MAPLEWOOD DEVELOPMENT

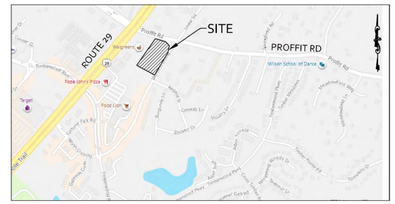
FINAL SITE PLAN

SDP 2022-00067

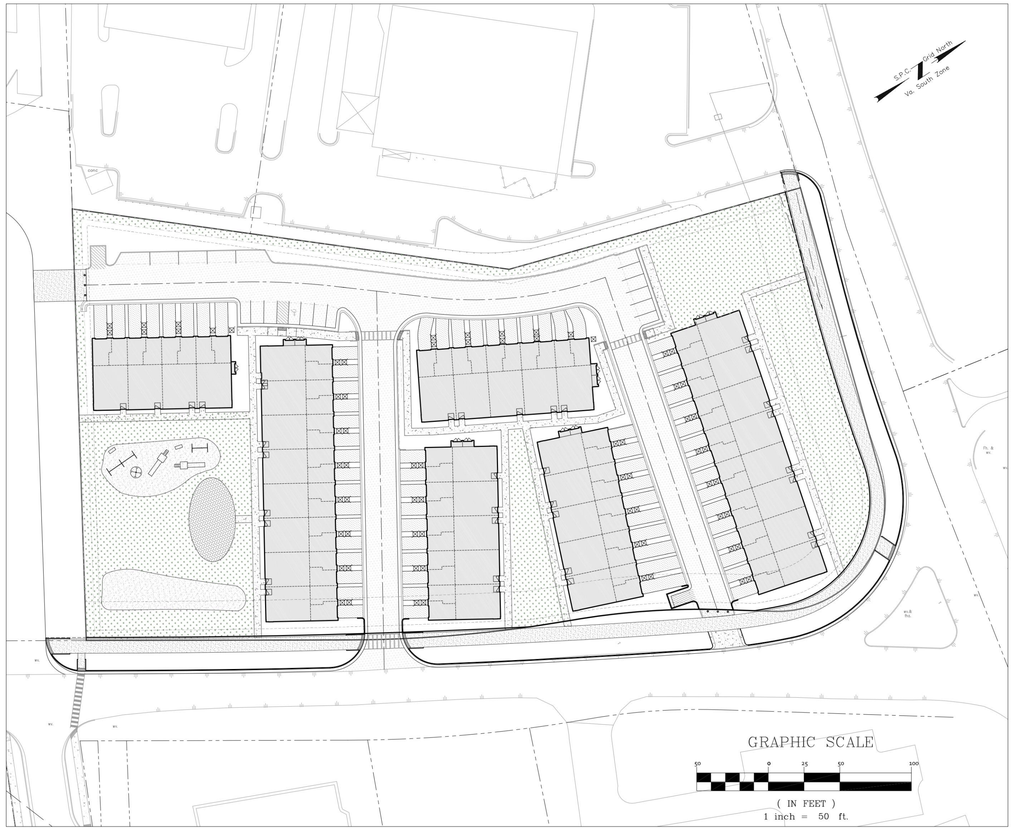
INITIAL SITE PLAN SDP2022-00049

RIVANNA MAGISTERIAL DISTRICT

ALBEMARLE COUNTY, VIRGINIA



VICINITY MAP
SCALE: 1" = 1,000'



DEVELOPMENT PLAN
SCALE: 1" = 50'

Sheet List Table	
Sheet Number	Sheet Title
1	COVER
2	EXISTING CONDITIONS
3	LAYOUT PLAN
4	UTILITY PLAN
5	GRADING PLAN
6	NOTES, DETAILS, AND TRAFFIC
6A	UTILITY NOTES & DETAILS
7	DRAINAGE MAP
8	DRAINAGE CALCULATIONS
8A	DRAINAGE CALCULATIONS
9	DRAINAGE PROFILES
10	ROAD & UTILITY PROFILES
11	WATERLINE PROFILES
12	LANDSCAPING PLAN
14	TOTAL SHEETS

GENERAL NOTES

OWNERS: TMP046B4-00-00-00400
MAPLEWOOD INVESTMENTS
455 SECOND STREET SE, SUITE 201
CHARLOTTESVILLE, VA 22902

DEVELOPER: RIVERBEND DEVELOPMENT
455 SECOND STREET SE, SUITE 201
CHARLOTTESVILLE, VA 22902

ENGINEER: COLLINS ENGINEERING
200 GARRETT ST, SUITE K
CHARLOTTESVILLE, VA 22902

TAX MAP: TMP046B4-00-00-00400
D.B. 3522, PG. 194-212 (PLAT)
3.41 ACRES

ZONING: PRD (PLANNED RESIDENTIAL DEVELOPMENT) - (ZMA-2021-00006), CONTAINING THE FOLLOWING:
ENTRANCE CORRIDOR OVERLAY DISTRICT, MANAGED STEEP SLOPES OVERLAY DISTRICT, & AIRPORT IMPACT AREA OVERLAY DISTRICT.

THESE OVERLAY DISTRICTS WERE NOT REVISED AS PART OF THE APPROVED ZMA.

TOTAL PROJECT AREA: 3.41 ACRES

PROPOSED USE: 70 MULTI-FAMILY RESIDENTIAL UNITS (ONE AND TWO BEDROOM UNITS)
(35) ONE BEDROOM UNITS
(35) TWO BEDROOM UNITS

PROPOSED DENSITY: 70 RESIDENTIAL MULTI-FAMILY UNITS WITHIN 3.41 ACRES
DENSITY = 70/3.41 ACRES
DENSITY = 20.5 DUA

OPEN SPACE: 25% OPEN SPACE IS PROPOSED WITH THE DEVELOPMENT. THE OPEN SPACE SHALL INCLUDE THE AMENITY AREAS AND BUFFERS AROUND THE PERIMETER OF THE PROJECT. NO DEDICATED OPEN SPACE IS PROPOSED WITH THE DEVELOPMENT AND THE OPEN SPACE SHALL BE OWNED AND MAINTAINED BY THE HOMEOWNER'S ASSOCIATION.
TOTAL DEVELOPMENT AREA = 148,715 SF
TOTAL OPEN SPACE AREA REQUIRED = 148,715 SF * 25% = 37,179 SF
TOTAL OPEN SPACE AREA PROPOSED = 50,613 SF
OPEN SPACE AREA #1 = 22,623 SF
OPEN SPACE AREA #2 = 8,707 SF
OPEN SPACE AREA #3 = 19,284 SF

BUILDING HEIGHTS: NO MINIMUM HEIGHT AND 4 STORIES MAXIMUM HEIGHT (65' MAXIMUM HEIGHT). NOTE, A STEPBACK REDUCTION WAIVER REQUEST HAS BEEN APPROVED FOR THIS PROJECT, REMOVING THE REQUIREMENT OF PROVIDING A MINIMUM STEPBACK OF A PORTION OF THE BUILDING EXCEEDING 40 FEET IN HEIGHT OR 3 STORIES (SE202200019).
BUILDING HEIGHTS (TOP OF ROOF) = 48' +/-
BUILDING HEIGHT (TOP OF PERGOLA) = 54' +/-
BUILDING HEIGHT (EAVE OF ROOF) = 48' +/-

SETBACKS: FRONT: 5' MINIMUM SETBACK & 25' MAXIMUM SETBACK
SIDE: 10' MINIMUM SETBACK & NO MAXIMUM SETBACK (10' MIN. BUILDING SEPARATION)
REAR: 20' MINIMUM SETBACK & NO MAXIMUM SETBACK

BUILDING FOOTPRINT: BUILDING FOOTPRINTS = SEE SHEET 3 FOR BUILDING FOOTPRINT SF (BUILDING FOOTPRINTS RANGE FROM 4,865 SF TO 9,710 SF)

LOT SIZE: NO MINIMUM LOT SIZE AND NO MAXIMUM LOT SIZE

STREETS: INTERNAL PRIVATE TRAVELWAYS WITH CURB & GUTTER

WATERSHED: THE PROPERTY IS LOCATED WITHIN THE NON-WATER SUPPLY WATERSHED AREA OF THE NORTH FORK RIVANNA RIVER, POWELL CREEK

AGRICULTURAL/FORESTAL DISTRICT: NONE

TOPOGRAPHY & SURVEY: TOPOGRAPHY AND BOUNDARY WAS FIELD SURVEYED BY ROUDABUSH, GALE AND ASSOCIATES, OCTOBER 2021. TOPOGRAPHY AND FIELD CONDITIONS WERE VERIFIED BY COLLINS ENGINEERING, JUNE 2022.

DATUM: NAVD 1988

EXISTING VEGETATION: COMPLETELY CLEARED AND GRADED SITE. THIS AREA HAS BEEN CLEARED AND GRADED WITH THE UTILITY INFRASTRUCTURE IMPROVEMENTS AND DEVELOPMENT OF THE ADJACENT PROPERTIES.

LIGHTING: THE PROPOSED BUILDINGS SHALL HAVE WALL MOUNTED LIGHTS ON EITHER SIDE OF THE ENTRANCE DOOR AND EITHER SIDE OF THE GARAGE UNITS. THE LUMENS SHALL BE BETWEEN 1100 LUMENS AND 2500 LUMENS. NO OTHER SITE LIGHTING IS PROPOSED WITH THIS SITE PLAN. ANY SITE LIGHTING SHALL COMPLY WITH ALBEMARLE COUNTY LIGHTING REQUIREMENTS AND SHALL BE FULL CUTOFF FIXTURES WHEN LIGHTING EXCEEDS 3000 LUMENS WITH LIMITED INTENSITY AND WARM COLOR TEMPERATURES BETWEEN 2000K AND 3000K. SEE SHEET 3 FOR ADDITIONAL LIGHTING NOTES AND SHEET 6 FOR WALL MOUNTED LIGHTING FIXTURE.

PHASING: THIS PROJECT SHALL BE DEVELOPED WITHIN (1) PHASE.

RECREATION: ACTIVE RECREATIONAL AREAS ARE PROPOSED WITHIN THE DEVELOPMENT. THESE AREAS INCLUDE GRASS RECREATIONAL FIELDS, A TOT LOT, A DOG PARK, AND A MEETING/CIVIC SPACE. ALL THE RECREATIONAL AMENITIES WILL BE IN ACCORDANCE WITH SECTION 4.16 OF THE ALBEMARLE COUNTY CODE. ALL PROJECT AMENITIES SHALL BE COMPLETED PRIOR TO 50% OF THE UNITS RECEIVING CERTIFICATE OF OCCUPANCY.
BELOW IS A SUMMARY OF THESE AREAS:
TOT LOT AREA: 2,500 SF
GRASS FIELDS: 27,950 SF
DOG PARK: 2,250SF
CIVIC/MEETING AREA: 1,500 SF
TOTAL RECREATIONAL AMENITIES PROVIDED WITH THE APARTMENT COMPLEX: 34,200 SF

PARKING: RESIDENTIAL PARKING REQUIREMENTS:
1. (2) PARKING SPACES REQUIRED FOR EACH MULTI-FAMILY DWELLING UNIT
70 RESIDENTIAL UNITS x 2 SPACES = 140 SPACES
2. GUEST PARKING SPACES REQUIRED (1 SPACE PER 4 RESIDENTIAL UNITS)
70 RESIDENTIAL UNITS x 1 SPACE / 4 UNITS = 18 PARKING SPACES
TOTAL NUMBER OF PARKING SPACES REQUIRED: 158 PARKING SPACES

TOTAL NUMBER OF PARKING SPACES PROVIDED:
1. 70 GARAGE PARKING SPACES
2. 70 DRIVEWAY PARKING SPACES
3. 13 PERPENDICULAR GUEST PARKING SPACES & 5 PARALLEL GUEST PARKING SPACES
TOTAL NUMBER OF SPACES PROVIDED: 158 PARKING SPACES

BURIAL SITES: NO CEMETERIES WERE FOUND DURING FIELD INVESTIGATION OF THIS SECTION OF THE DEVELOPMENT.

PRESERVED/MANAGED SLOPES: THERE ARE EXISTING MANAGED SLOPES ON THIS PORTION OF THE PROPERTY AS SHOWN ON SHEET 2. IMPACTS TO THE MANAGED SLOPES SHALL BE IN ACCORDANCE WITH THE ALBEMARLE COUNTY ZONING ORDINANCE.

FLOODPLAIN: THERE IS NO 100-YR FLOODPLAIN LOCATED IN THE PROPERTY PER FEMA MAP ID 51003C0286D, DATED FEBRUARY 4, 2005. IN ADDITION, THERE ARE NO STATE OR FEDERAL DAM BREACH INUNDATION ZONES ON THE PROPERTY.

RETAINING WALLS: SEE SHEET 5 FOR THE LOCATION OF THE SEGMENTED RETAINING WALLS. RETAINING WALLS SHALL NOT EXCEED 6 FEET IN HEIGHT AND SHALL CONFORM WITH ALBEMARLE COUNTY STANDARDS.

LANDSCAPING: STREET TREES SHALL BE INSTALLED ALONG THE FRONTAGE OF THE EXISTING PUBLIC STREETS. THE LANDSCAPING PLAN SHALL BE IN ACCORDANCE WITH ALBEMARLE COUNTY LANDSCAPING REQUIREMENTS WITHIN SECTION 32.7.9 OF THE COUNTY CODE.

TRASH SERVICE: EACH UNIT SHALL HAVE AN INDIVIDUAL TRASH CONTAINER, AND ALL TRASH SHALL BE COLLECTED BY A DRIVING DUMPSTER SERVICE.

UTILITIES: ALBEMARLE COUNTY WATER AND SEWER

IMPERVIOUS AREAS/LAND AREAS: TRAVELWAYS/PARKING: 39,415 SF (0.90 ACRES) - (26.5%)
SIDEWALKS: 14,997 SF (0.34 ACRES) - (9.9%)
BUILDINGS: 42,570 SF (0.98 ACRES) - (28.7%)
RECREATIONAL AREA: 34,145 SF (0.78 ACRES) - (22.9%)
OPEN SPACE/LANDSCAPING: 17,693 SF (0.41 ACRES) - (12.0%)
TOTAL: 3.41 AC

TOTAL IMPERVIOUS COVER: 2.22 ACRES (65.1 %)

TOTAL RECREATIONAL AREA & OPEN SPACE AREA: 1.19 ACRES (35.0%)

PAVED PARKING AND VEHICULAR CIRCULATION AREA: 39,415 SF

AFFORDABLE HOUSING: AFFORDABLE HOUSES TO BE PROVIDED IN ACCORDANCE WITH THE APPROVED ZONING MAP AMENDMENT (ZMA2021-00006). TOTAL PROPOSED AFFORDABLE UNITS: 15% OF 70 UNITS = 11 UNITS, AFFORDABLE UNITS SHALL BE THE LOWER UNITS OF THE BUILDINGS IDENTIFIED ON SITE PLAN SHEET (*)

STORMWATER MANAGEMENT: THE STORMWATER FOR THE PROPOSED DEVELOPMENT SHALL INCLUDE THE INSTALLATION OF UNDERGROUND DETENTION FACILITY TO DETAIN AND MEET LOCAL AND STATE STORMWATER MANAGEMENT REQUIREMENTS. NUTRIENT CREDITS WILL BE PURCHASED WITH THE PROPOSED DEVELOPMENT TO MEET WATER QUALITY REQUIREMENTS.

NEEDED FIRE FLOW CALCULATION: CLASS I - FRAME TYPE CONSTRUCTION (IBC TYPE V-A)
FACTOR = 1.5
TOTAL GROUND FLOOR AREA = 9,710 SF
TOTAL AREAS OF OTHER FLOORS = 14,565 SF
TOTAL BUILDING AREA: 24,275 SF
REQUIRED ISO FIRE FLOW = 2850 SF
NEEDED FIRE FLOW (50% REDUCTION FOR AUTOMATIC SPRINKLERS) = 1,500

AVAILABLE FIRE FLOW ONSITE: AVAILABLE FIRE FLOW AT HYDRANT LOCATED ALONG WORTH CROSSING IS 2,054 GPM AT 48 PSI.

TRIP GENERATION CALCULATIONS

ITE TRIP GENERATION: TRAFFIC IMPACT NUMBERS ARE BASED ON THE ITE TRIP GENERATION MANUAL, 10TH EDITION. CODE 220 WAS USED FOR THE DEVELOPMENT
PROPOSED 70 DWELLING UNITS
ADT RATE - 7.32 VPD PER DU = 512 ADT (256 ENTER/ 256 EXIT)
AM PEAK RATE - 0.46 VPD PER DU = 32 VPD (7 ENTER/ 25 EXIT)
PM PEAK RATE - 0.56 VPD PER DU = 39 VPD (25 ENTER/ 14 EXIT)

NOTES:
1. ALL PROPOSED UTILITY EASEMENTS SHALL BE DEDICATED TO PUBLIC USE OR PRIVATE USE .
2. ROADWAYS SHALL BE PRIVATE TRAVELWAYS. SEE NOTES & DETAILS FOR MORE DETAIL ON THE PROPOSED TRAVELWAY CROSS SECTIONS.

CONSTRUCTION FIRE PREVENTION NOTES:
1. SMOKING SHALL BE PROHIBITED IN AREAS WHERE SMOKING MAKES CONDITIONS SUCH AS TO MAKE SMOKING A HAZARD AND THESE AREAS SHALL BE DESIGNATED WITH NO SMOKING SIGNS PER VIRGINIA STATEWIDE FIRE PREVENTION CODE.
2. AREAS WHERE SMOKING CAN OCCUR, SHALL HAVE APPROPRIATE RECEPTACLES FOR DISCARDED SMOKING MATERIALS PER VIRGINIA STATEWIDE FIRE PREVENTION CODE.
3. PER THE VIRGINIA STATEWIDE FIRE PREVENTION CODE, VEHICULAR ACCESS FOR FIREFIGHTING SHALL BE PROVIDED AT ALL CONSTRUCTION AND DEMOLITION SITES, PROVIDE ACCESS TO WITHIN 100 FT. OF TEMPORARY OR PERMANENT FIRE DEPARTMENT CONNECTIONS, AND HAVE NO OVERHEAD WIRING OR OTHER OVERHEAD OBSTRUCTIONS LOWER THAN 13FT 6 INCHES; THIS ACCESS MAY BE VIA PERMANENT OR TEMPORARY ROAD, BUT SHALL BE CAPABLE OF SUPPORTING FIRE APPARATUS IN ALL WEATHER CONDITIONS.
4. CONTRACTOR SHALL ENSURE THE STREET NUMBERS ARE ALWAYS VISIBLE FROM THE FRONTAGE STREET DURING CONSTRUCTION PER THE VIRGINIA STATEWIDE FIRE CODE.
5. AN APPROVED WATER SUPPLY FOR FIREFIGHTING OPERATIONS SHALL BE IN PLACE AND AVAILABLE AS SOON AS COMBUSTIBLE MATERIALS ARRIVE ON SITE.
6. WASTE AND COMBUSTIBLE DEBRIS SHALL BE REMOVED FROM THE BUILDING AT THE END OF EACH DAY AND DISPOSED OF IN ACCORDANCE WITH THE VIRGINIA STATEWIDE FIRE CODE.
7. FIRE EXTINGUISHERS SHALL BE PROVIDED, WITH NOT LESS THAN ONE APPROVED FIRE EXTINGUISHER AT EACH STAIRWELL, ON ALL FLOOR LEVELS WHERE COMBUSTIBLE MATERIALS HAVE ACCUMULATED, IN EVERY STORAGE AND CONSTRUCTION SHED AND IN ARES OF SPECIAL; HAZARD, SUCH AS WHERE FLAMMABLE AND COMBUSTIBLE LIQUIDS ARE STORED OR USED, IN ACCORDANCE WITH THE VIRGINIA STATEWIDE FIRE CODE.
8. OPERATIONS INVOLVING THE USE OF CUTTING AND WELDING SHALL COMPLY WITH THE VIRGINIA STATEWIDE FIRE PREVENTION CODE AND SHALL REQUIRE A PERMIT FROM THE ALBEMARLE COUNTY FIRE MARSHAL'S OFFICE.

