

SANITARY SEWER SPECIFICATIONS:

1. PIPE AND FITTINGS: ALL SANITARY SEWER PIPE AND FITTINGS SHALL BE POLYVINYL CHLORIDE (PVC), SDR 35, AND SHALL CONFORM WITH ASTM D-3034.
2. INSTALLATION: THE SANITARY SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS AND THESE SPECIFICATIONS. THE PIPE SHALL BE LAID IN TRUE STRAIGHT LINES WITH THE BELL ENDS UPSTREAM AND WITH THE INVERT OF THE PIPE BEING THE TRUE ELEVATION AND GRADE OF THE SYSTEM. THE PIPE SHALL BE VISUALLY INSPECTED FOR DEFECTS BEFORE LOWERING THE PIPE IN THE TRENCH. FIELD CUTTING OF THE PIPE SHALL BE DONE SO IN A NEAT AND WORKMANLIKE MANNER, SO AS TO LEAVE A SMOOTH END AT RIGHT ANGLES TO THE AXIS OF THE PIPE.
3. TRENCH EXCAVATION: TRENCHES SHALL BE EXCAVATED IN STRAIGHT LINES AND SHALL BE OF SUFFICIENT WIDTH TO PERMIT THE PROPER INSTALLATION OF BRACING, SHORING OR SHEETING. TRENCH WIDTH OF THE PIPE TRENCH SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF FOUR (4) INCHES BELOW THE BOTTOM OF THE PIPE, TO PROVIDE FOR THE COMPACTED BEDDING MATERIAL.
4. BEDDING: BEDDING MATERIAL SHALL BE COARSE AGGREGATE SIZE NUMBER 57 AND SHALL CONFORM WITH VDOT SECTION 203 AND/OR ASTM C33. BEDDING MATERIAL SHALL BE PLACED AND COMPACTED IN FOUR (4) INCHES BELOW THE PIPE AND AS A MINIMUM UP TO THE SPRINGLINE OF THE PIPE. CARE SHALL BE TAKEN TO INSURE THE BEDDING MATERIAL FULLY SUPPORTS THE SIDE AND BOTTOM OF THE PIPE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
5. BACKFILL: BACKFILL MATERIAL SHALL BE EITHER APPROVED EXCAVATED MATERIAL OR APPROVED SUITABLE MATERIAL FROM OTHER SOURCES THAT IS FREE OF ORGANIC MATERIAL, LOAM, DEBRIS, OR OTHER OBJECTIONABLE MATERIAL. BACKFILL FROM PIPE BEDDING TO MINIMUM ONE (1) FOOT ABOVE THE TOP OF PIPE SHALL BE FREE OF STONES LARGER THAN TWO (2) INCHES AND SHALL BE PLACED IN SIX (6) INCH LAYERS AND COMPACTED WITH HAND TAMPERS. BACKFILL FROM THIS POINT TO TOP OF TRENCH SHALL BE FREE OF STONES LARGER THAN FOUR (4) INCHES AND SHALL BE PLACED IN LAYERS NOT TO EXCEED EIGHT (8) INCHES AND COMPACTED WITH MECHANICAL TAMPERS.

BACKFILL BELOW UNPAVED AREAS SHALL BE COMPACTED TO 90 PERCENT. BACKFILL BELOW PAVED AREAS SHALL BE COMPACTED TO 95%. BACKFILL COMPACTION TESTING SHALL BE IN ACCORDANCE WITH ASTM D-1557.

6. TESTING OF SANITARY SEWER: TESTING FOR WATERTIGHTNESS SHALL BE MADE UTILIZING A LOW PRESSURE AIR TEST. THE TESTING EQUIPMENT, PROCEDURE AND RESULTS WILL ALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER. THE AIR TEST SHALL BE IN ACCORDANCE WITH ASTM C-828, CURRENT REVISION.

THE CONTRACTOR SHALL DEFLECTION TEST THE ENTIRE LENGTH OF PIPE BY MEANS OF A GO-NO-GO MANDREL TO ASSURE THAT A 5.0% DEFLECTION HAS NOT BEEN EXCEEDED. MANDREL SHALL BE SIZED AT 5% LESS THAN ASTM DIMENSION FOR THE SEWER.

NOTICE: All Landowners, Developers and Contractors

FAILURE TO COMPLY WITH THE CONSTRUCTION PROCEDURE REQUIREMENTS LISTED BELOW MAY RESULT IN THE COSTLY REMOVAL OF STRUCTURES, TIME DELAYS, OR THE ISSUANCE OF A STOP WORK ORDER.

