

County of Roanoke

DEPARTMENT OF COMMUNITY DEVELOPMENT

DIRECTOR, ARNOLD COVEY
DEPUTY DIRECTOR OF DEVELOPMENT SERVICES, TAREK MONEIR
DEPUTY DIRECTOR OF PLANNING, PHILIP THOMPSON

January 15, 2016

BUILDING PERMITS/ INSPECTIONS
DEVELOPMENT REVIEW
ENGINEERING
ENVIRONMENTAL MANAGEMENT
PLANNING & ZONING
TRANSPORTATION

Mr. Dean Cranwell Heritage Village at Hollins, LLC 5310 Valleypark Dr, Suite 100 Roanoke, VA 24019

Re: Heritage Village at Hollins

Project #: SP-1500572

Conditional Site Plan Approval/

Preconstruction Meeting Requirements

Dear Mr. Cranwell:

Plans for the referenced project received by our office have been reviewed and it appears that all applicable standards and specifications have been met as the Virginia Licensed Professional Engineer has acknowledged by stamping and signing the plans. No building plan approval is given with this site plan approval letter. A building permit is required for all new and/or revised structures shown on this site plan. If you have not already submitted building plans to Roanoke County, you may do so. All reviewing entities must approve the site plan prior to issuance of any permits by Roanoke County. Roanoke County requires the developers, engineers and/or surveyors to provide an electronic copy of the stamped, approved site plan in a *.tif or .pdf file format named after the project prior to scheduling the preconstruction meeting. Please refer to the Development Review Policy for procedure.

A preconstruction meeting is required prior to any land disturbance occurring. To schedule a preconstruction meeting, all items below must be received in our office at least two (2) working days prior to the meeting being scheduled. Once all items are submitted, please contact Community Development – Office of Development Review to schedule this meeting. Final site plan approval will be given when the Erosion and Sediment Control Permit is issued and the approved site plans are distributed at this meeting. Please address or submit the following:

- 1. The developer/owner is responsible for acquiring and submitting all local, state and federal permits and any other permits and approvals required for the development of this project.
- 2. The developer/owner is responsible for notifying the Office of Development Review within 72 hours of an address change or a change to the Responsible Land Disturber.
- 3. The Department of Environmental Quality (DEQ) requires any land disturbance of one acre or greater to obtain a VSMP General Permit through our office. **The remaining \$237.00**

VSMP fees shall be submitted to Roanoke County for processing upon receiving your conditional site plan approval in order for Roanoke County to submit the request to DEQ for your coverage letter. The previously submitted registration statement has been reviewed and comments need to be addressed. Please submit the revised registration statement for review and approval. Coverage under the VSMP General Permit must be obtained before beginning any land disturbance on the property. A copy of the VSMP General Permit, the coverage letter and the SWPPP must be kept on the job site at all times and the VSMP General Permit Coverage letter must be posted. A copy of the coverage letter and the SWPPP must be submitted to the County after conditional plan approval but before a preconstruction meeting can be scheduled or any permits issued.

- 4. The signature sets of site plans cannot be processed without the owner/developer and the design engineer signing the Roanoke County Cover Sheet and all other pertinent pages as applicable.
- 5. The name, address, telephone number, certificate number and expiration date of the Virginia certified Responsible Land Disturber (RLD) must be submitted to Community Development Office of Development Review. The RLD shall attend the preconstruction meeting.

6. Agreements:

- ◆ The Roanoke County Erosion and Sediment Control Agreement must be signed, submitted to and approved by Community Development Office of Development Review for review and approval.
- ◆ The Roanoke County Site Agreement must be signed, submitted to and approved by Community Development Office of Development Review for review and approval.
- ♦ The *signed* Roanoke County Stormwater Management/BMP Facilities Maintenance Agreement with an 8 ½ x 11 or 14" plat exhibit attached showing the facility easement(s) and the access easement(s) needs to be submitted to and approved by Community Development Office of Development Review.

7. Sureties:

- ◆ The surety amount for the Site Agreement is \$906,808.00 (Roanoke County does not bond "Mobilization/Bonds/Insurance" as shown in the Quantity and Cost table on the cover sheet).
- ◆ The surety amount for the Erosion & Sediment Control Agreement is \$103,140.00.

