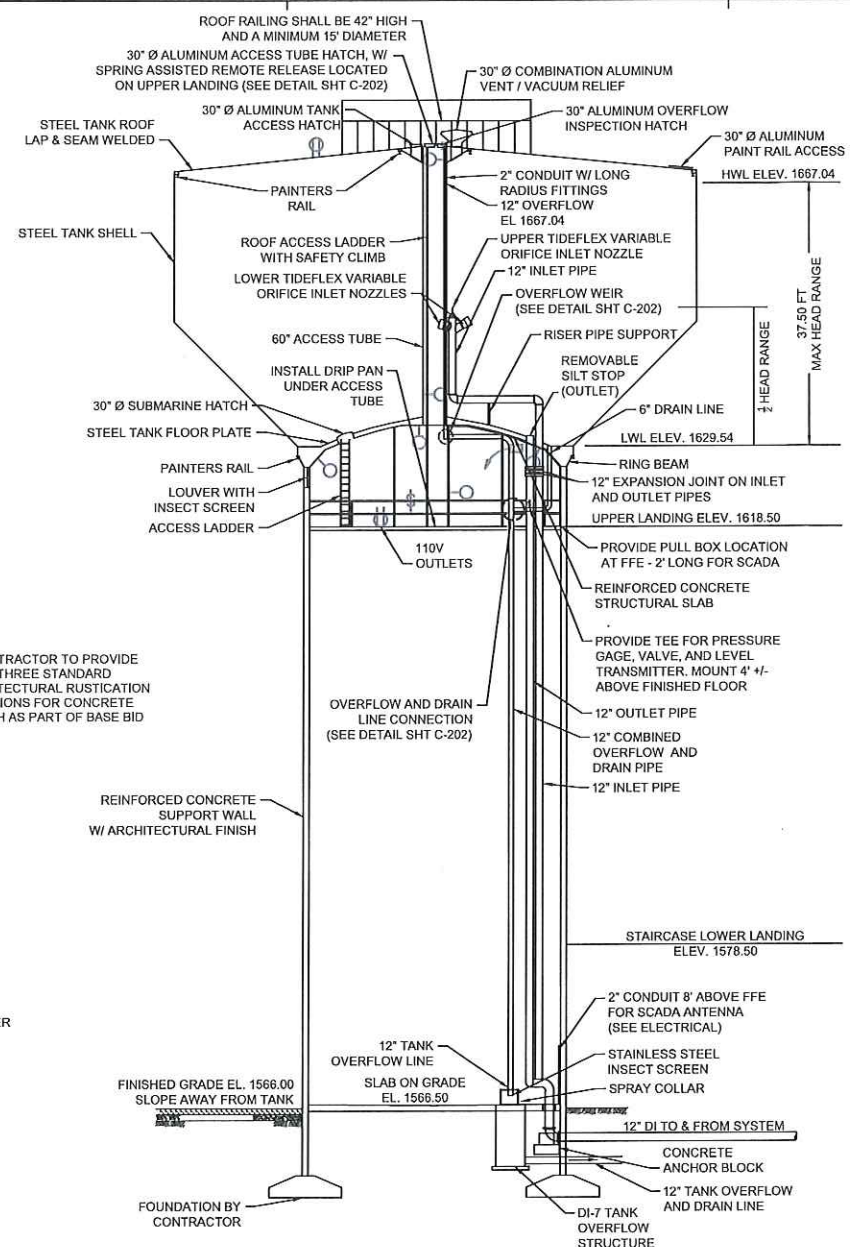
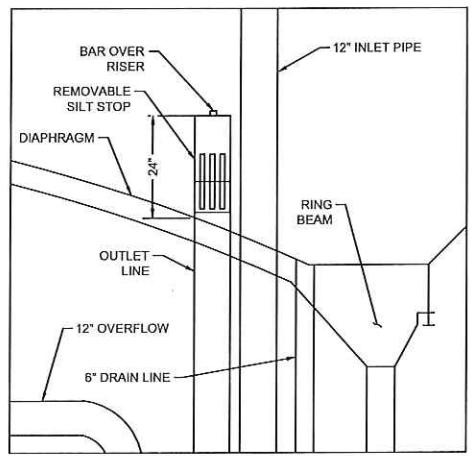


