

## EROSION CONTROL NOTES

- ALL EROSION CONTROL DEVICES MUST BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENTATION CONTROL HANDBOOK.
- ALL EROSION AND SILTATION MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING.
- ALL STORM AND SANITARY SEWER LINES NOT IN STREETS ARE TO BE MULCHED AND SEEDED WITHIN SEVEN DAYS AFTER BACKFILL. NO MORE THAN FIVE HUNDRED FEET ARE TO BE OPENED AT ONE TIME.
- ALL TEMPORARY EARTH BERMS, DIVERSIONS, AND SILT DAMS ARE TO BE MULCHED AND SEEDED FOR VEGETATIVE COVER IMMEDIATELY AFTER GRADING. STRAW OR HAY MULCH IS REQUIRED. THE SAME APPLIES TO STOCKPILES ON SITE AS WELL AS SOIL (INTENTIONALLY) TRANSPORTED FROM THE PROJECT SITE.
- ELECTRIC POWER, TELEPHONE, AND GAS SUPPLY TRENCHES ARE TO BE COMPACTED, SEEDED AND MULCHED WITHIN FIFTEEN DAYS AFTER BACKFILL.
- TEMPORARY SEEDING WILL BE APPLIED WITHIN SEVEN DAYS TO DENUDE AREAS WHICH MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN THIRTY DAYS. FOR TEMPORARY SEEDING USE FIFTY PERCENT OF THE RECOMMENDED RATES OF FERTILIZER AND LIME, AND FULL AMOUNTS OF SEED AND MULCH REQUIRED FOR REGULAR SEEDING.
- DURING CONSTRUCTION, ALL STORM SEWER INLETS WILL BE PROTECTED BY SILT TRAPS, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
- ANY DISTURBED AREA NOT PAVED, SODDED, OR BUILT UPON BY NOVEMBER FIRST, IS TO BE SEEDED ON THAT DATE WITH OATS ABRUZZI, RYE, OR EQUIVALENT AND MULCHED WITH HAY OR STRAW MULCH. MODIFY AS APPLICABLE DEPENDING ON PROPOSED TIME OF CONSTRUCTION.
- SITE CONTRACTOR MUST KEEP THE ACCESS ROAD CLEAN FROM MUD BEING TRACKED FROM FCB SITE.
- AN EROSION AND SEDIMENT CONTROL PLAN FOR THE PROPOSED BORROW SITE SHALL BE SUBMITTED TO THE CITY OF ROANOKE FOR APPROVAL PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- PARKING AREAS AND PAVEMENT AREAS SHALL HAVE AT LEAST 6 INCHES OF GRAVEL BASE COURSE APPLIED IMMEDIATELY FOLLOWING GRADING IN THOSE AREAS.

## WATER AND SEWER NOTES

- ALL CONSTRUCTION MATERIALS AND INSTALLATION SHALL CONFORM TO THE LATEST EDITION OF STANDARDS, DEPARTMENT OF PUBLIC UTILITIES (DPU), CITY OF ROANOKE, VIRGINIA.
- CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE DPU CONSTRUCTION DIVISION TO SCHEDULE A PRE-CONSTRUCTION MEETING AT LEAST 72 HOURS PRIOR TO STARTING ANY WORK ON THIS PROJECT. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS.
- CONTRACTOR SHALL INCLUDE IN APPLICABLE BID PRICE, COST OF LOCATING AND UNCOVERING ALL SEWER MANHOLES AND VALVE BOXES AFTER COMPLETION OF ALL PAVING AND TO ADJUST THEM TO FINAL ROAD GRADES. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR CLEANING OUT SEWER MAINS FOR FINAL INSPECTION IF NECESSARY.
- EXISTING UTILITIES ACROSS OR ALONG THE LINE OF THE PROPOSED WORK ARE SHOWN ONLY IN AN APPROXIMATE LOCATION ON THE PLANS. CONTRACTOR SHALL, ON HIS OWN INITIATIVE AND AT NO ADDITIONAL COST, LOCATE ALL UNDERGROUND LINES AND STRUCTURES AS NECESSARY. CONTRACTOR SHALL CALL "MISS UTILITY" AT 1-800-552-7001 PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UNDERGROUND LINES OR STRUCTURES.
- DATUM FOR ALL ELEVATIONS SHOWN IS NATIONAL GEODETIC SURVEY.
- MINIMUM COVER OVER TOP OF WATER PIPE MUST BE 3.50 FEET.
- FINAL ACCEPTANCE BY THE CITY SHALL NOT BE MADE UNTIL ALL WORK SHOWN ON APPROVED UTILITY PLANS IS COMPLETED INCLUDING, PAVING GRADING, AND ALL REQUIRED ADJUSTMENTS.
- BACKFILL FOR A UTILITY TRENCH WITHIN THE RIGHT OF WAY SHALL BE VDOT 21A PLACED IN 6-INCH LOOSE LIFTS AND COMPACTED TO 95% STANDARD PROCTOR  $\pm 20\%$  OPTIMUM MOISTURE CONTENT. AS AN ALTERNATIVE VDOT SPECIFIED FLOWABLE FILL WITH STRENGTH BETWEEN 30 AND 300 PSI AT 28 DAYS MAY BE USED.