The Roanoke County Bonding Policy requires a bond, a letter of credit or a cash escrow to be submitted for this surety. Roanoke County has specific forms for the letter of credit and the bond. These documents can be found on the Roanoke County website under Community Development, Development Services, Online Documents and Forms.

8. Submit six (6) complete copies of the site plan to be stamped approved and distributed in the preconstruction meeting. These will be distributed as follows: 1 – FTP website (prior to preconstruction meeting); 1 – Roanoke County; 2 – WVWA; 2 – Developer. If you require additional sets, please submit them when you submit the preconstruction sets.

9. Pursuant to Section 30-93 of the Roanoke County Zoning Ordinance, a Sign Permit is required for any sign(s) displayed at your business. Please contact this department for information on how to apply for a Sign Permit at (540) 772-2068.

Once these items are addressed, please contact this office to schedule a preconstruction meeting to be held in Conference Room 215 of the Roanoke County Administration Center. Have your grading (RLD) and/or utility contractor attend this meeting with you.

Provided all fees are paid and all other items are submitted with the exception of sureties and agreements, the approval of this development plan by Roanoke County is valid subject to conditions noted in Virginia State Code §15.2-2209.1 and §15.2-2261 and Roanoke County Code §23-3.1(b), as amended. The County reserves the right to require current cost estimates and reevaluate the bonding amounts if significant time has elapsed between the plan approval and the request for the preconstruction meeting to be scheduled.

The project will be considered null and void five (5) years from the date of this approval letter or any future date approved by the state code, if no land disturbance and/or construction have begun. If this occurs, further review will require resubmission of plats and plans for review and approval under current standards.

If you should have any questions regarding the comments in this letter, please do not hesitate to call me at (540) 772-2034.

Sincerely,

Angie Gwynn, P.E.

Principal Development Engineer

pc: Kevin Heath, P.E., The Lane Group

Roanoke County Review Team

VDOT – Salem District Transportation & Land Use Dept.

WVWA

GENERAL NOTES:

- PRE-CONSTRUCTION MEETING AND CONSTRUCTION COMMENCEMENT All construction methods and materials shall conform to the Construction Standards and Specifications of Roanoke County, the Western Virginia Water Authority, and the Virginia Department of Transportation.
- Stormwater Management Agreements with an attached 8 1/2" x 11" or 8 1/2" x 14" plat must be approved and recorded prior to the pre-construction meeting.
- Once all required items are submitted to the County of Roanoke, the developer must contact the Development Review Coordinator to indicate that a pre-construction meeting needs to be scheduled. The pre-construction meeting will be scheduled with the owner/developer two (2)
- All land disturbing projects that require approval of an erosion and sediment control plan, grading or clearing permit shall require that the applicant provide the name of an individual who will be responsible for land disturbing activities and that this individual hold a Responsible Land Disturber (RLD) Certificate from the Department of Environmental Quality. The Responsible Land Disturber can be anyone from the Project team that is certified by the Commonwealth of Virginia to be in charge of carrying out the land disturbing activity for the project.
- It is the responsibility of the owner/developer to notify the certified Responsible Land Disturber and the Utility Contractor to attend the pre-construction meeting.
- The Development Review Coordinator will schedule the pre-construction meeting with the County Review Engineer, the County Inspector, and the Western Virginia Water Authority and the Town of Vinton Public Works Department if applicable.
- An approved set of plans, Storm Water Pollution Prevention Plan (SWPPP), VSMP coverage letter, and all permits must be available at the construction site at all times.
- The developer and/or contractor shall supply all utility companies with copies of approved plans, advising them that all grading and installation shall conform to approved plans.
- The project engineer will inform the owner/developer verbally and in writing of the County's obligation to perform inspections on site. Everyone in the meeting will be required to sign a pre-construction checklist indicating their knowledge of Roanoke County's obligation to perform
- 10. The Erosion Control Permit or Combined Erosion Control & VSMP Permit is given to the developer at this pre-construction meeting.
- 11. Notify the County of Roanoke prior to beginning installation of ESC measures. The County will inspect initial installations to ensure compliance with approved plan prior to start of grading. The developer SHALL contact the project inspector 24 hours before beginning any grading or construction on the property.
- 12. County inspectors must inspect storm drain / stormwater management / BMP installations during the process of installation. Please contact the site inspector 24 hours in advance.
- 13. All work shall be subject to inspection by Roanoke County, the Western Virginia Water Authority and the Virginia Department of Transportation Inspectors.
- 14. Contractors shall notify utilities of proposed construction at least two (2), but not more than ten (10) working days in advance. Area public utilities may be notified thru "Miss Utility": 1-800-552-7001 or VA 811.
- 15. The 100 year Floodway shall be staked prior to any construction.
- 16. Grade stakes shall be set for all curb and gutter, culvert, sanitary sewer and storm sewer at all times of construction.
- 17. The Department of Community Development shall be notified when a spring is encountered
- 18. Construction debris shall be containerized in accordance with the Virginia Litter Control Act. No less than one litter receptacle shall be provided on site.
- The contractor shall provide adequate means of cleaning mud from trucks and/or other equipment prior to entering public streets or rights of ways. It is the contractors responsibility to insure that the streets are in a clean, mud and dust free condition at all times.
- 20. Plan approval in no way relieves the developer or contractors of the responsibilities contained within the erosion and sediment control or stormwater management policies.
- 21. Field construction shall honor proposed drainage divides as shown on plans.
- 22. Field corrections shall be approved by the Roanoke County Engineering Division and/or the Western Virginia Water Authority and the Professional of Record, prior to such construction.
- 23. The developer or contractor shall supply the County and the Western Virginia Water Authority with correct As-Built plans before final acceptance.

