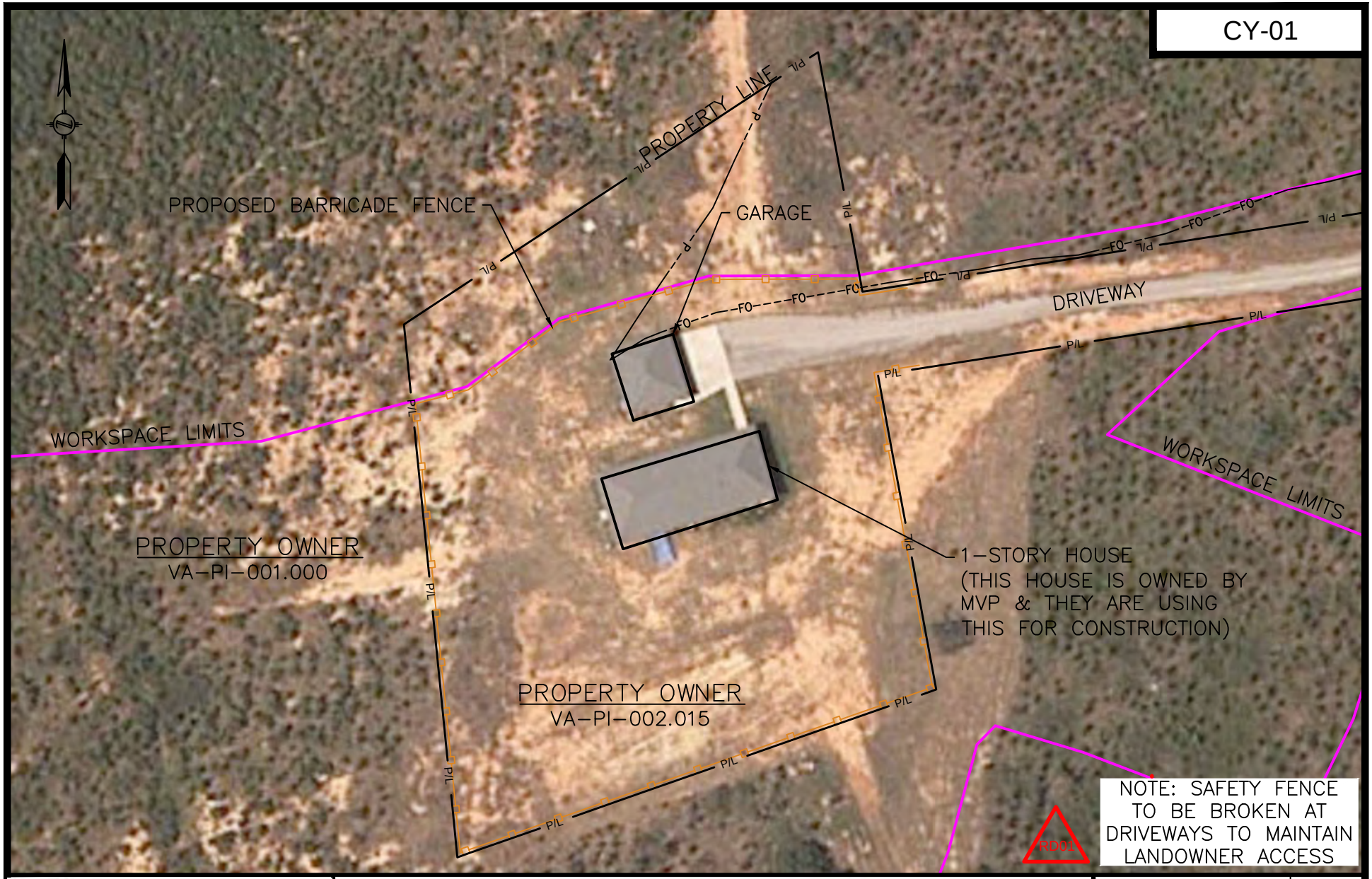
CY-01




Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY, VIRGINIA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: KMB | 05/06/19 |
| DRAFTING CK: SSL | 05/07/19 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: | |
| DETAIL SHEET: | |
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| DATE OF PLOT: 6/17/2019 12:36 PM | |


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: KMB | 05/09/19 |
| DRAFTING CK: SSL | 05/09/19 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: | |
| DETAIL SHEET: | |
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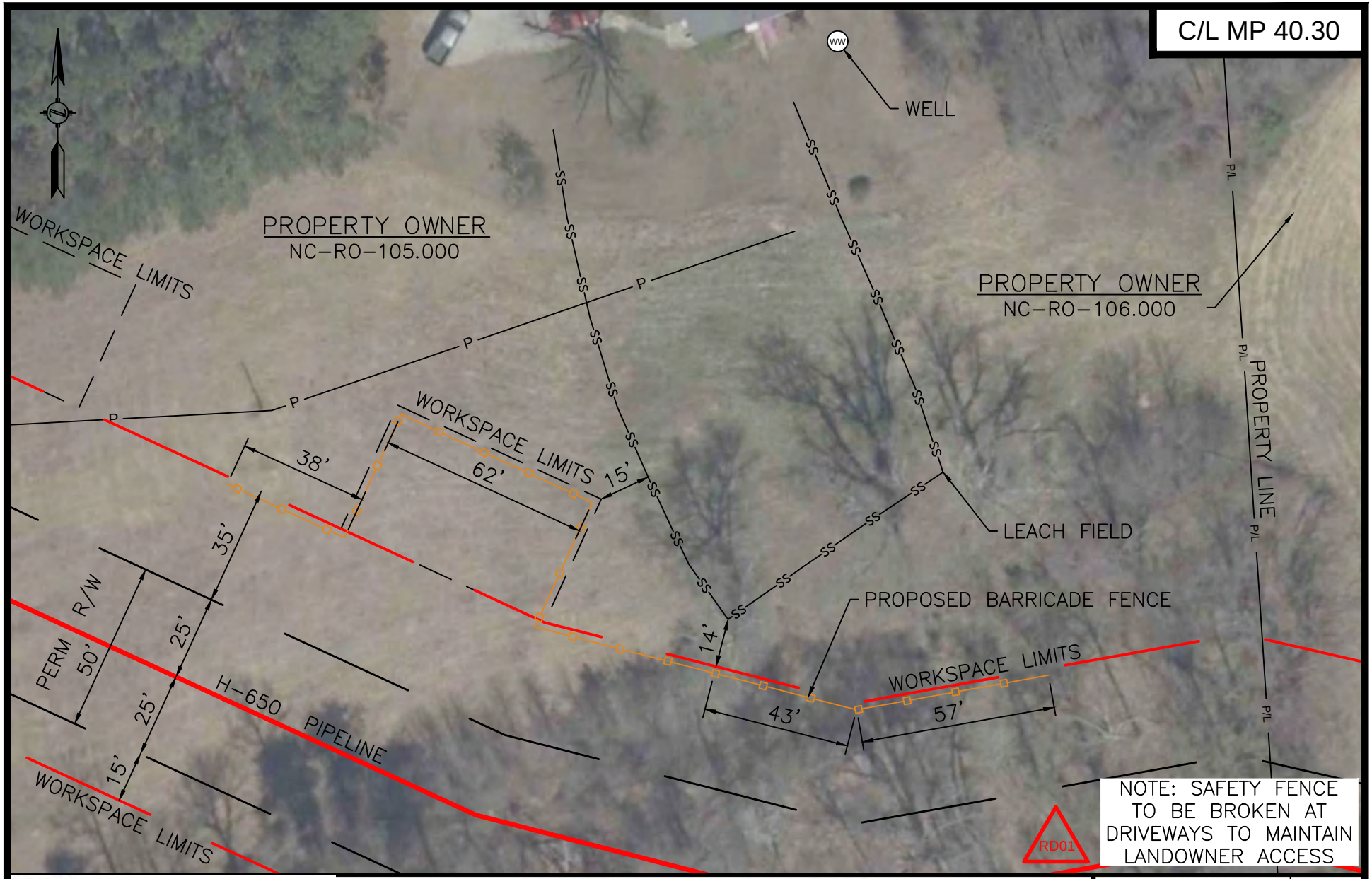


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: KMB | 05/09/19 |
| DRAFTING CK: SSL | 05/09/19 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: | |
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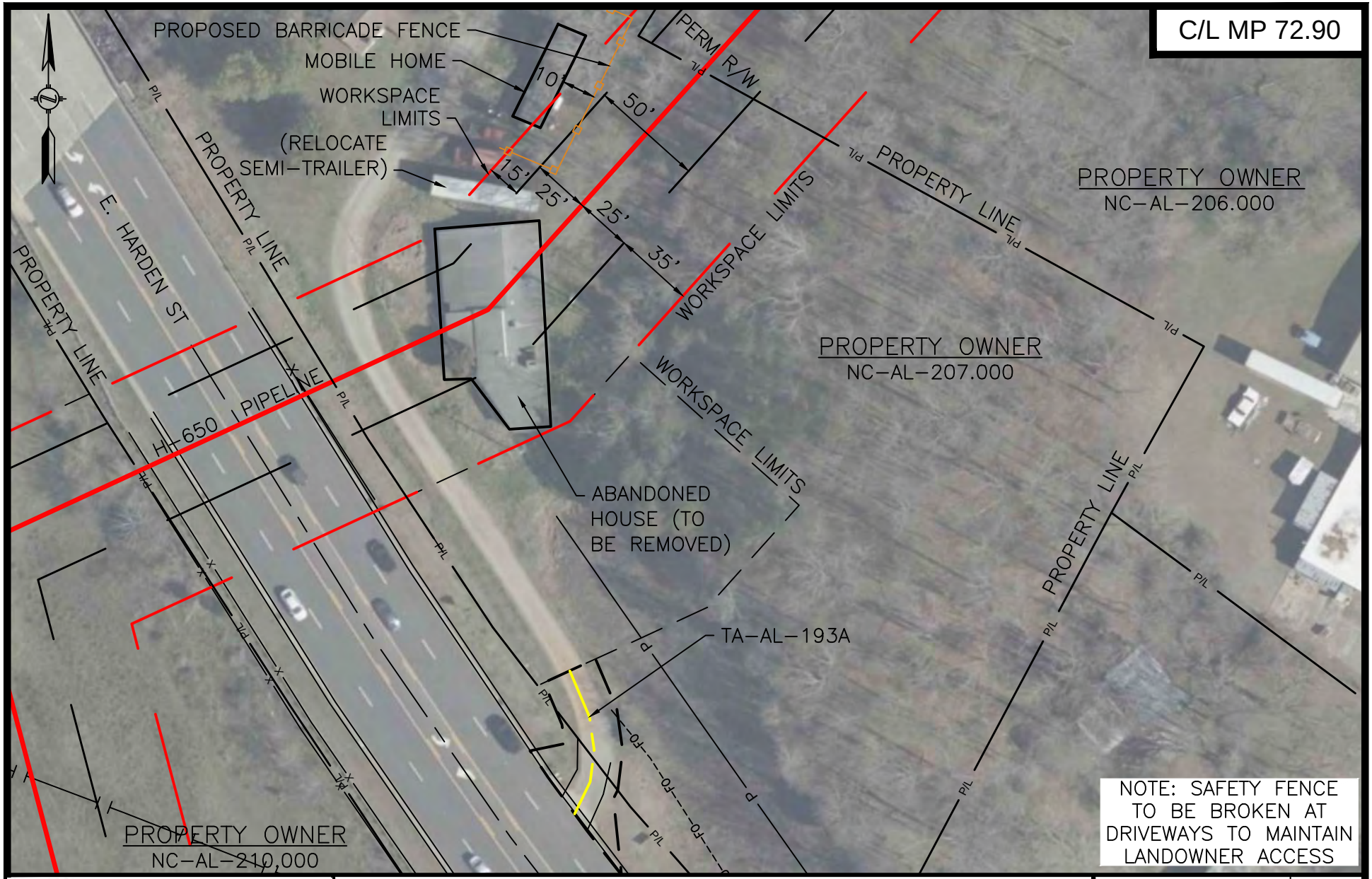


Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

## MVP SOUTHGATE PROJECT
## PROPOSED H-650 PIPELINE
## ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: KMB | 05/15/19 |
| DRAFTING CK: SSL | 05/15/19 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: | |
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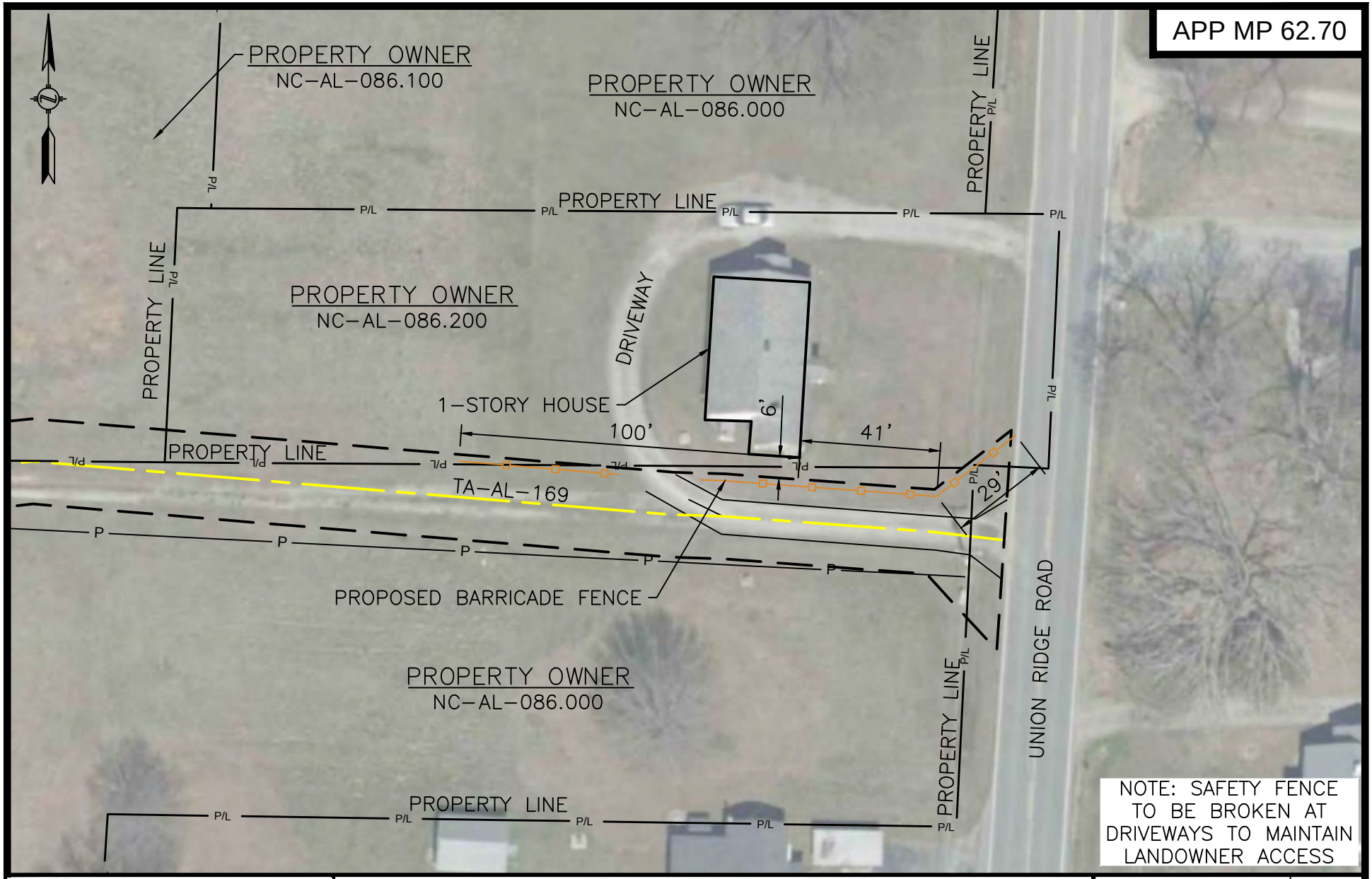


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: KMB | 05/15/19 |
| DRAFTING CK: | |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: | |
| DETAIL SHEET: | |
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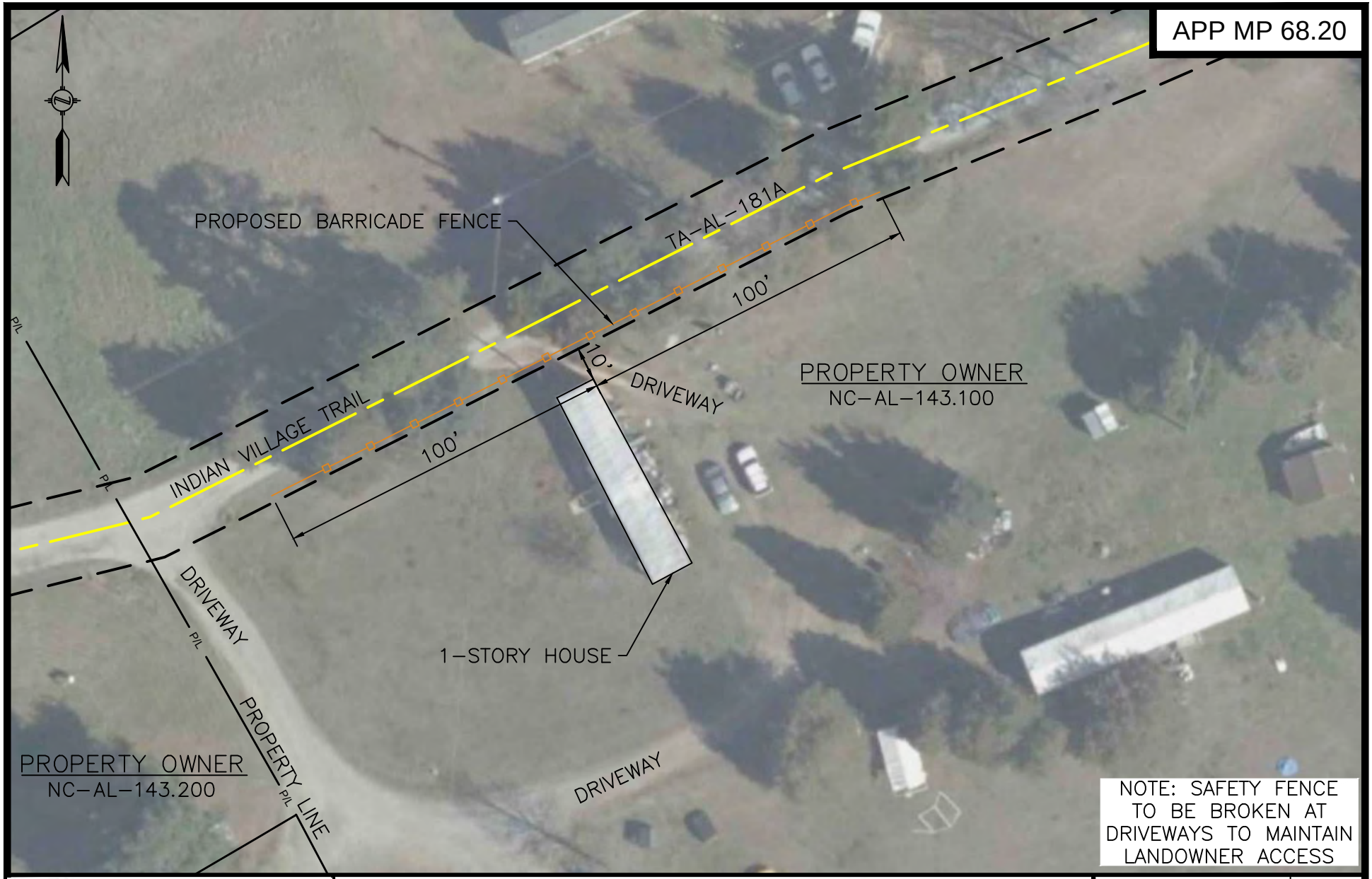


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: KMB | 05/15/19 |
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| ENVIRONMENTAL CK: | |
| ENGINEERING CK: | |
| DETAIL SHEET: | |
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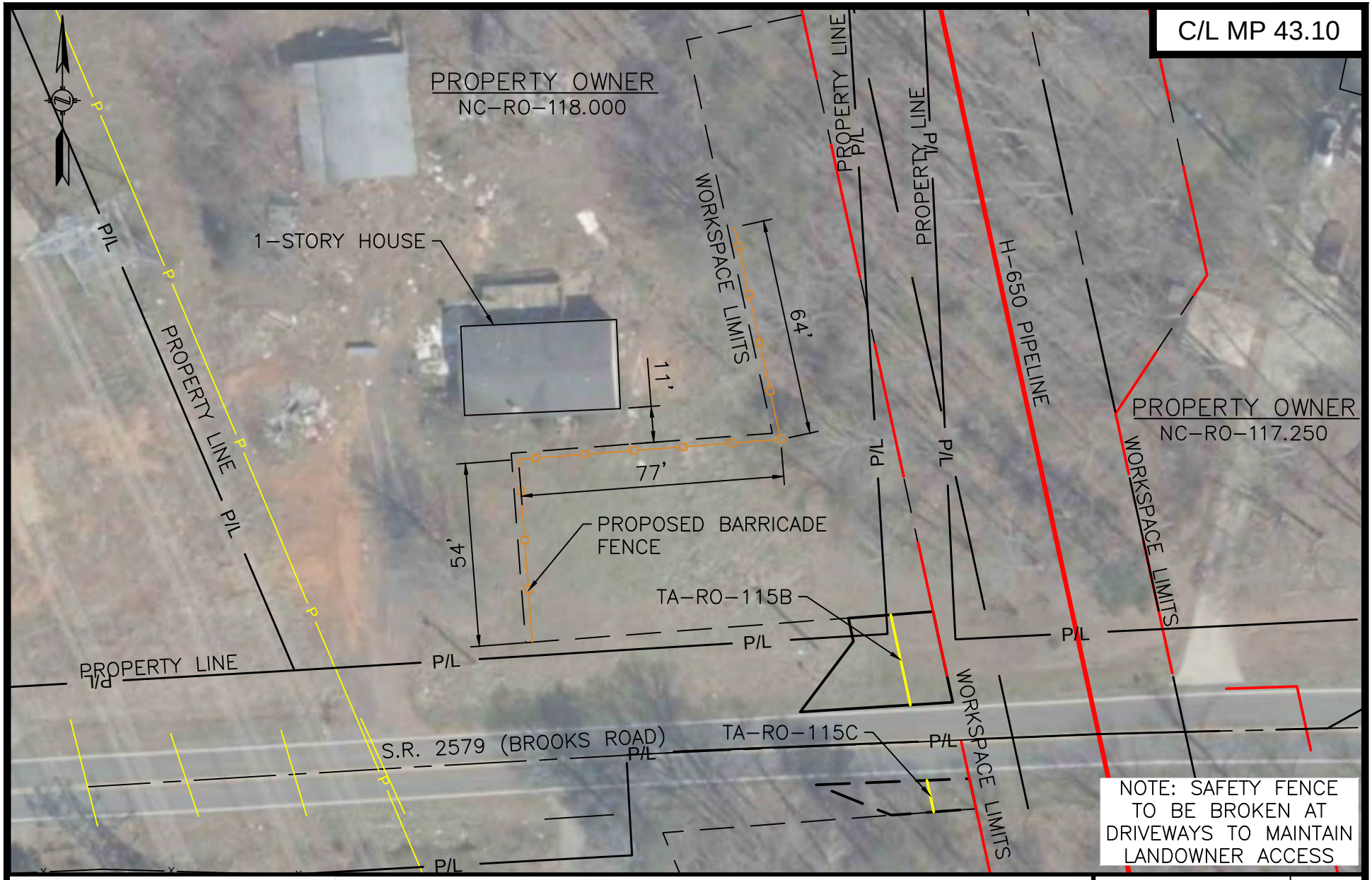


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: KMB | 05/15/19 |
| DRAFTING CK: SSL | 05/15/19 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: | |
| DETAIL SHEET: | |
| DRAWING NO.: **RSS-H650-039** | |
| SCALE: 1" = 40' | REV. P |
| DATE OF PLOT: 6/17/2019 12:37 PM | |


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: CCH | 05/17/19 |
| DRAFTING CK: SSL | 05/17/19 |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: | |
| DETAIL SHEET: | |
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| DATE OF PLOT: 6/17/2019 1:22 PM | |


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY, VIRGINIA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: CCH | 06/13/19 |
| DRAFTING CK: | |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: | |
| DETAIL SHEET: | |
| DRAWING NO.: **RSS-H650-041** | |
| SCALE: 1" = 40' | REV. P |
| DATE OF PLOT: 6/17/2019 2:08 PM | |


Legend

- Pipeline Centerline
- Temporary Workspace
- Permanent ROW
- Barricade Fence
- Access Road
- Contractor Yard Boundary

Mountain Valley PIPELINE LLC

# CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

| | |
|---|---|
| DRAWN BY: CCH | 06/13/19 |
| DRAFTING CK: | |
| ENVIRONMENTAL CK: | |
| ENGINEERING CK: | |
| DETAIL SHEET: | |
| DRAWING NO.: **RSS-H650-042** | |
| SCALE: 1" = 40' | REV. P |
| DATE OF PLOT: 6/17/2019 2:08 PM | |

# APPENDIX B.8

## Locations where Southgate Construction Workspace Parallel a Waterbody (or associated Wetland) within 15 feet

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**Appendix B-8**

**Locations where Southgate Construction Workspace Parallel a Waterbody (or associated Wetland) within 15 feet**

| Resource ID | MP | Length Parallel to Resource (feet) | Justification |
|---|---|---|---|
| S-F18-17 | 9.9 | 60 | Crossing location avoids sensitive resource site. Minimizes impact to wetlands. Constructability to avoid side slope construction |
| S-F18-28 / W-F18-29 | 11.4 | 37 | Collocation and constructability to avoid side slope construction |
| S-D18-37 | 15.7 | 52 / 44 | Collocation and constructability to avoid side slope construction |
| W-E18-43 | 18.0 | 76 | Collocation and constructability to avoid side slope construction |
| S-E18-35 | 23.9 | 18 | Collocation and constructability to avoid side slope construction |
| S-A18-36 | 28.4 | 53 | Collocation and constructability to avoid side slope construction |
| S-A18-143 | 31.9 | 28 | Collocation and constructability to avoid side slope construction |
| S-A18-150 | 32.5 | 40 | Collocation and constructability to avoid side slope construction |
| S-A18-151 | 32.7 | 90 | Constructability to avoid side slope construction |
| S-A18-154 | 33.0 | 38 | Constructability to avoid side slope construction |
| S-A18-94 / W-A18-95 | 37.0 | 40 / 61 | Constructability to avoid side slope construction |
| S-B19-158 | 37.6 | 78 | Collocation and constructability to avoid side slope construction |
| S-A18-4 | 38.5 | 180 | Collocation |
| W-B18-55 | 41.1 | 60 | Collocation and constructability to avoid side slope construction |
| AS-B18-71 | 45.7 | 352, 39 | Collocation and constructability to avoid side slope construction |
| W-A18-184 | 49.8 | 122 | Collocation and constructability to avoid side slope construction |
| S-A18-87 | 53.7 | 43 | Collocation |
| S-B18-59 / W-B18-60 | 55.3 | 102 / 63 | Constructability, to avoid residences |
| S-A18-125 / W-A18-119 | 56.5 | 241 / 60 | Collocation |
| S-A18-125 / W-A18-127 | 56.6 | 105 / 153 | Collocation |
| S-C18-12 | 58.7 | 38 | Collocation and constructability to avoid side slope construction |
| S-A18-70 | 62.4 | 50 | Constructability to avoid side slope construction |
| S-B18-14 | 63.2 | 51 | Collocation and constructability to avoid side slope construction |
| W-B19-161 | 65.5 | 81 | Constructability, to avoid residences |
| S-B18-9 | 68.8 | 50 | Constructability to avoid side slope construction |
| S-B18-135 | 70.2 | 110 | Constructability to avoid side slope construction |
| S-C18-82 | 70.4 | 93 | Constructability to avoid side slope construction |
| W-18-67 | 71.8 | 34 | Collocation and constructability to avoid side slope construction |