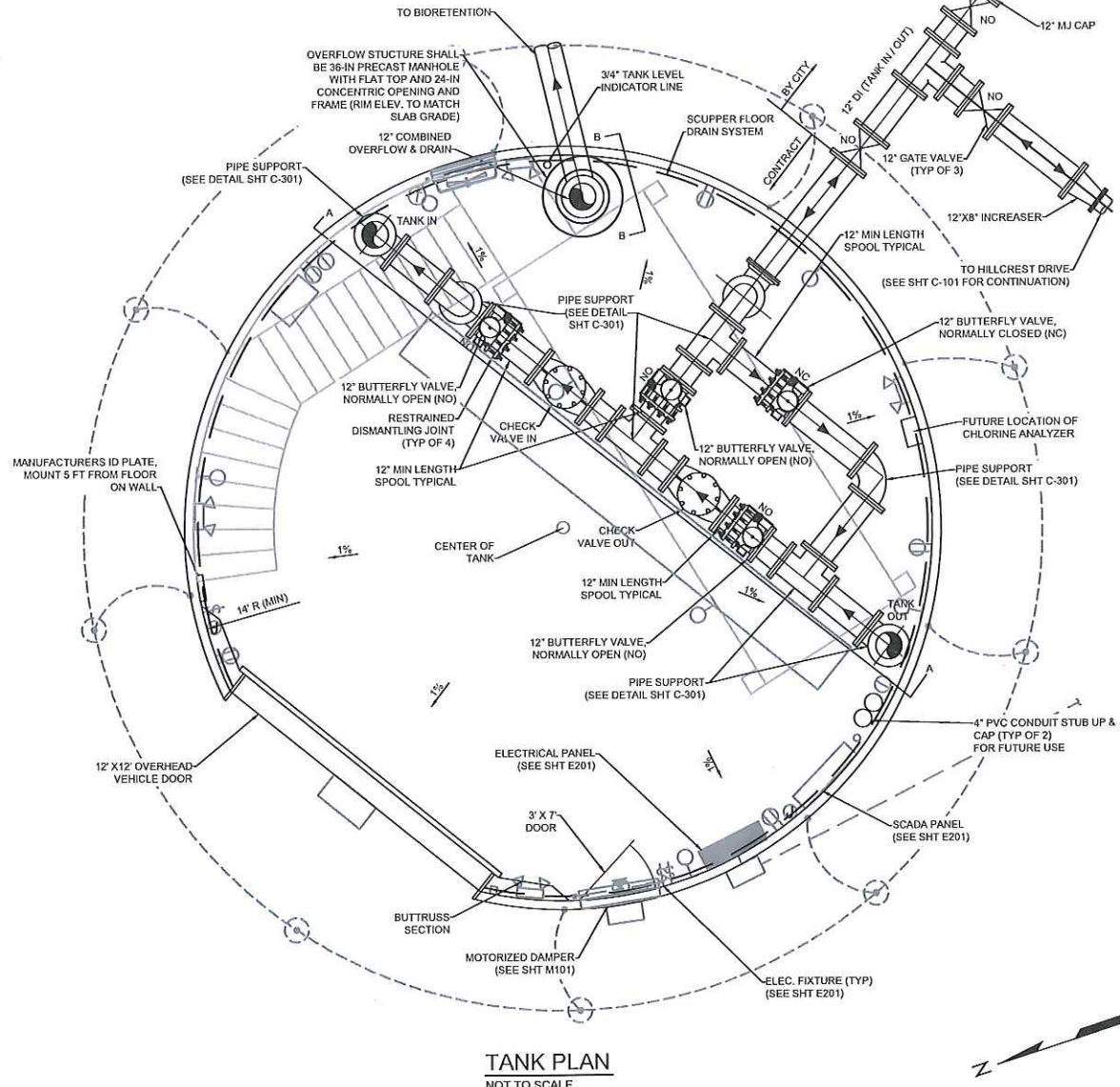
**SCHEMATIC ELEVATION**  
NOT TO SCALE



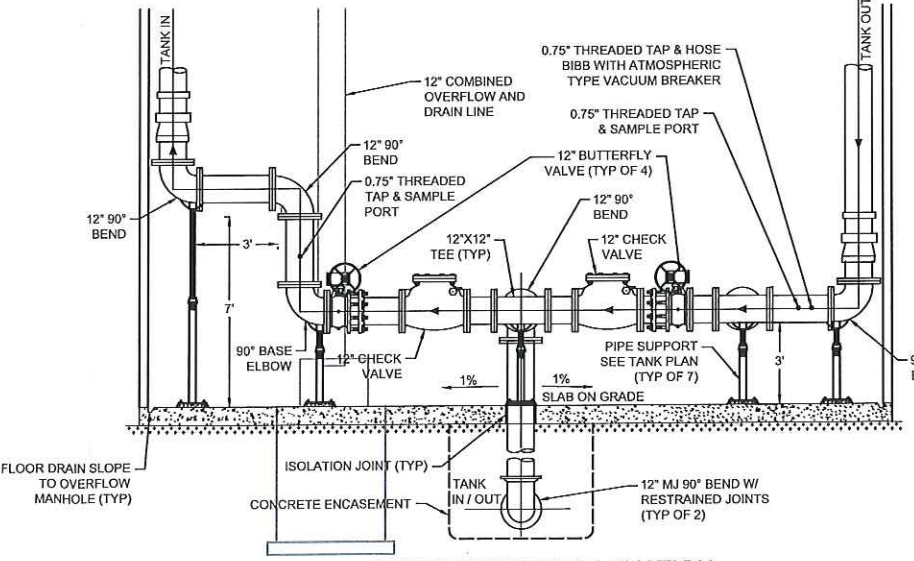
**SCHEMATIC ELEVATION**  
NOT TO SCALE



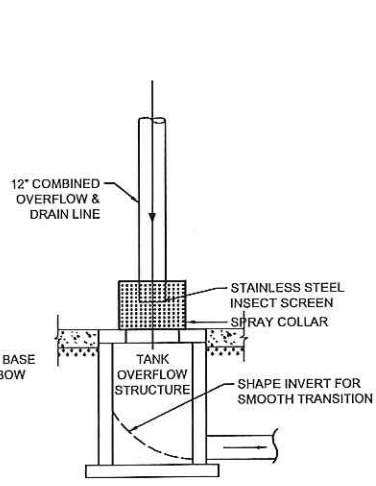
**DETAIL-REMOVABLE SILT STOP**  
NOT TO SCALE