BUILDING CODE NOTES:
1. RETAINING WALLS GREATER THAN 3 FEET IN HEIGHT REQUIRE A SEPARATE BUILDING PERMIT. WALLS EXCEEDING 4 FEET IN HEIGHT REQUIRE A STAMPED ENGINEERED DESIGN ALSO. WALLS REQUIRE INSPECTIONS AS OUTLINED IN THE USBC.
2. ACCESSIBLE PARKING SPACES, ACCESS ISLES, AND ACCESSIBLE ROUTE SHALL BE INSTALLED IN ACCORDANCE WITH ICC ANSI A117.1-09 AND THE 2015 VIRGINIA CONSTRUCTION CODE.
3. WHERE THE FLOOD LEVEL RIMS OF PLUMBING FIXTURES ARE BELOW THE ELEVATION OF THE MANHOLE COVER OF THE NEXT UPSTREAM MANHOLE IN THE PUBLIC SEWER, THE FIXTURE SHALL BE PROTECTED BY A BACKWATER VALVE INSTALLED IN THE BUILDING DRAIN, BRANCH OF THE BUILDING DRAIN, OR HORIZONTAL BRANCH SERVING SUCH FIXTURES. PLUMBING FIXTURES HAVING FLOOD LEVEL RIMS ABOVE THE ELEVATION OF THE MANHOLE COVER OF THE NEXT UPSTREAM MANHOLE IN THE PUBLIC SEWER SHALL NOT DISCHARGE THROUGH A BACKWATER VALVE.
4. ALL ROOF DRAINS SHALL DISCHARGE IN A MANNER NOT TO CAUSE A PUBLIC NUISANCE AND NOT OVER SIDEWALKS.
5. BUILDINGS OR STRUCTURES BUILT BEFORE JANUARY 1, 1985 MUST HAVE AN ASBESTOS SURVEY PERFORMED IN ORDER TO APPLY FOR A DEMOLITION PERMIT. ASBESTOS REMOVAL PERMITS ARE REQUIRED IF POSITIVE FOR SUCH FROM ALBEMARLE COUNTY AND VDOLI. CONTACT VDOLI FOR THEIR ADDITIONAL REQUIREMENTS AND PERMITS FOR DEMOLITION PROJECTS AT 540-562-3850 x131.
6. ALL WATER, SEWER, AND FIRE LINES REQUIRE NEW INSPECTION AND TESTING PROCEDURES. THE ACSA PERFORMS ANY TESTING AND INSPECTIONS OF THE PUBLIC SEWER AND WATER MAIN(S). THE ALBEMARLE COUNTY BUILDING INSPECTIONS DEPARTMENT (ACBID) DOES A VISUAL INSPECTION AND WITNESSES THE TESTING OF THE BUILDING DRAIN, WATER SERVICE PIPE AND THE SPRINKLER LEAD-IN CONNECTION.
7. THE DEVELOPER/CONTRACTOR IS RESPONSIBLE TO RETAIN A SPECIAL INSPECTOR AS OUTLINED IN THE UPDATED ALBEMARLE COUNTY POLICY FOR SITE UTILITIES TO PERFORM THE VISUAL INSPECTION AND TESTING OF ALL UTILITIES NOT COVERED BY THE ACSA OR ACBID. THIS INCLUDES BUILDING SEWERS, WATER AND FIRE LINE BRANCHES BETWEEN THE MAIN AND THE METER(S)/BUILDING(S).
8. THE SPECIAL INSPECTOR'S REPORT MUST BE SUBMITTED AND APPROVED BY THE ALBEMARLE COUNTY ENGINEERING DEPARTMENT PRIOR TO A CERTIFICATE OF OCCUPANCY BEING ISSUED.

LEGEND

- EDGE OF PAVEMENT
- CURB
- PROPOSED ASPHALT PAVEMENT
- EXISTING VEGETATIVE/ LANDSCAPE BUFFER
- GREENWAY BUFFER
- PROPOSED EASEMENT, VARIOUS WITH EACH SHEET
- DROP INLET & STRUCTURE NO.
- DRAINAGE PIPE
- BENCH MARK
- VDOT STANDARD STOP SIGN
- PROPOSED HANDICAP PARKING SPACE STRIPING
- PROPOSED ASPHALT STRIPING (DIRECTING TRAFFIC)
- 200 EXISTING CONTOUR
- 200 PROPOSED CONTOUR
- 506.71 TC / 506.21 EP PROPOSED SPOT ELEVATION TBC DENOTES TOP/BACK OF CURB T/B DENOTES TOP OF BOX
- 506.71 TW / 506.21 BW PROPOSED SPOT ELEVATION TW DENOTES TOP OF WALL BW DENOTES BOTTOM OF WALL
- PRESERVED STEEP SLOPES
- MANAGED STEEP SLOPES
- PEDESTRIAN AND VEHICLE ACCESS
- PROPOSED CONCRETE
- PROPOSED & EXISTING GUARDRAIL
- PROPOSED FENCE
- 100 YR. FLOODPLAIN
- PRIVATE YARD DRAIN SYSTEM

ORDINANCE NO. 22-A(7)
ZMA 2021-00006 MAPLEWOOD

AN ORDINANCE TO AMEND THE ZONING MAP FOR PARCEL ID 046B4-00-00-00400

BE IT ORDAINED by the Board of Supervisors of the County of Albemarle, Virginia, that upon consideration of the transmittal summary and staff report prepared for ZMA 2021-00006 and their attachments, including the application plan last revised on May 6, 2022, the information presented at the public hearing, any comments received, the material and relevant factors in Virginia Code § 15.2-2284 and County Code §§ 18-19 and 18-33.6, and for the purposes of public necessity, convenience, general welfare and good zoning practices, the Board hereby approves ZMA 2021-00006 with the application plan last revised on May 6, 2022.

* * *

I, Claudette K. Borgersen, do hereby certify that the foregoing writing is a true, correct copy of an Ordinance duly adopted by the Board of Supervisors of Albemarle County, Virginia, by a vote of six to zero, as recorded below, at a regular meeting held on June 1, 2022.

Clerk, Board of County Supervisors

	Aye	Nay
Mr. Andrews	Y	
Mr. Gallaway	Y	
Ms. LaPisto-Kirtley	Y	
Ms. Mallek	Y	
Ms. McKeel	Y	
Ms. Price	Y	

APPROVALS	DATE
DEPARTMENT OF COMMUNITY DEVELOPMENT	
PLANNER/ZONING	
ENGINEER	
INSPECTIONS	
ARB	
DEPARTMENT OF FIRE RESCUE	
ALBEMARLE COUNTY SERVICE AUTHORITY	
VIRGINIA DEPARMENT OF TRANSPORTATION	
HEALTH DEPARTMENT	

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
Lic. No. 0357911
PROFESSIONAL ENGINEER
08/16/23

REVISIONS

DATE	REVISION DESCRIPTION
10/28/2022	INITIAL FINAL PLAN SUBMISSION TO ALBEMARLE COUNTY
05/18/2023	REVISED PER COUNTY & ACSA COMMENTS
08/16/2023	REVISED PER COUNTY & ACSA COMMENTS

COLLINS ENGINEERING
200 GARRETT STREET, SUITE K. - CHARLOTTESVILLE, VA 22902 - 434.293.3719

PROJECT: MAPLEWOOD DEVELOPMENT - FINAL SITE PLAN
SHEET TITLE: COVER

JOB NO. 202199
SCALE 1"=50'
SHEET NO. 1

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GENERAL NOTES:
1. THERE IS NOT FLOODPLAIN LOCATED ON THIS SITE PER FEMA FLOODPLAIN MAP # 51003C0286D, DATED FEBRUARY 4, 2005.
2. NO DAM BREACH INUNDATION ZONES ARE LOCATED ON THE PROPERTY.
3. A STREAM BUFFER DOES NOT EXIST ON THE SUBJECT PROPERTY.
4. BEFORE BEGINNING SITE WORK, THE CONTRACTOR SHALL INVESTIGATE AND VERIFY THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES, MECHANICAL AND ELECTRICAL SYSTEMS, AND OTHER CONSTRUCTION AFFECTING THE WORK. BEFORE CONSTRUCTION THE CONTRACTOR SHALL VERIFY THE LOCATION AND INVERT ELEVATIONS AT POINTS OF CONNECTION OF SANITARY SEWER, STORM SEWER, AND WATER-SERVICE PIPING; UNDERGROUND ELECTRICAL SERVICES, AND OTHER UTILITIES. THE CONTRACTOR SHALL FURNISH LOCATION DATA FOR WORK RELATED TO PROJECT THAT MUST BE PERFORMED BY PUBLIC UTILITIES SERVING THE PROJECT SITE.

CURVE TABLE
TAX MAP 46B4 PARCEL 4

LINE	RADIUS	ARC	DELTA	CHORD BEARING	CHORD
C1	75.00'	140.68'	107°28'28"	S18°44'41"E	120.95'
C2	521.54'	106.96'	11°45'01"	S29°07'02"W	106.77'
C3	920.00'	156.74'	9°45'42"	S28°07'23"W	156.56'

TMP.32-36F
SJS Limited Company 200
DB.1478 p.261
DB.1064 pp.533-545plat)

TMP.32-37C1
Mary R. & George R. Mercer
DB.3522 p.181
DB.3522 pp.189-193(BLA Plat)
DB.3522 pp.194-212(Esmt. Plat)

TMP.32-37C
WGN PROFFITT LLC C/O WALGREEN
WALGREENS
DB.3522 pp.189-193(BLA Plat)
DB.3522 pp.194-212(Esmt. plat)
DB.3790 p.692

TMP.46B4-3
JA-ZAN LLC
DB.4873 pp.153-161
3.426 Acres

TMP.46B4-4
JA-ZAN LIMITED PARTNERSHIP
DB.1144 P.382
DB.1133 P.372
DB.1127 P.342
DB.1126 P.178-185(plat)
DB.3522 P.181-184(off convey.)
DB.3522 pp.194-212plat)
3.41 Acres(Survey)

TMP.32A-02-1A2
CHARLOTTESVILLE PROFFIT LLC
c/o RENAUD CONSULTING
DB.5130, PG.703

TMP.32A-02-1A3
MPB INC c/o SENTARA
HEALTHCARE TAX
DEPARTMENT 6015
DB.5476, PG.471

TMP.46B4-05
PETCHEL, ROBERT G OR KATHLEEN O
DB.1685, PG.014

TMP.32-36E0
LIGHTHOUSE WORSHIP CENTER INC
DB.3863, PG.154

TMP.32-36G0
LIGHTHOUSE WORSHIP CENTER INC
DB.2664, PG.033

EXISTING ALBEMARLE COUNTY MANAGED STEEP SLOPES

EXISTING 18" SANITARY SEWER TO BE RELOCATED

EXISTING 18" DI SANITARY SEWER TO REMAIN

EXISTING 20' DRAINAGE EASEMENT TO BE VACATED AND REPLATTED WITH NEW STORM SEWER

EXISTING PROPERTY LINE

EXISTING 8" PVC SAN. SWR TO REMAIN

EXISTING 8" SANITARY SEWER TO BE RELOCATED

EXISTING RIGHT-OF-WAY

EXISTING SANITARY SEWER EASEMENT TO BE VACATED

EXISTING RIPRAP OUTFALL TO BE REMOVED

EXISTING EDGE OF PAVEMENT

EXISTING 8" D.I. WATERLINE

EXISTING 8" PVC SANITARY SEWER TO BE RELOCATED

EXISTING FIRE HYDRANT

EXISTING 18" DI SANITARY SEWER

STORM GRATE TO REMAIN UNTIL DEMO AFTER ESC PHASE III

APPROXIMATE LOCATION OF EXISTING 8" WATERLINE, PROPERTY OF ACSA AS SHOWN AT DB 1071 PG 491

PROFFIT ROAD
STATE ROUTE 649

WORTH CROSSING (70' PUBLIC)
D.B.1018 P.403, D.B.1290 pp.395-696

REGENT STREET

BENCHMARK
TOP OF MH
ELEV=532.26'

BENCHMARK
TOP OF MH
ELEV=527.52'

N40°59'02"E 308.21'

N17°29'22"E 211.28'

S72°28'55"E 208.64'

S33°00'14"W 182.61'

S34°59'33"W 35.34'

N58°44'15"W 301.69'

20' ACSA Esmt. (Public) D.B.3942 pp.462-467

35' Slope & Drainage Esmt. (Private) D.B.3522 pp.194-212

10' Construction Esmt. (Private) D.B.3522 pp.194-212

Var. Temporary ACSA Esmt. D.B.3942 pp.462-467 (Public)

30' VEPCO Esmt. D.B.3607 pp.695-702 (Public)

20' ACSA Esmt. D.B.3942 pp.462-467 (Public)

20' Storm Sewer Esmt. D.B.3522 pp.194-212 D.B.3522 pp.189-193 (Private)

Public Storm Sewer Esmt. as shown at D.B.1281 pp.342

Approx. San. Sewer Esmt. (Public) D.B.1127 pp.330-338 D.B.1127 P.337(plat)

Approx. San. Sewer Esmt. (Public) D.B.1127 p.330 as shown at D.B.3942 pp.462-467

Approx. Sight Dist. Esmt. (Public) D.B.3522 pp.189-193

Approx. Location of Private Cross Access Esmt. D.B.3522 pp.194-212

Approx.San. Sewer Esmt. (Public) D.B.3522 pp.194-212 D.B.3522 pp.189-193

Approx. San. Sewer Esmt. (Public) D.B.3522 p.189 as shown at D.B.3942 pp.462-467

Approximated Underground Stormwater Detention

D.B.1126 P.178 Total 0.012 Ac. Reserved 0.142 Ac. for Access

Public Storm Sewer Esmt. as shown at D.B.1281 pp.342

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 inch = 30 ft.

S.P.C. Grid North
Va. South Zone

REVISIONS

DATE	REVISION DESCRIPTION
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COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS 14
Lic. No. 035791
PROFESSIONAL ENGINEER
10/16/23

COLLINS ENGINEERING
200 GARRETT STREET, SUITE K. - CHARLOTTESVILLE, VA 22902 - 434.293.3719

PROJECT
MAPLEWOOD DEVELOPMENT - FINAL SITE PLAN

SHEET TITLE
EXISTING CONDITIONS

JOB NO. 202199
SCALE 1"=30'
SHEET NO. 2

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VDOT NOTES:
1. VDOT WILL ONLY MAINTAIN WITHIN DRAINAGE EASEMENTS TO THE EXTENT NECESSARY TO PROTECT THE ROADWAY FROM FLOODING OR DAMAGE.
2. A MOT PLAN SHALL BE PROVIDED PRIOR TO THE START OF CONSTRUCTION FOR ANY WORK ON EXISTING ROADWAYS THAT HAVE BEEN ACCEPTED BY VDOT. CURRENTLY, THE EXISTING ROADWAY INTERSECTIONS FOR THIS DEVELOPMENT ARE UNDER CONSTRUCTION AND HAVE NOT YET BEEN ACCEPTED BY VDOT. NO MOT PLAN IS REQUIRED AT THIS TIME FOR THE IMPROVEMENTS AT THE ENTRANCES.
3. IF A TRAFFIC MAINTENANCE PLAN (TMP) IS REQUIRED, THEN IT SHALL BE PREPARED BY AN ADVANCED WORK ZONE CERTIFIED PERSON, CERTIFICATION CARD AND VERIFICATION NUMBER IS REQUIRED ON THE TMP SUBMITTAL.

NOTES:
1. CONTRACTOR SHALL VERIFY ALL ROAD CONNECTIONS, INCLUDING RECENTLY CONSTRUCTED AREAS, VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL CONFIRM ALL UTILITY, DRAINAGE, AND ROAD CONNECTIONS, AND SHALL NOTIFY ENGINEER OF ANY TIE-IN ISSUES OR DISCREPANCIES.
3. 1 REPRESENTS ONE PROPOSED PARKING SPACE.
4. (*) REPRESENTS ONE LOWER LEVEL AFFORDABLE UNIT.
5. OVERHEAD WIRING OR OTHER OBSTRUCTIONS SHALL BE HIGHER THAN 13'-6".
6. ALL PAVEMENT SHALL BE CAPABLE OF SUPPORTING FIRE APPARATUS WEIGHING 85,000 LBS.
7. CONTRACTOR SHALL ENSURE ALL ON-SITE UTILITIES, ABOVE AND BELOW GROUND, SERVICING ADJACENT PROPERTIES SHALL CONTINUE TO SERVICE THE ADJACENT PROPERTIES THROUGHOUT CONSTRUCTION AND UPON COMPLETION OF THE PROJECT TO THE FULLEST EXTENT POSSIBLE.
8. SEE SHEET 2 FOR COMPLETE PROJECT BOUNDARY DIMENSIONS AND METES AND BOUNDS.
9. CURB RADII SHOWN, REPRESENTED WITH AN 'R', DIMENSION THE FACE OF CURB.
10. VISIBILITY OF ALL MECHANICAL EQUIPMENT FROM THE ENTRANCE CORRIDOR SHALL BE ELIMINATED. ALL MECHANICAL EQUIPMENT SHALL BE SCREENED FROM THE ENTRANCE CORRIDOR.
11. ALL RETAINING WALLS GREATER THAN 3 FEET IN HEIGHT REQUIRE A SEPARATE BUILDING PERMIT. WALLS EXCEEDING 4 FEET IN HEIGHT REQUIRE A STAMPED ENGINEERED DESIGN FOR THE WALLS SYSTEM.
12. BUILDINGS OR STRUCTURES BUILT BEFORE JANUARY 1, 1985 MUST HAVE AN ASBESTOS SURVEY PERFORMED IN ORDER TO APPLY FOR A DEMOLITION PERMIT. ASBESTOS REMOVAL PERMITS ARE REQUIRED IF POSITIVE FOR SUCH. CONTACT VDOLI FOR ADDITIONAL REQUIREMENTS AND PERMITS FOR DEMOLITION PROJECTS.
13. ALL PRIVATE TRAVELWAYS SHALL BE OWNED AND MAINTAINED BY THE APARTMENT COMPLEX OR HOMEOWNERS ASSOCIATION. NO PUBLIC AGENCY, INCLUDING VDOT AND THE COUNTY OF ALBEMARLE WILL BE RESPONSIBLE FOR MAINTAINING THE TRAVELWAYS WITHIN THE APARTMENT COMPLEX.
14. ALL PUBLIC WATER AND SANITARY SEWER FACILITIES SHALL BE DEDICATED TO PUBLIC USE AND THE EASEMENTS FOR THOSE FACILITIES, AS IDENTIFIED ON THIS PLAN, SHALL BE DEDICATED TO THE ALBEMARLE COUNTY SERVICE AUTHORITY. THE ONSITE SANITARY SEWER IS A PRIVATE UTILITY AND NO EASEMENTS ARE REQUIRED.
15. ALL PRIVATE YARD DRAIN DESIGN INFORMATION (INCLUDING INVERTS OF THE SYSTEM) SHALL BE PROVIDED BY THE CIVIL ENGINEER DURING CONSTRUCTION.

TMP.32-37C1
Mary R. & George R. Mercer
DB.3522 p.181
DB.3522 pp.189-193(BLA Plat)
DB.3522 pp.194-212(Esmt. Plat)

TMP.32-37C
WGN PROFFITT LLC C/O WALGREEN
WALGREENS
DB.3522 pp.189-193(BLA Plat)
DB.3522 pp.194-212(Esmt. plat)
DB.3790 p.692

TMP.46B4-3
JA-ZAN LLC
DB.4873 pp.153-161
3.426 Acres

TMP.46B4-05
PETCHEL, ROBERT G OR KATHLEEN
DB.1685, PG.014

TMP.32-36E0
LIGHTHOUSE WORSHIP CENTER INC
DB.3863, PG.154

TMP.32-36G0
LIGHTHOUSE WORSHIP CENTER INC
DB.2664, PG.033

PROPOSED LOCATION OF INTERPARCEL VEHICULAR EASEMENT TO TMP 46B4-3
PROPOSED EMERGENCY ACCESS CONNECTION WITH REMOVABLE BOLLARDS COMPATIBLE WITH KNOX BOX LOCKING SYSTEM TO ALLOW ACCESS FOR EMERGENCY VEHICLES
PROPOSED LOCATION OF INTERPARCEL PEDESTRIAN CONNECTION
(P) 6' MIN. LANDSCAPE BUFFER
(P) 10'x18' TURN-AROUND
(P) 9'x20' PARALLEL PARKING SPACES
(P) ROLL-FACE CURBING
(P) NO PARKING SIGN
(P) VDOT STD. CG-2 CURB
(P) VDOT STD. CG-6 CURB
(P) ASPHALT DRIVE AISLE & PARKING AREAS
10' MIN. SIDE SETBACK
CASPIAN LANE
(28' PRIVATE ACCESS EASEMENT)
311'R
495'R
275'R
28' ACCESS ESMT
26' F/C-F/C
22' E/P-E/P
PROPOSED MULTI-FAMILY BUILDING #1
8 UNITS
4,865 SF
PROPOSED MULTI-FAMILY BUILDING #2
16 UNITS
9,710 SF
PROPOSED MULTI-FAMILY BUILDING #3
10 UNITS
6,105 SF
PROPOSED MULTI-FAMILY BUILDING #4
10 UNITS
6,105 SF
PROPOSED MULTI-FAMILY BUILDING #5
10 UNITS
6,105 SF
PROPOSED MULTI-FAMILY BUILDING #6
16 UNITS
9,710 SF
12'x18' (MIN.) GARAGE
(P) 5' WIDE CONCRETE SIDEWALK
(P) VDOT STD. R1-1 STOP SIGN
(P) STREET SIGN
(P) VDOT STD. CG-12 ADA RAMP
(P) VDOT STD. CG-6 CURB
(P) 9'x18' PERPENDICULAR PARKING SPACES
(P) STREET SIGN
PROPOSED TOT LOT
2,500 SF
OPEN SPACE #1
0.52 AC
PROPOSED GRASS RECREATIONAL AREA
12,151 SF
PROPOSED CIVIC/MEETING AREA
1,500 SF
PROPOSED DOG PARK
2,250 SF
OPEN SPACE #2
0.20 AC
PROPOSED GRASS RECREATIONAL AREA
3,383 SF
PROPOSED GRASS RECREATIONAL AREA
6,105 SF
OPEN SPACE #3
0.44 AC
PROPOSED GRASS RECREATIONAL AREA
6,311 SF
DREXEL LANE
(28' PRIVATE ACCESS EASEMENT)
KEENER LANE
(28' PRIVATE ACCESS EASEMENT)
EXISTING PROFFIT ROAD
STATE ROUTE 649
RESERVED AREA FOR DEDICATION D.B. 1126, PG. 178 (0.142 ACRES)
(P) 12' LANDSCAPE BUFFER AREA
(P) 10' ASPHALT PEDESTRIAN/BICYCLE TRAILWAY - SEE DETAIL ON SHEET 6
25' MAX. FRONT SETBACK
5' MIN. FRONT SETBACK
PEDESTRIAN PATHWAY TO THE EXISTING SHOPPING CENTER AT WORTH CROSSING
COUNTY OF ALBEMARLE RIGHT-OF-WAY DEDICATION FOR PEDESTRIAN PATHWAY=0.021 AC (TOTAL AREA RESERVED=0.181 AC)
(P) 10' ASPHALT PEDESTRIAN/BICYCLE TRAILWAY - SEE DETAIL ON SHEET 6
(P) SIGHT DISTANCE = 335'
(P) PEDESTRIAN CROSSWALK
(P) VDOT STD. WP-2 MILL & OVERLAY
(P) VDOT STD. CG-11 ENTRANCE
DISTANCE TO NEAREST INTERSECTION w/ PROFFIT ROAD = 435'
EXISTING WORTH CROSSING
(70' PUBLIC R/W)
(D.B. 1018, PG. 403, D.B. 1290, PG. 395-696)
PROPOSED EMERGENCY ACCESS CONNECTION WITH REMOVABLE BOLLARDS COMPATIBLE WITH KNOX BOX LOCKING SYSTEM TO ALLOW ACCESS FOR EMERGENCY VEHICLES
COUNTY OF ALBEMARLE RIGHT-OF-WAY DEDICATION FOR PEDESTRIAN PATHWAY=0.018 AC (TOTAL AREA RESERVED=0.181 AC)
PROPOSED PEDESTRIAN CROSSINGS AT WORTH CROSSING. DESIGN FOR IMPROVEMENTS SUBJECT TO VDOT AND ALBEMARLE COUNTY REVIEW & APPROVAL PROCESS.
(P) VDOT STD. WP-2 MILL & OVERLAY FOR UTILITY CONNECTION AND CG-6 CURB INSTALLATION