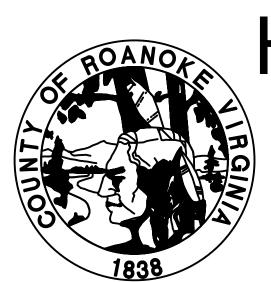
VIRGINIA DEPARTMENT OF TRANSPORTATION:

- 24. Plan approval by Roanoke County does not guarantee issuance of any permits by the Virginia
- 25. A permit must be obtained from the Virginia Department of Transportation, Salem Residency Office prior to construction in the highway right-of-way.
- 26. The preliminary pavement designs should be based on a predicted sub-grade CBR value of 7.0 and with a Resiliency Factor (RF) of 2.0 as shown in Appendix I of the 2000 Virginia Department of Transportation Pavement Design Guide for Subdivision and Secondary Roads. The sub-grade soil is to be tested by an independent laboratory and the results submitted to the Virginia Department of Transportation prior to base construction. Should the sub-grade CBR value and/or the RF value be less than the predicted values, additional base material will be required in accordance with Departmental specifications. Refer to the same manual as the number and locations of the required soil samples to be tested. All pavement designs shall be submitted to the Department for review and approval. The sub-grade shall be approved by the Virginia Department of Transportation prior to placement of the base. Base shall be approved by the Virginia Department of Transportation for depth, template, and compaction before the surface is applied.
- Standard guardrail with safety end sections may be required on fills or in areas where hazards exist as deemed necessary. After completion of rough grading operations, the County Engineer and Virginia Department of Transportation shall be contacted to schedule a field review. Where guard rail is warranted, the standard shoulder width shall be provided and the guard rail shall be installed in accordance with the 2001 VDOT Road and Bridge Standards as part of this development.
- Standard street and traffic control signs shall be erected at each intersection by the developer
- 29. All traffic devices shall be in accordance with current edition of the "Manual on Uniform Traffic Control Devices" (MUTCD).
- 30. All unsuitable material shall be removed from the construction limits of the roadway before

See Sheet C103 for Stormwater Site Statistics Table. See Sheets C103 & C117 for New BMP Information Table.

The Project Engineer shall provide electronic copies of the approved plans to the Development Review Coordinator within 5 working days of the pre-construction

The notes on this sheet shall not be modified.