## STORMWATER NARRATIVE

**BACKGROUND**  
THIS REPORT CONTAINS THE APPROACH AND RESULTS OF A STORMWATER ANALYSIS CONDUCTED FOR THE PROPOSED FIRST CITIZENS BANK SITE IN ROANOKE, VIRGINIA. THE PROJECT SITE IS LOCATED NEAR THE INTERSECTION OF FRANKLIN STREET AND MCCLANAHAN STREET IN ROANOKE, VA. STEPHENS STREET ABUTS THE PROPERTY TO THE EAST. THE SITE IS COMPOSED OF 1.08-ACRES AND LOCATED WITHIN THE ROANOKE RIVER BASIN. A PORTION OF THIS SITE IS WITHIN THE 100-YEAR FLOODPLAIN PER FLOOD INSURANCE RATE MAP (FIRM) NUMBER 5161C0044D. THE 100-YEAR FLOODPLAIN IS AT ELEVATION 948.00. THE EXISTING SITE PRIOR TO REDEVELOPMENT CONSISTED OF AN EXISTING BUILDING AND ASPHALT. ALMOST THE ENTIRE SITE WAS IMPERVIOUS. BASED ON A SURVEY OF THE PREVIOUS SITE PLAN, THE ON-SITE PRE-EXISTING IMPERVIOUS AREA FOR THE SITE HAS BEEN CALCULATED TO BE 41,919-SF (0.96-ACRE) (OR 90% IMPERVIOUS).

**REDEVELOPMENT**  
REDEVELOPMENT OF THE SITE CONSISTS OF THE DEMOLITION AND REMOVAL OF ALL EXISTING IMPERVIOUS SURFACES AND STRUCTURES ON SITE AND THE RECONSTRUCTION OF A FIRST CITIZENS BANK BUILDING, DRIVE-THRU/ATM LANES AND ASPHALT PARKING AREAS. THE PROPOSED ON-SITE IMPERVIOUS AREA IS CALCULATED TO BE 26,741-SF (0.62-ACRE) (OR 57% IMPERVIOUS).

ON-SITE IMPERVIOUS AREA		PERCENT DECREASE (%)
EXISTING (SF)	PROPOSED (SF)	
41,919	26,741	36.2

THE PROPOSED REDEVELOPMENT WILL REDUCE THE ON-SITE IMPERVIOUS AREA BY APPROXIMATELY 15,178-SF. THE REDEVELOPMENT SITE DATA TABLE SUMMARIZES THE EXISTING AND PROPOSED IMPERVIOUS AREAS AND THE CALCULATED PERCENT DECREASE IN IMPERVIOUS AREAS FOR THIS SITE.