LIGHTING NOTES:
1. THE PROPOSED UNITS SHALL HAVE A WALL MOUNTED OUTDOOR LIGHTING FIXTURE ON EITHER SIDE OF THE ENTRANCE DOOR TO THE BUILDING AND ON EITHER SIDE OF THE GARAGE. WALL MOUNTED LIGHTING FIXTURE SHALL BE EQUIVALENT TO THE FIXTURE SHOWN ON SHEET 6. THE COLOR OF THE LIGHTING FIXTURE SHALL BE BLACK.
2. THE PROPOSED LUMENS FROM THE WALL MOUNTED LIGHTING FIXTURE SHALL BE BETWEEN 1100 LUMENS AND 2500 LUMENS. THE TOTAL LUMENS WILL NOT EXCEED 3000 LUMENS. IF THE WALL MOUNTED FIXTURES EXCEED 3000 LUMENS OR IF ADDITIONAL SITE LIGHTING IS INSTALLED IN THE FUTURE, THE LIGHTING SHALL COMPLY WITH ALBEMARLE COUNTY LIGHTING REQUIREMENTS AND SHALL BE A FULL CUT-OFF FIXTURE IS THE LUMENS EXCEED 3,000 LUMENS.
3. EACH OUTDOOR LUMINAIRE EQUIPPED WITH A LAMP THAT EMITS 3,000 OR MORE INITIAL LUMENS SHALL BE A FULL CUT-OFF LUMINAIRE AND SHALL BE ARRANGED OR SHIELDED TO REFLECT LIGHT AWAY FROM ADJOINING RESIDENTIAL DISTRICTS AND ADJACENT ROADS. THE SPILLOVER OF LIGHTING FROM LUMINAIRES ONTO PUBLIC ROADS AND PROPERTY IN RESIDENTIAL OR RURAL AREAS ZONING DISTRICTS SHALL NOT EXCEED ONE-HALF FOOTCANDLE.

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

S.P.C. Grid North
Va. South Zone

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
Lic. No. 035791
PROFESSIONAL ENGINEER
08/16/23

REVISIONS

DATE	REVISION DESCRIPTION
10/28/2022	INITIAL FINAL PLAN SUBMISSION TO ALBEMARLE COUNTY
05/18/2023	REVISED PER COUNTY & ACSA COMMENTS
08/16/2023	REVISED PER COUNTY & ACSA COMMENTS

COLLINS ENGINEERING
200 GARRETT STREET, SUITE K. - CHARLOTTESVILLE, VA 22902 - 434.293.3719

PROJECT
MAPLEWOOD DEVELOPMENT - FINAL SITE PLAN
SHEET TITLE
LAYOUT PLAN

JOB NO. 202199
SCALE 1"=20'
SHEET NO. 3

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NOTES:
1. CONTRACTOR SHALL PROVIDE ENGINEER SURVEY WORKSHEETS OF ALL ROADWAYS, MANHOLE TOPS AND DRAINAGE STRUCTURES PRIOR TO INSTALLATION OF E/P, DRAINAGE, OR UTILITIES TO COLLINS ENGINEERING FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. COLLINS ENGINEERING SHALL VERIFY ALL SURVEY SHEETS TO ENSURE POSITIVE DRAINAGE AND PROPER ELEVATIONS FOR CONSTRUCTION..
2. A KNOX BOX WILL BE REQUIRED ON EACH BUILDING. THE LOCATION OF THE KNOX BOX CAN BE COORDINATED WITH THE FIRE MARSHAL'S OFFICE.

APPROXIMATE LOCATION OF EXISTING 8" WATERLINE, PROPERTY OF ACSA, AS SHOWN AT DB 1071, PG 491

CONNECT TO EXISTING 8" ACSA D.I. WATERLINE WITH 8"x8" TAPPING SLEEVE AND 8" GATE VALVE

(P VAR. WIDTH ACSA UTILITY EASEMENT 17.5' FROM SEWER AND 10' FROM WATER D.B.____, PG.____

(P) FIRE HYDRANT 8"x6" TEE, 6" G.V.

(P) 4"X8" TEE, 4" G.V., 4" D.I. WATERLINE

(P) 8"x6" TEE 6" G.V. 8" INLINE G.V.

(P VAR. WIDTH ACSA UTILITY EASEMENT 17.5' FROM SEWER AND 10' FROM WATER D.B.____, PG.____

NORTHFORKRPS1-4

WATERLINE 1 8" D.I. WATERLINE

CASPIAN LANE (28' PRIVATE ACCESS EASEMENT)

EXISTING 18" DIP SANITARY SEWER TO REMAIN

NORTHFORKRPS1-5A

(P) 6"-11.25° BEND

(P) 8" 90° BEND

NORTHFORKRPS1-5C

EXISTING 18" DIP SANITARY SEWER TO REMAIN

NORTHFORKRPS1-6

(P) 1" WATER METER BOX

(P) 1" TYPE K COPPER WATER SERVICE LATERAL

(P) 35' ACSA UTILITY EASEMENT D.B.____, PG.____

PROFFIT ROAD STATE ROUTE 649

(P) 6"-45° BEND

(P) 1.5" WATER METER IN VAULT

(P) 6"x6" TEE

(P) 6"-90° BEND

(P) 4" TAPPED CAP 2" BRASS LINE TO METER

(P) 1" CORP STOP & 1" COPPER SERVICE LINE

(P) 6" 90° BEND

(P) FDC LOCATION

(P) 6" D.I. FIRE LINE

PROPOSED MULTI-FAMILY BUILDING #1 8 UNITS 4,865 SF

(P) FDC LOCATION

(P) 2" TYPE K COPPER WATER SERVICE LATERAL

SAN LAT ELEV. 521.00 (150 LF)

6" C.O.

PROPOSED MULTI-FAMILY BUILDING #2 16 UNITS 9,710 SF

(P) FDC LOCATION

(P) 6" D.I. FIRE LINE

(P) 2" TYPE K COPPER WATER SERVICE LATERAL

DREXEL LANE (28' PRIVATE ACCESS EASEMENT)

PROPOSED MULTI-FAMILY BUILDING #4 10 UNITS 6,148 SF

(P) 8"x6" TEE 6" G.V.

(P) 6" D.I. FIRE LINE

(P) 8"x6" TEE 8" INLINE G.V. 6" G.V.

(P) FDC LOCATION

(P) 2" TYPE K COPPER WATER SERVICE LATERAL

(P) 2" TYPE K COPPER WATER SERVICE LATERAL

(P) 2" TYPE K COPPER WATER SERVICE LATERAL

SAN LAT ELEV. 530.00 (163 LF @ 9.3%)

(P) 6" D.I. FIRE LINE

(P) 1.5" WATER METER IN VAULT

(P) 4" TAPPED CAP 2" BRASS LINE TO METER

(P) 4"X8" TEE 4" G.V. 4" D.I. WATERLINE

(P) 8"x6" TEE 8" INLINE G.V. 6" G.V.

WATERLINE 1 8" D.I. WATERLINE

PROPOSED MULTI-FAMILY BUILDING #6 16 UNITS 9,710 SF

(P) 6"x6" TEE

(P) FDC LOCATION

(P) 6" D.I. FIRE LINE

(P) 6"-90° BEND

(P) FDC LOCATION

(P) 6"-11.25° BEND

PROPOSED MULTI-FAMILY BUILDING #3 10 UNITS 6,105 SF

PROPOSED MULTI-FAMILY BUILDING #5 10 UNITS 6,105 SF

KEENER LANE (28' PRIVATE ACCESS EASEMENT)

VAR. WIDTH ACSA WATERLINE EASEMENT D.B.____, PG.____

VAR. WIDTH ACSA UTILITY EASEMENT D.B.____, PG.____

NORTHFORKRPS1-7

(P) 6" PVC SANITARY SEWER LATERAL

UNDERGROUND DETENTION FACILITY

6" C.O.

Approx. San. Sewer Esmt. D.B.1127 pp.330-338 D.B.1127 P.337(plat)

VAR. WIDTH ACSA UTILITY EASEMENT D.B.____, PG.____

SAN LAT ELEV. 522.00 (22 LF)

SAN LAT ELEV. 521.00 (21 LF)

SAN LAT ELEV. 522.00 (24 LF)

SAN LAT ELEV. 522.00 (25 LF)

(P) FIRE HYDRANT 8"x6" TEE, 6" G.V.

MH1

CONNECT EXISTING SANITARY SEWER TO PROPOSED MH1

EXISTING 8" PVC SANITARY SEWER

MH2

MH3

MH4

MH4A

EX. MH5

CONNECT PROPOSED SANITARY SEWER AT EXMH5 WITH A NEW SANITARY SEWER MANHOLE

(P) AREA OF UNDERGROUND ELECTRIC RELOCATION

(P) 6" PVC SANITARY SEWER LATERAL

(E) UNDERGROUND ELECTRIC LINE

(P) 6" PVC SANITARY SEWER LATERAL

(P) 6" PVC SANITARY SEWER LATERAL

(E) 8" D.I. WATERLINE

EXISTING 6" PVC SANITARY SEWER LATERAL TO BE CONNECTED TO (P) MH 4

(E) UNDERGROUND ELECTRIC LINE

(P) FIRE HYDRANT 8"x6" TEE, 6" G.V.

(P) 6" PVC SANITARY SEWER LATERAL

CONNECT TO EXISTING 8" D.I. WATERLINE WITH 8"x8" TAPPING SLEEVE AND 8" GATE VALVE

WORTH CROSSING

Aprox. San. D.B.3522 D.B.3522

241.4'of 8"pvc @ 1.10%

117.8'of 8"pvc @ 3.54%

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

S.P.C. Grid North Vo. South Zone

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
Lic. No. 035791
PROFESSIONAL ENGINEER
10/16/23

REVISIONS

DATE	REVISION DESCRIPTION
10/28/2022	INITIAL FINAL PLAN SUBMISSION TO ALBEMARLE COUNTY
05/18/2023	REVISED PER COUNTY & ACSA COMMENTS
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10/16/2023	REVISED PER ACSA COMMENTS

COLLINS ENGINEERING
200 GARRETT STREET, SUITE K. - CHARLOTTESVILLE, VA 22902 - 434.293.3719

PROJECT: MAPLEWOOD DEVELOPMENT - FINAL SITE PLAN

SHEET TITLE: UTILITY PLAN

JOB NO. 202199

SCALE 1"=20'

SHEET NO. 4

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NOTES:
1. CONTRACTOR SHALL PROVIDE ENGINEER SURVEY WORKSHEETS OF ALL ROADWAYS, MANHOLE TOPS AND DRAINAGE STRUCTURES PRIOR TO INSTALLATION OF EJP, DRAINAGE, OR UTILITIES TO COLLINS ENGINEERING FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. COLLINS ENGINEERING SHALL VERIFY ALL SURVEY SHEETS TO ENSURE POSITIVE DRAINAGE AND PROPER ELEVATIONS FOR CONSTRUCTION.

PROPOSED VAR. WIDTH TEMPORARY GRADING AND ACCESS EASEMENT

TIE INTO EXISTING STORM OUTFALL PIPE

EXISTING ALBEMARLE COUNTY MANAGED STEEP SLOPES

EXISTING WALGREENS UNDERGROUND DETENTION SYSTEM

PROPOSED SEGMENTED RETAINING WALL (MAX HT. 3.9')

(P) WALL MAX HT. 3.9'

CASPIAN LANE (28' PRIVATE ACCESS EASEMENT)

PROPOSED ADS NYLOPLAST YARD DRAINS (TYP.)

PROPOSED MULTI-FAMILY BUILDING #1
8 UNITS
4,865 SF
FFE: 527.25 GAR: 526.58
FFE: 527.92 GAR: 527.25
FFE: 529.25 GAR: 528.58
FFE: 529.92 GAR: 529.25

PROPOSED MULTI-FAMILY BUILDING #2
16 UNITS
9,710 SF
FFE: 532.75 GAR: 532.08
FFE: 532.08 GAR: 531.42
FFE: 531.42 GAR: 530.75
FFE: 530.75 GAR: 530.08
FFE: 530.08 GAR: 529.42
FFE: 529.42 GAR: 528.75

PROPOSED MULTI-FAMILY BUILDING #3
10 UNITS
6,105 SF
FFE: 532.09 GAR: 531.42
FFE: 531.42 GAR: 530.75
FFE: 530.75 GAR: 530.08
FFE: 530.08 GAR: 529.42
FFE: 529.42 GAR: 528.75

PROPOSED MULTI-FAMILY BUILDING #4
10 UNITS
6,148 SF
FFE: 531.00 GAR: 530.33
FFE: 531.67 GAR: 531.00
FFE: 531.67 GAR: 531.00
FFE: 532.33 GAR: 531.67
FFE: 532.33 GAR: 531.67

PROPOSED MULTI-FAMILY BUILDING #5
10 UNITS
6,105 SF
FFE: 531.67 GAR: 531.00
FFE: 531.33 GAR: 530.67
FFE: 530.67 GAR: 530.00

PROPOSED MULTI-FAMILY BUILDING #6
16 UNITS
9,710 SF
FFE: 532.00 GAR: 531.67
FFE: 531.33 GAR: 531.00
FFE: 531.00 GAR: 530.67
FFE: 530.33 GAR: 530.00

UNDERGROUND DETENTION FACILITY

DREXEL LANE (28' PRIVATE ACCESS EASEMENT)

KEENER LANE (28' PRIVATE ACCESS EASEMENT)

PROFFIT ROAD STATE ROUTE 649

WORTH CROSSING

PROPOSED 20' PUBLIC DRAINAGE EASEMENT (TYP.)

TIE INTO EXISTING STORM OUTFALL PIPE

EXISTING ALBEMARLE COUNTY MANAGED STEEP SLOPES

PROPOSED 20' PUBLIC DRAINAGE EASEMENT (TYP.)

PROPOSED ADS NYLOPLAST YARD DRAINS (TYP.)

Approx. San. Sewer Esmt.
D.B.1127 pp.330-338
D.B.1127 P.337(plat)

INV IN. 516.38 (EX)
INV OUT. 516.18

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
Lic. No. 035791
PROFESSIONAL ENGINEER
08/16/23

S.P.C. Grid North
Va. South Zone

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COLLINS ENGINEERING
200 GARRETT STREET, SUITE K. - CHARLOTTESVILLE, VA 22902 - 434.293.3719

PROJECT
MAPLEWOOD DEVELOPMENT - FINAL SITE PLAN

SHEET TITLE
GRADING & DRAINAGE PLAN

JOB NO. 202199
SCALE 1"=20'
SHEET NO. 5

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GENERAL CONSTRUCTION NOTES FOR STREETS

1. CONSTRUCTION INSPECTION OF ALL PROPOSED ROADS WITHIN THE DEVELOPMENT WILL BE MADE BY THE COUNTY. THE CONTRACTOR MUST NOTIFY THE DEPARTMENT OF COMMUNITY DEVELOPMENT (296-5832) 48 HOURS IN ADVANCE OF THE START OF CONSTRUCTION.
2. UPON COMPLETION OF FINE GRADING AND PREPARATION OF THE ROADBED SUBGRADE, THE CONTRACTOR SHALL HAVE CBR TESTS PERFORMED ON THE SUBGRADE SOIL. THREE (3) COPIES OF THE TEST RESULTS SHALL BE SUBMITTED TO THE COUNTY. IF A SUBGRADE SOIL CBR OF 10 OR GREATER IS NOT OBTAINABLE, A REVISED PAVEMENT DESIGN SHALL BE MADE BY THE DESIGN ENGINEER AND SUBMITTED WITH THE TEST RESULTS FOR APPROVAL.
3. SURFACE DRAINAGE AND PIPE DISCHARGE MUST BE RETAINED WITHIN THE PUBLIC RIGHT-OF-WAY OR WITHIN EASEMENTS PRIOR TO ACCEPTANCE BY THE COUNTY. ALL DRAINAGE OUTFALL EASEMENTS ARE TO BE EXTENDED TO A BOUNDARY LINE OR A NATURAL WATERCOURSE.
4. GUARDRAIL LOCATIONS ARE APPROXIMATE. EXACT LENGTH, LOCATION AND APPROPRIATE END TREATMENTS WILL BE FIELD VERIFIED AT THE TIME OF CONSTRUCTION. ADDITIONAL GUARDRAIL MAY BE REQUIRED AT LOCATIONS NOT SHOWN WHEN, IN THE OPINION OF THE COUNTY ENGINEER, OR DESIGNEE, IT IS DEEMED NECESSARY. WHEN GUARDRAIL IS REQUIRED, IT SHALL BE INSTALLED FOUR (4) FEET OFFSET FROM THE EDGE OF PAVEMENT TO THE FACE OF GUARDRAIL, AND ROADWAY SHOULDER WIDTHS SHALL BE INCREASED TO SEVEN (7) FEET.
5. WHERE URBAN CROSS SECTIONS ARE INSTALLED, ALL RESIDENTIAL DRIVEWAY ENTRANCES SHALL CONFORM TO VDOT CG-9(A, B OR C).
6. WHERE RURAL CROSS SECTIONS ARE INSTALLED, ALL RESIDENTIAL DRIVEWAY ENTRANCES SHALL CONFORM TO VDOT STANDARD PE-1.
7. COMPLIANCE WITH THE MINIMUM PAVEMENT WIDTH, SHOULDER WIDTH AND DITCH SECTIONS, AS SHOWN ON THE TYPICAL PAVEMENT SECTION DETAIL, SHALL BE STRICTLY ADHERED TO.
8. ROAD PLAN APPROVAL FOR SUBDIVISIONS IS SUBJECT TO FINAL SUBDIVISION PLAT VALIDATION. SHOULD THE FINAL PLAT FOR THIS PROJECT EXPIRE PRIOR TO SIGNING AND RECORDATION, THEN APPROVAL OF THESE PLANS SHALL BE NULL AND VOID.
9. ALL SIGNS OR OTHER REGULATORY DEVICES SHALL CONFORM WITH THE VIRGINIA MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES AND THE ALBEMARLE COUNTY ROAD NAMING AND PROPERTY NUMBERING ORDINANCE AND MANUAL.
10. TRAFFIC CONTROL OR OTHER REGULATORY SIGNS OR BARRICADES SHALL BE INSTALLED BY THE DEVELOPER WHEN, IN THE OPINION OF THE COUNTY ENGINEER, OR DESIGNEE, THEY ARE DEEMED NECESSARY IN ORDER TO PROVIDE SAFE AND CONVENIENT ACCESS.
11. THE SPEED LIMITS TO BE POSTED ON SPEED LIMIT SIGNS ARE 5 MPH BELOW THE DESIGN SPEED, OR AS DETERMINED BY VDOT FOR PUBLIC ROADS.
12. VDOT STANDARD CD-1 OR CD-2 CROSS-DRAINS UNDER TO BE INSTALLED UNDER THE SUBBASE MATERIAL AT ALL CUT AND FILL TRANSITIONS AND GRADE SAG POINTS AS SHOWN ON THE ROAD PROFILES.
13. A VIDEO CAMERA INSPECTION IS REQUIRED FOR ALL STORM SEWERS AND CULVERTS THAT ARE DEEMED INACCESSIBLE TO VDOT OR COUNTY INSPECTIONS. THE VIDEO INSPECTION SHALL BE CONDUCTED IN ACCORDANCE WITH VDOT'S VIDEO CAMERA INSPECTION PROCEDURE AND WITH A VDOT OR COUNTY INSPECTOR PRESENT.

