SITE SUMMARY

CURRENT SITE ZONING:	C2
PROPOSED USE:	RETAIL SALES – SHOPPING CENTER
TAX PARCEL (WORK AREA):	077.16-01-02.00-0000
PARCEL SIZE:	53.91 AC = 2,348,450 SF
AREA OF PROPOSED WORK:	1.80 AC = 78,520 SF
SETBACK REQUIREMENTS:	
MIN. FRONT YARD:	30', OR 20' IF ALL PARKING IS BEHIND FRONT BLDG. LINE
MIN. SIDE YARD:	0'
MIN. REAR YARD:	15'
LOT COVERAGE:	
MAXIMUM ALLOWED:	90 % PROPOSED REDEVELOPMENT WILL REDUCE THE AMOUNT OF LOT COVERAGE BY INSTALLING NEW GREEN SPACES IN AREAS OF EXISTING BITUMINOUS PAVEMENT.
BUILDING COVERAGE:	
MAXIMUM ALLOWED:	50% THE EXISTING BUILDING COVERAGE IS FAR LESS THAN THE 50% ALLOWABLE, AND THE TOTAL NEW BUILDING AREA OF ±13,608 SF WILL NOT CAUSE THE BUILDING COVERAGE TO EXCEED THE ALLOWABLE THRESHOLD.
BUILDING HEIGHT:	
MAXIMUM ALLOWED:	UNLIMITED, (NOT ADJACENT TO R-1 OR R-2 ZONING)
MAXIMUM PROPOSED:	± 14'

LEGEND

SYMBOLS

EXISTING	NEW	
100.5	100.5	SPOT ELEVATION
100	100	CONTOURS
8"SS	8"SS	SANITARY SEWER LINE
4"W	4"W	WATERLINE
8"SD	8"SD	STORM DRAIN
2"G	2"G	GAS LINE
E	E	OVERHEAD ELECTRIC LINE
T	T	OVERHEAD TELEPHONE LINE
CATV	CATV	OVERHEAD CABLE TELEVISION LINE
UE UT	UE UT	UNDERGROUND TEL OR ELEC LINE
W	W	WATER OR GAS METER
		VALVE
F.H.	F.H.	FIRE HYDRANT
		MANHOLE
C.O.	C.O.	CLEANOUT
		DROP INLET (CURB OR GRATE)
		UTILITY POLE, GUY & ANCHOR
		DITCH OR SWALE
		CENTERLINE OR BASELINE
		PROPERTY LINE
		BENCHMARK
x	x	FENCE
&	&	HANDICAPPED SPACE

ABBREVIATIONS

AHFH	ARROW HEAD TOP OF FIRE HYDRANT	MIN	
		MSM	
APPROX	APPROXIMATE	PVMT	MINIMUM
ASPH	ASPHALT	R	MONUMENT
BC	BOTTOM OF CURB	R/W	PAVEMENT
BIT	BITUMINOUS	ROCKS	RADIUS
BLDG	BUILDING	SAN	RIGHT OF WAY
BM	BENCHMARK	SS	RESERVED
C&G	CURB & GUTTER	STA	SANITARY
CMP	CORRUGATED METAL PIPE	STD	SANITARY SEWER
CONC	CONCRETE	TBM	STATION
DI	DROP INLET	TC	STANDARD
DIA	DIAMETER	TEL	TEMPORARY BENCHMARK
ELEC	ELECTRIC	TYP	TOP OF CURB
ELEV	ELEVATION	VDOT	TELEPHONE
EP	EDGE OF PAVEMENT		TYPICAL
EXIST	EXISTING	VDHT	VIRGINIA DEPARTMENT OF TRANSPORTATION
FF	FINISHED FLOOR		
FG	FINISH GRADE		VERTICAL
HPT	HIGH POINT		
INV	INVERT		
IP	IRON PIN		
MBL	MINIMUM BUILDING LINE		
MH	MANHOLE		

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS THE REDEVELOPMENT OF A PORTION OF THE EXISTING SHOPPING MALL PARKING LOT, TO ALLOW CONSTRUCTION OF TWO NEW 3-TENANT BUILDINGS, ALONG WITH SOME MINOR CURBING & FLATWORK NECESSARY TO PROVIDE AN IMPROVED PEDESTRIAN ROUTE TO THE MALL BUILDING, AS WELL AS OFF-SITE WATER AND SANITARY SEWER CONSTRUCTION TO SERVE THE TWO NEW BUILDINGS.