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# APPENDIX C.1

# Surficial Geology Crossed by the Southgate Project

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**Appendix C.1**

**Surficial Geology Crossed by the Southgate Project**

| Project Facilities | County | Start MP | End MP | Surficial Geology Material |
|---|---|---|---|---|
| **Pipeline Facilities** | | | | |
| **Virginia** | | | | |
| H-605 | Pittsylvania | 0 | 0.1 | Residual materials developed in sedimentary rocks, discontinuous |
| | | 0.1 | 0.5 | Residual materials developed in bedrock, discontinuous |
| H-650 | Pittsylvania | 0 | 0.4 | Residual materials developed in bedrock, discontinuous |
| | | 0.4 | 2 | Residual materials developed in sedimentary rocks, discontinuous |
| | | 2 | 15.2 | Residual materials developed in igneous and metamorphic rocks |
| | | 15.2 | 26.1 | Residual materials developed in bedrock, discontinuous |
| **North Carolina** | | | | |
| H-650 | Rockingham | 26.1 | 52.6 | Residual materials developed in bedrock, discontinuous |
| H-650 | Alamance | 52.6 | 73.2 | Residual materials developed in igneous and metamorphic rocks |
| **Aboveground Facilities** | | **Area (acres)** | **Near MP** | |
| Lambert CS / Interconnect / MLV 1 | Pittsylvania | 3.2 | 0 | Residual materials developed in bedrock, discontinuous |
| MLV 2 | | <0.1 | 7.4 | Residual materials developed in igneous and metamorphic rocks |
| MLV 3 | | <0.1 | 18.3 | Residual materials developed in bedrock, discontinuous |
| LN 3600 Interconnect | Rockingham | 0.7 | 28.2 | Residual materials developed in bedrock, discontinuous |
| T-15 Dan River Interconnect / MLV4 | | 0.7 | 30.4 | Residual materials developed in bedrock, discontinuous |
| MLV 5 | | <0.1 | 42.2 | Residual materials developed in igneous and metamorphic rocks |
| MLV 6 | Alamance | <0.1 | 55.1 | Residual materials developed in igneous and metamorphic rocks |
| MLV 7 | | <0.1 | 68.2 | Residual materials developed in igneous and metamorphic rocks |
| T-21 Haw River Interconnect / MLV 8 | | 0.7 | 73.1 | Residual materials developed in igneous and metamorphic rocks |

Source: Soller and Reheis, 2004

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# APPENDIX C.2

# Bedrock Geology Underlying the Southgate Project

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Appendix C.2

**Bedrock Geology Underlying the Southgate Project**

| Project Facilities | From Milepost | To Milepost | Crossing Length (Miles) | Formation | Primary Rock | Secondary Rock | Map Symbol |
|---|---|---|---|---|---|---|---|
| **Pipeline Facilities** | | | | | | | |
| H-605 | 0.00 | 0.024 | 0.24 | Upper Triassic | sandstone | siltstone | TRss |
| | 0.24 | 0.36 | 0.12 | Upper Triassic | conglomerate | | TRc |
| | 0.36 | 0.44 | 0.07 | Upper Triassic | sandstone | siltstone | TRss |
| H-650 | 0.00 | 0.39 | 0.39 | Upper Triassic | sandstone | siltstone | TRss |
| | 0.39 | 0.95 | 0.56 | Upper Triassic | conglomerate | | TRc |
| | 0.95 | 1.20 | 0.25 | Proterozoic Z-Cambrian | mica schist | gneiss | Zfm |
| | 1.20 | 1.86 | 0.66 | Cambrian | granite | | lw |
| | 1.86 | 14.95 | 13.09 | Proterozoic Z-Cambrian | mica schist | gneiss | Zfm |
| | 14.95 | 16.19 | 1.24 | Upper Triassic | conglomerate | | TRc |
| | 16.19 | 17.13 | 0.94 | Upper Triassic | sandstone | | TRs |
| | 17.13 | 18.03 | 0.91 | Upper Triassic | sandstone | siltstone | TRss |
| | 18.03 | 18.70 | 0.67 | Upper Triassic | conglomerate | | TRc |
| | 18.70 | 20.62 | 1.92 | Proterozoic Z | biotite gneiss | amphibolite | Zau |
| | 20.62 | 21.07 | 0.45 | Proterozoic Z-Cambrian | mica schist | amphibolite | Zab |
| | 21.07 | 22.35 | 1.28 | Proterozoic - Paleozoic | mylonite | gneiss | my |
| | 22.35 | 24.57 | 2.22 | Upper Triassic | sandstone | siltstone | TRss |
| | 24.57 | 26.11 | 1.54 | Triassic | sandstone | siltstone | TRcs |
| | 26.11 | 28.99 | 2.88 | Triassic | sandstone | mudstone | TRdp |
| | 28.99 | 29.41 | 0.42 | Triassic | mudstone | sandstone | TRdc |
| | 29.41 | 31.11 | 1.70 | Triassic | sandstone | mudstone | TRdp |
| | 31.11 | 32.65 | 1.54 | Cambrian/Late Proterozoic | biotite gneiss | mica schist | CZbg |
| | 32.65 | 32.95 | 0.30 | Cambrian/Late Proterozoic | felsic gneiss | mafic gneiss | CZfg |
| | 32.95 | 34.12 | 1.17 | Cambrian/Late Proterozoic | biotite gneiss | mica schist | CZbg |
| | 34.12 | 34.93 | 0.82 | Cambrian/Late Proterozoic | felsic gneiss | mafic gneiss | CZfg |
| | 34.93 | 39.31 | 4.38 | Cambrian/Late Proterozoic | biotite gneiss | mica schist | CZbg |
| | 39.31 | 41.28 | 1.96 | Cambrian/Late Proterozoic | felsic gneiss | mafic gneiss | CZfg |
| | 41.28 | 46.15 | 4.87 | Cambrian/Late Proterozoic | biotite gneiss | mica schist | CZbg |
| | 46.15 | 47.56 | 1.41 | Permian/Pennsylvanian | granite | | PPg |

Appendix C.2

**Bedrock Geology Underlying the Southgate Project**

| Project Facilities | From Milepost | To Milepost | Crossing Length (Miles) | Formation | Primary Rock | Secondary Rock | Map Symbol |
|---|---|---|---|---|---|---|---|
| | 47.56 | 48.35 | 0.80 | Cambrian/Late Proterozoic | biotite gneiss | mica schist | CZbg |
| | 48.35 | 49.29 | 0.94 | Permian/Pennsylvanian | granite | | PPg |
| | 49.29 | 50.56 | 1.27 | Cambrian/Late Proterozoic | mafic metavolcanic rock | felsic metavolcanic rock | CZmv |
| | 50.56 | 50.63 | 0.06 | Cambrian/Late Proterozoic | phyllite | schist | CZph |
| | 50.63 | 54.77 | 4.15 | Cambrian/Late Proterozoic | mafic metavolcanic rock | felsic metavolcanic rock | CZmv |
| | 54.77 | 55.22 | 0.45 | Cambrian/Late Proterozoic | felsic metavolcanic rock | mafic metavolcanic rock | CZfv |
| | 55.22 | 58.32 | 3.10 | Cambrian/Late Proterozoic | metamorphic rock | | CZg |
| | 58.32 | 59.14 | 0.82 | Paleozoic/Late Proterozoic | metamorphic rock | | PzZg |
| | 59.14 | 59.48 | 0.35 | Cambrian/Late Proterozoic | metamorphic rock | | CZg |
| | 59.48 | 59.63 | 0.14 | Paleozoic/Late Proterozoic | metamorphic rock | | PzZg |
| | 59.63 | 60.55 | 0.92 | Cambrian/Late Proterozoic | metamorphic rock | | CZg |
| | 60.55 | 61.32 | 0.77 | Paleozoic/Late Proterozoic | metamorphic rock | | PzZg |
| | 61.32 | 61.54 | 0.22 | Cambrian/Late Proterozoic | metamorphic rock | | CZg |
| | 61.54 | 61.59 | 0.05 | Paleozoic/Late Proterozoic | metamorphic rock | | PzZg |
| | 61.59 | 61.86 | 0.27 | Cambrian/Late Proterozoic | metamorphic rock | | CZg |
| | 61.86 | 62.37 | 0.51 | Paleozoic/Late Proterozoic | metamorphic rock | | PzZg |
| | 62.37 | 63.03 | 0.66 | Cambrian/Late Proterozoic | metamorphic rock | | CZg |
| | 63.03 | 64.52 | 1.49 | Paleozoic/Late Proterozoic | metamorphic rock | | PzZg |
| | 64.52 | 69.40 | 4.88 | Cambrian/Late Proterozoic | metamorphic rock | | CZg |
| | 69.40 | 72.92 | 3.52 | Cambrian/Late Proterozoic | mafic metavolcanic rock | felsic metavolcanic rock | CZmv |
| | 72.92 | 73.11 | 0.19 | Paleozoic/Late Proterozoic | metamorphic rock | | PzZg |
| **Aboveground Facilities** | | | | | | | |
| | **Area (acres)** | **Nearest Mile Post** | | | | | |
| Lambert Compressor Station/ Interconnect/ MLV 1 | 3.17 | 0 | | Upper Triassic | sandstone | siltstone | TRss |
| MLV 2 | 0.02 | 7.4 | | Proterozoic Z-Cambrian | mica schist | gneiss | Zfm |
| MLV 3 | 0.02 | 18.3 | | Upper Triassic | conglomerate | | TRc |
| LN 3600 Interconnect | 0.66 | 28.2 | | Triassic | sandstone | mudstone | TRdp |

Appendix C.2

**Bedrock Geology Underlying the Southgate Project**

| Project Facilities | From Milepost | To Milepost | Crossing Length (Miles) | Formation | Primary Rock | Secondary Rock | Map Symbol |
|---|---|---|---|---|---|---|---|
| T-15 Dan River Interconnect/ MLV 4 | 0.68 | 30.4 | | Triassic | sandstone | mudstone | TRdp |
| MLV 5 | 0.02 | 42.2 | | Cambrian/Late Proterozoic | biotite gneiss | mica schist | CZbg |
| MLV 6 | 0.02 | 55.1 | | Cambrian/Late Proterozoic | felsic metavolcanic rock | mafic metavolcanic rock | CZfv |
| MLV 7 | 0.02 | 68.2 | | Cambrian/Late Proterozoic | metamorphic rock | | CZg |
| T-21 Haw River Interconnect/MLV8 | 0.66 | 73.1 | | Paleozoic/Late Proterozoic | metamorphic rock | | PzZg |

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# APPENDIX C.3

## Potential Areas of Steep Slopes and Side Slopes Crossed by the Southgate Project

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Appendix C.3-1

**Potential Areas of Steep Slopes Crossed by the Southgate Project**

| Route | Steep Slope Group | Milepost Begin | Milepost End | Length of Slope Crossed (feet) |
|---|---|---|---|---|
| Southgate Lateral (H-605 Pipeline) | 30 to 50 | 0.12 RR | 0.13 RR | 25 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 3.94 RR | 3.94 RR | 26 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 4.12 | 4.12 | 27 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 4.84 | 4.85 | 25 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 5.11 | 5.12 | 21 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 5.24 | 5.25 | 28 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 5.25 | 5.25 | 28 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 5.65 | 5.66 | 24 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 6.99 | 6.99 | 29 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 7.60 | 7.61 | 25 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 7.98 | 7.99 | 75 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 8.58 | 8.58 | 29 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 8.58 | 8.59 | 29 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 8.59 | 8.59 | 34 |
| Southgate Mainline (H-650 Pipeline) | 66 to 80 | 9.95 | 9.95 | 30 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 9.95 | 9.96 | 24 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 9.96 | 9.96 | 18 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 10.08 | 10.09 | 44 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 10.29 | 10.30 | 25 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 11.04 | 11.06 | 76 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 11.83 | 11.84 | 24 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 12.78 | 12.79 | 52 |
| Southgate Mainline (H-650 Pipeline) | 66 to 80 | 13.46 | 13.47 | 35 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 13.47 | 13.48 | 33 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 17.27 | 17.28 | 51 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 17.29 | 17.30 | 31 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 17.30 | 17.31 | 49 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 17.76 | 17.76 | 26 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 17.92 | 17.93 | 50 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 18.01 | 18.02 | 94 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 20.39 | 20.41 | 118 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 20.63 | 20.64 | 72 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 21.52 | 21.54 | 73 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 21.54 | 21.55 | 42 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 22.00 | 22.01 | 27 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 22.35 | 22.36 | 32 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 22.81 | 22.83 | 133 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 22.84 | 22.85 | 39 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 23.23 | 23.24 | 72 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 23.30 | 23.30 | 36 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 24.37 | 24.37 | 31 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 24.78 | 24.79 | 77 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 24.99 | 25.00 | 56 |

Appendix C.3-1

**Potential Areas of Steep Slopes Crossed by the Southgate Project**

| Route | Steep Slope Group | Milepost Begin | Milepost End | Length of Slope Crossed (feet) |
|---|---|---|---|---|
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 25.16 | 25.17 | 45 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 26.19 | 26.20 | 21 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 27.49 | 27.50 | 22 |
| Southgate Mainline (H-650 Pipeline) | 66 to 80 | 27.52 | 27.52 | 16 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 27.52 | 27.52 | 10 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 28.82 | 28.85 | 142 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 28.95 | 28.96 | 63 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 29.28 RR | 29.28 RR | 39 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 29.34 RR | 29.36 RR | 124 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 29.41 RR | 29.43 RR | 133 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 29.52 RR | 29.53 RR | 23 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 29.53 RR | 29.53 RR | 9 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 30.05 | 30.06 | 31 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 31.06 | 31.06 | 22 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 31.06 | 31.07 | 36 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 31.09 | 31.12 | 139 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 31.28 | 31.29 | 68 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 31.30 | 31.31 | 57 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 31.31 | 31.32 | 31 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 31.67 | 31.68 | 97 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 31.70 | 31.70 | 34 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 31.72 | 31.73 | 66 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 31.86 | 31.87 | 51 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 31.87 | 31.88 | 40 |
| Southgate Mainline (H-650 Pipeline) | 66 to 80 | 31.88 | 31.89 | 54 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 31.89 | 31.89 | 10 |
| Southgate Mainline (H-650 Pipeline) | 66 to 80 | 31.93 | 31.93 | 29 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 31.93 | 31.94 | 32 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 32.02 | 32.03 | 28 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 32.04 | 32.04 | 40 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 32.27 | 32.27 | 31 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 32.46 | 32.47 | 60 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 32.47 | 32.48 | 26 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 32.50 | 32.52 | 80 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 32.55 | 32.56 | 40 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 32.56 | 32.57 | 20 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 32.57 | 32.57 | 36 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 32.59 | 32.60 | 92 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 32.66 | 32.67 | 26 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 32.75 | 32.76 | 25 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.12 | 33.13 | 40 |
| Southgate Mainline (H-650 Pipeline) | 66 to 80 | 33.13 | 33.14 | 75 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.14 | 33.15 | 21 |

Appendix C.3-1

**Potential Areas of Steep Slopes Crossed by the Southgate Project**

| Route | Steep Slope Group | Milepost Begin | Milepost End | Length of Slope Crossed (feet) |
|---|---|---|---|---|
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.16 | 33.17 | 34 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.25 | 33.26 | 23 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.27 | 33.28 | 30 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.30 | 33.32 | 64 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.33 | 33.34 | 89 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.38 | 33.39 | 47 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.68 | 33.69 | 56 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.70 | 33.70 | 41 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 33.73 | 33.73 | 23 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 33.74 | 33.75 | 47 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.75 | 33.77 | 103 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.79 | 33.80 | 28 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.81 | 33.82 | 42 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.82 | 33.83 | 47 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.88 | 33.89 | 52 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.92 | 33.94 | 94 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 33.99 | 34.00 | 23 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 34.15 | 34.16 | 23 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 34.21 RR | 34.21 RR | 4 |
| Southgate Mainline (H-650 Pipeline) | > 80+ | 34.21 RR | 34.22 RR | 8 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 34.22 RR | 34.22 RR | 4 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 34.22 RR | 34.23 RR | 60 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 34.29 | 34.30 | 42 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 34.30 | 34.31 | 42 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 34.51 | 34.52 | 21 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 34.52 | 34.53 | 50 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 34.55 | 34.56 | 20 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 34.59 | 34.60 | 27 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 34.85 | 34.86 | 52 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 35.07 | 35.08 | 21 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 35.14 | 35.14 | 31 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 35.36 | 35.36 | 24 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 35.57 | 35.57 | 20 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 35.92 | 35.93 | 25 |
| Southgate Mainline (H-650 Pipeline) | 66 to 80 | 35.98 | 35.99 | 54 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 37.01 | 37.02 | 21 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 37.03 | 37.05 | 94 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 37.16 | 37.16 | 22 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 37.18 | 37.19 | 22 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 37.27 | 37.28 | 43 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 37.29 | 37.29 | 22 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 37.30 | 37.30 | 29 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 37.35 | 37.36 | 38 |

Appendix C.3-1

**Potential Areas of Steep Slopes Crossed by the Southgate Project**

| Route | Steep Slope Group | Milepost Begin | Milepost End | Length of Slope Crossed (feet) |
|---|---|---|---|---|
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 37.58 | 37.59 | 24 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 37.72 | 37.72 | 31 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 38.24 | 38.25 | 23 |
| Southgate Mainline (H-650 Pipeline) | 66 to 80 | 38.54 | 38.55 | 76 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 38.60 | 38.61 | 28 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 38.76 | 38.76 | 35 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 38.78 | 38.80 | 93 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 39.03 | 39.04 | 39 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 39.05 | 39.06 | 45 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 39.06 | 39.07 | 24 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 39.10 | 39.10 | 28 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 39.67 | 39.68 | 26 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 39.69 | 39.70 | 27 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 40.54 | 40.55 | 44 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 40.56 | 40.56 | 36 |
| Southgate Mainline (H-650 Pipeline) | 66 to 80 | 40.57 | 40.57 | 24 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 40.64 | 40.64 | 25 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 40.74 | 40.74 | 23 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 40.75 | 40.75 | 41 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 40.88 | 40.89 | 40 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 41.11 | 41.11 | 39 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 41.56 | 41.57 | 23 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 41.57 | 41.58 | 25 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 41.67 | 41.67 | 20 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 41.67 | 41.68 | 32 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 42.25 | 42.26 | 44 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 43.69 | 43.69 | 28 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 43.70 | 43.71 | 31 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 43.81 | 43.82 | 23 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 43.93 | 43.93 | 36 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 43.98 | 43.99 | 53 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 44.02 | 44.03 | 32 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 44.03 | 44.03 | 24 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 44.03 | 44.03 | 9 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 44.06 | 44.06 | 20 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 44.14 | 44.14 | 26 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 44.15 | 44.19 | 169 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 44.56 | 44.57 | 22 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 45.72 | 45.73 | 45 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 45.83 | 45.85 | 134 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 46.48 | 46.49 | 37 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 46.50 | 46.50 | 39 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 46.53 | 46.54 | 29 |

Appendix C.3-1

**Potential Areas of Steep Slopes Crossed by the Southgate Project**

| Route | Steep Slope Group | Milepost Begin | Milepost End | Length of Slope Crossed (feet) |
|---|---|---|---|---|
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 46.89 | 46.91 | 78 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 47.01 | 47.02 | 26 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.35 | 47.36 | 27 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.37 | 47.39 | 142 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.42 | 47.44 | 125 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 47.44 | 47.45 | 39 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.45 | 47.46 | 36 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.46 | 47.47 | 50 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.54 | 47.56 | 107 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.57 | 47.57 | 31 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.58 | 47.59 | 83 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.60 | 47.61 | 55 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.61 | 47.62 | 26 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.65 | 47.66 | 33 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.66 | 47.66 | 23 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.67 | 47.67 | 23 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.67 | 47.68 | 26 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.76 | 47.77 | 58 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 47.78 | 47.79 | 55 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 51.50 | 51.50 | 28 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 58.91 | 58.91 | 31 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 63.58 | 63.58 | 40 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 63.65 | 63.65 | 24 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 64.03 | 64.04 | 56 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 64.47 | 64.48 | 20 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 68.74 | 68.74 | 20 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 68.79 | 68.80 | 20 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 69.10 | 69.11 | 60 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 69.37 | 69.38 | 23 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 69.39 | 69.40 | 30 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 69.62 | 69.62 | 22 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 69.76 | 69.77 | 22 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 69.80 | 69.80 | 20 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 69.89 | 69.89 | 20 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 69.91 | 69.92 | 24 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 70.02 | 70.03 | 21 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 70.50 | 70.51 | 23 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 70.61 | 70.62 | 33 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 70.75 | 70.76 | 47 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 70.76 | 70.77 | 21 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 71.13 | 71.13 | 20 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 71.19 | 71.20 | 28 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 71.21 | 71.22 | 78 |

Appendix C.3-1

## Potential Areas of Steep Slopes Crossed by the Southgate Project

| Route | Steep Slope Group | Milepost Begin | Milepost End | Length of Slope Crossed (feet) |
|---|---|---|---|---|
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 71.25 | 71.26 | 54 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 71.31 | 71.32 | 28 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 71.49 | 71.49 | 33 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 71.62 | 71.63 | 37 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 71.82 | 71.83 | 70 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 71.90 | 71.92 | 103 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 72.19 | 72.20 | 24 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 72.71 | 72.72 | 30 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 72.72 | 72.72 | 40 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 72.72 | 72.73 | 25 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 72.91 | 72.91 | 20 |
| Southgate Mainline (H-650 Pipeline) | 50 to 66 | 72.94 | 72.94 | 20 |
| Southgate Mainline (H-650 Pipeline) | 30 to 50 | 72.94 | 72.94 | 15 |

Methodology:

1. Steep Slope percentages are grouped as follows:
   30-50%
   50-66%
   66-80%
   80%+
2. Only crossings that are longer than 20 feet are considered. Some locations may seem smaller but they are still considered if they are a continuation of another slope group.
3. For crossings that have multiple variations of slope group within small lengths, an average slope group is assigned.
4. The length of slope crossed might be slightly shorter than actual mile post lengths because of small stretches of data that are not in slope groups.

Appendix C.3-2

**Potential Areas of Side Slopes Crossed by the Southgate Project H-650**

| Route | Side Slope Group | Milepost Begin | Milepost End | Length of Slope Crossed (feet) |
|---|---|---|---|---|
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 3.82 RR | 3.83 RR | 56 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 3.90 RR | 3.91 RR | 14 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 3.91 RR | 3.92 RR | 86 |
| Southgate Mainline (H-650 Pipeline) | 25+ | 3.92 RR | 3.94 RR | 111 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 8.63 | 8.71 | 298 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 9.00 | 9.02 | 70 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 9.97 | 10.03 | 283 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 15.51 | 15.58 | 244 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 16.01 | 16.02 | 40 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 16.55 | 16.58 | 98 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 16.59 | 16.60 | 43 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 17.77 | 17.81 | 168 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 17.98 | 18.01 | 157 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 18.04 | 18.05 | 52 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 19.49 | 19.50 | 62 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 19.54 | 19.60 | 233 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 19.63 | 19.64 | 40 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 21.58 | 21.60 | 87 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 21.74 | 21.78 | 155 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 22.00 | 22.04 | 134 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 22.36 | 22.38 | 87 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 22.65 | 22.74 | 406 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 23.16 | 23.17 | 60 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 23.27 | 23.31 | 179 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 25.15 | 25.22 | 216 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 28.56 | 28.58 | 67 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 28.71 | 28.74 | 70 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 29.01 | 29.06 | 177 |
| Southgate Mainline (H-650 Pipeline) | 25+ | 29.10 | 29.14 | 100 |
| Southgate Mainline (H-650 Pipeline) | 25+ | 29.36 | 29.43 | 89 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 31.34 | 31.37 | 86 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 31.67 | 31.69 | 56 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 31.88 | 31.95 | 236 |
| Southgate Mainline (H-650 Pipeline) | 25+ | 32.18 | 32.20 | 46 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 32.55 | 32.59 | 75 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 32.78 | 32.89 | 355 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 33.28 | 33.30 | 89 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 33.35 | 33.41 | 217 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 33.45 | 33.47 | 47 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 33.64 | 33.67 | 146 |

Appendix C.3-2

**Potential Areas of Side Slopes Crossed by the Southgate Project H-650**

| Route | Side Slope Group | Milepost Begin | Milepost End | Length of Slope Crossed (feet) |
|---|---|---|---|---|
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 33.70 | 33.73 | 104 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 33.88 | 33.92 | 110 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 33.95 | 34.01 | 280 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 34.33 | 34.35 | 93 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 34.56 | 34.60 | 171 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 35.03 | 35.11 | 283 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 35.21 | 35.26 | 160 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 35.30 | 35.34 | 190 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 35.52 | 35.53 | 48 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 35.55 | 35.56 | 56 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 35.93 | 35.95 | 57 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 36.18 | 36.22 | 85 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 36.67 | 36.74 | 252 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 36.90 | 36.93 | 135 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 36.96 | 36.98 | 93 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 37.05 | 37.09 | 158 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 37.21 | 37.22 | 40 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 37.53 | 37.55 | 74 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 37.63 | 37.66 | 122 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 37.78 | 37.81 | 122 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 37.84 | 37.86 | 74 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 37.90 | 37.92 | 77 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 38.02 | 38.05 | 117 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 39.05 | 39.09 | 136 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 39.37 | 39.45 | 291 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 39.48 | 39.49 | 71 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 40.64 | 40.66 | 63 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 41.42 | 41.50 | 423 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 41.58 | 41.59 | 78 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 41.69 | 41.77 | 384 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 41.97 | 41.99 | 85 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 42.13 | 42.16 | 99 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 42.35 | 42.42 | 309 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 42.46 | 42.48 | 113 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 42.84 | 42.85 | 41 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 43.80 | 43.82 | 48 |
| Southgate Mainline (H-650 Pipeline) | 25+ | 43.86 | 43.88 | 78 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 43.99 | 44.02 | 102 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 44.07 | 44.10 | 132 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 45.06 | 45.09 | 108 |

Appendix C.3-2

**Potential Areas of Side Slopes Crossed by the Southgate Project H-650**

| Route | Side Slope Group | Milepost Begin | Milepost End | Length of Slope Crossed (feet) |
|---|---|---|---|---|
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 45.86 | 45.91 | 221 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 45.95 | 45.98 | 85 |
| Southgate Mainline (H-650 Pipeline) | 25+ | 47.47 | 47.50 | 131 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 47.99 | 48.02 | 97 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 49.64 | 49.68 | 173 |
| Southgate Mainline (H-650 Pipeline) | 25+ | 49.73 | 49.81 | 415 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 50.73 | 50.74 | 40 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 51.45 | 51.53 | 326 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 52.19 | 52.24 | 213 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 54.36 | 54.38 | 64 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 54.47 | 54.49 | 75 |
| Southgate Mainline (H-650 Pipeline) | 25+ | 54.51 | 54.54 | 131 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 59.23 | 59.26 | 135 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 62.41 | 62.42 | 59 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 63.20 | 63.27 | 220 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 63.50 | 63.52 | 130 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 65.10 RR | 65.12 RR | 93 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 65.12 RR | 65.12 RR | 31 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 65.12 RR | 65.13 RR | 41 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 65.18 RR | 65.19 RR | 58 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 67.15 | 67.16 | 50 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 68.28 | 68.31 | 149 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 68.47 | 68.48 | 41 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 68.48 | 68.49 | 48 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 68.55 | 68.56 | 51 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 68.67 | 68.68 | 44 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 69.08 | 69.11 | 124 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 69.24 | 69.25 | 48 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 69.33 | 69.45 | 445 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 69.54 | 69.63 | 388 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 70.58 | 70.59 | 47 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 70.60 | 70.63 | 96 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 71.09 | 71.27 | 616 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 71.78 | 71.80 | 78 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 71.85 | 71.88 | 144 |

Appendix C.3-2

**Potential Areas of Side Slopes Crossed by the Southgate Project H-650**

| Route | Side Slope Group | Milepost Begin | Milepost End | Length of Slope Crossed (feet) |
|---|---|---|---|---|
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 72.16 | 72.21 | 180 |
| Southgate Mainline (H-650 Pipeline) | 18 to 25 | 72.73 | 72.76 | 160 |
| Southgate Mainline (H-650 Pipeline) | 14 to 18 | 72.85 | 72.88 | 147 |

Methodology

1. Side Slope percentages are grouped as follows:
   14-18%
   18-25%
   25%+
2. Only crossings that are longer than 40 feet are considered. Some locations may seem smaller but they are still considered if they are a continuation of another slope group.
3. For crossings that have multiple variations of slope group within small lengths, an average slope group is assigned.
4. The length of slope crossed might be slightly shorter than actual mile post lengths because of small stretches of data that are not in slope groups.

