CVILLE RIO ROAD APARTMENTS

FINAL SITE PLAN

SDP-2023-000__

RIO MAGISTERIAL DISTRICT

ALBEMARLE COUNTY, VIRGINIA

GENERAL NOTES

OWNERS:
TMP 04500-00-00-026A2
CHARLOTTESVILLE RIO ROAD APARTMENTS LLC
110 DRAPER ROAD, NW SUITE B
BLACKSBURG, VA 22060

TMP 04500-00-00-026B5
CHARLOTTESVILLE RIO ROAD APARTMENTS LLC
110 DRAPER ROAD, NW SUITE B
BLACKSBURG, VA 22060

TMP 04500-00-00-026B4
CHARLOTTESVILLE RIO ROAD APARTMENTS LLC
110 DRAPER ROAD, NW SUITE B
BLACKSBURG, VA 22060

TMP 04500-00-00-026B3
RIVER RIO LLC
145 EDNAM DRIVE, STE 100
CHARLOTTESVILLE, VA 22903

TMP 04500-00-00-026B2
RAHIM, ABDUL W; HABIB RAHIM & SHAID RAHIM
1433 MAYMONT COURT
CHARLOTTESVILLE, VA 22902

DEVELOPER: GW REAL ESTATE PARTNERS
145 EDHAM DRIVE, SUITE 200
CHARLOTTESVILLE, VA 22903

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

TAX MAP:

04500-00-00-026A2	04500-00-00-026B5	04500-00-00-026B4	04500-00-00-026B3	04500-00-00-026B2
D.B. 5132, PG. 463	INST. #: 201900008048	INST. #: 202000006895	INST. #: 202100018641	INST. #: 202000016556
4.696 ACRES	0.697 ACRES	0.822 ACRES	0.942 ACRES	1.075 ACRES

ZONING: PRD (PLANNED RESIDENTIAL DEVELOPMENT) - (ZMA-2021-00011 & SE2021-00041). REZONING AND SPECIAL EXCEPTION REQUEST APPROVED BY THE BOS ON SEPTEMBER 7, 2022 (SEE SHEET 2 FOR APPROVAL LETTERS). NOTE: THE PROPERTY (INCLUDING ALL 5 PARCELS) STILL COMPLIES WITH THE FOLLOWING EXISTING ZONING OVERLAY DISTRICTS: AIRPORT IMPACT AREA OVERLAY DISTRICT (AIA), AREAS OF MANAGED SLOPES OVERLAY DISTRICT, AND ENTRANCE CORRIDOR OVERLAY DISTRICT (EC).

TOTAL PROJECT AREA:
TMP 04500-00-00-026A2 - 4.696 ACRES
TMP 04500-00-00-026B5 - 0.697 ACRES
TMP 04500-00-00-026B4 - 0.822 ACRES
TMP 04500-00-00-026B3 - 0.942 ACRES
TMP 04500-00-00-026B2 - 1.075 ACRES
8.232 ACRES TOTAL

PROPOSED USE: 250 MULTI-FAMILY RESIDENTIAL APARTMENT UNITS
(109) ONE BEDROOM UNITS
(141) TWO & THREE BEDROOM UNITS

BLOCK/SECTION CLASSIFICATION: LOT 2, SECTION 2A

PROPOSED DENSITY: 250 RESIDENTIAL MULTI-FAMILY UNITS WITHIN 8.232 ACRES
DENSITY = 250/8.232 ACRES = 30.37 DUA

OPEN SPACE: THIS PROJECT SHALL PROVIDE A MINIMUM OF 25% OPEN SPACE
COMMON OPEN SPACE AREA = 0.672 ACRES
ACTIVE RECREATION AREAS = 0.76 ACRES
BUFFER AREAS = 1.06 ACRES
OPEN SPACE REQUIRED: 25% x 8.232 ACRES = 2.058 ACRES
OPEN SPACE PROVIDED: 2.492 ACRES (30.3 %). AREA EXCLUSIVE OF RETAINING WALLS = 2.305 AC (28.0%)

LAND DEDICATED TO PUBLIC USE: THE PROJECT SHALL DEDICATE 0.25 ACRES OF RIGHT OF WAY TO PUBLIC USE FOR ROAD FRONTAGE IMPROVEMENTS ALONG RIO ROAD, INCLUDING A 10' ASPHALT PEDESTRIAN AND BICYCLE TRAILWAY. THE 10 ASPHALT TRAILWAY SHALL BE CONSTRUCTED AS SHOWN ON THE SITE PLAN.

BUILDING HEIGHTS: NO MINIMUM HEIGHT AND 4 STORIES MAXIMUM HEIGHT (EXCLUDING BASEMENTS) WITH A BUILDING HEIGHT NOT TO EXCEED 65 FEET. A SPECIAL EXCEPTION REQUEST (SE2021-041) HAS BEEN APPROVED FOR THE PROJECT FOR RELIEF OF THE 15' STEPBACK REQUIREMENT FOR BUILDINGS #5 - #7 THAT ARE GREATER THAN 3 STORIES OR 40 FEET IN HEIGHT. THE BUILDINGS HEIGHTS FOR BUILDINGS #1 - #4 ALONG RIO ROAD ARE RESTRICTED TO (3) THREE STORIES IN HEIGHT.
BUILDINGS #1-#4 - HEIGHTS TO TOP OF ROOF = 47'6" +/- & HEIGHTS TO EAVE OF ROOF = 33' +/-
BUILDINGS #5-#7 - HEIGHTS TO TOP OF ROOF = 47'6" & 58'6"+/- & HEIGHTS TO EAVE OF ROOF = 32' & 43' +/-

SETBACKS:
BUILDING SETBACKS
5' MIN & 25' MAX. FRONT YARD BUILDING SETBACK
10' MIN. & NO MAX. SIDE YARD BUILDING SETBACK (10' MIN. BUILDING SEPARATION)
20' MIN. & NO MAX. REAR YARD BUILDING SETBACK
PARKING SETBACKS
10' MIN. FRONT YARD PARKING SETBACK
0' MIN. SIDE YARD PARKING SETBACK
6' MIN. REAR YARD PARKING SETBACK

BUILDING FOOTPRINT: NO MINIMUM OR MAXIMUM BUILDING FOOTPRINTS. BUILDING FOOTPRINTS ARE SUBJECT TO COMPLIANCE WITH THE BUILDING ENVELOPES AS SHOWN ON THE APPROVED ZMA APPLICATION PLAN.

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

STREETS: CURB & GUTTER FOR PRIVATE TRAVELWAYS

WATERSHED: THE PROPERTY IS LOCATED WITHIN THE NON-WATER SUPPLY WATERSHED AREA OF THE RIVANNA RIVER - MEADOW CREEK

AGRICULTURAL/FORESTAL DISTRICT: NONE

TOPOGRAPHY & SURVEY: TOPOGRAPHY AND BOUNDARY WAS FIELD SURVEYED BY LINCOLN SURVEYING, AUGUST2021. TOPOGRAPHY AND FIELD CONDITIONS WERE VERIFIED BY COLLINS ENGINEERING, SEPTEMBER 2022.

DATUM: NAVD 1988

EXISTING VEGETATION: THE SITE IS PARTIALLY WOODED WITH AN EXISTING ACCESS ROAD AND (4) EXISTING SINGLE FAMILY DETACHED HOUSES WITH DRIVEWAYS AND UTILITIES.

PHASING: THE APARTMENT DEVELOPMENT WITHIN LOT 2 SHALL BE DEVELOPED WITHIN (1) PHASE.

RECREATION: RECREATIONAL AMENITIES ARE PROPOSED WITH THE PROJECT, INCLUDING THE FOLLOWING:
CLUBHOUSE/POOL/FIRE PIT/GRILL AREA/COURTYARD/TOT LOT AREA: 21,500 SF
DOG PARK/GRASS AREA/GRILL STATION/COURTYARD: 11,700 SF
TOTAL RECREATIONAL AMENITIES PROVIDED WITH THE APARTMENT COMPLEX: 33,200 SF (0.76 ACRES)

PARKING: (1.5) PARKING SPACES PER ONE BEDROOM UNIT = 109 ONE UNITS x 1.5 = 163.5 PARKING SPACES REQUIRED
(2) PARKING SPACES PER TWO OR MORE BEDROOM UNIT = 141 UNITS x 2 = 282 PARKING SPACES REQUIRED
TOTAL NUMBER OF PARKING SPACES REQUIRED: 446 PARKING SPACES

TOTAL NUMBER OF PARKING SPACES PROVIDED: 377 SPACES
NOTE: A PARKING STUDY HAS BEEN ADMINISTRATIVELY APPROVED BY THE ZONING DEPARTMENT ALLOWING FOR A MAXIMUM OF 29% PARKING REDUCTION ON THE PROPERTY, DUE TO THE AVAILABILITY OF MASS TRANSIT, MULTI-MODAL ACCESS, AND INDUSTRY APARTMENT PARKING STANDARDS. THE TOTAL PARKING REQUIRED FOR THIS DEVELOPMENT, BASED ON THE APPROVED PARKING REDUCTION REQUEST IS 375 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. THESE SLOPES SHALL BE DEVELOPED IN ACCORDANCE WITH ALBEMARLE COUNTY REGULATIONS FOR MANAGED SLOPES.

FLOODPLAIN: THERE IS NO FLOODPLAIN LOCATED ON THIS SITE, PER FEMA MAP ID 51003C0280D, DATED FEBRUARY 4, 2005. IN ADDITION, THERE ARE NO STATE OR FEDERAL DAM BREACH INUNDATION ZONES LOCATED ON THE PROPERTY.

RETAINING WALLS: RETAINING WALLS ARE PROPOSED WITH THE DEVELOPMENT, SEE THE GRADING, DRAINAGE & UTILITY PLAN SHEET FOR THE PROPOSED RETAINING WALL DESIGNS. RETAINING WALLS SHALL NOT EXCEED 6 FEET IN HEIGHT AND SHALL CONFORM WITH ALBEMARLE COUNTY STANDARDS.

TRASH SERVICE: A TRASH COMPACTOR IS INCLUDED WITHIN THE DEVELOPMENT PLAN TO SERVICE THE APARTMENT COMPLEX.

UTILITIES: WATER AND SEWER IS PROVIDED BY THE ALBEMARLE COUNTY SERVICE AUTHORITY.

IMPERVIOUS AREAS/LAND AREAS:

TRAVELWAYS/PARKING/TRASH/MAINT.:	132,005 SF	3.03 ACRES	36.8%
ROW DEDICATION (TRAILWAY)	10,845 SF	0.25 ACRES	3.0%
SIDEWALKS:	27,700 SF	0.63 ACRES	7.7%
BUILDINGS:	79,960 SF	1.83 ACRES	22.2%
RECREATIONAL AREA:	33,200 SF	0.76 ACRES	9.3%
BUFFER/LANDSCAPING/OPEN SPACE:	86,335 SF	1.732 ACRES	21.0%
TOTAL:		8.232 AC	

PAVED PARKING AND VEHICULAR CIRCULATION: 132,005 SF

FIRE FLOW CALCULATIONS: CLASS I - FRAME TYPE CONSTRUCTION (IBC TYPE V-A)
FACTOR = 1.5
TOTAL GROUND FLOOR AREA = 13,560 SF
TOTAL AREAS OF OTHER FLOORS = 28,080 SF
TOTAL BUILDING AREA = 41,640 SF
REQUIRED ISO FIRE FLOW = 3,500 SF
NEEDED FIRE FLOW (50% REDUCTION FOR AUTOMATIC SPRINKLERS) = 1,750
NOTE: AVAILABLE FIRE FLOW AT HYDRANT LOCATED ALONG RIO ROAD - 2,296 GPM AT 78 PSI



DEVELOPMENT PLAN
SCALE: 1' = 60'

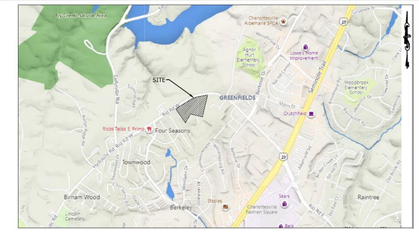
LIGHTING: ALL PROPOSED LUMINARIES WILL MEET THE OUTDOOR LIGHTING STANDARDS SPECIFIED IN SECTION 4.17 OF THE ALBEMARLE COUNTY ZONING ORDINANCE. THE FINAL SITE PLAN INCLUDES A LIGHTING PLAN THAT COMPLIES WITH THE ALBEMARLE COUNTY ZONING ORDINANCE.

LANDSCAPING: STREET TREES, STREETSCAPE LANDSCAPING, AND BUFFER LANDSCAPING ARE PROPOSED WITH THE DEVELOPMENT, AS SHOWN ON THE SITE PLAN. WITHIN THE SHOWN LANDSCAPING BUFFER AREAS, THE DEVELOPER WILL EITHER RETAIN THE EXISTING NATRUAL UNDISTURBED VEGETATION AND/OR PLANT A MIX OF DECIDUOUS AND EVERGREEN TREES AND SHRUBS LOCALLY NATIVE TO VIRGINIA. ALL PLANTINGS WILL CONFORM TO CURRENT ANSI STANDARDS FOR NURSERY STOCK. INSTALLATION AND MAINTENANCE OF THE LANDSCAPE BUFFERS WILL BE THE RESPONSIBILITY OF THE DEVELOPER, AND THE APPROPRIATE EASEMENTS AND MAINTENANCE AGREEMENTS SHALL BE RECORDED DURING THE SITE PLAN PROCESS. GRADING SHALL BE ALLOWED WITHIN THE BUFFER AREAS AND UTILITIES AND RETAINING WALLS MAY BE INSTALLED WITHIN THE BUFFER AREAS. LANDSCAPING SHALL BE SUBJECT TO THE REVIEW AND APPROVAL FROM THE ARCHITECTURAL REVIEW BOARD DURING THE SITE PLAN PROCESS. BUFFERS SHALL MEET THE STANDARDS SET IN SECTION 32.7.9.7.

STORMWATER MANAGEMENT: THE SITE DEVELOPMENT SHALL COMPLY WITH DEQ AND ALBEMARLE COUNTY REQUIREMENTS FOR WATER PROTECTION, INCLUDING WATER QUALITY AND WATER QUANTITY REQUIREMENTS. A SWM PLAN HAS BEEN PROVIDED WITH THE FINAL SITE PLAN FOR LAND DISTURBANCE. WATER QUALITY AND WATER QUANTITY PRACTICES TO MEET STATE REQUIREMENTS INCLUDE PERVIOUS PAVERS, UNDERGROUND DETENTION, AND NUTRIENT CREDITS.

AFFORDABLE HOUSING: FIFTEEN PERCENT (15%) OF THE CONSTRUCTED UNITS SHALL BE AFFORDABLE HOUSEHOLDS MAKING UP TO 80% OF THE AREA MEDIAN INCOME FOR A PERIOD OF TEN (10) YEARS. "AFFORDABLE" MEANS THAT THE RENTAL RATE MAY NOT EXCEED 30% OF 80% OF THE AREA MEDIAN INCOME ("AMI"), AS LISTED AND ANNUALLY UPDATED ON THE VIRGINIA HOUSING (FORMERLY VHDA) WEBSITE, BASED ON HOUSEHOLD SIZE, LESS ESTIMATED UTILITY COSTS AS DEFINED BY VIRGINIA HOUSING FOR THE HOUSING CHOICE VOUCHER PROGRAM. AMI AND UTILITY ALLOWANCE SCHEDULES AVAILABLE AT WWW.VHDA.COM.
TOTAL NUMBER OF UNITS = 250 APARTMENTS UNITS
TOTAL AFFORDABLE UNITS TO BE PROVIDED WITH THE PROJECT = 250 UNITS * 15% = 38 UNITS

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.



VICINITY MAP
SCALE: 1' = 2,000'

Sheet List Table	
Sheet Number	Sheet Title
1	COVER
2	EXISTING CONDITIONS
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4	UTILITY PLAN
5	GRADING & DRAINAGE PLAN
6	NOTES & DETAILS
7	NOTES & DETAILS
8	NOTES & DETAILS
9	ROAD & WATERLINE PROFILES
10	SANITARY SEWER PROFILES
11	DRAINAGE PROFILES
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16	DRAINAGE CALCULATIONS
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L100	PLANTING REFERENCE PLAN
L101	PLANTING PLAN
L102	PLANTING PLAN
L103	LANDSCAPE COMPLIANCE
L104	LANDSCAPE DETAILS
L105	LANDSCAPE NOTES
L106	LANDSCAPE SITE DETAILS
1 OF 1	LIGHTING PLAN
25	TOTAL SHEETS

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

PROJECT NOTES:
1. ALL PROPOSED UTILITY EASEMENTS SHALL BE DEDICATED TO PUBLIC USE OR PRIVATE USE - SEE UTILITY PLAN SHEET FOR MORE DETAILS.
2. ALL PROPOSED ROADWAYS SHALL BE PRIVATE TRAVELWAYS - SEE NOTES & DETAILS SHEET FOR MORE DETAILS ON THE PROPOSED TRAVELWAY CROSS SECTIONS.
3. ITE TRIP GENERATION: TRAFFIC IMPACT NUMBERS ARE BASED ON THE ITE TRIP GENERATION MANUAL, 10TH EDITION.
CODE: 220 (MULTIFAMILY HOUSING)
PROPOSED: 250 DWELLING UNITS
ADT RATE: 7.32 VPD PER DU = 1,830 ADT (915 ENTER / 915 EXIT)
AM PEAK RATE: 0.46 VPD PER DU = 115 VPD (26 ENTER / 89 EXIT)
PM PEAK RATE: 0.56 VPD PER DU = 140 VPD (88 ENTER / 52 EXIT)

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
No. 35791
PROFESSIONAL ENGINEER
2/06/23

REVISIONS

DATE	REVISION DESCRIPTION
2/06/23	INITIAL PLAN SUBMITTAL

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

PROJECT: CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN
SHEET: COVER
JOB NO. 202202
SCALE 1"=80'
SHEET NO. 1

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STORM LEGEND:

GRATE 4-6
548.62
IN:12"RCP 540.49 (4-6A)
OUT:24"RCP 540.43(WEST)

SDMH 4-6A
548.91
IN: 42" RCP 541.12 (5-8)
WEIR: 543.01
OUT: 12" 540.53 (4-6)

GRATE 5-4
TOP:547.91
OUT:15"RCP 544.57(5-6)

GRATE 5-6
TOP:547.69
IN:15"RCP 543.53(5-4)
IN:15"RCP 543.42(5-5)
OUT:15"RCP 543.09(5-8)

GRATE 5-5
TOP:548.08
IN:15"RCP 544.55(WEST)
OUT:15"RCP 544.41(5-6)

GRATE 5-7
TOP:547.63
IN:12"RCP 545.16(EAST)
OUT:15"RCP 544.23(5-8)

GRATE 5-8
TOP:547.57
IN:6"HDPE 544.23(WEST)
IN:10"HDPE 544.60(EAST)
IN:15"RCP 543.89(5-7)
IN:18"RCP 542.76(5-6)
OUT:42"RCP 541.98(WEST)

TMP 45-30
MOBILE PARKS OF CHARLOTTESVILLE INC

TMP 45-30J
MOBILE PARKS OF CHARLOTTESVILLE INC

TMP 45-25E
HOWELL, GWENDOLYN H & JUDY D

TMP 45-25H
HOWELL, GWEN H & J
WENDALL HOWELL

TMP 45-25B
GAONA, JOSE &
ELPIDIA GAONA

TMP 45-25D
BICKEL, MARY C

TMP 45-25C
VIRGINIA TELEPHONE
& TELEGRAPH CO

TMP 45-26A1
EJM GARDEN, LLC
1.01 AC.

TMP 45-26
505 RIO ROAD WEST, LLC
11.67 AC.

TMP 45-26A6
OAKLEIGH LOFTS, LLC
0.66 AC.

TMP 45-26A9
OAKLEIGH ALBEMARLE, LLC
0.20 AC.

TMP 45-26B5
LOT 5
CHARLOTTESVILLE RIO ROAD APARTMENTS, LLC
0.697 AC.
D.B. 1269, PG. 764
H.W.P.B. 38B, PG. 18 (PLAT)
D.B. 339, PG. 551 (PLAT)
D.B. 1817, PG. 653 (CTC OF VA)
D.B. 1646, PG. 265 (VEPCO)
D.B. 1627, PG. 698 (COMM OF VA)
D.B. 1633, PG. 1 (VDOT)
D.B. 747, PG. 530 (CTC OF VA)
D.B. 341, PG. 259
D.B. 339, PG. 548
D.B. 278, PG. 542 (VT&T)
D.B. 273, PG 215 (VEPCO)

TMP 45-26B4
LOT 4
CHARLOTTESVILLE RIO ROAD APARTMENTS, LLC
0.822 AC.
D.B. 1330, PG. 535
H.W.P.B. 38B, PG. 22 (PLAT)
D.B. 339, PG. 551 (PLAT)
D.B. 1817, PG. 683 (CTC OF VA)
D.B. 1646, PG. 265 (VEPCO)
D.B. 1627, PG. 707 (COMM OF VA)
D.B. 1633, PG. 560 (GAS)
D.B. 747, PG. 532 (CTC OF VA)
D.B. 460, PG. 644 (WATERLINE)
D.B. 341, PG. 259
D.B. 339, PG. 548
D.B. 278, PG. 542 (VT&T)
D.B. 273, PG 215 (VEPCO)

TMP 45-26B3
LOT 3
RIVER RIO, LLC
0.942 AC.
D.B. 1627, PG. 698 (COMM OF VA)
D.B. 1633, PG. 560 (GAS)
D.B. 460, PG. 644 (WATERLINE)
D.B. 341, PG. 259
D.B. 339, PG. 548
D.B. 278, PG. 542 (VT&T)
D.B. 273, PG 215 (VEPCO)

TMP 45-26B2
LOT 2
ABDUL W. RAHIM;
HABIB RAHIM;
& HAID RAHIM
1.075 AC.
D.B. 1427, PG. 390
H.W.P.B. 38B, PG. 14 (PLAT)
D.B. 339, PG. 551 (PLAT)
D.B. 1817, PG. 683 (CTC OF VA)
D.B. 1646, PG. 286 (VEPCO)
D.B. 1627, PG. 713 (COMM OF VA)
D.B. 1627, PG. 566 (GAS)
D.B. 492, PG. 282 (VT&T)
D.B. 460, PG. 664 (WATERLINE)
D.B. 278, PG. 542 (VT&T)
D.B. 273, PG 215 (VEPCO)

TMP 45-26B1
AMMAR ALSHAIKHLI
1.28 AC.

TMP 45-26A2
CHARLOTTESVILLE RIO ROAD APARTMENTS, LLC
4.696 AC.
D.B. 1330, PG. 563
H.W.P.B. XIIB, PG. 46-47 (PLAT)
D.B. 1122, PG. 439 (PLAT)
D.B. 455, PG. 281 (PLAT)
D.B. 3636, PG. 693 (EASEMENTS)
D.B. 376, PG. 484 (ACSA)
D.B. 1122, PG. 439 (SIGHT EASEMENT)
D.B. 1667, PG. 216 (GAS)
D.B. 1670, PG. 521 (ACSA)
D.B. 1690, PG. 25 (VEPCO)
D.B. 1817, PG. 641 (CTC OF VA)
D.B. 747, PG. 530 (CTC OF VA)
D.B. 460, PG. 660 (WATERLINE)
D.B. 455, PG. 282
D.B. 305, PG. 163
D.B. 278, PG. 542 (VT&T)
D.B. 273, PG. 215 (VEPCO)

EX CURB INLET (DI-2B)
TOP @ FL=553.80
INV IN=549.93 (15" RCP-NORTH)
INV IN=550.12 (15" RCP-EAST)
INV OUT=549.92 (18" RCP)

EX CURB INLET (DI-2B)
TOP @ FL=550.45
INV IN=547.85 (6" CPP)
INV OUT=546.86 (15" RCP)

EX CURB INLET (DI-2B)
TOP @ FL=549.63
INV IN=542.74 (15" RCP)
INV OUT=542.56 (15" RCP)

EX CURB INLET (DI-2B)
TOP @ FL=559.06
INV IN=556.84 (4" CPP)
INV OUT=555.64 (15" RCP)

EX UNDERDRAIN SYSTEM (TYP.)

EX STORM DRAINAGE SYSTEM

EX WATERLINE

EX 4" PE GASLINE

EX ALBEMARLE COUNTY MANAGED SLOPES (TYP)

EX SIDEWALK, CURB, & DRIVEWAY ENTRANCES TO BE REMOVED

RIO ROAD WEST - ROUTE 631
VARIABLE WIDTH PUBLIC RIGHT OF WAY
(35 MPH)

EX UTILITIES TO BE ABANDONED (TYP)

UTILITY EASEMENT
VDOT PROJ. 0631-002-185,C501

EX HOUSE, DRIVEWAY, CONC. & UTILITIES TO BE REMOVED

EX SHED TO BE REMOVED

EX. TREELINE

EX LOT LINE TO BE VACATED (TYP)

EX SHEDS TO BE REMOVED

NOTE: ALL EXISTING WELLS SHALL BE ABANDONED IN ACCORDANCE WITH VA PRIVATE WELL REGULATIONS

EX GARAGE AND SHEDS TO BE REMOVED

EX FENCE

EX 8" SANITARY SEWER PIPE

EXISTING SMH
TOP=538.18
INV IN=532.73 (8" VCP-NORTH)
INV OUT=532.07 (8" TRUSS PIPE-SOUTH)

EX STREAM

20' SANITARY SEWER EASEMENT
INST. NO _____

CTC OF VA EASEMENT
D.B. 1817, PG. 641

EXISTING SIGN EASEMENT
D.B. 3678, PG. 659

EXISTING VAR. WIDTH VIRGINIA POWER EASEMENT
D.B. 1690, PG. 25

EXISTING ACSA EASEMENT
D.B. 1670, PG. 521

PERMANENT DRAINAGE EASEMENT
D.B. 1684, PG. 512
(TO BE VACATED)

EX. STORM PIPE & OUTFALL TO BE REMOVED

EX. DECIDUOUS & EVERGREEN TREES WITHIN THIS AREA TO BE REMOVED

EX UTILITIES THROUGH SITE TO BE RELOCATED

EX TREES TO BE REMOVED

EX ALBEMARLE COUNTY MANAGED SLOPES (TYP)

EX. DECIDUOUS & EVERGREEN TREES WITHIN THIS AREA TO BE REMOVED

APPROX. LOCATION OF EXISTING 20' WATERLINE EASEMENT
D.B. 976, PG. 484

APPROX. LOCATION OF EXISTING 55' PRIVATED ACCESS EASEMENT
D.B. 3678, PG. 659

HERITAGE HALL ROAD
55' PRIVATE ACCESS EASEMENT
D.B. 3678 P. 659

EXISTING MHD
TOP=554.13
INV IN=543.61 (30" RCP)
INV OUT=542.54 (30" RCP)

EXISTING 20' PRIVATE DRAINAGE EASEMENT
D.B. 3931, PG. 428

EXISTING DRAINAGE SYSTEM
INV OUT=539.08 (30" RCP)

EX CONCRETE SIDEWALK TO BE REMOVED

MONUMENT DISC FOUND 02-0425

UTILITY EASEMENT
VDOT PROJ. 0631-002-185,C501

EX. TREELINE

VAR. WIDTH VIRGINIA POWER EASEMENT
DB. 1690, PG. 25

EXISTING VAR. WIDTH ACSA WATERLINE EASEMENT
D.B. 1670, PG. 521

PERMANENT DRAINAGE EASEMENT
D.B. 1684, PG. 512
(TO BE VACATED)

EX TREES TO BE REMOVED (TYPICAL)

EX. STREET LIGHTS TO BE REMOVED (TYP.)