CONSTRUCTION PROCEDURE REQUIREMENTS

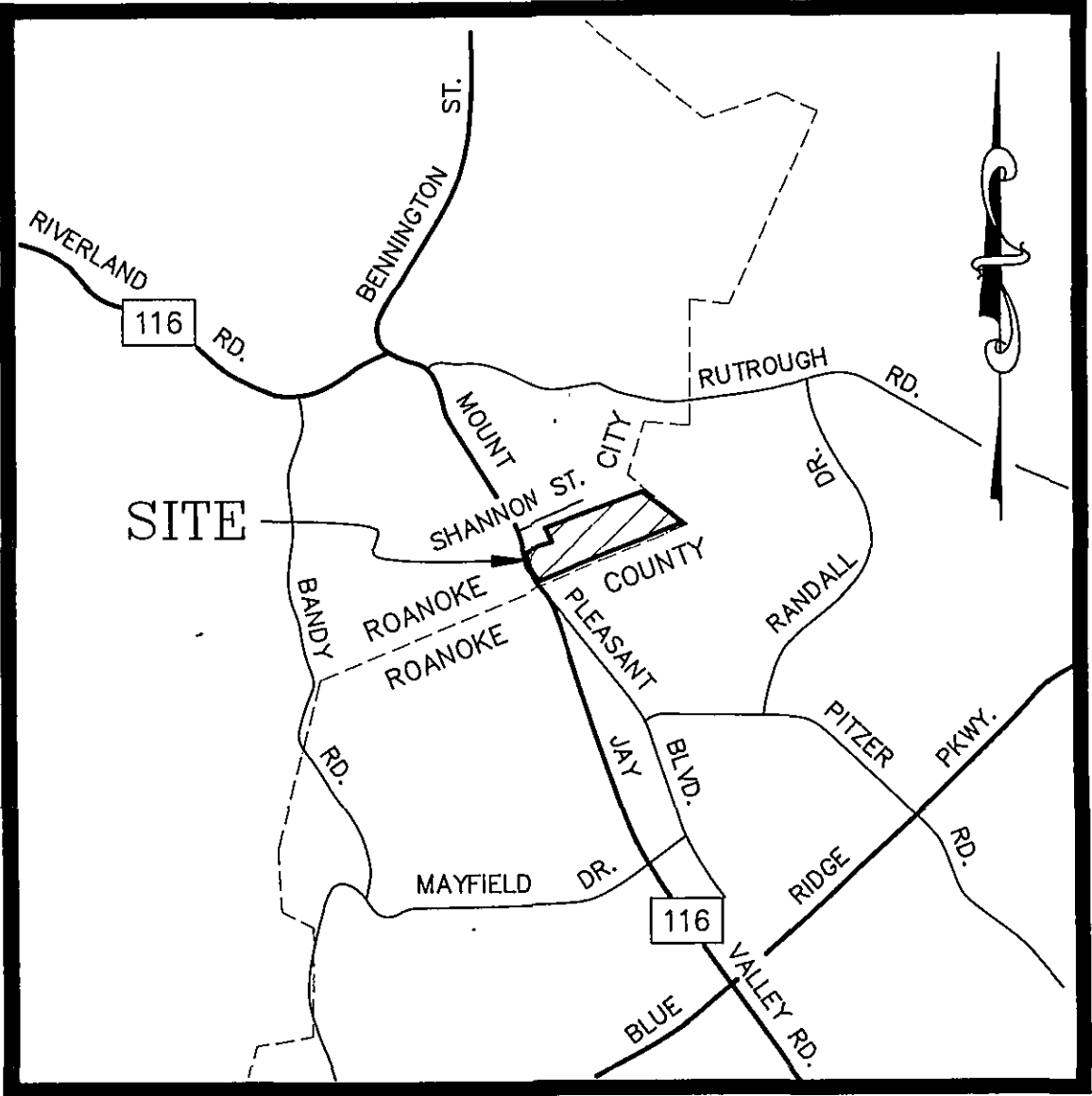
1. City inspections: To ensure the coordination of timely and proper inspections, a preconstruction conference shall be initiated by the contractor with the Planning and Community Development. Call 703-981-2250 to arrange a conference at least three (3) days prior to anticipated construction.
2. Street opening permit: Prior to the commencement of any digging, alteration, or construction within the public right-of-way (streets, alleys, public easements) a street opening permit shall be applied for and obtained by the contractor from the City of Roanoke.
3. Plans and permits: A copy of the plans approved by the city (signed by the proper City officials) and all permits issued by the City shall be available at the construction site at all times of ongoing construction.
4. Location of utilities: The contractor shall verify the location of all existing utilities prior to the commencement of any construction.
5. Construction entrances: The contractor shall install an adequate construction entrance for all construction-related egress from the site. Size and composition of construction entrance shall be determined by the City site plan inspector.
6. Streets to remain clean: It shall be the responsibility of the contractor to insure that the public street adjacent to the construction entrance remains free of mud, dirt, dust, and/or any type of construction materials or litter at all times.
7. Barricades/ditches: The contractor shall maintain the integrity of all excavated ditches and shall furnish and ensure that all barricades proper and necessary for the safety of the public are in place.
8. Sewer and pavement replacement: Construction of sanitary sewers and the replacement of pavement shall be in accordance with approved standards and specifications of the City of Roanoke.
9. Approved plans/construction changes: Any change or variation from construction design as shown on the officially approved plans shall be approved by the City Engineer prior to said changes or variations in construction being made.
10. Final acceptance/city: The developer or contractor shall furnish the city of Roanoke engineering department with a final correct set of as-built plans prior to final acceptance by the City.