Notes: Results based on desktop analysis. Data to be verified in field. This table is consistent with the table included in Resource Report 6 of the November 2018 filing to include a 30% slope minimum.

# APPENDIX C.4

# Areas of Landslide Concern

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Appendix C.4

**Areas of Landslide Concern along the Southgate Project**

| Line Name | MP | Downslope Resource | Distance from Downslope Resource | Percent Slope a/ | Assigned Mitigation/Stabilization Control Measures |
|---|---|---|---|---|---|
| H-650 | 5.1 | Stream | 87.00 | 32 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 7.9 | Stream | 9.00 | 49 | Trench Breaker Daylight Drain |
| H-650 | 8.6 | Wetland | 0.00 | 47 | Trench Breaker Daylight Drain |
| H-650 | 9.97 | Wetland | 10.00 | 58 | Trench Breaker Daylight Drain |
| H-650 | 10.09 | Wetland | 10.00 | 36 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 12.79 | Stream | 57.00 | 32 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 13.48 | Wetland | 0.00 | 49 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 17.3 | Stream | 0.00 | N/A | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 18.03 | Wetland | 27.00 | 36 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 22.7 | Stream | 1500.00 | 17.6 - Side Slope | Transverse Trench Drain, Cutoff Drain |
| H-650 | 22.85 | Stream | 792.00 | 32 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 23.27 | Stream | 160.00 | 34 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 28.8 | Stream | 29.00 | N/A | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 29.4 | Stream | 334.00 | 32 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 31.08 | Stream | 0.00 | N/A | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 31.1 | Stream | 5.00 | 38 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 31.1 | Stream | 14.50 | 38 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |

Appendix C.4

**Areas of Landslide Concern along the Southgate Project**

| Line Name | MP | Downslope Resource | Distance from Downslope Resource | Percent Slope a/ | Assigned Mitigation/Stabilization Control Measures |
|---|---|---|---|---|---|
| H-650 | 31.3 | Stream | 5.00 | N/A | Trench Breaker Daylight Drain |
| H-650 | 31.3 | Stream | 20.00 | 42 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 31.7 | Stream | 175.00 | 17.6 – Side Slope | Tranverse Trench Drain, Cutoff Drain |
| H-650 | 32.5 | Stream | 68.20 | 34 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 32.6 | Wetland | 39.00 | 36 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 32.8 | Stream | 290.60 | 19.4 – Side Slope | Tranverse Trench Drain, Cutoff Drain |
| H-650 | 33.15 | Wetland | 18.50 | N/A | Steep Slope Revetment, Trench Breaker Daylight Drain |
| H-650 | 33.35 | Stream | 50.00 | N/A | Steep Slope Revetment, Trench Breaker Daylight Drain |
| H-650 | 33.35 | Wetland | 234.00 | 21 – Side Slope | Tranverse Trench Drain, Cutoff Drain |
| H-650 | 33.68 | Wetland | 212.00 | 19.4 Side Slope | Tranverse Trench Drain, Cutoff Drain |
| H-650 | 33.69 | Wetland | 0.00 | 32 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 33.7 | Wetland | 5.00 | 42 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 33.75 | Stream | 16.70 | 47 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 33.82 | Stream | 600.00 | 32 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 33.9 | Stream | 291.00 | 21 – Side Slope | Tranverse Trench Drain, Cutoff Drain |
| H-650 | 34.2 | Stream | 16.00 | 32 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 34.5 | Stream | 83.00 | 32 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |

Appendix C.4

**Areas of Landslide Concern along the Southgate Project**

| Line Name | MP | Downslope Resource | Distance from Downslope Resource | Percent Slope a/ | Assigned Mitigation/Stabilization Control Measures |
|---|---|---|---|---|---|
| H-650 | 34.5 | Stream | 45.00 | 32 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 35.05 | Stream | 122.00 | 17.6 – Side Slope | Tranverse Trench Drain, Cutoff Drain |
| H-650 | 36 | Stream | 0.00 | N/A | Trench Breaker Daylight Drain |
| H-650 | 38.55 | Wetland | 10.00 | N/A | Steep Slope Revetment, Trench Breaker Daylight Drain |
| H-650 | 38.8 | Wetland | 16.00 | 42 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 39.08 | Stream | 56.00 | 23-Side Slope | Tranverse Trench Drain, Cutoff Drain |
| H-650 | 40.58 | Stream | 0.00 | 32 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 40.58 | Stream | 0.00 | 34 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 40.75 | Stream | 34.00 | 40 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 41.1 | Wetland | 0.00 | 38 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 41.69 | Stream | 45.00 | 32 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 42.25 | Stream | 16.00 | 34 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 42.37 | Home | 150.00 | 17.6 – Side Slope | Transverse Trench Drain, Cutoff Drain |
| H-650 | 44.1 | Stream | 148.00 | 21 – Side Slope | Transverse Trench Drain, Cutoff Drain |
| H-650 | 44.15 | Stream | 81.00 | 32 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 45.7 | Stream | 72.80 | 32 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 45.89 | Stream | 89.00 | 51 | Transverse Trench Drain, Cutoff Drain |

Appendix C.4

**Areas of Landslide Concern along the Southgate Project**

| Line Name | MP | Downslope Resource | Distance from Downslope Resource | Percent Slope a/ | Assigned Mitigation/Stabilization Control Measures |
|---|---|---|---|---|---|
| H-650 | 47.03 | Wetland | 0.00 | N/A | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 47.4 | Stream | 45.00 | 32 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 47.45 | Stream | 183.00 | 21 – Side Slope | Transverse Trench Drain, Cutoff Drain |
| H-650 | 47.6 | Stream | 10.00 | 38 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 49.7 | Home | 411.00 | 21-Side Slope | Transverse Trench Drain, Cutoff Drain |
| H-650 | 64.05 | Stream | 12.90 | 34 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 69.4 | Stream | 87.90 | 23 – Side Slope | Transverse Trench Drain, Cutoff Drain |
| H-650 | 70.6 | Stream | 360.00 | 19.4 – Side Slope | Transverse Trench Drain, Cutoff Drain |
| H-650 | 70.75 | Stream | 122.00 | 49 | Trench Breaker Daylight Drain |
| H-650 | 71.2 | River | 186.00 | 27-Side Slope | Transverse Trench Drain, Cutoff Drain |
| H-650 | 71.8 | Stream | 20.00 | 36 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 71.9 | River | 326.00 | 38 | Trench Breaker Daylight Drain, Trench Breaker Pass-through Drain |
| H-650 | 72.7 | River | 52.4 | 47 | Trench Breaker Daylight Drain |

Source:

a/ Design slope is based on desktop and field review, or range from map analysis of alignment.

b/ Based on historical imagery.

c/ Based on available landslide mapping.

# APPENDIX C.5

## Areas of Shallow Bedrock That May Require Blasting Along the Southgate Project

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Appendix C.5

**Areas of Shallow Bedrock That May Require Blasting Along the Southgate Project Pipeline**

| Pipeline | Start MP | End MP | Approximate Bedrock Depth (inches) | Formation Age | Primary Bedrock Rock Type | Crossing Length (miles) |
|---|---|---|---|---|---|---|
| H-650 | 21.6 | 21.8 | 18.1 | Proterozoic - Paleozoic | mylonite | 0.20 |
| H-650 | 22.2 | 22.3 | 18.1 | Proterozoic - Paleozoic | mylonite | 0.05 |
| H-650 | 22.5 | 22.9 | 18.1 | Upper Triassic | sandstone | 0.37 |
| H-650 | 23 | 23.1 | 29.1 | Upper Triassic | sandstone | 0.14 |
| H-650 | 24.3 | 24.4 | 18.1 | Upper Triassic | sandstone | 0.09 |
| H-650 | 24.6 | 24.8 | 29.1 | Triassic | sandstone | 0.23 |
| H-650 | 24.9 | 25 | 18.1 | Triassic | sandstone | 0.06 |
| H-650 | 25.5 | 25.7 | 18.1 | Triassic | sandstone | 0.22 |
| H-650 | 32.5 | 32.6 | 15 | Cambrian/Late Proterozoic | biotite gneiss | 0.14 |
| H-650 | 33.7 | 33.8 | 25.2 | Cambrian/Late Proterozoic | biotite gneiss | 0.05 |
| H-650 | 33.8 | 33.9 | 25.2 | Cambrian/Late Proterozoic | biotite gneiss | 0.06 |
| H-650 | 34.5 | 34.5 | 15 | Cambrian/Late Proterozoic | felsic gneiss | 0.07 |
| H-650 | 38.8 | 39.1 | 15 | Cambrian/Late Proterozoic | biotite gneiss | 0.22 |
| H-650 | 39.2 | 39.3 | 15 | Cambrian/Late Proterozoic | biotite gneiss | 0.08 |
| H-650 | 39.3 | 39.3 | 25.2 | Cambrian/Late Proterozoic | biotite gneiss | 0.06 |
| H-650 | 39.3 | 39.4 | 25.2 | Cambrian/Late Proterozoic | felsic gneiss | 0.05 |
| H-650 | 40.3 | 40.5 | 15 | Cambrian/Late Proterozoic | felsic gneiss | 0.19 |
| H-650 | 40.5 | 40.7 | 15 | Cambrian/Late Proterozoic | felsic gneiss | 0.19 |
| H-650 | 40.7 | 40.8 | 15 | Cambrian/Late Proterozoic | felsic gneiss | 0.12 |
| H-650 | 41.2 | 41.3 | 15 | Cambrian/Late Proterozoic | felsic gneiss | 0.1 |
| H-650 | 41.3 | 41.3 | 15 | Cambrian/Late Proterozoic | biotite gneiss | 0.04 |
| H-650 | 42.5 | 42.6 | 15 | Cambrian/Late Proterozoic | biotite gneiss | 0.14 |
| H-650 | 42.9 | 42.9 | 15 | Cambrian/Late Proterozoic | biotite gneiss | 0.05 |
| H-650 | 43.8 | 44.2 | 15 | Cambrian/Late Proterozoic | biotite gneiss | 0.46 |
| H-650 | 45.6 | 46 | 15 | Cambrian/Late Proterozoic | biotite gneiss | 0.39 |
| H-650 | 46.2 | 46.5 | 15 | Permian/Pennsylvanian | granite | 0.28 |
| H-650 | 47 | 47.6 | 15 | Permian/Pennsylvanian | granite | 0.55 |
| H-650 | 47.6 | 47.7 | 15 | Cambrian/Late Proterozoic | biotite gneiss | 0.17 |
| H-650 | 53.7 | 53.8 | 29.9 | Cambrian/Late Proterozoic | mafic metavolcanic rock | 0.02 |
| H-650 | 67.6 | 67.7 | 29.9 | Cambrian/Late Proterozoic | metamorphic rock | 0.07 |
| H-650 | 67.9 | 68 | 29.9 | Cambrian/Late Proterozoic | metamorphic rock | 0.04 |
| H-650 | 68.1 | 68.1 | 29.9 | Cambrian/Late Proterozoic | metamorphic rock | 0.06 |
| H-650 | 68.9 | 68.9 | 29.9 | Cambrian/Late Proterozoic | metamorphic rock | 0.04 |
| H-650 | 69.9 | 69.9 | 29.9 | Cambrian/Late Proterozoic | mafic metavolcanic rock | 0.02 |

Appendix C.5

**Areas of Shallow Bedrock That May Require Blasting Along the Southgate Project Pipeline**

| Pipeline | Start MP | End MP | Approximate Bedrock Depth (inches) | Formation Age | Primary Bedrock Rock Type | Crossing Length (miles) |
|---|---|---|---|---|---|---|
| H-650 | 71 | 71 | 29.9 | Cambrian/Late Proterozoic | mafic metavolcanic rock | 0.06 |
| H-650 | 72.6 | 72.6 | 29.9 | Cambrian/Late Proterozoic | mafic metavolcanic rock | 0.04 |
| H-650 | 72.7 | 72.7 | 29.9 | Cambrian/Late Proterozoic | mafic metavolcanic rock | 0 |
| H-650 | 72.7 | 72.8 | 29.9 | Cambrian/Late Proterozoic | mafic metavolcanic rock | 0.14 |
| | | | | | **Total** | **5.26** |

Notes:
Sums may not equal addends due to rounding. Addends consist of three decimal digits.