IT IS NOTED THAT THESE PLANS SERVE TO CONSTRUCT THE SITEWORK AND BASIC BUILDING "SHELLS", WITH DEMISING WALLS ALSO BEING CONSTRUCTED BETWEEN TENANT SPACES.

AS THE INTERNAL FACILITIES' DESIGN ELEMENTS ARE NOT KNOWN AT THE TIME OF SITE PLAN PREPARATION, THERE IS A CERTAIN LEVEL OF COORDINATION THAT IS REQUIRED DURING THE COURSE OF DESIGNING AND CONSTRUCTING THE "UPFIT" OF THE INDIVIDUAL TENANT SPACES, PARTICULARLY RELATIVE TO THE WATER AND SANITARY SEWER / GREASE LINE REQUIREMENTS. SEE WESTERN VIRGINIA WATER AUTHORITY NOTES, THIS SHEET

ENGINEER'S NOTES

CALDWELL WHITE ASSOCIATES ASSUMES NO RESPONSIBILITY FOR ADEQUACY OF PLANS OR FOR INFORMATION ON PLANS UNTIL SUCH PLANS HAVE BEEN APPROVED BY THE REQUIRED PUBLIC AGENCIES.

ANY WORK COMMENCED ON A PROJECT PRIOR TO PLAN APPROVAL IS AT SOLE RISK OF THE DEVELOPER.

CALDWELL WHITE ASSOCIATES DOES NOT GUARANTEE THE COMPLETION OR QUALITY OF PERFORMANCE OF THE CONTRACTS BY CONTRACTORS OR OTHER THIRD PARTIES.

ALL TRENCHING AND EXCAVATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH OSHA RULES AND REGULATIONS PERTAINING THERETO.

GRADING, COMPACTION AND FINISH SURFACE NOTES

FINISH GRADE CONTOURS AND SPOT ELEVATIONS SHOWN HEREIN ARE TO THE TOP OF THE INDIVIDUAL ELEMENT. THE CONTRACTOR SHALL ACCOUNT FOR THICKNESS OF TOPSOIL, MULCH, ETC. AND ADJUST SUBGRADE ELEVATIONS ACCORDINGLY.

ALL DENUDED AREAS SHALL BE PERMANENTLY SEEDED WITHIN SEVEN (7) DAYS OF REACHING FINAL GRADE. TEMPORARY SEEDING SHALL BE APPLIED, WITHIN SEVEN (7) DAYS, TO DENUDED AREAS NOT AT FINAL GRADE BUT THAT WILL REMAIN UNDISTURBED FOR MORE THAN 14 DAYS.

PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON ALL DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED.

A MINIMUM OF 6" OF TOPSOIL SHALL BE PLACED IN ALL AREAS TO RECEIVE PERMANENT SEEDING OR AREAS OF NEW LANDSCAPING.

ALL STRUCTURAL FILL SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR (ASTM D698). STRUCTURAL FILL IS DEFINED AS ANY AREA WITHIN 5' HORIZONTALLY OF ANY BUILDING, ROAD, WALK, OR OTHER HARD SURFACE, PROPOSED OR FUTURE.

AREAS OF CUT SHALL BE PROOF-ROLLED UNDER THE SUPERVISION OF THE GEOTECHNICAL PROJECT ENGINEER. AREAS THAT EXHIBIT RUTTING, PUMPING, OR OTHERWISE INDICATE SUB-STANDARD PERFORMANCE SHALL BE UNDERCUT, REMOVED AND REPLACED WITH SUITABLE MATERIAL AS DIRECTED BY THE GEOTECHNICAL PROJECT ENGINEER.