HERITAGE VILLAGE AT HOLLINS, LLC. SITE DEVELOPMENT PROJECT ROANOKE COUNTY, VIRGINIA

NAME OF DEVELOPMENT: HERITAGE VILLAGE AT HOLLINS, LLC	I. OWNER/DEVELOPER, AM AWARE OF THE SITE DESIGN REQUIREMENTS IMPOSED BY THIS SITE DEVELOPMENT PLAN AND OTHER APPLICABLE ROANOKE COUNTY CODES.
MAGISTERIAL DISTRICT(S): HOLLINS	I HEREBY CERTIFY THAT VAGREE TO COMPLY WITH THESE REQUIREMENTS AND THE THIRTY (30) POINTS SHOWN ON THIS COVER SHEET UNLESS MODIFIED IN ACCORDANCE WITH LOCAL LAW.
OWNER (name, address, telephone): HERITAGE VILLAGE AT HOLLINS, LLC; 110 DRAPER ROAD, E	BLACKSBURG, VIRGINIA 24060; 540.344.2017
DEVELOPER (name, address, telephone): HERITAGE VILLAGE AT HOLLINS, LLC; 110 DRAPER ROA	AD, BLACKSBURG, VIRGINIA 24060; 540.344.2017
ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone): THE LANE GROUP, INC., 119	NORTH MAIN STREET, GALAX, VIRGINIA 24333
TAX MAP NO(S): 027.10-08.04.00-0000, 027.11-01-13.00-0000, 027.11-01-14.00-0000, 027.11-01-15.00-0000, 027.11-01-23.00-0000, 027.00-0000, 027.11-01-20.00-0000, 027.11-01-20.00-	5.00-0000, 027.11-01-16.00-0000, 027.11-01-17.00-0000, 027.11-01-18.00-0000, 027.11-01-19.00-0000, 027.11-01-20.00-0000, 3.01-0000

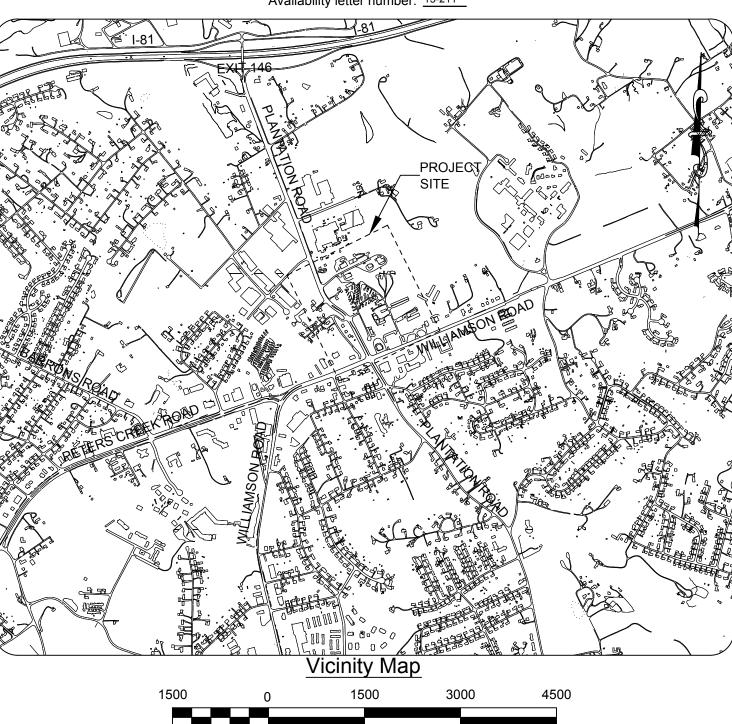
WATER NOTES

- 1. All water facilities shall be constructed according to the Western Virginia Regional Design and Construction Standards (Latest Edition).
- 2. A minimum cover of three (3) feet is required over proposed lines.
- 3. Contractor shall be responsible for locating and uncovering valve vaults after paving and adjustment to final grade if necessary.
- 4. All existing utilities may not be shown in their exact location. The contractor shall comply with the (State Water Works Regulations, Section 12VAC5-590-1150, where lines cross.
- 5. All trenches in existing or future highway right-of-ways shall be compacted according to Virginia Department of Transportation standards.
- 6. Lines shall be staked prior to construction.
- 7. Water main shall be minimum Class 350 Ductile Iron in accordance to AWWA C151 or DR-14 PVC in accordance with AWWA C-900.
- 8. Ductile Iron Pipe in accordance with the Western Virginia Regional Design and Construction Standards shall be required for all pipe with a working pressure equal to or greater than 100