# APPENDIX D

## Soil Types Crossed by the Southgate Project

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Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **H-605 Pipeline** | | | | | | | | | | | | | |
| **Pittsylvania County, Virginia** | | | | | | | | | | | | | |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 0 | 0.08 | 422 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 9B | Creedmoor fine sandy loam, 2 to 7 percent slopes | 0.08 | 0.1 | 53 | Yes | 3 | 0.2 | Predominantly Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 0.1 | 0.17 | 370 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 0.17 | 0.47 | 1,584 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| **H-650 Pipeline i/** | | | | | | | | | | | | | |
| **Pittsylvania County, Virginia** | | | | | | | | | | | | | |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 0.0 RR | 0.13 | 792 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 0.13 | 0.3 | 950 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 8A | Chenneby-Toccoa complex, 0 to 2 percent slopes, frequently flooded | 0.3 | 0.4 | 475 | No | 5 | 0.38 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| 9C | Creedmoor fine sandy loam, 7 to 15 percent slopes | 0.4 | 0.45 | 264 | Yes | 3 | 0.2 | Predominantly Non-Hydric | Low | >60 | No | No | Moderately well drained |
| 22B | Mattaponi sandy loam, 2 to 7 percent slopes | 0.45 | 0.53 | 422 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| 9C | Creedmoor fine sandy loam, 7 to 15 percent slopes | 0.53 | 0.61 | 422 | Yes | 3 | 0.2 | Predominantly Non-Hydric | Low | >60 | No | No | Moderately well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 0.61 | 0.63 | 106 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 0.63 | 0.77 | 739 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 9B | Creedmoor fine sandy loam, 2 to 7 percent slopes | 0.77 | 0.89 | 634 | Yes | 3 | 0.2 | Predominantly Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 0.89 | 0.93 | 211 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 9B | Creedmoor fine sandy loam, 2 to 7 percent slopes | 0.93 | 1.06 | 686 | Yes | 3 | 0.2 | Predominantly Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| 9C | Creedmoor fine sandy loam, 7 to 15 percent slopes | 1.06 | 1.15 | 475 | Yes | 3 | 0.2 | Predominantly Non-Hydric | Low | >60 | No | No | Moderately well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 1.15 | 1.25 RR | 634 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 1.25 RR | 1.35 RR | 317 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 7A | Chenneby loam, 0 to 2 percent slopes, occasionally flooded | 1.35 RR | 1.86 | 2,798 | Yes | 5 | 0.44 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| 41A | Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded | 1.86 | 2.16 | 1,584 | No | 6 | 0.41 | Predominantly Hydric | High | >60 | No | Yes | Poorly drained |
| 7A | Chenneby loam, 0 to 2 percent slopes, occasionally flooded | 2.16 | 2.19 | 158 | Yes | 5 | 0.44 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 2.19 | 2.28 | 475 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 2.28 | 2.95 | 3,538 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 2.95 | 3.16 | 1,056 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4B | Clifford sandy loam, 2 to 7 percent slopes | 3.16 | 3.18 | 106 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 3.18 | 3.29 | 581 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 3.29 | 3.41 | 634 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 3.41 | 3.64 | 1,162 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 3.64 | 3.89 RR | 1,320 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 3.89 RR | 4.15 | 1,426 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 4.15 | 4.31 | 845 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 4.31 | 4.44 | 686 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 4.44 | 4.81 | 1,954 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 4.81 | 4.83 | 53 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 8A | Chenneby-Toccoa complex, 0 to 2 percent slopes, frequently flooded | 4.83 | 5.22 | 2,059 | No | 5 | 0.38 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| 1C | Appling sandy loam, 7 to 15 percent slopes | 5.22 | 5.47 | 1,320 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 1B | Appling sandy loam, 2 to 7 percent slopes | 5.47 | 5.64 | 898 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 1C | Appling sandy loam, 7 to 15 percent slopes | 5.64 | 5.7 | 317 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4B | Clifford sandy loam, 2 to 7 percent slopes | 5.7 | 6.03 | 1,742 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 6.03 | 6.08 | 264 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 1B | Appling sandy loam, 2 to 7 percent slopes | 6.08 | 6.13 | 264 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 6.13 | 6.25 | 581 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 39 | Udorthents, loamy | 6.25 | 6.32 | 370 | No | Unknown | Unknown | Non-Hydric | High | >60 | Unknown | Unknown | Unknown |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 6.32 | 6.57 | 1,373 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 6.57 | 6.59 | 106 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 6.59 | 6.74 | 792 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4B | Clifford sandy loam, 2 to 7 percent slopes | 6.74 | 6.86 | 634 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 6.86 | 6.95 | 475 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 6.95 | 6.99 | 211 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 6.99 | 7.09 | 528 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4B | Clifford sandy loam, 2 to 7 percent slopes | 7.09 | 7.25 | 845 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 7.25 | 7.29 | 158 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 7.29 | 7.33 | 211 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 7.33 | 7.38 | 264 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 7.38 | 7.5 | 634 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 7.5 | 7.55 | 317 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21E | Madison fine sandy loam, 25 to 45 percent slopes | 7.55 | 7.61 | 264 | No | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 7.61 | 7.71 | 581 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 7.71 | 7.78 | 370 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 7.78 | 7.84 | 317 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 7.84 | 7.97 | 634 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 7.97 | 8.02 | 264 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 8.02 | 8.12 | 528 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 8.12 | 8.2 | 475 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 8.2 | 8.33 | 634 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 8.33 | 8.46 | 739 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 8.46 | 8.5 | 211 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 8.5 | 8.53 | 158 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 8A | Chenneby-Toccoa complex, 0 to 2 percent slopes, frequently flooded | 8.53 | 8.58 | 317 | No | 5 | 0.38 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| 21E | Madison fine sandy loam, 25 to 45 percent slopes | 8.58 | 8.65 | 370 | No | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 8.65 | 8.76 | 581 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 8.76 | 8.84 | 422 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 8.84 | 8.87 | 158 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 8.87 | 8.92 | 264 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4C | Cecil sandy loam, 7 to 15 percent slopes | 8.92 | 9.04 | 634 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 9.04 | 9.08 | 211 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 9.08 | 9.12 | 158 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 9.12 | 9.31 | 1,003 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4B | Clifford sandy loam, 2 to 7 percent slopes | 9.31 | 9.37 | 317 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 9.37 | 9.41 | 211 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 9.41 | 9.47 | 264 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 9.47 | 9.52 | 317 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 9.52 | 9.61 | 422 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 9.61 | 9.76 | 792 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 11B3 | Cullen clay loam, 2 to 7 percent slopes, severely eroded | 9.76 | 9.83 | 370 | No | 6 | 0.27 | Non-Hydric | High | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 9.83 | 9.89 | 317 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 11C3 | Cullen clay loam, 7 to 15 percent slopes, severely eroded | 9.89 | 9.91 | 106 | No | 6 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 9.91 | 10.02 | 581 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4C | Cecil sandy loam, 7 to 15 percent slopes | 10.02 | 10.05 | 158 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 10.05 | 10.12 | 370 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4B | Clifford sandy loam, 2 to 7 percent slopes | 10.12 | 10.27 | 739 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 10.27 | 10.32 | 264 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4B | Clifford sandy loam, 2 to 7 percent slopes | 10.32 | 10.72 | 2,112 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 10.72 | 10.93 | 1,109 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 10.93 | 11.26 | 1,690 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 11.26 | 11.43 | 950 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4B | Clifford sandy loam, 2 to 7 percent slopes | 11.43 | 11.54 | 581 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 11.54 | 11.66 | 581 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 11.66 | 11.8 | 739 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 11.8 | 11.86 | 370 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 11.86 | 11.96 | 528 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 11.96 | 12.03 | 370 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 12.03 | 12.12 | 475 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 12.12 | 12.34 | 1,162 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 12.34 | 12.37 | 158 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 12.37 | 12.49 | 634 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 12.49 | 12.75 | 1,373 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 8A | Chenneby-Toccoa complex, 0 to 2 percent slopes, frequently flooded | 12.75 | 12.8 | 264 | No | 5 | 0.38 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 12.8 | 12.86 | 264 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 12.86 | 13.05 | 1,056 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 17B | Hiwassee loam, 2 to 7 percent slopes | 13.05 | 13.21 | 792 | Yes | 6 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| 18C3 | Hiwassee clay loam, 7 to 15 percent slopes, severely eroded | 13.21 | 13.42 RR | 1,109 | No | 6 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 8A | Chenneby-Toccoa complex, 0 to 2 percent slopes, frequently flooded | 13.42 RR | 13.47 RR | 264 | No | 5 | 0.38 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 13.47 RR | 13.5 | 211 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 13.5 | 13.61 | 581 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 13.61 | 13.67 | 317 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 13.67 | 13.8 | 686 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 13.8 | 13.91 | 634 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 13.91 | 13.93 | 106 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 13.93 | 14.05 | 634 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 14.05 | 14.15 | 528 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 14.15 | 14.28 | 686 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 14.28 | 14.32 | 211 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4B | Clifford sandy loam, 2 to 7 percent slopes | 14.32 | 14.35 | 158 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| 11C3 | Cullen clay loam, 7 to 15 percent slopes, severely eroded | 14.35 | 14.44 | 475 | No | 6 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 14.44 | 14.57 | 634 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 14.57 | 14.62 | 264 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 11B3 | Cullen clay loam, 2 to 7 percent slopes, severely eroded | 14.62 | 14.66 | 211 | No | 6 | 0.27 | Non-Hydric | High | >60 | No | No | Well drained |
| 4C | Cecil sandy loam, 7 to 15 percent slopes | 14.66 | 14.69 | 158 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 14.69 | 14.72 | 158 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 9C | Creedmoor fine sandy loam, 7 to 15 percent slopes | 14.72 | 14.78 | 317 | Yes | 3 | 0.2 | Predominantly Non-Hydric | Low | >60 | No | No | Moderately well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 14.78 | 14.94 | 845 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 14.94 | 15.45 | 2,693 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 15.45 | 15.48 | 158 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 15.48 | 15.87 | 2,059 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 15.87 | 15.95 | 370 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 15.95 | 16.02 | 370 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 16.02 | 16.06 | 211 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 16.06 | 16.22 | 845 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 16.22 | 16.48 | 1,373 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 16.48 | 16.97 | 2,587 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 16.97 | 17.24 | 1,426 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23D | Mayodan fine sandy loam, 15 to 25 percent slopes | 17.24 | 17.32 | 370 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 17.32 | 17.39 | 422 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23D | Mayodan fine sandy loam, 15 to 25 percent slopes | 17.39 | 17.64 RR | 1,690 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| W | Water | 17.64 RR | 17.67 RR | 106 | No | Unknown | Unknown | Non-Hydric | Unknown | >60 | Unknown | Unknown | Unknown |
| 23D | Mayodan fine sandy loam, 15 to 25 percent slopes | 17.67 RR | 17.81 RR | 211 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 17.81 RR | 17.85 RR | 422 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23D | Mayodan fine sandy loam, 15 to 25 percent slopes | 17.85 RR | 17.89 RR | 1,690 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 17.89 RR | 17.94 RR | 2,112 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 17.94 RR | 18.01 | 845 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 18.01 | 18.4 | 2,112 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 18.4 | 18.45 | 211 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 18.45 | 18.82 | 2,006 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 18.82 | 18.88 | 317 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 18.88 | 18.99 | 581 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 18.99 | 19.05 | 317 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 19.05 | 19.12 | 317 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 19.12 | 19.22 | 528 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 19.22 | 19.3 | 422 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4B | Clifford sandy loam, 2 to 7 percent slopes | 19.3 | 19.35 | 264 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 19.35 | 19.59 | 1,267 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 19.59 | 19.64 | 317 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4C | Cecil sandy loam, 7 to 15 percent slopes | 19.64 | 19.68 | 158 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 19.68 | 19.77 | 475 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4C | Cecil sandy loam, 7 to 15 percent slopes | 19.77 | 19.89 | 634 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 19.89 | 19.99 | 475 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 19.99 | 20.01 | 158 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 20.01 | 20.04 | 158 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 20.04 | 20.09 | 264 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4B | Clifford sandy loam, 2 to 7 percent slopes | 20.09 | 20.18 | 528 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 20.18 | 20.32 | 739 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 20.32 | 20.41 | 422 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 20.41 | 20.46 | 264 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 20.46 | 20.52 | 317 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 20.52 | 20.57 | 317 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 20.57 | 20.66 | 422 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 20.66 | 20.71 | 317 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | 20.71 | 20.75 | 211 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | 20.75 | 21 | 1,320 | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 21 | 21.05 | 264 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 21.05 | 21.15 | 528 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 21.15 | 21.28 | 686 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 21.28 | 21.34 | 317 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 21.34 | 21.48 | 739 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23D | Mayodan fine sandy loam, 15 to 25 percent slopes | 21.48 | 21.56 | 422 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 29C | Pinkston-Mayodan complex, 7 to 15 percent slopes, very stony | 21.56 | 21.72 | 845 | No | 5 | 0.27 | Non-Hydric | Low | 18.1 | Yes | No | Excessively drained |
| 29D | Pinkston-Mayodan complex, 15 to 35 percent slopes, very stony | 21.72 | 21.76 | 211 | No | 5 | 0.28 | Non-Hydric | Low | 18.1 | Yes | No | Excessively drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 21.76 | 22.02 | 1,373 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 22.02 | 22.07 | 264 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 22.07 | 22.15 | 422 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 22.15 | 22.2 | 264 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 28C | Pinkston cobbly sandy loam, 7 to 15 percent slopes | 22.2 | 22.25 | 264 | No | 5 | 0.3 | Non-Hydric | Low | 18.1 | Yes | No | Excessively drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 22.25 | 22.28 | 158 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | 22.28 | 22.32 | 158 | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 22.32 | 22.33 | 106 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 22.33 | 22.46 | 634 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23D | Mayodan fine sandy loam, 15 to 25 percent slopes | 22.46 | 22.53 | 370 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 29C | Pinkston-Mayodan complex, 7 to 15 percent slopes, very stony | 22.53 | 22.65 | 634 | No | 5 | 0.27 | Non-Hydric | Low | 18.1 | Yes | No | Excessively drained |
| 29D | Pinkston-Mayodan complex, 15 to 35 percent slopes, very stony | 22.65 | 22.71 | 317 | No | 5 | 0.28 | Non-Hydric | Low | 18.1 | Yes | No | Excessively drained |
| 29C | Pinkston-Mayodan complex, 7 to 15 percent slopes, very stony | 22.71 | 22.77 | 317 | No | 5 | 0.27 | Non-Hydric | Low | 18.1 | Yes | No | Excessively drained |
| 29E | Pinkston-Mayodan complex, 35 to 50 percent slopes, very stony | 22.77 | 22.9 | 686 | No | 5 | 0.28 | Non-Hydric | Low | 18.1 | Yes | No | Excessively drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 22.9 | 22.96 | 317 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 34B | Sheva fine sandy loam, 2 to 7 percent slopes | 22.96 | 23.1 | 739 | No | 3 | 0.35 | Non-Hydric | Moderate | 29.1 | Yes | No | Moderately well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 23.1 | 23.18 | 422 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23D | Mayodan fine sandy loam, 15 to 25 percent slopes | 23.18 | 23.26 | 475 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 23.26 | 23.31 | 264 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 23.31 | 23.64 | 1,742 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 23.64 | 23.74 | 581 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 23.74 | 23.83 | 475 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 23.83 | 23.89 | 317 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 23.89 | 24.01 | 634 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 24.01 | 24.3 | 1,584 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 29C | Pinkston-Mayodan complex, 7 to 15 percent slopes, very stony | 24.3 | 24.39 | 475 | No | 5 | 0.27 | Non-Hydric | Low | 18.1 | Yes | No | Excessively drained |
| 17B | Hiwassee loam, 2 to 7 percent slopes | 24.39 | 24.59 | 1,003 | Yes | 6 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| 34B | Sheva fine sandy loam, 2 to 7 percent slopes | 24.59 | 24.82 | 1,214 | No | 3 | 0.35 | Non-Hydric | Moderate | 29.1 | Yes | No | Moderately well drained |
| 18C3 | Hiwassee clay loam, 7 to 15 percent slopes, severely eroded | 24.82 | 24.83 | 53 | No | 6 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 17B | Hiwassee loam, 2 to 7 percent slopes | 24.83 | 24.91 | 475 | Yes | 6 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| 18C3 | Hiwassee clay loam, 7 to 15 percent slopes, severely eroded | 24.91 | 24.94 | 158 | No | 6 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 28C | Pinkston cobbly sandy loam, 7 to 15 percent slopes | 24.94 | 25 | 317 | No | 5 | 0.3 | Non-Hydric | Low | 18.1 | Yes | No | Excessively drained |
| 17B | Hiwassee loam, 2 to 7 percent slopes | 25 | 25.08 | 370 | Yes | 6 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 25.08 | 25.26 | 950 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 17B | Hiwassee loam, 2 to 7 percent slopes | 25.26 | 25.46 | 1,056 | Yes | 6 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| 28C | Pinkston cobbly sandy loam, 7 to 15 percent slopes | 25.46 | 25.68 | 1,162 | No | 5 | 0.3 | Non-Hydric | Low | 18.1 | Yes | No | Excessively drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 25.68 | 25.77 | 475 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 25.77 | 25.82 | 317 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | 25.82 | 26.04 | 1,162 | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | 26.04 | 26.08 | 211 | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| **Rockingham County, North Carolina** | | | | | | | | | | | | | |
| CmB | Clover sandy loam, 2 to 8 percent slopes | 26.08 | 26.43 | 1,848 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CmD | Clover sandy loam, 8 to 15 percent slopes | 26.43 | 26.61 RR | 950 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CmB | Clover sandy loam, 2 to 8 percent slopes | 26.61 RR | 26.66 RR | 211 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CmD | Clover sandy loam, 8 to 15 percent slopes | 26.66 RR | 26.76 RR | 528 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnB2 | Clover sandy clay loam, 2 to 8 percent slopes, moderately eroded | 26.76 RR | 26.84 | 422 | Yes | 5 | 0.3 | Non-Hydric | High | >60 | No | No | Well drained |
| CnE2 | Clover sandy clay loam, 15 to 25 percent slopes, moderately eroded | 26.84 | 26.97 RR | 634 | No | 5 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| BaB | Banister loam, 0 to 4 percent slopes, rarely flooded | 26.97 RR | 27.3 | 1,742 | Yes | 5 | 0.26 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| DaA | Dan River loam, 0 to 2 percent slopes, frequently flooded | 27.3 | 27.66 | 1,901 | No | 5 | 0.31 | Predominantly Non-Hydric | High | >60 | No | No | Well drained |
| WhB | Wickham sandy loam, mesic, 1 to 4 percent slopes, rarely flooded | 27.66 | 27.92 RR | 1,373 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| BaB | Banister loam, 0 to 4 percent slopes, rarely flooded | 27.92 RR | 28.14 RR | 1,214 | Yes | 5 | 0.26 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CmB | Clover sandy loam, 2 to 8 percent slopes | 28.14 RR | 28.37 RR | 1,162 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| BaB | Banister loam, 0 to 4 percent slopes, rarely flooded | 28.37 RR | 28.43 RR | 317 | Yes | 5 | 0.26 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CmB | Clover sandy loam, 2 to 8 percent slopes | 28.43 RR | 28.55 RR | 581 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CmD | Clover sandy loam, 8 to 15 percent slopes | 28.55 RR | 28.77 | 1,214 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CmE | Clover sandy loam, 15 to 25 percent slopes | 28.77 | 28.87 | 475 | No | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CmD | Clover sandy loam, 8 to 15 percent slopes | 28.87 | 28.96 | 475 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CmE | Clover sandy loam, 15 to 25 percent slopes | 28.96 | 29.02 | 317 | No | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CmD | Clover sandy loam, 8 to 15 percent slopes | 29.02 | 29.08 | 317 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CmE | Clover sandy loam, 15 to 25 percent slopes | 29.08 | 29.18 | 528 | No | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CmD | Clover sandy loam, 8 to 15 percent slopes | 29.18 | 29.25 | 317 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnE2 | Clover sandy clay loam, 15 to 25 percent slopes, moderately eroded | 29.25 | 29.51 | 1,531 | No | 5 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | 29.51 | 29.84 | 1,742 | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| DaA | Dan River loam, 0 to 2 percent slopes, frequently flooded | 29.84 | 30.05 | 1,109 | No | 5 | 0.31 | Predominantly Non-Hydric | High | >60 | No | No | Well drained |
| W | Water | 30.05 | 30.1 | 211 | No | Unknown | Unknown | Non-Hydric | Unknown | >60 | Unknown | Unknown | Unknown |
| DaA | Dan River loam, 0 to 2 percent slopes, frequently flooded | 30.1 | 30.21 | 581 | No | 5 | 0.31 | Predominantly Non-Hydric | High | >60 | No | No | Well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | 30.21 | 30.33 | 634 | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| BaB | Banister loam, 0 to 4 percent slopes, rarely flooded | 30.33 | 30.61 | 1,478 | Yes | 5 | 0.26 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CmD | Clover sandy loam, 8 to 15 percent slopes | 30.61 | 30.68 | 370 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| BaB | Banister loam, 0 to 4 percent slopes, rarely flooded | 30.68 | 30.81 | 686 | Yes | 5 | 0.26 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | 30.81 | 30.86 | 264 | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| CmD | Clover sandy loam, 8 to 15 percent slopes | 30.86 | 30.89 | 106 | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FpE | Fairview-Poplar Forest complex, 15 to 25 percent slopes | 30.89 | 30.97 | 422 | No | 3 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 30.97 | 31.03 | 317 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FpE | Fairview-Poplar Forest complex, 15 to 25 percent slopes | 31.03 | 31.11 | 422 | No | 3 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 31.11 | 31.14 | 158 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FpE | Fairview-Poplar Forest complex, 15 to 25 percent slopes | 31.14 | 31.18 | 158 | No | 3 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 31.18 | 31.23 | 264 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FpE | Fairview-Poplar Forest complex, 15 to 25 percent slopes | 31.23 | 31.33 | 528 | No | 3 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 31.33 | 31.53 | 1,056 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 31.53 | 31.58 | 264 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 31.58 | 31.61 | 158 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 31.61 | 31.65 | 211 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 31.65 | 31.66 | 106 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FpE | Fairview-Poplar Forest complex, 15 to 25 percent slopes | 31.66 | 31.72 | 317 | No | 3 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 31.72 | 31.81 | 422 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FpE | Fairview-Poplar Forest complex, 15 to 25 percent slopes | 31.81 | 32.14 | 1,742 | No | 3 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | 32.14 | 32.23 | 475 | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| FrE2 | Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded | 32.23 | 32.3 | 370 | No | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 32.3 | 32.33 | 158 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 32.33 | 32.44 | 581 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrE2 | Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded | 32.44 | 32.48 | 158 | No | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 32.48 | 32.5 | 106 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 32.5 | 32.56 | 317 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 32.56 | 32.61 | 264 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| DaA | Dan River loam, 0 to 2 percent slopes, frequently flooded | 32.61 | 32.72 | 528 | No | 5 | 0.31 | Predominantly Non-Hydric | High | >60 | No | No | Well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | 32.72 | 32.75 | 158 | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| FrE2 | Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded | 32.75 | 32.83 | 422 | No | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 32.83 | 32.92 | 475 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrE2 | Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded | 32.92 | 32.98 | 370 | No | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| HbA | Hatboro silt loam, 0 to 2 percent slopes, frequently flooded, long duration | 32.98 | 33.01 | 106 | No | 5 | 0.21 | Predominantly Hydric | High | >60 | No | No | Poorly drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | 33.01 | 33.08 | 370 | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HbA | Hatboro silt loam, 0 to 2 percent slopes, frequently flooded, long duration | 33.08 | 33.11 | 158 | No | 5 | 0.21 | Predominantly Hydric | High | >60 | No | No | Poorly drained |
| FrE2 | Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded | 33.11 | 33.14 | 158 | No | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 33.14 | 33.32 | 950 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 33.32 | 33.54 | 1,162 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| JkB | Jackland fine sandy loam, 2 to 8 percent slopes | 33.54 | 33.59 | 264 | Yes | 3 | 0.3 | Non-Hydric | High | >60 | No | Yes | Somewhat poorly drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 33.59 | 33.74 | 792 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| DeD | Devotion fine sandy loam, 6 to 15 percent slopes | 33.74 | 33.79 | 264 | No | 3 | 0.27 | Non-Hydric | Moderate | 25.2 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 33.79 | 33.83 | 211 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| DeD | Devotion fine sandy loam, 6 to 15 percent slopes | 33.83 | 33.89 | 317 | No | 3 | 0.27 | Non-Hydric | Moderate | 25.2 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 33.89 | 33.94 | 264 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnB | Rhodhiss sandy loam, 2 to 8 percent slopes | 33.94 | 33.96 | 158 | Yes | 3 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 33.96 | 33.99 | 158 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnB | Rhodhiss sandy loam, 2 to 8 percent slopes | 33.99 | 34.15 | 845 | Yes | 3 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 34.15 | 34.21 RR | 317 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnE | Rhodhiss sandy loam, 15 to 30 percent slopes | 34.21 RR | 34.32 | 686 | No | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 34.32 | 34.34 | 106 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnE | Rhodhiss sandy loam, 15 to 30 percent slopes | 34.34 | 34.45 | 581 | No | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 34.45 | 34.53 | 370 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| RnE | Rhodhiss sandy loam, 15 to 30 percent slopes | 34.53 | 34.77 | 1,267 | No | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | 34.77 | 34.84 | 370 | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 34.84 | 34.94 | 475 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | 34.94 | 35 | 317 | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| RnE | Rhodhiss sandy loam, 15 to 30 percent slopes | 35 | 35.03 | 158 | No | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnB | Rhodhiss sandy loam, 2 to 8 percent slopes | 35.03 | 35.1 | 422 | Yes | 3 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| RnE | Rhodhiss sandy loam, 15 to 30 percent slopes | 35.1 | 35.23 | 686 | No | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnB | Rhodhiss sandy loam, 2 to 8 percent slopes | 35.23 | 35.31 | 422 | Yes | 3 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| RnE | Rhodhiss sandy loam, 15 to 30 percent slopes | 35.31 | 35.38 | 370 | No | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnB | Rhodhiss sandy loam, 2 to 8 percent slopes | 35.38 | 35.46 | 422 | Yes | 3 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| RnE | Rhodhiss sandy loam, 15 to 30 percent slopes | 35.46 | 35.58 | 634 | No | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnB | Rhodhiss sandy loam, 2 to 8 percent slopes | 35.58 | 35.73 | 792 | Yes | 3 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 35.73 | 35.77 | 158 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnB | Rhodhiss sandy loam, 2 to 8 percent slopes | 35.77 | 35.8 | 158 | Yes | 3 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 35.8 | 35.91 | 634 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnE | Rhodhiss sandy loam, 15 to 30 percent slopes | 35.91 | 36.08 | 845 | No | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnB | Rhodhiss sandy loam, 2 to 8 percent slopes | 36.08 | 36.21 | 739 | Yes | 3 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| RnE | Rhodhiss sandy loam, 15 to 30 percent slopes | 36.21 | 36.25 | 158 | No | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnB | Rhodhiss sandy loam, 2 to 8 percent slopes | 36.25 | 36.68 | 2,323 | Yes | 3 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 36.68 | 36.79 | 581 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnB | Rhodhiss sandy loam, 2 to 8 percent slopes | 36.79 | 36.86 | 370 | Yes | 3 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 36.86 | 37.06 | 1,056 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnB | Rhodhiss sandy loam, 2 to 8 percent slopes | 37.06 | 37.11 | 264 | Yes | 3 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 37.11 | 37.19 | 422 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 37.19 | 37.21 | 106 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 37.21 | 37.32 | 581 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 37.32 | 37.34 | 106 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 37.34 | 37.39 | 264 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 37.39 | 37.55 | 845 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| PpE2 | Poplar Forest sandy clay loam, 15 to 25 percent slopes, moderately eroded | 37.55 | 37.6 | 264 | No | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| Ud | Udorthents, loamy | 37.6 | 37.67 | 422 | No | 5 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| PpE2 | Poplar Forest sandy clay loam, 15 to 25 percent slopes, moderately eroded | 37.67 | 37.72 | 264 | No | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | 37.72 | 37.77 | 264 | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 37.77 | 37.98 | 1,162 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CfB | Clifford sandy loam, 2 to 8 percent slopes | 37.98 | 38.03 | 211 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 38.03 | 38.14 | 634 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | 38.14 | 38.22 | 422 | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| PpE2 | Poplar Forest sandy clay loam, 15 to 25 percent slopes, moderately eroded | 38.22 | 38.37 | 792 | No | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | 38.37 | 38.5 | 634 | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| FpE | Fairview-Poplar Forest complex, 15 to 25 percent slopes | 38.5 | 38.55 | 264 | No | 3 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| PpB2 | Poplar Forest sandy clay loam, 2 to 8 percent slopes, moderately eroded | 38.55 | 38.57 | 106 | Yes | 5 | 0.3 | Non-Hydric | High | >60 | No | No | Well drained |
| FpE | Fairview-Poplar Forest complex, 15 to 25 percent slopes | 38.57 | 38.59 | 106 | No | 3 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | 38.59 | 38.78 | 1,003 | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 38.78 | 38.84 | 317 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 38.84 | 38.86 | 106 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 38.86 | 38.94 | 370 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 38.94 | 38.99 | 264 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 38.99 | 39.02 | 211 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 39.02 | 39.07 | 211 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| RnE | Rhodhiss sandy loam, 15 to 30 percent slopes | 39.07 | 39.14 | 370 | No | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 39.14 | 39.17 | 211 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 39.17 | 39.25 | 422 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| DeD | Devotion fine sandy loam, 6 to 15 percent slopes | 39.25 | 39.37 | 634 | No | 3 | 0.27 | Non-Hydric | Moderate | 25.2 | No | No | Well drained |
| RnE | Rhodhiss sandy loam, 15 to 30 percent slopes | 39.37 | 39.46 | 475 | No | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 39.46 | 39.65 | 1,056 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnB | Rhodhiss sandy loam, 2 to 8 percent slopes | 39.65 | 39.84 | 950 | Yes | 3 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| ChC | Clifford-Urban land complex, 2 to 10 percent slopes | 39.84 | 39.93 | 475 | No | 5 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| Ur | Urban land | 39.93 | 40.13 | 1,109 | No | Unknown | Unknown | Non-Hydric | High | >60 | Unknown | Unknown | Unknown |
| CaD | Casville sandy loam, 8 to 15 percent slopes | 40.13 | 40.13 | 1,003 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 40.13 | 40.27 RR | <1 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 40.27 RR | 40.49 RR | 528 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 40.49 RR | 40.51 RR | 158 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 40.51 RR | 40.51 | 370 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 40.51 | 40.52 | <1 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 40.52 | 40.54 | 106 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 40.54 | 40.62 | 475 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 40.62 | 40.71 | 475 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 40.71 | 40.72 | 53 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 40.72 | 40.83 | 634 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | 40.83 | 41.11 | 1,478 | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| HbA | Hatboro silt loam, 0 to 2 percent slopes, frequently flooded, long duration | 41.11 | 41.18 | 370 | No | 5 | 0.21 | Predominantly Hydric | High | >60 | No | No | Poorly drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 41.18 | 41.26 | 422 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 41.26 | 41.32 | 317 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 41.32 | 41.41 | 475 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FpE | Fairview-Poplar Forest complex, 15 to 25 percent slopes | 41.41 | 41.45 | 264 | No | 3 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 41.45 | 41.52 | 370 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FpE | Fairview-Poplar Forest complex, 15 to 25 percent slopes | 41.52 | 41.83 | 1,584 | No | 3 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 41.83 | 42.08 | 1,373 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 42.08 | 42.11 | 158 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 42.11 | 42.16 | 317 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 42.16 | 42.21 | 211 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrE2 | Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded | 42.21 | 42.31 | 528 | No | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 42.31 | 42.45 | 739 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 42.45 | 42.5 | 264 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 42.5 | 42.63 | 739 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| PpB2 | Poplar Forest sandy clay loam, 2 to 8 percent slopes, moderately eroded | 42.63 | 42.7 | 370 | Yes | 5 | 0.3 | Non-Hydric | High | >60 | No | No | Well drained |
| PpD2 | Poplar Forest sandy clay loam, 8 to 15 percent slopes, moderately eroded | 42.7 | 42.82 | 634 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| PpB2 | Poplar Forest sandy clay loam, 2 to 8 percent slopes, moderately eroded | 42.82 | 42.85 | 158 | Yes | 5 | 0.3 | Non-Hydric | High | >60 | No | No | Well drained |
| PpD2 | Poplar Forest sandy clay loam, 8 to 15 percent slopes, moderately eroded | 42.85 | 42.87 | 106 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| PoE | Poplar Forest sandy loam, 15 to 35 percent slopes | 42.87 | 42.88 | 53 | No | 3 | 0.24 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 42.88 | 42.93 | 264 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| PpD2 | Poplar Forest sandy clay loam, 8 to 15 percent slopes, moderately eroded | 42.93 | 43.04 | 528 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| PoE | Poplar Forest sandy loam, 15 to 35 percent slopes | 43.04 | 43.13 | 528 | No | 3 | 0.24 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| PpB2 | Poplar Forest sandy clay loam, 2 to 8 percent slopes, moderately eroded | 43.13 | 43.17 | 211 | Yes | 5 | 0.3 | Non-Hydric | High | >60 | No | No | Well drained |
| PpD2 | Poplar Forest sandy clay loam, 8 to 15 percent slopes, moderately eroded | 43.17 | 43.21 | 211 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | 43.21 | 43.29 | 370 | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 43.29 | 43.36 | 370 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 43.36 | 43.46 | 528 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 43.46 | 43.51 | 264 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 43.51 | 43.6 | 475 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 43.6 | 43.64 | 211 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FpE | Fairview-Poplar Forest complex, 15 to 25 percent slopes | 43.64 | 43.67 | 158 | No | 3 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | 43.67 | 43.75 | 422 | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 43.75 | 43.79 | 211 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 43.79 | 43.87 | 422 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 43.87 | 43.92 | 317 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 43.92 | 43.97 | 211 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 43.97 | 44.06 | 528 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 44.06 | 44.09 | 158 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 44.09 | 44.15 | 317 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 44.15 | 44.21 | 317 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 44.21 | 44.45 | 1,267 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 44.45 | 44.51 | 317 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 44.51 | 44.58 | 422 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 44.58 | 44.64 | 317 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 44.64 | 44.76 | 634 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 44.76 | 45.34 | 3,062 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| DcB | Davie sandy loam, 2 to 8 percent slopes | 45.34 | 45.41 | 370 | Yes | 3 | 0.28 | Predominantly Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| JkD | Jackland fine sandy loam, 8 to 15 percent slopes | 45.41 | 45.47 | 317 | No | 3 | 0.3 | Non-Hydric | Moderate | >60 | No | Yes | Somewhat poorly drained |
| DcB | Davie sandy loam, 2 to 8 percent slopes | 45.47 | 45.55 | 422 | Yes | 3 | 0.28 | Predominantly Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| JkD | Jackland fine sandy loam, 8 to 15 percent slopes | 45.55 | 45.57 | 106 | No | 3 | 0.3 | Non-Hydric | Moderate | >60 | No | Yes | Somewhat poorly drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 45.57 | 45.72 | 792 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 45.72 | 45.76 | 211 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 45.76 | 45.86 | 528 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 45.86 | 45.93 | 370 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 45.93 | 45.96 | 158 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| OkB2 | Oak Level sandy clay loam, 2 to 8 percent slopes, moderately eroded | 45.96 | 46.98 RR | <1 | Yes | 6 | 0.29 | Non-Hydric | High | >60 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 45.98 RR | 46.00 RR | 1,478 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 46.00 RR | 46.10 RR | 158 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 46.10 RR | 46.16 RR | 158 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 46.16 RR | 46.25 RR | 845 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 46.25 RR | 46.30 RR | 317 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 46.30 RR | 46.33 | 845 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 46.33 | 46.36 | 317 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 46.36 | 46.52 | 845 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| OkB2 | Oak Level sandy clay loam, 2 to 8 percent slopes, moderately eroded | 46.52 | 46.63 | 581 | Yes | 6 | 0.29 | Non-Hydric | High | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 46.63 | 46.67 | 211 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 46.67 | 46.8 | 739 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 46.8 | 46.83 | 158 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 46.83 | 46.88 | 264 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 46.88 | 46.93 | 211 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| HbA | Hatboro silt loam, 0 to 2 percent slopes, frequently flooded, long duration | 46.93 | 47.01 | 422 | No | 5 | 0.21 | Predominantly Hydric | High | >60 | No | No | Poorly drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 47.01 | 47.08 | 370 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 47.08 | 47.33 | 1,267 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 47.33 | 47.48 | 792 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 47.48 | 47.51 | 158 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 47.51 | 47.58 | 370 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | 47.58 | 47.63 | 264 | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | 47.63 | 47.73 | 528 | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| FrE2 | Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded | 47.73 | 47.75 | 106 | No | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 47.75 | 47.79 | 211 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 47.79 | 47.9 | 581 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 47.9 | 47.96 | 317 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 47.96 | 48.02 | 264 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 48.02 | 48.02 | 53 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 48.02 | 48.02 | <1 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | 48.02 | 48.04 | 53 | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | 48.04 | 48.55 | 2,746 | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| HaB | Halifax sandy loam, 2 to 8 percent slopes | 48.55 | 48.61 | 264 | Yes | 3 | 0.22 | Predominantly Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CeA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 48.61 | 48.66 | 264 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| HaB | Halifax sandy loam, 2 to 8 percent slopes | 48.66 | 48.68 | 106 | Yes | 3 | 0.22 | Predominantly Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CaB | Casville sandy loam, 2 to 8 percent slopes | 48.68 | 49.24 | 2,957 | Yes | 3 | 0.26 | Non-Hydric | High | >60 | No | No | Well drained |
| PcD2 | Pacolet sandy clay loam, 8 to 15 percent slopes, moderately eroded | 49.24 | 49.3 | 317 | Yes | 5 | 0.29 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CdB2 | Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded | 49.3 | 49.67 | 2,006 | Yes | 5 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| PaD | Pacolet sandy loam, 8 to 15 percent slopes | 49.67 | 49.84 RR | 792 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| HeB | Helena sandy loam, 2 to 8 percent slopes | 49.84 RR | 49.94 RR | 581 | Yes | 3 | 0.22 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| PaD | Pacolet sandy loam, 8 to 15 percent slopes | 49.94 RR | 50.06 RR | 475 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CcB | Cecil sandy loam, 2 to 8 percent slopes | 50.06 RR | 50.17 RR | 634 | Yes | 3 | 0.22 | Non-Hydric | High | >60 | No | No | Well drained |
| PaD | Pacolet sandy loam, 8 to 15 percent slopes | 50.17 RR | 50.23 RR | 422 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CcB | Cecil sandy loam, 2 to 8 percent slopes | 50.23 RR | 50.44 RR | 1,109 | Yes | 3 | 0.22 | Non-Hydric | High | >60 | No | No | Well drained |
| PaD | Pacolet sandy loam, 8 to 15 percent slopes | 50.44 RR | 50.52 RR | 422 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CcB | Cecil sandy loam, 2 to 8 percent slopes | 50.52 RR | 50.69 RR | 792 | Yes | 3 | 0.22 | Non-Hydric | High | >60 | No | No | Well drained |
| PaD | Pacolet sandy loam, 8 to 15 percent slopes | 50.69 RR | 50.76 RR | 475 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CeA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 50.76 RR | 50.81 RR | 211 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| PaD | Pacolet sandy loam, 8 to 15 percent slopes | 50.81 RR | 50.98 RR | 950 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CdB2 | Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded | 50.98 RR | 51.18 RR | 1,109 | Yes | 5 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| MkB2 | Mecklenburg sandy clay loam, 2 to 8 percent slopes, moderately eroded | 51.18 RR | 51.25 RR | 317 | Yes | 6 | 0.29 | Non-Hydric | High | >60 | No | No | Well drained |
| PcD2 | Pacolet sandy clay loam, 8 to 15 percent slopes, moderately eroded | 51.25 RR | 51.3 RR | 264 | Yes | 5 | 0.29 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| MkB2 | Mecklenburg sandy clay loam, 2 to 8 percent slopes, moderately eroded | 51.3 RR | 51.32 RR | 211 | Yes | 6 | 0.29 | Non-Hydric | High | >60 | No | No | Well drained |