EX. DECIDUOUS & EVERGREEN TREES WITHIN THIS AREA TO BE REMOVED

PORTION OF EX 8" DIP WATERLINE TO BE REMOVED

PORTION OF EX 2" PE GASLINE TO BE REMOVED

EX TRAVELWAY TO BE RECONSTRUCTED WITH PROPOSED DEVELOPMENT

EX TREES TO BE REMOVED

EX. STREET LIGHTS TO BE REMOVED (TYP.)

EX. DECIDUOUS & EVERGREEN TREES WITHIN THIS AREA TO BE REMOVED

EX 8" DIP WATERLINE

APPROX. LOCATION OF EXISTING 20' WATERLINE EASEMENT
D.B. 976, PG. 484

EX 2" PE GASLINE

EX ALBEMARLE COUNTY MANAGED SLOPES (TYP)

EX FENCE

RIGHT OF INGRESS/EGRESS ACROSS 60' ROW
D.B. 455, PG. 282
FOR TMP 45-26A2

NAD'83 GRID NORTH
VASP SOUTH ZONE

NOTE:
RWSA SHALL BE ONSITE FOR UTILITY ABANDONMENT, AND THE CONTRACTOR SHALL GIVE RWSA 3 DAYS NOTICE TO SCHEDULE THE ABANDONMENT WITH THE RWSA INSPECTOR.

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
No. 35791
PROFESSIONAL ENGINEER
2/06/23

REVISIONS

DATE	REVISION DESCRIPTION
2/06/23	INITIAL PLAN SUBMITTAL

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

PROJECT: CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN

SHEET: EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO. 202202
SCALE 1" = 40'
SHEET NO. 2

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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. WALLS WITH HEIGHT OF 30" OR GREATER SHALL REQUIRE HANDRAILS - SEE NOTES & DETAILS SHEET 7.
3. A KNOX BOX WILL BE REQUIRED ON EACH BUILDING. THE LOCATION OF THE KNOW BOX CAN BE COORDINATED WITH THE FIRE MARSHAL'S OFFICE.

NOTE: VISIBILITY OF ALL MECHANICAL EQUIPMENT FROM THE ENTRANCE CORRIDOR SHALL BE ELIMINATED. MECHANICAL EQUIPMENT FOR THE APARTMENT BUILDINGS ARE LOCATED ON THE ROOF AND SHALL BE SCREENED FROM THE ENTRANCE CORRIDOR. THE HVAC UNITS FOR THE CLUBHOUSE SCREENED WITH A FENCE, SEE DETAIL ON SHEET 7.

ACCESSIBLE ROUTE THROUGH THE SITE

RIO ROAD
STATE ROUTE 631
VAR. WIDTH PUBLIC R/W

(P) VDOT STD. CG-6 IMPROVEMENTS FOR TIE-IN CONNECTIONS AT ENTRANCE

(P) MILL/ OVERLAY VDOT STD. WP-2 16'w x 130'L

VAR. WIDTH VIRGINIA POWER EASEMENT DB. 1690, PG. 25

(P) VDOT STD. CG-6 IMPROVEMENTS FOR TIE-IN CONNECTIONS AT ENTRANCE

DISTANCE TO NEAREST INTERSECTION (WOODBURN ROAD & RIO ROAD WEST) = 850'

(P) VDOT STD. CG-6 IMPROVEMENTS FOR TIE-IN CONNECTIONS AT ENTRANCE

(P) STONE FACED RETAINING WALL ALONG ENTRANCE CORRIDOR 1 FOOT REVEAL WITH HANDRAIL

PROPOSED BUS STOP w/ SHELTER & BENCH. SHELTER TO BE COORDINATED WITH CAT AND THE COUNTY & WILL MEET CAT DESIGN STANDARDS

67' FIC-FIC

480' FROM INTERSECTION TO INTERSECTION

6' GRASS PLANTING STRIP

EXISTING 4' BIKE LANE

440' SIGHT DISTANCE

UTILITY EASEMENT VDOT PROJ. 0631-002-185,C501

VAR. WIDTH RIGHT-OF-WAY DEDICATION INST. #_____

78'+ R/W

76'+ R/W

VAR. WIDTH RIGHT-OF-WAY DEDICATION INST. #_____

RIGHT OF WAY DEDICATION TO ALBEMARLE COUNTY FOR PEDESTRIAN PATHWAY (0.25 AC)

6' GRASS PLANTING STRIP

LOCATION OF RAMP FOR ACCESS TO THE SHARED-USE PATHWAY FROM THE ROADWAY

UTILITY EASEMENT VDOT PROJ. 0631-002-185,C501

440' SIGHT DISTANCE

(P) MILL/ OVERLAY VDOT STD. WP-2 16'w x 420'L

PROPOSED 10' ASPHALT PEDESTRIAN & BICYCLE PATH ALONG RIO ROAD SEE DETAIL SHEET 7

DISTANCE TO NEAREST INTERSECTION (FOUR SEASONS DRIVE & RIO ROAD WEST) = 1,025'

415' SIGHT DISTANCE

EXISTING 4' BIKE LANE

LOCATION OF RAMP FOR ACCESS TO THE SHARED-USE PATHWAY FROM THE ROADWAY

RIGHT-OF-WAY DEDICATION INST. #_____

PROPOSED 10' ASPHALT PEDESTRIAN & BICYCLE PATH ALONG RIO ROAD

STREET SIGN

35' MAX. FRONT SETBACK

'NO PARKING' SIGN

VDOT STD CG-12 (TYP)

VAR. WIDTH PRIVATE SIDEWALK, ACCESS & MAINTENANCE EASEMENT INSTR. #_____

BUILDING #3
3 STORIES
24 APARTMENT UNITS
8,645 SF

ADA HANDICAP PARKING SIGN

5' MIN. FRONT SETBACK

STOP SIGN VDOT STD -R1-1

'NO PARKING' SIGN

RETAINING WALL

URBAN DENSITY RESIDENTIAL NEIGHBORHOOD SERVICE CENTER

5' SETBACK

200' RIGHT TURN TAPER

435' SIGHT DISTANCE

5' MIN. FRONT SETBACK

BUILDING #2
3 STORIES
24 APARTMENT UNITS
8,645 SF

(P) PERVIOUS PAVERS

VDOT STD CG-6 (TYP)

VDOT STD CG-12 (TYP)

3' CONCRETE RIBBON

ADA HANDICAP PARKING SIGN

'NO PARKING' SIGN

BUILDING #4
3/4 STORY SPLIT
28 APARTMENT UNITS
8,645 SF

VDOT STD CG-1 (TYP)

CONCRETE STEPS

'NO PARKING' SIGN

STOP SIGN VDOT STD -R1-1

BIKE RACK

VAR. WIDTH VIRGINIA POWER EASEMENT DB. 1690, PG. 25

BUILDING #1
3 STORIES
36 APARTMENT UNITS
12,075 SF

35' MAX. FRONT SETBACK

'NO PARKING' SIGN

LARIAT STREET
PRIVATE TRAVELWAY

UTILITY EASEMENT VDOT PROJ. 0631-002-185,C501

ADA HANDICAP PARKING SIGN

ENTRADA DRIVE
PRIVATE TRAVELWAY

51' PRIVATE ACCESS ESMT INST. #_____

413'R

253'R

(P) 42" BLACK FENCING SEE DETAIL, SHEET 7

55' PRIVATE ACCESS EASEMENT (TRAVELWAY "B") D.B. 976, PG. 484

VDOT STD TYPE B CG-12

VDOT STD CG-2 (TYP)

VDOT STD CG-6 (TYP)

VDOT STD CG-12 (TYP)

VDOT STD TYPE B CG-12

TOT LOT

COURTYARD W/ FIRE PIT & PICNIC TABLES

HVAC UNITS W/ SCREENING

ADA ACCESSIBLE POOL EGRESS

CLUBHOUSE
6,400 SF BUILDING

(P) MAIL KIOSK

BUILDING #6
4/5 STORY SPLIT
60 APARTMENT UNITS
13,560 SF

HERITAGE HALL ROAD
55' PRIVATE TRAVELWAY

5' MIN. FRONT SETBACK

280' SIGHT DISTANCE

30' MIN. SIDE SETBACK

CONCRETE STEPS

RETAINING WALL

POOL
1,650 SF

EX. 55' PRIVATE ACCESS EASEMENT DB.3678, PG. 659

BUILDING #5
3/4 STORY SPLIT
42 APARTMENT UNITS
13,290 SF

VAR. WIDTH PRIVATE SIDEWALK, ACCESS & MAINTENANCE EASEMENT INSTR. #_____

EX. 55' PRIVATE ACCESS EASEMENT DB.3678, PG. 659

COURTYARD & GRILL AREA
1,900 SF

DOG PARK
1,200 SF

(P) 42" BLACK FENCING SEE DETAIL, SHEET 7

PROPOSED 10' LANDSCAPED BUFFER

TMP 45-26A1
EJM GARDEN, LL
1.01 AC.

NAD 83 GRID NORTH
VASP SOUTH ZONE

TMP 45-26
505 RIO ROAD WEST, LLC
11.67 AC.

(P) SEGMENTED RETAINING WALL WITH HANDRAIL. SEE SHEET 7 FOR DETAILS. MANUFACTURER: EAGLE BAY. DIAMOND PRO COLOR: JAMES RIVER

COMPREHENSIVE PLAN - LAND USE DESIGNATION AREA

PROJECT BOUNDARY

NOTE: ALL 1ST LEVEL UNITS * WITH AN ASTERISK SHALL HAVE AN ADA ACCESSIBLE ENTRANCE TO THE SIDEWALK AND ARE LOCATED ON AN ADA ACCESSIBLE ROUTE

FUTURE LOCATION OF INTERPARCEL VEHICULAR ROAD CONNECTION TO TMP 45-26B1 (30' WIDE ACCESS EASEMENT UPON DEMAND OF THE COUNTY)

2' GRASS OVERHANG

TMP 45-26B1
AMMAR ALSHAIKHLI
1.28 AC.

PROJECT BOUNDARY

BUILDING #7
4/5 STORY SPLIT
36 APARTMENT UNITS
8,755 SF

RETAINING WALL

PROPOSED 10' LANDSCAPED BUFFER

(P) SEGMENTED RETAINING WALL WITH HANDRAIL. SEE SHEET 7 FOR DETAILS. MANUFACTURER: EAGLE BAY. DIAMOND PRO COLOR: JAMES RIVER

BRICK RETAINING WALL (MATCHING CLUBHOUSE) SEE ARCHITECTURAL PLANS

TRASH COMPACTOR & 6' HIGH BRICK ENCLOSURE w/ 12'x24' CONCRETE APRON. SEE ARCHITECTURAL DRAWINGS

TMP 45-26
505 RIO ROAD WEST, LLC
11.67 AC.

20' MIN. REAR SETBACK

10' MIN. SIDE SETBACK

PROPOSED 10' LANDSCAPED BUFFER

2' GRASS OVERHANG

VAR. WIDTH PRIVATE SIDEWALK, ACCESS & MAINTENANCE EASEMENT INSTR. #_____

LOCATION OF EXISTING INTERPARCEL VEHICULAR ROAD CONNECTION TO TMP 45-26

ACSA WATERLINE EASEMENT DB. 976, PG.484

FUTURE LOCATION OF INTERPARCEL VEHICULAR ROAD CONNECTION TO TMP 45-26B1 (30' WIDE ACCESS EASEMENT UPON DEMAND OF THE COUNTY)

TMP 45-26A9
OAKLEIGH ALBEMAR
0.20 AC.

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.

GENERAL PROJECT 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. OVERHEAD WIRING OR OTHER OBSTRUCTIONS SHALL BE HIGHER THAN 13'-6".
5. ALL PAVEMENT SHALL BE CAPABLE OF SUPPORTING FIRE APPARATUS WEIGHING 85,000 LBS.
6. 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.
7. SEE SHEET 2 FOR COMPLETE PROJECT BOUNDARY DIMENSIONS AND METES AND BOUNDS.
8. CURB RADII SHOWN, REPRESENTED WITH AN 'R', DIMENSION THE FACE OF CURB.
9. VISIBILITY OF ALL MECHANICAL EQUIPMENT FROM THE ENTRANCE CORRIDOR SHALL BE ELIMINATED. ALL MECHANICAL EQUIPMENT SHALL BE SCREENED FROM THE ENTRANCE CORRIDOR.
10. 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.
11. 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.
12. ALL PRIVATE TRAVELWAYS SHALL BE OWNED AND MAINTAINED BY THE APARTMENT COMPLEX. NO PUBLIC AGENCY, INCLUDING VDOT AND THE COUNTY OF ALBEMARLE WILL BE RESPONSIBLE FOR MAINTAINING THE TRAVELWAYS WITHIN THE APARTMENT COMPLEX.
13. 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.
14. ALL PRIVATE YARD DRAIN DESIGN INFORMATION (INCLUDING INVERTS OF THE SYSTEM) SHALL BE PROVIDED BY THE CIVIL ENGINEER DURING CONSTRUCTION.
15. THE TRASH COMPACTOR AREA SHALL ALSO INCLUDE A RECYCLING BIN FOR THE APARTMENT COMPLEX.
16. SEE SHEET 5 FOR DESIGN OF THE CONCRETE STEPS AND RAMPS.

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.

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

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
No. 35791
PROFESSIONAL ENGINEER
2/06/23

REVISIONS

DATE	REVISION DESCRIPTION
2/06/23	INITIAL PLAN SUBMITTAL

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

PROJECT: CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN
SHEET: SITE PLAN

JOB NO. 202202
SCALE 1" = 30'
SHEET NO. 3

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TMP 45-25D
BICKEL, MARY C

TMP 45-25B
GAONA, JOSE &
ELPIDIA GAONA

TMP 45-25H
HOWELL, GWEN H & J
WENDALL HOWELL

TMP 45-25E
HOWELL, GWENDOLYN
H & JUDY D

MOBILE PARKS OF
CHARLOTTESVILLE INC

TMP 45-30J
MOBILE PARKS OF
CHARLOTTESVILLE INC

RIO ROAD WEST - ROUTE 631
VARIABLE WIDTH PUBLIC RIGHT OF WAY
(35 MPH)

CONNECT PROPOSED 8" D.I. WATERLINE TO EXISTING RWSA 12" D.I. WATERLINE WITH 12"X8" T.S.&V.

12" D.I. RWSA WATERLINE

VARIABLE WIDTH VIRGINIA POWER EASEMENT D.B. 1690 PG. 25

ACSA EASEMENT D.B. 1670, PG. 521

4" P.E. GAS LINE

VARIABLE WIDTH VIRGINIA POWER EASEMENT D.B. 1690 PG. 25

PROPOSED 2" PE GAS LINE REROUTING THRU SITE

12" D.I. RWSA WATERLINE

(P) NEW 8" D.I. WATERLINE CUT EXISTING 8" W/L AND CONNECT AT 8" G.V. 8"-45° BEND

EXISTING VAR. WIDTH UTILITY EASEMENT VDOT PROJ. 0631-002-185, C501 (EXCEPTION #10, #13, #15)

20' PUBLIC STORM SEWER EASEMENT

BUILDING 1

BUILDING 2

BUILDING 3

BUILDING 4

BUILDING 5

BUILDING 6

BUILDING 7

CLUBHOUSE

POOL

UNDERGROUND DETENTION

LARIAT STREET

HERITAGE HALL ROAD
15' PRIVATE ACCESS EASEMENT
D.B. 3078 P. 859

WATERLINE 1
8" D.I. WATERLINE

WATERLINE 2
8" D.I. WATERLINE

WATERLINE 3
8" D.I. WATERLINE

WATERLINE 2
6" D.I. WATERLINE

20' ACSA PUBLIC WATERLINE EASEMENT INST.#:

(P) 8"x4" TEE
4" G.V.

(P) 2.5" TYPE K COPPER WATER SERVICE LATERAL

(P) 1.5" WATER METER VAULT

(P) 4" D.I. FIRE LINE

FDC

LOCATION OF RPZ ON DOMESTIC WATERLINE, DDCA ON THE FIRELINE, AND PRV ON THE DOMESTIC WATERLINE (ALL WITHIN BUILDING)

(P) 8"-22.5° BEND

6" SDR 26 PVC SAN. LAT. 37 LF @ 10%, ELEV. 538.55

(P) 6" SDR 26 PVC PRIVATE SANITARY LATERAL

(P) 2" WATER METER VAULT SERVING BLDG. 485

6" SDR 26 PVC SAN. LAT. 41 LF @ 10%, ELEV. 545.04

(P) FIRE HYDRANT ASSEMBLY W/8"x6" TEE & 6" G.V.

6" SDR 26 PVC SAN. LAT. 50 LF @ 10%, ELEV. 537.56

(P) 6" SDR 26 PVC PRIVATE SANITARY LATERAL

PROPOSED 8" SDR 26 PVC PRIVATE SANITARY SEWER

6" SDR 26 PVC SAN. LAT. 46 LF @ 10%, ELEV. 536.13

(P) 6"x4" TEE
4" G.V.

(P) 8"x8" TEE
8" G.V.

(P) 8"x8"x6" REDUCER
2-8" G.V.

6" SDR 26 PVC SAN. LAT. 67 LF @ 2.08%, ELEV. 537.89

(P) 1" TYPE K COPPER WATER SERVICE LATERAL

6" SDR 26 PVC SAN. LAT. 35 LF @ 10%, ELEV. 532.22

6" SDR 26 PVC SAN. LAT. 69 LF @ 5%, ELEV. 544.39

(P) NEW 8" D.I. WATERLINE CUT EXISTING 8" W/L AND CONNECT AT 8" G.V. TWO 8"-45° BENDS

EXISTING 8" D.I. WATERLINE

6" SDR 26 PVC SAN. LAT. 42 LF @ 5%, ELEV. 526.10

(P) FIRE HYDRANT ASSEMBLY W/6"-90° BEND & 6" G.V.

TMP 45-26B1
AMMAR ALSHAIKHLI
1.28 AC.

TMP 45-26
505 RIO ROAD WEST, LLC
11.67 AC.

TMP 45-26A1
EJM GARDEN, LLC
1.01 AC.

TMP 45-26A9
OAKLEIGH ALBEMARLE, LLC
0.20 AC.

VAR. WIDTH STORMWATER MANAGEMENT, FACILITY, ACCESS AND MAINTENANCE EASEMENT INST. #:_____

(P) 20' SANITARY SEWER EASEMENT DEDICATED TO THE ACSA INST.#:_____

EXISTING 20' ACSA WATERLINE EASEMENT D.B. 976, PG. 484 ACSA (EXCEPTION #21)

EXISTING UNDERGROUND POWER TO LIGHT POLES TO BE REROUTED WITH PROPOSED DEVELOPMENT

NOTE: A KNOX BOX WILL BE REQUIRED ON EACH BUILDING. THE LOCATION OF THE KNOX BOX CAN BE COORDINATED WITH THE FIRE MARSHAL'S OFFICE.

NOTE: ALL PROPOSED SANITARY SEWER IS PRIVATE.

NOTE: THE TYPE K COPPER WATER SERVICE LATERALS ARE ON THE PRIVATE SIDE OF THE METER. THE PUBLIC PORTION OF THE WATER SERVICE WILL BE IN ACCORDANCE WITH THE ACSA STANDARD DETAILS.

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

NAD'83 GRID NORTH
VASP SOUTH ZONE

MATCHLINE - SEE THIS SHEET

MATCHLINE - SEE THIS SHEET

(P) 20' SANITARY SEWER EASEMENT DEDICATED TO THE ACSA INST.#:_____

PROPOSED 8" SDR 26 PVC PRIVATE SANITARY SEWER

TEMPORARY GRADING AND CONSTRUCTION EASEMENT INST.#:_____

EXISTING 20' SANITARY SEWER EASEMENT DB. 898, PG.610

CONNECT PROPOSED 8" SDR 26 PVC PRIVATE SANITARY SEWER TO EXISTING SANITARY SEWER AT EX MH

EXISTING ACSA SANITARY SEWER EASEMENT DB. 976, PG.484

EXISTING MH

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
No. 35791
PROFESSIONAL ENGINEER
2/06/23

REVISIONS

DATE	REVISION DESCRIPTION
2/06/23	INITIAL PLAN SUBMITTAL

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

PROJECT
CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN

SHEET
UTILITY PLAN

JOB NO. 202202
SCALE 1"=30'
SHEET NO. 4

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TMP 45-25E
HOWELL, GWENDOLYN H & JUDY D

TMP 45-25H
HOWELL, GWEN H & J
WENDALL HOWELL

TMP 45-25B
GAONA, JOSE & ELPIDIA GAONA

TMP 45-25D
BICKEL, MARY C

TMP 45-30J
MOBILE PARKS OF CHARLOTTESVILLE INC

RIO ROAD

EXISTING RIO ROAD STORM STRUCTURE AND PIPING TO REMAIN

EXISTING RIO ROAD STORM TIE INTO PROPOSED STORM SEWER SYSTEM. RECONNECT UNDERDRAINS TO STORM INLET WITH ROAD IMPROVEMENTS

(P) STONE FACED RETAINING WALL ALONG ENTRANCE CORRIDOR 1 FOOT REVEAL WITH HANDRAIL

EXISTING RIO ROAD STORM STRUCTURE AND PIPING TO REMAIN

LARIAT STREET

VAR. WIDTH STORMWATER MANAGEMENT FACILITY, ACCESS AND MAINTENANCE EASEMENT INST. #:_____

BUILDING 1
FFE=544.83

BUILDING 2
FFE=545.67

BUILDING 3
FFE=546.50

PROPOSED ADA ACCESSIBLE PATHWAY (TYP.)

BUILDING 4
FFE=560.75
FFE=550.08

PROPOSED CONCRETE RETAINING WALL WITH HANDRAIL (MAX HT. 10')

PROPOSED TREE PROTECTION FENCE AT LIMITS OF CLEARING

550TW/548BW
2 WALL

FFE=542.50

PROPOSED CONCRETE RETAINING WALL WITH HANDRAIL (MAX HT. 10')

CLUBHOUSE
FFE=542.50

BRICK RETAINING WALL (MATCHING CLUBHOUSE) SEE ARCHITECTURAL PLANS

20' PUBLIC DRAINAGE EASEMENT (RIO ROAD STORM DRAINAGE) INSTR. #:_____

PROPOSED PRIVATE STORM SEWER SYSTEM (TYP.)

BUILDING 6
FFE=553.83
FFE=543.16

HERITAGE HALL ROAD

BUILDING 5
FFE=562.67
FFE=552.00

536BW/542TW

TMP 45-26B1
AMMAR ALSHAIKHLI
1.28 AC.

PROPOSED CONCRETE RETAINING WALL WITH HANDRAIL (MAX HT. 10')

BUILDING 7
FFE=542.00
FFE=531.33

PROPOSED TREE PROTECTION FENCE AT LIMITS OF CLEARING

(P) SEGMENTED RETAINING WALL WITH HANDRAIL. SEE SHEET 7 FOR DETAILS. MANUFACTURER: EAGLE BAY, DIAMOND PRO COLOR: JAMES RIVER

(P) SEGMENTED RETAINING WALL WITH HANDRAIL. SEE SHEET 7 FOR DETAILS. MANUFACTURER: EAGLE BAY, DIAMOND PRO COLOR: JAMES RIVER

VAR. WIDTH STORMWATER MANAGEMENT FACILITY, ACCESS AND MAINTENANCE EASEMENT INST. #:_____

6' WALL

UNDERGROUND DETENTION

TMP 45-26
505 RIO ROAD WEST, LLC
11.67 AC.

(P) SEGMENTED RETAINING WALL WITH HANDRAIL. SEE SHEET 7 FOR DETAILS. MANUFACTURER: EAGLE BAY, DIAMOND PRO COLOR: JAMES RIVER

VAR. WIDTH STORMWATER MANAGEMENT FACILITY, ACCESS AND MAINTENANCE EASEMENT INST. #:_____

PROPOSED OUTFALL TO EXISTING STREAM
VDOT STD. EW-1 WITH 24" OUTFALL PIPE AT ELEVATION 511.75
VDOT STD. EC-1 CLASS 1 RIPRAP WITH GEOFILTER FABRIC UNDERLAYMENT (d50=6" MIN, D=2.5', W1=6', W2=13', L=11')
Qmax=20 CFS

514BW/543TW

NEW TEMPORARY GRADING AND CONSTRUCTION EASEMENT INST. #:_____

PROPOSED TREE PROTECTION FENCE AT LIMITS OF CLEARING

20' SANITARY SEWER EASEMENT INST. #:_____

NOTE: SLOPES GREATER THAN 3:1 SHALL BE PLANTED WITH NATIVE STEEP SLOPE MIX WITH ANNUAL RYEGRASS BY ERNST CONSERVATION SEEDS AT A RATE OF 60 LBS. PER ACRE, OR 1 LB. PER 1,000 SF.