PRIVATE UTILITIES

Underground utilities installed on private property or in private utility easements and building related storm drains shall be designed and installed per the current edition of the Virginia Uniform Statewide Building Code. Design and installation requirements issued by the Western Virginia Water Authority that meet or exceed the USBC requirements are acceptable for private utilities. All private utilities are to be permitted through and inspected by the Roanoke County Inspections Office. Vaults, valves and other devices installed by or under the control of the Western Virginia Water Authority may not be substituted for the code required devices.

Western Virginia Water Authority Availability letter number: 15-211



SCALE IN FEET

SEWER NOTES

- 1. All sanitary sewer facilities shall be installed according to the Western Virginia Regional Design and Construction Standards. (Latest Edition).
- 2. A minimum cover of three (3) feet is required over proposed lines.
- 3. Contractor shall be responsible for locating and uncovering all manholes after paving. Manhole tops shall be adjusted to grade if necessary.
- 4. All existing utilities may not be shown in their exact location. The contractor shall comply with (State Water Works Regulations, Section 12VAC5-590-1150, where lines cross.)
- 5. All trenches in existing or future rights-of-way shall be compacted according to Virginia
- Lines shall be staked prior to construction

Department of Transportation standards.

PLAN SHEET INDEX:

- C002 PROPERTY BOUNDARY SURVEY & ZONING INFORMATION C003 - GENERAL CONSTRUCTION NOTES & LEGEND C101 - EXISTING SITE CONDITIONS
- C102 DEMOLITION PLAN
- C103 SITE CONSTRUCTION & STORMWATER MANAGEMENT PLAN
- C104 BUILDING SITE GRADING PLAN C105 - EROSION & SEDIMENT CONTROL PLAN
- OFFICE SITE INITIAL PHASE
- C106 EROSION & SEDIMENT CONTROL PLAN ENTIRE SITE - INITIAL PHASE
- C107 EROSION & SEDIMENT CONTROL PLAN
- OFFICE SITE LATER PHASE C108 - EROSION & SEDIMENT CONTROL PLAN
- ENTIRE SITE LATER PHASE
- C109 LANDSCAPING PLAN
- C110 ACCESS ROAD & UTILITY IMPROVEMENTS
- C111 ACCESS ROAD & PROFILES
- C112 ACCESS ROAD CROSS SECTIONS C113 - GRAVITY SEWER & WATER LINE PROFILES
- C114 STORM SEWER PROFILES
- C115 SITE CONSTRUCTION DETAILS C116 - SITE CONSTRUCTION DETAILS
- C117 STORMWATER MANAGEMENT DETAILS
- C118 WVWA STANDARD UTILITY DETAILS & PARKING DETAILS
- C119 WVWA STANDARD UTILITY DETAILS
- C120 WVWA STANDARD UTILITY DETAILS & BMP PROFILES C121 - EROSION & SEDIMENT CONTROL DETAILS
- C122 EROSION & SEDIMENT CONTROL DETAILS
- C123 EROSION & SEDIMENT CONTROL & STORMWATER MANAGEMENT PLAN NARRATIVE
- C124 EROSION & SEDIMENT CONTROL & STORMWATER MANAGEMENT PLAN NARRATIVE
- C125 OFFICE BUILDING ARCHITECTURAL ELEVATIONS C126 - INTERSECTION SIGHT DISTANCES
- C127 TRAFFIC CONTROL PLAN
- C128 TRAFFIC CONTROL PLAN

SURVEY INFORMATION

Horizontal and vertical control surveys were performed in year: 2014 By: The Lane Group, Inc. All vertical elevations must be referenced to the National Geodetic Vertical Datum of 1929 or 1988.