**TANK PLAN**  
NOT TO SCALE



**SCHEMATIC PIPE ELEVATION**  
NOT TO SCALE (SEE SECTION A-A)



**OVERFLOW AND DRAIN LINE ELEVATION**  
NOT TO SCALE (SEE SECTION B-B)

- GENERAL:**
1. COMPOSITE TANK, ROOF, PEDESTAL, FOUNDATION, AND TANK APPURTENANCES ARE DEDICATED DESIGN AND SHALL BE PER AWWA D-107-13.
  2. PERSONAL DOOR - 3' WIDE X 7' HIGH, HOLLOW GALV. METAL DOOR WITH 16 GA. FRAME AND HEAVY DUTY CLOSURE (POWDER COATED).
  3. VEHICLE DOOR - 12' WIDE X 12' HIGH ROLLING STEEL AND INSULATED WITH 22 GA. GALVANIZED SLATS AND MANUAL CHAIN OPERATOR.
  4. PROVIDE MONOLITHIC REINFORCED CONCRETE INTERNAL BUTTRESS SECTION ON EACH SIDE OF VEHICLE DOOR. BUTTRESS TO BE MINIMUM 3/4" WIDE AND 6" THICKER THAN NOMINAL WALL DIMENSION.
  5. ALL HATCHES AND MANWAYS SHALL BE 30" DIAMETER MINIMUM OR 30" Ø ALUMINUM AS NOTED.
  6. ALL LADDERS, WALKWAYS, STAIRS, HANDRAILS, AND ATTACHMENTS INSIDE THE SHAFT PEDESTAL SHALL BE GALVANIZED IRON.
  7. WELDING IN THE BOWL, MANWAY, AND OVERFLOW CONNECTION SHALL BE COMPLETE SEAL WELDING.
  8. NO PIPE SPOOLS LESS THAN 12" IN LENGTH ON PIPE ≥ 4" Ø.
  9. ALL WATER TAPS SHALL BE 3/4" INCH.
  10. VERTICAL PIPES SHALL BE BRACED TO THE WALL OF THE TANK SUPPORT STRUCTURE OR STAIRS.
  11. ALL PIPE ≥ 4" Ø ABOVE GRADE TO BE FLANGED DUCTILE IRON PIPE.
  12. ALL PIPING WITHIN THE CITY PROPERTY SHALL BE RESTRAINED.
  13. 12" OF WORKABLE SPACE IS REQUIRED FOR ALL DISMANTLING JOINTS.
  14. CONTRACTOR SHALL PROVIDE FOUNDATION AND REINFORCING SUBMITTALS FOR ALL PIPE AND CONDUIT PENETRATIONS.
- TANK MIXER:**
1. TANK MIXER SHALL BE TIDEFLEX MIXING SYSTEM (TMS) OR TANK MANUFACTURER PRE-APPROVED EQUAL.
  2. TANK MIXER SHALL BE A DELEGATED-DESIGN, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS BY A PROFESSIONAL ENGINEER REGISTERED IN THE COMMONWEALTH OF VIRGINIA, USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA AS INDICATED ON THE PLANS.
  3. DELEGATED DESIGN SUBMITTAL SHALL INCLUDE SHOP DRAWINGS, CFD MODELING, MIXING ANALYSIS, AND WATER AGE ANALYSIS. SUBMITTAL SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE COMMONWEALTH OF VIRGINIA.
  4. THE TANK INSTALLER SHALL PROVIDE INSTALLATION, STARTUP, AND ON-SITE WATER TESTING SERVICES TO INSURE PROPER MACHINE SPATIAL PLACEMENT IN THE RESERVOIR, AND PROPER DEPTH SETTING.
  5. A COMPLETE INSTALLATION, OPERATION AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE OWNER.
  6. THE MIXER SHALL BE WARRANTED TO BE FREE OF DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF FIVE (5) YEARS. THE CONTRACTOR SHALL PROVIDE A WRITTEN COPY OF THIS WARRANTY WITH THE CLOSEOUT DOCUMENTS.
- ELECTRICAL:**
1. MOUNT EXTERIOR DOOR LIGHTS PER E-201.
  2. MOUNT INTERIOR PEDESTAL BASE LIGHTS 10' ABOVE SLAB ON GRADE.
- BID OPTIONS:**
1. SEE SECTION 00400 BID FORM OF THE SPECIFICATION FOR DETAILED BID OPTIONS.
  2. BID OPTIONS SHALL BE INCLUDED WITH THE BASE BID.
  3. OPTION ONE (1) - GRAPHIC LOGO

**Wiley Wilson**  
Constant Progress

227 Nationwide Drive, Lynchburg, Virginia 24502-4272  
Phone 434-547-3301 | Fax 434-547-1601 | Web wileywilson.com



**PARKVIEW TANK  
0.5 MILLION GALLON ELEVATED  
WATER TANK**

HARRISONBURG, VIRGINIA

NO.	DATE	REVISION DESCRIPTION
1	2/4/2016	REV. 1 - NOTES/ERRATA

COMM NO:	215192
DATE:	1/21/2016
DRAWN:	CTS
DESIGN:	MCP
CHECK:	TLF
SHEET TITLE:	COMPOSITE TANK PLAN, ELEVATION, AND SECTIONS
SHT. NO.	C-201
REV. NO.	0

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**SCOPE OF WORK:**

THE PROJECT INCLUDES THE CONSTRUCTION OF A 500,000 GALLON ELEVATED COMPOSITE WATER STORAGE TANK AND RELATED APPURTENANCES AND CONTROLS. THE SITE WILL BE PREPARED FOR THIS CONSTRUCTION WITH AN ACCESS ROAD FROM HILLCREST DRIVE. THE GRADING OF THE ROAD AND ROUGH GRADING OF THE SITE WILL BE PERFORMED BY SEPARATE CONTRACT PRIOR TO THE AWARD OF THE TANK CONSTRUCTION CONTRACT. THE CITY WILL CONSTRUCT THE CONNECTING WATERLINE TO THE TANK. THE TANK CONTRACTOR WILL BE RESPONSIBLE FOR CONSTRUCTION OF ALL WATER PIPING WITHIN THE TANK AND TO THE EXTERIOR AS SHOWN ON SHEET C-201 OF THE DRAWINGS. THE TANK CONTRACTOR SHALL PROVIDE ALL ELECTRICAL, MECHANICAL AND HVAC AS SHOWN. THE TANK CONTRACTOR SHALL PROVIDE CONDUIT AND WIRING FOR THE SCADA EQUIPMENT AS SHOWN. WIRES SHALL BE PULLED BETWEEN THE SCADA PANEL AND EACH CONNECTING DEVICE PER THE I/O SCHEDULE ON THIS SHEET. THE TANK CONTRACTOR SHALL INSTALL AND CONNECT THE SCADA DEVICES (SWITCHES, MONITORS, ETC.) AND MOUNT THE SCADA CABINET AS SHOWN ON THE DRAWINGS. ALL WIRING SHALL BE LABELED ENTERING THE SCADA CABINET PER THE I/O SCHEDULE. THE SCADA CONTRACTOR SHALL INSTALL THE SCADA UNIT WITHIN THE CABINET AND FINISH WIRING PER THE I/O SCHEDULE.

THE CITY OF HARRISONBURG WILL INSTALL A CATHODIC PROTECTION SYSTEM AT A TIME TO BE DETERMINED. THE TANK CONTRACTOR SHALL PROVIDE MOUNTING SUPPORTS, ELECTRICAL CONNECTIONS, AND CONTROL CONNECTORS PER DRAWINGS AND ACCOMPANYING SPECIFICATIONS.

THE CITY WILL BE RESPONSIBLE FOR THE STORMWATER POLLUTION PREVENTION PLAN THROUGHOUT THE PROJECT AND SHALL HAVE AUTHORITY TO DIRECT THE TANK CONTRACTOR TO REMEDIATE DAMAGING ACTIVITIES.