NOTE: NO PARKING LOT GRADE SHALL EXCEED 5%

(P) SEGMENTED RETAINING WALL WITH HANDRAIL. SEE SHEET 7 FOR DETAILS. MANUFACTURER: EAGLE BAY, DIAMOND PRO COLOR: JAMES RIVER

PROPOSED TREE PROTECTION FENCE AT LIMITS OF CLEARING

TMP 45-26A1
EJM GARDEN, LLC
1.01 AC.

NAD'83 GRID NORTH
VASP SOUTH ZONE

555BW/558TW

(P) SEGMENTED RETAINING WALL WITH HANDRAIL. SEE SHEET 7 FOR DETAILS. MANUFACTURER: EAGLE BAY, DIAMOND PRO COLOR: JAMES RIVER

TMP 45-26
505 RIO ROAD WEST, LLC
11.67 AC.

(P) SEGMENTED RETAINING WALL WITH HANDRAIL. SEE SHEET 7 FOR DETAILS. MANUFACTURER: EAGLE BAY, DIAMOND PRO COLOR: JAMES RIVER

TMP 45-26A6
OAKLEIGH LOFTS, LLC
0.66 AC.

EXISTING OFF-SITE BIOFILTER WPO2017-00023

TMP 45-26A9
OAKLEIGH ALBEMARLE, LLC
0.20 AC.

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

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
No. 35791
2/06/23
PROFESSIONAL ENGINEER

REVISIONS

DATE	REVISION DESCRIPTION
2/06/23	INITIAL PLAN SUBMITTAL

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

PROJECT
CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN

SHEET
GRADING & DRAINAGE PLAN

JOB NO. 202202
SCALE 1"=30'
SHEET NO. 5

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County of Albemarle
Community Development Department - Planning

Andy Reitelbach
areitelbach@albemarle.org
Telephone: (434) 296-5832 ext.3261

September 20, 2022

Valerie Long
Williams Mullen
323 2nd Street SE
Charlottesville, VA 22902
vlong@williamsmullen.com

RE: ZMA202100011 The Heritage on Rio Action Letter

Dear Ms. Long,

On September 7, 2022, the Board of Supervisors took action on the above noted Zoning Map Amendment on Tax Map Parcel Numbers 045000000026A2; 045000000026B2; 045000000026B3; 045000000026B4 and 045000000026B5 in the Rio District.

The Zoning Map Amendment was approved by the Board's adoption of the attached Ordinance No. 22-A(10).

Please be advised that although the Albemarle County Board of Supervisors took action on the project noted above, no uses on the property may lawfully begin until all applicable approvals have been received and conditions have been met. This includes:

- **compliance with the approved ZONING MAP AMENDMENT**
- **approval of and compliance with a SITE PLAN; and**
- **approval of a ZONING COMPLIANCE CLEARANCE.**

Should you have questions regarding the above-noted action, please contact me.

Sincerely,
Andy Reitelbach
Planning Division
Senior Planner II

Cc: GW Real Estate Partners LC C/o William Gordon
145 Ednam Dr. Suite 100
Charlottesville VA 22903
will@gwrepartners.com

Charlottesville Rio Road Apartments LLC
110 Draper Rd NW Suite B
Blacksburg VA 24060

ORDINANCE NO. 22-A(10)
ZMA 2021-00011 THE HERITAGE ON RIO

AN ORDINANCE TO AMEND THE ZONING MAP FOR PARCEL IDs 04500-00-00-026A2, 04500-00-00-026B2, 04500-00-00-026B3, 04500-00-00-026B4, AND 04500-00-00-026B5

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 2021-00011 and their attachments, including the application plan last revised on June 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 2021-00011 with the application plan last revised on June 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 September 7, 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	___

County of Albemarle
Community Development Department - Planning

Andy Reitelbach
areitelbach@albemarle.org
Telephone: (434) 296-5832 ext.3261

September 20, 2022

GW Real Estate Partners LLC
C/o Valerie Long
Williams Mullen
323 2nd Street SE
Charlottesville, VA 22902
vlong@williamsmullen.com

RE: SE202100041 The Heritage on Rio Action Letter

Dear Ms. Long,

On September 7, 2022, the Board of Supervisors took action on the above noted Special Exception in conjunction with ZMA202100011 on Tax Map Parcel Numbers 045000000026A2; 045000000026B2; 045000000026B3; 045000000026B4 and 045000000026B5 in the Rio District.

The Special Exception was approved by the Board's adoption of the attached Resolution.

Please be advised that although the Albemarle County Board of Supervisors took action on the project noted above, no uses on the property may lawfully begin until all applicable approvals have been received and conditions have been met. This includes:

- **compliance with the approved SPECIAL EXCEPTION**
- **approval of and compliance with a SITE PLAN; and**
- **approval of a ZONING COMPLIANCE CLEARANCE.**

Should you have questions regarding the above-noted action, please contact me.

Sincerely,
Andy Reitelbach
Planning Division
Senior Planner II

Cc: Charlottesville Rio Road Apartments LLC
110 Draper Rd NW Suite B
Blacksburg VA 24060

WWW.ALBEMARLE.ORG
401 McIntire Road, North Wing, | Charlottesville, VA 22902-4579

RESOLUTION TO APPROVE
SE 2021-00041 THE HERITAGE ON RIO

WHEREAS, upon consideration of the staff reports prepared for SE2021-00041 The Heritage on Rio (in conjunction with ZMA202100011) and the attachments thereto, including staff's supporting analysis, any comments received, and all of the factors relevant to the special exception in Albemarle County Code §§ 18-4.19(5), 18-8.2(b)(3), and 18-33.9, the Albemarle County Board of Supervisors hereby finds that the proposed special exception:

(i) would be consistent with the intent and purposes of the planned development district under the particular circumstances, and satisfy all other applicable requirements of Albemarle County Code § 18-8;
(ii) would be consistent with planned development design principles; and
(iii) would not adversely affect the public health, safety or general welfare

NOW, THEREFORE, BE IT RESOLVED that the Albemarle County Board of Supervisors hereby approves a special exception to waive the 15-foot stepback requirement of County Code § 18-4.19 on Parcel IDs 04500-00-00-026A2, 04500-00-00-026B2, 04500-00-00-026B3, 04500-00-00-026B4, and 04500-00-00-026B5.

I, Claudette K. Borgersen, do hereby certify that the foregoing writing is a true, correct copy of a Resolution 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 September 7, 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	___

ROADWAY CONSTRUCTION

GENERAL CONSTRUCTION NOTES

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.

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.
5. THE USE OF AN AGGREGATE SPREADER IS REQUIRED WHEN PLACING AGGREGATE BASE.
6. BASE MUST BE APPROVED BY ENGINEER FOR DEPTH, TEMPLATE, AND COMPACTION BEFORE SURFACE TREATMENT IS APPLIED.
7. PRIME COAT MUST BE APPLIED TO BASE MATERIAL PRIOR TO PLACEMENT OF ASPHALT (PRIME COAT RC-250 @ 0.3 GAL./SQ. YD.).
8. BITUMINOUS SURFACE TO BE APPLIED IN ACCORDANCE WITH CURRENT VIRGINIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
9. ENCROACHMENT: POSTS, WALLS, SIGNS, OR SIMILAR ORNAMENTAL STRUCTURES THAT DO NOT ENHANCE A ROADWAY'S CAPACITY OR TRAFFIC SAFETY, SHALL NOT BE PERMITTED WITHIN THE RIGHT OF WAY. ONLY THOSE STRUCTURES SPECIFICALLY AUTHORIZED BY PERMIT ISSUED BY VIRGINIA DEPARTMENT OF TRANSPORTATION MAY BE LOCATED WITHIN THE STREETS RIGHT OF WAY.

INSPECTIONS

NOTE - MANDATORY INSPECTIONS ARE REQUIRED AT THE FOLLOWING PHASES:

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.

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 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 PIPES SHALL BE REINFORCED CONCRETE PIPE-CLASS III.
9. ALL EXCAVATION FOR UNDERGROUND PIPE INSTALLATION MUST COMPLY WITH OSHA STANDARDS FOR THE CONSTRUCTION INDUSTRY (29 CFE PART 1926).

RIVANNA WATER & SEWER AUTHORITY (RWSA)

GENERAL WATER & SANITARY SEWER NOTES (April, 2016)

1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL COMPLY WITH THE LATEST VERSION OF THE GENERAL WATER AND SEWER DESIGN AND CONSTRUCTION STANDARDS - VERSION 1.0, ADOPTED IN DECEMBER 2015, EXCEPT AS MODIFIED BELOW OR MODIFIED IN SPECIAL NOTES.
2. RWSA SHALL APPROVE ALL CONSTRUCTION MATERIALS AND METHODS OF CONSTRUCTION. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH RWSA PRIOR TO THE START OF ANY WORK.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY (1-800-552-7001).
4. RWSA ENGINEER (VICTORIA FORT @ 434-977-2970, EXT. 205) SHALL BE NOTIFIED THREE BUSINESS DAYS PRIOR TO THE START OF CONSTRUCTION.
5. ALL WORK IS SUBJECT TO INSPECTION BY RWSA STAFF. NO TIE-INS TO THE EXISTING SYSTEM SHALL BE MADE WITHOUT COORDINATION WITH AND THE PRESENCE OF RWSA STAFF. NO WORK SHALL BE CONDUCTED ON RWSA FACILITIES ON WEEKENDS OR HOLIDAYS WITHOUT SPECIAL WRITTEN PERMISSION FROM RWSA.
6. FOR SANITARY SEWER LINE CONSTRUCTION: RWSA MAY REQUIRE BYPASS PUMPING FOR TIE-INS TO THE EXISTING SYSTEM. ALL DOGHOUSE MANHOLES MUST BE PRESSURE-TESTED BEFORE A CONNECTION IS MADE TO THE SYSTEM.
7. THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THE PLANS IS FROM DATA AVAILABLE AT THE TIME OF DESIGN AND IS NOT NECESSARILY COMPLETE OR ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF THE LOCATION, SIZE AND DEPTH OF ALL EXISTING UTILITIES, BOTH SURFACE AND SUBSURFACE. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS. THE CONTRACTOR SHALL USE DUE DILIGENCE TO PROTECT ALL UTILITIES AND STRUCTURES FROM DAMAGE AT ALL TIMES, WHETHER SHOWN ON THE PLANS OR NOT. DAMAGE TO ANY EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR TO THE ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
8. EROSION AND SEDIMENT CONTROL FACILITIES SHALL NOT BE PERMITTED IN THE RWSA EASEMENT WITHOUT SPECIAL PERMISSION FROM RWSA. NO GRADING SHALL BE PERMITTED IN THE RWSA EASEMENT UNLESS PERMITTED OTHERWISE BY RWSA IN WRITING.
9. NO BLASTING SHALL BE PERMITTED WITHIN 100 FEET OF RWSA FACILITIES WITHOUT WRITTEN PERMISSION AND RWSA APPROVAL OF THE BLASTING PLAN. GROUND MONITORING DURING BLASTING AND A PRE-BLAST SURVEY MAY BE REQUIRED. FOR BLASTING WITHIN 100 FEET OF ANY OPERATIVE RWSA SWERLINES, BYPASS PUMPING AND/OR PRE- AND POST-CCTV MAY BE REQUIRED. RWSA MAY ALSO REQUIRE CERTIFICATION FROM A LICENSED PROFESSIONAL ENGINEER STATING THAT THE PROPOSED BLASTING WILL NOT DAMAGE ANY RWSA FACILITIES. DAMAGE TO ANY UTILITIES DUE TO BLASTING SHALL BE REPAIRED BY THE CONTRACTOR TO THE ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
10. THE CONTRACTOR SHALL OBSERVE MINIMUM SEPARATION REQUIREMENTS FOR UTILITY CROSSINGS. WHEN A CROSSING IS MADE UNDER AN EXISTING FACILITY, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE EXISTING PIPE. THE AREA OF THE CROSSING SHALL BE BACKFILLED WITH COMPACTED 57 STONE TO THE SPRINGLINE OF THE EXISTING PIPE.
11. NEW WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED, CHLORINATED, FLUSHED AND HAVE WATER SAMPLES APPROVED PRIOR TO MAKING ANY PERMANENT CONNECTION TO THE PUBLIC WATER SYSTEM. APPROVED METHODS OF FILLING AND FLUSHING NEW WATER MAINS WILL BE REQUIRED TO PREVENT ANY CONTAMINATION OF THE PUBLIC WATER SYSTEM.
12. ALL EASEMENTS FOR NEW RWSA FACILITIES SHALL BE RECORDED PRIOR TO PLACING THE NEW FACILITIES INTO SERVICE.
13. NO PERMANENT STRUCTURAL FACILITIES WILL BE PERMITTED IN THE RWSA EASEMENT. THIS INCLUDES BUILDING OVERHANGS, RETAINING WALLS, FOOTERS FOR ANY STRUCTURE, DRAINAGE STRUCTURES, ETC.
14. TREES ARE NOT PERMITTED IN THE RWSA EASEMENT.

ALBEMARLE COUNTY SERVICE AUTHORITY (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 NO-LEAD 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
No. 35791
PROFESSIONAL ENGINEER
2/06/23

REVISIONS

DATE	REVISION DESCRIPTION
2/06/23	INITIAL PLAN SUBMITTAL

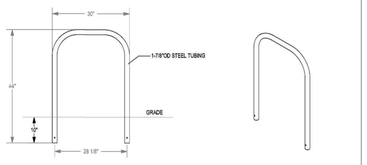
COLLINS ENGINEERING
200 GARRETT STREET, SUITE K-CHARLOTTESVILLE, VA 22902 -434.293.3719

PROJECT: CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN
SHEET: NOTES & DETAILS

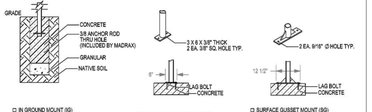
JOB NO. 202202
SCALE N/A
SHEET NO. 6

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MADRAX DIVISION
GRABER MANUFACTURING, INC.
1060 LINDEN DRIVE
WAUNAKEE, WI 53597
P:(800) 446-7931, P:(608) 849-4100, F:(608) 849-4200
WWW.MADRAX.COM, E-MAIL: SALES@MADRAX.COM



CHECK DESIRED MOUNT ☐



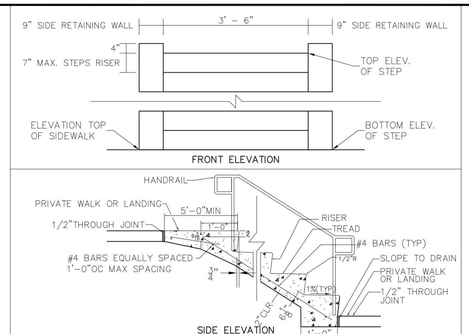
☐ IN GROUND MOUNT (IG) ☐ SURFACE FLANGE MOUNT (SF) ☐ SURFACE GUSSET MOUNT (SG)
SECTION VIEWS UPCHARGE

PRODUCT: UX190-IG/SF.SG)
DESCRIPTION: 12 BIKE RACK
2 BIKE, SURFACE OR IN GROUND MOUNT
DATE: 3-6-14
ENG: BMC

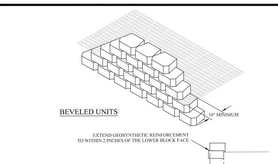
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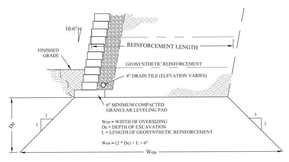
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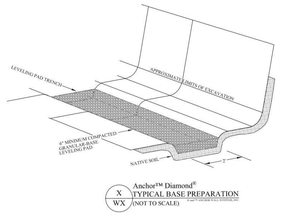
NOTES:
1. INSTALL BIKE RACKS ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. CONSULT OUT TO SELECT COLOR/FINISH. SEE MANUFACTURER'S SPECIFICATIONS.
3. SEE SITE PLAN FOR LOCATION OR CONSULT OWNER.



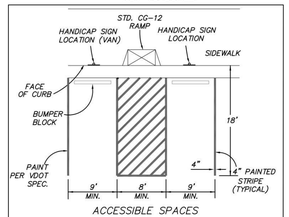
CONCRETE STEPS DETAIL
NOT TO SCALE







SEGMENTED WALL DETAIL
DIAMOND PRO (TAN)
NOT TO SCALE



HANDICAP PARKING SIGN DETAIL
NOT TO SCALE
ONE AT EACH HANDICAP SPACE. WHERE HANDICAP SPACES FACE EACH OTHER WITHOUT WALKWAY, THERE SHALL BE ONE POST WITH SIGNS MOUNTED BOTH SIDES

HANDICAP SPACE DETAIL
NO SCALE

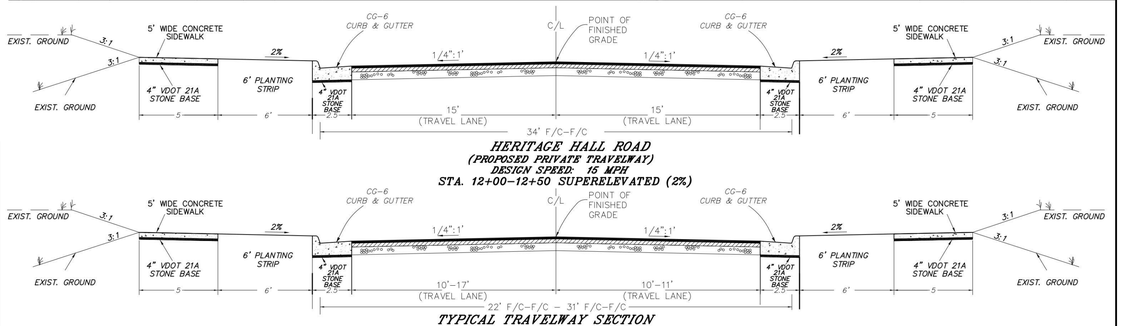
NOTE
HC PARKING SPACES & ACCESSIBLE ROUTES SHALL BE COMPLIANT W/ ALL CURRENT ADA STANDARDS & LOCAL/STATE REQUIREMENTS



HANDICAPPED PARKING SIGNS
NO SCALE

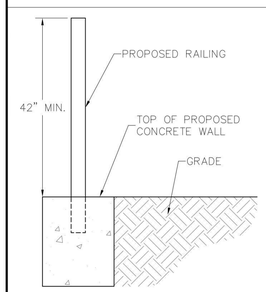


PAVEMENT LEGEND:
- HEAVY DUTY ASPHALT PAVING (TRAVELWAYS)
- LIGHT DUTY ASPHALT PAVING (PARKING AREAS)
- MILL & OVERLAY ASPHALT PAVING
- PERVIOUS PAVERS (PARKING LOT)



HERITAGE HALL ROAD
(PROPOSED PRIVATE TRAVELWAY)
DESIGN SPEED: 15 MPH
STA. 12+00–12+50 SUPERELEVATED (2%)

TYPICAL TRAVELWAY SECTION
(PROPOSED PRIVATE TRAVELWAY)
DESIGN SPEED: 15 MPH
HERITAGE HALL ROAD:
STA. 12+00–15+67 SUPERELEVATED (2%)
STA. 13+00–15+20 7' PARKING AISLE

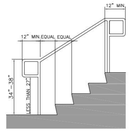


WALL RAIL FASTENING DETAIL
NOT TO SCALE

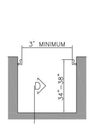
NOTE: RETAINING WALLS GREATER THAN 3' IN HEIGHT REQUIRE A SEPARATE BUILDING PERMIT. WALLS EXCEEDING 4' IN HEIGHT REQUIRE A STAMPED ENGINEERED DESIGN PLAN. WALLS REQUIRED INSPECTIONS AS OUTLINED IN THE USBC. FINAL STRUCTURAL WALL DESIGN TO BE SUBMITTED WITH STRUCTURAL ENGINEERING PLANS.

RETAINING WALL – HANDRAIL DETAIL
42" HIGH AMERISTAR BLACK SECURITY FENCING (MAJESTIC – AEGIS PLUS)

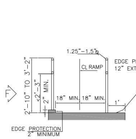




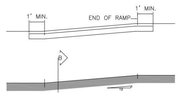
ELEVATION A



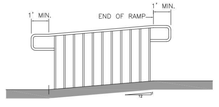
SECTION B



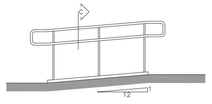
SECTION C



ELEVATION D



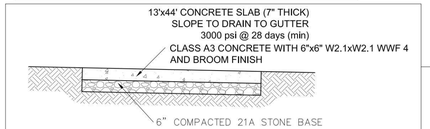
ELEVATION E



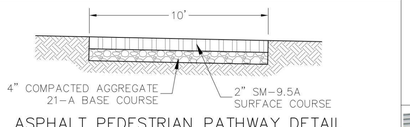
ELEVATION F

RAMPS - NOTES:
- The maximum slope of a ramp that serves any exitway, provides access for persons with disabilities, or is in the path of travel shall be 1' rise in 12' of horizontal run. (sec 1133b.5.3)
- The cross slope of ramp surfaces shall be no greater than 1:50. (1/4" per ft) (sec 1133b.5.3.1)
- The width of ramps shall be as required for stairways and exits. (sec 1133b.5.2 fig 1 11b-38 & 39)
- Pedestrian ramps serving primary entrances to buildings having an occupant load of 300 or more shall have a minimum clear width of 60". (sec 1133b.5.2)
- All other pedestrian ramps serving primary entrances shall have a minimum width of 48". (sec 1133b.5.2)
- Landings shall be provided at the top and bottom of each ramp. (sec 1133b.5.4.1 fig 11b-38 & 39)
- Intermediate landings shall be provided at intervals not exceeding 30" of vertical rise and at each change of direction. (sec 1133b.5.4.1 fig 11b-38 & 39)
- Top landings shall be not less than 60" wide and shall have a length of not less than 60" in the direction of ramp run. (sec 1133b 5.4.2 fig 11b-38 & 39)
- Doors in any position shall not reduce the minimum dimension of the ramp landing to less than 42" and shall not reduce the required width by more than 3" when fully open. (sec 1133b.5.4.3 fig 11b-38 & 39)
- The width of the landing shall extend 24" past the strike edge of any door or gate for exterior ramps and 18" past the strike edge for interior ramps. (sec 1133b.5.4.4 fig 11b-39)
- At bottom and intermediate landings, the width shall be at least the same as required for the ramp. (sec 1133b.5.4.5 fig 11b-38 & 39)
- Intermediate landing at a change of direction in excess of 30 degrees and bottom landings shall have a dimension in the direction of ramp run of not less than 72" to accommodate the handrail extension. (sec 1133b.5.4.6 fig 11b-38 & 39)
- Other intermediate landings shall have a dimension in the direction of ramp run of not less than 60". (sec 1133b.5.4.7 fig 11b-38)
- Ramp landings are not considered in determining the maximum horizontal distance of each ramp. (fig. 11b-38 & 39)
- Handrails are required on ramps that provide access if the ramp slope exceeds 1' rise in 20' of horizontal run. (sec 1133b.5.5.1)
- Handrails shall be placed on each side of each ramp, shall be continuous the full length of the ramp, shall be 34" to 38" above the ramp surface, shall extend a minimum of 1' beyond the top and bottom of the ramp, and the ends shall be resumed. (sec 1133b.5.5.2 fig 11b-27 (b) & (c)
- The grip portion of handrails shall be not less than 1-1/4" nor more than 1-1/2", or the shape shall provide an equivalent gripping surface, and all surfaces shall be smooth with no sharp corners. handrails shall not rotate within their fittings. (sec 1133b.5.5.1 fig 11b-36)
- Handrails projecting from a wall shall have a space of 1-1/2" between the wall and the handrail. (sec 1133b.5.5.1 fig 11b-36)
- Handrails may be located in a recess if the recess is a maximum of 3" deep and extends at least 18" above the top of the rail. (sec 1133b.5.5.1 fig 11b-36)
- Any wall or other surface adjacent to handrails shall be free of sharp or abrasive elements. Edges shall have a minimum radius of 1/8". (sec 1133b.5.5.1 fig 11b-36)
- Where the ramp surface is not bounded by a wall or fence and the ramp exceeds 10' in length, the ramp shall comply with one of the following requirements: (sec 1133b.5.6 fig 11b-27(b) & (c))
  a. A guide curb a minimum of 2" in height shall be provided at each side of the ramp;
  b. A wheel guide rail shall be provided, centered 3" ± 1" above the surface of the ramp.
- Outdoor ramps and their approaches shall be designed and constructed so that water will not accumulate on walking surfaces. (1133b.5.8)

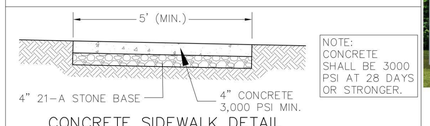
TYPICAL HANDRAILS AT RAMPS
DETAILS & DRAWINGS PER ADA REGULATIONS – AMERICANS WITH DISABILITIES ACT 1994
NOT TO SCALE



CONCRETE DUMPSTER PAD DETAIL
NOT TO SCALE



ASPHALT PEDESTRIAN PATHWAY DETAIL
CLASS A – TYPE 1 LOW–MAINTENANCE
NOT TO SCALE

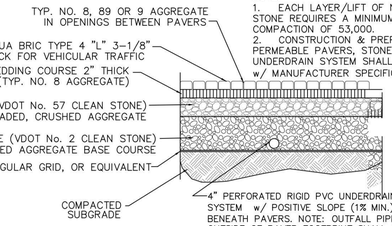


NOTE: CONCRETE SHALL BE 3000 PSI AT 28 DAYS OR STRONGER.