All horizontal elevations must be referenced to the North American Datum of 1927 or 1983. Horizontal Datum: NAD83 Vertical Datum: NAVD88 Source of topographic mapping is dated <u>December 9, 2014</u>

Boundary was performed by Brian M. Waddle, LS dated: December 9, 2014

The professional seal and signature certifies the boundary survey and topographic mapping to

Benchmark Information: National Geodetic Survey Monument "Hollins" 1958 (PID-GW1356)

BENCHMARK TABLE

SYMBOL	L NAME NORTHING		EASTING	ELEVATION	DESCRIPTION	
	BM #1	N:3654226.8850	E:11060978.6000	1079.40	PK NAIL	
\triangle	BM #2	3653919.1990	11061757.0170	1063.62	PK NAIL	
	BM #3	3654015.2480	11062077.6700	1063.58	PK NAIL	
		•		•		

			ROAD BO			CONSTRUCTION		TOTALS		BONDED ITEMS	
Part A - Access Road Improvements	UNIT	UNIT COST	QNTY	TO	TAL COST	QNTY	TOTAL COST	QNTY	TOTAL COST	QNTY	TOTAL CO
Aggregate Base Course, 10" VDOT 21-B	S.Y	\$18.00	1,629	\$	29,320	1,421		3,050		1,421	
Asphalt Binder Course, 3" VDOT BM-25.0 Asphalt Surface Course, 2" VDOT 21-B	S.Y S.Y	19.00 14.00	1,629 3,209		30,949 44,925	1,421 1,421	27,001 19,895	3,050 4,630	57,950 64,820	1,421 1,421	27,0 19,8
Asphalt Tack Coat	S.Y	2.00	1,580		3,160		171272	1,580	3,160	1-	7.77
Concrete Sidewalk Curb & Gutter, VDOT CG-6	L.F.	50.00 40.00	248 1,977		12,400 79,080	1,131	45,240	248 3,108	12,400 124,320	1,131	45,2
Fraffic Signs	EA.	250.00	1,977		1,000	1,101	45,240	3,106	1,000	1,101	40,2
Facility Sign	EA.	8,000.00	-			2	16,000	2	16,000	2	16,0
Part B - Utilities - Off Site		Subtotal:		\$	200,834		\$ 133,716		\$ 334,550		\$ 133,7
3" Water, Ductile Iron	L.F.	\$40.00	-	\$	-	990	\$ 39,600	990	\$ 39,600	990	\$ 39,6
6" Water, Ductile Iron	L.F.	30.00	-		14	102	3,060	102	3,060	102	3,0
I" Water Service Line	L.F.	15.00			-	186	2,790	186	2,790	186	2,7
Tapping Sleeve/Valve & Connect to 8" Wate Cut / Sleeve Connection to 8" Water	EA.	3,500.00 3,500.00	-		-	1	3,500 3,500	1	3,500 3,500	1	3,5 3,5
Cut / Sleeve Connection to 6" Water	EA.	2,500.00	-		-	1	2,500	1	2,500	1	2,5
3" Gate Valve	EA.	1,200.00	-		-	6	7,200	6	7,200	6	7,2
6" Gate Valve 2" Air / Vacuum Release Valve	EA.	800.00 2,500.00	-			2	1,600 2,500	2	1,600 2,500	2	1,6 2,5
Fire Hydrant Assembly	EA.	3,500.00			-	2	7,000	2	7,000	2	7,0
Relocate & Reconnect Exist Water Meter	EA.	500.00	-		-	3	1,500	3	1,500	3	1,5
2" Gas Line, HDPE	L.F.	20.00	9			200	4,000	200	4,000	200	4,0
2" Gas Valve	EA.	1,200.00				3	3,600	3	3,600	3	3,6
B' Gravity Sewer BDR-26 8" Gravity Sewer	L.F.	50.00 100.00	-		-	669 246	33,450 24,600	669 246	33,450 24,600	669 246	33,4 24,6
5" Sewer Lateral	L.F.	40.00	-		- 3	55	2,200	55	2,200	55	2,2
5" Sewer Cleanout	EA.	100.00				1	100	1	100	1	1