ROAD NOTES

GRADING:

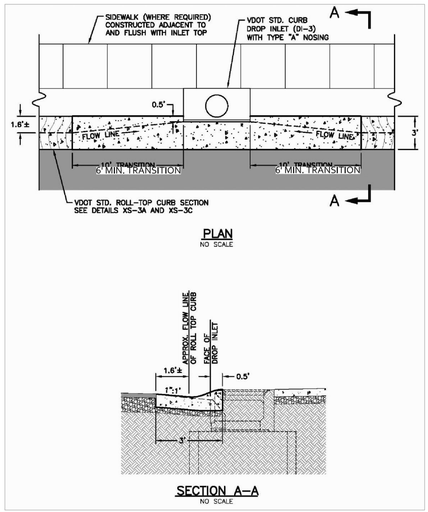
1. THE LATEST EDITION OF THE ROAD & BRIDGE SPECIFICATIONS, THE ROAD & BRIDGE STANDARDS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS SHALL GOVERN THE MATERIAL AND CONSTRUCTION METHODS OF THIS PROJECT.
2. WHERE UNSUITABLE MATERIAL IS ENCOUNTERED IN THE ROADWAY, IT SHALL BE REMOVED FROM THE ENTIRE ROAD RIGHT OF WAY WIDTH AND REPLACED WHERE NECESSARY WITH SUITABLE MATERIAL TO THE SATISFACTION OF THE ENGINEER.
3. ALL GROWTH OF TREES AND VEGETATION SHALL BE CLEARED AND GRUBBED FOR THE ENTIRE EASEMENT. OTHER TREES AND VEGETATION WHICH OBSTRUCT SIGHT DISTANCES AT ROAD INTERSECTIONS SHALL BE REMOVED.
4. ALL VEGETATION AND OVERBURDEN TO BE REMOVED FROM SHOULDER TO SHOULDER PRIOR TO THE CONSTRUCTION OF THE SUBGRADE.

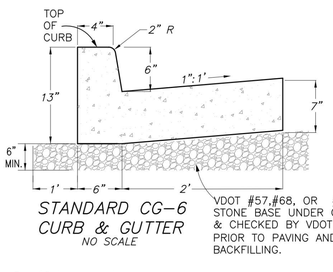
DRAINAGE:

1. ALL PIPE CULVERTS, EXCEPT PRIVATE ENTRANCES, SHOWN HEREON ARE TO BE RCP WITH A MINIMUM COVER OF ONE (1) FOOT.
2. STANDARD UNDERDRAINS (CD-1 OR CD-2 OR UD-4'S) TO BE PROVIDED AS INDICATED ON THE PLANS, OR WHERE FIELD CONDITIONS INDICATE.
3. ALL DRIVEWAY ENTRANCE PIPES SHALL BE A MINIMUM OF TWENTY (20) FEET IN LENGTH AND HAVE A MINIMUM DIAMETER OF FIFTEEN (15) INCHES AND SHALL BE PLACED IN ACCORDANCE WITH THE VIRGINIA DEPARTMENT OF TRANSPORTAION SPECIFICATIONS UNLESS OTHERWISE NOTED ON PLANS.
4. ALL DRAINAGE EASEMENT SHALL BE CLEARED AND GRADED TO THE SATISFACTION OF THE ENGINEER. DRAINAGE EASEMENTS SHALL EXTEND TO A POINT DEEMED AS NATURAL WATER COURSE.

PAVEMENT:

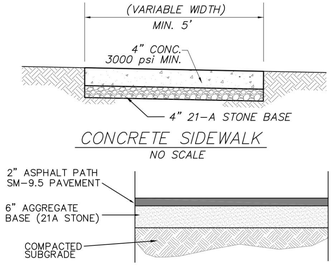
1. AN ACTUAL COPY OF THE CBR REPORT IS TO BE SUBMITTED PRIOR TO THE PLACEMENT OF THE AGGREGATE BASE MATERIAL. IF THE SSV VALUES ARE LESS THAN 10, THE DEVELOPER WILL BE REQUIRED TO SUBMIT FOR ENGINEERS APPROVAL THE PROPOSED METHOD OF CORRECTION.
2. SUBGRADE MUST BE APPROVED BY THE ENGINEER FOR GRADE, TEMPLATE AND COMPACTION BEFORE BASE IS PLACED.
3. TEST REPORTS ON SELECT MATERIALS MUST BE SUBMITTED SHOWING THE MATERIAL MEETS REQUIRED GRADATION FOR TYPE I, II, OR III PRIOR TO PLACING AGGREGATE BASE.
4. THE REQUIREMENTS TO PUGMILL AGGREGATE BASE WILL BE WAIVED IN THE EVENT THAT THE SURFACE COURSE IS BEGINNING AT THE COMPLETION OF THE INSTALLATION OF THE AGGREGATE BASE. IN THE EVENT THAT THE SURFACE COURSE IS APPLIED PRIOR TO 60 DAYS, THE PUGMILL REQUIREMENT WILL APPLY.





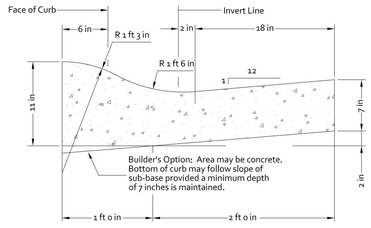
STANDARD CG-6 CURB & GUTTER
NO SCALE

VDOT #57,#68, OR #78 STONE BASE UNDER CURB & CHECKED BY VDOT PRIOR TO PAVING AND/OR BACKFILLING.

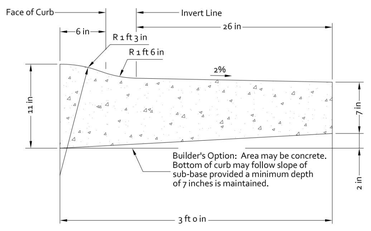


CONCRETE SIDEWALK
NO SCALE

10' ASPHALT SHARED USE PATHWAY
NO SCALE



ROLLTOP CURB



DRY ROLLTOP CURB

ALBEMARLE COUNTY GENERAL CONSTRUCTION NOTES

1. *PRIOR TO ANY CONSTRUCTION WITHIN ANY EXISTING PUBLIC RIGHT-OF-WAY, INCLUDING CONNECTION TO ANY EXISTING ROAD, A PERMIT SHALL BE OBTAINED FROM THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT). THIS PLAN AS DRAWN MAY NOT ACCURATELY REFLECT THE REQUIREMENTS OF THE PERMIT. WHERE ANY DISCREPANCIES OCCUR THE REQUIREMENTS OF THE PERMIT SHALL GOVERN.*
2. *ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO CURRENT SPECIFICATIONS AND STANDARDS OF VDOT UNLESS OTHERWISE NOTED.*
3. *EROSION AND SILTATION CONTROL MEASURES SHALL BE PROVIDED IN ACCORDANCE WITH THE APPROVED EROSION CONTROL PLAN AND SHALL BE INSTALLED PRIOR TO ANY CLEARING, GRADING OR OTHER CONSTRUCTION.*
4. *ALL SLOPES AND DISTURBED AREAS ARE TO BE FERTILIZED, SEEDED, AND MULCHED.*
5. *THE MAXIMUM ALLOWABLE SLOPE IS 2:1 (HORIZONTAL:VERTICAL). WHERE REASONABLY OBTAINABLE, LESSER SLOPES OF 3:1 OR BETTER ARE TO BE ACHIEVED.*
6. *PAVED, RIP-RAP OR STABILIZATION MAT LINED DITCH MAY BE REQUIRED WHEN IN THE OPINION OF THE COUNTY ENGINEER, OR DESIGNEE, IT IS DEEMED NECESSARY IN ORDER TO STABILIZE A DRAINAGE CHANNEL.*
7. *ALL TRAFFIC CONTROL SIGNS SHALL CONFORM WITH THE VIRGINIA MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES.*
8. *UNLESS OTHERWISE NOTED, ALL CONCRETE PIPE SHALL BE REINFORCED CONCRETE PIPE-CLASS III.*
9. *ALL EXCAVATION FOR UNDERGROUND PIPE INSTALLATION MUST COMPLY WITH OSHA STANDARDS FOR THE CONSTRUCTION INDUSTRY (29 CFR PART 1926).*

NOTE: MANDATORY INSPECTIONS AT THE FOLLOWING PHASES ARE REQUIRED FOR ROADS THAT ARE PROPOSED TO BE STATE MAINTAINED:

i. INSTALLATION OF ANY ENCLOSED DRAINAGE SYSTEM BEFORE IT IS COVERED.

ii. INSTALLATION OF ANY ENCLOSED UTILITY PLACEMENTS WITHIN THE RIGHT-OF-WAY BEFORE BEING COVERED.

iii. CONSTRUCTION OF THE CUTS AND FILLS, INCLUDING FIELD DENSITY TESTS, BEFORE PLACEMENT OF ROADBED BASE MATERIALS.

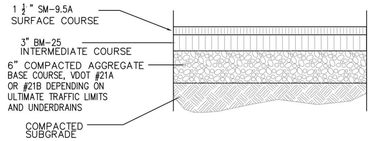
iv. A FINAL PAVEMENT DESIGN, BASED ON ACTUAL SOIL CHARACTERISTICS AND CERTIFIED TESTS, SHALL BE COMPLETED AND APPROVED BEFORE THE PAVEMENT STRUCTURE IS PLACED.

v. PLACEMENT OF BASE MATERIALS, INCLUDING STONE DEPTHS, CONSISTENT WITH THE APPROVED PAVEMENT DESIGN, PRIOR TO PLACEMENT OF THE PAVING COURSE OR COURSES, FOLLOWED BY FIELD DENSITY AND MOISTURE TESTS AND THE PLACEMENT OF A PAVING COURSE AS SOON AS POSSIBLE.

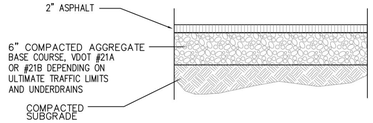
vi. CONSTRUCTION OF PAVEMENT, INCLUDING DEPTH AND DENSITY, UPON COMPLETION AS PART OF THE FINAL INSPECTION.

vii. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING VDOT A MINIMUM OF ONE WEEK PRIOR TO EACH OF THE ABOVE PHASES OF CONSTRUCTION TO SCHEDULE AN INSPECTION.

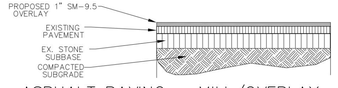
viii. FAILURE OF THE CONTRACTOR TO SCHEDULE THESE INSPECTIONS WILL REQUIRE ADDITIONAL TESTING OF THE ROADS AT THE DISCRETION OF VDOT OR MAY LEAD TO THE ROADS NOT BEING ELIGIBLE FOR STATE MAINTENANCE.



ASPHALT PAVING - TRAVELWAYS
NO SCALE



ASPHALT PAVING - DRIVEWAYS
NO SCALE

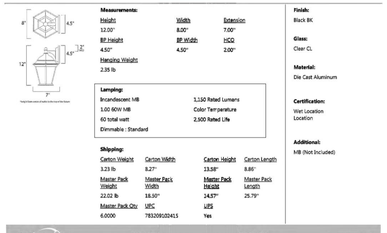


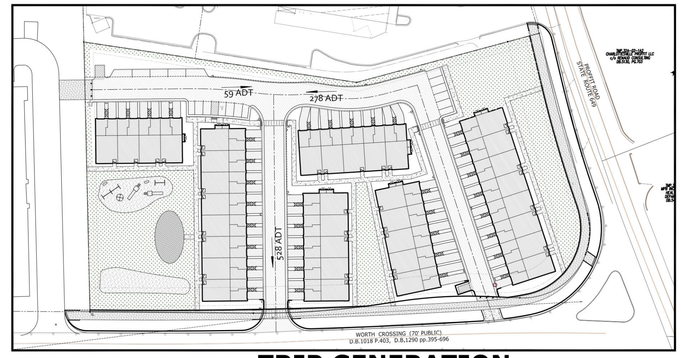
ASPHALT PAVING - MILL/OVERLAY
NO SCALE

Builder Cast | 10248K

LIGHTING SPECS FOR FRONT PORCH LIGHT AND REAR GARAGE LIGHT. LIGHTS SHALL BE EQUIVALENT TO THIS FIXTURE. LUMENS SHALL RANGE FROM 1100 LUMENS TO 2500 LUMENS. LUMENS SHALL NOT EXCEED 3,000 LUMENS.







TRIP GENERATION
SCALE: 1" = 100'

TRIP GENERATION CALCULATIONS

ITE TRIP GENERATION: TRAFFIC IMPACT NUMBERS ARE BASED ON THE ITE TRIP GENERATION MANUAL, 10TH EDITION. CODE 220 WAS USED FOR THE DEVELOPMENT

PROPOSED	70 DWELLING UNITS
ADT RATE -	7.32 VPD PER DU = 512 ADT (256 ENTER/ 256 EXIT)
AM PEAK RATE -	0.46 VPD PER DU = 32 VPD (7 ENTER/ 25 EXIT)
PM PEAK RATE -	0.56 VPD PER DU = 39 VPD (25 ENTER/ 14 EXIT)

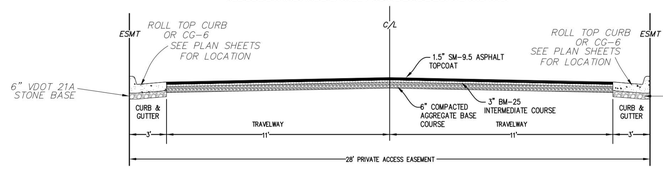
Table 4: Pavement Design (VDOT Pavement Design Guide)

Pavement Design RF= 1.0

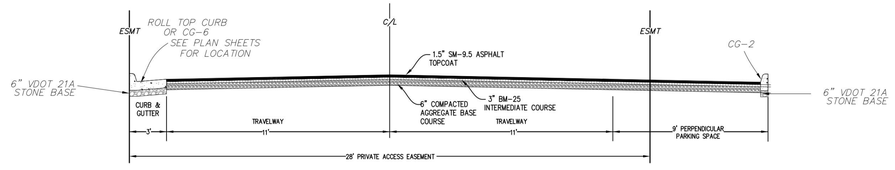
Location	ADT	HCV	Design ADT	CBR	SSV	Dr	Surface	h	a	Base	b	a	Sub-base	h	a	Dp
Private Alleys	512	2	532	5	5	12.23	SM-9.5	1.5	2.25	BM-25	3	2.25	21A	6	0.6	13.73

TYPICAL ROAD SECTIONS
NTS

NOTES:
1. SEE PAVEMENT DESIGN CHART ON THIS SHEET FOR ROADWAY DEPTH REQUIREMENTS.
2. STREET WIDTHS SHALL BE IN ACCORDANCE WITH ALBEMARLE COUNTY AND FIRE AND RESCUE STANDARDS & WILL PROVIDE ADEQUATE WIDTHS.



TYPICAL PRIVATE TRAVELWAY SECTION WITH NO PARKING (28' WIDTH PRIVATE ACCESS EASEMENT)
20 MPH DESIGN SPEED
NOT TO SCALE



TYPICAL PRIVATE TRAVELWAY SECTION WITH PERPENDICULAR PARKING (28' WIDTH PRIVATE ACCESS EASEMENT)
20 MPH DESIGN SPEED
NOT TO SCALE

PLEASE REFER TO VDOT ROAD AND BRIDGE STANDARDS 2016 FOR DETAILS OF WP-2, CG-12 AND CD-1

THE STANDARD DRAWINGS CONTAINED IN THE VDOT ROAD & BRIDGE STANDARDS ARE SIGNED AND SEALED ENGINEERING DRAWINGS THAT ARE COPYRIGHTED MATERIALS OF VDOT AND THE COMMONWEALTH OF VIRGINIA. VDOT'S POLICY IS TO OFFER THE STANDARD DRAWINGS IN A SECURE ELECTRONIC FORMAT AND EACH STANDARD IS AVAILABLE ON THIS WEBSITE. PLAN ASSEMBLIES USING THE ROAD & BRIDGE STANDARDS SHALL REFERENCE EACH STANDARD used. INSERTING THE STANDARD DRAWINGS INTO VDOT, LOCALITY, OR PRIVATE DEVELOPMENT PLAN ASSEMBLIES, OR MODIFYING THE STANDARD DRAWINGS IN ANY WAY, IS NOT PERMITTED.

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
Lic. No. 035791
PROFESSIONAL ENGINEER
08/16/23

REVISIONS

DATE	REVISION DESCRIPTION
10/28/2022	INITIAL FINAL PLAN SUBMISSION TO ALBEMARLE COUNTY
05/18/2023	REVISED PER COUNTY & ACSA COMMENTS
08/16/2023	REVISED PER COUNTY & ACSA COMMENTS

COLLINS ENGINEERING
200 GARRETT STREET, SUITE K. - CHARLOTTESVILLE, VA 22902 - 434.293.3719

PROJECT: MAPLEWOOD DEVELOPMENT - FINAL SITE PLAN

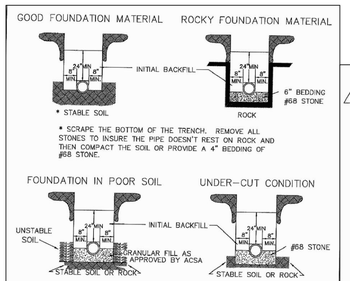
SHEET TITLE: NOTES AND DETAILS

JOB NO. 202199

SCALE: AS NOTED

SHEET NO. 6

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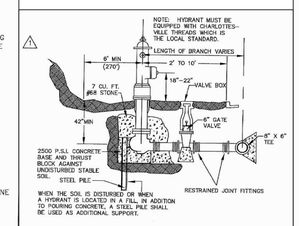
NOTE :

1. NO ROCKS SHALL BE ALLOWED WITHIN 24" OF THE WATER LINES.
2. NO ROCKS LARGER THAN 6" IN ANY DIMENSION SHALL BE ALLOWED ABOVE THE INITIAL BACKFILL.
3. THE INITIAL BACKFILL SHALL BE PLACED AND COMPACTED IN 6" LIFTS.
4. NO ORGANIC OR FROZEN MATERIAL OR DEBRIS SHALL BE ALLOWED IN THE TRENCH.
5. BELL HOLES SHALL BE DUG OUT IN ALL CASES.

DUCTILE IRON WATER PIPE INSTALLATION & BEDDING

NTS
FIG. W-2

TD-2



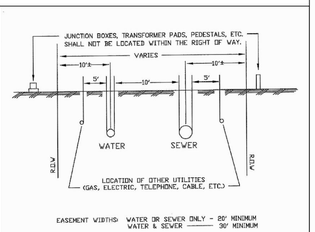
NOTE :

1. SURROUND WEEP HOLES WITH GRAVEL AND KEEP FREE OF CONCRETE.
2. MAINTAIN A 3 1/2" MIN. COVER FROM THE MAIN TO THE FIRE HYDRANT (INCLUDING DITCHES)
3. FINISHED GRADE SHALL SLOPE AWAY FROM THE FIRE HYDRANT AND VALVE BOX.
4. THE GATE VALVE IS ALLOWED IN SHOULDER OR BEHIND THE DITCH. IT IS NOT ALLOWED IN THE DITCH.
5. FIRE HYDRANTS SHALL BE INSTALLED AT LOCATIONS WHERE WEEP HOLES ARE ABOVE THE PREVAILING GROUNDWATER ELEVATION. IF REQUIRED TO BE IN WET AREAS, THE WEEP HOLES SHALL BE PLUGGED AND THE HYDRANT SHALL BE PUMPED DRY.

TYPICAL FIRE HYDRANT ASSEMBLY DETAIL

N.T.S.
FIG. W-4

TD-8



EASEMENT WIDTHS: WATER OR SEWER ONLY - 20' MINIMUM
WATER & SEWER — 30' MINIMUM

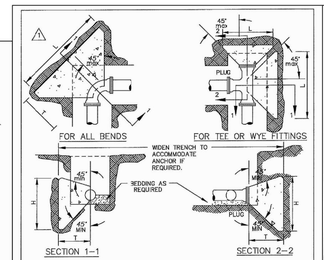
* SEE PART 3, PARAGRAPH D; SEPARATION OF WATER & SEWER SYSTEMS.

UTILITIES CROSSING A WATER OR SEWER EASEMENT SHOULD BE AT 90° TO THE RIGHT OF WAY.