**GENERAL NOTES:**

- CONTRACTOR SHALL BE INFORMED AND SHALL COMPLY WITH THE VIRGINIA OVERHEAD HIGH VOLTAGE LINE SAFETY ACT. ANY COSTS TO COVER LINES OR DISCONNECT SERVICE TO NEARBY POWER LINES SHALL BE AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL RETAIN FULL LIABILITY FOR COMPLIANCE WITH OSHA REGULATIONS AND THE SAFETY ACT. THE CONTRACTOR SHALL BEAR EXPENSE FOR POLE SUPPORT WHERE REQUIRED.
- ALL EXISTING UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THESE PLANS ARE APPROXIMATE AND MAY NOT REPRESENT ALL UNDERGROUND UTILITIES OR SERVICE LINES. CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXACT LOCATION, DEPTH, SIZE AND TYPE OF UTILITIES SHOWN AND NOTIFYING ENGINEER OF DISCREPANCIES. PRIOR TO EXCAVATION, THE CONTRACTOR SHALL CONTACT MISS UTILITY TO HAVE ALL UNDERGROUND UTILITIES LOCATED AND MARKED. CONTRACTOR IS SOLELY RESPONSIBLE FOR DAMAGE TO PROPERTY, UTILITIES OR PHYSICAL IMPROVEMENTS.
- ALL WORK NOT COVERED BY THE PROJECT DOCUMENTS SHALL CONFORM TO THE LATEST EDITION OF THE CITY OF HARRISONBURG DESIGN AND CONSTRUCTION STANDARDS.
- SEE PROJECT MANUAL FOR ADDITIONAL PROJECT REQUIREMENTS.
- CONTRACTOR SHALL COMPLY WITH ALL VIRGINIA EROSION & SEDIMENT CONTROL REGULATIONS.
- ALL PROPERTY PINS DISTURBED BY CONTRACTOR ACTIVITIES SHALL BE REPLACED BY A VIRGINIA LICENSED LAND SURVEYOR.
- CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED PERMITS AS REQUIRED BY THE GOVERNING JURISDICTION. (BUILDING, PLUMBING, ELECTRICAL, ETC.)
- A GEOTECHNICAL REPORT HAS BEEN PREPARED FOR THE SITE AND IS INCLUDED IN THE PROJECT MANUAL.
- FOLLOW GENERAL SITE NOTES AS FOUND ON SHEET C-201.
- FOLLOW GENERAL MECHANICAL/HVAC NOTES AS FOUND ON SHEET M-101.
- FOLLOW GENERAL ELECTRICAL NOTES AS FOUND ON SHEET E-201

**SITE MANAGEMENT:**

THE CITY SHALL APPOINT A SITE MANAGER FOR THIS PROJECT. THIS MANAGER SHALL BE RESPONSIBLE TO OVERSEE AND APPROVE ANY DEVIATIONS FROM THE APPROVED DESIGN. THE SITE MANAGER SHALL BE THE OWNER'S REPRESENTATIVE RESPONSIBLE FOR ENSURING COORDINATION BETWEEN THE TANK CONTRACTOR AND OUTSIDE STAKEHOLDERS.

THE SITE WILL BE PROVIDED TO THE CONTRACTOR WITH A STONE ACCESS ROAD. THE TANK CONTRACTOR SHALL MAINTAIN THE ROAD IN GOOD CONDITION THROUGH CONSTRUCTION AND SHALL RETURN THE ROAD TO THE CITY AT THE END OF THE PROJECT IN THE SAME CONDITION AS WHEN THE PROJECT BEGINS. SITE PHOTOGRAPHS WILL BE PROVIDED FOR DOCUMENTATION.

ACCESS TO THE SITE WILL ONLY BE PERMITTED THROUGH THE DESIGNATED ACCESS ROAD. THE TANK LOT AND TEMPORARY EASEMENTS MAY BE USED FOR CONSTRUCTION TRAFFIC AND STAGING. SURROUNDING LANDS MAY NOT BE USED WITHOUT PERMISSION. ANY REQUESTS FOR PERMISSION SHALL BE DIRECTED TO THE CITY'S REPRESENTATIVE SITE MANAGER WHO SHALL MAKE CONTACT WITH THE APPROPRIATE LAND OWNER.

THE CITY WILL REMAIN RESPONSIBLE FOR THE BIORETENTION FACILITIES ON THE SITE THROUGH CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIVE TO REQUESTS FROM THE SITE MANAGER TO CEASE ANY ACTIVITIES DEEMED BY THE CITY TO BE DESTRUCTIVE TO THESE FACILITIES.

**DESIGN TABLE**

NOMINAL TANK CAPACITY: 500,000 GALLONS  
 NOMINAL DIMENSIONS: 50' DIAMETER STEEL BOWL  
 37.5' STEEL BOWL HEIGHT  
 28' DIAMETER CONCRETE  
 1671.37 TANK HIGHEST ELEVATION  
 1667.04 FULL BOWL ELEVATION (OVERFLOW)  
 1629.54' BASE BOWL ELEVATION (EMPTY)  
 1566.00 GROUND ELEVATION  
 DESIGN FLOWS: 0.50 MGD MAX DAILY ZONAL DEMAND  
 3000 GPM FIRE FLOW (3HR DURATION)  
 GEOTECHNICAL SOIL DESIGN LOADS: MAXIMUM ALLOWABLE BEARING PRESSURE 70000 PSF FOR FOUNDATIONS AND CAISSONS BEARING ON LIMESTONE BEDROCK WITH SIDE SHEAR STRENGTH OF 8000 PSF.  
 SEISMIC DESIGN LOADS: REGION DEPENDENT TRANSITION PERIOD=12, SITE CLASS B, S<sub>g</sub>=0.19, S<sub>v</sub>=0.06  
 WIND DESIGN LOADS: 115 MPH BASIC WIND SPEED (BWS)

**PARK VIEW TANK I/O WIRE REFERENCE**

**ANALOG INPUTS TO PLC**

I/O #	Description of Functionality through SCADA programming	Contract 4 SCADA Terminate	Contract 1 Connect	SCADA PANEL WIRE #	SCADA SIGNAL & WIRE TAG (by C1)
1	SCADA monitors chlorine residual from chlorine analyzer				CL2_RESIDUAL
2	SCADA monitors upstairs room temperature				US_ROOM_TEMP
3	SCADA monitors pedestal room temperature				DS_ROOM_TEMP
4	SCADA monitors water level in tank		Rosemont		TANK_LEVEL