| PcD2 | Pacolet sandy clay loam, 8 to 15 percent slopes, moderately eroded | 51.32 RR | 51.44 RR | 581 | Yes | 5 | 0.29 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CdB2 | Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded | 51.44 RR | 51.98 | 2,904 | Yes | 5 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| PaD | Pacolet sandy loam, 8 to 15 percent slopes | 51.98 | 52.12 | 739 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| HeB | Helena sandy loam, 2 to 8 percent slopes | 52.12 | 52.16 | 211 | Yes | 3 | 0.22 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| PaD | Pacolet sandy loam, 8 to 15 percent slopes | 52.16 | 52.17 | <1 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CdB2 | Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded | 52.17 | 52.36 RR | 1,056 | Yes | 5 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| PaD | Pacolet sandy loam, 8 to 15 percent slopes | 52.36 RR | 52.42 RR | 317 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CdB2 | Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded | 52.42 RR | 52.48 RR | 158 | Yes | 5 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| PaD | Pacolet sandy loam, 8 to 15 percent slopes | 52.48 RR | 52.51 | 317 | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CdB2 | Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded | 52.51 | 52.56 | 264 | Yes | 5 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| PcD2 | Pacolet sandy clay loam, 8 to 15 percent slopes, moderately eroded | 52.56 | 52.59 | 158 | Yes | 5 | 0.29 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CdB2 | Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded | 52.59 | 52.59 | <1 | Yes | 5 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| PcD2 | Pacolet sandy clay loam, 8 to 15 percent slopes, moderately eroded | 52.59 | 52.63 | 211 | Yes | 5 | 0.29 | Non-Hydric | Moderate | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Alamance County, North Carolina** | | | | | | | | | | | | | |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 52.63 | 52.68 | 264 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 52.68 | 52.74 | 317 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 52.74 | 52.77 | 158 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnC2 | Cullen clay loam, 6 to 10 percent slopes, moderately eroded | 52.77 | 52.83 | 317 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 52.83 | 53.07 | 1,267 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | 53.07 | 53.09 | 106 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| FgB | Frogsboro sandy loam, 2 to 6 percent slopes | 53.09 | 53.18 | 475 | No | 3 | 0.26 | Non-Hydric | High | >60 | No | Yes | Somewhat poorly drained |
| EnC | Enon sandy loam, 6 to 10 percent slopes | 53.18 | 53.21 | 158 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| FgB | Frogsboro sandy loam, 2 to 6 percent slopes | 53.21 | 53.31 | 475 | No | 3 | 0.26 | Non-Hydric | High | >60 | No | Yes | Somewhat poorly drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | 53.31 | 53.34 | 211 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 53.34 | 53.51 | 898 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnC2 | Cullen clay loam, 6 to 10 percent slopes, moderately eroded | 53.51 | 53.53 | 106 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 53.53 | 53.6 | 317 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnC2 | Cullen clay loam, 6 to 10 percent slopes, moderately eroded | 53.6 | 53.63 | 158 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 53.63 | 53.64 | 53 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 53.64 | 53.68 | 211 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| FgC | Frogsboro sandy loam, 6 to 10 percent slopes | 53.68 | 53.72 | 158 | No | 3 | 0.26 | Non-Hydric | High | >60 | No | Yes | Somewhat poorly drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 53.72 | 53.74 | 158 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| RxE | Rowan-Poindexter complex, 15 to 45 percent slopes | 53.74 | 53.77 | 106 | No | 3 | 0.35 | Non-Hydric | Moderate | 29.9 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 53.77 | 53.8 | 211 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | 53.8 | 53.89 | 422 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 53.89 | 53.9 | 53 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | 53.9 | 53.92 | 106 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| FgB | Frogsboro sandy loam, 2 to 6 percent slopes | 53.92 | 53.94 | 158 | No | 3 | 0.26 | Non-Hydric | High | >60 | No | Yes | Somewhat poorly drained |
| EoC2 | Enon clay loam, 6 to 10 percent slopes, moderately eroded | 53.94 | 53.96 | 106 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 53.96 | 53.99 | 211 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FgC | Frogsboro sandy loam, 6 to 10 percent slopes | 53.99 | 54.05 | 317 | No | 3 | 0.26 | Non-Hydric | High | >60 | No | Yes | Somewhat poorly drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | 54.05 | 54.07 | 106 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 54.07 | 54.14 | 370 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | 54.14 | 54.15 | <1 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EoC2 | Enon clay loam, 6 to 10 percent slopes, moderately eroded | 54.15 | 54.16 | 53 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 54.16 | 54.18 | 158 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | 54.18 | 54.21 | 158 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EoC2 | Enon clay loam, 6 to 10 percent slopes, moderately eroded | 54.21 | 54.24 | 158 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | 54.24 | 54.28 | 211 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EoC2 | Enon clay loam, 6 to 10 percent slopes, moderately eroded | 54.28 | 54.3 | 106 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| FgB | Frogsboro sandy loam, 2 to 6 percent slopes | 54.3 | 54.33 | 158 | No | 3 | 0.26 | Non-Hydric | High | >60 | No | Yes | Somewhat poorly drained |
| EoC2 | Enon clay loam, 6 to 10 percent slopes, moderately eroded | 54.33 | 54.41 | 370 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | 54.41 | 54.45 | 264 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EsD | Enon loam, 10 to 15 percent slopes, very stony | 54.45 | 54.47 | 106 | No | 5 | 0.26 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 54.47 | 54.51 | 211 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EsD | Enon loam, 10 to 15 percent slopes, very stony | 54.51 | 54.53 | 106 | No | 5 | 0.26 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EoC2 | Enon clay loam, 6 to 10 percent slopes, moderately eroded | 54.53 | 54.59 | 317 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 54.59 | 54.62 | 158 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| EsD | Enon loam, 10 to 15 percent slopes, very stony | 54.62 | 54.65 | 106 | No | 5 | 0.26 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EoC2 | Enon clay loam, 6 to 10 percent slopes, moderately eroded | 54.65 | 54.66 | 106 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | 54.66 | 54.79 | 686 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EoC2 | Enon clay loam, 6 to 10 percent slopes, moderately eroded | 54.79 | 54.85 | 317 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 54.85 | 54.88 | 158 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FgB | Frogsboro sandy loam, 2 to 6 percent slopes | 54.88 | 54.9 | 106 | No | 3 | 0.26 | Non-Hydric | High | >60 | No | Yes | Somewhat poorly drained |
| VaC | Vance sandy loam, 6 to 10 percent slopes | 54.9 | 54.93 | 158 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| PaD | Pacolet sandy loam, 10 to 15 percent slopes | 54.93 | 54.97 | 211 | Yes | 3 | 0.33 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CcC | Cecil sandy loam, 6 to 10 percent slopes | 54.97 | 54.99 | 106 | Yes | 3 | 0.22 | Non-Hydric | High | >60 | No | No | Well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 54.99 | 55.2 | 1,109 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 55.2 | 55.21 | 106 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 55.21 | 55.26 | 264 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 55.26 | 55.38 | 634 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CcB | Cecil sandy loam, 2 to 6 percent slopes | 55.38 | 55.41 | 158 | Yes | 3 | 0.22 | Non-Hydric | High | >60 | No | No | Well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 55.41 | 55.51 | 528 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 55.51 | 55.56 | 211 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 55.56 | 55.6 | 264 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 55.6 | 55.8 | 1,003 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CcB | Cecil sandy loam, 2 to 6 percent slopes | 55.8 | 55.8 | <1 | Yes | 3 | 0.22 | Non-Hydric | High | >60 | No | No | Well drained |
| PaE | Pacolet sandy loam, 15 to 45 percent slopes | 55.8 | 55.82 | 106 | No | 3 | 0.33 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| LoE | Louisburg coarse sandy loam, 15 to 45 percent slopes | 55.82 | 55.85 | 158 | No | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| VaD | Vance sandy loam, 10 to 15 percent slopes | 55.85 | 55.91 | 317 | Yes | 3 | 0.24 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 55.91 | 56.28 | 2,006 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| VaB | Vance sandy loam, 2 to 6 percent slopes | 56.28 | 56.32 | 211 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 56.32 | 56.41 | 475 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 56.41 | 56.44 | 158 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| VaC | Vance sandy loam, 6 to 10 percent slopes | 56.44 | 56.54 | 528 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 56.54 | 56.65 | 581 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 56.65 | 56.67 | 158 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| VaB | Vance sandy loam, 2 to 6 percent slopes | 56.67 | 56.81 | 739 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| FgB | Frogsboro sandy loam, 2 to 6 percent slopes | 56.81 | 57.04 | 1,214 | No | 3 | 0.26 | Non-Hydric | High | >60 | No | Yes | Somewhat poorly drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 57.04 | 57.05 | 53 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 57.05 | 57.12 | 370 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 57.12 | 57.15 | 211 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 57.15 | 57.19 | 158 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 57.19 | 57.26 | 370 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| FgB | Frogsboro sandy loam, 2 to 6 percent slopes | 57.26 | 57.33 | 422 | No | 3 | 0.26 | Non-Hydric | High | >60 | No | Yes | Somewhat poorly drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 57.33 | 57.44 | 581 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 57.44 | 57.56 | 634 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HeB | Helena sandy loam, 2 to 6 percent slopes | 57.56 | 57.85 | 1,584 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 57.85 | 57.88 | 106 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 57.88 | 57.91 | 211 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| FgB | Frogsboro sandy loam, 2 to 6 percent slopes | 57.91 | 58 | 475 | No | 3 | 0.26 | Non-Hydric | High | >60 | No | Yes | Somewhat poorly drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 58 | 58 | <1 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 58 | 58.03 | 158 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 58.03 | 58.04 | 53 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 58.04 | 58.08 | 158 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 58.08 | 58.11 | 211 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 58.11 | 58.16 | 211 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 58.16 | 58.27 | 634 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 58.27 | 58.28 | 53 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 58.28 | 58.47 | 1,056 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 58.47 | 58.51 | 211 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| VaB | Vance sandy loam, 2 to 6 percent slopes | 58.51 | 58.59 | 422 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 58.59 | 58.64 | 264 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 58.64 | 58.69 | 211 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 58.69 | 58.71 | 106 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | 58.71 | 58.85 | 739 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 58.85 | 59 | 792 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 59 | 59.08 | 422 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CeC2 | Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded | 59.08 | 59.14 | 317 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 59.14 | 59.18 | 158 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CnC2 | Cullen clay loam, 6 to 10 percent slopes, moderately eroded | 59.18 | 59.28 | 528 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 59.28 | 59.3 | 158 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CnC2 | Cullen clay loam, 6 to 10 percent slopes, moderately eroded | 59.3 | 59.32 | 106 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 59.32 | 59.5 | 950 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | 59.5 | 59.6 | 528 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 59.6 | 59.63 | 158 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 59.63 | 59.65 | 106 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 59.63 | 59.63 | <1 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 59.65 | 59.68 | 158 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 59.68 | 59.81 | 686 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 59.81 | 60.05 | 1,267 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 60.05 | 60.22 | 898 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 60.22 | 60.67 | 2,429 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CeC2 | Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded | 60.67 | 60.68 | <1 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| PaD | Pacolet sandy loam, 10 to 15 percent slopes | 60.68 | 60.72 | 211 | Yes | 3 | 0.33 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 60.72 | 60.8 | 475 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 60.8 | 60.83 | 106 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 60.83 | 60.91 | 422 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 60.91 | 60.95 | 211 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HeC | Helena sandy loam, 6 to 10 percent slopes | 60.95 | 61.01 | 317 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 61.01 | 61.08 | 370 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 61.08 | 61.1 | 106 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| EnB | Enon sandy loam, 2 to 6 percent slopes | 61.1 | 61.15 | 264 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| IrB | Iredell loam, 2 to 6 percent slopes | 61.15 | 61.31 | 845 | Yes | 3 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 61.31 | 61.36 | 317 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 61.36 | 61.67 | 1,584 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnC2 | Cullen clay loam, 6 to 10 percent slopes, moderately eroded | 61.67 | 61.76 | 475 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 61.76 | 61.83 | 370 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 61.83 | 61.9 | 422 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 61.9 | 61.93 | 158 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 61.93 | 61.95 | 106 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| IrB | Iredell loam, 2 to 6 percent slopes | 61.95 | 61.99 | 211 | Yes | 3 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 61.99 | 62.13 | 792 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 62.13 | 62.3 | 898 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CeC2 | Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded | 62.3 | 62.4 | 528 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| VaD | Vance sandy loam, 10 to 15 percent slopes | 62.4 | 62.44 | 211 | Yes | 3 | 0.24 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 62.44 | 62.47 | 158 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 62.47 | 62.58 | 528 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| VaB | Vance sandy loam, 2 to 6 percent slopes | 62.58 | 62.63 | 317 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 62.63 | 62.69 | 317 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| VaB | Vance sandy loam, 2 to 6 percent slopes | 62.69 | 62.72 | 158 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 62.72 | 62.96 | 1,267 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 62.96 | 63.05 | 475 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 63.05 | 63.13 | 422 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 63.13 | 63.14 | 53 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| LoE | Louisburg coarse sandy loam, 15 to 45 percent slopes | 63.14 | 63.21 | 370 | No | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 63.21 | 63.35 | 686 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | 63.35 | 63.45 | 581 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| VaC | Vance sandy loam, 6 to 10 percent slopes | 63.45 | 63.46 | 53 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| VaD | Vance sandy loam, 10 to 15 percent slopes | 63.46 | 63.51 | 264 | Yes | 3 | 0.24 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 63.51 | 63.55 | 211 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| VaD | Vance sandy loam, 10 to 15 percent slopes | 63.55 | 63.59 | 211 | Yes | 3 | 0.24 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| W | Water | 63.59 | 63.64 | 264 | No | Unknown | Unknown | Non-Hydric | Unknown | >60 | Unknown | Unknown | Unknown |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 63.64 | 63.69 | 264 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnC | Enon sandy loam, 6 to 10 percent slopes | 63.69 | 63.73 | 264 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 63.73 | 63.78 | 211 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnC2 | Cullen clay loam, 6 to 10 percent slopes, moderately eroded | 63.78 | 63.85 | 370 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| EnC | Enon sandy loam, 6 to 10 percent slopes | 63.85 | 63.85 | <1 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| RvA | Riverview loam, 0 to 2 percent slopes, occasionally flooded | 63.85 | 63.85 | 53 | Yes | 5 | 0.39 | Non-Hydric | High | >60 | No | No | Well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 63.85 | 63.9 | 211 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CeC2 | Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded | 63.9 | 63.98 | 422 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RvA | Riverview loam, 0 to 2 percent slopes, occasionally flooded | 63.98 | 64.02 | 264 | Yes | 5 | 0.39 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 64.02 | 64.06 | 158 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnB | Enon sandy loam, 2 to 6 percent slopes | 64.06 | 64.11 | 264 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 64.11 | 64.32 | 1,109 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| VaB | Vance sandy loam, 2 to 6 percent slopes | 64.32 | 64.4 | 370 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| VaC | Vance sandy loam, 6 to 10 percent slopes | 64.4 | 64.42 | 106 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 64.42 | 64.52 | 581 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnB | Enon sandy loam, 2 to 6 percent slopes | 64.52 | 64.58 | 317 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 64.58 | 64.67 | 475 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CeC2 | Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded | 64.67 | 64.7 | 158 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 64.7 | 64.92RR | 1,162 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CeC2 | Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded | 64.92RR | 64.93RR | 53 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 64.93RR | 65.0RR | 317 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 65.0RR | 65.06RR | 317 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 65.06RR | 65.07RR | 106 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 65.07RR | 65.09RR | 106 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| VaD | Vance sandy loam, 10 to 15 percent slopes | 65.09RR | 65.13RR | 211 | Yes | 3 | 0.24 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 65.13RR | 65.23RR | 528 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnC | Enon sandy loam, 6 to 10 percent slopes | 65.23RR | 65.27RR | 211 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| VaC | Vance sandy loam, 6 to 10 percent slopes | 65.27RR | 65.37RR | 528 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 65.37RR | 65.44RR | 370 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 65.44RR | 65.48RR | 158 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 65.48RR | 65.53RR | 264 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 65.53RR | 65.52 | 264 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 65.52 | 65.53 | 53 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 65.53 | 65.58 | 264 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 65.58 | 65.64 | 317 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 65.64 | 65.64 | <1 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 65.64 | 65.68 | 211 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| IrB | Iredell loam, 2 to 6 percent slopes | 65.68 | 65.82 | 739 | Yes | 3 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 65.82 | 65.86 | 158 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| VaB | Vance sandy loam, 2 to 6 percent slopes | 65.86 | 66.23 | 1,954 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| VaC | Vance sandy loam, 6 to 10 percent slopes | 66.23 | 66.27 | 264 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 66.27 | 66.39 | 634 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| VaB | Vance sandy loam, 2 to 6 percent slopes | 66.39 | 66.43 | 211 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | 66.43 | 66.57 | 686 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | 66.57 | 66.62 | 264 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| VaB | Vance sandy loam, 2 to 6 percent slopes | 66.62 | 66.68 | 264 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| VaC | Vance sandy loam, 6 to 10 percent slopes | 66.68 | 66.7 | 106 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| VaB | Vance sandy loam, 2 to 6 percent slopes | 66.7 | 66.71 RR | 106 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| VaC | Vance sandy loam, 6 to 10 percent slopes | 66.71 RR | 66.72 RR | 106 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 66.72 RR | 66.79 RR | 370 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HeB | Helena sandy loam, 2 to 6 percent slopes | 66.79 RR | 66.94 RR | 686 | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| EnB | Enon sandy loam, 2 to 6 percent slopes | 66.94 RR | 67.20 RR | 792 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 67.20 RR | 67.39 RR | 53 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | 67.39 RR | 67.45 RR | 106 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 67.45 RR | 67.46 RR | 53 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnC | Enon sandy loam, 6 to 10 percent slopes | 67.46 RR | 67.47 RR | 211 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| VaD | Vance sandy loam, 10 to 15 percent slopes | 67.47 RR | 67.50 RR | 317 | Yes | 3 | 0.24 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| VaB | Vance sandy loam, 2 to 6 percent slopes | 67.50 RR | 67.58 RR | 264 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| VaC | Vance sandy loam, 6 to 10 percent slopes | 67.58 RR | 67.59 RR | 106 | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| CcB | Cecil sandy loam, 2 to 6 percent slopes | 67.59 RR | 67.61 RR | 475 | Yes | 3 | 0.22 | Non-Hydric | High | >60 | No | No | Well drained |
| PaD | Pacolet sandy loam, 10 to 15 percent slopes | 67.61 RR | 67.5 | 158 | Yes | 3 | 0.33 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CcB | Cecil sandy loam, 2 to 6 percent slopes | 67.5 | 67.54 | 211 | Yes | 3 | 0.22 | Non-Hydric | High | >60 | No | No | Well drained |
| PaD | Pacolet sandy loam, 10 to 15 percent slopes | 67.54 | 67.59 | 264 | Yes | 3 | 0.33 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RvA | Riverview loam, 0 to 2 percent slopes, occasionally flooded | 67.59 | 67.62 | 106 | Yes | 5 | 0.39 | Non-Hydric | High | >60 | No | No | Well drained |
| PaD | Pacolet sandy loam, 10 to 15 percent slopes | 67.62 | 67.64 | 106 | Yes | 3 | 0.33 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RxE | Rowan-Poindexter complex, 15 to 45 percent slopes | 67.64 | 67.71 | 370 | No | 3 | 0.35 | Non-Hydric | Moderate | 29.9 | No | No | Well drained |
| PaD | Pacolet sandy loam, 10 to 15 percent slopes | 67.71 | 67.73 | 106 | Yes | 3 | 0.33 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 67.73 | 67.78 | 264 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CeC2 | Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded | 67.78 | 67.84 | 317 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | 67.84 | 67.88 | 158 | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| PaD | Pacolet sandy loam, 10 to 15 percent slopes | 67.88 | 67.9 | 158 | Yes | 3 | 0.33 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| PaE | Pacolet sandy loam, 15 to 45 percent slopes | 67.9 | 67.93 | 158 | No | 3 | 0.33 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RxE | Rowan-Poindexter complex, 15 to 45 percent slopes | 67.93 | 67.97 | 211 | No | 3 | 0.35 | Non-Hydric | Moderate | 29.9 | No | No | Well drained |
| EnC | Enon sandy loam, 6 to 10 percent slopes | 67.97 | 68.06 | 475 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 68.06 | 68.08 | 106 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RxE | Rowan-Poindexter complex, 15 to 45 percent slopes | 68.08 | 68.14 | 317 | No | 3 | 0.35 | Non-Hydric | Moderate | 29.9 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 68.14 | 68.19 | 211 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnC | Enon sandy loam, 6 to 10 percent slopes | 68.19 | 68.24 | 264 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 68.24 | 68.3 | 317 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnB | Enon sandy loam, 2 to 6 percent slopes | 68.3 | 68.33 | 158 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 68.33 | 68.37 | 264 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnC | Enon sandy loam, 6 to 10 percent slopes | 68.37 | 68.39 | 53 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 68.39 | 68.43 | 211 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 68.43 | 68.48 | 211 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 68.48 | 68.6 | 634 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 68.6 | 68.63 | 158 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CuC2 | Cullen-Urban land complex, 6 to 10 percent slopes, moderately eroded | 68.63 | 68.64 | 53 | No | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| EnB | Enon sandy loam, 2 to 6 percent slopes | 68.64 | 68.72 | 422 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 68.72 | 68.83 | 581 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EoC2 | Enon clay loam, 6 to 10 percent slopes, moderately eroded | 68.83 | 68.86 | 158 | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 68.86 | 68.87 | 106 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RxE | Rowan-Poindexter complex, 15 to 45 percent slopes | 68.87 | 68.91 | 211 | No | 3 | 0.35 | Non-Hydric | Moderate | 29.9 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 68.91 | 68.96 | 264 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| Ud | Udorthents, loamy 0 to 25 percent slopes | 68.96 | 69.03 | 370 | No | 5 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 69.03 | 69.14 | 581 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 69.14 | 69.17 | 158 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| RvA | Riverview loam, 0 to 2 percent slopes, occasionally flooded | 69.17 | 69.22 | 211 | Yes | 5 | 0.39 | Non-Hydric | High | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 69.22 | 69.5 | 1,531 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 69.5 | 69.62 | 581 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| Ur | Urban land | 69.62 | 69.74 | 634 | No | Unknown | Unknown | Non-Hydric | High | >60 | Unknown | Unknown | Unknown |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 69.74 | 69.85 | 581 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RxE | Rowan-Poindexter complex, 15 to 45 percent slopes | 69.85 | 69.86 | 106 | No | 3 | 0.35 | Non-Hydric | Moderate | 29.9 | No | No | Well drained |
| W | Water | 69.86 | 69.9 | 158 | No | Unknown | Unknown | Non-Hydric | Unknown | >60 | Unknown | Unknown | Unknown |
| CnE2 | Cullen clay loam, 15 to 45 percent slopes, moderately eroded | 69.9 | 69.94 | 211 | No | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 69.94 | 69.99 | 264 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnB | Enon sandy loam, 2 to 6 percent slopes | 69.99 | 70.04 | 264 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 70.04 | 70.08 | 211 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 70.08 | 70.11 | 211 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 70.11 | 70.17 | 264 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnC2 | Cullen clay loam, 6 to 10 percent slopes, moderately eroded | 70.17 | 70.17 | 53 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 70.17 | 70.25 | 370 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnC2 | Cullen clay loam, 6 to 10 percent slopes, moderately eroded | 70.17 | 70.17 | 53 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 70.17 | 70.25 | 370 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 70.25 | 70.25 | <1 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RvA | Riverview loam, 0 to 2 percent slopes, occasionally flooded | 70.25 | 70.27 | 106 | Yes | 5 | 0.39 | Non-Hydric | High | >60 | No | No | Well drained |
| CnE2 | Cullen clay loam, 15 to 45 percent slopes, moderately eroded | 70.27 | 70.3 | 158 | No | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 70.3 | 70.32 | 106 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 70.32 | 70.37 | 264 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnC2 | Cullen clay loam, 6 to 10 percent slopes, moderately eroded | 70.37 | 70.38 | 53 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnE2 | Cullen clay loam, 15 to 45 percent slopes, moderately eroded | 70.38 | 70.42 | 264 | No | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 70.42 | 70.43 | 53 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnB | Enon sandy loam, 2 to 6 percent slopes | 70.43 | 70.5 | 317 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 70.5 | 70.51 | 106 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnE2 | Cullen clay loam, 15 to 45 percent slopes, moderately eroded | 70.51 | 70.55 | 211 | No | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 70.55 | 70.64 | 475 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnE2 | Cullen clay loam, 15 to 45 percent slopes, moderately eroded | 70.64 | 70.72 | 422 | No | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 70.72 | 70.75 | 158 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| CnE2 | Cullen clay loam, 15 to 45 percent slopes, moderately eroded | 70.75 | 70.77 | 158 | No | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 70.77 | 70.79 | 106 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | 70.79 | 70.84 | 264 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 70.84 | 70.86 | 106 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnE2 | Cullen clay loam, 15 to 45 percent slopes, moderately eroded | 70.86 | 70.98 | 686 | No | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RxE | Rowan-Poindexter complex, 15 to 45 percent slopes | 70.98 | 71.04 | 317 | No | 3 | 0.35 | Non-Hydric | Moderate | 29.9 | No | No | Well drained |
| CnE2 | Cullen clay loam, 15 to 45 percent slopes, moderately eroded | 71.04 | 71.29 | 1,267 | No | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RvA | Riverview loam, 0 to 2 percent slopes, occasionally flooded | 71.29 | 71.36 | 370 | Yes | 5 | 0.39 | Non-Hydric | High | >60 | No | No | Well drained |
| Ur | Urban land | 71.36 | 71.46 | 528 | No | Unknown | Unknown | Non-Hydric | High | >60 | Unknown | Unknown | Unknown |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RvA | Riverview loam, 0 to 2 percent slopes, occasionally flooded | 71.46 | 71.73 | 1,478 | Yes | 5 | 0.39 | Non-Hydric | High | >60 | No | No | Well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 71.73 | 71.77 | 211 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| CnE2 | Cullen clay loam, 15 to 45 percent slopes, moderately eroded | 71.77 | 71.93 | 845 | No | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 71.93 | 72 | 370 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 72 | 72.07 | 370 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnC | Enon sandy loam, 6 to 10 percent slopes | 72.07 | 72.09 | 106 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 72.09 | 72.12 | 158 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 72.12 | 72.24 | 686 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 72.24 | 72.28 | 158 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnC | Enon sandy loam, 6 to 10 percent slopes | 72.28 | 72.3 | 158 | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | 72.3 | 72.34 | 211 | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 72.34 | 72.41 | 370 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnC2 | Cullen clay loam, 6 to 10 percent slopes, moderately eroded | 72.41 | 72.44 | 211 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 72.44 | 72.57 | 686 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RxE | Rowan-Poindexter complex, 15 to 45 percent slopes | 72.57 | 72.6 | 211 | No | 3 | 0.35 | Non-Hydric | Moderate | 29.9 | No | No | Well drained |
| RvA | Riverview loam, 0 to 2 percent slopes, occasionally flooded | 72.6 | 72.67 | 370 | Yes | 5 | 0.39 | Non-Hydric | High | >60 | No | No | Well drained |
| RxE | Rowan-Poindexter complex, 15 to 45 percent slopes | 72.67 | 72.67 | <1 | No | 3 | 0.35 | Non-Hydric | Moderate | 29.9 | No | No | Well drained |
| RvA | Riverview loam, 0 to 2 percent slopes, occasionally flooded | 72.67 | 72.69 | 106 | Yes | 5 | 0.39 | Non-Hydric | High | >60 | No | No | Well drained |
| RxE | Rowan-Poindexter complex, 15 to 45 percent slopes | 72.69 | 72.88 RR | 739 | No | 3 | 0.35 | Non-Hydric | Moderate | 29.9 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 72.88 RR | 72.93 RR | 581 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | 73.01 | 73.05 | 475 | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | 73.05 | 73.16 RR | 581 | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnC2 | Cullen clay loam, 6 to 10 percent slopes, moderately eroded | 73.16 RR | 73.17 RR | 53 | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| **Aboveground Facilities** | | | | | | | | | | | | | |
| Pittsylvania County, Virginia | | | | | | | | | | | | | |
| *Lambert Compressor Station / Interconnect / Mainline valve 1 (MP 0.0RR)* | | | | | | | | | | | | | |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | NA | NA | NA | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| *Mainline valves 2 and 3 MP 7.4 and 18.3* | | | | | | | | | | | | | |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | NA | NA | NA | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | NA | NA | NA | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| *Contractor Yards* | | | | | | | | | | | | | |
| 1B | Appling sandy loam, 2 to 7 percent slopes | NA | NA | NA | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 9B | Creedmoor fine sandy loam, 2 to 7 percent slopes | NA | NA | NA | Yes | 3 | 0.2 | Predominantly Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| 16B | Helena sandy loam, 2 to 7 percent slopes | NA | NA | NA | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| 16C | Helena sandy loam, 7 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| 22B | Mattaponi sandy loam, 2 to 7 percent slopes | NA | NA | NA | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| 22C | Mattaponi sandy loam, 7 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.19 | Non-Hydric | Low | >60 | No | No | Moderately well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | NA | NA | NA | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 26D | Fairview fine sandy loam, 15 to 25 percent slopes | NA | NA | NA | Yes | 3 | 0.22 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 4B | Clifford sandy loam, 2 to 7 percent slopes | NA | NA | NA | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | NA | NA | NA | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | NA | NA | NA | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | NA | NA | NA | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| *Access Roads* | | | | | | | | | | | | | |
| 1B | Appling sandy loam, 2 to 7 percent slopes | NA | NA | NA | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 1C | Appling sandy loam, 7 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 3B | Bolling fine sandy loam, 2 to 7 percent slopes | NA | NA | NA | Yes | 3 | 0.29 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| 4B | Clifford sandy loam, 2 to 7 percent slopes | NA | NA | NA | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| 4C | Cecil sandy loam, 7 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5B3 | Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded | NA | NA | NA | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 5C3 | Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded | NA | NA | NA | Yes | 5 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 7A | Chenneby loam, 0 to 2 percent slopes, occasionally flooded | NA | NA | NA | Yes | 5 | 0.44 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| 8A | Chenneby-Toccoa complex, 0 to 2 percent slopes, frequently flooded | NA | NA | NA | No | 5 | 0.38 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| 9B | Creedmoor fine sandy loam, 2 to 7 percent slopes | NA | NA | NA | Yes | 3 | 0.2 | Predominantly Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| 11B3 | Cullen clay loam, 2 to 7 percent slopes, severely eroded | NA | NA | NA | No | 6 | 0.27 | Non-Hydric | High | >60 | No | No | Well drained |
| 17B | Hiwassee loam, 2 to 7 percent slopes | NA | NA | NA | Yes | 6 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| 18C3 | Hiwassee clay loam, 7 to 15 percent slopes, severely eroded | NA | NA | NA | No | 6 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 21D | Madison fine sandy loam, 15 to 25 percent slopes | NA | NA | NA | Yes | 3 | 0.37 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 22C | Mattaponi sandy loam, 7 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.19 | Non-Hydric | Low | >60 | No | No | Moderately well drained |
| 23B | Mayodan fine sandy loam, 2 to 7 percent slopes | NA | NA | NA | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| 23C | Mayodan fine sandy loam, 7 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 23D | Mayodan fine sandy loam, 15 to 25 percent slopes | NA | NA | NA | Yes | 3 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| 29D | Pinkston-Mayodan complex, 15 to 35 percent slopes, very stony | NA | NA | NA | No | 5 | 0.28 | Non-Hydric | Low | 18.1 | Yes | No | Excessively drained |
| 29E | Pinkston-Mayodan complex, 35 to 50 percent slopes, very stony | NA | NA | NA | No | 5 | 0.28 | Non-Hydric | Low | 18.1 | Yes | No | Excessively drained |
| 34B | Sheva fine sandy loam, 2 to 7 percent slopes | NA | NA | NA | No | 3 | 0.35 | Non-Hydric | Moderate | 29.1 | Yes | No | Moderately well drained |
| 39 | Udorthents, loamy | NA | NA | NA | No | Unknown | Unknown | Non-Hydric | High | >60 | Unknown | Unknown | Unknown |
| **Rockingham County, North Carolina** | | | | | | | | | | | | | |
| *LN 3600 Interconnect (MP 28.2)* | | | | | | | | | | | | | |
| BaB | Banister loam, 0 to 4 percent slopes, rarely flooded | NA | NA | NA | Yes | 5 | 0.26 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CmB | Clover sandy loam, 2 to 8 percent slopes | NA | NA | NA | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CmD | Clover sandy loam, 8 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| *T-15 Dan River Interconnect / Mainline Valve 4 (MP 30.4)* | | | | | | | | | | | | | |
| BaB | Banister loam, 0 to 4 percent slopes, rarely flooded | NA | NA | NA | Yes | 5 | 0.26 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | NA | NA | NA | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| *Mainline valve 5 (MP 42.2)* | | | | | | | | | | | | | |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | NA | NA | NA | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| FrE2 | Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded | NA | NA | NA | No | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| *Contractor Yards* | | | | | | | | | | | | | |
| ChC | Clifford-Urban land complex, 2 to 10 percent slopes | NA | NA | NA | No | 5 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| LeB | Leaksville silt loam, 0 to 4 percent slopes | NA | NA | NA | No | 6 | 0.37 | Hydric | High | 24 | Yes | Yes | Poorly drained |
| SpB | Spray loam, 0 to 5 percent slopes | NA | NA | NA | No | 6 | 0.43 | Non-Hydric | High | >60 | Yes | No | Well drained |
| Ud | Udorthents, loamy | NA | NA | NA | No | 5 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Access Roads* | | | | | | | | | | | | | |
| BaB | Banister loam, 0 to 4 percent slopes, rarely flooded | NA | NA | NA | Yes | 5 | 0.26 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| CaB | Casville sandy loam, 2 to 8 percent slopes | NA | NA | NA | Yes | 3 | 0.26 | Non-Hydric | High | >60 | No | No | Well drained |
| CcB | Cecil sandy loam, 2 to 8 percent slopes | NA | NA | NA | Yes | 3 | 0.22 | Non-Hydric | High | >60 | No | No | Well drained |
| CdB2 | Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded | NA | NA | NA | Yes | 5 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| CsA | Codorus loam, 0 to 2 percent slopes, frequently flooded | NA | NA | NA | No | 6 | 0.41 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| CeA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | NA | NA | NA | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| CfB | Clifford sandy loam, 2 to 8 percent slopes | NA | NA | NA | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| CgB2 | Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded | NA | NA | NA | Yes | 5 | 0.21 | Non-Hydric | High | >60 | No | No | Well drained |
| ChC | Clifford-Urban land complex, 2 to 10 percent slopes | NA | NA | NA | No | 5 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CmB | Clover sandy loam, 2 to 8 percent slopes | NA | NA | NA | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CmD | Clover sandy loam, 8 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CmE | Clover sandy loam, 15 to 25 percent slopes | NA | NA | NA | No | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | NA | NA | NA | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnE2 | Clover sandy clay loam, 15 to 25 percent slopes, moderately eroded | NA | NA | NA | No | 5 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| DaA | Dan River loam, 0 to 2 percent slopes, frequently flooded | NA | NA | NA | No | 5 | 0.31 | Predominantly Non-Hydric | High | >60 | No | No | Well drained |
| FpE | Fairview-Poplar Forest complex, 15 to 25 percent slopes | NA | NA | NA | No | 3 | 0.21 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FrD2 | Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded | NA | NA | NA | Yes | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FrE2 | Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded | NA | NA | NA | No | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| HwD | Hiwassee loam, 8 to 15 percent slopes | NA | NA | NA | Yes | 6 | 0.18 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| IrD | Iredell fine sandy loam, 8 to 15 percent slopes | NA | NA | NA | No | 3 | 0.3 | Non-Hydric | Moderate | >60 | No | Yes | Somewhat poorly drained |
| JkB | Jackland fine sandy loam, 2 to 8 percent slopes | NA | NA | NA | Yes | 3 | 0.3 | Non-Hydric | High | >60 | No | Yes | Somewhat poorly drained |
| NaB | Nathalie sandy loam, 2 to 8 percent slopes | NA | NA | NA | Yes | 3 | 0.18 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| OkB2 | Oak Level sandy clay loam, 2 to 8 percent slopes, moderately eroded | NA | NA | NA | Yes | 6 | 0.29 | Non-Hydric | High | >60 | No | No | Well drained |
| PaD | Pacolet sandy loam, 8 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.19 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| PcD2 | Pacolet sandy clay loam, 8 to 15 percent slopes, moderately eroded | NA | NA | NA | Yes | 5 | 0.29 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| PpB2 | Poplar Forest sandy clay loam, 2 to 8 percent slopes, moderately eroded | NA | NA | NA | Yes | 5 | 0.3 | Non-Hydric | High | >60 | No | No | Well drained |
| PpE2 | Poplar Forest sandy clay loam, 15 to 25 percent slopes, moderately eroded | NA | NA | NA | No | 5 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnB | Rhodhiss sandy loam, 2 to 8 percent slopes | NA | NA | NA | Yes | 3 | 0.25 | Non-Hydric | High | >60 | No | No | Well drained |
| RnD | Rhodhiss sandy loam, 8 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RnE | Rhodhiss sandy loam, 15 to 30 percent slopes | NA | NA | NA | No | 3 | 0.25 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| SpB | Spray loam, 0 to 5 percent slopes | NA | NA | NA | No | 6 | 0.43 | Non-Hydric | High | >60 | Yes | No | Well drained |
| SmC | Siloam sandy loam, 4 to 10 percent slopes | NA | NA | NA | No | 3 | 0.22 | Non-Hydric | High | 15 | No | No | Well drained |
| SmF | Siloam sandy loam, 10 to 45 percent slopes | NA | NA | NA | No | 3 | 0.22 | Non-Hydric | Moderate | 15 | No | No | Well drained |
| Ud | Udorthents, loamy | NA | NA | NA | No | 5 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| W | Water | NA | NA | NA | No | Unknown | Unknown | Non-Hydric | Unknown | >60 | Unknown | Unknown | Unknown |
| WhB | Wickham sandy loam, mesic, 1 to 4 percent slopes, rarely flooded | NA | NA | NA | Yes | 3 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| **Alamance County, North Carolina** | | | | | | | | | | | | | |
| *Mainline valves 6 and 7 (MP 55.1 and 68.7)* | | | | | | | | | | | | | |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | NA | NA | NA | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| EnB | Enon sandy loam, 2 to 6 percent slopes | NA | NA | NA | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *T-21 Haw River Interconnect / Mainline valve 8 (MP 73.2RR)* | | | | | | | | | | | | | |
| CnC2 | Cullen clay loam, 6 to 10 percent slopes, moderately eroded | NA | NA | NA | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| **Access Roads** | | | | | | | | | | | | | |
| CcB | Cecil sandy loam, 2 to 6 percent slopes | NA | NA | NA | Yes | 3 | 0.22 | Non-Hydric | High | >60 | No | No | Well drained |
| CeB2 | Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded | NA | NA | NA | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| CeC2 | Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded | NA | NA | NA | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| ChA | Chewacla loam, 0 to 2 percent slopes, frequently flooded | NA | NA | NA | No | 5 | 0.26 | Predominantly Non-Hydric | High | >60 | No | No | Somewhat poorly drained |
| CnB2 | Cullen clay loam, 2 to 6 percent slopes, moderately eroded | NA | NA | NA | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnC2 | Cullen clay loam, 6 to 10 percent slopes, moderately eroded | NA | NA | NA | Yes | 6 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CnD2 | Cullen clay loam, 10 to 15 percent slopes, moderately eroded | NA | NA | NA | Yes | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| CnE2 | Cullen clay loam, 15 to 45 percent slopes, moderately eroded | NA | NA | NA | No | 6 | 0.23 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EnB | Enon sandy loam, 2 to 6 percent slopes | NA | NA | NA | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnC | Enon sandy loam, 6 to 10 percent slopes | NA | NA | NA | Yes | 3 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EnD | Enon sandy loam, 10 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| EoB2 | Enon clay loam, 2 to 6 percent slopes, moderately eroded | NA | NA | NA | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EoC2 | Enon clay loam, 6 to 10 percent slopes, moderately eroded | NA | NA | NA | Yes | 6 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| EsD | Enon loam, 10 to 15 percent slopes, very stony | NA | NA | NA | No | 5 | 0.26 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| FgB | Frogsboro sandy loam, 2 to 6 percent slopes | NA | NA | NA | No | 3 | 0.26 | Non-Hydric | High | >60 | No | Yes | Somewhat poorly drained |
| HeB | Helena sandy loam, 2 to 6 percent slopes | NA | NA | NA | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| HeC | Helena sandy loam, 6 to 10 percent slopes | NA | NA | NA | Yes | 3 | 0.27 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| IrB | Iredell loam, 2 to 6 percent slopes | NA | NA | NA | Yes | 3 | 0.31 | Non-Hydric | Moderate | >60 | No | No | Moderately well drained |
| LoD | Louisburg coarse sandy loam, 10 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| RvA | Riverview loam, 0 to 2 percent slopes, occasionally flooded | NA | NA | NA | Yes | 5 | 0.39 | Non-Hydric | High | >60 | No | No | Well drained |
| RxE | Rowan-Poindexter complex, 15 to 45 percent slopes | NA | NA | NA | No | 3 | 0.35 | Non-Hydric | Moderate | 29.9 | No | No | Well drained |
| Ud | Udorthents, loamy 0 to 25 percent slopes | NA | NA | NA | No | 5 | 0.2 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| Ur | Urban land | NA | NA | NA | No | Unknown | Unknown | Non-Hydric | High | >60 | Unknown | Unknown | Unknown |
| VaB | Vance sandy loam, 2 to 6 percent slopes | NA | NA | NA | Yes | 3 | 0.24 | Non-Hydric | High | >60 | No | No | Well drained |
| VaD | Vance sandy loam, 10 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.24 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| W | Water | NA | NA | NA | No | Unknown | Unknown | Non-Hydric | Unknown | >60 | Unknown | Unknown | Unknown |
| **Guilford County, North Carolina** | | | | | | | | | | | | | |
| *Access Roads* | | | | | | | | | | | | | |
| CeC2 | Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded | NA | NA | NA | Yes | 5 | 0.28 | Non-Hydric | High | >60 | No | No | Well drained |
| **Caswell County, North Carolina** | | | | | | | | | | | | | |
| *Contractor Yards* | | | | | | | | | | | | | |
| CaB | Casville sandy loam, 2 to 8 percent slopes | NA | NA | NA | Yes | 3 | 0.23 | Non-Hydric | High | >60 | No | No | Well drained |
| CaC | Casville sandy loam, 8 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.23 | Non-Hydric | Moderate | Unknown | No | No | Well drained |
| FaB | Fairview sandy loam, 2 to 8 percent slopes | NA | NA | NA | Yes | 3 | 0.2 | Non-Hydric | Moderate | Unknown | No | No | Well drained |
| FbB2 | Fairview sandy clay loam, 2 to 8 percent slopes | NA | NA | NA | Yes | 5 | 0.23 | Non-Hydric | High | Unknown | No | No | Well drained |
| HaC | Halifax sandy loam, 8 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.24 | Non-Hydric | Moderate | Unknown | No | No | Moderately well drained |