UTILITY LOCATIONS & EASEMENT WIDTHS

NTS
FIG. W-1

TD-1



PIPE SIZE	DEGREE OF BEND	BEND DIMENSIONS (FEET) L	H	T	VOL. CU.YD.
4" & 6"	90	2.50	2.50	3.01	0.24
	45	2.00	2.25	2.60	0.15
	22 1/2	1.50	2.00	2.52	0.10
	11 1/4	1.50	2.00	2.50	0.10
8"	90	3.66	3.16	3.21	0.48
	45	2.66	2.66	2.77	0.26
	22 1/2	1.66	2.16	2.69	0.13
	11 1/4	1.66	2.16	2.67	0.13
10" & 12"	90	4.83	3.83	3.42	0.63
	45	3.33	3.58	2.95	0.43
	22 1/2	2.33	2.58	2.86	0.24
	11 1/4	1.83	2.33	2.84	0.18

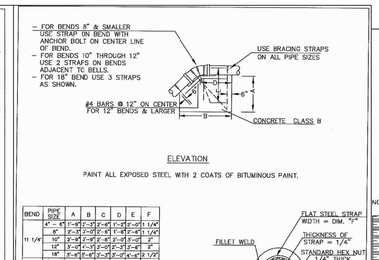
TEE AND PLUGS (FEET) L	t	T	VOL. CU.YD.
2.00	2.25	2.50	0.15
3.16	2.91	2.66	0.32
3.83	4.00	2.83	0.52

1. THRUST BLOCKS ARE REQUIRED WHENEVER THE PIPELINE : CHANGES DIRECTION, CHANGES SIZE, DEAD ENDS AND AT VALVES.
2. USE 2500 P.S.I. CONCRETE.
3. NO CONCRETE SHALL BE POURED ON ANY PART OF THE JOINT.
4. THE CONSULTING ENGINEER SHALL BE RESPONSIBLE TO THE VERIFY THE TYPE & SIZE OF ALL THRUST BLOCKS.

CONCRETE THRUST BLOCKS

NTS
FIG. W-3

TD-3

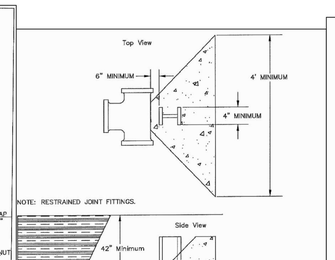


BEND	PIPE SIZE	A	B	C	D	E	F
11 1/4°	4"	1'-9"	1'-2"	2'-9"	1'-3"	2'-0"	1 1/4"
	6"	2'-3"	1'-5"	3'-6"	1'-6"	2'-6"	1 1/4"
	8"	3'-0"	1'-8"	4'-6"	1'-9"	3'-0"	1 1/4"
	10"	3'-6"	2'-0"	5'-3"	2'-0"	3'-6"	1 1/4"
	12"	4'-3"	2'-3"	6'-3"	2'-3"	4'-3"	1 1/4"
22 1/2°	4"	2'-3"	1'-2"	3'-6"	1'-3"	2'-0"	2"
	6"	2'-9"	1'-5"	4'-3"	1'-6"	2'-6"	2"
	8"	3'-6"	1'-8"	5'-3"	1'-9"	3'-0"	2"
	10"	4'-3"	2'-0"	6'-6"	2'-0"	3'-6"	2"
	12"	5'-0"	2'-3"	7'-6"	2'-3"	4'-3"	2"
45°	4"	3'-0"	1'-2"	4'-6"	1'-3"	2'-0"	3 1/2"
	6"	3'-6"	1'-5"	5'-3"	1'-6"	2'-6"	3 1/2"
	8"	4'-6"	1'-8"	6'-9"	1'-9"	3'-0"	3 1/2"
	10"	5'-3"	2'-0"	8'-0"	2'-0"	3'-6"	3 1/2"
	12"	6'-3"	2'-3"	9'-3"	2'-3"	4'-3"	3 1/2"

CHART FOR UPPER VERTICAL BLOCKING

N.T.S.
FIG. W-3A

TD-4



NOTE: STANDARD 90° HOOK ON END OF ANCHOR BOLTS TO FACE CENTER OF BLOCKS.

CONCRETE BLOCKING FOR UPPER VERTICAL BENDS

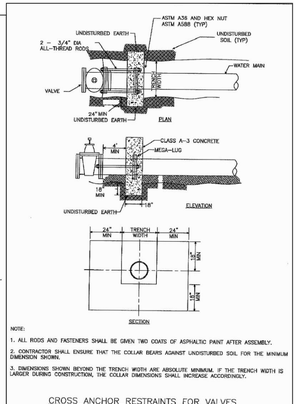
M.T.S.
FIG. W-3A

TD-4

TYPICAL THRUST BLOCK IN FILL AREA

NTS
FIG. W-3B

TD-5



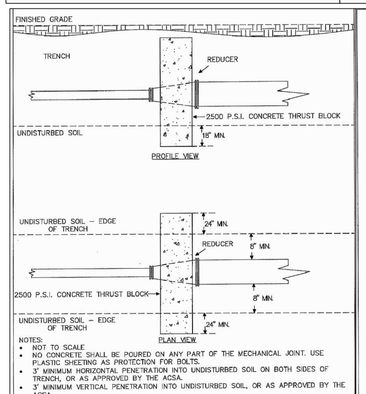
NOTE:

1. ALL RODS AND FASTENERS SHALL BE GIVEN TWO COATS OF ASPHALTIC PAINT AFTER ASSEMBLY.
2. CONTRACTOR SHALL ENSURE THAT THE COLLAR BEARS AGAINST UNDISTURBED SOIL FOR THE MINIMUM DIMENSION SHOWN.
3. DIMENSIONS SHOWN BEYOND THE TRENCH WIDTH ARE ABSOLUTE MINIMUM. IF THE TRENCH WIDTH IS LARGER DURING CONSTRUCTION, THE COLLAR DIMENSIONS SHALL INCREASE ACCORDINGLY.

CROSS ANCHOR RESTRAINTS FOR VALVES

NTS
Fig. W-3C

TD-6



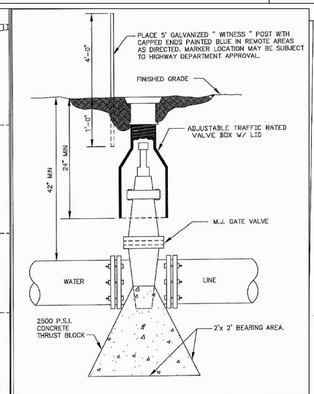
NOTES:

- NOT TO SCALE
- NO CONCRETE SHALL BE POURED ON ANY PART OF THE MECHANICAL JOINT. USE PLASTIC SHEETING AS PROTECTION FOR BOLTS.
- 3" MINIMUM HORIZONTAL PENETRATION INTO UNDISTURBED SOIL ON BOTH SIDES OF TRENCH, OR AS APPROVED BY THE ACSA.
- 3" MINIMUM VERTICAL PENETRATION INTO UNDISTURBED SOIL, OR AS APPROVED BY THE ACSA.
- CERTIFICATION OF 95% COMPACTION REQUIRED IN TRENCH.
- THE CONSULTING ENGINEER SHALL BE RESPONSIBLE TO VERIFY THE TYPE AND SIZE OF ALL THRUST BLOCKS.

TYPICAL REDUCER THRUST BLOCK

NTS
FIG. W-3D

TD-7

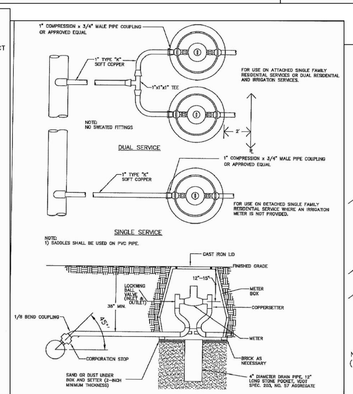


NOTE : IN REMOTE AREAS, VALVE BOXES SHALL EXTEND SIX (6) INCHES ABOVE GRADE.

TYPICAL GATE VALVE

NTS
FIG. W-5

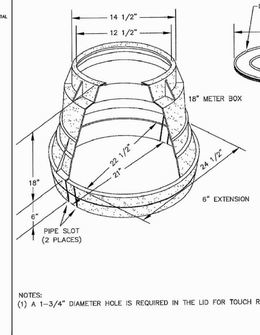
TD-9



TYPICAL SERVICE LATERAL INSTALLATION (5/8" & 1" METERS)

NTS
FIG. W-6A

TD-10

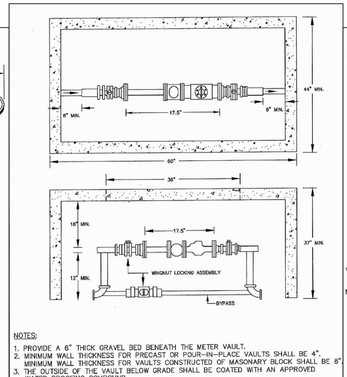


NOTES:
(1) A 1-3/4" DIAMETER HOLE IS REQUIRED IN THE LID FOR TOUCH READ METERS.

TYPICAL METER BOXES (5/8"-1" METERS)

NTS
FIG. W-7

TD-13



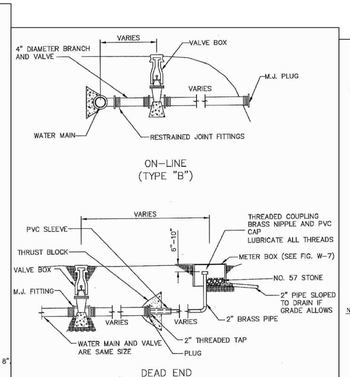
NOTES:

1. PROVIDE A 6" THICK GRAVEL BED BENEATH THE METER VAULT.
2. MINIMUM WALL THICKNESS FOR PRECAST OR POUR-IN-PLACE VAULTS SHALL BE 4". MINIMUM WALL THICKNESS FOR VAULTS CONSTRUCTED OF MASONARY BLOCK SHALL BE 8"
3. THE OUTSIDE OF THE VAULT BELOW GRADE SHALL BE COATED WITH AN APPROVED WATER PROOFING COMPOUND.

TYPICAL METER VAULT (1 1/2" METER)

NTS
FIG. W-7B

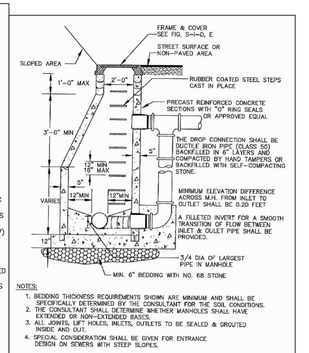
TD-15



TYPICAL BLOW-OFF ASSEMBLY

NTS
FIG. W-8

TD-19



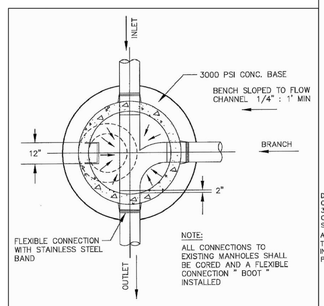
NOTES:

1. BEDDING THICKNESS REQUIREMENTS SHOWN ARE MINIMUM AND SHALL BE SPECIFICALLY DETERMINED BY THE CONSULTANT FOR THE SOIL CONDITIONS.
2. THE CONSULTANT SHALL DETERMINE WHETHER MANHOLES SHALL HAVE EXTENDED OR NON-EXTENDED BASES.
3. ALL JOINTS, LIFT HOLES, INLETS, OUTLETS TO BE SEALED & GROUTED INSIDE AND OUT.
4. SPECIAL CONSIDERATION SHALL BE GIVEN FOR ENTRANCE DESIGN ON SEWERS WITH STEEP SLOPES.

TYPICAL MANHOLE WITH DROP CONNECTION

NTS
FIG. S-I-C

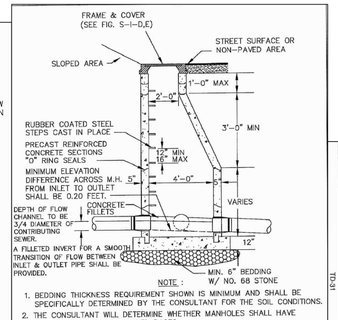
TD-28



TYPICAL MANHOLE PLAN SHOWING BRANCH TIE – IN

NTS
FIG. S-I-B

TD-27



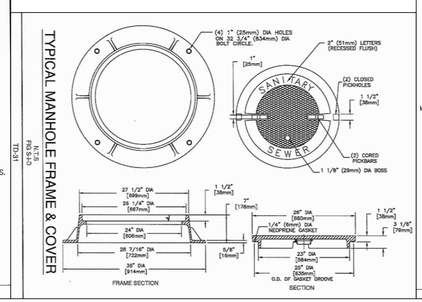
NOTE :

1. BEDDING THICKNESS REQUIREMENT SHOWN IS MINIMUM AND SHALL BE SPECIFICALLY DETERMINED BY THE CONSULTANT FOR THE SOIL CONDITIONS.
2. THE CONSULTANT WILL DETERMINE WHETHER MANHOLES SHALL HAVE EXTENDED OR NON-EXTENDED BASES.
3. ALL JOINTS, LIFT HOLES, INLETS, OUTLETS TO BE SEALED & GROUTED INSIDE AND OUT.

TYPICAL MANHOLE SECTION SHOWING BRANCH TIE–IN

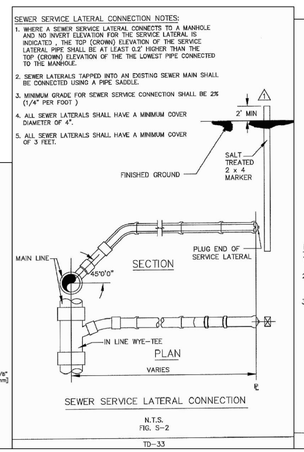
N.T.S
FIG. S-I-A

TD-25



SEWER SERVICE LATERAL CONNECTION NOTES:

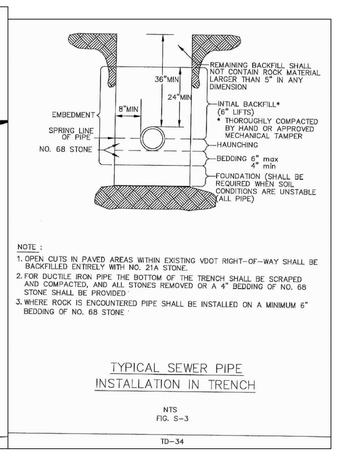
1. WHERE A SEWER SERVICE LATERAL CONNECTS TO A MANHOLE AND NO INVERT ELEVATION FOR THE SERVICE LATERAL IS INDICATED , THE TOP (CROWN) ELEVATION OF THE SERVICE LATERAL PIPE SHALL BE AT LEAST 0.2' HIGHER THAN THE TOP (CROWN) ELEVATION OF THE THE LOWEST PIPE CONNECTED TO THE MANHOLE.
2. SEWER LATERALS TAPPED INTO AN EXISTING SEWER MAIN SHALL BE CONNECTED USING A PIPE SADDLE.
3. MINIMUM GRADE FOR SEWER SERVICE CONNECTION SHALL BE 2% (1/4" PER FOOT)
4. ALL SEWER LATERALS SHALL HAVE A MINIMUM COVER DIAMETER OF 4".
5. ALL SEWER LATERALS SHALL HAVE A MINIMUM COVER OF 3 FEET.



SEWER SERVICE LATERAL CONNECTION

N.T.S.
FIG. S-2

TD-33



NOTE :

1. OPEN CUTS IN PAVED AREAS WITHIN EXISTING VDOT RIGHT-OF-WAY SHALL BE BACKFILLED ENTIRELY WITH NO. 21A STONE.
2. FOR DUCTILE IRON PIPE THE BOTTOM OF THE TRENCH SHALL BE SCRAPED AND COMPACTED, AND ALL STONES REMOVED OR A 4" BEDDING OF NO. 68 STONE SHALL BE PROVIDED
3. WHERE ROCK IS ENCOUNTERED PIPE SHALL BE INSTALLED ON A MINIMUM 6" BEDDING OF NO. 68 STONE

TYPICAL SEWER PIPE INSTALLATION IN TRENCH

NTS
FIG. S-3

TD-34

ACSA GENERAL WATER & SEWER CONDITIONS (SEPTEMBER 14, 2021)

1. WORK SHALL BE SUBJECT TO INSPECTION BY ALBEMARLE COUNTY SERVICE AUTHORITY (ACSA) INSPECTORS. THE CONTRACTOR WILL BE RESPONSIBLE FOR NOTIFYING THE PROPER ACSA OFFICIALS AT THE START OF THE WORK.
2. THE ALBEMARLE COUNTY SERVICE AUTHORITY SHALL HAVE ACCESS TO USE THE AIRSPACE ABOVE THE LOCATIONS OF CONSTRUCTION FOR THE FLIGHT OF UNMANNED AERIAL VEHICLES FOR THE PURPOSE OF IMAGERY COLLECTION.
3. THE LOCATION OF EXISTING UTILITIES ACROSS THE LINE OF THE PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS AND WHERE SHOWN ARE ONLY APPROXIMATELY CORRECT. THE CONTRACTOR SHALL, ON HIS OWN INITIATIVE, LOCATE ALL UNDERGROUND LINES AND STRUCTURES, AS NECESSARY.
4. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH THE CURRENT EDITION OF THE GENERAL WATER AND SEWER CONSTRUCTION SPECIFICATIONS, AS ADOPTED BY THE ACSA.
5. DATUM FOR ALL ELEVATIONS SHOWN IN NATIONAL GEODETIC SURVEY.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY (1-800-552-7001).
7. ALL WATER AND SEWER PIPES SHALL HAVE A MINIMUM OF THREE AND A HALF (3.5) FEET OF COVER MEASURED FROM THE TOP OF PIPE, OVER THE CENTERLINE OF PIPE. THIS INCLUDES ALL FIRE HYDRANT LINES, SERVICE LATERALS AND WATER LINES, ETC.
8. ALL WATER AND SEWER APPURTENANCES ARE TO BE LOCATED OUTSIDE OF ROADSIDE DITCHES.
9. VALVES ON DEADEND LINES SHALL BE RODDED TO PROVIDE ADEQUATE RESTRAINT FOR THE VALVE DURING A FUTURE EXTENSION OF THE LINE.
10. TREES ARE NOT PERMITTED IN THE ACSA EASEMENT.
11. THE CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH THE NOLEAD REGULATION REGARDING BRASS FITTINGS EFFECTIVE JANUARY 4, 2014 (SENATE BILL 3874 WHICH AMENDS THE SAFE DRINKING WATER ACT).
12. THE SEWER LATERAL BEYOND THE CONNECTION AT THE SEWER MAIN SHALL BE PRIVATE. THE SEWER LATERAL STUB-OUT SHALL UNDERGO THE ACSA LOW-PRESSURE AIR TEST TO SATISFY COUNTY TESTING REQUIREMENTS. VISUAL INSPECTION OF THE SEWER LATERAL STUB-OUT SHALL BE WITNESSED BY THE COUNTY BUILDING INSPECTIONS DEPARTMENT. THIS INSPECTION SHALL OCCUR UNDER AN "OTHER PLUMBING" PERMIT WHICH MUST BE OBTAINED BY THE CONTRACTOR.
13. THE SEWER LATERAL BEYOND THE CONNECTION AT A MANHOLE SHALL BE PRIVATE. VISUAL INSPECTION AND PRESSURE TESTING OF THE SEWER LATERAL SHALL BE WITNESSED BY THE COUNTY BUILDING INSPECTIONS DEPARTMENT. THIS INSPECTION SHALL OCCUR UNDER AN "OTHER PLUMBING" PERMIT WHICH MUST BE OBTAINED BY THE CONTRACTOR.
14. THE FIRE SPRINKLER MAIN DOWNSTREAM OF THE GATE VALVE IS PRIVATE. VISUAL INSPECTION AND TESTING OF THE FIRE SPRINKLER MAIN DOWNSTREAM OF THE GATE VALVE SHALL BE WITNESSED BY THE COUNTY BUILDING INSPECTIONS DEPARTMENT. THIS INSPECTION SHALL OCCUR UNDER AN "OTHER PLUMBING" PERMIT WHICH MUST BE OBTAINED BY THE CONTRACTOR.
15. ALL FLUSHING OF FIRE SPRINKLER MAINS SHALL NOT OCCUR UNTIL APPROVAL IS GIVEN BY THE ACSA.
16. PRIOR TO BACKFLOW PREVENTION DEVICE TESTING AND THE ESTABLISHMENT OF WATER SERVICE, ALL BACKFLOW PREVENTION DEVICE INSTALLATIONS SHALL MEET THE ACSA BACKFLOW REQUIREMENTS AS DETAILED IN SECTION 8 OF THE MOST RECENT REVISION OF THE ACSA RULES AND REGAULTIONS.
17. A DEED OF EASEMENT AND EASEMENT PLAT FOR THE UTILITY EASEMENTS, APPROVED BY THE ACSA, SHALL BE RECORDED PRIOR TO ANY WATER AND/OR SEWER SERVICE BEING ESTABLISHED.