AREAS OF LANDSCAPING OR OTHER NON-STRUCTURAL USES SHALL BE COMPACTED TO MINIMUM 90% OF STANDARD PROCTOR.

THE SUBJECT DEVELOPMENT LIES WITHIN THE COUNTY'S DESIGNATED "AREAS OF POTENTIALLY EXPANSIVE SOILS". IT IS REQUIRED THAT A SOILS TEST REPORT BE PREPARED BY A QUALIFIED TESTING AGENCY AND SUBMITTED TO THE ROANOKE COUNTY BUILDING DEPARTMENT PRIOR TO ISSUANCE OF A PERMIT INVOLVING NEW CONSTRUCTION OR AN EXPANSION OF EXISTING CONSTRUCTION, IF EXPANSIVE SOILS ARE CONFIRMED, SUBMISSION OF A FOUNDATION DESIGN PREPARED BY A REGISTERED PROFESSIONAL ENGINEER IS REQUIRED PRIOR TO PERMIT ISSUANCE. THE DESIGN ENGINEER WILL ALSO BE REQUIRED TO CERTIFY THAT THE FOUNDATION HAS BEEN INSTALLED PER THE DESIGN. FOR ADDITIONAL INFORMATION, SEE "COUNTY EXPANSIVE SOILS POLICY & PROCEDURES".

INTERNAL TRAFFIC CONTROL AND SAFETY

THE CONTRACTOR SHALL COORDINATE CLOSELY WITH THE OWNER'S REPRESENTATIVE RELATIVE TO PROVIDING TEMPORARY TRAFFIC CONTROL MEASURES AND SCHEDULING LANE OR ROAD CLOSURES, PARTICULARLY RELATIVE TO THE WORK THAT IS REQUIRED FOR THE OFF-SITE WATER AND SANITARY SEWER EXTENSIONS, AND THE PARKING LOT ISLAND AND SIDEWALK CONSTRUCTION REQUIREMENTS FOR THE PEDESTRIAN ROUTE TO THE MALL FROM THE MAIN CONSTRUCTION AREA. TEMPORARY CONSTRUCTION BARRIERS SHALL BE IN PLACE AT ALL TIMES TO PHYSICALLY SEPARATE THE CONSTRUCTION AREA FROM THE CUSTOMERS AND THE GENERAL PUBLIC.

FOR WORK AREAS THAT WILL REQUIRE MULTI-DAY WORK, THE CONTRACTOR SHALL PROVIDE CHAIN-LINK SECURITY FENCING WITH LOCKED GATES, OR OTHER OWNER-APPROVED MEANS OF SECURING THE CONSTRUCTION AREA FROM THE TIME OF EVENING CONSTRUCTION END AND MORNING CONSTRUCTION START. CONSTRUCTION SHALL BE STAGED SUCH THAT MAIN ACCESS ROADS AND TRAVELWAYS ARE NOT REQUIRED TO BE CLOSED OVERNIGHT.

THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL BARRELS, CONES, CONCRETE MEDIAN BARRIERS, ETC., AS DIRECTED BY THE OWNER TO ENSURE THE SAFETY OF MOTORISTS, PEDESTRIANS, AND CONSTRUCTION PERSONNEL.

VIRGINIA DEPARTMENT OF TRANSPORTATION NOTES

1. THE CONTRACTOR IS REQUIRED TO OBTAIN A LAND USE PERMIT AND POST APPLICABLE SURETY FROM VDOT PRIOR TO PERFORMING ANY WORK WITHIN THE PUBLIC RIGHT OF WAY. ADDITIONAL INFORMATION RELATIVE TO TRAFFIC CONTROL PLANS MAY BE REQUIRED AT THAT TIME.

ROANOKE COUNTY NOTES

SITE LIGHTING

AT THE TIME OF SITE PLAN PREPARATION, IT IS UNKNOWN WHAT, IF ANY ADDITIONAL SITE LIGHTING FIXTURES WILL BE PROVIDED FOR THE AFFECTED AREA. IN ACCORDANCE WITH ROANOKE COUNTY REQUIREMENTS, ALL EXTERIOR LIGHTING IS REQUIRED TO MEET SECTION 30-94 OF THE ROANOKE COUNTY ZONING ORDINANCE. IN ADDITION A PHOTOMETRIC PLAN MAY BE REQUIRED AS PART OF THE BUILDING PERMIT REVIEW PROCESS.