**WATER QUANTITY**  
STORMWATER RUNOFF FROM THE PROPOSED DEVELOPMENT WILL SHEET FLOW ONTO EITHER MCCLANAHAN STREET OR FRANKLIN STREET, SINCE THERE IS NO EXISTING STORMWATER DRAINAGE STRUCTURE NEAR THIS SITE. THE DRAINAGE AREAS FOR THE BANK WILL BE SIMILAR TO THE EXISTING DRAINAGE AREA, BUT THE TOTAL RUNOFF FROM THE BANK WILL BE LESS THAN THE EXISTING CONDITION BECAUSE THE IMPERVIOUS AREA HAS BEEN REDUCED. THE EXISTING SITE HAS A PEAK STORMWATER RUNOFF RATE OF 5.04 CFS AND 6.48 CFS FOR THE 2 AND 10 YEAR, 24 HOUR STORM EVENTS, RESPECTIVELY. THE PROPOSED BANK SITE WILL HAVE A PEAK STORMWATER RUNOFF RATE OF 3.75 CFS AND 4.81 CFS FOR THE 2 AND 10 YEAR, 24 HOUR STORM EVENTS, RESPECTIVELY. A REDUCTION OF 28% FOR BOTH THE 2 AND 10 YEAR STORM EVENTS WHEN COMPARED TO THE STORMWATER RUNOFF FROM THE EXISTING SITE. THE REDUCED STORMWATER RUNOFF FROM THE PROPOSED DEVELOPMENT IS DUE TO THE INCREASED PERVIOUS AREA. SEE THE ATTACHED WATER QUANTITY SUMMARY FOR THESE CALCULATIONS.

**CONCLUSION**  
THE PROPOSED REDEVELOPMENT WILL REDUCE THE IMPERVIOUS SURFACE AREA FOR THE EXISTING SITE BY 36%. THE PEAK STORMWATER RUNOFF FOR THE 2 AND 10 YEAR, 24 HOUR STORM EVENTS WILL BE REDUCED BY 28% EACH.

## GENERAL CONSTRUCTION SEQUENCE

- NOTE: SEQUENCING SCHEDULE BELOW IS INTENDED TO BE USED AS A GUIDE TO THE CONTRACTOR. CONTRACTOR MAY DEViate FROM THE SEQUENCING SCHEDULE, BUT IN ANY CASE SHALL SUBMIT WORK PLANS DETAILING SEQUENCING TWO WORKING DAYS PRIOR TO PRE-CONSTRUCTION CONFERENCE. CONTRACTOR SHALL ALSO ACQUIRE NECESSARY AND REQUIRED CITY APPROVAL FOR ANY DEVIATION FROM THE PLANS.
- CONSTRUCTION ENTRANCES, SILT FENCE, OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN SHALL BE CONSTRUCTED AS FIRST STEP IN PROPOSED LAND DISTURBING ACTIVITIES AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE/CLEARING TAKES PLACE.
  - PERFORM SITE CLEARING & EXCAVATION OPERATIONS TO BRING SITE TO ROUGH GRADE ELEVATIONS AND BEGIN CONSTRUCTION OF BUILDING.
  - APPLY 6-INCH GRAVEL BASE COURSE TO ALL PARKING AREAS AND PAVEMENT AREAS.
  - ALL DISTURBED AREAS TO BE PLANTED OR PROVIDED WITH PROTECTIVE COVER WITHIN 15 WORKING DAYS AFTER THE COMPLETION OF ANY PHASE OF GRADING. ALL AREAS UPON WHICH NO FURTHER LAND DISTURBING ACTIVITY WILL BE UNDERTAKEN ARE TO BE PLANTED OR PROVIDED WITH PROTECTIVE COVER WITHIN 15 WORKING DAYS.
  - FINE GRADE, INSTALL PAVEMENT, AND PERMANENTLY STABILIZE ALL DISTURBED AREAS.
  - ONCE UPSTREAM AREAS ARE STABILIZED, CONTACT THE EROSION AND SEDIMENT CONTROL INSPECTOR FOR APPROVAL TO REMOVE STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES. NO EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHOUT APPROVAL OF THE EROSION CONTROL INSPECTOR FOR THE PROJECT.
  - SEED, MULCH AND PERMANENTLY STABILIZE THE AREA DISTURBED IN NOTE NO. 5 ABOVE AS A RESULT OF SEDIMENT CONTROL REMOVAL.
  - IF TRACKING OF MUD OFFSITE BECOMES A PROBLEM, WASH RACKS WILL BE INSTALLED AT THE INSPECTOR'S REQUEST.
  - THERE WILL BE NO STOCKPILES LOCATED ON SITE.

NOTE: CONTRACTOR TO OBTAIN STREET OPENING PERMIT FOR CONSTRUCTION OF THE SANITARY SEWER SERVICE WITHIN THE RIGHT-OF-WAY FOR MCCLANAHAN STREET FROM THE CITY OF ROANOKE AND COORDINATE THE TEMPORARY SIDEWALK CLOSING WITH THE CITY OF ROANOKE.