**DIGITAL INPUTS TO PLC**

I/O #	Description of Functionality through SCADA programming	Contract 4 SCADA Terminate	Contract 1 Connect	SCADA PANEL WIRE #	SCADA SIGNAL & WIRE TAG (by C1)
5	SCADA monitors if HEC power is available from power monitor relay				TANK_PWRIN
6	SCADA monitors if entry (man and veh) door switch circuit is broken		GE Sentrol 2500 Series Door Sw		DOOR_ENTRY
7	SCADA monitors if upper tube hatch door switch circuit is broken		GE Sentrol 2500 Series Door Sw		TUBE_HATCH_ALARM
8	SCADA monitors if tank hatch door switch circuit is broken		GE Sentrol 2500 Series Door Sw		TANK_HATCH_ALARM
9	SCADA monitors status of Alarm system (On/Off) as configured with toggle switch as other stations		Security Panel Toggle Switch		ARMED_IN



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 Phone 434-971-3101 | Fax 434-971-1601 | web wileywilson.com



PARKVIEW TANK  
 0.5 MILLION GALLON ELEVATED  
 WATER TANK  
 HARRISONBURG, VIRGINIA

MRK	DATE	REV	NOTES/ERRATA	REVISION DESCRIPTION
	2/4/2016	REV1	NOTES/ERRATA	

COMM NO: 215192  
 DATE: 1/21/2016  
 DRAWN: CTS DESIGN: MCP  
 CHECK: TLF  
 SHEET TITLE

PROJECT MANAGEMENT & COORDINATION

SHT. NO. G-002 REV. NO. 0

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**CITY GENERAL NOTES**

1. Work in this project shall conform to the latest editions of the Virginia Department of Transportation (VDOT) Road and Bridge Specifications, the VDOT Road and Bridge Standards, the Virginia Erosion and Sediment Control Handbook, the Virginia Erosion and Sediment Control Regulations, the Virginia Stormwater Management Handbook, the Virginia Stormwater Management Regulations and the City of Harrisonburg Design and Construction Standards Manual. In the event of conflict between any of these standards, specifications or plans, the most stringent shall govern. All utilities to be dedicated to the City of Harrisonburg Municipal Water and/or Sanitary Sewer System shall be constructed and tested to conform to Commonwealth of Virginia/State Board of Health Waterworks and/or Sewerage Regulations and the City of Harrisonburg Design and Construction Standards Manual.
2. Erosion and Sediment control measures shall be maintained continuously relocated when and as necessary and shall be checked after every rainfall. Seeded areas shall be checked regularly and shall be watered, fertilized, reseeded and mulched as necessary to obtain a dense stand of grass.
3. All drain inlets shall be protected from siltation. Ineffective protection devices shall be immediately replaced and the inlet cleaned. Flushing is not an acceptable method of cleaning.
4. When the crushed stone construction entrance has been covered with soil or has been pushed into the soil by construction traffic, it shall be replaced with a depth of stone equal to that of original application.
5. The location of existing utilities as shown is approximate only. The contractor is responsible for locating all public or private utilities that lie in or adjacent to the construction site. The contractor shall be responsible for repairing, at his expense, all existing utilities damaged during construction. Forty-eight (48) hours prior to any excavation call Miss Utility 1 (800) 552-7001.
6. All underground facilities located within the City's rights-of-way shall be installed prior to the placement of any part of the pavement structure.
7. Installation of concrete storm pipe shall comply with VDOT Standard Drawing PB-1.
8. All materials used for fill or back-fill shall be free of wood, roots, rocks, boulders or any other non-compactable soil type material. Unsatisfactory materials also include man-made fills and refuse debris derived from any source.
9. Satisfactory material for use as fill for public streets include material classified in ASTM D-2487 as GW, GP, GM, GC, SW, SP, SM, SC, 2-25 ML, and CL groups. The moisture content shall be controlled within plus or minus 2 percentage points of optimum to facilitate compaction. Generally, unsatisfactory materials include materials classified in ASTM D-2487 as PT, CH, MH, OH, CH, and any soil too wet to facilitate compaction. CH and MH soils may be used subject to approval of the City Engineer. Soils shall have a minimum dry density of 92lb/cubic foot per ASTM D-698 and shall have a plasticity index less than 12.
10. Compaction of fill material under building slabs shall be based upon recommendations of soils engineer after completion of standard Proctor test and shall meet bearing requirements of architect for buildings. The contractor shall be responsible for testing.
11. Materials used to construct embankments for any purpose, back-fill around drainage structures or in utility trenches or any other depression requiring fill or back-fill shall be compacted to 95% of maximum density as determined by the standard Proctor test as set out in ASTM standard D-698. The contractor shall, prior to any operations involving filling or backfilling, submit the result of the Proctor test to the city's on-site inspector together with a certification that the soil tested is representative of the materials to be used on the project. Tests shall be conducted by a certified materials testing laboratory and the certifications made by a licensed professional engineer representing the laboratory.