SIGNAGE

ALL PROPOSED SIGNAGE IS REQUIRED TO MEET SECTION 30-93 OF THE ROANOKE COUNTY ZONING ORDINANCE. IN ADDITION, A SEPARATE SIGN PERMIT IS REQUIRED.

WESTERN VIRGINIA WATER AUTHORITY NOTES

GENERAL NOTES:

1. ALL MATERIALS, FABRICATION, AND INSTALLATION OF NEW WATERLINE AND SANITARY SEWER PIPELINES, MANHOLES, AND APPURTENANCES SHALL CONFORM TO THE LATEST EDITION OF THE WESTERN VIRGINIA REGIONAL DESIGN AND CONSTRUCTION STANDARDS AVAILABLE AT WWW.WESTERNVAWATER.ORG, OR BY CONTACTING THE AUTHORITY AT (540) 853-5700. THE PROJECT SHALL ALSO COMPLY WITH THE GOVERNING JURISDICTION'S STANDARDS AND OTHER AGENCY STANDARDS (e.g. VDOT, DEQ, DCR, VDH, ETC.), WHERE APPLICABLE.
2. THE CONTRACTOR OR DEVELOPER IS REQUIRED TO NOTIFY THE WESTERN VIRGINIA WATER AUTHORITY IN WRITING AT LEAST THREE (3) DAYS PRIOR TO ANY CONSTRUCTION. PLEASE CONTACT MARK SINK AT 537-3460.
3. ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE WESTERN VIRGINIA WATER AUTHORITY.
4. FIELD CORRECTIONS SHALL BE APPROVED BY THE WESTERN VIRGINIA WATER AUTHORITY PRIOR TO SUCH CONSTRUCTION.
5. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 18" CLEARANCE VERTICALLY AND 5' MINIMUM HORIZONTALLY FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE AT ALL WATER, SANITARY SEWER CROSSINGS OF ANY OTHER UTILITIES. WHERE THIS CANNOT BE ACHIEVED ADDITIONAL MEASURES IN ACCORDANCE WITH WVWA STANDARDS SHALL BE ENFORCED. CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY UPON DISCOVERY OF SUCH CONDITIONS. ADDITIONAL DESIGN EFFORTS MAY BE REQUIRED.
6. ANY EXISTING APPURTENANCES SHOULD BE ADJUSTED TO GRADE AND NEW FRAME AND COVERS INSTALLED WHERE REQUIRED.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE ALL EXISTING UTILITIES LOCATED AND POTHOLED TO VERIFY LOCATIONS. THIS PLAN REVIEW DOES NOT REMOVE THE CONTRACTOR'S RESPONSIBILITY TO RELOCATE ANY EXISTING CONFLICTS FOUND DURING CONSTRUCTION.

SANITARY SEWER NOTES:

1. ALL SANITARY SEWER CONNECTIONS TO EXISTING LINES SHALL BE COORDINATED WITH AND PERFORMED BY THE WESTERN VIRGINIA WATER AUTHORITY.
2. ALL WATER AND SANITARY SEWER FACILITIES ARE TO BE INSTALLED ACCORDING TO THE WESTERN VIRGINIA REGIONAL DESIGN AND CONSTRUCTION STANDARDS, LATEST EDITION.
3. SEE SHEET C-17 FOR REQUIREMENTS GOVERNING NEW GREASE INTERCEPTOR INSTALLATION AND INSPECTION.
4. ALL NEW SANITARY SEWER MANHOLES SHALL BE PROVIDED AND INSTALLED WITH STANDARD FRAMES AND COVERS.