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
Lic. No. 035791
PROFESSIONAL ENGINEER
08/16/23

REVISIONS

DATE	REVISION DESCRIPTION
10/28/2022	INITIAL FINAL PLAN SUBMISSION TO ALBEMARLE COUNTY
05/18/2023	REVISED PER COUNTY & ACSA COMMENTS
08/16/2023	REVISED PER COUNTY & ACSA COMMENTS

COLLINS ENGINEERING
200 GARRETT STREET, SUITE K - CHARLOTTESVILLE, VA 22902 - 434.293.3719

PROJECT
MAPLEWOOD DEVELOPMENT - FINAL SITE PLAN

SHEET TITLE
UTILITY NOTES AND DETAILS

JOB NO.
202199

SCALE
AS NOTED

SHEET NO.
6A

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Structure	Area (Acres)	Cw	t_c (Min.)
2	0.20	0.52	5.0
4	0.11	0.79	5.0
6	0.30	0.81	5.0
8	0.59	0.73	5.0
10	0.14	0.65	5.0
12	0.03	0.65	5.0
14	0.26	0.83	5.0
14B	0.69	0.62	10.0
16	0.32	0.75	5.0
18	0.00	0.30	5.0
20	0.00	0.30	5.0
22	0.10	0.72	5.0
24	0.00	0.30	5.0
26	0.53	0.60	11.3
28	0.00	0.30	5.0
30	0.00	0.30	5.0
32	0.00	0.30	5.0
34	0.00	0.30	5.0
36	0.09	0.56	5.0
38	0.00	0.30	5.0
38B	0.00	0.30	5.0
40	0.00	0.30	5.0
8P	0.36	0.68	5.0
8STR	0.23	0.81	5.0
14BP	0.42	0.48	10.0
14BSTR	0.27	0.85	5.0
YD1	0.58	0.57	5.0
YD2	0.31	0.61	5.0
YD ALL	0.89	0.58	5.0

YD 2

CASPIAN LANE (28' PRIVATE ACCESS EASEMENT)

DA 22

DA 16

DA 36

PROPOSED MULTI-FAMILY BUILDING #1 8 UNITS 4,865 SF

PROPOSED MULTI-FAMILY BUILDING #4 10 UNITS 6,148 SF

DA 14B PIPED

PROFFIT ROAD

YD 1

DA 26 (EXISTING BYPASS)

PROPOSED MULTI-FAMILY BUILDING #3 16 UNITS 9,710 SF

DA 14

PROPOSED MULTI-FAMILY BUILDING #6 16 UNITS 9,710 SF

PROPOSED MULTI-FAMILY BUILDING #2 16 UNITS 9,710 SF

DA 6

DA 8

DA 8 PIPED

PROPOSED MULTI-FAMILY BUILDING #7 10 UNITS 6,105 SF

PROPOSED MULTI-FAMILY BUILDING #5 10 UNITS 6,105 SF

DREXELL LANE (28' PRIVATE ACCESS EASEMENT)

KEENER LANE (28' PRIVATE ACCESS EASEMENT)

DA 2

DA 12

DA 10

DA 4

WORTH CROSSING

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)

1 inch = 20 ft.

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
Lic. No. 035791
08/16/23
PROFESSIONAL ENGINEER

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COLLINS ENGINEERING

200 GARRETT STREET, SUITE K. - CHARLOTTESVILLE, VA 22902 - 434.293.3719

MAPLEWOOD DEVELOPMENT - FINAL SITE PLAN

DRAINAGE MAP

PROJECT

JOB NO. 202199

SCALE 1"=20'

SHEET NO. 7

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Design Storm Year = **10**

POINT	DOWNSTREAM STRUCTURE	DRAIN AREA	RUNOFF COEFF.	CA		INLET TIME	RAIN FALL	RUNOFF Q	INVERT ELEVATIONS		LENGTH	SLOPE	DIA	CAPA-CITY	VEL	FLOW TIME	REMARKS
				INCR	ACCUM				UPPER	LOWER							
		ACRES	C			MIN	MIN	C.F.S.			FEET	FT./FT.	INCHES	C.F.S.	F.P.S.	SEC	
14B		0.69	0.62	0.43	0.43	10.00	5.37	2.3									
	14								522.80	522.55	45.92	0.0054	15	5.2	4.1	11.3	
14		0.26	0.83	0.22	0.65	10.19	5.33	3.4									
	12								522.45	522.29	29.65	0.0054	15	5.1	4.5	6.6	
12		0.03	0.65	0.02	0.67	10.30	5.31	3.5									
	10								522.19	521.27	153.78	0.0060	15	5.4	4.7	32.9	
10		0.14	0.65	0.09	0.76	10.85	5.21	3.9									
	8								521.17	520.93	34.80	0.0069	15	5.8	5.1	6.9	
8		0.59	0.73	0.43	1.55	10.96	5.18	8.0									
	6								519.63	519.48	30.14	0.0050	24	17.3	5.4	5.6	
6		0.30	0.81	0.24	1.79	11.06	5.17	9.3									
	4								519.38	519.08	58.97	0.0051	24	17.5	5.6	10.5	
4		0.11	0.79	0.09	1.88	11.23	5.14	9.7									
	2								518.98	518.50	93.79	0.0051	24	17.5	5.7	16.5	
2		0.20	0.52	0.10	1.99	11.51	5.09	10.1									
	UGD								518.40	518.14	51.64	0.0050	24	17.4	5.7	9.0	
22		0.10	0.72	0.07	0.07	5.00	6.67	0.5									
	20								522.20	521.82	42.62	0.0089	15	6.6	3.1	13.7	
20		0.00	0.30	0.00	0.07	5.44	6.52	3.8									+0.5
	18								521.72	521.21	98.56	0.0052	24	17.6	4.4	22.2	
18		0.00	0.30	0.00	0.12	5.94	6.37	6.3									+2.45
	16								521.11	520.82	55.53	0.0052	24	17.7	5.1	10.8	
16		0.32	0.75	0.24	0.36	6.12	6.31	7.7									+1.46
	8								520.72	519.73	187.61	0.0053	24	17.8	5.5	34.3	
24		0.00	0.30	0.00	0.00	5.00	6.67	3.3									Offsite Retail Outfall Q10=3.3cfs
	20								524.04	523.43	114.16	0.0054	24	18.0	4.3	26.7	
34		0.00	0.30	0.00	0.00	5.00	6.67	2.2									Offsite Walgreens Outfall Q10=2.15 cfs
	32								531.23	531.04	35.46	0.0054	24	17.9	3.8	9.3	
32		0.00	0.30	0.00	0.00	5.15	6.62	2.2									
	30								528.22	526.96	62.89	0.0200	24	34.7	5.9	10.6	
30		0.00	0.30	0.00	0.05	5.37	6.55	2.5									+0.3
	28								524.14	523.76	47.89	0.0079	24	21.8	4.5	10.6	
28		0.00	0.30	0.00	0.05	5.55	6.49	2.5									
	18								523.66	522.82	105.92	0.0079	24	21.8	4.5	23.4	
36		0.09	0.56	0.05	0.05	5.00	6.67	0.3									
	30								525.15	524.89	50.87	0.0051	15	5.0	2.3	22.4	
26		0.53	0.60	0.32	0.32	11.32	5.12	1.6									
	OUT								525.43	524.60	160.01	0.0052	15	4.7	3.4	46.7	
UGD1		0.00	0.30	0.00	0.00	5.00	6.67	8.4									21.2cfs total routed flow, 37 and 41 are activated
	38								517.97	517.81	27.78	0.0058	18	8.64	5.6	5.0	
38		0.00	0.30	0.00	0.00	5.08	6.64	21.2									
	38B								517.43	516.64	87.71	0.0090	24	23.3	8.4	10.5	
UGD2		0.00	0.30	0.00	0.00	5.00	6.67	12.8									
	40								523.75	523.31	6.00	0.0733	15	19.0	16.6	0.4	21.2cfs total routed flow, 37 and 41 are activated
40		0.00	0.30	0.00	0.00	5.01	6.66	12.8									
	38								522.33	521.00	33.00	0.0403	15	14.0	13.0	2.5	
YD ALL		0.89	0.58	0.52	0.52	5.00	6.67	3.4									
	UGD								521.18	521.00	18.40	0.0100	24	24.5	5.5	3.4	

Design Year: **10** Project: Maplewood Job #: 202199 Prepared by: KKW, PE

INLET STATION	OUTLET WATER SURFACE ELEV	L_o	D_x	Q_o ZW	S_6	H_f	JUNCTION LOSS V_o	H_o	Q_{IN}	V_{IN}	$Q_o{*}V_i$	$V_i^2/2g$	H_i	ANGLE	H_x	H_t	$1.3H_t$	$.5H_t$	FINAL H	INLET WATER SURFACE ELEV.	RIM ELEV
	522.60	18.40	24	3.44	0.000	0.00	1.1	0.0													
YD ALL													0.00	90	0	0.00	NA	0.00	0.01	**522.61**	**528.00**
	522.00	33.00	15	12.80	0.033	1.10	10.4	0.4													
40									12.8	10.4	133.5	1.7	0.59	90	1.1826	2.20	N/A	1.10	2.20	**524.20**	**528.00**
	524.31	6.00	15	12.80	0.033	0.20	10.4	0.4													
UGD2													0.00	90	0	0.42	NA	0.21	1.14	**525.45**	**528.30**
	518.24	87.71	24	21.20	0.007	0.66	6.7	0.2													
38									12.8	13.0	165.8	2.6	0.91	55	1.22419	2.31	N/A	1.16	1.81	**520.05**	**525.95**
	520.05	27.78	18	8.40	0.005	0.15	4.8	0.1													
UGD1													0.00	35	0	0.09	NA	0.04	0.24	**520.29**	**528.40**
	525.60	160.01	15	1.63	0.001	0.10	1.3	0.0													
26													0.00	0	0	0.01	NA	N/A	0.11	**525.71**	**528.33**
	525.91	50.87	15	0.34	0.000	0.00	0.3	0.0													
36													0.00	70	0	0.00	NA	0.00	0.00	**525.91**	**531.74**
	525.89	105.92	24	2.45	0.000	0.01	0.8	0.0													
28									2.5	0.8	1.911	0.0	0.00	89	0.00623	0.01	N/A	0.01	0.02	**525.90**	**531.75**
	525.90	47.89	24	2.45	0.000	0.00	0.8	0.0													
30									2.2	0.7	1.471	0.0	0.00	14	0	0.00	N/A	0.00	0.01	**525.91**	**532.06**
	528.56	62.89	24	2.15	0.000	0.00	0.7	0.0													
32									2.2	0.7	1.471	0.0	0.00	10	0	0.00	N/A	0.00	0.01	**528.57**	**536.42**
	532.64	35.46	24	2.15	0.000	0.00	0.7	0.0													
34													0.00	12	0	0.00	N/A	0.00	0.00	**532.64**	**536.83**
	526.06	114.16	24	3.30	0.000	0.02	1.1	0.0													
24													0.00	11	0	0.00	N/A	0.00	0.02	**526.08**	**534.29**
	525.56	187.61	24	7.71	0.001	0.19	2.5	0.0													
16									6.3	2.0	12.43	0.1	0.02	89	0.04056	0.09	NA	0.04	0.23	**525.79**	**529.02**
	525.79	55.53	24	6.25	0.001	0.04	2.0	0.0													
18									2.5	4.5	11.07	0.3	0.11	5	0	0.13	N/A	0.06	0.10	**525.89**	**529.99**
	525.89	98.56	24	3.80	0.000	0.02	1.2	0.0													
20									3.3	4.3	14.13	0.3	0.10	89	0.18796	0.29	N/A	0.15	0.17	**526.06**	**528.30**
	526.06	42.62	15	0.48	0.000	0.00	0.4	0.0													
22													0.00	81	0	0.00	NA	0.00	0.00	**526.06**	**527.66**
	524.90	51.64	24	10.10	0.002	0.09	3.2	0.0													
2									9.7	3.1	29.71	0.1	0.05	0	0	0.09	NA	0.05	0.13	**525.03**	**526.21**
	525.03	93.79	24	9.66	0.002	0.15	3.1	0.0													
4									9.3	3.0	27.36	0.1	0.05	90	0.09465	0.18	NA	0.09	0.24	**525.27**	**526.43**
	525.27	58.97	24	9.27	0.001	0.08	3.0	0.0													
6									8.0	2.6	20.58	0.1	0.04	24	0.01628	0.09	NA	0.04	0.13	**525.40**	**527.28**
	525.40	30.14	24	8.04	0.001	0.03	2.6	0.0													
8									7.7	5.5	42.12	0.5	0.16	23	0.07414	0.26	NA	0.13	0.16	**525.56**	**527.33**
	525.56	34.80	15	3.94	0.003	0.11	3.2	0.0													
10									3.5	2.9	10.21	0.1	0.05	40	0.04909	0.13	NA	0.07	0.18	**525.74**	**527.52**
	525.74	153.78	15	3.54	0.003	0.39	2.9	0.0													
12									3.4	2.8	9.698	0.1	0.04	42	0.04663	0.12	NA	0.06	0.45	**526.19**	**529.95**
	526.19	29.65	15	3.45	0.002	0.07	2.8	0.0													
14									2.3	1.9	4.366	0.1	0.02	73	0.0337	0.08	NA	0.04	0.11	**526.31**	**529.19**
	526.31	45.92	15	2.31	0.001	0.05	1.9	0.0													
14B													0.00	79	0	0.01	NA	0.01	0.06	**526.36**	**529.08**

DRAINAGE DESCRIPTIONS

STR. NO.	PIPE INFORMATION DIA. (in.)	LENGTH* (ft.)	SLOPE (%)	INVERT IN	INVERT OUT	MATERIAL	INLET INFORMATION INLET TYPE	Curb Type	SLOT LENGTH	RIM ELEVATION
14B							DI-3B	CG-6	8	529.08
14A	15	45.92	C	522.80	522.55	HDPE				
14							DI-3B	CG-6	8	529.19
13	15	29.65	C	522.45	522.29	HDPE				
12							DI-3B	CG-6	4	529.95
11	15	153.78	C	522.19	521.27	HDPE				
10							DI-3B	CG-6	6	527.52
9	15	34.80	C	521.17	520.93	HDPE				
8							DI-3B	CG-6	8	527.33
7	24	30.14	C	519.63	519.48	HDPE				
6							DI-3B	CG-6	10	527.28
5	24	58.97	C	519.38	519.08	HDPE				
4							DI-3B	CG-6	4	526.43
3	24	93.79	C	518.98	518.50	HDPE				
2							DI-3B	CG-6	6	526.21
1	24	51.64	C	518.40	518.14	HDPE				
22							DI-3C	CG-6	8	527.66
21	15	42.62	C	522.20	521.82	HDPE				
20							MH-1	-	-	528.30
19	24	98.56	C	521.72	521.21	HDPE				
18							MH-1	-	-	529.99
17	24	55.53	C	521.11	520.82	HDPE				
16							DI-2B	CG-6	10	529.02
15	24	187.61	C	520.72	519.73	HDPE				
24							MH-1	-	-	534.29
23	24	114.16	0.54%	524.04	523.43	HDPE				
34							MH-1	-	-	536.83
33	24	35.46	C	531.23	531.04	HDPE				
32							MH-1	-	-	536.42
31	24	62.89	C	528.22	526.96	HDPE				
30							MH-1	-	-	532.06
29	24	47.89	C	524.14	523.76	HDPE				
28							MH-1	-	-	531.75
27	24	105.92	C	522.66	522.82	HDPE				
36							DI-3C	CG-6	6	531.74
35	15	50.87	0.51%	525.15	524.89	HDPE				
26							DI-3C (MODIFIED)	CG-6	8'	528.33
25	15	160.01	0.52%	525.43	524.60	RCP				
UGD1							DETENTION STR OUTFALL	-	-	528.40
37	18	27.78	C	517.97	517.81	HDPE				
38							MH-1	-	-	525.95
38A	24	87.71	C	517.43	516.64	HDPE				
UGD2							DETENTION STR OUTFALL2	-	-	528.30
41	15	6.00	C	522.75	523.31	HDPE				
40							MH-1	-	-	528.00
39	15	33.00	C	522.33	521.00	HDPE				
YD ALL							YARD DRAIN	-	24"	528.00
YD OUTFALL	24	18.40	1.00%	521.18	521.00	HDPE				

PIPE DESIGN

n = 0.013

Pipe		Hydrology								Pipe									
Starting Structure	Ending Structure	A, Drainage area (acres)	C, rational coeff.	CA increment	CA sum accumulated	Tc, time of conc. (min)	I, rainfall Intesity	Q, flow incr. (cfs)	Qt, total flow	Invert in (ft)	Invert out (ft)	L, throat length (ft)	n, manning's coeff.	S, slope	D, Diameter (in)	Full Flow Capacity (cfs)	V, Velocity (fps)	Flow Time (min)	Remarks
Pipe run: STR 14B - UGD																			
14B	14	0.69	0.62	0.431	0.431	10.00	5.37	2.31	2.31	522.80	522.55	45.9	0.013	0.0054	15	5.16	4.06	0.19	
14	12	0.26	0.83	0.216	0.647	10.19	5.33	1.15	3.45	522.45	522.29	29.7	0.013	0.0054	15	5.14	4.47	0.11	
12	10	0.03	0.65	0.020	0.666	10.30	5.31	0.10	3.54	522.19	521.27	153.8	0.013	0.0060	15	5.41	4.68	0.55	
10	8	0.14	0.65	0.091	0.757	10.85	5.21	0.47	3.94	521.17	520.93	34.8	0.013	0.0069	15	5.81	5.08	0.11	
8	6	0.59	0.73	0.431	1.551	10.96	5.18	2.23	8.04	519.63	519.48	30.1	0.013	0.0050	24	17.29	5.36	0.09	
6	4	0.30	0.81	0.243	1.794	11.06	5.17	1.26	9.27	519.38	519.08	59.0	0.013	0.0051	24	17.48	5.61	0.18	
4	2	0.11	0.79	0.087	1.881	11.23	5.14	0.45	9.66	518.98	518.50	93.8	0.013	0.0051	24	17.53	5.67	0.28	
2	UGD	0.20	0.52	0.104	1.985	11.51	5.09	0.53	10.10	518.40	518.14	51.6	0.013	0.0050	24	17.39	5.71	0.15	
Pipe run: STR 22 - STR 8																			
22	20	0.10	0.72	0.072	0.072	5.00	6.67	0.48	0.48	522.20	521.82	42.6	0.013	0.0089	15	6.61	3.11	0.23	
20	18	0.00	0.30	0.000	0.072	5.44	6.52	0.00	3.80	521.72	521.21	98.6	0.013	0.0052	24	17.63	4.43	0.37	
18	16	0.00	0.30	0.000	0.123	5.94	6.37	0.00	6.25	521.11	520.82	55.5	0.013	0.0052	24	17.71	5.15	0.18	
16	8	0.32	0.75	0.240	0.363	6.12	6.31	1.52	7.71	520.72	519.73	187.6	0.013	0.0053	24	17.80	5.46	0.57	
Pipe run: STR 24 - STR 20																			
24	20	0.00	0.30	0.000	0.000	5.00	6.67	0.00	3.30	524.04	523.43	114.2	0.013	0.0054	24	18.01	4.28	0.44	
Pipe run: STR 34 - STR 18																			
34	32	0.00	0.30	0.000	0.000	5.00	6.67	0.00	2.15	531.23	531.04	35.5	0.013	0.0054	24	17.94	3.81	0.15	
32	30	0.00	0.30	0.000	0.000	5.15	6.62	0.00	2.15	528.22	526.96	62.9	0.013	0.0200	24	34.69	5.94	0.18	
30	28	0.00	0.30	0.000	0.051	5.37	6.55	0.00	2.45	524.14	523.76	47.9	0.013	0.0079	24	21.83	4.52	0.18	
28	18	0.00	0.30	0.000	0.051	5.55	6.49	0.00	2.45	523.66	522.82	105.9	0.013	0.0079	24	21.82	4.52	0.39	
Pipe run: STR 36 - STR 30																			
36	30	0.09	0.56	0.050	0.050	5.00	6.67	0.34	0.34	525.15	524.89	50.9	0.013	0.0051	15	5.00	2.27	0.37	
Pipe run: STR 26 - OUT																			
26	OUT	0.53	0.60	0.318	0.318	11.32	5.12	1.63	1.63	525.43	524.60	160.0	0.013	0.0052	15	4.66	3.42	0.78	
Pipe run: UGD1 - STR 38B																			
UGD1	38	0.00	0.30	0.000	0.000	5.00	6.67	0.00	8.40	517.97	517.81	27.8	0.013	0.0058	18	8.64	5.57	0.08	
38	38B	0.00	0.30	0.000	0.000	5.08	6.64	0.00	21.20	517.43	516.64	87.7	0.013	0.0090	24	23.26	8.38	0.17	
Pipe run: UGD2 - STR 38																			
UGD2	40	0.00	0.30	0.000	0.000	5.00	6.67	0.00	12.80	523.75	523.31	6.0	0.013	0.0733	15	18.95	16.56	0.01	
40	38	0.00	0.30	0.000	0.000	5.01	6.66	0.00	12.80	522.33	521.00	33.0	0.013	0.0403	15	14.05	12.95	0.04	
Pipe run: YD ALL - UGD																			
YD ALL	UGD	0.89	0.58	0.516	0.516	5.00	6.67	3.44	3.44	521.18	521.00	18.4	0.013	0.0100	24	24.51	5.47	0.06	