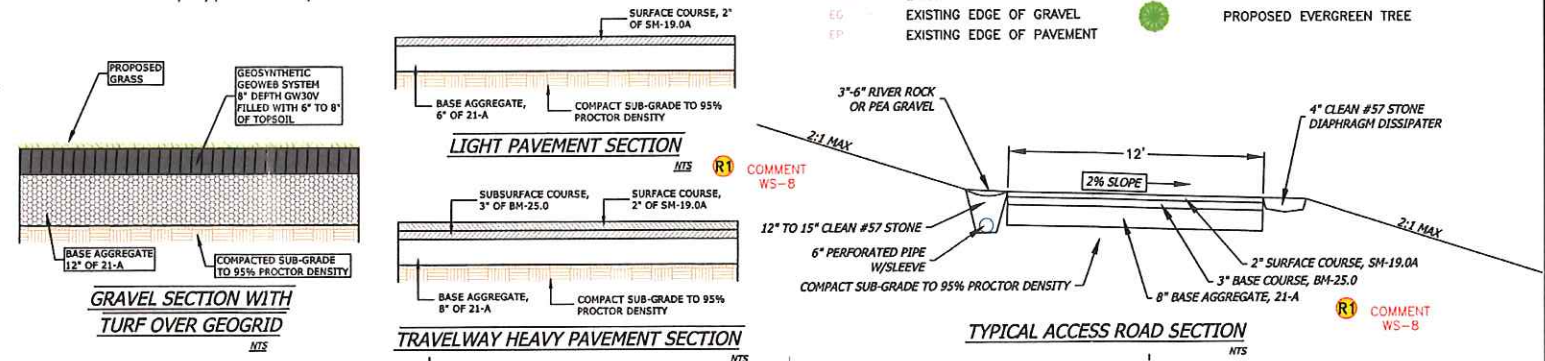
12. Certifications for materials including, but not limited to stone, concrete, pipes, precast units, handrails, stabilization mats, traffic signal items, must be provided to the city's on-site inspector and approved by the inspector prior to installation. See Inspector for Materials Certification Checklist.
13. Embankment fill and trench back-fill shall be placed in lifts at a maximum uncompacted depth of 8-inches and 6-inches, respectively. Density tests shall be conducted at the following minimum frequencies:
  - (a) Embankment for roads, streets, dams, etc.: One test per lift per 10,000 square feet of lift.
  - (b) Back-fill around structures and in trenches: One test per lift per 500 lineal feet of trench.
14. Compaction tests for street pavement structure shall be made in cut and fill areas at the following minimum frequencies:
  - (a) Sub-Grade: One test per lane per 500 lineal feet.
  - (b) Stone Base: One test per lane per 6" compacted lift per 500 lineal feet.
  - (c) Hot Asphaltic Concrete: One test per lane per lift per 500 lineal feet.
15. All excavations, including trenches, shall be kept dry to protect their integrity.
16. Test results shall be submitted to the City Engineer. Failure to conduct density tests and submit test results shall be cause for non-acceptance of the facility. Tests shall be conducted at the sole cost of the developer or his agent.
17. Combination under-drains type CD-1 shall be installed at the lower end of the cut sections. Under-drains type CD-2 shall be installed at the low point of all vertical curves.
18. Standard UD-1 and UD-3 under-drains shall be installed where indicated on plans on further where determined necessary in the field by the City Inspectors.
19. City Inspectors have full authority to reject fill or backfill materials, require undercutting or sub grade stabilization, require provisions for sub drainage, or require other measures which affect the integrity of road and utility construction. Failure to comply with Inspectors' directives shall be cause for non-acceptance of the facility.
20. Traffic control on public streets shall be in conformance with the Manual of Uniform Traffic Control Devices and as further directed by City Inspectors. City Inspectors must be notified 24-hours in advance of any planned work or activity in city right-of-way that requires flagging, lane closure or street closure. All signage and other control devices shall be in place before such activities can commence.
21. Any discrepancies found between the drawings and specifications and site conditions or any inconsistencies or ambiguities in drawings or specifications shall be immediately reported to the engineer, in writing, who shall promptly address such inconsistencies or ambiguities. Work done by the contractor after his discovery of such discrepancies, inconsistencies or ambiguities shall be done at the contractor's risk.
22. A preconstruction conference shall be held prior to the start of construction. The contractor shall arrange the meeting with the City Engineer. At this time, the contractor shall provide a schedule and traffic control plan for work within the city right-of-way.
23. Install City standard street centerline monuments where required for new streets.
24. If Traffic Signal plans have been revised or changed since approval, the developer must provide to the Director of Public Works as-built drawings reflecting changes. Provision of as-built drawings is a condition of bond release.

**ADDITIONAL NOTES**

1. Site Statistics: Zoned R-3 (Institutional Overlay), Total Area = 10.1 ac., Total Easement Area = 1.2 ac.
2. City Landscape Requirements: N/A.
3. If water and sanitary sewer laterals are placed in the same trench, construction must comply with BOCA, 1987 Section P-1502.2. Requiring water service to be 12" above and on a shelf to the side of the sanitary sewer.
4. Water Main: All water line mains shall be 8" ductile iron slip joint class 52, unless otherwise stated on the plans. The minimum depth to the top of the pipe shall be 36" and a 10' minimum separation between sewer lines.
5. The City of Harrisonburg has an established protocol for testing and disinfection of mains which shall be the responsibility of the Contractor to ascertain "on-site" approval by the Office of Community Development Inspection personnel. The protocol includes: a.) Hydrostatic testing of all water mains; b.) Disinfection and Bacteriological sampling of all water mains; c.) Final Inspections Operations test for all water main valves and hydrants; d.) Low Pressure Air Test of sanitary sewer pipe; e.) PVC sewer requires pulling of a 5% mandrel; f.) Exfiltration or Air Vacuum testing of manholes. The Contractor is responsible for coordinating a testing schedule with the City Inspectors.
6. Site Lighting: No more than 0.5 footcandle at property line is permitted.
7. The Erosion Control Narrative is a part of these plans. Contractor to comply with any additional items contained in the narrative.
8. Soils testing and any issues relating to soils is the responsibility of the owner/contractor. This includes payment for all soils consultant / independent engineering costs and fees, as well as other site related testing fees or costs.
9. Traffic Control: traffic control in public streets will be performed in accordance with the MUTCD and as further directed by City public works inspector.

**LEGEND**

OVERHEAD UTILITIES	LANDSCAPING AREAS ALONG RIGHT-OF-WAY
UTILITY POLE	LANDSCAPING AREAS AROUND PARKING AREA
WATER LINES	PROPOSED GRASS STRIP
EXISTING WATER LINES	PROPOSED GRAVEL AREAS
STORM SYSTEM	PROPOSED PAVEMENT AREAS
SANITARY SEWER CLEANOUT	PROPOSED HEAVY PAVEMENT AREAS
EXISTING SANITARY SEWER	PROPOSED CONCRETE AREAS
GAS LINES	PROPOSED SIDEWALK
EXISTING PROPERTY LINE	HANDICAP ACCESSIBLE PARKING SPACE
EASEMENT LINE	COMPACT PARKING SPACE
PROPOSED ROAD/EOP	EXISTING TREE WITH MULCHED BED
EXISTING ROAD	PROPOSED LARGE DECIDUOUS TREE
CURBING: CG-2 OR CG-6	PROPOSED SMALL DECIDUOUS TREE
FIRE HYDRANT	PROPOSED DECIDUOUS OR EVERGREEN SHRUB
WATER METER	PROPOSED EVERGREEN TREE
WATER VALVE	
EXISTING CONTOURS	
EXISTING EDGE OF GRAVEL	
EXISTING EDGE OF PAVEMENT	



**SERVICE LINE RELOCATION SEQUENCE OF CONSTRUCTION:**

CONTRACTOR TO BUILD PROPOSED 8" WATER MAIN TO GATE VALVE BEYOND THE PROPOSED FIRE HYDRANT AND INSTALL NEW WATER METER AND SERVICE LINE BEFORE GRADING TANK SITE AND INSTALLING THE REMAINING 8" WATER MAIN. OLD SERVICE LINE AND METER TO BE ABANDONED AFTER SERVICE HAS BEEN TURNED ON FOR THE NEW METER AND SERVICE LINE TO THE ROESCHLEY RESIDENCE.