## SITE LEGEND

	EXISTING CONCRETE/SIDEWALK
	PROPOSED CONCRETE/SIDEWALK
	WHEELCHAIR RAMP
	IRON PIPE FOUND
	PROPOSED CONTOURS
	EXISTING CONTOURS
	SANITARY SEWER CLEANOUT
	STORMWATER CLEANOUT
	BLOCK & GRAVEL INLET PROTECTION
	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE PAD
	SILT FENCE
	PROPOSED WATER SERVICE
	EXISTING WATER SERVICE/MAIN
	EXISTING GAS MAIN
	PROPOSED SANITARY SEWER SERVICE
	EXISTING SANITARY SEWER SERVICE
	CONSTRUCTION LIMITS (DENUDED AREA)
	PROPOSED SPOT ELEVATIONS
	TOP OF CURB
	TEMPORARY GRAVEL RIGHT-OF-WAY DIVERSION

## PRE VS POST STORMWATER SUMMARY

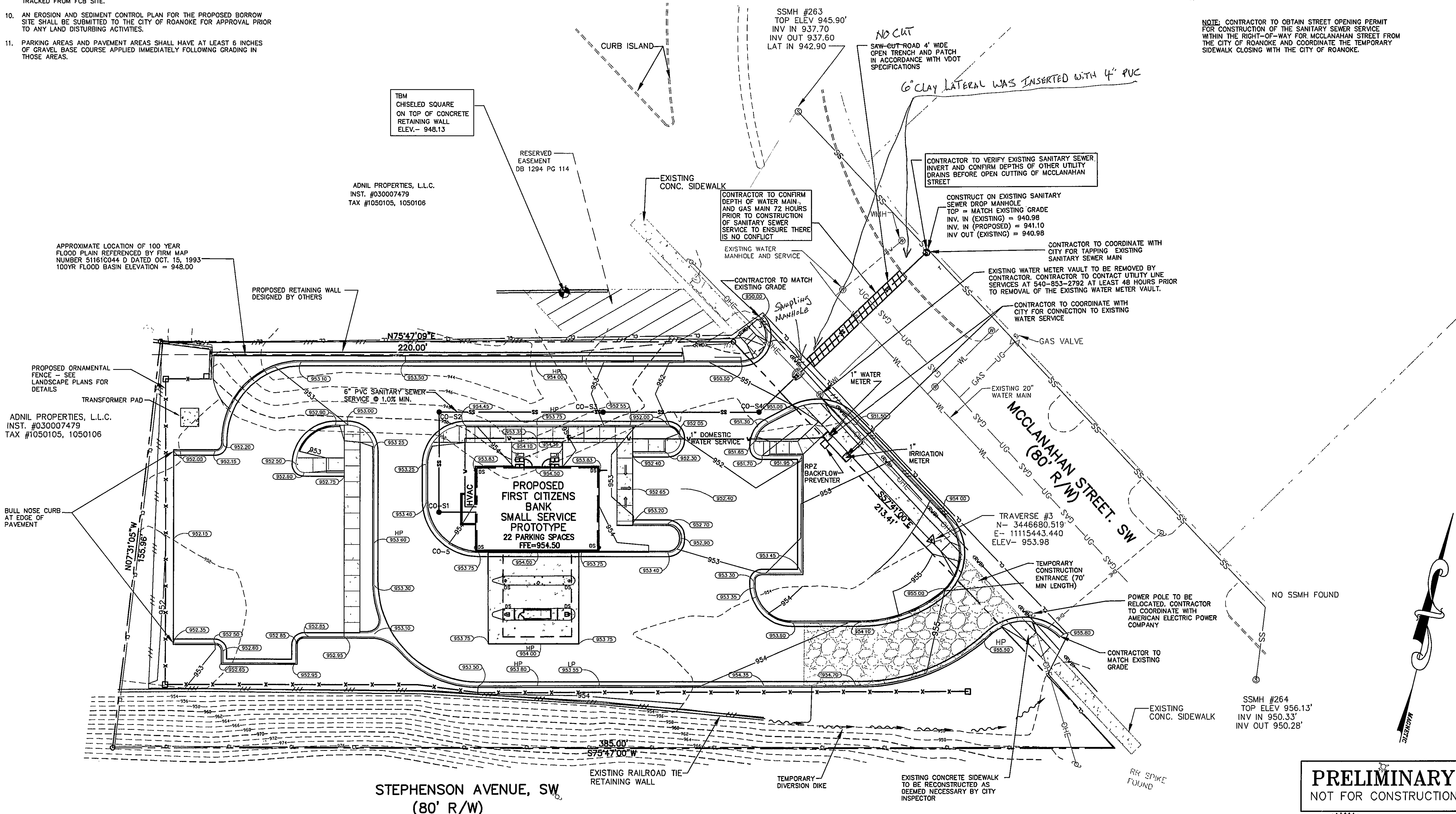
SITE AREA	1.08AC
DISTURBED AREA	1.03AC
INTENSITY 2YR/10YR (T <sub>c</sub> = 5MIN)	5.3/6.8
EXISTING IMPERVIOUS AREA	41,919 SF
EXISTING RATIONAL C VALUE	0.88
EXISTING 2YR/10YR RUNOFF (CFS)	5.04/6.48
PROPOSED IMPERVIOUS AREA	26,741 SF
PROPOSED RATIONAL C VALUE	0.65
PROPOSED 2YR/10YR RUNOFF(CFS)	3.75/4.81