Appendix D

**Soil Types Crossed by the Southgate Project**

| Map Unit Symbol | Map Unit Name | Milepost Start | Milepost End | Crossing Length (feet) | Prime Farmland or Farmland of Statewide Importance a/ | WEG b/ | K Factor c/ | Hydric Rating d/ | Revegetation Potential e/ | Depth to Bedrock (inches) f/ | Stony/ Rocky (g) | Compaction Prone h/ | Drainage Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ReC | Rasalo-Enott complex, 8 to 15 percent slopes | NA | NA | NA | Yes | 3 | 0.28 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| SkE | Spriggs-Mocksville complex, 25 to 45 percent slopes | NA | NA | NA | No | 3 | 0.3 | Non-Hydric | Moderate | >60 | No | No | Well drained |
| TmB2 | Tomlin clay loam, 2 to 8 percent slopes, moderately eroded | NA | NA | NA | Yes | 6 | 0.3 | Non-Hydric | High | Unknown | No | No | Well drained |

Notes:
NA = Not Applicable
a/: Prime farmland and Farmland of Statewide Importance includes soils mapped and designated as prime farmland and farmland of statewide importance by the NRCS (SSURGO reference column “farmlndcl”). Prime Farmland if drained and / or irrigated and / or reclaimed of excess salts and sodium is not included in this acreage. No areas of Farmland of local importance or unique farmland are affected by the Project.
b/: WEGs (Wind Erodibility Groups) obtained from the NRCS Soil Data Mart. WEGs range from 1 to 8, with 1 being the highest potential for wind erosion, and 8 the lowest. Highly wind erodible soils include those in wind erodibility groups 1 or 2 (SSURGO reference column "weg").
c/: Water erosion potential was determined by averaging the K factor values of horizons of each soil type. Based on the average K factor, each soil type was grouped into a water erosion class of “Low”, “Moderate”, and “High”. Highly water erodible soils include those with a K factor greater than 0.4.
d/: “Urban Land” and “Udorthents” map units do not have a NRCS designated hydric soil status. These map units were considered to be non-hydric soils. Hydric Type is determined with Hydric Classification - Presence ("hydclprs") where if hydclprs of 0% is categorized as “Non-hydric”. Values between 1% – 33% are categorized as “Predominantly Non-hydric”, 34% - 66% as “Partially Hydric”, 67% - 99% as “Predominantly Hydric”, and 100% is categorized as “Hydric”.
e/: Revegetation Potential is determined by three parameters: drainage class, K factor, and slope, each parameter assigned a value of 1, 2, or 3, then averaged. Drainage classes of excessively drained and very poorly drained are designated low (1), somewhat excessively drained and poorly drained are designated moderate (2), and well drained, moderately well drained, and somewhat poorly drained are designated high (3). Low K factor (3), Moderate (2), and High (1). Slopes of 25% or more are low (1), 8%-25% are moderate (2), and slopes of less than 8% are high (3). The average of these three scores is then taken to determine the overall low, moderate, or high revegetation potential. 1.0-1.7 = Low, 1.8-2.3 = Moderate, 2.4-3.0 = High.
f/: Depth to bedrock is not defined by the NRCS for the “Pavement and Buildings” map unit. In these cases, a depth to bedrock of >60” was assigned, which is consistent with NRCS designations for other natural and fill soils in the Project area. Shallow bedrock soils include those that have lithic or paralithic bedrock within 60 inches or less of the soil surface (SSURGO and STATGO2 reference column “rescind” and “resdept_r”).
g/: Stony/Rocky soils include those with a cobbley, stony, bouldery, shaly, channery, very gravelly, or extremely gravelly modifier to the textural class of the surface layer and / or that have a surface layer that contains greater than 5 percent by weight rock fragments larger than 3 inches.
h/: Compaction prone was determined by texture and drainage class. Compaction prone soils are those with clay loam or finer texture, and somewhat poor, poor, and very poor drainage class (SSURGO reference column “texcl” and “drainagecl”).
i/: Mileposts represent soil types crossed by the pipeline alignment only.

# APPENDIX E.1

# Railroads and Roads Crossed by the Southgate Project

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Appendix E.1

**Railroads Crossed by the Southgate Project**

| County , State | Milepost | Railroad | Active or Abandoned | Proposed Crossing Method |
|---|---|---|---|---|
| Pittsylvania, VA | 5.3 | Norfolk Southern Railroad | Active | Conventional Bore |
| Pittsylvania, VA | 25.0 | Norfolk Southern Railroad | Active | Conventional Bore |
| Rockingham, NC | 39.7 | Norfolk Southern | Active | Conventional Bore |
| Alamance, NC | 69.8 | Norfolk Southern Railway | Active | Conventional Bore |

Appendix E.1

**Roadways Crossed by the Southgate Project**

| Facility, State, County | Milepost | Road Name | Surface Type | Jurisdiction | Public or Private | Crossing Method |
|---|---|---|---|---|---|---|
| **H-605 PIPELINE** | | | | | | |
| **Virginia** | | | | | | |
| Pittsylvania | N/A | N/A | N/A | N/A | N/A | N/A |
| **H-650 PIPELINE** | | | | | | |
| **Virginia** | | | | | | |
| Pittsylvania | 0.7 | County Road 703 / Fairview N | Asphalt | County | Public | Bore |
| Pittsylvania | 0.9 | State Route 57 / Halifax Road | Asphalt | State | Public | Bore |
| Pittsylvania | 2.9 | County Road 694 / Davis Road | Asphalt | County | Public | Bore |
| Pittsylvania | 3.0 | County Road 703 / Fairview Road | Asphalt | County | Public | Bore |
| Pittsylvania | 4.3 | County Road 1437 / Woodlawn Academy Road | Asphalt | County | Public | Bore |
| Pittsylvania | 4.3 | County Road 1437 / Woodlawn Academy Road | Asphalt | County | Public | Bore |
| Pittsylvania | 4.4 | U.S. Highway 29 | Asphalt | U.S. | Public | Bore |
| Pittsylvania | 7.2 | County Road 836 / White Oak Circle | Asphalt | County | Public | Bore |
| Pittsylvania | 7.4 | County Road 718 / Dry Fork Road | Asphalt | County | Public | Bore |
| Pittsylvania | 8.1 | County Road 1099 / Hylton Lane | Asphalt | County | Public | Bore |
| Pittsylvania | 9.4 | County Road 834 / Hopewell Road | Asphalt | County | Public | Bore |
| Pittsylvania | 10.2 | County Road 1071 / Tobacco Road | Gravel | County | Public | Open Cut |
| Pittsylvania | 10.8 | State Route 41 / Franklin Turnpike | Asphalt | State | Public | Bore |
| Pittsylvania | 12.4 | County Road 865 / Hutson Road | Asphalt | County | Public | Bore |
| Pittsylvania | 13.4 | County Road 866 / Sandy Creek Road | Asphalt | County | Public | Bore |
| Pittsylvania | 14.9 | County Road 750 / Whitmell School Road | Asphalt | County | Public | Bore |
| Pittsylvania | 15.9 | County Road 844 / Mount Cross Road | Asphalt | County | Public | Bore |
| Pittsylvania | 16.5 | County Road 868 / Silver Creek Road | Asphalt | County | Public | Bore |
| Pittsylvania | 18.3 | County Road 878 / Pine Lake Road | Asphalt | County | Public | Bore |
| Pittsylvania | 19.0 | County Road 876 / Cedar Spring Road | Asphalt | County | Public | Bore |

Appendix E.1

**Roadways Crossed by the Southgate Project**

| Facility, State, County | Milepost | Road Name | Surface Type | Jurisdiction | Public or Private | Crossing Method |
|---|---|---|---|---|---|---|
| Pittsylvania | 19.3 | County Road 869 / Stony Mill Road | Asphalt | County | Public | Bore |
| Pittsylvania | 20.0 | U.S. Highway 58 / Martinsville Highway | Asphalt | U.S. | Public | Bore |
| Pittsylvania | 22.1 | County Road 875 / Horseshoe Road | Asphalt | County | Public | Bore |
| Pittsylvania | 23.7 | County Road 862 / Oak Hill Road | Asphalt | County | Public | Bore |
| **North Carolina** | | | | | | |
| Rockingham | 26.2 | State Road 1745 / Buffalo Road | Asphalt | State | Public | Bore |
| Rockingham | 26.6 | State Road 770 / State Hwy 770 | Asphalt | State | Public | Bore |
| Rockingham | 30.5 | State Hwy 700 / S Fieldcrest Road | Asphalt | State | Public | Bore |
| Rockingham | 30.7 | State Road 1951 / Quesinberry Road | Asphalt | State | Public | Bore |
| Rockingham | 31.6 | State Road 1951 / Quesinberry Road | Asphalt | State | Public | Bore |
| Rockingham | 33.2 | State Road 1945 / Moir Mill Road | Asphalt | State | Public | Bore |
| Rockingham | 36.3 | State Road 1980 / Mount Carmel Church Road | Asphalt | State | Public | Bore |
| Rockingham | 36.6 | State Road 1982 / Wolf Island Road | Asphalt | State | Public | Bore |
| Rockingham | 38.8 | State Road 1941 / Crutchfield Road | Asphalt | State | Public | Bore |
| Rockingham | 39.7 | U.S. Highway 29 | Asphalt | U.S. | Public | Bore |
| Rockingham | 40.4 | State Road 2552 / Narrow Gauge Road | Asphalt | State | Public | Bore |
| Rockingham | 41.6 | U.S. Highway 29 | Asphalt | U.S. | Public | Bore |
| Rockingham | 42.2 | U.S. Highway 158 | Asphalt | U.S. | Public | Bore |
| Rockingham | 43.2 | State Road 2579 / Brooks Road | Asphalt | State | Public | Bore |
| Rockingham | 43.4 | State Road 2588 / Knowles Road | Asphalt | State | Public | Bore |
| Rockingham | 44.9 | State Road 2571 / Grooms Road | Asphalt | State | Public | Bore |
| Rockingham | 48.4 | State Road 150 / State Highway 150 | Asphalt | State | Public | Bore |
| Rockingham | 49.1 | State Road 87 / State Highway 87 | Asphalt | State | Public | Bore |
| Rockingham | 49.5 | State Road 2614 / High Rock Road | Asphalt | State | Public | Bore |

Appendix E.1

**Roadways Crossed by the Southgate Project**

| Facility, State, County | Milepost | Road Name | Surface Type | Jurisdiction | Public or Private | Crossing Method |
|---|---|---|---|---|---|---|
| Rockingham | 51.7 | State Road 2619 / Kernodle Road | Asphalt | State | Public | Bore |
| Rockingham | 52.0 | State Road 2658 / Parkdale Road | Asphalt | State | Public | Bore |
| Rockingham | 52.6 | Tri County Drive | Gravel | Private | Private | Open Cut |
| Alamance | 53.1 | State Road 2903 / Troxler Mill Road | Asphalt | State | Public | Bore |
| Alamance | 53.3 | State Road 1577 / Lee Lewis Road | Asphalt | State | Public | Bore |
| Alamance | 54.1 | State Road 1576 / Jug House Road | Asphalt | State | Public | Bore |
| Alamance | 55.1 | State Road 1576 / Gilliam Church Road | Asphalt | State | Public | Bore |
| Alamance | 55.8 | State Highway 87 | Asphalt | State | Public | Bore |
| Alamance | 56.4 | State Road 1571 / Altamahaw Race Track Road | Asphalt | State | Public | Bore |
| Alamance | 56.4 | State Road 1649 / Lonzie Foster Trail | Gravel | State | Public | Open Cut |
| Alamance | 57.3 | State Route 1591 / Hollyfield Road” | Gravel | State | Public | Open Cut |
| Alamance | 57.5 | State Road 1565 / Dodd Road | Asphalt | State | Public | Bore |
| Alamance | 57.8 | State Road 1002 / Altamahaw Union Ridge Rd | Asphalt | State | Public | Bore |
| Alamance | 57.9 | State Road 1561 / Hub Mill Road | Asphalt | State | Public | Bore |
| Alamance | 59.2 | State Road 1595 / Danieley Water Wheel Road | Asphalt | State | Public | Bore |
| Alamance | 60.0 | State Road 1593 / Burch Bridge Road | Asphalt | State | Public | Bore |
| Alamance | 60.3 | State Road 1598 / Isley School Road | Asphalt | State | Public | Bore |
| Alamance | 61.4 | State Road 1601 / Huffines Drive | Asphalt | State | Public | Bore |
| Alamance | 62.8 | State Road 1001 / Union Ridge Road | Asphalt | State | Public | Bore |
| Alamance | 63.1 | State Highway 62 | Asphalt | State | Public | Bore |
| Alamance | 64.8 | State Route 1750 / Faucette Lane | Asphalt | State | Public | Bore |
| Alamance | 65.3RR | State Road 1729 / Deep Creek Church Road | Asphalt | State | Public | Bore |

Appendix E.1

**Roadways Crossed by the Southgate Project**

| Facility, State, County | Milepost | Road Name | Surface Type | Jurisdiction | Public or Private | Crossing Method |
|---|---|---|---|---|---|---|
| Alamance | 66.1 | State Road 1735 / N. Fonville Rd | Asphalt | State | Public | Bore |
| Alamance | 66.4 | State Road 1752 / Sandy Cross Road | Asphalt | State | Public | Bore |
| Alamance | 68.2 | Indian Village Trail | Gravel | County | Public | Open Cut |
| Alamance | 68.7 | State Road 1737 / Haw River Hopedale Road | Asphalt | State | Public | Bore |
| Alamance | 69.0 | U.S. Highway 70 / Haw River Bypass | Asphalt | U.S. | Public | Bore |
| Alamance | 69.7 | State Highway 49 / W. Main Street | Asphalt | State | Public | Bore |
| Alamance | 69.8 | State Road 1935 / Stone St | Asphalt | State | Public | Bore |
| Alamance | 71.3 | Interstate 40 / Interstate 85 | Asphalt | U.S. | Public | Bore |
| Alamance | 72.9 | State Highway 54 / E Harden Street | Asphalt | State | Public | Bore |

Notes:
N/A = Not Applicable
Mileposts with an “RR” indicate locations where a re-route was incorporated into the pipeline alignment.