REVISIONS

DATE	REVISION DESCRIPTION
10/28/2022	INITIAL FINAL PLAN SUBMISSION TO ALBEMARLE COUNTY
05/18/2023	REVISED PER COUNTY & ACSA COMMENTS
08/16/2023	REVISED PER COUNTY & ACSA COMMENTS

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
Lic. No. 035791
PROFESSIONAL ENGINEER
08/16/23

COLLINS ENGINEERING
200 GARRETT STREET, SUITE K. - CHARLOTTESVILLE, VA 22902 - 434.293.3719

PROJECT: MAPLEWOOD DEVELOPMENT - FINAL SITE PLAN
SHEET TITLE: DRAINAGE CALCULATIONS

JOB NO. 202199
SCALE N/A
SHEET NO. 8

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INLETS ON GRADE, DESIGN (CURB SPREAD AND INLET CAPTURE)

Intensity 4.00 (Intensity is 4 in/hr for spread, and 6.5 in/hr for capacity and depth)
Mannings Coefficient, n is 0.013

Inlet			Hydrology						Curb and Gutter							Inlet						
Plan Label	VDOT DI type	L, throat length (ft)	A, Drainage area (ac/res)	C, rational coeff.	CA	Q, flow incr. (cfs)	Qb, carry-over (cfs)	Qt, total flow	S, gutter longitudinal slope (ft/ft)	Sx, lane cross slope (ft/ft)	W, gutter width (ft)	Sw, gutter cross-slope (ft/ft)	Sw/Sx	T, spread at curb (ft)	Eo, frontal flow ratio in gutter W	a, 12W(Sw-Sx)+ 2*local depr. (in)	Sw = a/(12W)	Se = Sx+Sw(Eo)	Lt, require throat length (ft)	L / Lt	E, inlet efficiency	Qi, flow intercepted	Qb, carry-over	carry-over to inlet	Maximum allowable spread
2	3B	**6.0**	0.20	0.52	0.104	0.42	0.00	0.42	0.0050	0.0200	2.0	0.0833	4.1650	5.47	0.83	3.5192	0.1466	0.1417	**3.46**	1.74	1.00	0.42	0.00		
4	3B	**4.0**	0.11	0.79	0.087	0.35	0.00	0.35	0.0050	0.0200	2.0	0.0833	4.1650	5.11	0.97	3.5192	0.1466	0.1622	**2.96**	1.35	1.00	0.35	0.00		
6	3B	**10.0**	0.30	0.81	0.243	0.97	0.00	0.97	0.0240	0.0200	2.0	0.0833	4.1650	5.60	0.85	3.5192	0.1466	0.1446	**7.81**	1.28	1.00	0.97	0.00		
8STR	3B	**8.0**	0.23	0.81	0.186	0.75	0.00	0.75	0.0240	0.0200	2.0	0.0833	4.1650	5.07	0.92	3.5192	0.1466	0.1549	**6.70**	1.19	1.00	0.75	0.00		
10	3B	**6.0**	0.14	0.65	0.091	0.36	0.00	0.36	0.0200	0.0200	2.0	0.0833	4.1650	4.01	0.93	3.5192	0.1466	0.1564	**4.67**	1.28	1.00	0.36	0.00		
12	3B	**4.0**	0.03	0.65	0.020	0.08	0.00	0.08	0.0123	0.0200	2.0	0.0833	4.1650	2.46	0.99	3.5192	0.1466	0.1652	**2.05**	1.96	1.00	0.08	0.00		
14BSTR	3B	**8.0**	0.27	0.85	0.230	0.92	0.00	0.92	0.0123	0.0200	2.0	0.0833	4.1650	6.21	0.80	3.5192	0.1466	0.1373	**6.44**	1.24	1.00	0.92	0.00		
16	2B	**10.0**	0.32	0.75	0.240	0.96	0.00	0.96	0.0200	0.0200	2.0	0.0833	4.1650	5.77	0.81	3.5192	0.1466	0.1388	**7.54**	1.33	1.00	0.96	0.00		

- for inlets draining to stormwater management facilities, where overland flow to facilities is not available, 100% capture is required at 6.5in/hr

INLETS ON GRADE, DESIGN (CURB SPREAD AND INLET CAPTURE)

Intensity 6.50 (Intensity is 4 in/hr for spread, and 6.5 in/hr for capacity and depth)
Mannings Coefficient, n is 0.013

Inlet			Hydrology						Curb and Gutter							Inlet						
Plan Label	VDOT DI type	L, throat length (ft)	A, Drainage area (ac/res)	C, rational coeff.	CA	Q, flow incr. (cfs)	Qb, carry-over (cfs)	Qt, total flow	S, gutter longitudinal slope (ft/ft)	Sx, lane cross slope (ft/ft)	W, gutter width (ft)	Sw, gutter cross-slope (ft/ft)	Sw/Sx	T, spread at curb (ft)	Eo, frontal flow ratio in gutter W	a, 12W(Sw-Sx)+ 2*local depr. (in)	Sw = a/(12W)	Se = Sx+Sw(Eo)	Lt, require throat length (ft)	L / Lt	E, inlet efficiency	Qi, flow intercepted	Qb, carry-over	carry-over to inlet	Maximum allowable spread
2	3B	**6.0**	0.20	0.52	0.104	0.68	0.00	0.68	0.0050	0.0200	2.0	0.0833	4.1650	6.56	0.75	3.5192	0.1466	0.1300	**4.46**	1.34	1.00	0.68	0.00		
4	3B	**4.0**	0.11	0.79	0.087	0.56	0.00	0.56	0.0050	0.0200	2.0	0.0833	4.1650	6.13	0.93	3.5192	0.1466	0.1564	**3.71**	1.08	1.00	0.56	0.00		
6	3B	**10.0**	0.30	0.81	0.243	1.58	0.00	1.58	0.0230	0.0200	2.0	0.0833	4.1650	6.77	0.76	3.5192	0.1466	0.1314	**10.01**	1.00	1.00	1.58	0.00		
8STR	3B	**8.0**	0.23	0.81	0.186	1.21	0.00	1.22	0.0230	0.0200	2.0	0.0833	4.1650	6.14	0.90	3.5192	0.1466	0.1520	**8.22**	0.97	1.00	1.21	0.00		
10	3B	**6.0**	0.14	0.65	0.091	0.59	0.00	0.59	0.0200	0.0200	2.0	0.0833	4.1650	4.81	0.88	3.5192	0.1466	0.1490	**5.89**	1.02	1.00	0.59	0.00		
12	3B	**4.0**	0.03	0.65	0.020	0.13	0.00	0.13	0.0123	0.0200	2.0	0.0833	4.1650	2.96	0.95	3.5192	0.1466	0.1593	**2.56**	1.56	1.00	0.13	0.00		
14BSTR	3B	**8.0**	0.27	0.85	0.230	1.49	0.00	1.49	0.0123	0.0200	2.0	0.0833	4.1650	7.45	0.72	3.5192	0.1466	0.1256	**8.33**	0.96	1.00	1.49	0.00		
16	2B	**10.0**	0.32	0.75	0.240	1.56	0.00	1.56	0.0200	0.0200	2.0	0.0833	4.1650	6.92	0.76	3.5192	0.1466	0.1314	**9.55**	1.05	1.00	1.56	0.00		

- for inlets draining to stormwater management facilities, where overland flow to facilities is not available, 100% capture is required at 6.5in/hr

INLETS IN SUMP, DESIGN (CURB SPREAD AND INLET SPREAD AND DEPTH)

Intensity 4.00 (Intensity is 4 in/hr for spread, and 6.5 in/hr for capacity and depth)
Mannings Coefficient, n is 0.013

Inlet			Hydrology						Curb and Gutter						Inlet			
Plan Label	VDOT DI type	L, throat length (ft)		A, Drainage area (acres)	C, rational coeff.	CA	Q, flow incr. (cfs)	Qb, carry-over (cfs)	Qt, total flow	S, gutter longitudinal slope (ft/ft) *	Sx, lane cross slope (ft/ft)	W, gutter width (ft)	Sw, gutter cross-slope (ft/ft)	Sw/Sx	T, spread at curb (ft)	d, flow depth (ft)	d / h (height of opening, 5.5")	T, spread at inlet (ft)	Remarks
									0.00										
			right	0.26	0.83	0.216	0.86	0.00	0.86	0.0125	0.0200	2.0	0.0833	4.1650	6.05				
14	3B	**8.0**					combined flow		0.9							0.10	0.222	**5.08**	
			left	0.10	0.72	0.072	0.29	0.00	0.29	0.0400	0.0200	2.0	0.0833	4.1650	3.22				
22	3C	**8.0**					combined flow		0.3							0.05	0.107	**2.44**	
			left	0.27	0.60	0.159	0.64	0.00	0.64	0.0010	0.0200	2.0	0.0833	4.1650	8.67				
			right	0.27	0.60	0.159	0.64	0.00	0.64	0.0010	0.0200	2.0	0.0833	4.1650	8.67				
26	3C	**8.0**					combined flow		1.3							0.13	0.287	**6.57**	
			right	0.09	0.56	0.050	0.20	0.00	0.20	0.0200	0.0200	2.0	0.0833	4.1650	3.21				
36	3C	**6.0**					combined flow		0.2							0.04	0.095	**2.18**	

* gutter longitudinal slope of 0.001 should be used in a sump condition
- grate inlets (DI-7) in open pavement areas will not have a curb spread, but will have inlet spread and depth
- for inlets draining to stormwater management facilities, the 6.5in/hr check storm will suffice for the 10yr conveyance to the facilities
NOTE: Inlet size for structures determined by overland flow. Pipes have been sized to include overland flow as well as yard inlet and roof drain drainage areas.

INLETS IN SUMP, DESIGN (CURB SPREAD AND INLET SPREAD AND DEPTH)

Intensity 6.50 (Intensity is 4 in/hr for spread, and 6.5 in/hr for capacity and depth)
Mannings Coefficient, n is 0.013

Inlet			Hydrology						Curb and Gutter						Inlet			
Plan Label	VDOT DI type	L, throat length (ft)		A, Drainage area (acres)	C, rational coeff.	CA	Q, flow incr. (cfs)	Qb, carry-over (cfs)	Qt, total flow	S, gutter longitudinal slope (ft/ft) *	Sx, lane cross slope (ft/ft)	W, gutter width (ft)	Sw, gutter cross-slope (ft/ft)	Sw/Sx	T, spread at curb (ft)	d, flow depth (ft)	d / h (height of opening, 5.5")	T, spread at inlet (ft)	Remarks
									0.00										
			right	0.26	0.83	0.216	1.40	0.00	1.40	0.0125	0.0200	2.0	0.0833	4.1650	7.26				
14	3B	**8.0**					combined flow		1.4							0.14	0.306	**7.02**	
			left	0.10	0.72	0.072	0.47	0.00	0.47	0.0400	0.0200	2.0	0.0833	4.1650	3.87				
22	3C	**8.0**					combined flow		0.5							0.07	0.147	**3.38**	
			left	0.27	0.60	0.159	1.03	0.00	1.03	0.0010	0.0200	2.0	0.0833	4.1650	10.40				
			right	0.27	0.60	0.159	1.03	0.00	1.03	0.0010	0.0200	2.0	0.0833	4.1650	10.40				
26	3C	**8.0**					combined flow		2.1							0.18	0.397	**9.09**	
			right	0.09	0.56	0.050	0.33	0.00	0.33	0.0200	0.0200	2.0	0.0833	4.1650	3.85				
36	3C	**6.0**					combined flow		0.3							0.06	0.132	**3.02**	

* gutter longitudinal slope of 0.001 should be used in a sump condition
- grate inlets (DI-7) in open pavement areas will not have a curb spread, but will have inlet spread and depth
- for inlets draining to stormwater management facilities, the 6.5in/hr check storm will suffice for the 10yr conveyance to the facilities
NOTE: Inlet size for structures determined by overland flow. Pipes have been sized to include overland flow as well as yard inlet and roof drain drainage areas.

STRUCTURE				DRAINAGE					
INLET	TYPE	AREA (FT^2)	PERIMETER (FT)	A (ACRES)	C	I (IN/HR)	Q (CFS)	D (IN)	FLOW TYPE
YD2	24" Nyloplast Yard Inlet	1.40	21.73	0.31	0.61	4.00	0.756	**0.62**	WEIR FLOW
YD2	24" Nyloplast Yard Inlet	1.40	21.73	0.31	0.61	6.50	1.229	**0.85**	WEIR FLOW

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
Lic. No. 035791
PROFESSIONAL ENGINEER
08/16/23

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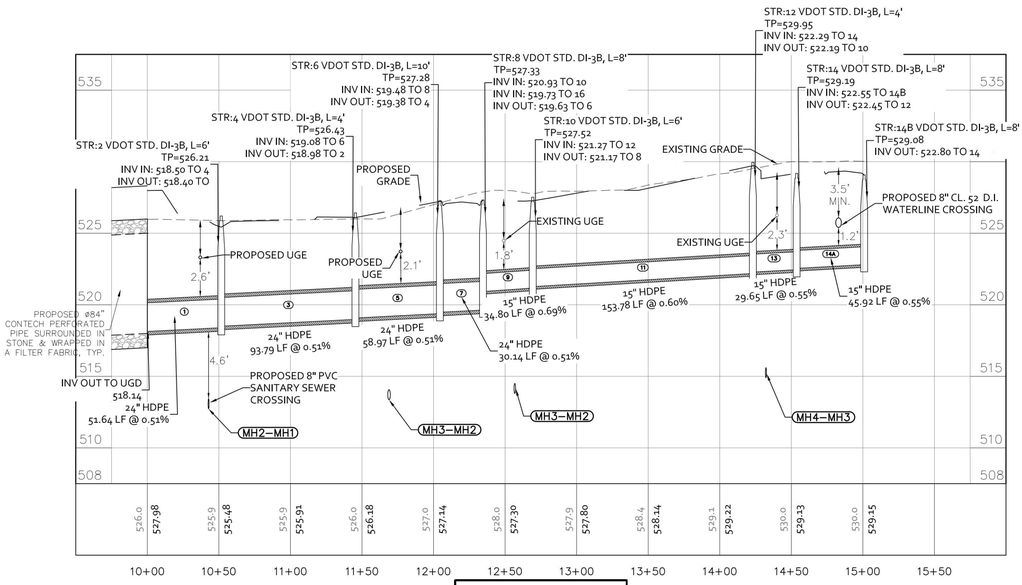
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PROJECT
MAPLEWOOD DEVELOPMENT - FINAL SITE PLAN

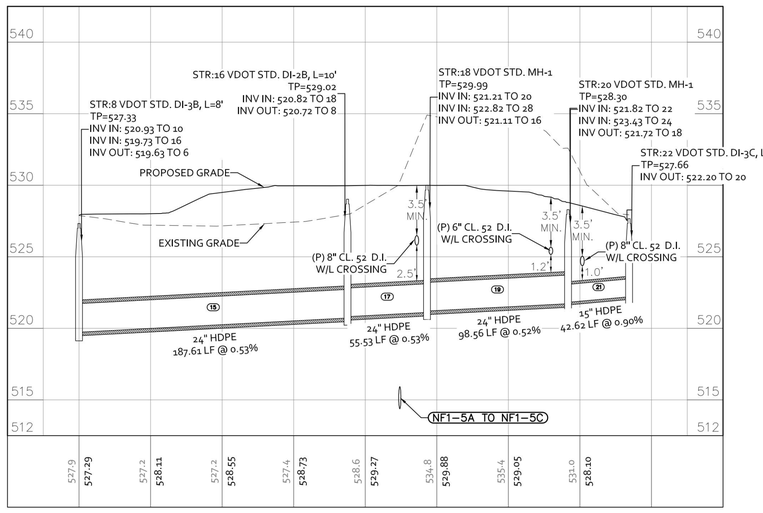
SHEET TITLE
DRAINAGE CALCULATIONS

JOB NO. 202199
SCALE N/A
SHEET NO. 8A

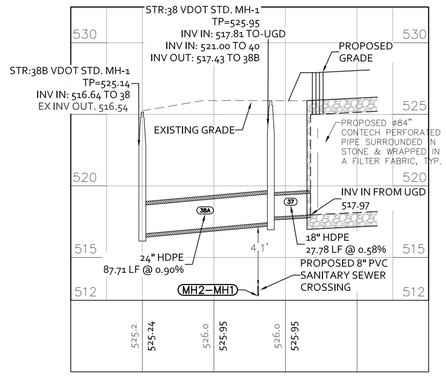
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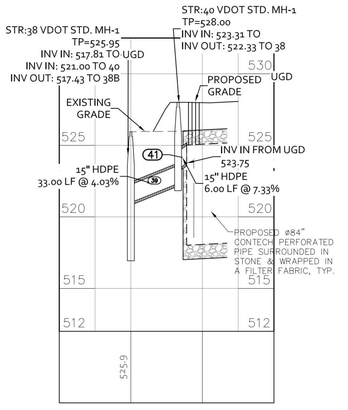
STR 14 - UGD



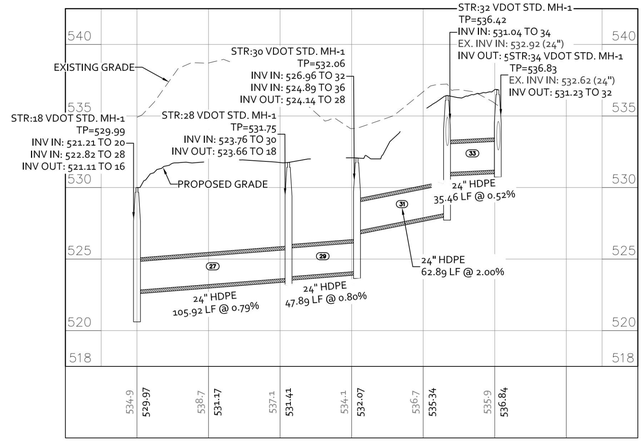
STR 22 - STR 8



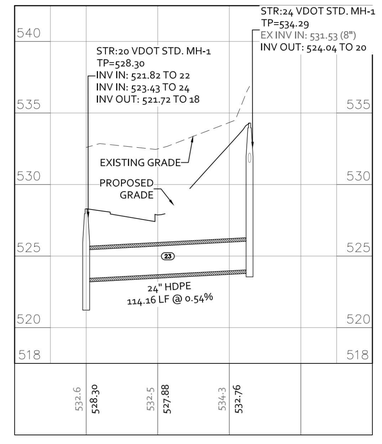
UGD - STR 38B



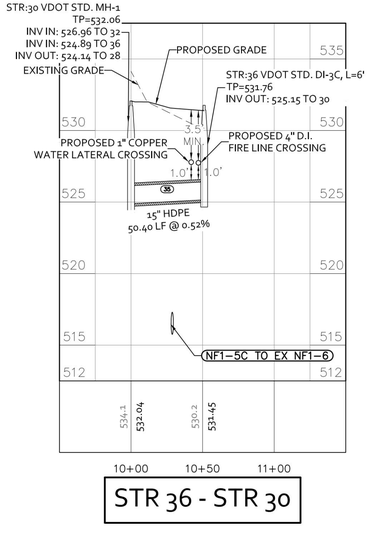
STR 41 - STR 38



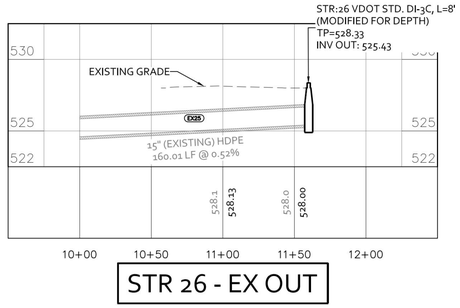
STR 34 - STR 18



STR 24 - STR 20



STR 36 - STR 30



STR 26 - EX OUT

HORIZONTAL GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 INCH = 50 FT.

VERTICAL GRAPHIC SCALE

5 0 2.5 5 10 20

(IN FEET)
1 INCH = 5 FT.

NOTES:
1. CLASS I BACKFILL MATERIAL SHALL BE CRUSHER RUN AGGREGATE SIZE NO. 25 OR 26, AGGREGATE BASE MATERIAL SIZE 21A OR 21B, FLOWABLE FILL, CONFORMING TO SECTIONS 205, 208 OR 249 RESPECTIVELY, OR CRUSHED GLASS CONFORMING TO THE SIZE REQUIREMENTS FOR CRUSHER RUN AGGREGATE SIZE 25 AND 26, PER VDOT ROAD AND BRIDGE SPECIFICATIONS, SECTION 302.03(a)2G "BACKFILLING".
2. ALL FILL TO BE PLACED AT 95% COMPACTION.
3. MINIMUM 3.5' OF COVER MUST BE MAINTAINED OVER W/L.
4. MINIMUM OF 1' OF VERTICAL SEPARATION FROM STORM SEWER & W/L AND 1.5' OF SEPARATION BETWEEN W/L & SANITARY SEWER MUST BE PROVIDED.
5. ALL DRAINAGE STRUCTURES SHALL BE PROVIDED INLET SHAPING IN ACCORDANCE WITH VDOT STANDARD IS-1.
6. ALL DRAINAGE STRUCTURES WITH A DEPTH OF 4' OR GREATER SHALL HAVE STEPS IN ACCORDANCE WITH STANDARD ST-1 AS FOUND IN THE 2016 ROAD AND BRIDGE STANDARDS.
7. ALL DRAINAGE STRUCTURES WITH A DEPTH OF 12' OR GREATER SHALL HAVE SAFETY SLABS IN ACCORDANCE WITH STANDARD SL-1 AS FOUND IN THE 2016 ROAD AND BRIDGE STANDARDS.
8. ALL STEP DOWN DRAINAGE STRUCTURES WITH VERTICAL DIFFERENCE BETWEEN THE INVERTS OF THE INLET PIPE AND THE OUTLET PIPE IN EXCESS OF 4' MAY BE PROVIDED A ¼" STEEL PLATE IN THE BOTTOM OF THE MANHOLE, OR AN ADDITIONAL 6" OF CONCRETE AT THE BOTTOM OF THE STRUCTURE TO PROTECT THE MANHOLE, ESPECIALLY WHERE FLOW IS EXPECTED TO CARRY ANY ABRASIVE MATERIAL, CONTINUOUS LIVE FLOW OR LIVE FLOW LASTING SEVERAL DAYS IS EXPECTED, OR THE SIZE OF PIPES IS 48" OR GREATER.