COMMENT WS-1

PROPOSED AMENDED SOILS AND THICK GROUND COVER ON LOWER SLOPES TO AID IN STORMWATER PERCOLATION

PROPOSED TANK ACCESS EASEMENT

PROPOSED 8" WATER MAIN

PROPOSED GATE LOCATION (TYPICAL)

EXISTING PROPERTY LINE

PROPOSED AMENDED SOILS AND THICK GROUND COVER ON LOWER SLOPES TO AID IN STORMWATER PERCOLATION

PROPOSED ACCESS ROAD GATE LOCATION

2 TYPE AB FULL WATER SERVICE CONNECTIONS

PROPOSED BIORETENTION UNDERDRAIN

PERMANENT SLOPE AND BIORETENTION MAINTENANCE EASEMENT AREA = 29445 SF

TEMPORARY CONSTRUCTION EASEMENT

BIORETENTION MAINTENANCE AREA

BIORETENTION MAINTENANCE AREA

REMAINING PORTION OF EXISTING WATER LINE TO BE ABANDONED

COMMENT WS-2

25' SETBACK

PROPOSED NEW METER TYPE AB AND 1" SERVICE LINE TO POINT OF CONNECTION WITH EXISTING SERVICE LINE

COMMENT WS-3

PROPOSED FIRE HYDRANT LOCATION

PROPOSED TANK ACCESS EASEMENT

PROPOSED LANDSCAPE/GRASS AREAS

PERMANENT SLOPE MAINTENANCE EASEMENT AREA = 5358 SF

6" FRENCH DRAIN (TYPICAL) FOR EAST SLOPE DRAINAGE

TEMPORARY CONSTRUCTION EASEMENT

EX. COMM. TOWER

EX. LP GAS TANK

BIORETENTION MAINTENANCE AREA

MAINTENANCE AND BIORETENTION EASEMENT AREA = 8895 SF

UNDERGROUND POWER LINE TO BE TEST PIT AND RELOCATED IF DEPTH IS NOT ADEQUATE CONTRACTOR TO COORDINATE WITH HEC AND EMU

COMMENT WS-11

NEW FENCE PER EMU'S REQUIREMENTS

CAP 8" LINE BEYOND REINFORCED TURF AREA

COMMENT WS-3

PROPOSED 23'R ELEVATED WATER TANK (BY OTHERS)

PROPOSED 15'R TANK BASE (BY OTHERS)

PROPOSED TANK LOT BOUNDARY AREA = 29849 SF

PROPOSED TANK ACCESS EASEMENT

FIRE PIT AND BENCH

PROPOSED 6"-WIDE CONCRETE HANDICAP ACCESSIBLE WALKWAY

COMMENT WS-4

PROPOSED REINFORCED TURF (45'RADIUS) SEE TURF OVER GEOGRID DETAIL

PROPOSED TANK ACCESS AND MAINTENANCE EASEMENT AREA = 34295 SF

ABANDONED EX. WATER LINE

ADJUSTED EASEMENT SIZE

COMMENT WS-5

PROPOSED 12'-WIDE PAVED ACCESS ROAD

EX. BUILDING

ONLY SINGLE PHASE POWER IS AVAILABLE CONTRACTOR IS RESPONSIBLE FOR PROVIDING DITCH TO CLOSEST PRIMARY JUNCTION BOX CONTRACTOR IS RESPONSIBLE FOR ALL SECONDARY WORK

COMMENT E-1 (ELECTRIC)

30' SETBACK

COMMENT SW-2

BIORETENTION MAINTENANCE AREA

PROPOSED TANK LOT BOUNDARY

EX. WATER METER AND SERVICE LINE TO BE RELOCATED

COMMENT WS-1

EX. WATER METER

TEMPORARY CONSTRUCTION EASEMENT

ABANDONED EX. WATER LINE

COMMENT WS-2

EX. BUILDING

EX. WALKWAY

CONTRACTOR TO EXCAVATE AND REMOVE EXISTING MATERIAL TO ACCOMMODATE FOR PROPOSED HEAVY PAVEMENT REQUIREMENTS

PROPOSED LEAMAN ACCESS EASEMENT

COMMENT WS-7

PROPOSED TANK LOT BOUNDARY

COMMENT WS-1

EX. WATER METER

TEMPORARY CONSTRUCTION EASEMENT

ADJUSTED TEMP. EASEMENT

COMMENT WS-1

EX. WATER METER

TEMPORARY CONSTRUCTION EASEMENT

ABANDONED EX. WATER LINE

COMMENT WS-2

EX. BUILDING

EX. WALKWAY

CONTRACTOR TO EXCAVATE AND REMOVE EXISTING MATERIAL TO ACCOMMODATE FOR PROPOSED HEAVY PAVEMENT REQUIREMENTS

PROPOSED TANK ACCESS EASEMENT

COMMENT WS-9

AT THE END OF THE PROJECT THE DISCIPLSHIP CENTER'S PARKING LOT'S EXISTING PAVEMENT SHALL BE MILLED AND REPAVED WITH A 2" SURFACE COURSE OF SM 19.0A

COMMENT WS-14

**BEFORE YOU DIG CALL MISS UTILITY 1-800-552-7001**

CONTINUED

Date: 9/28/15  
Scale: 1"=30'  
Designed by: Gil Colman, PE  
Drawn by: GLC

Revision Dates  
R1 10/24/15 Per City

**COLMAN ENGINEERING, P.L.C.**  
P.O. BOX 1764 | Harrisonburg, VA 22803 | Ph: (540) 246 3712  
E-mail: contact@colmanva.com | www.colmanva.com

COMMONWEALTH OF VIRGINIA  
GUILLEMO L. COLMAN  
LIC. NO. 84576  
11/9/15  
PROFESSIONAL ENGINEER

**SITE LAYOUT**  
PARKVIEW WATER TANK & ACCESS ROAD  
1171 Hillcrest Drive  
1181 Smith Avenue  
Harrisonburg, Virginia 22802