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# APPENDIX E.2

## Structures within 50 Feet of the Construction Work Area

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Appendix E.2

**Structures within 50 Feet of the Southgate Project**

| State, County | Approximate Milepost | Building Type (House, Shed, Garage, etc.) | Occupied (yes/no) | Direction from Pipeline Centerline (North, East, South, West) | Distance from Edge of closest workspace limit (feet) | Distance From Centerline of easement (feet) | Residential Construction Plan Number | Mountain Valley Proposed Action |
|---|---|---|---|---|---|---|---|---|
| **Virginia** | | | | | | | | |
| Pittsylvania | 2.3 | Shed | No | East | 7 | 1,720 | N/A | Protect |
| Pittsylvania | 2.3 | Shed | No | East | 0 | 1,821 | N/A | Protect |
| Pittsylvania | 2.3 | Shed | No | East | 4 | 1,871 | N/A | Protect |
| Pittsylvania | 2.3 | Shed | No | East | 19 | 1,967 | N/A | Protect |
| Pittsylvania | 2.3 | Shed | No | East | 0 | 2,012 | N/A | Protect |
| Pittsylvania | 4.5 | House | Yes | East | 4 | 735 | RSS-H650-024 | Use existing driveway (TA-PI-007) to pass by residences. Post both enter and exit caution/slow signage to alert contractors. Proposed Barricade Fence 100 linear feet from corner of house. |
| Pittsylvania | 4.5 | Garage | No | East | 0 | 663 | RSS-H650-024 | Protect |
| Pittsylvania | 4.5 | Garage | No | East | 0 | 748 | RSS-H650-024 | Protect |
| Pittsylvania | 4.5 | Tobacco Shed | No | East | 10 | 880 | N/A | Protect |
| Pittsylvania | 4.5 | Barn | No | East | 0 | 930 | RSS-H650-024 | Protect |
| Pittsylvania | 4.5 | Well Pump House | No | East | 17 | 921 | N/A | Protect |
| Pittsylvania | 5.1 | House | Yes | East | 48 | 2,886 | N/A | Protect |
| Pittsylvania | 6.5 | Office | Yes | West | 30 | 1,283 | N/A | Protect |
| Pittsylvania | 9.0 | Barn | No | West | 14 | 1,445 | N/A | Protect |

Appendix E.2

**Structures within 50 Feet of the Southgate Project**

| State, County | Approximate Milepost | Building Type (House, Shed, Garage, etc.) | Occupied (yes/no) | Direction from Pipeline Centerline (North, East, South, West) | Distance from Edge of closest workspace limit (feet) | Distance From Centerline of easement (feet) | Residential Construction Plan Number | Mountain Valley Proposed Action |
|---|---|---|---|---|---|---|---|---|
| Pittsylvania | 9.0 | Barn | No | West | 14 | 1,482 | N/A | Protect |
| Pittsylvania | 9.0 | Tobacco Shed | No | West | 5 | 1,642 | N/A | Protect |
| Pittsylvania | 10.3 | 2-Story House | Yes | East | 34 | 59 | RSS-H650-016 | Protect – Proposed barricade fence. |
| Pennsylvania | 10.3 | Porch | Yes | East | 22 | 46 | RSS-H650-016 | Protect – Proposed barricade fence |
| Pittsylvania | 10.3 | Garage | No | East | 29 | 54 | RSS-H650-016 | Protect |
| Pittsylvania | 10.3 | Shed | No | East | 0 | 10 | RSS-H650-016 | Remove |
| Pittsylvania | 10.6 | Shed | No | East | 49 | 110 | N/A | Protect |
| Pittsylvania | 10.7 | House - 2 story | Yes | East | 28 | 88 | N/A | Protect |
| Pittsylvania | 10.8 | Mailbox stone column | No | West | 0 | 14 | N/A | Remove |
| Pittsylvania | 10.8 | Stone entry wall | No | West | 0 | 0 | N/A | Remove |
| Pittsylvania | 10.8 | Stone entry wall | No | East | 0 | 14 | N/A | Remove |
| Pittsylvania | 13.1 | Shed | No | East | 13 | 205 | N/A | Protect |
| Pittsylvania | 13.4 | House - 1 story | Yes | West | 50 | 90 | N/A | Protect |
| Pittsylvania | 13.7 | Old Cabin | No | West | 0 | 40 | N/A | Remove |
| Pittsylvania | 14.9 | House | Yes | East | 46 | 152 | N/A | Protect |
| Pittsylvania | 16.0 | Shed | No | East | 0 | 164 | N/A | Protect |
| Pittsylvania | 16.3 | Mobile home - single wide | Yes | East | 26 | 86 | N/A | Protect |

Appendix E.2

**Structures within 50 Feet of the Southgate Project**

| State, County | Approximate Milepost | Building Type (House, Shed, Garage, etc.) | Occupied (yes/no) | Direction from Pipeline Centerline (North, East, South, West) | Distance from Edge of closest workspace limit (feet) | Distance From Centerline of easement (feet) | Residential Construction Plan Number | Mountain Valley Proposed Action |
|---|---|---|---|---|---|---|---|---|
| Pittsylvania | 16.7 | House | Yes | West | 22 | 282 | N/A | Use existing driveway (TA-PI-041) to pass by residences. Post both enter and exit caution/slow signage to alert contractors. |
| Pittsylvania | 17.2 | Barn | No | East | 0 | 1,718 | N/A | Protect |
| Pittsylvania | 17.2 | House | Yes | East | 31 | 1,857 | N/A | Stay within access road TA-PI-043 limits. |
| Pittsylvania | 17.5 | Shed | No | West | 29 | 413 | N/A | Protect |
| Pittsylvania | 18.4 | Tobacco Shed | No | West | 5 | 29 | N/A | Protect |
| Pittsylvania | 18.4 | Tobacco Shed | No | West | 10 | 34 | N/A | Protect |
| Pittsylvania | 19.1 | Garage | No | East | 46 | 108 | N/A | Protect |
| Pittsylvania | 19.6 | Shed | No | West | 34 | 93 | N/A | Protect |
| Pittsylvania | 19.9 | Business - auto sales | No | West | 33 | 288 | N/A | Protect |
| Pittsylvania | 20.2 | Garage | No | East | 21 | 35 | N/A | Protect |
| Pittsylvania | 20.2 | Mobile home | Yes | East | 21 | 81 | RSS-H650-004 | Install safety fence at limit of workspace extending 100 feet from house. |

Appendix E.2

**Structures within 50 Feet of the Southgate Project**

| State, County | Approximate Milepost | Building Type (House, Shed, Garage, etc.) | Occupied (yes/no) | Direction from Pipeline Centerline (North, East, South, West) | Distance from Edge of closest workspace limit (feet) | Distance From Centerline of easement (feet) | Residential Construction Plan Number | Mountain Valley Proposed Action |
|---|---|---|---|---|---|---|---|---|
| Pittsylvania | 20.3 | Car awning | No | East | 0 | 44 | N/A | Protect |
| Pittsylvania | 20.3 | Mobile home | Yes | East | 14 | 61 | RSS-H650-005 | The workspace has been adjusted in this location. Proposed barricade fence. Protect |
| Pittsylvania | 22.0 | 2-Story House | Yes | East | 45 | 133 | N/A | Protect |
| Pittsylvania | 22.2 | House - 1 story, fallen down | No | East | 0 | 79 | N/A | Protect if possible or Remove |
| **North Carolina** | | | | | | | | |
| Rockingham | 28.1 | Shed | No | West | 33 | 3,678 | N/A | Protect |
| Rockingham | 29.2 | Shed | No | East | 29 | 1,217 | N/A | Protect |
| Rockingham | 29.2 | Shed | No | East | 26 | 1,185 | N/A | Protect |
| Rockingham | 29.6 | Mobile Home | Yes | West | 43 | 1,680 | N/A | Protect |
| Rockingham | 30.0 | Barn | No | West | 0 | 1,397 | RSS-H650-030 | Protect |
| Rockingham | 30.0 | House | Yes | West | 18 | 1,422 | RSS-H650-030 | Stay within access road TA-RO-080 limits. |

Appendix E.2

**Structures within 50 Feet of the Southgate Project**

| State, County | Approximate Milepost | Building Type (House, Shed, Garage, etc.) | Occupied (yes/no) | Direction from Pipeline Centerline (North, East, South, West) | Distance from Edge of closest workspace limit (feet) | Distance From Centerline of easement (feet) | Residential Construction Plan Number | Mountain Valley Proposed Action |
|---|---|---|---|---|---|---|---|---|
| Rockingham | 30.5 | House - 1 story, abandoned | No | North | 3 | 43 | RSS-H650-031 | Protect |
| Rockingham | 30.5 | House - 1 story | Yes | South | 29 | 122 | N/A | Protect |
| Rockingham | 30.7 | House – 1 Story | Yes | East | 40 | 100 | N/A | Protect |
| Rockingham | 31.7 | House - 1 story | Yes | North | 46 | 86 | N/A | Protect |
| Rockingham | 32.5 | Shed | No | East | 4 | 1,467 | N/A | Protect |
| Rockingham | 32.5 | 1-Story House | Yes | East | 20 | 1,430 | RSS-H650-025 | Stay within limits of access road TA-RO-085.<br><br>Proposed barricade fence 100 linear feet from corner of house. |
| Rockingham | 34.1 | Garages | No | East | 38 | 500 | N/A | Protect |
| Rockingham | 35.4 | Shed - abandoned | No | North | 0 | 232 | N/A | Protect if possible or remove |
| Rockingham | 35.4 | Mobile Home | Yes | North | 32 | 512 | N/A | Protect |
| Rockingham | 36.4 | Abandoned cabin | No | North | 52 | 112 | N/A | Protect |
| Rockingham | 36.4 | Abandoned cabin | No | North | 37 | 97 | N/A | Prorect |

Appendix E.2

**Structures within 50 Feet of the Southgate Project**

| State, County | Approximate Milepost | Building Type (House, Shed, Garage, etc.) | Occupied (yes/no) | Direction from Pipeline Centerline (North, East, South, West) | Distance from Edge of closest workspace limit (feet) | Distance From Centerline of easement (feet) | Residential Construction Plan Number | Mountain Valley Proposed Action |
|---|---|---|---|---|---|---|---|---|
| Rockingham | 36.5 | Abandoned cabin | No | North | 32 | 91 | N/A | Proect |
| Rockingham | 36.5 | Abandoned cabin | No | North | 30 | 90 | N/A | Protect |
| Rockingham | 36.5 | Abandoned cabin | No | North | 30 | 93 | N/A | Protect |
| Rockingham | 36.7 | Barn | No | South | 25 | 64 | N/A | Protect |
| Rockingham | 37.1 | House - 1 story, abandoned | No | East | 0 | 48 | N/A | Protect if possible or remove. |
| Rockingham | 37.1 | House - 1 story | Yes | East | 45 | 48 | 1,360 | Protect |
| Rockingham | 40.3 | Shed | No | East | 9 | 35 | N/A | Protect |
| Rockingham | 40.3 | House - 1 story | Yes | East | 11 | 48 | RSS-H650-007 | The workspace has been adjusted in this location. Proposed barricade fence. |
| Rockingham | 40.9 | House | Yes | West | 50 | 1,304 | N/A | Protect |
| Rockingham | 41.8 | Barn | No | North | 31 | 718 | N/A | Protect |
| Rockingham | 42.4 | Shed | No | West | 9 | 47 | N/A | Protect |
| Rockingham | 43.1 | Garage | No | East | 5 | 46 | N/A | Protect |
| Rockingham | 43.1 | 1-Story House | No | Est | 11 | 114 | RSS-H650-039 | Protect |
| Rockingham | 43.9 | Shed, abandoned | No | South | 2 | 886 | N/A | Protect |

Appendix E.2

**Structures within 50 Feet of the Southgate Project**

| State, County | Approximate Milepost | Building Type (House, Shed, Garage, etc.) | Occupied (yes/no) | Direction from Pipeline Centerline (North, East, South, West) | Distance from Edge of closest workspace limit (feet) | Distance From Centerline of easement (feet) | Residential Construction Plan Number | Mountain Valley Proposed Action |
|---|---|---|---|---|---|---|---|---|
| Rockingham | 44.1 | Shed | No | East | 0 | 1,615 | RSS-H650-026 | Protect |
| Rockingham | 44.1 | 1- Story House | Yes | East | 3 | 1,612 | RSS-H650-026 | Stay within limits of access road TA-RO-122. Proposed barricade fence. |
| Rockingham | 45.0 | House - 2 story, abandoned | No | West | 27 | 110 | N/A | Protect |
| Rockingham | 46.1 | Storage building | No | North | 24 | 718 | N/A | Protect |
| Rockingham | 46.1 | Mobile home | Yes | North | 32 | 925 | N/A | Protect |
| Rockingham | 46.1 | 1-Story House | Yes | South | 16 | 1,675 | RSS-H650-027 | Stay within limits of access road TA-RO-127. Proposed barricade fence. |
| Rockingham | 46.1 | Mobile home | Yes | South | 38 | 1,675 | N/A | Stay within limits of access road TA-RO-127. |
| Rockingham | 49.1 | House - 2 story, log cabin, abandoned | No | Crosses | 0 | 0 | RSS-H650-001 | To be removed |
| Rockingham | 49.3 | Dilapidated shack | No | West | 0 | 3 | RSS-H650-002 | To be removed |
| Rockingham | 49.3 | Chicken coop | No | Crosses | 0 | 0 | RSS-H650-002 | To be removed |
| Rockingham | 49.3 | Shed | No | East | 0 | 31 | RSS-H650-002 | To be removed |

Appendix E.2

**Structures within 50 Feet of the Southgate Project**

| State, County | Approximate Milepost | Building Type (House, Shed, Garage, etc.) | Occupied (yes/no) | Direction from Pipeline Centerline (North, East, South, West) | Distance from Edge of closest workspace limit (feet) | Distance From Centerline of easement (feet) | Residential Construction Plan Number | Mountain Valley Proposed Action |
|---|---|---|---|---|---|---|---|---|
| Rockingham | 49.3 | House - 2 story, abandoned | No | East | 11 | 59 | RSS-H650-002 | The workspace has been adjusted in this location<br><br>Protect |
| Rockingham | 49.3 | Smoke House | No | East | 0 | 10 | RSS-H650-002 | To be removed |
| Rockingham | 46.3 | Shed | No | East | 0 | 62 | N/A | Relocate if possible, or remove. |
| Rockingham | 49.8 | Car awning | No | South | 46 | 635 | N/A | Protect |
| Rockingham | 52.6 | Tractor awning | No | North | 21 | 153 | N/A | Protect |
| Alamance | 52.9 | 1-Story House | Yes | East | 38 | 130 | N/A | Protect |
| Alamance | 53.0 | Barn, abandoned | No | East | 48 | 183 | N/A | Protect |
| Alamance | 53.0 | Barn, abandoned | No | East | 20 | 155 | N/A | Protect |
| Alamance | 53.0 | Shed | No | East | 0 | 33 | N/A | Relocate if possible, or remove. |
| Alamance | 53.0 | Falling down wood building | No | East | 0 | 57 | N/A | Remove |
| Alamance | 54.7 | Barn | No | West | 5 | 1,976 | N/A | Protect |
| Alamance | 54.7 | Barn | No | West | 15 | 2,071 | N/A | Protect |
| Alamance | 54.7 | Barn | No | West | 0 | 2,058 | N/A | Protect |
| Alamance | 54.7 | Barn | No | West | 0 | 2,210 | N/A | Protect |
| Alamance | 54.7 | House | No | West | 28 | 2,215 | N/A | Protect |

Appendix E.2

**Structures within 50 Feet of the Southgate Project**

| State, County | Approximate Milepost | Building Type (House, Shed, Garage, etc.) | Occupied (yes/no) | Direction from Pipeline Centerline (North, East, South, West) | Distance from Edge of closest workspace limit (feet) | Distance From Centerline of easement (feet) | Residential Construction Plan Number | Mountain Valley Proposed Action |
|---|---|---|---|---|---|---|---|---|
| Alamance | 54.7 | House, 1-Story | Yes | West | 29 b/ | 2,100 | RSS-H650-040 | Protect |
| Alamance | 56.8 | Shed | No | West | 10 | 219 | N/A | Protect |
| Alamance | 57.3 | Shed | No | East | 17 | 73 | N/A | Protect |
| Alamance | 57.3 | Garage | No | East | 16 | 106 | N/A | Protect |
| Alamance | 57.8 | Barn, abandoned | No | East | 6 | 120 | N/A | Protect |
| Alamance | 57.8 | Mobile home | Yes | North | 11 | 83 | RSS-H650-008 | The workspace has been adjusted in this location. Proposed barricade fence. |
| Alamance | 58.6 | Old Cabin | No | South | 0 | 84 | RSS-H650-042 | Protect<br>Protect if possible, likely to be removed |
| Alamance | 58.6 | Old Cabin | No | South | 0 | 14 | RSS-H650-042 | Protect if possible, likely to be removed |
| Alamance | 59.1 | 1-Story House | Yes | South | 43 | 115 | N/A | Protect |
| Alamance | 59.1 | Shed | No | South | 0 | 91 | N/A | Protect |
| Alamance | 59.2 | 1-Story House | Yes | South | 44 | 84 | N/A | Protect |
| Alamance | 62.5 | Barn | No | North | 9 | 62 | N/A | Protect |
| Alamance | 62.7 | 1-Story House | No | North | 6 | 515 | RSS-H650-037 | Protect |
| Alamance | 62.5 | Barn | No | North | 9 | 62 | N/A | Protect |

Appendix E.2

**Structures within 50 Feet of the Southgate Project**

| State, County | Approximate Milepost | Building Type (House, Shed, Garage, etc.) | Occupied (yes/no) | Direction from Pipeline Centerline (North, East, South, West) | Distance from Edge of closest workspace limit (feet) | Distance From Centerline of easement (feet) | Residential Construction Plan Number | Mountain Valley Proposed Action |
|---|---|---|---|---|---|---|---|---|
| Alamance | 67.0 | Barn | No | West | 4 | 63 | N/A | Protect |
| Alamance | 67.3 | 1-Story House | Yes | West | 12 | 795 | RSS-H650-028 | Stay within limits of access road TA-AL-180. Proposed barricade fence 100 linear feet from corner of house. |
| Alamance | 67.3 | 1-Story House | Yes | West | 18 | 1,013 | RSS-H650-028 | Stay within limits of access road TA-AL-180. Proposed barricade fence 100 linear feet from corner of house. |
| Alamance | 67.3 | 1-Story House | Yes | West | 8 | 921 | RSS-H650-028 | Stay within limits of access road TA-AL-180. Proposed barricade fence 100 linear feet from corner of house. |
| Alamance | 67.3 | Barn | Yes | West | 15 | 708 | RSS-H650-028 | Protect |
| Alamance | 67.3 | Barn | Yes | West | 2 | 600 | RSS-H650-028 | Protect |
| Alamance | 67.9 | Barn | No | East | 6 | 1,146 | N/A | Protect |
| Alamance | 68.2 | 1-Story House | No | South | 10 | 857 | RSS-H650-038 | Protect |
| Alamance | 68.2 | House | Yes | North | 43 | 1055 | N/A | Protect |
| Alamance | 68.2 | House | No | South | 28 | 1203 | N/A | Protect |
| Alamance | 68.2 | Mobile home | No | South | 28 | 1143 | N/A | Protect |
| Alamance | 68.2 | Car port | No | North | 34 | 655 | N/A | Protect |

Appendix E.2

**Structures within 50 Feet of the Southgate Project**

| State, County | Approximate Milepost | Building Type (House, Shed, Garage, etc.) | Occupied (yes/no) | Direction from Pipeline Centerline (North, East, South, West) | Distance from Edge of closest workspace limit (feet) | Distance From Centerline of easement (feet) | Residential Construction Plan Number | Mountain Valley Proposed Action |
|---|---|---|---|---|---|---|---|---|
| Alamance | 68.6 | Barn | No | North | 0 | 76 | N/A | Protect |
| Alamance | 69.1 | 2-Story House | Yes | East | 23 | 88 | RSS-H650-009 | Install safety fence at limit of workspace extending 100 feet from house. |
| Alamance | 69.3 | Shed | No | North | 7 | 66 | N/A | Protect |
| Alamance | 69.4 | Chicken / rabbit coop | No | North | 0 | 0 | N/A | Remove or Relocate |
| Alamance | 69.4 | Shed | No | North | 0 | 4 | N/A | Remove or Relocate |
| Alamance | 69.5 | Shed in concrete | No | North | 28 | 87 | N/A | Protect |
| Alamance | 69.5 | Shed | No | East | 48 | 117 | N/A | Protect |
| Alamance | 69.5 | Shed | No | North | 43 | 103 | N/A | Protect |
| Alamance | 69.5 | Warehouse | No | South | 32 | 335 | N/A | Protect |
| Alamance | 69.6 | 1-Story House | Yes | West | 6 | 31 | RSS-H650-017 | Install safety fence at limit of workspace extending 100 feet from road right-of-way and extending 100 feet from the house to the north. |
| Alamance | 69.6 | Portable Building | No | East | 38 | 100 | N/A | Protect |

Appendix E.2

**Structures within 50 Feet of the Southgate Project**

| State, County | Approximate Milepost | Building Type (House, Shed, Garage, etc.) | Occupied (yes/no) | Direction from Pipeline Centerline (North, East, South, West) | Distance from Edge of closest workspace limit (feet) | Distance From Centerline of easement (feet) | Residential Construction Plan Number | Mountain Valley Proposed Action |
|---|---|---|---|---|---|---|---|---|
| Alamance | 69.6 | Business - textiles | No | East | 17 | 36 | N/A | Protect |
| Alamance | 69.7 | 2-Story House | Yes | East | 8 | 33 | RSS-H650-018 | Install safety fence at limit of workspace from road right-of-way and extending 100 from the house to the south. |
| Alamance | 69.7 | Garage | No | East | 31 | 91 | N/A | Protect |
| Alamance | 69.7 | Fire station | No | West | 4 | 44 | N/A | Protect |
| Alamance | 69.7 | Business | No | West | 0 | 38 | N/A | Protect |
| Alamance | 69.7 | Pavilion | No | West | 0 | 0 | N/A | Remove |
| Alamance | 69.8 | Garage | No | West | 6 | 100 | N/A | Protect |
| Alamance | 69.8 | Shed | No | West | 0 | 27 | N/A | Remove or Relocate |
| Alamance | 69.8 | Shed | No | East | 0 | 0 | N/A | Remove or Relocate |
| Alamance | 69.8 | Shed | No | East | 0 | 0 | N/A | Remove or Relocate |
| Alamance | 69.8 | Barn | No | West | 10 | 100 | N/A | Protect |

Appendix E.2

**Structures within 50 Feet of the Southgate Project**

| State, County | Approximate Milepost | Building Type (House, Shed, Garage, etc.) | Occupied (yes/no) | Direction from Pipeline Centerline (North, East, South, West) | Distance from Edge of closest workspace limit (feet) | Distance From Centerline of easement (feet) | Residential Construction Plan Number | Mountain Valley Proposed Action |
|---|---|---|---|---|---|---|---|---|
| Alamance | 69.8 | 1-Story House | Yes | West | 0 | 56 | RSS-H650-006 | Exclude house from ATWS by installing safety fence around the house, leaving the front (street side) of the house open for occupant access. |
| | | | | | | | | Protect |
| Alamance | 70.0 | Pump House | No | East | 44 | 154 | N/A | Protect |
| Alamance | 70.7 | Shed, fallen down | No | West | 35 | 76 | N/A | Protect |
| Alamance | 71.4 | Green House | No | East | 48 | 107 | N/A | Protect |
| Alamance | 71.4 | Green House | No | East | 38 | 100 | N/A | Protect |
| Alamance | 72.2 | Shed | No | East | 42 | 174 | N/A | Protect |
| Alamance | 72.7 | Garage | No | East | 32 | 97 | N/A | Protect |
| Alamance | 72.8 | Shed | No | East | 16 | 64 | N/A | Protect |
| Alamance | 72.8 | Garage | No | West | 16 | 56 | RSS-H650-015 | N/A |
| Alamance | 72.8 | Garage | No | East | 0 | 33 | RSS-H650-015 | Protect if possible, if not it will need to be removed |
| Alamance | 72.8 | Camper | No | East | 22 | 157 | RSS-H650-015 | Protect |
| Alamance | 72.9 | Garage | No | East | 39 | 99 | N/A | Protect |
| Alamance | 72.9 | Mobile home | Yes | N/A | 0 | 37 | RSS-H650-036 | Protect |
| Alamance | 72.9 | 1-Story House - Abandoned | No | N/A | 0 | 0 | RSS-H650-036 | Remove |

Appendix E.2

**Structures within 50 Feet of the Southgate Project**

| State, County | Approximate Milepost | Building Type (House, Shed, Garage, etc.) | Occupied (yes/no) | Direction from Pipeline Centerline (North, East, South, West) | Distance from Edge of closest workspace limit (feet) | Distance From Centerline of easement (feet) | Residential Construction Plan Number | Mountain Valley Proposed Action |
|---|---|---|---|---|---|---|---|---|
| Rockingham | CY-05 | Building | No | West | 0 | 15,620 | RSS-H650-003 | Install safety fence around the house at a 1-foot off-set from the property line. |
| Rockingham | CY-05 | Fuel bays | No | West | 0 | 15,418 | N/A | N/A |
| Rockingham | CY-05 | Truck stop | No | West | 0 | 15,368 | N/A | N/A |
| Rockingham | CY-05 | Garage bays | No | West | 0 | 15,325 | N/A | N/A |
| Rockingham | CY-05 | Warehouse | No | West | 0 | 14,825 | N/A | N/A |
| Rockingham | CY-05 | Garage | No | West | 0 | 14,725 | N/A | N/A |
| Rockingham | CY-08 | Garage | No | West | 50 | 14,189 | N/A | N/A |
| Guilford | CY-09 | Commercial | No | West | 20 | 54,620 | N/A | N/A |
| Pittsylvania | CY-03 | Warehouse | No | East | 0 | 58,418 | N/A | N/A |
| Pittsylvania | CY-01 | House - 1 story | No | North | 0 | 1,511 | N/A | N/A |
| Pittsylvania | CY-01 | Garage | No | North | 0 | 1,586 | N/A | N/A |

# APPENDIX F.1

## Figures of Projects Contributing to Cumulative Impacts

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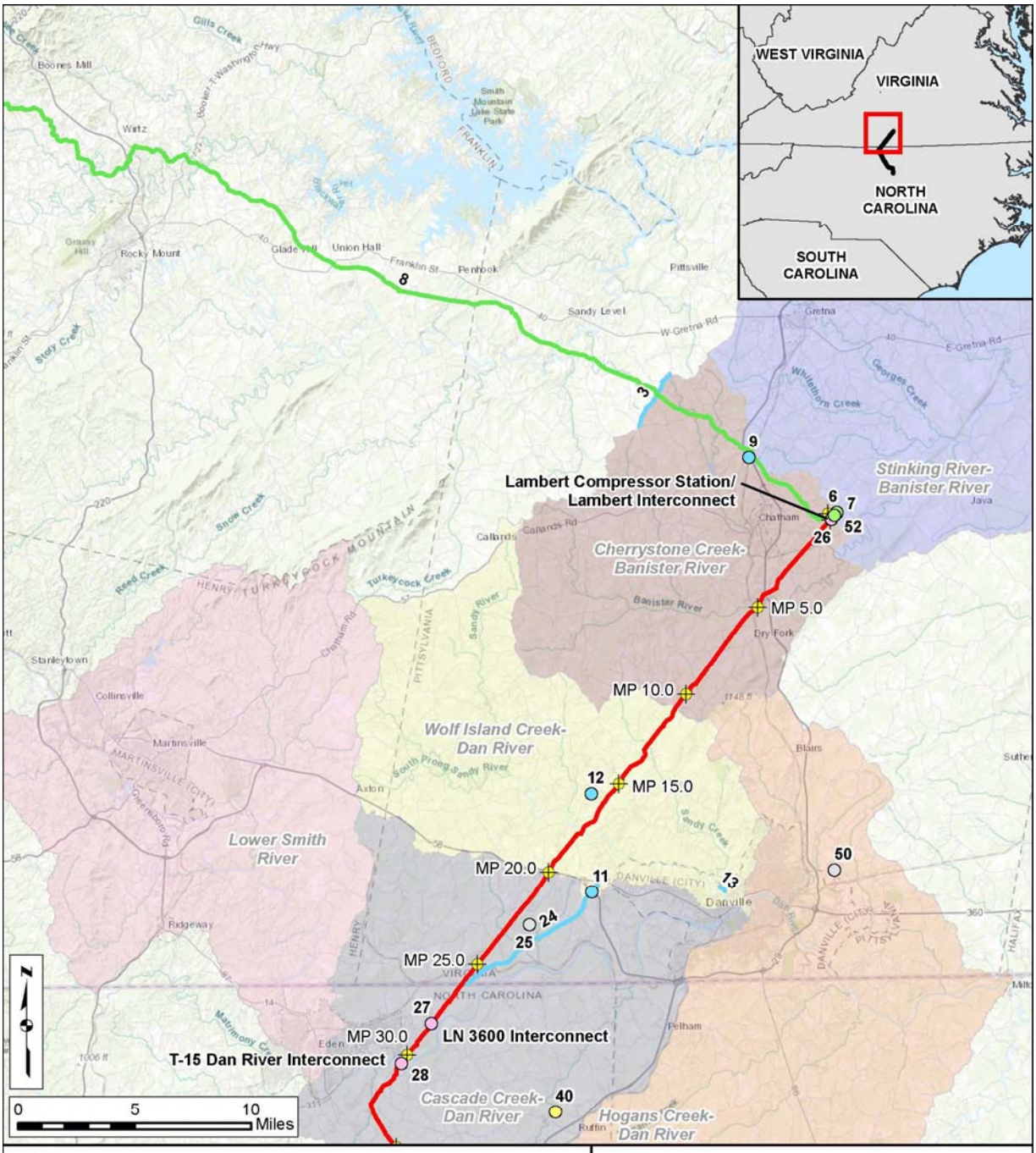