WATER NOTES:

1. ALL WATER CONNECTIONS TO EXISTING LINES SHALL BE COORDINATED WITH AND PERFORMED BY THE WESTERN VIRGINIA WATER AUTHORITY; ALL LABOR AND MATERIALS ARE TO BE PROVIDED BY THE CONTRACTOR.
2. ALL WATER AND SANITARY SEWER FACILITIES ARE TO BE INSTALLED ACCORDING TO THE WESTERN VIRGINIA REGIONAL DESIGN AND CONSTRUCTION STANDARDS.
3. AT THE POINT OF INTERCONNECTION TO THE EXISTING SYSTEM, THE WATERLINE PRESSURE IS ESTIMATED TO BE 115 psi WITH NO FIRE FLOWS IN EFFECT.
4. SHELL BUILDING CONTRACTOR SHALL REFER TO THE NOTES BELOW RELATIVE TO MATERIALS AND LABOR REQUIRED FOR NEW DOMESTIC WATER SERVICES, BASICALLY THIS PROJECT IS INSTALLING SIX DOMESTIC CONNECTIONS READY FOR 2-INCH METERS TO BE INSTALLED (EMPTY SETTERS INCLUDED, NO ACTUAL METERS). IT WILL BE THE TENANTS' CONTRACTORS RESPONSIBILITY TO PROVIDE ANY REDUCERS OR REPLACEMENT SETTERS SHOULD THEY REQUIRE SMALLER DOMESTIC METERS.

REQUIREMENTS OF BUILDING DESIGNER(S) AND CONTRACTOR(S):

1. UNDER THESE PLANS, FOR EACH OF THE SIX NEW TENANT SPACES, THE CONTRACTOR IS INSTALLING 2-INCH WATER SERVICE LATERALS, EACH WITH 2-INCH ISOLATION VALVES & 2-INCH PRESSURE-REDUCING VALVES, TO NEW EMPTY 2-INCH METER SETTERS IN VAULTS. SIZES FOR 3-INCH METERS, THE DEVELOPER IS NOT PAYING ANY AVAILABILITY FEES AT THIS TIME.
2. EACH INDIVIDUAL TENANT'S DESIGN AND PERMITTING FOR UPFIT OF THEIR INDIVIDUAL SPACES WILL BE REQUIRED TO PROVIDE SIZING AND FLOW INFORMATION TO THE WVWA DURING THE BUILDING PLAN REVIEW PROCESS. THE FOLLOWING WILL BE REQUIRED OF EACH INDIVIDUAL TENANT PRIOR TO THE WVWA ACTIVATING WATER SERVICES TO THE TENANT SPACES.
3. WATER METER SIZING: THE TENANT UPFIT DESIGNER IS REQUIRED TO PROVIDE THE WVWA WITH FIXTURE COUNTS AND WATER METER SIZING FORMWORK FOR REVIEW. FOLLOWING WVWA APPROVAL OF SIZING COMPUTATIONS, THE WVWA WILL ISSUE AN AVAILABILITY LETTER FOR EACH INDIVIDUAL TENANT SPACE. AVAILABILITY FEES WILL BE DETERMINED BASED ON METER SIZE, AND WILL BE DUE PRIOR TO BUILDING PERMIT ISSUANCE FOR EACH TENANT.
4. PRETREATMENT WASTEWATER SURVEY FORM: EACH TENANT IS REQUIRED TO COMPLETE THIS THIS FORMWORK AND SUBMIT IT TO THE WVWA DURING THE COURSE OF APPLYING FOR BUILDING PERMITS.
5. FOG (FATS, OIL & GREASE) APPLICATION AND PERMITTING IS REQUIRED FOR ALL USES THAT MAY HAVE FATS, OILS AND GREASE ENTERING THE SEWER COLLECTION SYSTEM. PROVIDE SPECIFICS OF ALL KITCHEN EQUIPMENT (FLOW RATES, DISCHARGE TEMPERATURES, ETC.), AS WELL AS FORMAL GREASE INTERCEPTOR SIZING COMPUTATIONS FOR WVWA REVIEW AND APPROVAL DURING THE COURSE OF APPLYING FOR BUILDING PERMITS. FOLLOWING FORMAL APPROVAL OF ANY TENANT SPACE THAT DISCHARGES TO A GREASE INTERCEPTOR, THE OWNER / DEVELOPER IS REQUIRED TO REGISTER THE INTERCEPTOR WITH THE WVWA AND PROVIDE MAINTENANCE SCHEDULING, ETC.
6. PLUMBING SHEETS OF BUILDING PLANS FOR INDIVIDUAL TENANT SPACES THAT WILL PREPARE FOOD OR HAVE OTHER FATS / OILS / GREASE DISCHARGES MUST DESIGNATE THOSE INTERNAL WASTE LINES THAT DRAIN TO THE SANITARY LATERAL, AND THOSE INTERNAL WASTE LINES THAT DRAIN THROUGH THE GREASE INTERCEPTOR. COORDINATE POINTS OF INTERCONNECTION AT EXTERIOR BUILDING WALLS WITH THE REQUIREMENTS OF THESE PLANS.