Project No.  
CE-201526

Drawing No.  
**C2**  
of 6 Sheets





SCALE: 1"=100'

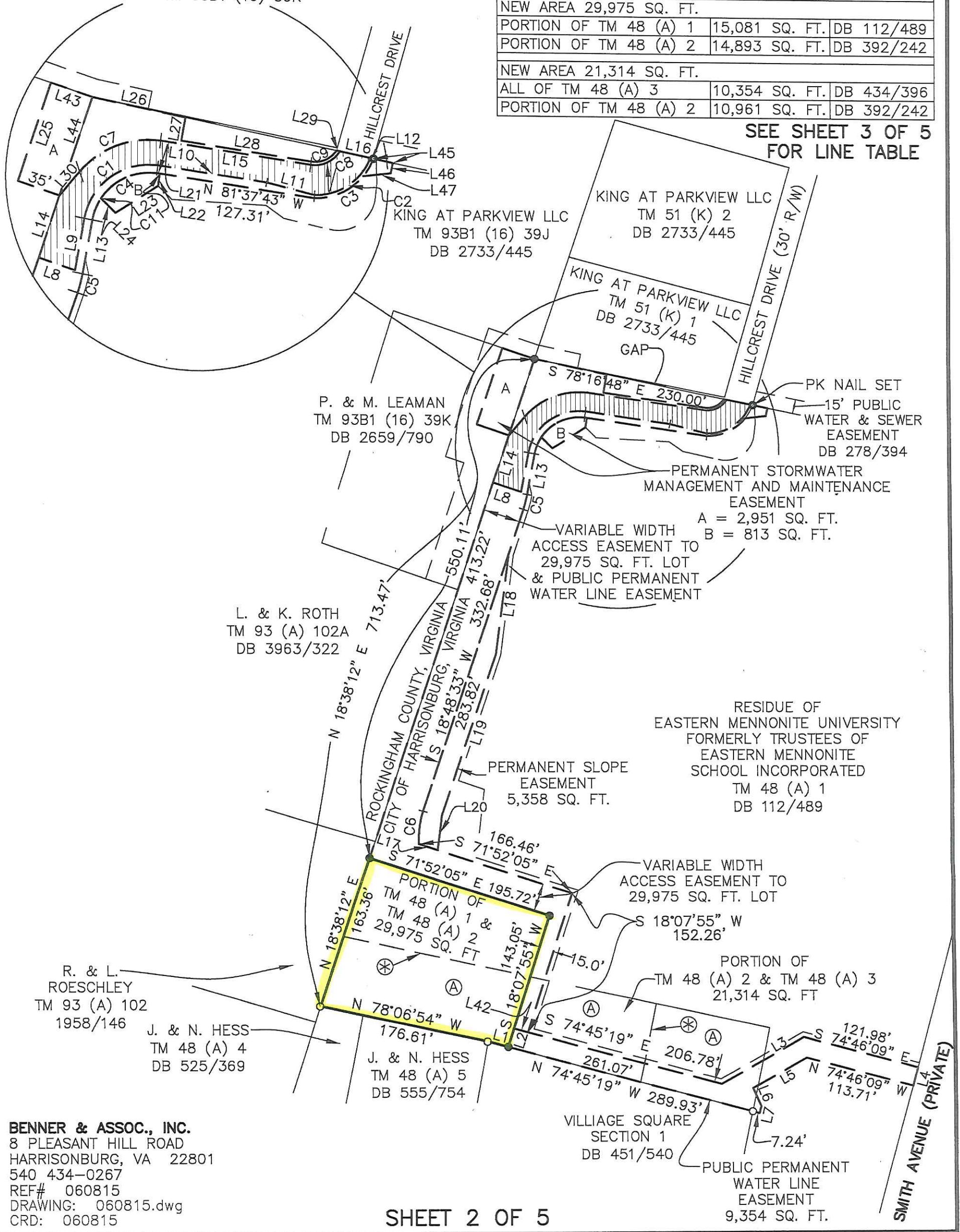
- △ = CONTROL POINT
- = FOUND IRON PIN
- = SET IRON PIN
- ⊙ = IRON ROD
- ⊗ = PROPERTY LINE HEREBY VACATED
- Ⓐ = EASTERN MENNONITE UNIVERSITY, FORMERLY TRUSTEES OF EASTERN MENNONITE COLLEGE, INC., DB 434/396, AND DB 392/242

= ACCESS EASEMENT TO TM 93B1 (16) 39K

CURVE	RADIUS	ARC	CHORD	CHORD BRG	DELTA ANGLE
C1	54.00'	80.90'	73.54'	S 53°37'11" W	85°50'16"
C2	47.50'	57.91'	54.39'	S 55°42'49" W	69°51'12"
C3	50.00'	61.53'	57.72'	S 55°34'59" W	70°30'22"
C4	47.50'	71.16'	64.69'	S 53°37'11" W	85°50'16"
C5	112.50'	15.92'	15.91'	S 14°45'18" W	8°06'30"
C6	87.50'	34.46'	34.24'	S 07°31'40" W	22°33'47"
C7	74.00'	73.07'	70.13'	N 68°15'08" E	56°34'24"
C8	23.07'	27.32'	25.76'	N 64°35'12" E	67°51'57"
C9	20.57'	23.50'	22.24'	N 65°47'25" E	65°27'33"
C10	30.05'	51.05'	45.13'	S 54°11'57" W	97°20'16"
C11	47.53'	52.22'	49.63'	N 65°06'47" E	62°57'22"

TITLE INFORMATION		
NEW AREA 29,975 SQ. FT.		
PORTION OF TM 48 (A) 1	15,081 SQ. FT.	DB 112/489
PORTION OF TM 48 (A) 2	14,893 SQ. FT.	DB 392/242
NEW AREA 21,314 SQ. FT.		
ALL OF TM 48 (A) 3	10,354 SQ. FT.	DB 434/396
PORTION OF TM 48 (A) 2	10,961 SQ. FT.	DB 392/242

SEE SHEET 3 OF 5 FOR LINE TABLE



**BENNER & ASSOC., INC.**  
 8 PLEASANT HILL ROAD  
 HARRISONBURG, VA 22801  
 540 434-0267  
 REF# 060815  
 DRAWING: 060815.dwg  
 CRD: 060815