CONCRETE SIDEWALK DETAIL
NOT TO SCALE



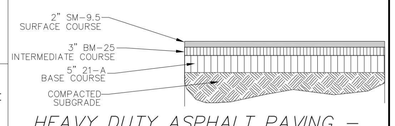
CLUBHOUSE HVAC SCREENING FENCE WHITE VINYL FENCING 42" HIGH MIN.



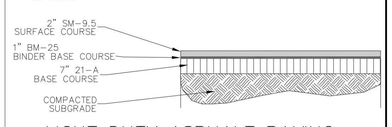
NOTE:
1. EACH LAYER/LIFT OF NO. 2 AND NO. 57 STONE REQUIRES A MINIMUM CENTRIFUGAL FORCE COMPACTION OF 53,000.
2. CONSTRUCTION & PREPARATION OF PERMEABLE PAVERS, STONE BASE AND UNDERDRAIN SYSTEM SHALL BE IN ACCORDANCE w/ MANUFACTURER SPECIFICATIONS.

PERMEABLE PAVERS PAVEMENT DESIGN
NO SCALE

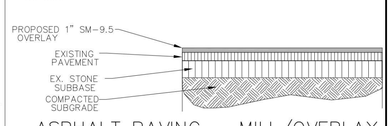
NOTES:
1. BECAUSE THE SOIL UNDERNEATH THE PROPOSED LOCATION OF THE PAVERS IS FROM PREVIOUS CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL CONDUCT A GEOTECHNICAL INVESTIGATION OF THE SOIL UNDERNEATH THE PROPOSED PAVERS AFTER FINAL GRADE HAS BEEN ACHIEVED TO DETERMINE THE INFILTRATION AND CBR RATINGS. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH THESE RESULTS PRIOR TO ORDERING AND INSTALLATION OF THE STONE BASE FOR THE PERMEABLE PAVERS TO ENSURE AN ADEQUATE DESIGN.
2. ALL OPEN GRADED STONE LAYERS SHALL BE CLEAN & DOUBLE WASHED IN ACCORDANCE WITH DCR REGULATIONS. "CLEAN" STONE IS SCREENED TO SIZE AND THE BULK OF THE FINES/DUST IS REMOVED, BUT THERE IS STILL DUST ON THE STONE. "WASHED" STONE IS WASHED THROUGH THE SCREENING PROCESS AND/OR MANUALLY WASHED.
3. WHERE UNDERDRAIN CLEANOUTS ARE PROPOSED WITHIN PAVED AREAS & ARE SUBJECT TO VEHICULAR TRAFFIC, CLEANOUTS SHALL BE ENCASED IN ø18" CONCRETE FOR THE UPPER 24". THE CLEANOUT FRAME & LID SHALL BE CONSTRUCTED OF CAST IRON, OR A SIMILAR MATERIAL THAT IS STRUCTURALLY FORTIFIED.



HEAVY DUTY ASPHALT PAVING – TRAVELWAYS
NO SCALE



LIGHT DUTY ASPHALT PAVING – PARKING LOT & PARKING SPACES
NO SCALE



ASPHALT PAVING – MILL/OVERLAY
NO SCALE

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
No. 35791
PROFESSIONAL ENGINEER
2/06/23

REVISIONS

DATE	REVISION DESCRIPTION
2/06/23	INITIAL PLAN SUBMITTAL

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

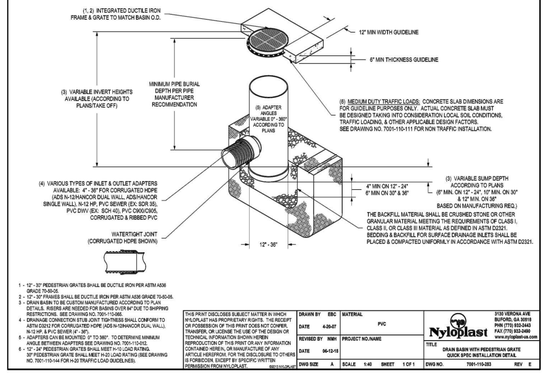
PROJECT
CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN

SHEET
NOTES & DETAILS

JOB NO. 202202
SCALE N/A
SHEET NO. 7

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NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE



1 - 12"-30" PEDESTRIAN GRATES SHALL BE DUCTILE IRON PER ASTM A536 GR 65-45-12.
2 - 12"-30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASINS TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-060.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM C923 FOR PVC SEWER PIPE, ASTM F477 FOR HDPE (ADS N-12/HANCOR DUAL WALL, N-12 HP, & PVC SEWER (4"-30"), ONLY.
5 - ADAPTERS CAN BE MOUNTED 7° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-063.
6 - 12"-24" PEDESTRIAN GRATES SHALL MEET H-10 LOAD RATING. 30" PEDESTRIAN GRATE SHALL MEET H-20 LOAD RATING (SEE DRAWING NO. 7001-110-144 FOR H-20 TRAFFIC LOAD GUIDELINES).

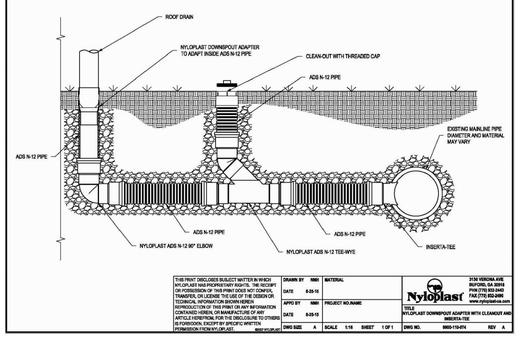
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DRAWN BY	EBC	MATERIAL	PVC
DATE	4-28-07		
REVISED BY	MAH	PROJECT NO./NAME	
DATE	06-13-13		
DWG SIZE	A	SCALE	1:40
SHEET	1 OF 1	DWG NO.	7001-110-203
REV	E		

Nyloplast — 2100 VERONA AVE BUFORD, GA 30518 PHN (770) 933-1480 FAX (770) 933-0440 www.nyloplastusa.com

TITLE: DRAIN BASIN WITH PEDESTRIAN GRATE QUICK SPEC INSTALLATION DETAIL

NYLOPLAST DOWNSPOUT ADAPTER WITH CLEANOUT AND INSERTA-TEE

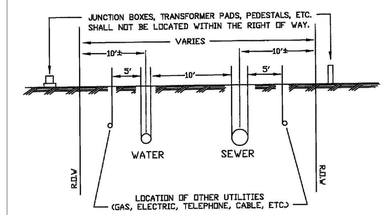


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DRAWN BY	MAH	MATERIAL	
DATE	8-28-15		
APPD BY	MAH	PROJECT NO./NAME	
DATE	8-28-15		
DWG SIZE	A	SCALE	1:16
SHEET	1 OF 1	DWG NO.	8800-110-014
REV	A		

Nyloplast — 2100 VERONA AVE BUFORD, GA 30518 PHN (770) 933-1480 FAX (770) 933-0440 www.nyloplastusa.com

TITLE: NYLOPLAST DOWNSPOUT ADAPTER WITH CLEANOUT AND INSERTA-TEE



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

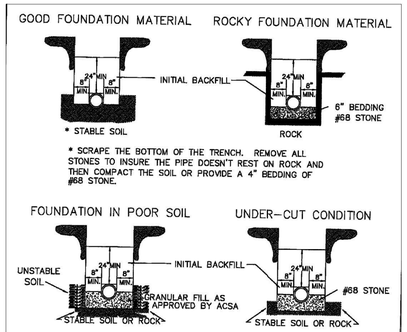
✖ SEE PART 3, PARAGRAPH D) SEPARATION OF WATER & SEWER SYSTEMS.

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

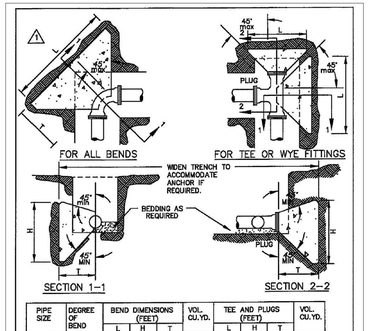


NOTE :
1. NO ROCKS SHALL BE ALLOWED WITHIN 24" OF THE WATER LINES.
2. NO ROCKS LARGER THAN 6" IN ANY DIMENSION SHALL BE ALLOWED ABOVE THE INITIAL BACKFILL.
3. THE INITIAL BACKFILL SHALL BE PLACED AND COMPACTED IN 6" LIFTS.
4. NO ORGANIC OR FROZEN MATERIAL OR DEBRIS SHALL BE ALLOWED IN THE TRENCH.
5.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

DUCTILE IRON WATER PIPE INSTALLATION & BEDDING

NTS
FIG. W-2

TD-2



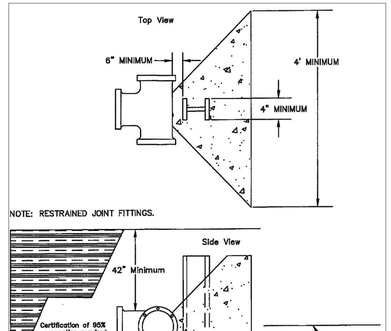
PIPE SIZE	DEGREE OF BEND	BEND DIMENSIONS (FEET) L	H	T	VOL. CU.YD.	TEE AND PLUGS (FEET) L	H	T	VOL. CU.YD.
4" & 6"	90	2.50	2.50	3.01	0.24	2.00	2.25	2.50	0.15
	45	2.00	2.25	2.60	0.15				
	22 1/2	1.50	2.00	2.52	0.10				
	11 1/4	1.50	2.00	2.50	0.10				
8"	90	3.66	3.15	3.21	0.48	3.16	2.91	2.66	0.32
	45	2.85	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	0.83	3.83	4.00	2.83	0.52
	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				

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

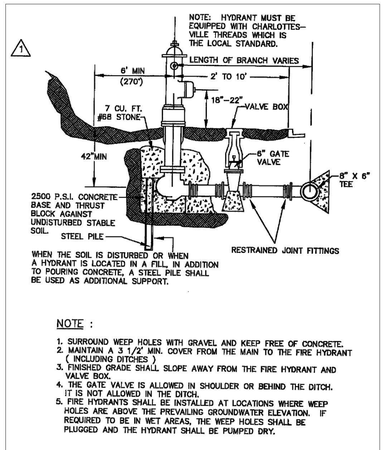
TD-3



TYPICAL THRUST BLOCK IN FILL AREA

NTS
FIG. W-3B

TD-5



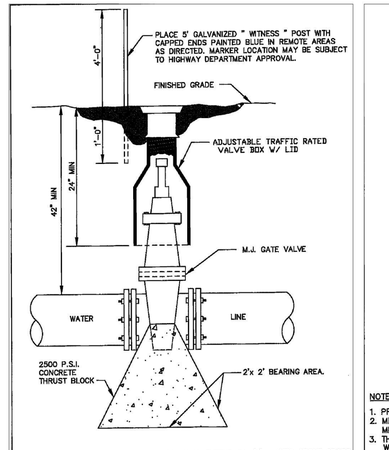
WHEN THE SOIL IS DISTURBED OR WHEN A HYDRANT IS LOCATED IN A FILL IN ADDITION TO POURING CONCRETE, A STEEL PILE SHALL BE USED AS ADDITIONAL SUPPORT.

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

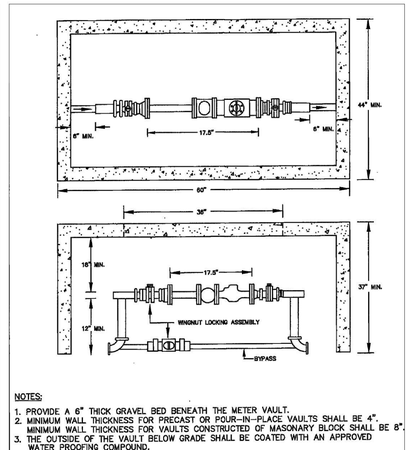


NOTE : IN REMOTE AREAS, VALVE BOXES SHALL EXTEND SIX (6) INCHES ABOVE GRADE.

TYPICAL GATE VALVE

NTS
FIG. W-5

TD-9

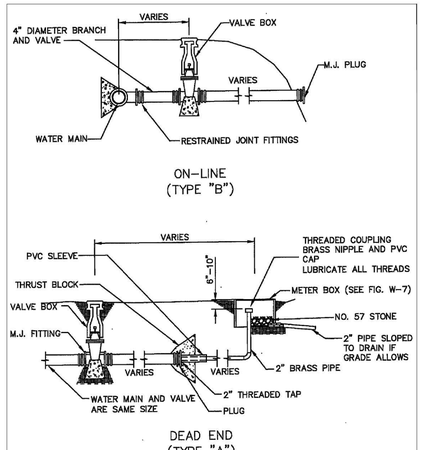


NOTES:
1. PROVIDE A 6" THICK GRAVEL BED BENEATH THE METER VAULT.
2. MINIMUM WALL THICKNESS FOR PRECAST OR POUR-IN-PLACE VAULTS SHALL BE 4". MINIMUM WALL THICKNESS FOR VAULTS CONSTRUCTED OF MASONARY BLOCK SHALL BE 8".
3. THE OUTSIDE OF THE VAULT BELOW GRADE SHALL BE COATED WITH AN APPROVED WATER PROOFING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

TYPICAL METER VAULT (1 1/2" METER)

NTS
FIG. W-7B

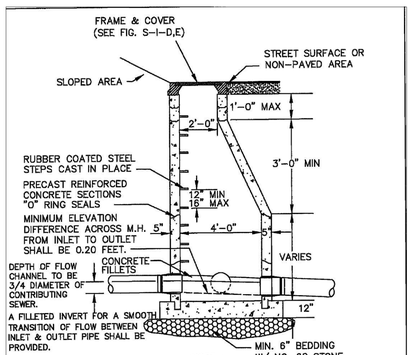
TD-15



TYPICAL BLOW–OFF ASSEMBLY

NTS
FIG. W-8

TD-19

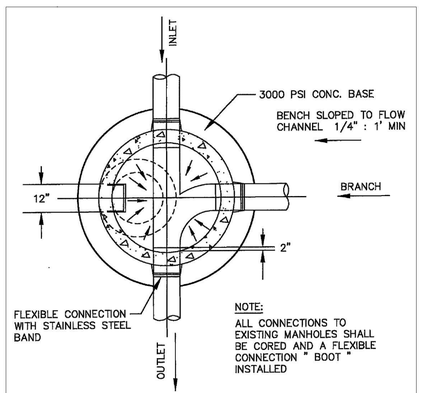


NOTE :
1. BEDDING THICKNESS REQUIREMENT SHOWN IS MINIMUM AND SHALL BE SPECIFICALLY DETERMINED BY THE CONSULTANT FOR THE SOIL CONDITIONS.
2. THE CONSULTANT WILL DETERMINE WHETHER MANHOLES SHALL HAVE EXTENDED OR NON–EXTENDED BASES.
3. ALL JOINTS, LIFT HOLES, INLETS, OUTLETS TO BE SEALED & GROUTED INSIDE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

TYPICAL MANHOLE SECTION SHOWING BRANCH TIE–IN

N.T.S
FIG. S–I–A

TD–25

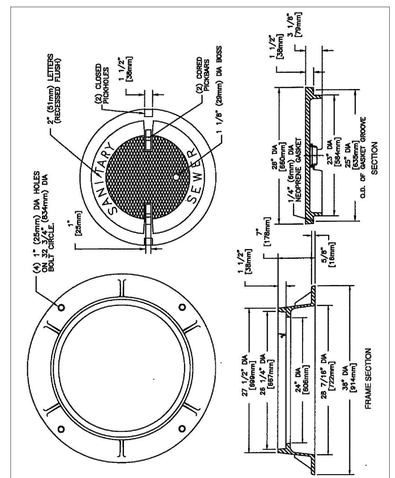


NOTE:
ALL CONNECTIONS TO EXISTING MANHOLES SHALL BE CORED AND A FLEXIBLE CONNECTION " BOOT " INSTALLED

TYPICAL MANHOLE PLAN SHOWING BRANCH TIE – IN

NTS
FIG. S–I–B

TD–27

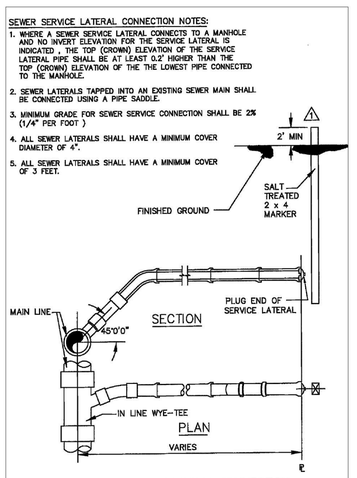


TYPICAL MANHOLE FRAME & COVER

N.T.S
FIG S-I-D

TD-31

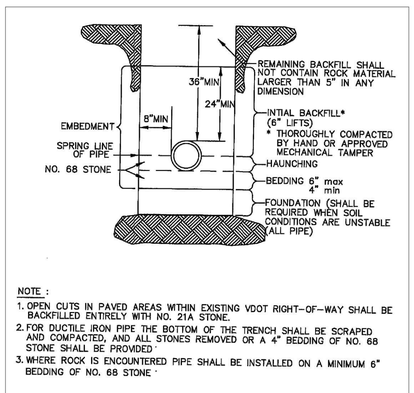
SEWER SERVICE LATERAL CONNECTION NOTES:
1. WHERE A SEWER SERVICE LATERAL CONNECTS TO A MANHOLE AND NO INVERT ELEVATION FOR THE SERVICE LATERAL IS INDICATED , THE TOP (CROWN) ELEVATION OF THE SERVICE LATERAL PIPE SHALL BE AT LEAST 0.2' HIGHER THAN THE TOP (CROWN) ELEVATION OF THE THE LOWEST PIPE CONNECTED 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

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
No. 35791
2/06/23
PROFESSIONAL ENGINEER

REVISIONS

DATE	REVISION DESCRIPTION
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200 GARRETT STREET, SUITE K-CHARLOTTESVILLE, VA 22902 -434.293.3719

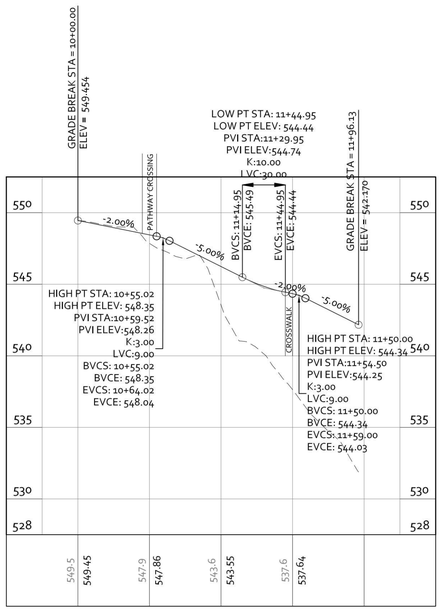
PROJECT: CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN

SHEET: NOTES & DETAILS

JOB NO. 202202
SCALE N/A
SHEET NO. 8

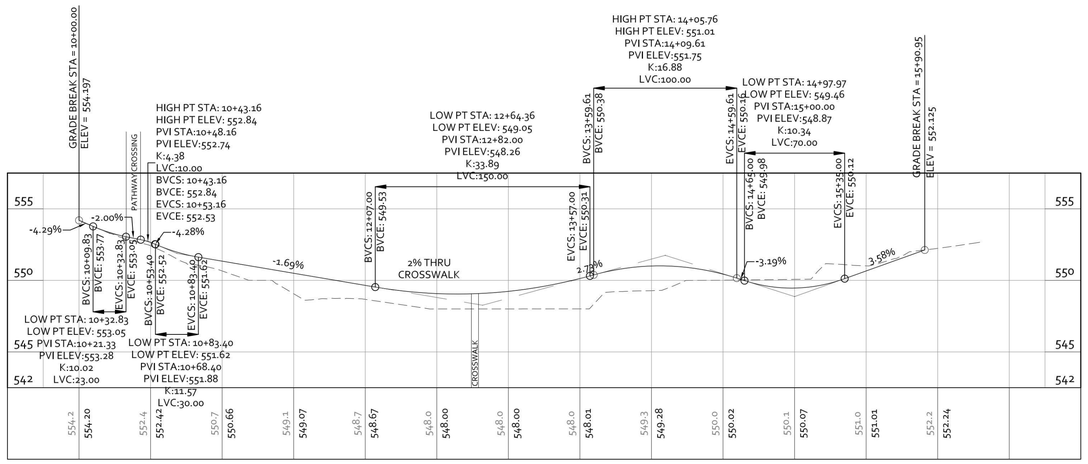
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3. ALL FILL TO BE PLACED AT 95% COMPACTION.
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5. MINIMUM 3.5' OF COVER MUST BE MAINTAINED OVER WATERLINE MAINS.
6. MINIMUM 1.5' OF VERTICAL SEPARATION BETWEEN STORM SEWER AND WATERLINE.
7. MINIMUM 1.5' OF VERTICAL SEPARATION BETWEEN SANITARY SEWER AND WATERLINE.



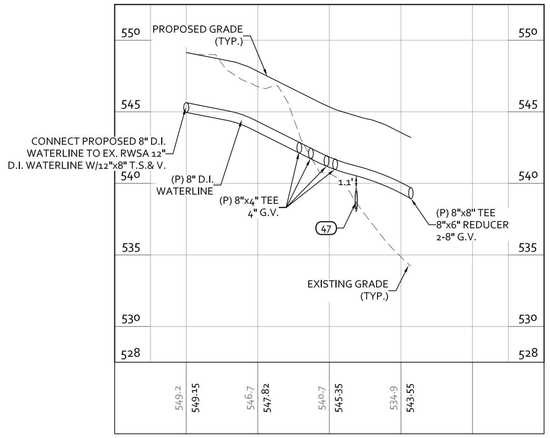
LARIAT STREET

PRIVATE ROADWAY
DESIGN SPEED = 15 MPH

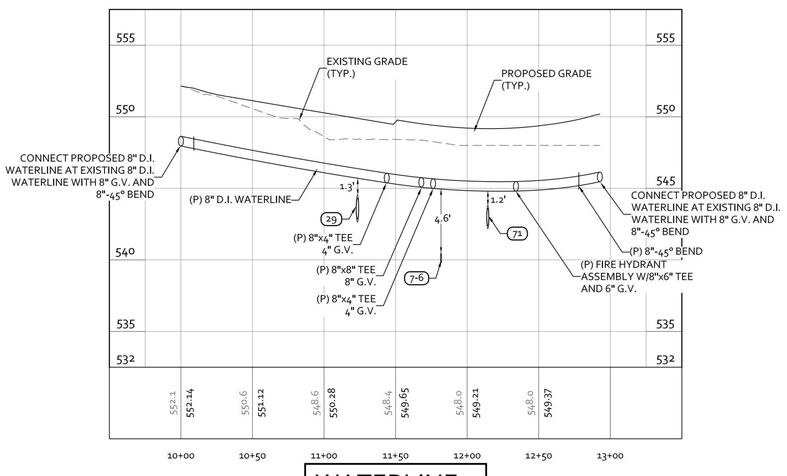


HERITAGE HALL ROAD

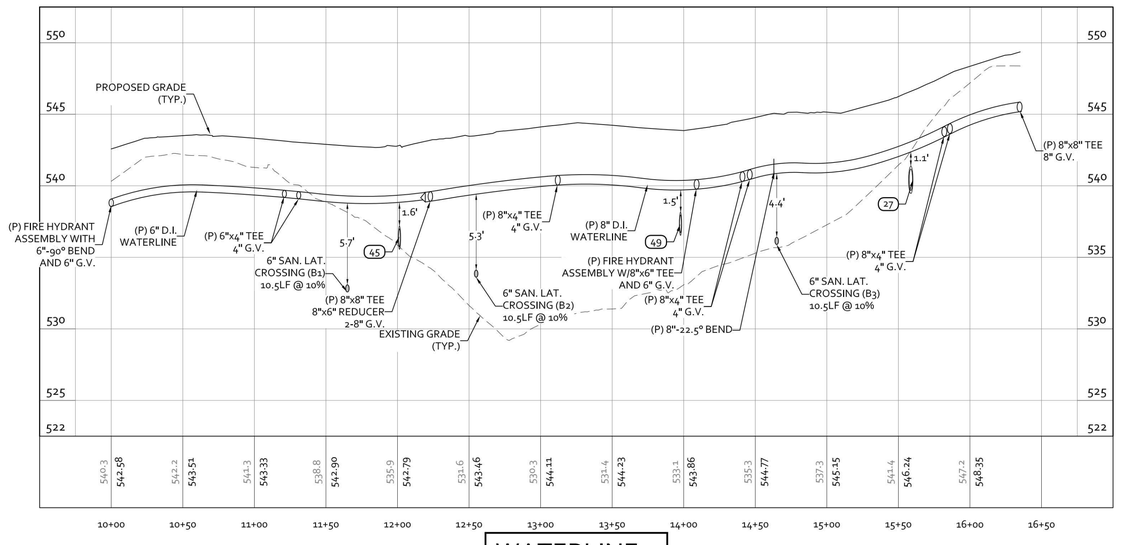
PRIVATE ROADWAY
DESIGN SPEED = 15 MPH



WATERLINE 3



WATERLINE 1



WATERLINE 2

VERTICAL SCALE

5 0 2.5 5 10 20

1 INCH = 5 FEET

HORIZONTAL SCALE

0 0 25 50 100 200

1 INCH = 50 FEET

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
No. 35791
PROFESSIONAL ENGINEER
2/06/23

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COLLINS ENGINEERING
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PROJECT: CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN

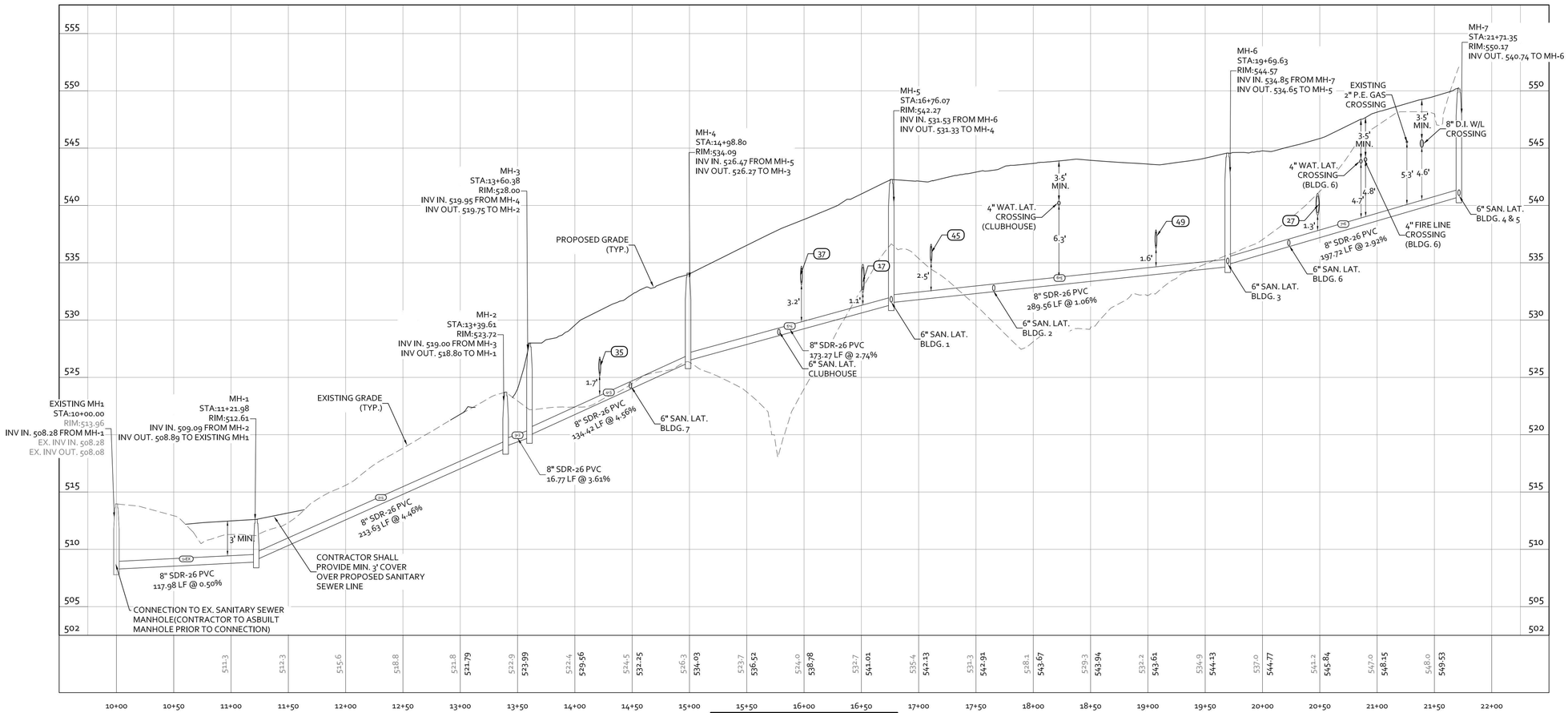
SHEET: ROAD & WATERLINE PROFILES

JOB NO. 202202

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

SHEET NO. 9

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SANITARY SEWER

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VERTICAL SCALE

5 0 2.5 5 10 20

1 INCH = 5 FEET

HORIZONTAL SCALE

0 0 25 50 100 200

1 INCH = 50 FEET

COMMONWEALTH OF VIRGINIA
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PROJECT
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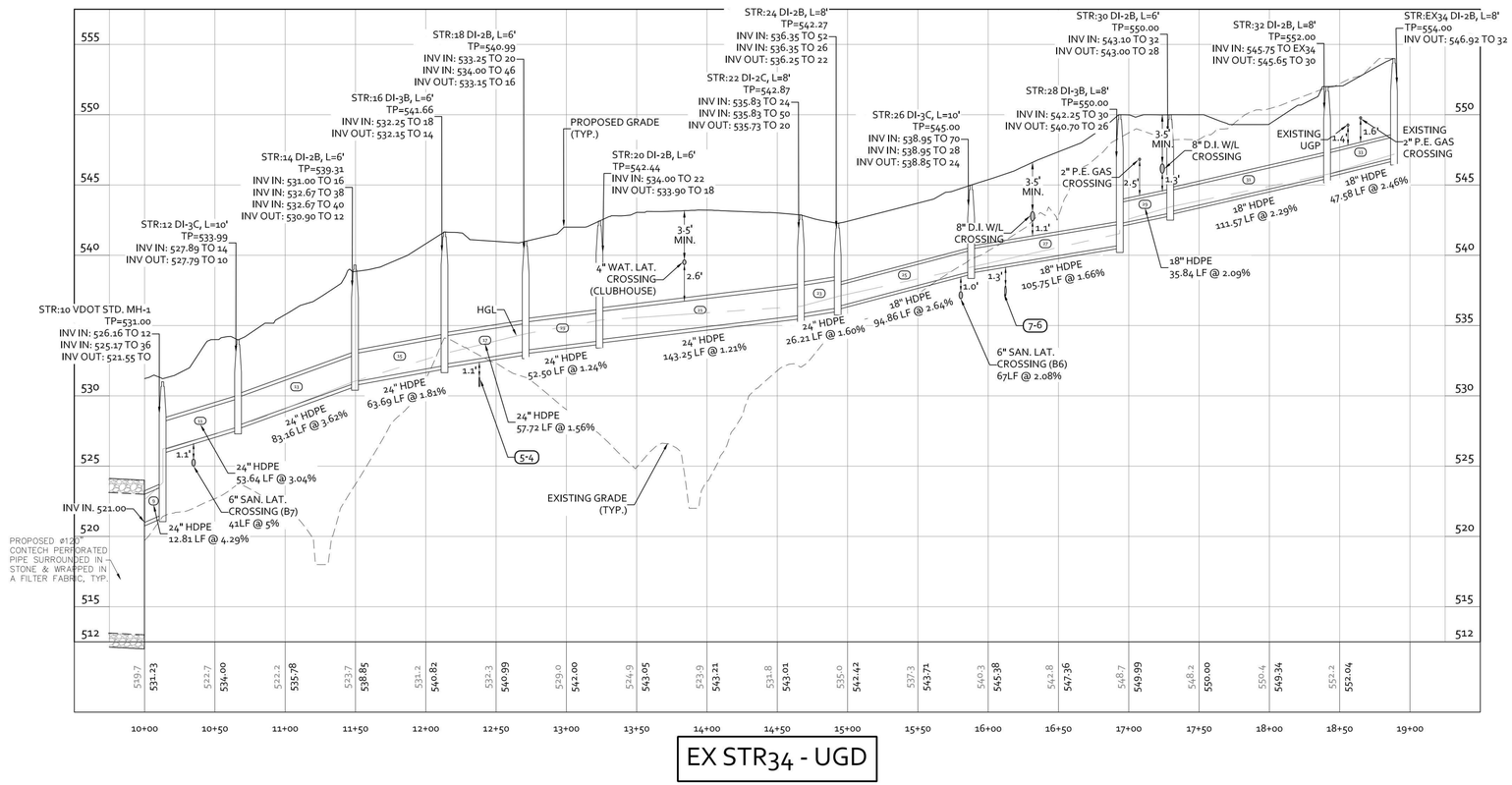
SHEET
SANITARY SEWER PROFILE

JOB NO. 202202

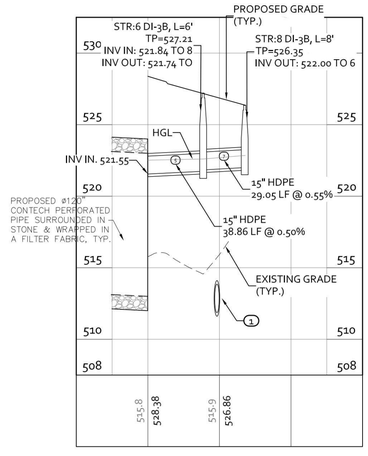
SCALE V: 1"=5' H: 1"=50'

SHEET NO. 10

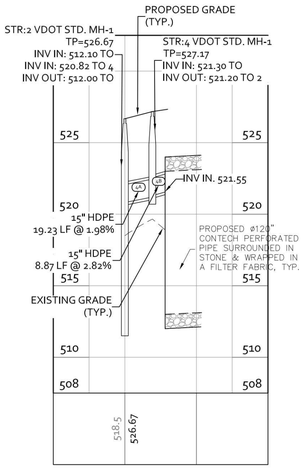
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EX STR34 - UGD

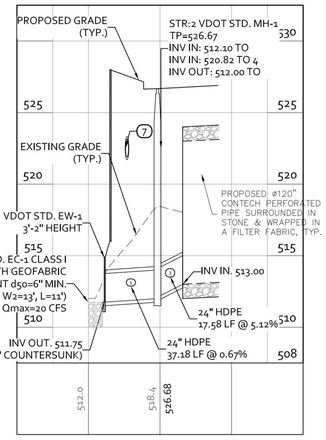


STR8 - UGD

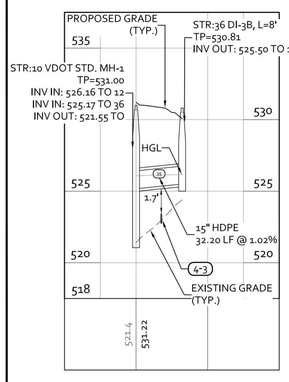


UGD BYPASS

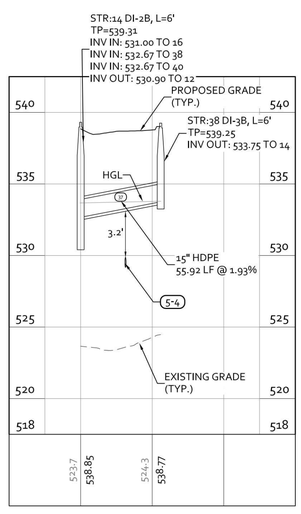
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3. ALL FILL TO BE PLACED AT 95% COMPACTION.
4. MINIMUM 3.5' OF COVER MUST BE MAINTAINED OVER W/L.
5. MINIMUM OF 1' OF VERTICAL SEPARATION FROM STORM SEWER & W/L AND 1.5' OF SEPARATION BETWEEN W/L & SANITARY SEWER MUST BE PROVIDED.
6. ALL DRAINAGE STRUCTURES SHALL BE PROVIDED INLET SHAPING IN ACCORDANCE WITH VDOT STANDARD IS-1.
7. ALL DRAINAGE STRUCTURES WITH A DEPTH OF 4' OR GREATER SHALL HAVE STEPS IN ACCORDANCE WITH STANDARD ST-1 AS FOUND IN THE 2008 ROAD AND BRIDGE STANDARDS.
8. ALL DRAINAGE STRUCTURES WITH A DEPTH OF 12' OR GREATER SHALL HAVE SAFETY SLABS IN ACCORDANCE WITH STANDARD SL-1 AS FOUND IN THE 2008 ROAD AND BRIDGE STANDARDS.
9. 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 ¾" 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.
8. HDPE CAN BE USED AS AN ACCEPTABLE SUBSTITUTE FOR RCP FOR THE DRAINAGE PIPES - SEE NOTES & DETAILS SHEET FOR HDPE PIPE BEDDING INFORMATION.



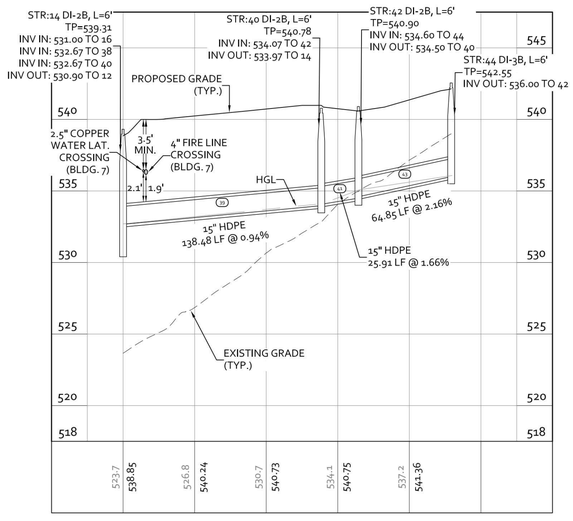
UGD - OUT



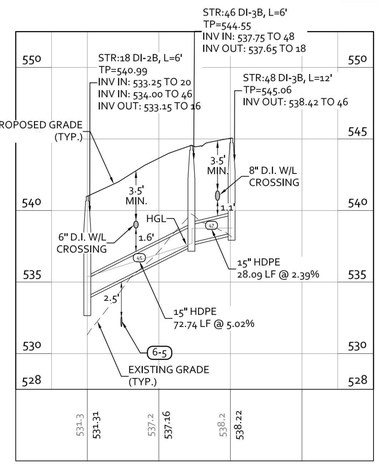
STR 36 - STR 10



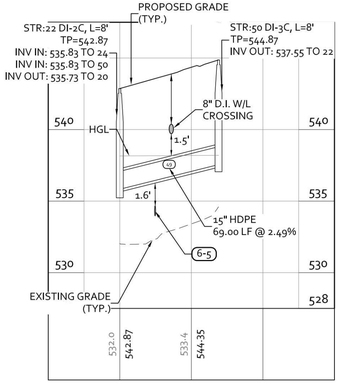
STR 38 - STR 14



STR 44 - STR 14



STR 48 - STR 18



STR 50 - STR 22

VERTICAL SCALE

5 0 2.5 5 10 20

1 INCH = 5 FEET

HORIZONTAL SCALE

0 0 25 50 100 200

1 INCH = 50 FEET

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
No. 35791
PROFESSIONAL ENGINEER
2/06/23

REVISIONS

DATE	REVISION DESCRIPTION
2/06/23	INITIAL PLAN SUBMITTAL

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

PROJECT: CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN

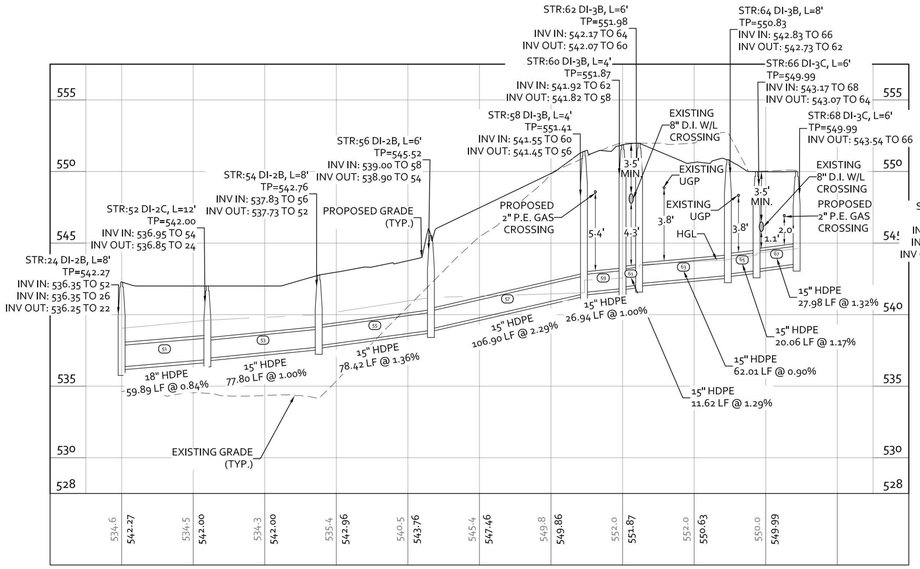
SHEET: STORM SEWER PROFILES

JOB NO. 202202

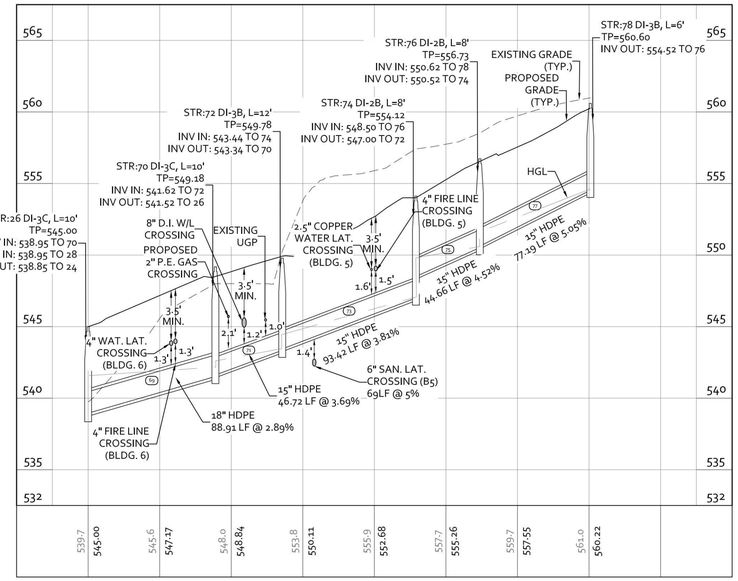
SCALE V: 1"=5' H: 1"=50'

SHEET NO. 11

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STR 68 - STR 24



STR 78 - STR 26

NOTES:
1. 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 SPECIFICATIONS, SECTION 303.04(h).
2. 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".
3. ALL FILL TO BE PLACED AT 95% COMPACTION.
4. MINIMUM 3.5' OF COVER MUST BE MAINTAINED OVER W/L.
5. MINIMUM OF 1' OF VERTICAL SEPARATION FROM STORM SEWER & W/L AND 1.5' OF SEPARATION BETWEEN W/L & SANITARY SEWER MUST BE PROVIDED.
6. ALL DRAINAGE STRUCTURES SHALL BE PROVIDED INLET SHAPING IN ACCORDANCE WITH VDOT STANDARD IS-1.
7. ALL DRAINAGE STRUCTURES WITH A DEPTH OF 4' OR GREATER SHALL HAVE STEPS IN ACCORDANCE WITH STANDARD ST-1 AS FOUND IN THE 2008 ROAD AND BRIDGE STANDARDS.
8. ALL DRAINAGE STRUCTURES WITH A DEPTH OF 12' OR GREATER SHALL HAVE SAFETY SLABS IN ACCORDANCE WITH STANDARD SL-1 AS FOUND IN THE 2008 ROAD AND BRIDGE STANDARDS.
9. 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 ¾" 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.
8. HDPE CAN BE USED AS AN ACCEPTABLE SUBSTITUTE FOR RCP FOR THE DRAINAGE PIPES - SEE NOTES & DETAILS SHEET FOR HDPE PIPE BEDDING INFORMATION.

VERTICAL SCALE

5 0 2.5 5 10 20

1 INCH = 5 FEET

HORIZONTAL SCALE

0 0 25 50 100 200

1 INCH = 50 FEET

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
No. 35791
PROFESSIONAL ENGINEER
2/06/23

REVISIONS

DATE	REVISION DESCRIPTION
2/06/23	INITIAL PLAN SUBMITTAL

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

PROJECT: CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN

SHEET: STORM SEWER PROFILES

JOB NO. 202202

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

SHEET NO. 12

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Structure	Area (Acres)	Cw
6STR	0.06	0.82
6P	0.10	0.90
14STR	0.13	0.85
14P	0.11	0.90
24STR	0.23	0.86
24P	0.14	0.90
28STR	0.17	0.82
28P	0.24	0.80
30STR	0.07	0.76
30P	0.15	0.62
EX34STR	0.60	0.65
EX34P	1.86	0.62
38STR	0.14	0.83
38P	0.40	0.84
46STR	0.12	0.81
46P	0.43	0.69
48STR	0.26	0.78
48P	0.15	0.73
50STR	0.07	0.73
50P	0.32	0.48
60STR	0.01	0.90
60P	0.57	0.40
64STR	0.19	0.63
64P	0.74	0.50
66STR	0.10	0.65
66P	0.07	0.90
70STR	0.27	0.62
70P	0.17	0.90
72STR	0.56	0.51
72P	0.08	0.90
76STR	0.28	0.65
76P	0.47	0.32

Structure	Area (Acres)	Cw	t_c (Min.)
2	0.00	0.90	5.0
4	0.00	0.90	5.0
6	0.16	0.87	5.0
8	0.26	0.81	5.0
10	0.00	0.90	5.0
12	0.11	0.80	5.0
14	0.24	0.87	5.0
16	0.11	0.88	5.0
18	0.09	0.80	5.0
20	0.16	0.83	5.0
22	0.28	0.81	5.0
24	0.37	0.88	5.0
26	0.27	0.80	5.0
28	0.41	0.81	5.0
30	0.22	0.67	5.0
32	0.16	0.89	5.0
EX34	2.46	0.63	16.1
36	0.20	0.82	5.0
38	0.54	0.84	5.0
40	0.09	0.84	5.0
42	0.12	0.76	5.0
44	0.07	0.89	5.0
46	0.55	0.72	5.0
48	0.40	0.76	5.0
50	0.40	0.53	5.0
52	0.34	0.85	5.0
54	0.18	0.81	5.0
56	0.10	0.87	5.0
58	0.02	0.81	5.0
60	0.58	0.40	10.9
62	0.19	0.53	8.3
64	0.93	0.53	9.0
66	0.17	0.76	5.0
68	0.14	0.73	5.0
70	0.45	0.73	5.0
72	0.64	0.55	11.2
74	0.18	0.53	11.3
76	0.75	0.44	14.1
78	0.12	0.52	8.3
UGD1	0.00	0.90	5.0
UGD2	0.00	0.90	5.0

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
No. 35791
PROFESSIONAL ENGINEER
2/06/23

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

PROJECT
CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN

SHEET
DRAINAGE MAP

JOB NO. 202202
SCALE 1" = 40'
SHEET NO. 13

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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
		ACRES	C	INCR	ACCUM	MIN	MIN	C.F.S.	UPPER	LOWER	FEET	FT./FT.	INCHES	C.F.S.	F.P.S.	SEC
EX34		2.46	0.63	1.54	1.54	16.10	4.40	6.8								
	32								546.92	545.75	47.58	0.0246	18	17.8	9.3	5.1
32		0.16	0.89	0.14	1.68	16.19	4.39	7.4								
	30								545.65	543.10	111.57	0.0229	18	17.2	9.3	12.0
30		0.22	0.67	0.15	1.83	16.39	4.37	8.0								
	28								543.00	542.25	35.84	0.0209	18	16.5	9.2	3.9
28		0.41	0.81	0.33	2.16	16.45	4.36	9.4								
	26								540.70	538.95	105.75	0.0165	18	14.6	8.8	12.0
26		0.27	0.80	0.22	3.55	16.65	4.33	15.4								
	24								538.85	536.35	94.86	0.0264	18	18.5	11.7	8.1
24		0.37	0.88	0.32	5.47	16.79	4.32	23.6								
	22								536.25	535.83	26.21	0.0160	24	31.0	10.9	2.4
22		0.28	0.81	0.23	5.91	16.83	4.31	25.5								
	20								535.73	534.00	143.25	0.0121	24	25.9	9.7	14.7
20		0.16	0.83	0.13	6.04	17.07	4.28	25.9								
	18								533.90	533.25	52.50	0.0124	24	27.3	9.9	5.3
18		0.09	0.80	0.08	6.82	17.16	4.27	29.1								
	16								533.15	532.25	57.72	0.0156	24	33.6	11.1	5.2
16		0.11	0.88	0.10	6.91	17.25	4.26	29.5								
	14								532.15	531.00	63.69	0.0181	24	32.9	11.8	5.4
14		0.24	0.87	0.21	7.81	17.34	4.25	33.2								
	12								530.90	527.89	83.16	0.0362	24	45.6	16.1	5.2
12		0.11	0.80	0.09	7.90	17.42	4.24	33.5								
	10								527.79	526.16	53.64	0.0304	24	42.7	15.0	3.6
10		0.00	0.90	0.00	8.06	17.48	4.24	34.2								
	UGD								521.55	521.00	12.81	0.0429	24	53.8	17.3	0.7
8		0.26	0.81	0.21	0.21	5.00	6.67	1.4								
	6								522.00	521.84	29.05	0.0055	15	5.2	3.6	8.1
6		0.16	0.87	0.14	0.35	5.14	6.62	2.3								
	UGD								531.74	521.55	38.86	0.2622	15	35.8	16.3	2.4
36		0.20	0.82	0.16	0.16	5.00	6.67	1.1								
	10								525.50	525.17	32.20	0.0102	15	7.1	4.1	7.8
38		0.54	0.84	0.46	0.46	5.00	6.67	3.0								
	14								533.75	532.67	55.92	0.0193	15	9.7	7.0	8.0
44		0.07	0.89	0.06	0.06	5.00	6.67	0.4								
	42								536.00	534.60	64.85	0.0216	15	10.3	4.0	16.4
42		0.12	0.76	0.09	0.16	5.27	6.58	1.0								
	40								534.50	534.07	25.91	0.0166	15	9.0	4.9	5.3
40		0.09	0.84	0.07	0.23	5.36	6.55	1.5								
	14								533.97	532.67	138.48	0.0094	15	6.8	4.4	31.2
48		0.40	0.76	0.31	0.31	5.00	6.67	2.0								
	46								538.42	537.75	28.09	0.0239	15	10.8	6.7	4.2
46		0.55	0.72	0.39	0.70	5.07	6.64	4.6								
	18								537.65	534.00	72.74	0.0502	15	15.7	11.1	6.6
50		0.40	0.53	0.21	0.21	5.00	6.67	1.4								
	22								537.55	535.83	69.00	0.0249	15	11.0	6.2	11.2
68		0.14	0.73	0.10	0.10	5.00	6.67	0.7								
	66								543.54	543.17	27.98	0.0132	15	8.0	3.9	7.2
66		0.17	0.76	0.13	0.23	5.12	6.63	1.5								
	64								543.07	542.83	20.06	0.0120	15	7.7	4.8	4.1
64		0.93	0.53	0.49	0.72	8.97	5.59	4.0								
	62								542.73	542.17	62.01	0.0090	15	6.7	5.7	10.9
62		0.19	0.53	0.10	0.82	9.15	5.55	4.6								
	60								542.07	541.92	11.62	0.0129	15	8.0	6.7	1.7
60		0.58	0.40	0.23	1.06	10.95	5.19	5.5								
	58								541.82	541.55	26.94	0.0100	15	7.0	6.3	4.3
58		0.02	0.81	0.01	1.07	11.02	5.17	5.5								
	56								541.45	539.00	106.90	0.0229	15	10.6	8.7	12.3
56		0.10	0.87	0.09	1.16	11.22	5.14	6.0								
	54								538.90	537.83	78.42	0.0136	15	8.2	7.3	10.8
54		0.18	0.81	0.14	1.30	11.40	5.11	6.7								
	52								537.73	536.95	77.80	0.0100	15	7.0	6.5	12.0
52		0.34	0.85	0.29	1.59	11.60	5.07	8.1								
	24								536.85	536.35	59.89	0.0083	18	10.4	6.5	9.2
78		0.12	0.52	0.06	0.06	8.26	5.75	0.4								
	76								554.52	550.62	77.19	0.0505	15	15.7	5.1	15.0
76		0.75	0.44	0.33	0.39	14.15	4.66	1.8								
	74								550.52	548.80	44.66	0.0385	15	13.7	7.7	5.8
74		0.18	0.53	0.10	0.49	14.25	4.65	2.3								
	72								547.00	543.44	93.42	0.0381	15	13.7	8.1	11.5
72		0.64	0.55	0.35	0.85	14.44	4.62	3.9								
	70								543.34	541.62	46.72	0.0368	15	13.4	9.4	5.0
70		0.45	0.73	0.32	1.17	14.52	4.61	5.4								
	26								541.52	538.95	88.91	0.0289	15	11.9	9.4	9.4