DEVELOPMENT PLANS  
FOR  
"ROSEWALK"  
SITUATED IN  
ROANOKE, VIRGINIA

DATE: 4 APRIL 1994

PROPERTY OF

DOMINION DEVELOPERS, INC.



LOCATION MAP

LUMSDEN ASSOCIATES, P.C.  
ENGINEERS-SURVEYORS-PLANNERS  
ROANOKE, VIRGINIA

STORM SEWER SPECIFICATIONS

1. PIPE AND FITTINGS: ALL STORM SEWER PIPE AND FITTINGS SHALL BE CONCRETE, CLASS III.
2. INSTALLATION: THE STORM SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS AND THESE SPECIFICATIONS. THE PIPE SHALL BE LAID IN TRUE STRAIGHT LINES WITH THE BELL ENDS UPSTREAM AND WITH THE INVERT OF THE PIPE BEING THE TRUE ELEVATION AND GRADE OF THE SYSTEM. THE PIPE SHALL BE VISUALLY INSPECTED FOR DEFECTS BEFORE LOWERING THE PIPE IN THE TRENCH. FIELD CUTTINGS OF THE PIPE SHALL BE DONE SO IN A NEAT AND WORKMANLIKE MANNER, SO AS TO LEAVE A SMOOTH END AT RIGHT ANGLES TO THE AXIS OF THE PIPE.
3. TRENCH EXCAVATION: TRENCHES SHALL BE EXCAVATED IN STRAIGHT LINES AND SHALL BE OF SUFFICIENT WIDTH TO PERMIT THE PROPER INSTALLATION OF BRACING, SHORING OR SHEETING. TRENCH WIDTH SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATION. THE BOTTOM OF THE PIPE TRENCH SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF FOUR (4) INCHES BELOW THE BOTTOM OF THE PIPE, TO PROVIDE FOR THE COMPACTED BEDDING MATERIAL.
4. BACKFILL: BACKFILL MATERIAL SHALL BE EITHER APPROVED EXCAVATED MATERIAL OR APPROVED SUITABLE MATERIAL FROM OTHER SOURCES THAT IS FREE OF ORGANIC MATERIAL, LOAM, DEBRIS, OR OTHER OBJECTIONABLE MATERIAL. BACKFILL FROM PIPE BEDDING TO MINIMUM ONE (1) FOOT ABOVE THE TOP OF PIPE SHALL BE FREE OF STONES LARGER THAN TWO (2) INCHES AND SHALL BE PLACED IN SIX (6) INCH LAYERS AND COMPACTED WITH HAND TAMPERS. BACKFILL FROM THIS POINT TO TOP OF TRENCH SHALL BE FREE OF STONES LARGER THAN FOUR (4) INCHES AND SHALL BE PLACED IN LAYERS NOT TO EXCEED EIGHT (8) INCHES AND COMPACTED WITH MECHANICAL TAMPERS.

BACKFILL BELOW UNPAVED AREAS SHALL BE COMPACTED TO 90%. BACKFILL BELOW PAVED AREAS SHALL BE COMPACTED TO 95%. BACKFILL COMPACTION TESTING SHALL BE IN ACCORDANCE WITH ASTM D-1557.

APPROVED:

CITY ENGINEER, ROANOKE, VIRGINIA

DATE

AGENT, ROANOKE CITY PLANNING COMMISSION

DATE

INDEX OF DRAWINGS

SHEET No. DESCRIPTION

1. LUMSDEN ASSOCIATES COVER SHEET
2. RECORD PLAT
3. NOTES AND DETAILS
4. DIMENSIONAL AND UTILITY LAYOUT
5. GRADING AND STORM DRAINAGE PLAN
6. SANITARY SEWER AND STORM DRAINAGE PROFILES
7. SEWER PUMP STATION
8. EROSION CONTROL PLAN
9. EROSION CONTROL DETAIL SHEET

Rosewalk

594-014  
#93-577