4' Manhole, Gravity Sewer	V.F	250.00	-			58	14,500	58	14,500	58	14,5
Standard Frame & Cover Naterproof Frame & Cover	EA.	300.00 350.00		_	-	3	900 1,400	3 4	900 1,400	3	1,4
Orop Inlet, DI-3B	EA.	3,500.00	2		7,000	19	66,500	21	73,500	21	73,5
Orop Inlet, DI-3BB	EA.	4,000.00			- 1 n.4	2	8,000	2	8,000	2	8,0
Orop Inlet, DI-1	EA.	2,500.00 2,500.00			-	3.	-	-	-		
Storm Manhole, MH-1 24" Storm, Class III RCP	L.F.	60.00	119		7,140	-	- 2	119	7,140	119	7,1
18" Storm, Class III RCP	L.F.	50.00	831		41,550	727	36,350	1,558	77,900	1,558	77,9
15" Storm, Class III RCP	L.F.	40.00						-	-	- 4	
ES-1 End Section	EA.	1,000.00	2		2,000 1,000	1	1,000	3	3,000 1,000	3	3,0 1,0
Connect to Existing Drop Inlet	EA.	1,000.00 Subtotal:	1	\$	58,690	-	\$ 271,350		\$ 330,040	- 3	\$ 330,0
Part C - Demolition		Gustoun		-	55,555		2. 1,000		V 000,040		V 000,0
Demolish / Remove Buildings	S.F.	\$4.50	-	\$		35,430	\$159,435	35,430	\$159,435	-	
Demolish / Remove Pavement/Sidewalk Demolish / RemoveTrailer Pads	S.F.	0.80 0.80			•	91,450 9,080	73,160 7,264	91,450 9,080	73,160 7,264	+	
Cap / Plug Sewer Line	EA.	500.00				3	1,500	3	1,500	3	1,5
Demolish / Remove Gate Valve	EA.	200.00	-		-	3	600	3	600		.,,-
Demolish / Remove Fire Hydrant	EA.	200.00			14	1	200	1	200	-	
Demolish / Remove Water Meter	EA.	100.00	-	•	-	2	200	2	200	-	• 45
Part D - Earthwork / Grading		Subtotal:		\$	-		\$ 242,359		\$ 242,359		\$ 1,5
Clearing / Grubbing	ACRE	\$5,000.00	-	\$	-	3	\$ 15,000	3	\$ 15,000	3	\$ 15,0
Unclassified Excavation, Site & Road	C.Y.	3.00	-		- 4	8,722	26,166	8,722	26,166	8,722	26, 1
Unclassified Excavation, Basement	C.Y.	8.00	-			4,500	36,000	4,500	36,000	4,500	36,0
Part E - Stormwater BMP's (On-site)		Subtotal:		\$	-	-	\$ 77,166		\$ 77,166		\$ 77,1
Freatment Soil Mix	C.F.	\$4.00	-	\$	74	15,110	\$ 60,440	15,110	\$ 60,440	15,110	\$ 60,4
Gravel Storage Layer	C.F.	2.50	-			8,820	22,050	8,820	22,050	8,820	22,0
Forebay Rip-Rap Filter Stone, Bioretention Check Dam	C.Y.	35.00 50.00		_	-	53	1,855 300	53	1,855 300	53	1,8
5" Underdrain	L.F.	15.00			-	597	8,955	597	8,955	597	8,9
Cleanout	EA.	500.00	-		- 4	4	2,000	4	2,000	4	2,0
Control Structure, DI-1	EA.	2,500.00	-		- 4	3	7,500	3	7,500	3	7,5
Bioretention Vegetation	ACRE	30,000.00 Subtotal:	-	\$		0.12	3,600 \$ 106,700	0.12	3,600 \$ 106,700	0	3,6 \$ 106,7
Part F - Site Improvements		o dibtotal.		-		-	V 100,700		V 100,100	4.5	Ψ 100,1
Aggregate Base Stone, 8" VDOT 21-B	S.Y.	\$15.00	-	\$		4,236		4,236		4,236	\$ 63,5
Asphalt Binder Course, 3" VDOT BM-25.0	S.Y.	19.00 14.00	- 0-	_	-	4,236 4,236	80,484	4,236 4,236	80,484 59,304		
Asphalt Surface Course, 2" VDOT 21-B Pavement Painting	L.F.	1.50				2,180	59,304 3,270	2,180	3,270		
Concrete Sidewalk	L.F.	50.00				568	28,400	568	28,400	568	28,4