Design Year: **10** Project: Heritage Apartments Job #: 202202 Prepared by: KKW, PE

INLET STATION	OUTLET WATER SURFACE ELEV	L_O	D_o	Q_o ZW	S_o	H_f	JUNCTION LOSS											FINAL H	INLET WATER SURFACE ELEV.	RIM ELEV
							V_o	H_o	Q_N	V_N	$Q_N{*}V_i$	$V_i^2/2g$	H_i	ANGLE	H_A	H_t	$1.3H_t$	$.5H_t$		
	541.55	88.91	15	5.39	0.006	0.53	4.4	0.1												
70									3.9	3.2	12.44	0.2	0.06	42	0.05983	0.19	NA	0.09	0.62	**542.17**	**549.18**
	542.62	46.72	15	3.91	0.003	0.15	3.2	0.0												
72									2.3	1.9	4.234	0.1	0.02	2	0	0.06	NA	0.03	0.17	**542.79**	**549.78**
	544.44	93.42	15	2.28	0.001	0.10	1.9	0.0												
74									1.8	1.5	2.766	0.0	0.01	40	0.0133	0.04	NA	0.02	0.12	**544.56**	**554.12**
	549.80	44.66	15	1.84	0.001	0.03	1.5	0.0												
76									0.4	0.3	0.112	0.0	0.00	44	0.00054	0.01	NA	0.00	0.04	**549.84**	**556.73**
	551.62	77.19	15	0.37	0.000	0.00	0.3	0.0												
78													0.00	22	0	0.00	NA	0.00	0.00	**551.62**	**560.60**
	539.05	59.89	18	8.08	0.005	0.30	4.6	0.1												
52									6.7	5.4	36.15	0.5	0.16	76	0.27902	0.52	NA	0.26	0.56	**539.61**	**542.00**
	539.61	77.80	15	6.66	0.009	0.70	5.4	0.1												
54									6.0	4.9	28.92	0.4	0.13	0	0	0.24	NA	0.12	0.83	**540.44**	**542.76**
	540.44	78.42	15	5.96	0.007	0.57	4.9	0.1												
56									5.5	4.5	25.05	0.3	0.11	70	0.19333	0.40	NA	0.20	0.77	**541.20**	**545.52**
	541.20	106.90	15	5.54	0.006	0.67	4.5	0.1												
58									5.5	4.5	24.56	0.3	0.11	13	0	0.19	NA	0.09	0.76	**541.97**	**551.41**
	542.55	26.94	15	5.49	0.006	0.17	4.5	0.1												
60									4.6	3.7	17.02	0.2	0.08	26	0.04738	0.20	NA	0.10	0.27	**542.82**	**551.87**
	542.92	11.62	15	4.57	0.004	0.05	3.7	0.1												
62									4.0	3.3	13.26	0.2	0.06	10	0	0.11	NA	0.06	0.14	**543.06**	**551.98**
	543.17	62.01	15	4.03	0.003	0.21	3.3	0.0												
64									1.5	1.2	1.883	0.0	0.01	86	0.01573	0.07	NA	0.03	0.24	**543.41**	**550.83**
	543.83	20.06	15	1.52	0.000	0.01	1.2	0.0												
66									0.7	0.6	0.373	0.0	0.00	48	0.00179	0.01	NA	0.00	0.02	**543.85**	**549.99**
	544.17	27.98	15	0.68	0.000	0.00	0.6	0.0												
68													0.00	44	0	0.00	NA	0.00	0.00	**544.17**	**549.99**
	538.17	69.00	15	1.41	0.000	0.03	1.1	0.0												
50													0.00	87	0	0.01	NA	0.00	0.03	**538.20**	**544.87**
	535.44	72.74	15	4.65	0.004	0.32	3.8	0.1												
46									2.0	1.7	3.372	0.0	0.01	85	0.02816	0.10	NA	0.05	0.37	**535.81**	**544.55**
	538.75	28.09	15	2.03	0.001	0.02	1.7	0.0												
48													0.00	86	0	0.01	NA	0.01	0.03	**538.78**	**545.06**
	533.67	138.48	15	1.52	0.000	0.07	1.2	0.0												
40									1.0	0.9	0.898	0.0	0.00	90	0.00795	0.02	NA	0.01	0.07	**533.74**	**540.78**
	535.07	25.91	15	1.05	0.000	0.01	0.9	0.0												
42									0.4	0.4	0.152	0.0	0.00	48	0.00073	0.00	NA	0.00	0.01	**535.08**	**540.90**
	535.60	64.85	15	0.43	0.000	0.00	0.4	0.0												
44													0.00	89	0	0.00	NA	0.00	0.00	**535.60**	**542.55**
	533.67	55.92	15	3.05	0.002	0.11	2.5	0.0												
38													0.00	71	0	0.02	NA	0.01	0.12	**533.79**	**539.25**
	526.17	32.20	15	1.07	0.000	0.01	0.9	0.0												
36													0.00	52	0	0.00	NA	0.00	0.01	**526.18**	**530.81**
	522.55	38.86	15	2.29	0.001	0.04	1.9	0.0												
6									1.4	1.1	1.552	0.0	0.01	15	0.00196	0.02	NA	0.01	0.05	**522.60**	**527.21**
	522.84	29.05	15	1.38	0.000	0.01	1.1	0.0												
8													0.00	90	0	0.00	NA	0.00	0.01	**522.85**	**526.35**
	522.60	12.81	24	34.15	0.019	0.25	10.9	0.5												
10									33.5	10.7	357.7	1.8	0.62	40	0.67187	1.75	N/A	0.87	1.23	**523.83**	**531.00**
	527.76	53.64	24	33.52	0.019	1.00	10.7	0.4												
12									33.2	10.6	351.2	1.7	0.61	61	0.95465	2.00	NA	1.00	2.01	**529.77**	**533.99**
	529.77	83.16	24	33.21	0.018	1.53	10.6	0.4												
14									29.5	9.4	276.4	1.4	0.48	44	0.51916	1.43	NA	0.72	2.24	**532.01**	**539.31**
	532.60	63.69	24	29.47	0.014	0.92	9.4	0.3												
16									29.1	9.3	270.1	1.3	0.47	5	0	0.81	NA	0.40	1.33	**533.93**	**541.66**
	533.93	57.72	24	29.13	0.014	0.82	9.3	0.3												
18									25.9	8.2	213.1	1.1	0.37	85	0.69531	1.40	NA	0.70	1.51	**535.44**	**540.99**
	535.44	52.50	24	25.88	0.011	0.59	8.2	0.3												
20									25.5	8.1	206.7	1.0	0.36	0	0	0.62	NA	0.31	0.90	**536.34**	**542.44**
	536.34	143.25	24	25.49	0.011	1.55	8.1	0.3												
22									23.6	7.5	177.4	0.9	0.31	2	0	0.56	NA	0.28	1.83	**538.17**	**542.87**
	538.17	26.21	24	23.61	0.009	0.24	7.5	0.2												
24									15.4	8.7	134	1.2	0.41	60	0.64741	1.28	NA	0.64	0.88	**539.05**	**542.27**
	539.05	94.86	18	15.39	0.018	1.73	8.7	0.3												
26									5.4	9.4	50.89	1.4	0.48	62	0.76064	1.54	NA	0.77	2.50	**541.55**	**545.00**
	541.55	105.75	18	9.44	0.007	0.73	5.3	0.1												
28									8.0	4.5	36.23	0.3	0.11	8	0	0.22	NA	0.11	0.84	**542.39**	**550.00**
	543.45	35.84	18	8.00	0.005	0.18	4.5	0.1												
30									7.4	4.2	30.94	0.3	0.10	30	0.07612	0.25	NA	0.13	0.30	**543.75**	**550.00**
	544.30	111.57	18	7.39	0.004	0.47	4.2	0.1												
32									6.8	3.8	26.09	0.2	0.08	87	0.15132	0.30	NA	0.15	0.62	**544.92**	**552.00**
	546.95	47.58	18	6.79	0.004	0.17	3.8	0.1												
EX34													0.00	47	0	0.06	NA	0.03	0.20	**547.15**	**554.00**

DRAINAGE DESCRIPTIONS

STR. NO.	PIPE INFORMATION					INLET INFORMATION			
	DIA. (in.)	LENGTH* (ft.)	SLOPE (%)	INVERT IN	INVERT OUT	MATERIAL	INLET TYPE	Curb Type	SLOT LENGTH	RIM ELEVATION
EX34							DI-2B	CG-6	8	554.00
33	18	47.58	C	546.92	545.75	HDPE				
32							DI-2B	CG-6	8	552.00
31	18	111.57	C	545.65	543.10	HDPE				
30							DI-2B	CG-6	6	550.00
29	18	35.84	C	543.00	542.25	HDPE				
28							DI-3B	CG-2	8	550.00
27	18	105.75	C	540.70	538.95	HDPE				
26							DI-3C	CG-6	10	545.00
25	18	94.86	C	538.85	536.35	HDPE				
24							DI-2B	CG-6	8	542.27
23	24	26.21	C	536.25	535.83	HDPE				
22							DI-2C	CG-6	8	542.87
21	24	143.25	C	535.73	534.00	HDPE				
20							DI-2B	CG-6	6	542.44
19	24	52.50	C	533.90	533.25	HDPE				
18							DI-2B	CG-6	6	540.99
17	24	57.72	C	533.15	532.25	HDPE				
16							DI-3B	-	-	541.66
15	24	63.69	C	532.15	531.00	HDPE				
14							DI-2B	-	-	539.31
13	24	83.16	C	530.90	527.89	HDPE				
12							DI-3C	CG-6	10	533.99
11	24	53.64	C	527.79	526.16	HDPE				
10							MH-1	CG-6	-	531.00
9	24	12.81	C	521.55	521.00	HDPE				
8							DI-3B	CG-2	8	526.35
7	15	29.05	C	522.00	521.84	HDPE				
6							DI-3B	CG-6	6	527.21
5	15	38.86	C	531.74	521.55	HDPE				
36							DI-3B	CG-6	8	530.81
35	15	32.20	C	525.50	525.17	HDPE				
38							DI-3B	CG-6	6	539.25
37	15	55.92	C	533.75	532.67	HDPE				
44							DI-3B	-	-	542.55
43	15	64.85	C	536.00	534.60	HDPE				
42							DI-2B	CG-6	6	540.90
41	15	25.91	C	534.50	534.07	HDPE				
40							DI-2B	CG-6	6	540.78
39	15	138.48	C	533.97	532.67	HDPE				
48							DI-3B	CG-2	12	545.06
47	15	28.09	C	538.42	537.75	HDPE				
46							DI-3B	CG-6	6	544.55
45	15	72.74	C	537.65	534.00	HDPE				
50							DI-3C	CG-6	8	544.87
49	15	69.00	C	537.55	535.83	HDPE				
68							DI-3C	CG-6	6	549.99
67	15	27.98	C	543.54	543.17	HDPE				
66							DI-3C	-	-	549.99
65	15	20.06	C	543.07	542.83	HDPE				
64							DI-3B	-	-	550.83
63	15	62.01	C	542.73	542.17	HDPE				
62							DI-3B	CG-6	6	551.98
61	15	11.62	C	542.07	541.92	HDPE				
60							DI-3B	CG-6	4	551.87
59	15	26.94	C	541.82	541.55	HDPE				
58							DI-3B	CG-6	4	551.41
57	15	106.90	C	541.45	539.00	HDPE				
56							DI-2B	CG-2	6	545.52
55	15	78.42	C	538.90	537.83	HDPE				
54							DI-2B	CG-6	8	542.76
53	15	77.80	C	537.73	536.95	HDPE				
52							DI-2C	CG-6	12	542.00
51	18	59.89	C	536.85	536.35	HDPE				
78							DI-3B	CG-6	6	560.60
77	15	77.19	C	554.52	550.62	HDPE				
76							DI-2B	CG-6	8	556.73
75	15	44.66	C	550.52	548.80	HDPE				
74							DI-2B	-	-	554.12
73	15	93.42	C	547.00	543.44	HDPE				
72							DI-3B	-	-	549.78
71	15	46.72	C	543.34	541.62	HDPE				
70							DI-3C	CG-6	10	549.18
69	15	88.91	C	541.52	538.95	HDPE				
UGD1							DETENTION	CG-6	-	527.00
4B	15	8.87	C	521.55	521.30	HDPE				
4							MH-1	CG-2	-	527.17
4A	15	19.23	C	521.20	520.82	HDPE				
UGD2							DETENTION	CG-6	-	527.00
3	15	17.58	C	513.00	512.10	HDPE				
2							MH-1	CG-6	-	526.67
1	15	37.18	C	512.00	511.75	HDPE				

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
No. 35791
2/06/23
PROFESSIONAL ENGINEER

REVISIONS

DATE	REVISION DESCRIPTION
2/06/23	INITIAL PLAN SUBMITTAL

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

PROJECT: CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN
SHEET: DRAINAGE CALCULATIONS

JOB NO. 202202
SCALE N/A
SHEET NO. 14

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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. slopo	D. Diameter (in)	Full Flow Capacity (cfs)	V. Velocity (fps)	Flow Time (min)	Remarks
Pipe run: STR EX34 - UGD																			
EX34	32	2.46	0.63	1.543	1.543	16.10	4.40	6.79	6.79	546.92	545.75	47.6	0.013	0.0246	18	17.84	9.33	0.09	
32	30	0.16	0.89	0.141	1.684	16.19	4.39	0.62	7.39	545.65	543.10	111.6	0.013	0.0229	18	17.20	9.29	0.20	
30	28	0.22	0.67	0.149	1.832	16.39	4.37	0.65	8.00	543.00	542.25	35.8	0.013	0.0209	18	16.46	9.24	0.06	
28	26	0.41	0.81	0.332	2.164	16.45	4.36	1.45	9.44	540.70	538.95	105.8	0.013	0.0165	18	14.64	8.78	0.20	
26	24	0.27	0.80	0.216	3.549	16.65	4.33	0.94	15.39	538.85	536.35	94.9	0.013	0.0264	18	18.47	11.67	0.14	
24	22	0.37	0.88	0.324	5.467	16.79	4.32	1.40	23.61	536.25	535.83	26.2	0.013	0.0160	24	31.02	10.86	0.04	
22	20	0.28	0.81	0.230	5.908	16.83	4.31	0.99	25.49	535.73	534.00	143.3	0.013	0.0121	24	26.93	9.75	0.24	
20	18	0.16	0.83	0.132	6.040	17.07	4.28	0.56	25.88	533.90	533.25	52.5	0.013	0.0124	24	27.27	9.87	0.09	
18	16	0.09	0.80	0.075	6.815	17.16	4.27	0.32	29.13	533.15	532.25	57.7	0.013	0.0156	24	30.60	11.07	0.09	
16	14	0.11	0.88	0.096	6.911	17.25	4.26	0.41	29.47	532.15	531.00	63.7	0.013	0.0181	24	32.93	11.83	0.09	
14	12	0.24	0.87	0.209	7.809	17.34	4.25	0.89	33.21	530.90	527.89	83.2	0.013	0.0362	24	46.63	16.09	0.09	
12	10	0.11	0.80	0.091	7.899	17.42	4.24	0.39	33.52	527.79	526.16	53.6	0.013	0.0304	24	42.72	15.01	0.06	
10	UGD	0.00	0.90	0.000	8.061	17.48	4.24	0.00	34.15	521.55	521.00	12.8	0.013	0.0429	24	50.78	17.33	0.01	
Pipe run: STR 8 - UGD																			
8	6	0.26	0.81	0.207	0.207	5.00	6.67	1.38	1.38	522.00	521.84	29.1	0.013	0.0055	15	5.19	3.57	0.14	
6	UGD	0.16	0.87	0.139	0.346	5.14	6.62	0.92	2.29	531.74	521.55	38.9	0.013	0.2622	15	35.84	16.29	0.04	
Pipe run: STR 36 - STR 10																			
36	10	0.20	0.82	0.161	0.161	5.00	6.67	1.07	1.07	525.50	525.17	32.2	0.013	0.0102	15	7.08	4.14	0.13	
Pipe run: STR 38 - STR 14																			
38	14	0.54	0.84	0.457	0.457	5.00	6.67	3.05	3.05	533.75	532.67	55.9	0.013	0.0193	15	9.73	6.97	0.13	
Pipe run: STR 44 - STR 14																			
44	42	0.07	0.89	0.065	0.065	5.00	6.67	0.43	0.43	536.00	534.60	64.9	0.013	0.0216	15	10.28	3.96	0.27	
42	40	0.12	0.76	0.095	0.160	5.27	6.58	0.62	1.05	534.50	534.07	25.9	0.013	0.0166	15	9.02	4.91	0.09	
40	14	0.09	0.84	0.072	0.232	5.36	6.55	0.47	1.52	533.97	532.67	138.5	0.013	0.0094	15	6.78	4.44	0.52	
Pipe run: STR 48 - STR 18																			
48	46	0.40	0.76	0.305	0.305	5.00	6.67	2.03	2.03	538.42	537.75	28.1	0.013	0.0239	15	10.81	6.71	0.07	
46	18	0.55	0.72	0.395	0.700	5.07	6.64	2.62	4.65	537.65	534.00	72.7	0.013	0.0502	15	15.68	11.08	0.11	
Pipe run: STR 50 - STR 22																			
50	22	0.40	0.53	0.211	0.211	5.00	6.67	1.41	1.41	537.55	535.83	69.0	0.013	0.0249	15	11.05	6.16	0.19	
Pipe run: STR 68 - STR 24																			
68	66	0.14	0.73	0.101	0.101	5.00	6.67	0.68	0.68	543.54	543.17	28.0	0.013	0.0132	15	8.05	3.91	0.12	
66	64	0.17	0.76	0.128	0.229	5.12	6.63	0.85	1.52	543.07	542.83	20.1	0.013	0.0120	15	7.65	4.84	0.07	
64	62	0.93	0.53	0.493	0.722	8.97	5.59	2.75	4.03	542.73	542.17	62.0	0.013	0.0090	15	6.65	5.67	0.18	
62	60	0.19	0.53	0.102	0.824	9.15	5.55	0.56	4.57	542.07	541.92	11.6	0.013	0.0129	15	7.95	6.69	0.03	
60	58	0.58	0.40	0.235	1.058	10.95	5.19	1.22	5.49	541.82	541.55	26.9	0.013	0.0100	15	7.01	6.30	0.07	
58	56	0.02	0.81	0.013	1.072	11.02	5.17	0.07	5.54	541.45	539.00	106.9	0.013	0.0229	15	10.59	8.71	0.20	
56	54	0.10	0.87	0.088	1.160	11.22	5.14	0.45	5.96	538.90	537.83	78.4	0.013	0.0136	15	8.17	7.26	0.18	
54	52	0.18	0.81	0.145	1.305	11.40	5.11	0.74	6.66	537.73	536.95	77.8	0.013	0.0100	15	7.01	6.49	0.20	
52	24	0.34	0.85	0.289	1.593	11.60	5.07	1.46	8.08	536.85	536.35	59.9	0.013	0.0083	18	10.40	6.50	0.15	
Pipe run: STR 78 - STR 26																			
78	76	0.12	0.52	0.064	0.064	8.26	5.75	0.37	0.37	554.52	550.62	77.2	0.013	0.0505	15	15.73	5.14	0.25	
76	74	0.75	0.44	0.331	0.395	14.15	4.66	1.54	1.84	550.52	548.80	44.7	0.013	0.0385	15	13.73	7.66	0.10	
74	72	0.18	0.53	0.095	0.490	14.25	4.65	0.44	2.28	547.00	543.44	93.4	0.013	0.0381	15	13.66	8.15	0.19	
72	70	0.64	0.55	0.355	0.845	14.44	4.62	1.64	3.91	543.34	541.62	46.7	0.013	0.0368	15	13.43	9.36	0.08	
70	26	0.45	0.73	0.324	1.169	14.52	4.61	1.49	5.39	541.52	538.95	88.9	0.013	0.0289	15	11.90	9.44	0.16	

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 (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)	SwSx	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
12	3C	**10.0**	0.11	0.80	0.091	0.36	0.00	0.36	0.0200	0.0500	2.0	0.0833	1.6660	2.26	0.99	2.7992	0.1166	0.1655	**4.51**	2.22	1.00	0.36	0.00		
24STR	2B	**8.0**	0.23	0.86	0.195	0.78	0.00	0.78	0.0100	0.0100	2.0	0.0833	8.3300	9.37	0.73	3.7592	0.1566	0.1243	**5.99**	1.34	1.00	0.78	0.00		
26	3C	**10.0**	0.27	0.80	0.216	0.86	0.00	0.86	0.0100	0.0500	2.0	0.0833	1.6660	3.56	0.92	2.7992	0.1166	0.1573	**5.43**	1.84	1.00	0.86	0.00		
28STR	3B	**8.0**	0.17	0.82	0.142	0.57	0.00	0.57	0.0200	0.0200	2.0	0.0833	4.1650	4.74	0.90	3.5192	0.1466	0.1520	**5.73**	1.40	1.00	0.57	0.00		
30STR	2B	**6.0**	0.07	0.76	0.056	0.22	0.00	0.22	0.0200	0.0200	2.0	0.0833	4.1650	3.35	0.98	3.5192	0.1466	0.1637	**3.71**	1.62	1.00	0.22	0.00		
32	2B	**8.0**	0.16	0.89	0.141	0.56	0.00	0.56	0.0325	0.0200	2.0	0.0833	4.1650	4.31	0.93	3.5192	0.1466	0.1564	**6.50**	1.23	1.00	0.56	0.00		
EX34STR	2B	**8.0**	0.60	0.65	0.387	1.55	0.00	1.55	0.0100	0.0200	2.0	0.0833	4.1650	7.86	0.68	3.5192	0.1466	0.1197	**8.18**	0.98	1.00	1.55	0.00		
36	3B	**8.0**	0.20	0.82	0.161	0.65	0.00	0.65	0.0325	0.0200	2.0	0.0833	4.1650	4.54	0.92	3.5192	0.1466	0.1549	**6.91**	1.16	1.00	0.65	0.00		
38STR	3B	**6.0**	0.14	0.83	0.117	0.47	0.00	0.47	0.0200	0.0500	2.0	0.0833	1.6660	2.48	0.99	2.7992	0.1166	0.1655	**5.02**	1.20	1.00	0.47	0.00		
46STR	3B	**6.0**	0.12	0.81	0.097	0.39	0.00	0.39	0.0200	0.0200	2.0	0.0833	4.1650	4.11	0.95	3.5192	0.1466	0.1593	**4.74**	1.26	1.00	0.39	0.00		
48STR	3B	**12.0**	0.26	0.78	0.200	0.80	0.00	0.80	0.0200	0.0200	2.0	0.0400	2.0000	5.38	0.81	2.4800	0.1033	0.1037	**8.31**	1.44	1.00	0.80	0.00		
54	2B	**8.0**	0.18	0.81	0.145	0.58	0.00	0.58	0.0250	0.0100	2.0	0.0833	8.3300	7.06	0.85	3.7592	0.1566	0.1431	**6.40**	1.25	1.00	0.58	0.00		
58	3B	**4.0**	0.02	0.81	0.013	0.05	0.00	0.05	0.0300	0.0200	2.0	0.0833	4.1650	1.80	1.00	3.5192	0.1466	0.1666	**2.26**	1.77	1.00	0.05	0.00		
60STR	3B	**4.0**	0.01	0.90	0.008	0.03	0.00	0.03	0.0300	0.0200	2.0	0.0833	4.1650	1.53	1.00	3.5192	0.1466	0.1666	**1.87**	2.13	1.00	0.03	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 (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)	SwSx	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
12	3C	**10.0**	0.11	0.80	0.091	0.59	0.00	0.59	0.0200	0.0500	2.0	0.0833	1.6660	2.71	0.97	2.7992	0.1166	0.1631	**5.58**	1.79	1.00	0.59	0.00		
24STR	2B	**8.0**	0.23	0.86	0.195	1.27	0.00	1.27	0.0100	0.0100	2.0	0.0833	8.3300	11.24	0.70	3.7592	0.1566	0.1196	**7.52**	1.06	1.00	1.27	0.00		
26	3C	**10.0**	0.27	0.80	0.216	1.40	0.00	1.40	0.0100	0.0500	2.0	0.0833	1.6660	4.27	0.86	2.7992	0.1166	0.1503	**6.85**	1.46	1.00	1.40	0.00		
28STR	3B	**8.0**	0.17	0.82	0.142	0.93	0.00	0.93	0.0200	0.0200	2.0	0.0833	4.1650	5.69	0.84	3.5192	0.1466	0.1432	**7.29**	1.10	1.00	0.93	0.00		
30STR	2B	**6.0**	0.07	0.76	0.056	0.37	0.02	0.38	0.0200	0.0200	2.0	0.0833	4.1650	4.09	0.95	3.5192	0.1466	0.1593	**4.72**	1.27	1.00	0.38	0.00		
32	2B	**8.0**	0.16	0.89	0.141	0.92	0.20	1.12	0.0325	0.0200	2.0	0.0833	4.1650	5.57	0.88	3.5192	0.1466	0.1490	**8.90**	0.90	0.98	1.10	0.02	30	
EX34STR	2B	**8.0**	0.60	0.65	0.387	2.52	0.00	2.52	0.0100	0.0200	2.0	0.0833	4.1650	9.43	0.61	3.5192	0.1466	0.1094	**10.59**	0.76	0.92	2.32	0.20	32	
36	3B	**8.0**	0.20	0.82	0.161	1.05	0.00	1.05	0.0325	0.0200	2.0	0.0833	4.1650	5.44	0.86	3.5192	0.1466	0.1461	**8.77**	0.91	0.99	1.04	0.01	8	
38STR	3B	**6.0**	0.14	0.83	0.117	0.76	0.00	0.76	0.0200	0.0500	2.0	0.0833	1.6660	2.98	0.95	2.7992	0.1166	0.1608	**6.26**	0.96	1.00	0.76	0.00		
46STR	3B	**6.0**	0.12	0.81	0.097	0.63	0.00	0.63	0.0200	0.0200	2.0	0.0833	4.1650	4.93	0.88	3.5192	0.1466	0.1490	**6.05**	0.99	1.00	0.63	0.00		
48STR	3B	**12.0**	0.26	0.78	0.200	1.30	0.00	1.30	0.0200	0.0200	2.0	0.0400	2.0000	6.46	0.75	2.4800	0.1033	0.0975	**10.58**	1.13	1.00	1.30	0.00		
54	2B	**8.0**	0.18	0.81	0.145	0.94	0.00	0.94	0.0250	0.0100	2.0	0.0833	8.3300	8.47	0.75	3.7592	0.1566	0.1275	**8.42**	0.95	1.00	0.94	0.00		
58	3B	**4.0**	0.02	0.81	0.013	0.09	0.00	0.09	0.0300	0.0200	2.0	0.0833	4.1650	2.16	1.00	3.5192	0.1466	0.1666	**2.77**	1.45	1.00	0.09	0.00		
60STR	3B	**4.0**	0.01	0.90	0.008	0.06	0.00	0.06	0.0300	0.0200	2.0	0.0833	4.1650	1.83	1.00	3.5192	0.1466	0.1666	**2.30**	1.74	1.00	0.06	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