**Figure 1**

**Southgate Project**

Projects Contributing to Cumulative Impacts
HUC 10 Watersheds

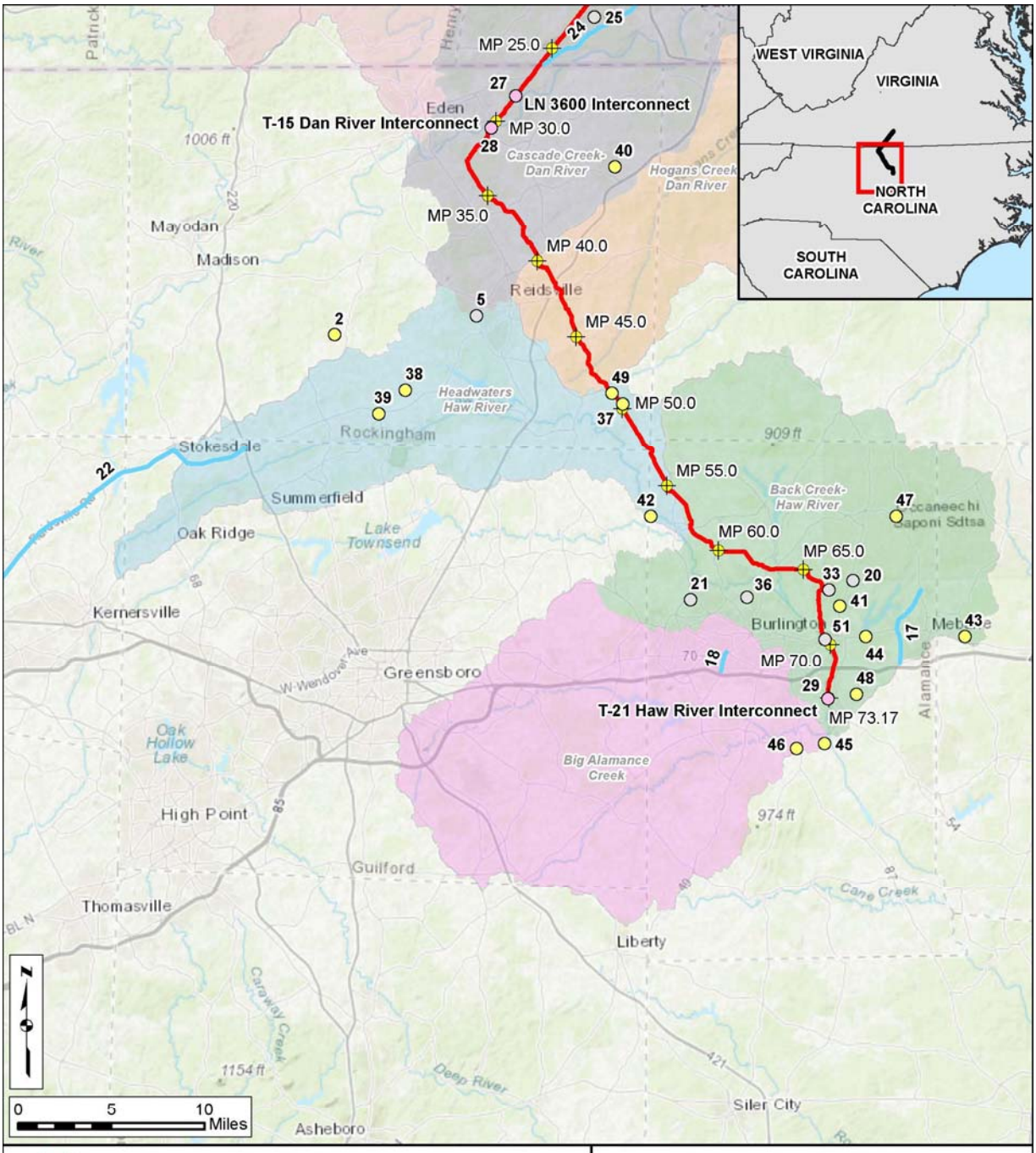


**Figure 2**

**Southgate Project**

Projects Contributing to Cumulative Impacts
HUC 10 Watersheds

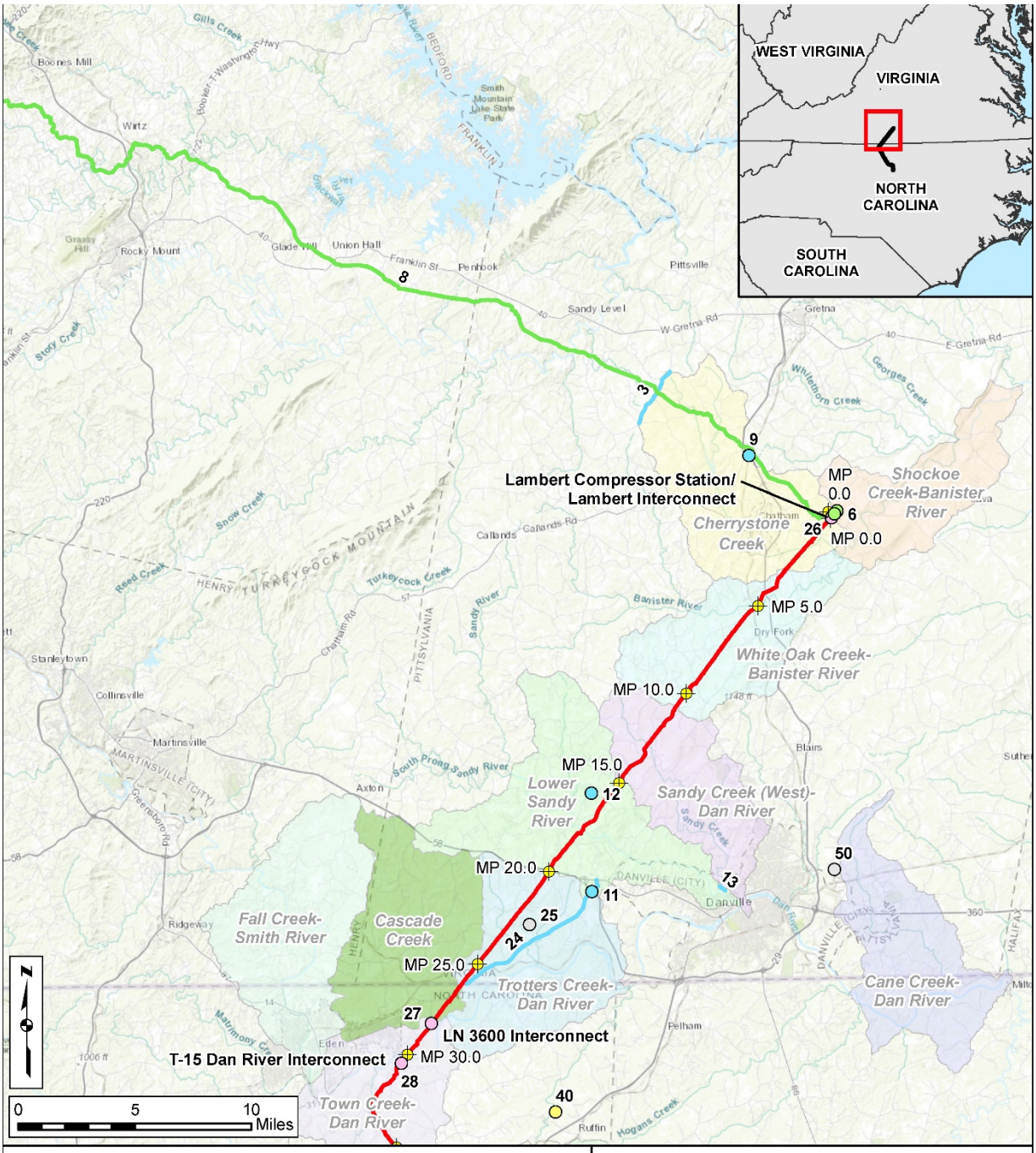


**Figure 3**

**Southgate Project**

Projects Contributing to Cumulative Impacts
HUC 12 Watersheds

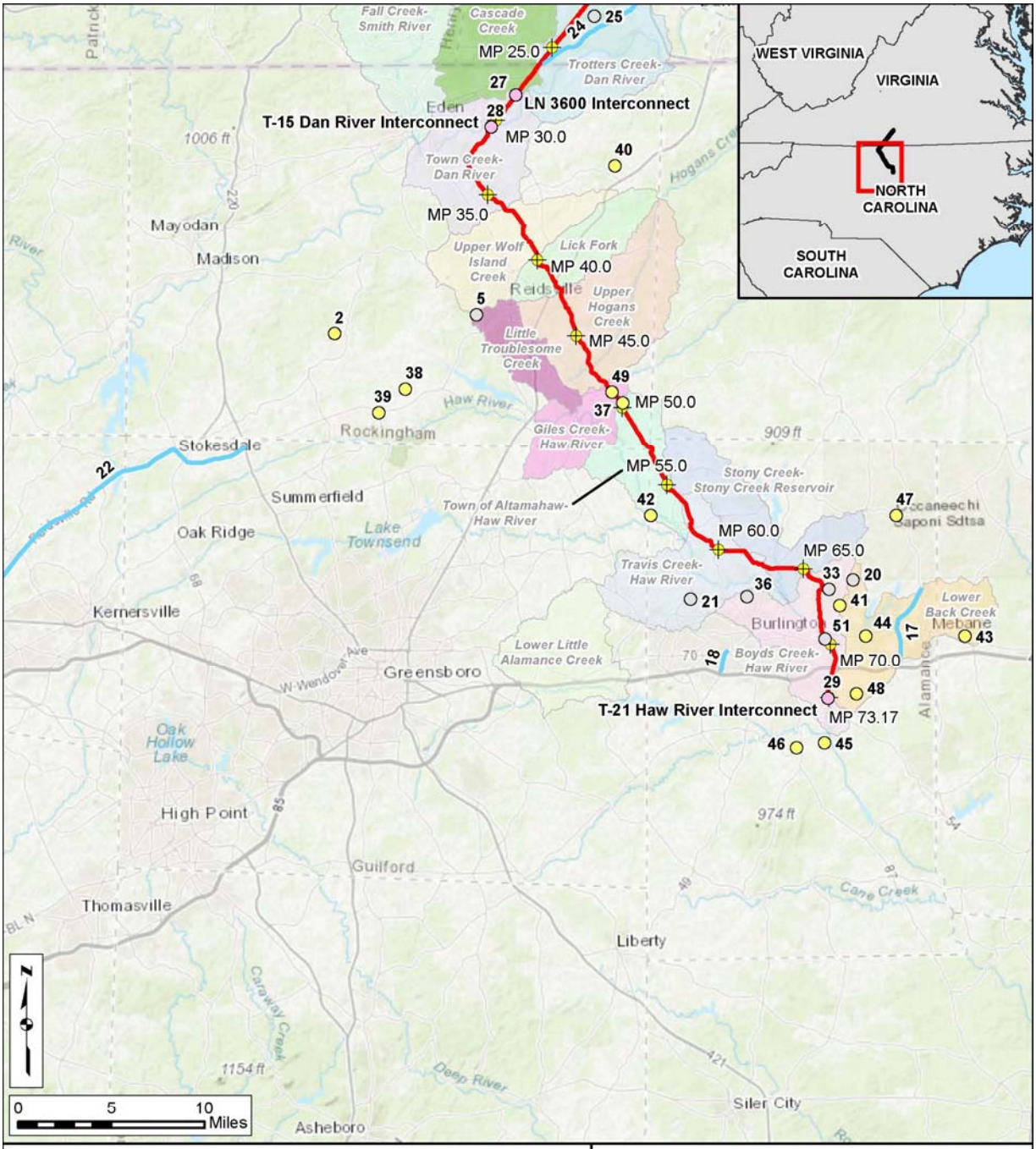


**Figure 4**

**Southgate Project**

Projects Contributing to Cumulative Impacts
HUC 12 Watersheds

# APPENDIX F.2

# Table of Other Projects in the Geographic Scope of Analysis Considered for Cumulative Impacts

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APPENDIX F.2

**Other Projects in the Geographic Scope of Analysis Considered for Cumulative Impacts**

| Project Type | Project ID / Project Facility a/ | Description of Facilities | Temporal Status | Acres Affected b/ | Approximate Distance from Southgate Project d/ | Shared Watershed (Level/ HUC-12) | Socioeconomics/ Environmental Justice | Water Resources and Wetlands | Vegetation, Wildlife and Fisheries | Land Use, Recreation, and Visual Resources | Cultural Resources | Air Quality and Noise |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **[No Shared HUC 10 watershed] (Rockingham County, NC) ) c/** | | | | | | | | | | | | |
| Energy Projects | (2) Reidsville Energy Center | 500 MW natural gas electric generating facility owned by NTE Energy in Rockingham County, North Carolina. | Construction to start Summer 2019, pending financing | 20 acres | 12 miles | No shared HUC 12 watershed | X | | | | | |
| **Cherrystone Creek-Banister River HUC 10 Watershed (Pittsylvania County, VA) c/** | | | | | | | | | | | | |
| FERC-jurisdictional Natural Gas Interstate Transportation Projects | (6) Virginia Southside Expansion | Also shares Stinking River-Banister River HUC 10 watershed. Approximately 10 miles (out of 100 miles total) of new 24-inch diameter pipeline from Transco mainline in Pittsylvania County, Virginia and into Halifax, Charlotte, and Mecklenburg. Terminates in Brunswick County, Virginia. Construction of CS 166 in Pittsylvania County, Virginia. Operated by Transco. | In-service | 1,454.3 acres for construction<br>119.0 acres for operation | 0.4 miles | Cherrystone Creek<br>Shockoe Creek-Banister River | X | X | X | X | X | X |
| FERC-jurisdictional Natural Gas Interstate Transportation Projects | (52) Virginia Southside Expansion II | Also shares Stinking River-Banister River HUC 10 watershed. Upgrades to CS 166 in Pittsylvania County, Virginia. Modifications to 19 existing facilities in North Carolina and Virginia. Construction activities in Brunswick and Greensville County, Virginia. New CS in Prince William County, Virginia | In-service | 180.1 acres for construction<br>29.3 acres for operation | 0 miles | Cherrystone Creek<br>Shockoe Creek-Banister River | X | X | X | X | X | X |
| FERC-jurisdictional Natural Gas Interstate Transportation Projects | (8) Mountain Valley Pipeline | Also shares Stinking River-Banister River HUC 10 watershed. Approximately 303 miles of 42-inch pipeline and 3 new compressor stations from northwestern West Virginia to southern Virginia. Operated by Mountain Valley Pipeline, LLC and Equitrans, LP | Under Construction. | 6,363.4 acres for construction<br>2,117.8 acres for operation | 0 miles | Cherrystone Creek<br>Shockoe Creek-Banister River | X | X | X | X | X | X |
| FERC-jurisdictional Natural Gas Interstate Transportation Projects | (7) Southeastern Trail | Also shares Stinking River-Banister River HUC 10 watershed Approximately 7.7 miles of 42-in. pipeline looping facilities in Virginia, horsepower additions at existing compressor stations in Virginia, and piping and valve modifications on other existing facilities in South Carolina, Georgia, and Louisiana Compressor Station 165 upgrade in Chatham, VA within Pittsylvania County, VA. Operated by Transco. | Application Filed April 2018. Construction to begin Q3 of 2019. Planned in-service November 2020 | 466 acres construction<br>42.6 acres for operation | 0.4 miles | Cherrystone Creek | X | X | X | X | X | X |
| Non-Jurisdictional Facilities associated with Southgate | (26) Lambert interconnect and MLV 1 | New interconnecting facility to the Mountain Valley Pipeline system via the H-605 pipeline | Will be reviewed by local agencies prior to construction | 20.5 acres construction<br>11.7 acres operation | 0 miles | Cherrystone Creek | X | X | X | X | X | X |
| Transportation/ Roadway Projects | (3) Climax Road Widening | Road widening to a minimum of 20 feet to accommodate traffic | Planning | Not Available | 8.9 miles | Cherrystone Creek | | | | | | |

APPENDIX F.2

**Other Projects in the Geographic Scope of Analysis Considered for Cumulative Impacts**

| Project Type | Project ID / Project Facility a/ | Description of Facilities | Temporal Status | Acres Affected b/ | Approximate Distance from Southgate Project d/ | Shared Watershed (Level/ HUC-12) | Socioeconomics/ Environmental Justice | Water Resources and Wetlands | Vegetation, Wildlife and Fisheries | Land Use, Recreation, and Visual Resources | Cultural Resources | Air Quality and Noise |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Transportation/ Roadway Projects | (9) U.S. Route 29 South over Norfolk Southern Railroad / VADOT | Replacement of the bridge on U.S. Route 29 South over Norfolk Southern Railroad with approaches on this Principal Rural Arterial roadway in Pittsylvania County | Complete 2017 | 0.4 acres | 4.4 miles | Cherrystone Creek | | | | | | |
| **Wolf Island Creek-Dan River HUC 10 Watershed (**Henry/**Pittsylvania Counties, VA) c/** | | | | | | | | | | | | |
| Transportation/ Roadway Projects | (11) Route 58 over Route 311 / VADOT | About 3.3 million in upgrades to the intersection of Berry Hill Road and U.S. 58 West of Danville to accommodate traffic for the nearby Berry Hill Road industrial Park | Planning | 8 acres | 2.0 miles | Lower Sandy River | | | | | | |
| Transportation/ Roadway Projects | (12) Stony Mill Road / VADOT | The construction of a single lane roundabout at the intersection of Stony Mill Road and Tunstall High Road- 2.2 million | Planning | 0.4 acres | 0.5 miles | Lower Sandy River | | | | | | |
| Transportation/ Roadway Projects | (13) Mount Cross Road / VADOT | A two-phase plan to widen Mount Cross Road to the city limits, making the road a five-lane section with a two-way center turn lane with a new park and ride lot and sidewalk -17 million | Planning | 3.3 acres | 6.1 miles | Sandy Creek (West) –Dan River | | | | | | |
| **Cascade Creek-Dan River HUC 10 Watershed (**Caswell/**Rockingham Counties, NC and** Henry/**Pittsylvania Counties, VA) c/** | | | | | | | | | | | | |
| Non-Jurisdictional Facilities associated with Southgate | (27) LN 3600 Interconnect and Receipt Meter Station | New interconnect to the East Tennessee pipeline system near MP 28.2 | Will be reviewed by local agencies prior to construction | 4.8 acres construction<br>0.7 acres operation | 0 miles | Cascade Creek | X | X | X | X | X | X |
| Energy Projects | (40) Old Road Solar | 5 MW facility. CPCN issued January 10, 2017 | Projected in-service date was October 2016. No construction to-date | 18 acres | 5.8 miles | No shared HUC 12 watershed | X | X | | | | |
| Non-Jurisdictional Facilities associated with Southgate | (28) T-15 Dan River Interconnect and MLV 4 | New interconnect to the PSNC distribution system near MP 30.4 | Will be reviewed by local agencies prior to construction | 5.2 acres construction<br>0.8 acres operation | 0 miles | Town Creek – Dan River | X | X | X | X | X | X |
| Transportation/ Roadway Projects | (24) Berry Hill Road / VADOT | Also crossed Wolf Island Creek – Dan River HUC 10 watershed. Reconstruction of Berry Hill Road in order to accommodate more traffic- 23.7 million | Planning | Not Available | 2 miles | Trotters Creek - Dan River | | | | | | |
| **Hogans Creek-Dan River HUC 10 Watershed (**Caswell/**Rockingham Counties, NC and Pittsylvania County, VA) c/** | | | | | | | | | | | | |
| Commercial/Industrial Projects | (50) Panaceutics Research and Development Facility / Panaceutics, Inc. | Panaceutics, a manufacturer of personalized medicine and nutrition solutions, will invest $5.8 million to establish a research and development and high-tech manufacturing facility in the Ringgold East Industrial Park in Pittsylvania County, Virginia. | Under Construction | 112 acres | 10 miles | No shared HUC 12 watershed | X | X | | | | |

APPENDIX F.2

**Other Projects in the Geographic Scope of Analysis Considered for Cumulative Impacts**

| Project Type | Project ID / Project Facility a/ | Description of Facilities | Temporal Status | Acres Affected b/ | Approximate Distance from Southgate Project d/ | Shared Watershed (Level/ HUC-12) | Socioeconomics/ Environmental Justice | Water Resources and Wetlands | Vegetation, Wildlife and Fisheries | Land Use, Recreation, and Visual Resources | Cultural Resources | Air Quality and Noise |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Headwaters Haw River HUC 10 Watershed (**Guilford/Caswell/**Rockingham/Alamance Counties, NC) c/** | | | | | | | | | | | | |
| Residential Projects | (5) Carter Ridge / Keystone Homes | Carter Ridge new construction homes, Carter Ridge Drive, Reidsville, NC | Under Construction | 30 acres | 5 miles | Little Troublesome Creek | X | X | X | | | |
| Energy Projects | (38) Gallant Solar Farm | 45 MW facility, CPCN issued March 27, 3018 | Projected online June 1, 2019 | 276 acres | 10 miles | No shared HUC 12 watershed | X | X | | | | |
| Energy Projects | (49) Husky Solar, LLC | 7.02 megawatt DC solar photovoltaic facility located on both sides of NC Highway 87 adjacent to Project at MP 49 | In operation; Permitted prior to 2015 | 29 acres | 0 miles | Giles Creek-Haw River | X | X | X | X | X | X |
| Energy Projects | (42) Osceola Solar Project | 5 MW facility. | Permitted 2016. Projected in-service September 1, 2017 | 70 acres | 1.8 miles | Town of Altamahaw – Haw River | X | X | X | | | |
| Transportation/ Roadway Projects | (22) U.S. 158 (Reidsville Road) Improvements / NCDOT | Proposed 18.8-mile widening of U.S. 158 from U.S. 421/Business 40 in Winston-Salem to U.S. 220 in Guilford County | In Development | 71 acres | 18.6 miles | No shared HUC 12 watershed | | | | | | |
| Energy Projects | (39) Washington Solar Farm | 5 MW solar facility. CPCN issued September 9, 2015 | Projected online December 2016 | 30 acres | 13 miles | No shared HUC 12 watershed | X | X | | | | |
| Energy Projects | (37) Cypress Creek Renewables Solar Farm | 174,000 MW 600 acre solar farm. Adjacent to Southgate Project at MP 50 | Permitted; Construction to begin in 2019 | 341 acres | 0 miles | Giles Creek - Haw River | X | X | X | X | X | X |
| **Back Creek-Haw River HUC 10 Watershed (**Guilford/Caswell/**Alamance Counties, NC) c/** | | | | | | | | | | | | |
| Non-Jurisdictional Facilities associated with Southgate | (29) T-21 Haw River Interconnect and MLV 8 | New interconnect to the PSNC distribution system and the terminus for the Southgate project | Will be reviewed by local agencies prior to construction | 1.4 acres construction<br>0.6 acres operation | 0 miles | Boyds Creek – Haw River | X | X | X | X | X | X |
| Energy Projects | (48) Kimery Road Solar Farm | 2 MW Solar Facility | Planning | Not available | 1.5 miles | Lower Back Creek | X | X | X | | | |
| Energy Projects | (43) Bakatsias Solar Farm | 5 MW facility. CPCN issued November 6, 2017. | Expected in-service December 20, 2017 | 24 acres | 7.0 miles | Lower Back Creek | X | X | X | | | |
| Residential Projects | (36) Brassfield Meadows | New construction housing development; 18 units | Under Construction | 5 acres | 1.7 miles | Boyds Creek – Haw River | X | X | X | | | |
| Transportation/ Roadway Projects | (17) NC 119 Relocation / NCDOT | Proposed relocation of a portion of N.C. 119 in Mebane – from I-85 to existing the N.C. 119 near Mrs. White Lane | In Development | 12 acres | 5 miles | Lower Back Creek | | | | | | |
| Energy Projects | (41) Green Level-Charles Drew Solar Farm | 5 MW solar energy facility | Projected online March 30, 2019 | 5 acres | 0.9 miles | Boyds Creek – Haw River | X | X | X | X | X | X |
| Residential Projects | (20) LGI Homes- Bedford Hills | New construction housing development single family homes near 111 Pillow Ln., Burlington, NC | Under Construction | 95 acres | 1.5 miles | Lower Back Creek | X | X | X | | | |
| Residential Projects | (21) Forest Creek / True Homes | New construction housing development 5 new homes in development | Under Construction | 40 acres | 3.5 miles | Travis Creek – Haw River | X | X | X | | | |
| Energy Projects | (47) Necal Solar Farm | 5 MW solar facility. CPCN issued November 28, 2017 | Planning | 42 acres | 5.3 miles | No shared HUC 12 watershed | X | X | X | | | |

APPENDIX F.2

**Other Projects in the Geographic Scope of Analysis Considered for Cumulative Impacts**

| Project Type | Project ID / Project Facility a/ | Description of Facilities | Temporal Status | Acres Affected b/ | Approximate Distance from Southgate Project d/ | Shared Watershed (Level/ HUC-12) | Socioeconomics/ Environmental Justice | Water Resources and Wetlands | Vegetation, Wildlife and Fisheries | Land Use, Recreation, and Visual Resources | Cultural Resources | Air Quality and Noise |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Energy Projects | (44) Norris Solar Farm | 5 MW solar facility. Application September 9, 2016. Projected in-service December 31, 2017 | In service | 24 acres | 1.9 miles | Lower Back Creek | X | X | X | | | |
| Resource Extraction | (33) East Alamance Quarry | Gravel, sand, crushed stone aggregates operation. Owned and operated by Martin Marietta Materials, Inc. | In operation | 240 acres for operation. | 0.1 miles | Boyds Creek – Haw River | X | X | X | X | X | X |
| Residential Projects | (51) Granite Mill | Development of 176 apartments and 15,000 sq. ft. of commercial space in an abandoned mill. | Planning | 6 acres | 0 miles | Boyds Creek – Haw River | X | X | X | X | X | X |
| **Big Alamance Creek HUC 10 Watershed** (Guilford/**Alamance Counties, NC) c/** | | | | | | | | | | | | |
| Energy Projects | (46) Woodgriff Solar | 3 MW solar facility | Intent to construct permit expires June, 2019 | 38 acres | 3.2 miles | No shared HUC 12 watershed | X | X | X | | | |
| Transportation/ Roadway Projects | (18) N.C. 62 Widening - Ramada Road to U.S. 70 / NCDOT | Proposed widening an approximately 1-mile stretch of N.C. 62 to improve traffic flow and safety | In Development | 9 acres | 4 miles | No shared HUC 12 watershed | | | | | | |
| Energy Projects | (45) Southwick Solar Farm, LLC | 3 MW solar facility | Application filed 2017; pending site review | 26 acres | 2.5 miles | No shared HUC 12 watershed | X | X | | | | |

a/ Contains ID related to projects illustrated on Figures 1 through 4.

b/ Acres affected includes the acreage of project that occurs within the watershed and not just the county shared with the Southgate Project. Acreages are estimated based on information available from various sources including the FERC eLibrary, the North Carolina Utilities Commission Website, the Virginia and North Carolina Department of Transportation websites, County websites, Bing aerials, and Google Earth imagery. Estimated acres affected are not based on final engineered project designs, as that level of detail is not available for all other projects. With the exception of the Virginia Southside Expansion project, the Transco Southeastern Trail project, and the MVP Pipeline project, acres affected by construction and operation are assumed to be the same.

c/ HUC-10 Watersheds/counties/states identified in bold indicate watersheds and counties that the Southgate Project would cross. County names that are not bolded are located within a shared HUC-10 watershed, but are not crossed by the Southgate Project.

d/ Distance estimate from Southgate Project centerline.

# APPENDIX G

# List of Preparers

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## LIST OF PREPARERS

**Federal Energy Regulatory Commission**

**Mardiney, Amanda – Project Manager**
M.A., Environmental Resource Policy, George Washington University, 2012
B.S., Biology, University of Maryland, College Park, 2009

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# APPENDIX H

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