5' Width Concrete Stairs w/ Handrail	L.F.	60.00	-		-	53	3,180	53	3,180	7.04	
Concrete Pads, 6" Thick	S.Y.	70.00	-	_		121	8,470	121	8,470	-	
Curb & Gutter, VDOT CG-6 Curb Only, VDOT CG-2	L.F.	40.00 25.00				1,126 212	45,040 5,300	1,126 212	45,040 5,300	212	5,3
Handicap Access Ramp, VDOT CG-12	EA.	1,600.00	1-2		-	3	4,800	3	4,800	3	4,8
8" Storm Drain, Class III RCP	L.F.	50.00	<i>j</i> -		- 19	17	850	17	850	17	8
15" Storm Drain, Class III RCP ES-1 End Section	L.F.	40.00 1,000.00	-		- 12	664	26,545 3,000	664	26,545 3,000	664	26,5 3,0
Orop Inlet, DI-1	EA.	2,500.00				5	12,500	5	12,500	5	12,5
Curb Inlet, DI-3B	EA.	3,500.00	-		-	4	14,000	4	14,000	4	14,0
Storm Manhole, MH-1	EA.	2,500.00			-	1	2,500	1 010	2,500	1	2,5
6" Foundation Drain Roof Drain Line	L.F.	18.00 10.00		-	-	910 712	16,380 7,120	910 712	16,380 7,120	-	
5" Water Line	L.F.	30.00	-		-	43	1,290	43	1,290	43	1,2
2" Water Line	L.F.	25.00			-	43	1,075	43	1,075	43	1,0
Commercial Water Meter	EA.	18,000.00	-		110-1	170	18,000	170	18,000	170	18,0
SDR-26 8" Gravity Sewer "Gravity Sewer	L.F.	100.00 40.00			-	179 23	17,866 920	179 23	17,866 920	179 23	17,8 9
5" Sewer Cleanout	EA.	500.00			- 1	1	500	1	500	1	5
1' Manhole, Gravity Sewer	V.F	250.00	-		-	4	1,000	4	1,000	4	1,0
Naterproof Standard Frame & Cover Underground Electrical Cable	EA.	350.00 10.00	-			1,280	350 12,800	1,280	350 12,800	1	3
Site Light	EA.	3,000.00			-	7	21,000	7	21,000	-	
Privacy Fence	L.F.	10.00				330	3,300	330	3,300		
Segmental Retaining Wall	L.F.	150.00	-		-	64	9,600	64	9,600	-	- 7
Landscaping & Trees Seeding	ACRE		- 1		-	0.55 0.90	27,500 2,700	0.55 0.90	27,500 2,700	0.55	27,5 2,7
Soouting	HORE	Subtotal:		\$		0.90	\$502,584	0.90	\$502,584	0.90	\$232,
Part G - Miscellaneous Construction Cos		- astotal.			-						
As-Built Drawings (storm drain)	LS	2,000.00	1.00		2,000.00	1.00	\$2,000.00	1.00	\$2,000.00	1.00	\$2,000
15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	LS	2,000.00			\$2,000	1.00	2,000.00	1.00	2,000.00	1.00	2,000
As-Built Drawings (SWM)		Subtotal:			\$2,000		\$4,000		\$4,000		\$4,
AS-Built Drawings (SVVM)					\$261,524		\$1,337,875		\$1,597,399		\$885,
AS-Built Drawings (SVVM)		Subtotal:									+ 1
Mobilization / Bonds / Insurance	%	4.0	1	-	10,461		\$ -	-		-	
	%		1 1	\$ \$		1	\$ - \$ 133,788 \$ 133,788	1		- 1	

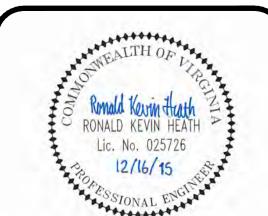
VDOT R/W MARSON | ALL OTHER PROJECT |

ROAD BONDED ITEMS | CONSTRUCTION

COMBINED PROJECT

ROANOKE COUNTY

BY SEALING THE PLANS, THE DESIGN PROFESSIONAL ENGINEER HEREBY CERTIFIES THAT THE FOREGOING ESTIMATE REFLECTS THE CURRENT IMPROVEMENT COSTS OF THIS P



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SHEET