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
No. 35791
PROFESSIONAL ENGINEER
2/06/23

REVISIONS

DATE	REVISION DESCRIPTION
2/06/23	INITIAL PLAN SUBMITTAL

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

PROJECT: CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN
SHEET: DRAINAGE CALCULATIONS

JOB NO. 202202
SCALE N/A
SHEET NO. 15

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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
			all	0.06	0.82	0.047	0.19	0.00	0.19	0.0010	0.0500	2.0	0.0833	1.6660	3.10				
6STR	3B	**6.0**					combined flow		0.2							0.04	0.091	**0.84**	
			all	0.26	0.81	0.207	0.83	0.00	0.83	0.0010	0.0500	2.0	0.0833	1.6660	5.40				
8	3B	**8.0**					combined flow		0.8							0.10	0.215	**1.98**	
			all	0.13	0.85	0.111	0.45	0.00	0.45	0.0010	0.0500	2.0	0.0833	1.6660	4.28				
14STR	2B	**6.0**					combined flow		0.4							0.07	0.162	**1.48**	
			all	0.11	0.88	0.096	0.38	0.00	0.38	0.0010	0.0500	2.0	0.0833	1.6660	4.04				
16	3B	**6.0**					combined flow		0.4							0.07	0.146	**1.34**	
			all	0.09	0.80	0.075	0.30	0.00	0.30	0.0010	0.0500	2.0	0.0833	1.6660	3.69				
18	2B	**6.0**					combined flow		0.3							0.05	0.124	**1.14**	
			all	0.16	0.83	0.132	0.53	0.00	0.53	0.0010	0.0500	2.0	0.0833	1.6660	4.56				
20	2B	**6.0**					combined flow		0.5							0.08	0.181	**1.65**	
			left	0.15	0.81	0.122	0.49	0.00	0.49	0.0010	0.0500	2.0	0.0833	1.6660	4.42				
			right	0.13	0.81	0.109	0.44	0.00	0.44	0.0010	0.0500	2.0	0.0833	1.6660	4.24				
22	2C	**8.0**					combined flow		0.9							0.11	0.231	**2.12**	
			all	0.09	0.84	0.072	0.29	0.00	0.29	0.0010	0.0300	2.0	0.0833	2.7767	5.01				
40	2B	**6.0**					combined flow		0.3							0.05	0.121	**1.85**	
			all	0.12	0.76	0.095	0.38	0.00	0.38	0.0010	0.0300	2.0	0.0833	2.7767	5.54				
42	2B	**6.0**					combined flow		0.4							0.07	0.145	**2.22**	
			all	0.07	0.89	0.065	0.26	0.00	0.26	0.0010	0.0500	2.0	0.0833	1.6660	3.49				
44	3B	**6.0**					combined flow		0.3							0.05	0.113	**1.03**	
			left	0.03	0.73	0.022	0.09	0.00	0.09	0.0010	0.0500	2.0	0.0500	1.0000	2.32				
			right	0.04	0.73	0.032	0.13	0.00	0.13	0.0010	0.0500	2.0	0.0500	1.0000	2.69				
50STR	3C	**8.0**					combined flow		0.2							0.04	0.088	**0.81**	
			left	0.17	0.85	0.145	0.58	0.00	0.58	0.0010	0.0300	2.0	0.0833	2.7767	6.50				
			right	0.17	0.85	0.144	0.57	0.00	0.57	0.0010	0.0300	2.0	0.0833	2.7767	6.48				
52	2C	**12.0**					combined flow		1.2							0.10	0.221	**3.37**	
			all	0.10	0.87	0.088	0.35	0.00	0.35	0.0010	0.0200	2.0	0.0833	4.1650	6.94				
56	2B	**6.0**					combined flow		0.4							0.06	0.138	**3.17**	
			all	0.19	0.53	0.102	0.41	0.00	0.41	0.0010	0.0500	2.0	0.0833	1.6660	4.14				
62	3B	**6.0**					combined flow		0.4							0.07	0.152	**1.40**	
			all	0.19	0.63	0.119	0.48	0.00	0.48	0.0010	0.0500	2.0	0.0200	0.4000	4.39				
64STR	3B	**8.0**					combined flow		0.5							0.07	0.149	**1.37**	
			left	0.03	0.65	0.020	0.08	0.00	0.08	0.0010	0.0200	2.0	0.0833	4.1650	3.96				
			right	0.07	0.65	0.044	0.18	0.00	0.18	0.0010	0.0200	2.0	0.0833	4.1650	5.35				
66STR	3C	**6.0**					combined flow		0.3							0.05	0.111	**2.55**	
			left	0.05	0.73	0.037	0.15	0.00	0.15	0.0010	0.0200	2.0	0.0833	4.1650	5.00				
			right	0.09	0.73	0.065	0.26	0.00	0.26	0.0010	0.0200	2.0	0.0833	4.1650	6.19				
68	3C	**6.0**					combined flow		0.4							0.07	0.152	**3.48**	
			left	0.06	0.62	0.037	0.15	0.00	0.15	0.0010	0.0200	2.0	0.0833	4.1650	5.02				
			right	0.21	0.62	0.132	0.53	0.00	0.53	0.0010	0.0200	2.0	0.0833	4.1650	8.09				
70STR	3C	**10.0**					combined flow		0.7							0.09	0.170	**3.88**	
			all	0.56	0.51	0.285	1.14	0.00	1.14	0.0010	0.0200	2.0	0.0833	4.1650	10.79				
72STR	3B	**12.0**					combined flow		1.1							0.10	0.219	**5.02**	
			all	0.18	0.53	0.095	0.38	0.00	0.38	0.0010	0.0200	2.0	0.0833	4.1650	7.15				
74	2B	**8.0**					combined flow		0.4							0.06	0.128	**2.94**	
			all	0.28	0.65	0.182	0.73	0.00	0.73	0.0010	0.0200	2.0	0.0833	4.1650	9.11				
76STR	2B	**8.0**					combined flow		0.7							0.09	0.198	**4.53**	
			all	0.12	0.52	0.064	0.26	0.00	0.26	0.0010	0.0200	2.0	0.0500	2.5000	6.18				
78	3B	**6.0**					combined flow		0.3							0.05	0.112	**2.57**	

* 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
			all	0.06	0.82	0.047	0.31	0.00	0.31	0.0010	0.0500	2.0	0.0833	1.6660	3.72				
6STR	3B	**6.0**					combined flow		0.3							0.06	0.126	**1.15**	
			all	0.26	0.81	0.207	1.35	0.01	1.36	0.0010	0.0500	2.0	0.0833	1.6660	6.47				
8	3B	**8.0**					combined flow		1.4							0.14	0.299	**2.74**	
			all	0.13	0.85	0.111	0.72	0.00	0.72	0.0010	0.0500	2.0	0.0833	1.6660	5.13				
14STR	2B	**6.0**					combined flow		0.7							0.10	0.223	**2.05**	
			all	0.11	0.88	0.096	0.62	0.00	0.62	0.0010	0.0500	2.0	0.0833	1.6660	4.85				
16	3B	**6.0**					combined flow		0.6							0.09	0.202	**1.85**	
			all	0.09	0.80	0.075	0.49	0.00	0.49	0.0010	0.0500	2.0	0.0833	1.6660	4.43				
18	2B	**6.0**					combined flow		0.5							0.08	0.172	**1.58**	
			all	0.16	0.83	0.132	0.86	0.00	0.86	0.0010	0.0500	2.0	0.0833	1.6660	5.47				
20	2B	**6.0**					combined flow		0.9							0.11	0.250	**2.29**	
			left	0.15	0.81	0.122	0.79	0.00	0.79	0.0010	0.0500	2.0	0.0833	1.6660	5.30				
			right	0.13	0.81	0.109	0.71	0.00	0.71	0.0010	0.0500	2.0	0.0833	1.6660	5.09				
22	2C	**8.0**					combined flow		1.5							0.15	0.320	**2.93**	
			all	0.09	0.84	0.072	0.47	0.00	0.47	0.0010	0.0300	2.0	0.0833	2.7767	6.01				
40	2B	**6.0**					combined flow		0.5							0.08	0.168	**2.56**	
			all	0.12	0.76	0.095	0.62	0.00	0.62	0.0010	0.0300	2.0	0.0833	2.7767	6.65				
42	2B	**6.0**					combined flow		0.6							0.09	0.201	**3.07**	
			all	0.07	0.89	0.065	0.42	0.00	0.42	0.0010	0.0500	2.0	0.0833	1.6660	4.19				
44	3B	**6.0**					combined flow		0.4							0.07	0.156	**1.43**	
			left	0.03	0.73	0.022	0.14	0.00	0.14	0.0010	0.0500	2.0	0.0500	1.0000	2.78				
			right	0.04	0.73	0.032	0.21	0.00	0.21	0.0010	0.0500	2.0	0.0500	1.0000	3.23				
50STR	3C	**8.0**					combined flow		0.4							0.06	0.122	**1.12**	
			left	0.17	0.85	0.145	0.94	0.00	0.94	0.0010	0.0300	2.0	0.0833	2.7767	7.80				
			right	0.17	0.85	0.144	0.93	0.00	0.93	0.0010	0.0300	2.0	0.0833	2.7767	7.77				
52	2C	**12.0**					combined flow		1.9							0.14	0.305	**4.66**	
			all	0.10	0.87	0.088	0.57	0.00	0.57	0.0010	0.0200	2.0	0.0833	4.1650	8.33				
56	2B	**6.0**					combined flow		0.6							0.09	0.191	**4.38**	
			all	0.19	0.53	0.102	0.66	0.00	0.66	0.0010	0.0500	2.0	0.0833	1.6660	4.96				
62	3B	**6.0**					combined flow		0.7							0.10	0.211	**1.93**	
			all	0.19	0.63	0.119	0.78	0.00	0.78	0.0010	0.0500	2.0	0.0200	0.4000	5.27				
64STR	3B	**8.0**					combined flow		0.8							0.09	0.206	**1.89**	
			left	0.03	0.65	0.020	0.13	0.00	0.13	0.0010	0.0200	2.0	0.0833	4.1650	4.75				
			right	0.07	0.65	0.044	0.29	0.00	0.29	0.0010	0.0200	2.0	0.0833	4.1650	6.42				
66STR	3C	**6.0**					combined flow		0.4							0.07	0.154	**3.53**	
			left	0.05	0.73	0.037	0.24	0.00	0.24	0.0010	0.0200	2.0	0.0833	4.1650	6.00				
			right	0.09	0.73	0.065	0.42	0.00	0.42	0.0010	0.0200	2.0	0.0833	4.1650	7.43				
68	3C	**6.0**					combined flow		0.7							0.10	0.210	**4.81**	
			left	0.03	0.62	0.019	0.12	0.00	0.12	0.0010	0.0200	2.0	0.0833	4.1650	4.65				
			right	0.24	0.62	0.151	0.98	0.00	0.98	0.0010	0.0200	2.0	0.0833	4.1650	10.19				
70STR	3C	**10.0**					combined flow		1.1							0.11	0.234	**5.37**	
			all	0.56	0.51	0.285	1.85	0.00	1.85	0.0010	0.0200	2.0	0.0833	4.1650	12.94				
72STR	3B	**12.0**					combined flow		1.9							0.14	0.303	**6.93**	
			all	0.18	0.53	0.095	0.62	0.00	0.62	0.0010	0.0200	2.0	0.0833	4.1650	8.58				
74	2B	**8.0**					combined flow		0.6							0.08	0.177	**4.06**	
			all	0.28	0.65	0.182	1.18	0.00	1.18	0.0010	0.0200	2.0	0.0833	4.1650	10.93				
76STR	2B	**8.0**					combined flow		1.2							0.13	0.273	**6.26**	
			all	0.12	0.52	0.064	0.42	0.00	0.42	0.0010	0.0200	2.0	0.0500	2.5000	7.41				
78	3B	**6.0**					combined flow		0.4							0.07	0.155	**3.56**	

* 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.

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
No. 35791
PROFESSIONAL ENGINEER
2/06/23

REVISIONS

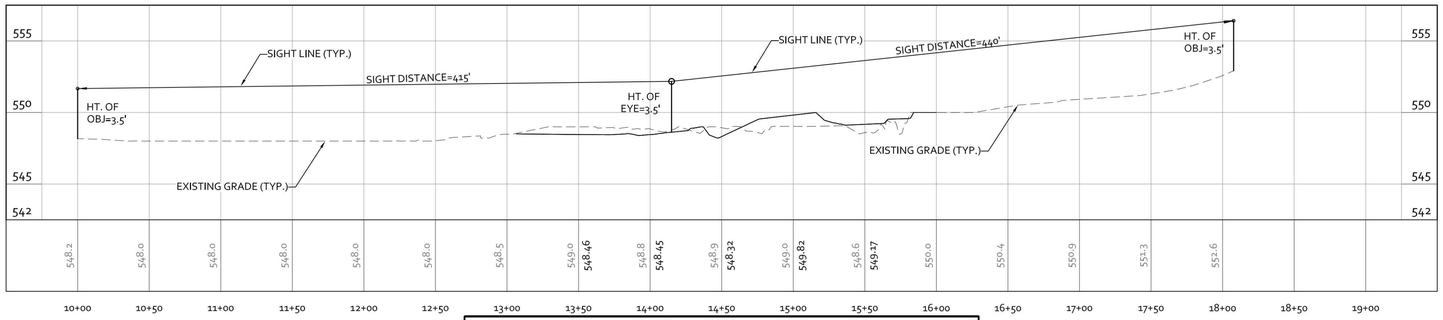
DATE	REVISION DESCRIPTION
2/06/23	INITIAL PLAN SUBMITTAL

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

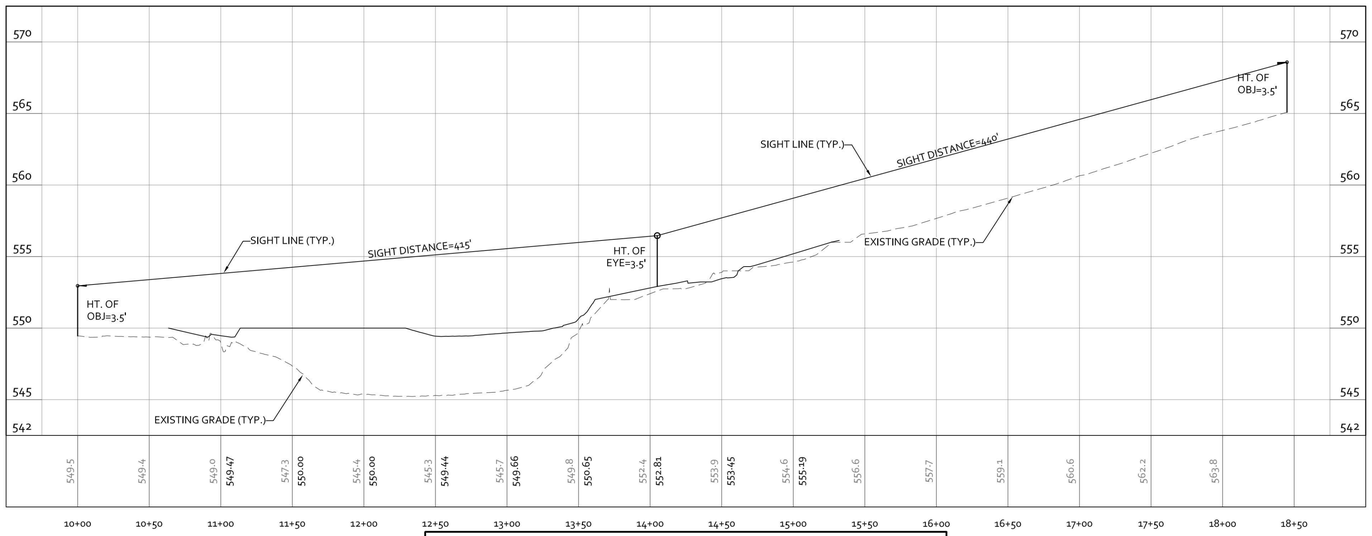
PROJECT: CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN
SHEET: DRAINAGE CALCULATIONS

JOB NO. 202202
SCALE N/A
SHEET NO. 16

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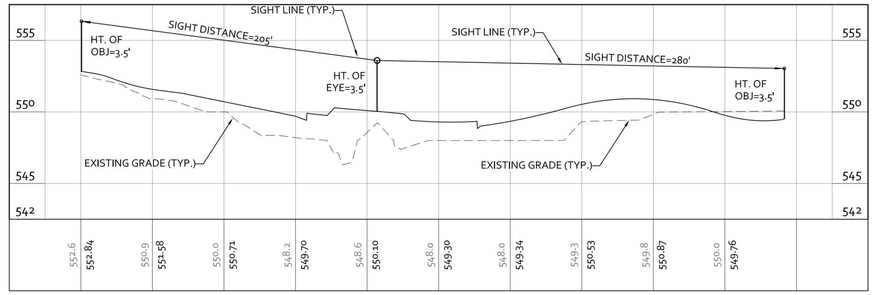
SIGHT DISTANCE - LARIAT STREET TO RIO



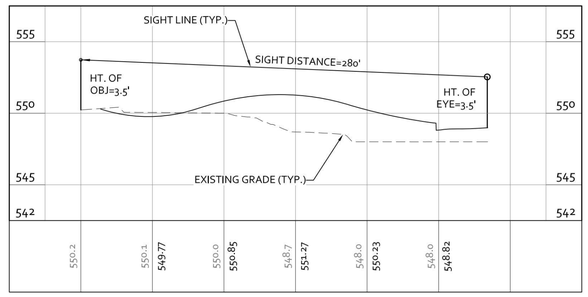
SIGHT DISTANCE - HERITAGE HALL TO RIO



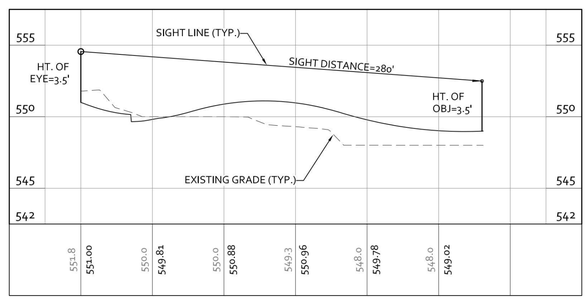
SIGHT DISTANCE - ENTRADA DRIVE WEST TO HERITAGE HALL



SIGHT DISTANCE - ENTRADA DRIVE EAST TO HERITAGE HALL

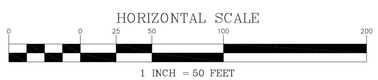


SIGHT DISTANCE - DRIVE AISLE WEST TO HERITAGE HALL



SIGHT DISTANCE - DRIVE AISLE EAST TO HERITAGE HALL





COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
No. 35791
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2/06/23

REVISIONS

DATE	REVISION DESCRIPTION
2/06/23	INITIAL PLAN SUBMITTAL

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

PROJECT: CVILLE RIO ROAD APARTMENTS - FINAL SITE PLAN

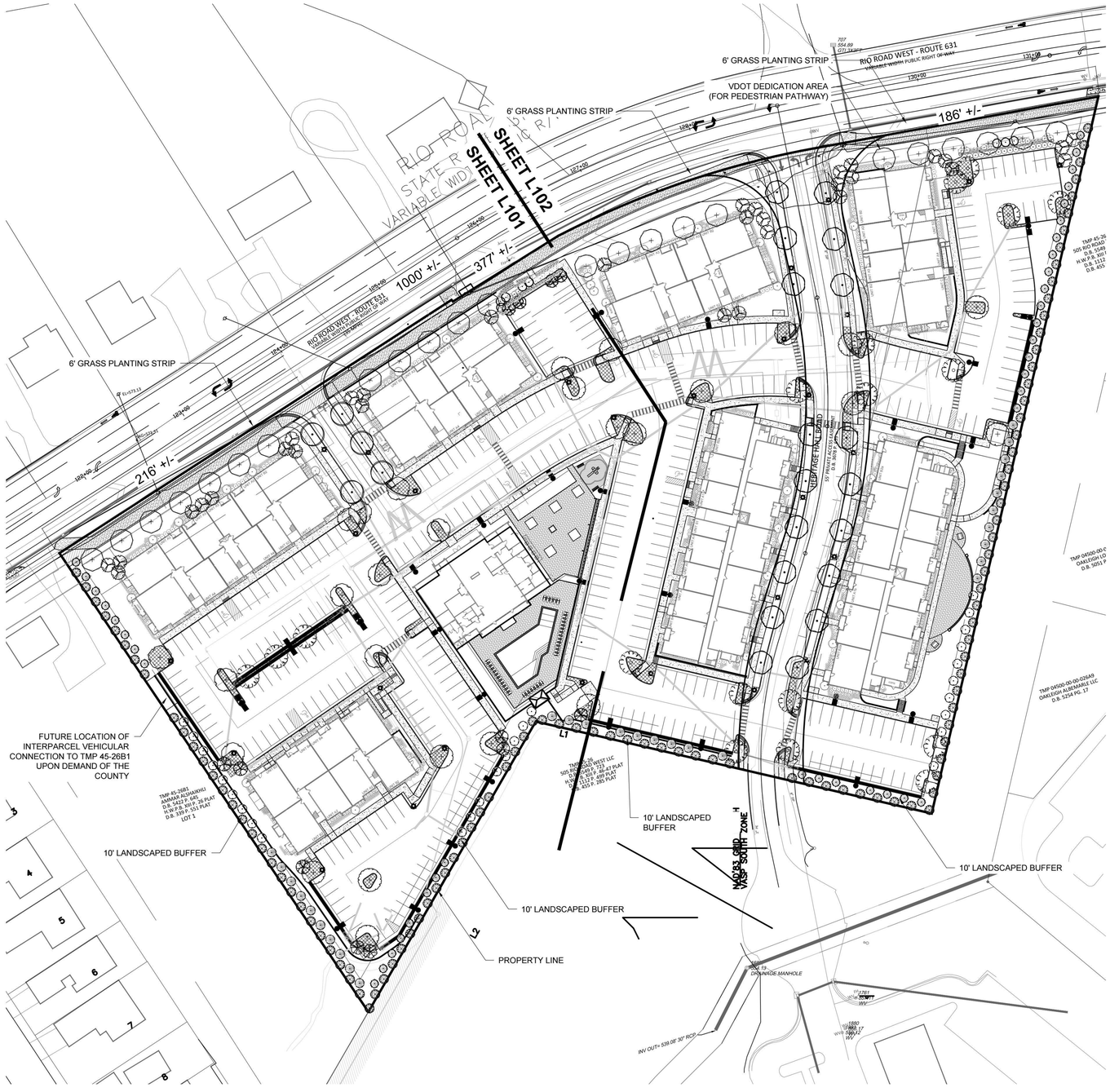
SHEET: SIGHT DISTANCE PROFILES

JOB NO. 202202

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

SHEET NO. 17

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CONCEPT GRAPHICS SCHEDULE

PARKING LOT AND VEHICULAR CIRCULATION AREA

TAKEOFF: 132,005 SF

INTERIOR PARKING LOT AREA

TAKEOFF: 7,997 SF

LANDSCAPE NOTES:

TREE PROTECTION FENCING

EXISTING TREE LIMITS

PROPOSED TREE LIMITS

ONSITE LANDSCAPE SCHEDULE

KEY	QTY.	CAT.	BOTANICAL NAME	COMMON NAME	CAL / HT.	CONT.	CANOPY	TOTAL CANOPY
SHADE TREES								
ACFR	18	LARGE	ACER X FREEMANII 'JEFFERSRED'	AUTUMN BLAZE MAPLE	2 1/2"	B+B	397	7146
BENI	0	LARGE	BETULA NIGRA 'CULLY'	HERITAGE RIVER BIRCH	2 1/2"	B+B	397	0
GLET	17	LARGE	GLEDITSIA TRIACANTHOS INERMIS	THORNLESS HONEYLOCUST	2 1/2"	B+B	424	7208
PLAC	0	LARGE	PLATANUS X ACERIFOLIA 'BLOODGOOD'	BLOODGOOD LONDON PLANETREE	2 1/2"	B+B	368	0
QUEP	41	LARGE	QUERCUS PHELLOS	WILLOW OAK	2 1/2"	B+B	370	15170
QURU	10	LARGE	QUERCUS RUBRA	NORTHERN RED OAK	2 1/2"	B+B	424	4240
SUBTOTAL	86						SUBTOTAL	33764
ORNAMENTAL TREES								
AMGA	4	SMALL	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLANCE'	AUTUMN BRILLIANCE SERVICEBERRY	1 3/4" - 1 3/4" / 8'	B+B	130	520
CECA	2	SMALL	CERCIS CANADENSIS 'FOREST PANSY'	FOREST PANSY EASTERN REDBUD	1 3/4" - 1 3/4" / 8'	B+B	124	248
COFR	3	SMALL	CORNUS FLORIDA 'APPALACHIAN SPRING'	APPALACHIAN SPRING FLOWERING DOGWOOD	1 3/4" - 1 3/4" / 8'	B+B	124	372
MAVI	2	SMALL	MAGNOLIA VIRGINIANA 'JIM WILSON'	MOONGLOW SWEETBAY MAGNOLIA	1 3/4" - 1 3/4" / 8'	B+B	113	226
PRYE	1	SMALL	PRUNUS X YEDOENSIS	YOSHINO CHERRY	1 3/4" - 1 3/4" / 8'	B+B	99	99
SUBTOTAL	12						SUBTOTAL	1465
EVERGREEN TREES								
CUXL	108		X CUPRESSOCYPARIS LEYLANDII	LEYLAND CYPRESS	1 3/4" - 1 3/4" / 8'	B+B	23	2484
ILEO	29		ILEX OPACA	AMERICAN HOLLY	1 3/4" - 1 3/4" / 8'	B+B	56	1624
INRS	40		ILEX X NELLIE R STEVENS	NELLIE R STEVENS HOLLY	1 3/4" - 1 3/4" / 8'	B+B	44	1760
ILAF	27		ILEX X ATTENUATA 'FOSTERI'	FOSTER HOLLY	1 3/4" - 1 3/4" / 8'	B+B	16	432
SUBTOTAL	108						SUBTOTAL	2484
EVERGREEN SHRUBS								
ICST	23	NA	ILEX CRENATA SOFT TOUCH	SOFT TOUCH JAPANESE HOLLY	18-24" HT.	#3 CAN	16	368
ILCR	0	NA	ILEX CRENATA 'COMPACTA'	COMPACT JAPANESE HOLLY	18-24" HT.	#3 CAN	16	0
PLOL	31	NA	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN CHERRY LAUREL	18-24" HT.	#3 CAN	10	310
RHEV	39	NA	RHODODENDRON X ROBLEV	AUTUMN IVORY ENCORE AZALEA	18-24" HT.	#3 CAN	10	390
SUBTOTAL	70						SUBTOTAL	700
							TOTAL	38413

LANDSCAPE NOTES:

1. TIMING OF INSTALLATION: ALL LANDSCAPING SHALL BE INSTALLED BY THE FIRST PLANTING SEASON FOLLOWING THE ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY WITHIN THE DEVELOPMENT, OR A PHASE THEREOF.
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7. LAWN AREAS MAY BE EITHER SEED OR SOD.
8. SEE CIVIL DRAWINGS FOR LIGHTING AND PHOTOMETRIC PLANS.