(SEE STORMWATER MANAGEMENT STUDY FOR MORE DETAILED ANALYSIS)

## SANITARY SEWER SERVICE

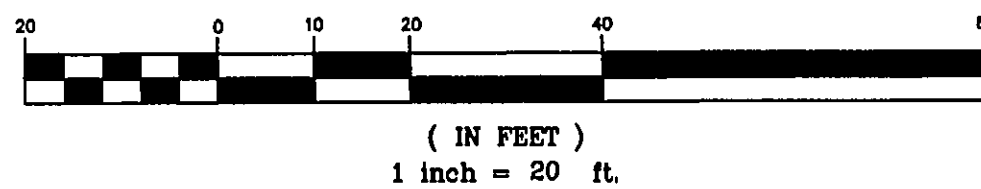
"CO" DENOTES CLEAN OUT, SEE DETAIL SHEET C-6

CD NO.	FIN. GRD.	INV. EL.	PIPE LEN ±	REMARKS
CO-S1	953.75	948.90	39' 6" PVC @ 1.0%	
CO-S2	953.35	948.50	63' 6" PVC @ 1.0%	
CO-S3	952.85	947.87	60' 6" PVC @ 1.0%	
CO-S4	951.25	947.27	89' 6" PVC @ 6.93%	CHECK FOR CONFLICTS WITHIN MCCLANAHAN BEFORE CONSTRUCTING THIS SECTION.



AS BUILT  
11-17-04

## GRAPHIC SCALE



## MAP NOTE:

ALL EXISTING BOUNDARY SURVEY AND TOPOGRAPHIC INFORMATION TAKEN FROM A MAP PREPARED BY LMW, P.C. 102 ALBEMARLE AVENUE, ROANOKE VIRGINIA 24013 TITLED "ADNIL PROPERTIES, L.L.C." DATED JULY 22, 2003.

**PRELIMINARY**  
NOT FOR CONSTRUCTION

2	REVISED PER CITY COMMENTS	10/27/03	MRA	WSH
1	CITY COMMENTS	10/20/03	MRA	WSH
REV No	REVISION:	DATE	DRAWN BY:	CHECKED BY:
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PREPARED IN THE OFFICE OF:



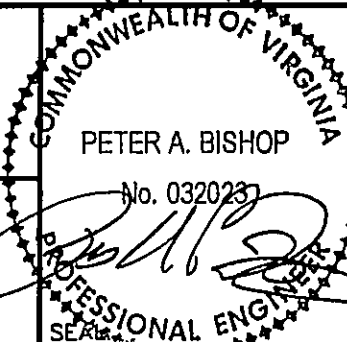
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CLIENT:

**FIRST CITIZENS BANK**

TITLE: **GRADING, DRAINAGE, UTILITY AND EROSION CONTROL PLAN**



DATE: 9/26/03  
HORIZONTAL SCALE: 1" = 20'  
VERTICAL SCALE: N/A  
DRAWN BY: MRA  
DESIGNED BY: WSH  
CHECKED BY: PAB

PROJECT:

**McCLANAHAN STREET ROANOKE, VA**

ATTACHED REFERENCE FILES:

JOB NUMBER: 011737090

SHEET NUMBER: C3 OF 5