COMMONWEALTH OF VIRGINIA
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Lic. No. 035791
08/16/23
PROFESSIONAL ENGINEER

REVISIONS

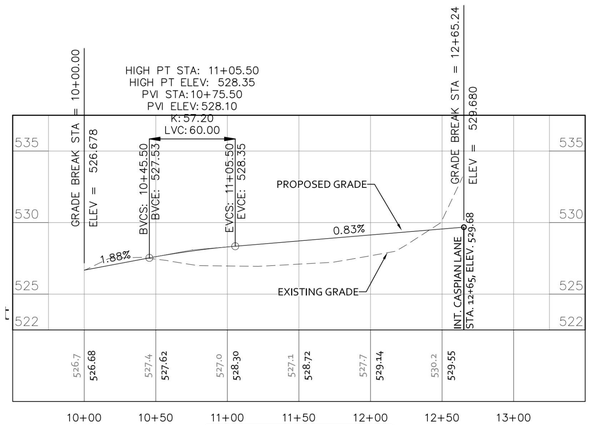
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MAPLEWOOD DEVELOPMENT - FINAL SITE PLAN
DRAINAGE PROFILES

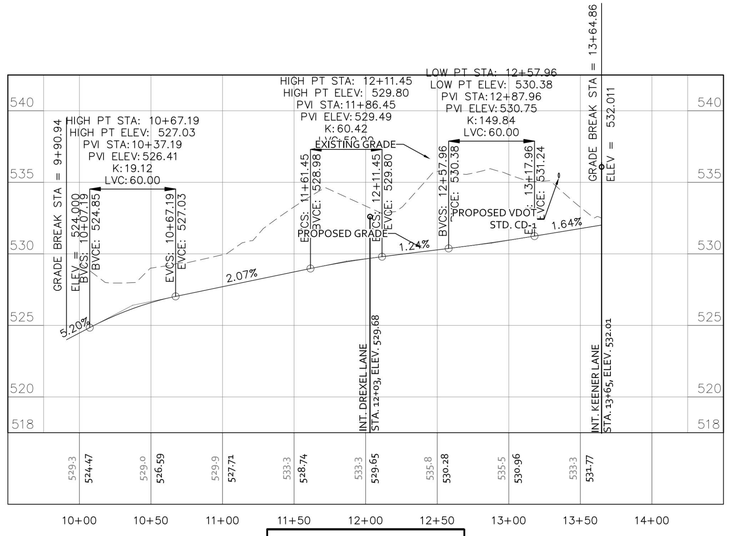
PROJECT
JOB NO. 202199
SCALE H: 1"=50' V: 1"=5'
SHEET NO. 9

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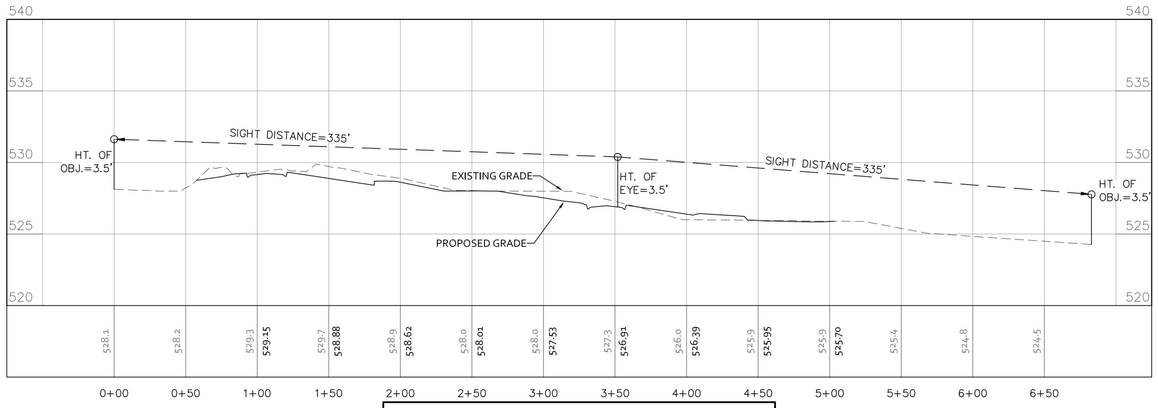
DREXEL LANE

(PRIVATE ROAD - DESIGN SPEED=25 MPH)

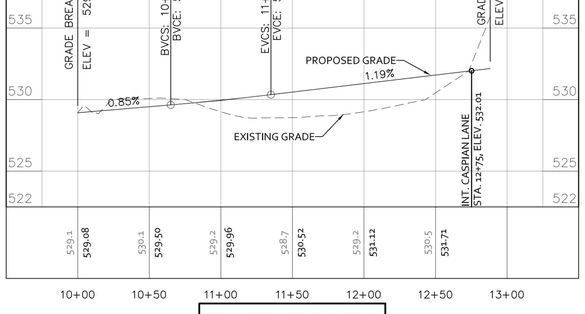


CASPIAN LANE

(PRIVATE ROAD - DESIGN SPEED=25 MPH)

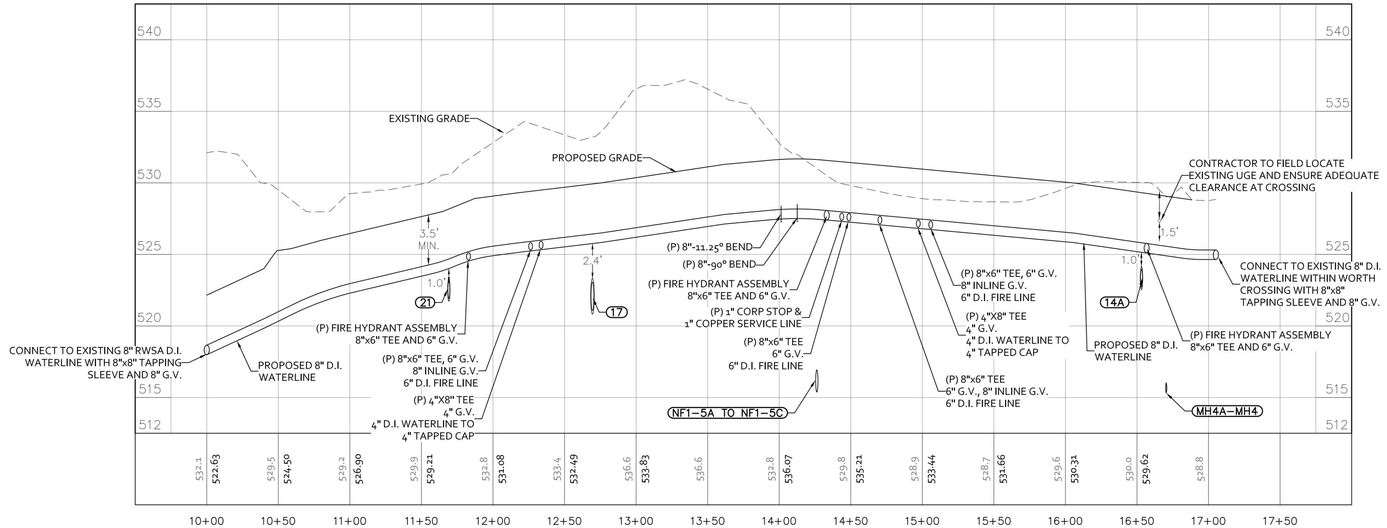


DREXEL LANE SIGHT DISTANCE



KEENER LANE

(PRIVATE ROAD - DESIGN SPEED=25 MPH)



WATERLINE

HORIZONTAL GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 INCH = 50 FT.

VERTICAL GRAPHIC SCALE

5 0 2.5 5 10 20

(IN FEET)
1 INCH = 5 FT.

NOTES:
1. ALL FILL TO BE PLACED AT 95% COMPACTION.
2. MINIMUM 3.5' OF COVER MUST BE MAINTAINED OVER THE WATERLINE.
3. MINIMUM OF 1' OF VERTICAL SEPARATION FROM STORM SEWER & WATERLINE AND 1.5' OF SEPARATION BETWEEN WATERLINE & SANITARY SEWER MUST BE PROVIDED.
4. ALL ROADWAY EMBANKMENT MATERIAL SHALL CONSIST OF SOIL AND BE PLACED IN SUCCESSIVE UNIFORM LAYERS NOT MORE THAN 18 INCHES IN THICKNESS BEFORE COMPACTION OVER THE ENTIRE ROADBED AREA IN ACCORDANCE WITH VDOT 2020 ROAD AND BRIDGE SPECIFICATION 303.04(h)
5. CLASS I BACKFILL MATERIAL SHALL BE CRUSHER RUN AGGREGATE SIZE NO. 25 OR 26, AGGREGATE BASE MATERIAL SIZE 21A OR 21B, FLOWABLE FILL, CONFORMING TO SECTIONS 205, 208 OR 249 RESPECTIVELY, OR CRUSHED GLASS CONFORMING TO THE SIZE REQUIREMENTS FOR CRUSHER RUN AGGREGATE SIZE 25 AND 26, PER VDOT ROAD AND BRIDGE SPECIFICATIONS, SECTION 302.03(a)2G "BACKFILLING".

COMMONWEALTH OF VIRGINIA
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PROJECT
MAPLEWOOD DEVELOPMENT - FINAL SITE PLAN

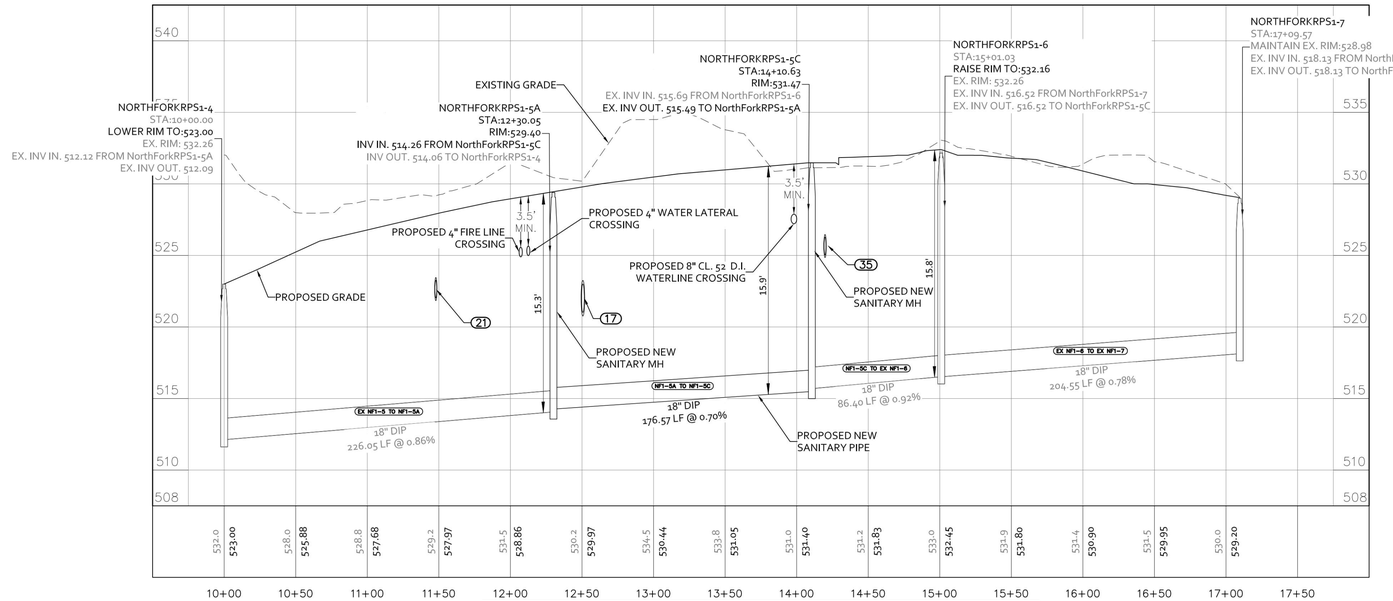
SHEET TITLE
ROAD, SIGHT DISTANCE AND UTILITY PROFILES

JOB NO. 202199

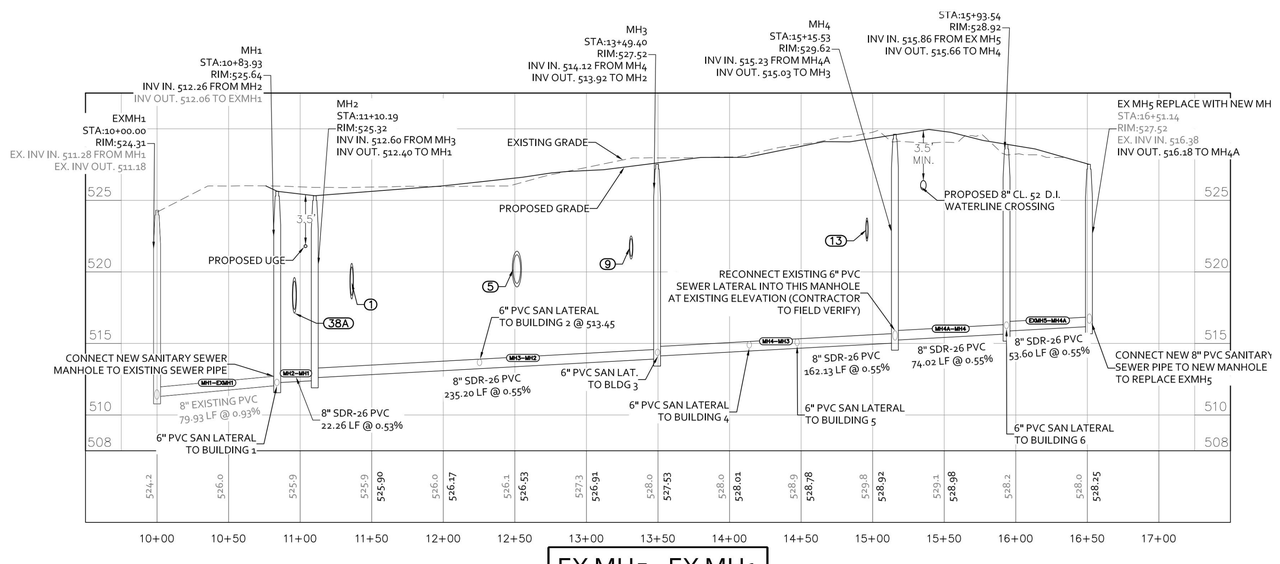
SCALE
H: 1"=50'
V: 1"=5'

SHEET NO. 10

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NORTHFORKRPS-1-7 TO NORTHFORKRPS-1-4



EX MH5 - EX MH1

HORIZONTAL GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 INCH = 50 FT.

VERTICAL GRAPHIC SCALE

5 0 2.5 5 10 20

(IN FEET)
1 INCH = 5 FT.

NOTES:
1. ALL FILL TO BE PLACED AT 95% COMPACTION.
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4. ALL ROADWAY EMBANKMENT MATERIAL SHALL CONSIST OF SOIL AND BE PLACED IN SUCCESSIVE UNIFORM LAYERS NOT MORE THAN 18 INCHES IN THICKNESS BEFORE COMPACTION OVER THE ENTIRE ROADBED AREA IN ACCORDANCE WITH VDOT 2020 ROAD AND BRIDGE SPECIFICATION 303.04(h)
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6. BYPASS PUMPING OF THE EXISTING SEWER LINES SHALL BE REQUIRED FOR THE INSTALLATION OF THE PROPOSED SANITARY SEWER IMPROVEMENTS. CONTRACTOR SHALL CREATE A BYPASS PUMPING PLAN AND SUBMIT TO ACSA FOR APPROVAL. ACSA MUST APPROVE THE BYPASS PUMPING PLAN PRIOR TO CONTRACTOR INITIATION OF SANITARY SEWER IMPROVEMENTS.

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PROJECT
MAPLEWOOD DEVELOPMENT - FINAL SITE PLAN

SHEET TITLE
UTILITY PROFILES

JOB NO.
202199

SCALE
H: 1"=50'
V: 1"=5'

SHEET NO.
11

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LANDSCAPING LEGEND:

AR QC ASL QP BN QS LSR UAP LT

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

NOTE:
1. ALL LANDSCAPING SHALL BE INSTALLED BY THE FIRST PLANTING SEASON FOLLOWING THE ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY WITHIN THE DEVELOPMENT.
2. ALL LANDSCAPING AND SCREENING SHALL BE MAINTAINED IN A HEALTHY CONDITION BY THE CURRENT OWNER OR A PROPERTY OWNERS' ASSOCIATION AND REPLACED WHEN NECESSARY. REPLACEMENT MATERIAL SHALL COMPLY WITH THE APPROVED LANDSCAPING PLAN.

PLANT SCHEDULE:

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY: STREET TREES	OPEN SPACE	PARKING LOT AREAS	TOTAL	CANOPY	TOTAL	PARKING TOTAL
CANOPY TREES										
AR	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY' RED MAPLE	2-1/2" cal.			3	3	397	1191	1191
ASL	ACER SACCHARUM 'LEGACY'	LEGACY' SUGAR MAPLE	2-1/2" cal.		2		2	214	428	
BN	BETULA NIGRA 'HERITAGE'	HERITAGE' RIVER BIRCH	2-1/2" cal.	12			12	397	4764	
LSR	LIQUIDAMBAR STYRACIFLUA	ROTUNDILOBA 'AMERICAN SWEETGUM'	2-1/2" cal.		3	1	4	249	996	249
LT	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2-1/2" cal.		4		4	387	1548	
QC	QUERCUS COCCINEA	SCARLET OAK	2-1/2" cal.		5		5	370	1850	
QP	QUERCUC PHELLOS	WILLOW OAK	2-1/2" cal.		13		13	419	5447	
QS	QUERCUS SHUMARDII	SHUMARD OAK	2-1/2" cal.		14		14	372	5208	
UAP	ULMUS AMERICANA 'PRINCETON'	PRINCETON' ELM	2-1/2" cal.	7			7	464	3248	
								TOTAL	24680	1440

LANDSCAPE CALCULATIONS

SITE TREE COVERAGE	
REQUIREMENT: CANOPY COVER AT 10 YEARS EQUALS OR IS GREATER THAN 20% OF GROSS SITE AREA	
GROSS SITE AREA	148,715 SF
less RECREATIONAL AREA & OPEN SPACE	34,200 SF
TOTAL DEVELOPMENT AREA	114,515 SF
TOTAL TREE CANOPY REQUIRED	22,903 SF
TOTAL TREE CANOPY PROVIDED	24,680 SF
STREETSCAPE TREES	
REQUIREMENT: 1 LARGE TREE PER 50 FEET OF PUBLIC ROAD FRONTAGE OR 1 MEDIUM TREE PER 40 FEET OF PUBLIC ROAD FRONTAGE	
STREET FRONTAGE ALONG PROFFIT ROAD	279 LF
REQUIRED STREET TREES	6
PROPOSED STREET TREES	8
STREET FRONTAGE ALONG WORTH CROSSING	552 LF
REQUIRED STREET TREES	11
PROPOSED STREET TREES	11
PARKING LOTS	
REQUIREMENT: 5% OF THE GROSS AREA OF THE PAVED PARKING AND CIRCULATION AREA SHALL BE LANDSCAPED	
PAVED PARKING & CIRCULATION AREA	23,643 SF
TOTAL TREE CANOPY REQUIRED	1,182 SF
TOTAL TREE CANOPY PROVIDED	1,440 SF
REQUIREMENT: 1 TREE PER 10 PARKING SPACES	
NUMBER OF PARKING SPACES	18 SPACES
TOTAL TREES REQUIRED	2 TREES
TOTAL TREES PROVIDED (IDENTIFIED WITH SHADING)	4 TREES

TREE PLANTING & STAKING DETAIL
NOT TO SCALE

COMMONWEALTH OF VIRGINIA
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200 GARRETT STREET, SUITE K. - CHARLOTTESVILLE, VA 22902 - 434.293.3719

MAPLEWOOD DEVELOPMENT - FINAL SITE PLAN

LANDSCAPING PLAN

PROJECT

JOB NO. 202199

SCALE 1"=20'

SHEET TITLE

SHEET NO. 12

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