FIRE FLOW NOTES

EXISTING CONDITIONS:

1. THERE ARE TWO EXISTING PRIVATE FIRE HYDRANTS WHICH THE OWNER HAD FLOW TESTED PREVIOUSLY. THE RESULTS OF THESE TESTS ARE SHOWN ON SHEETS C-03 AND C-04.
2. DURING THE COURSE OF THE CURRENT DESIGN, THE WVWA FLOW TESTED THREE PUBLIC HYDRANTS IN THE SURROUNDING AREA ON OCTOBER 21, 2020, THE LOCATIONS AND RESULTS OF OF WHICH ARE:
   - 2.1. HYDRANT 21277, LOCATED AT 4435 FRANKLIN ROAD
     STATIC PRESSURE = 120 psi
     FLOW = 2288 gpm WITH 97 psi RESIDUAL PRESSURE
     CALCULATED FLOW AT 20 psi RESIDUAL = 8198 gpm
   - 2.2. HYDRANT 21278, LOCATED AT 4420 ELECTRIC ROAD
     STATIC PRESSURE = 105 psi
     FLOW = 2183 gpm WITH 93 psi RESIDUAL PRESSURE
     CALCULATED FLOW AT 20 psi RESIDUAL = 8574 gpm
   - 2.3. HYDRANT 21279, LOCATED AT 4393 ELECTRIC ROAD
     STATIC PRESSURE = 102 psi
     FLOW = 2598 gpm WITH 89 psi RESIDUAL PRESSURE
     CALCULATED FLOW AT 20 psi RESIDUAL = 7215 gpm

PROPOSED CONDITIONS:

1. AT THE LOCATION OF THE PROPOSED EASTERN FIRE HYDRANT (EAST OF SHOPS "B"), THE PROJECTED FLOW RATE AT 20 psi RESIDUAL PRESSURE IS 2735 gpm.
2. AT THE LOCATION OF THE PROPOSED WESTERN FIRE HYDRANT (NORTH OF SHOPS "A"), THE PROJECTED FLOW RATE AT 20 psi RESIDUAL PRESSURE IS 2316 gpm.

COMMONWEALTH OF VIRGINIA
CORBIN L. WHITE
License No. 23843
01-06-2021
PROFESSIONAL ENGINEER

NOTES AND LEGEND
FOR
PROPOSED "SHOPS A & B"
TO BE CONSTRUCTED AT
TANGLEWOOD MALL
PREPARED FOR
TANGLEWOOD VENTURE LLC
SITUATE ELECTRIC ROAD (VA ROUTE 419)
CAVE SPRING MAGISTERIAL DISTRICT
COUNTY OF ROANOKE, VIRGINIA

Designed:	C.L. White
Drawn:	C.L. White
Checked:	
Date:	September 01, 2020
Scale:	1" = 30'
Tax Parcel:	077.16-01-02.00-0000
Field Book:	N/A
W.O. No.:	20-0011 / 20-0061

CWA
CALDWELL WHITE ASSOCIATES
ENGINEERS / SURVEYORS / PLANNERS
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Revised January 06, 2021 Per Second Regulatory Review & Coord. w/ Bldg. Plans – C.L. White
Revised December 07, 2020 Per First Regulatory Review – C.L. White

SHEET C-02 OF 17

APPROVED, 2/22/2021