LandDesign.
200 S. PEYTON STREET
ALEXANDRIA, VA 22314
703.549.7784
WWW.LANDDESIGN.COM

KEY MAP

SEAL
COMMONWEALTH OF VIRGINIA
MATTHEW V. CLARK
lic. No. 952
02/06/2023
LANDSCAPE ARCHITECT

NOT FOR CONSTRUCTION

PROJECT

HERITAGE ON RIO

GW PARTNERS

RIO MAGISTERIAL DISTRICT

ALBEMARLE COUNTY, VA

LANDDESIGN PROJ.#
2022116

REVISION / ISSUANCE

NO.	DESCRIPTION	DATE

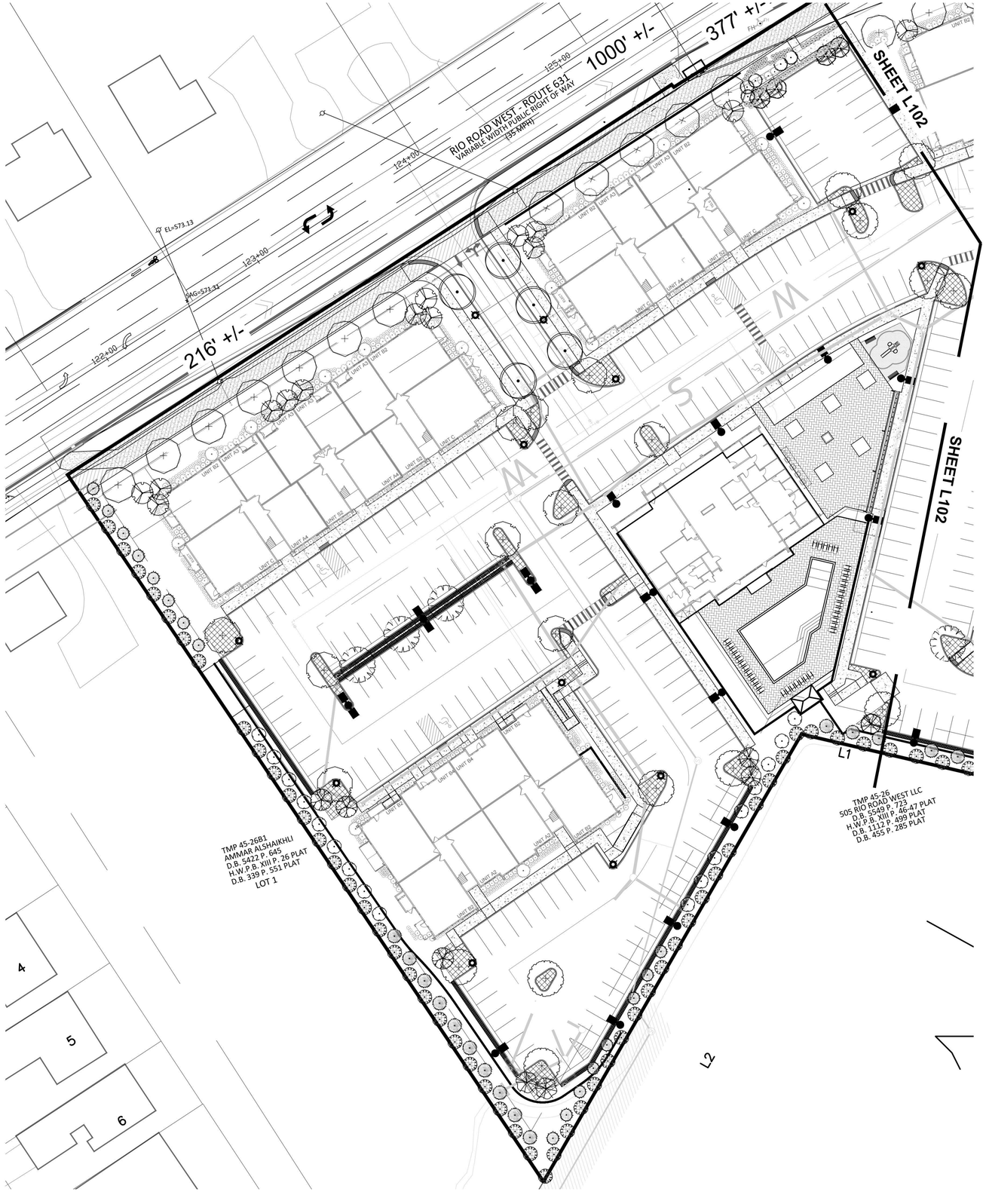
DESIGNED BY:
DRAWN BY:
CHECKED BY:

SCALE
NORTH
VERT: N/A
HORZ: 1"=40'
0 20' 40' 80'

SHEET TITLE

PLANTING REFERENCE PLAN

SHEET NUMBER
L100



LANDSCAPE NOTES:

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KEY MAP

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MATTHEW V. CLARK
lic. No. 952
02/06/2023
LANDSCAPE ARCHITECT

NOT FOR CONSTRUCTION

PROJECT

HERITAGE ON RIO

GW PARTNERS

RIO MAGISTERIAL DISTRICT

ALBEMARLE COUNTY, VA

LANDDESIGN PROJ.# 2022116

REVISION / ISSUANCE

NO.	DESCRIPTION	DATE

DESIGNED BY:
DRAWN BY:
CHECKED BY:

SCALE NORTH

VERT: N/A
HORZ: 1"=30'

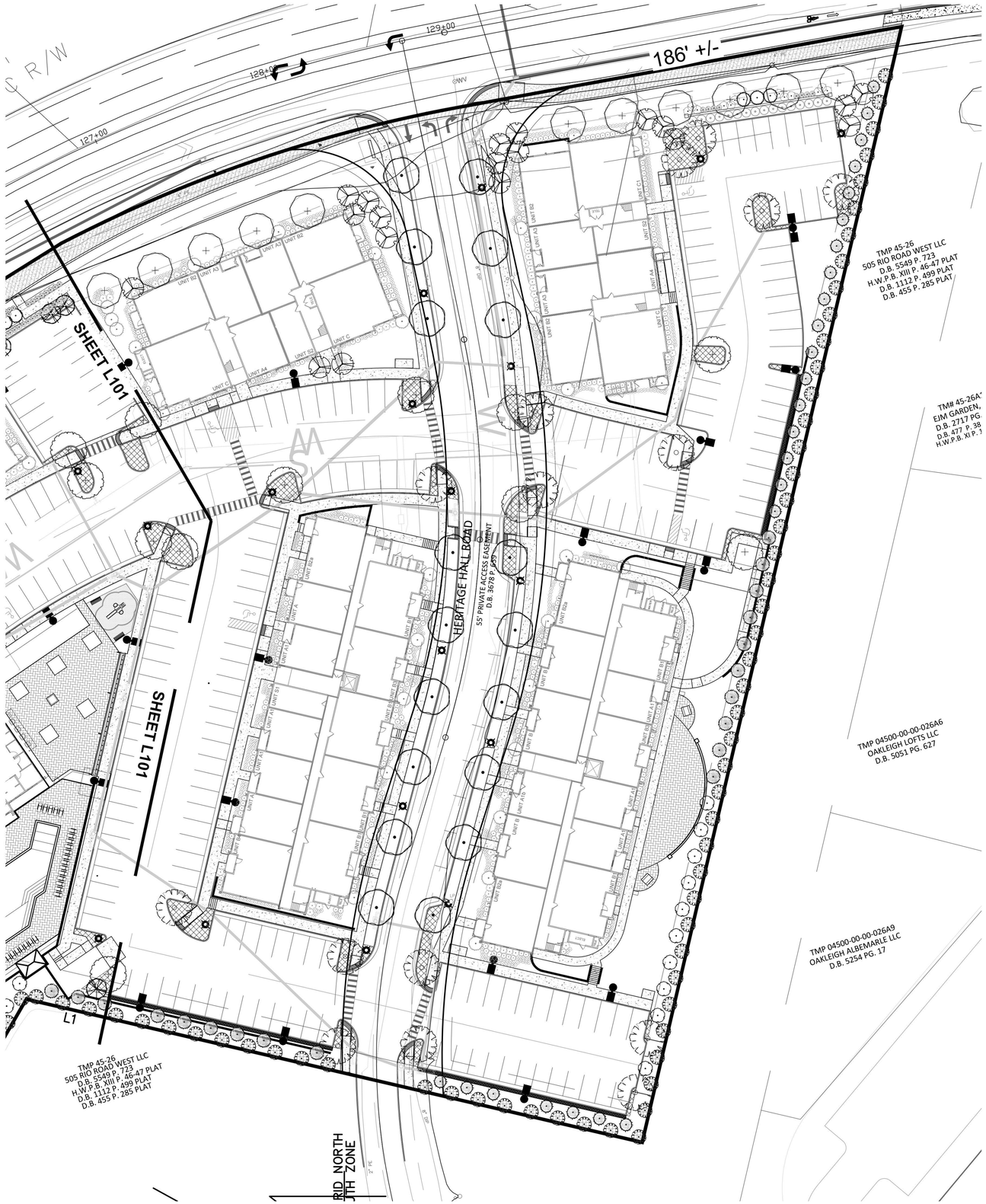
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SHEET TITLE

PLANTING PLAN

SHEET NUMBER

L101



LANDSCAPE NOTES:

1. TIMING OF INSTALLATION: ALL LANDSCAPING SHALL BE INSTALLED BY THE FIRST PLANTING SEASON FOLLOWING THE ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY WITHIN THE DEVELOPMENT, OR A PHASE THEREOF.
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GW PARTNERS

RIO MAGISTERIAL DISTRICT

ALBEMARLE COUNTY, VA

LANDDESIGN PROJ.#
2022116

REVISION / ISSUANCE

NO.	DESCRIPTION	DATE

DESIGNED BY:
DRAWN BY:
CHECKED BY:

SCALE

NORTH

VERT: N/A
HORZ: 1"=30'

0 15' 30' 60'

SHEET TITLE

PLANTING PLAN

SHEET NUMBER

L102



LANDSCAPE NOTES:

- PARKING LOT AND VEHICULAR CIRCULATION AREA
- INTERIOR PARKING LOT AREA
- INTERIOR PARKING LOT TREES
- LANDSCAPING ALONG STREETS

ONSITE LANDSCAPE SCHEDULE

KEY	QTY.	CAT.	BOTANICAL NAME	COMMON NAME	CAL / HT.	CONT.	CANOPY	TOTAL CANOPY
SHADE TREES								
ACFR	18	LARGE	ACER X FREEMANII 'JEFFERSRED'	AUTUMN BLAZE MAPLE	2 1/2"	B+B	397	7146
BENI	0	LARGE	BETULA NIGRA 'CULLY'	HERITAGE RIVER BIRCH	2 1/2"	B+B	397	0
GLET	17	LARGE	GLEDITSIA TRIACANTHOS INERMIS	THORNLESS HONEYLOCUST	2 1/2"	B+B	424	7208
PLAC	0	LARGE	PLATANUS X ACERIFOLIA 'BLOODGOOD'	BLOODGOOD LONDON PLANETREE	2 1/2"	B+B	368	0
QUEP	41	LARGE	QUERCUS PHELLOS	WILLOW OAK	2 1/2"	B+B	370	15170
QURU	10	LARGE	QUERCUS RUBRA	NORTHERN RED OAK	2 1/2"	B+B	424	4240
SUBTOTAL	86						SUBTOTAL	33764
ORNAMENTAL TREES								
AMGA	4	SMALL	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLANCE'	AUTUMN BRILLIANCE SERVICEBERRY	1 1/2" - 1 3/4" / 8'	B+B	130	520
CECA	2	SMALL	CERCIS CANADENSIS 'FOREST PANSY'	FOREST PANSY EASTERN REDBUD	1 1/2" - 1 3/4" / 8'	B+B	124	248
COFR	3	SMALL	CORNUS FLORIDA 'APPALACHIAN SPRING'	APPALACHIAN SPRING FLOWERING DOGWOOD	1 1/2" - 1 3/4" / 8'	B+B	124	372
MAVI	2	SMALL	MAGNOLIA VIRGINIANA 'JIM WILSON'	MOONGLOW SWEETBAY MAGNOLIA	1 1/2" - 1 3/4" / 8'	B+B	113	226
PRYE	1	SMALL	PRUNUS X YEDOENSIS	YOSHINO CHERRY	1 1/2" - 1 3/4" / 8'	B+B	99	99
SUBTOTAL	12						SUBTOTAL	1465
EVERGREEN TREES								
CUXL	108		X CUPRESSOCYPARIS LEYLANDII	LEYLAND CYPRESS	1 1/2" - 1 3/4" / 8'	B+B	23	2484
ILEO	29		ILEX OPACA	AMERICAN HOLLY	1 1/2" - 1 3/4" / 8'	B+B	56	1624
INRS	40		ILEX X NELLIE R STEVENS	NELLIE R STEVENS HOLLY	1 1/2" - 1 3/4" / 8'	B+B	44	1760
ILAF	27		ILEX X ATTENUATA 'FOSTERI'	FOSTER HOLLY	1 1/2" - 1 3/4" / 8'	B+B	16	432
SUBTOTAL	108						SUBTOTAL	2484
EVERGREEN SHRUBS								
ICST	23	NA	ILEX CRENATA SOFT TOUCH	SOFT TOUCH JAPANESE HOLLY	18-24" HT.	#3 CAN	16	368
ILCR	0	NA	ILEX CRENATA 'COMPACTA'	COMPACT JAPANESE HOLLY	18-24" HT.	#3 CAN	16	0
PLOL	31	NA	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN CHERRY LAUREL	18-24" HT.	#3 CAN	10	310
RHEV	39	NA	RHODODENDRON X ROBLEV	AUTUMN IVORY ENCORE AZALEA	18-24" HT.	#3 CAN	10	390
SUBTOTAL	70						SUBTOTAL	700
							TOTAL	38413

LANDSCAPING ALONG STREETS
SECTION 32.7.9.5

ADJACENT ROAD NAME AND TYPE		RIO ROAD WEST					
TOTAL LINEAR FEET		1000 LF SEE NOTE BELOW					
DESCRIPTION		REQUIRED			PROVIDED		
LARGE TREES (1/50) X 1000		20			23		
SHRUBS (1/5) X 1000		102			*70		
TYPES	DESCRIPTION	EXISTING	PROPOSED	TOTAL EACH	TOTAL QTY	PERCENT	
DECIDUOUS	LARGE TREE	0	23	23	23	100	100
	MEDIUM TREE	0	0	0		0	
	SMALL TREE	0	0	0		0	
EVERGREEN	LARGE TREE	0	0	0	0	0	0
	MEDIUM TREE	0	0	0		0	
	SMALL TREE	0	0	0		0	
TOTAL		0	23	23	23	100	
DECIDUOUS	SHRUB	0	0	0	70	0	
EVERGREEN	SHRUB	0	70	70		100	
TOTAL		0	70	70	70	100	
"SR" SYMBOLS INDICATE SPECIES USED TO FULFILL THIS REQUIREMENT							
*SHRUBS ARE PLACED FOR SCREENING ONLY ADJACENT TO PARKING AREAS RIO ROAD WEST TO BE SCREENED 142 LF							

LANDSCAPING WITHIN A PARKING AREA
SECTION 32.7.9.6

PARKING LOT AREA AND # OF SPACES		132,005 SF AND 377 SPACES				
PARKING LOT LANDSCAPE REQUIREMENT		5%				
DESCRIPTION		REQUIRED			PROVIDED	
PARKING LOT LANDSCAPE AREA 132,005 X 5%		6600			7997 SF (6.06%)	
TREES (1/10) X 377 SPACES		38			53	
TYPES	DESCRIPTION	EXISTING	PROPOSED	TOTAL EACH	TOTAL QTY	PERCENT
DECIDUOUS	LARGE TREE	0	49	49	53	92 100
	MEDIUM TREE	0	0	0		0
	SMALL TREE	0	4	4		8
EVERGREEN	LARGE TREE	0	0	0	0	0 0
	MEDIUM TREE	0	0	0		0
	SMALL TREE	0	0	0		0
TOTAL		0	53	53	53	100
DECIDUOUS	SHRUB	0	0	0	0	0
EVERGREEN	SHRUB	0	0	0		0
TOTAL		0	0	0	0	0
"P" SYMBOLS INDICATE SPECIES USED TO FULFILL THIS REQUIREMENT						

TREE CANOPY
SECTION 32.7.9.8

TOTAL SITE AREA	358,586 SF (8.23 AC)	
PROPOSED LAND USE	RESIDENTIAL 20+ UNITS PER ACRE	
MINIMUM TREE CANOPY	10%	
TREE CANOPY REQUIRED (358,586 SF X 10%)	35,859 SF	
DESCRIPTION	SQUARE FEET	ACRES
EXISTING CANOPY TO BE PRESERVED	0 SF	0 AC
PROPOSED CANOPY	38,413 SF	0.88 AC
TOTAL CANOPY PROVIDED	38,413 SF (10.71%)	0.88 AC

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KEY MAP

COMMONWEALTH OF VIRGINIA
MATTHEW V. CLARK
lic. No. 952
02/06/2023
LANDSCAPE ARCHITECT

SEAL

NOT FOR CONSTRUCTION

PROJECT

HERITAGE ON RIO

GW PARTNERS

RIO MAGISTERIAL DISTRICT

ALBEMARLE COUNTY, VA

LANDDESIGN PROJ.# 2022116

REVISION / ISSUANCE

NO.	DESCRIPTION	DATE

DESIGNED BY:
DRAWN BY:
CHECKED BY:

SCALE

VERT: N/A
HORZ: 1"=30'

0 15' 30' 60'

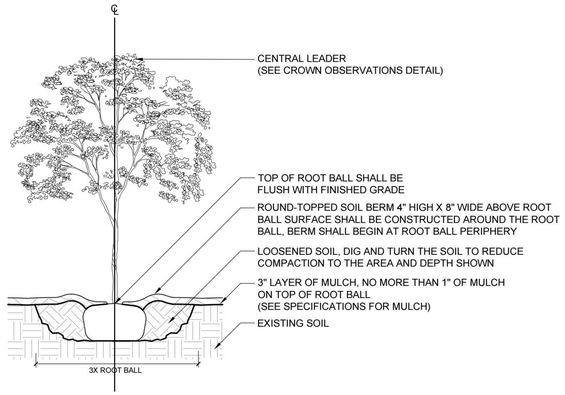
NORTH

SHEET TITLE

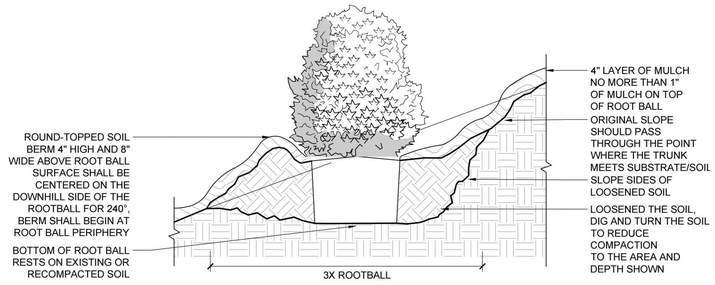
LANDSCAPE COMPLIANCE

SHEET NUMBER

L103



1 TREE PLANTING
L104 SECTION — 3/8" = 1'-0"



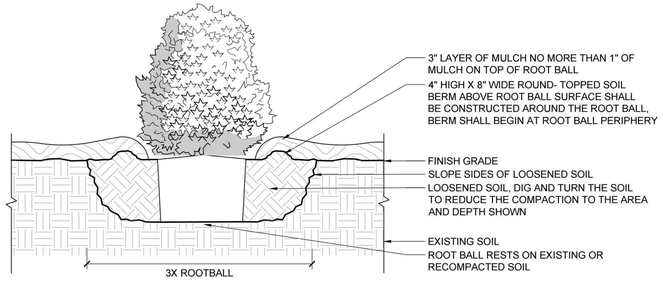
4 SHRUB PLANTING ON SLOPE
L104 SECTION — 3/4" = 1'-0"

2 TREE PLANTING ON SLOPE
L104 SECTION — 3/8" = 1'-0"

PLANT SPACING CHART

SPACING "D"	ROW "A"	PLANTS / S.F.
6" O.C.	5.20" O.C.	4.61
8" O.C.	6.93" O.C.	2.60
10" O.C.	8.66" O.C.	1.66
12" O.C.	10.40" O.C.	1.15
15" O.C.	13.00" O.C.	0.73
18" O.C.	15.60" O.C.	0.51
24" O.C.	20.80" O.C.	0.29

5 GROUNDCOVER SECTION AND SPACING
L104 SECTION — 3/4" = 1'-0"



3 SHRUB PLANTING
L104 SECTION — 3/4" = 1'-0"

NOTES:

1. ALL TREES TO BE PLANTED SHALL MEET THE SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF NURSERYMEN. THE PLANTING OF TREES SHALL BE DONE IN ACCORDANCE WITH EITHER THE STANDARDIZED LANDSCAPE SPECIFICATIONS JOINTLY ADOPTED BY THE VIRGINIA NURSERYMEN'S ASSOCIATION, THE VIRGINIA SOCIETY OF LANDSCAPE DESIGNERS AND THE VIRGINIA CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS, OR THE ROAD AND BRIDGE SPECIFICATIONS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION.
2. ALL SITE PLANTINGS OF TREES AND SHRUBS SHALL BE ALLOWED TO REACH, AND BE MAINTAINED AT, MATURE HEIGHT; THE TOPPING OF TREES IS PROHIBITED. SHRUBS AND TREES SHALL BE PRUNED MINIMALLY AND ONLY TO SUPPORT THE OVERALL HEALTH OF THE PLANT.
3. THE LANDSCAPING PLANTS AND TREES ADJACENT TO THE SIGHT DISTANCE TRIANGLE WILL NEED TO BE MAINTAINED IN THE AREA BETWEEN 2' AND 7' ABOVE GROUND AS CLEAR ZONE TO PRESERVE SIGHT LINES AND ACCOMMODATE PEDESTRIANS.

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PROJECT
HERITAGE ON RIO

GW PARTNERS
RIO MAGISTERIAL DISTRICT
ALBEMARLE COUNTY, VA

LANDDESIGN PROJ.#
2022116

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DRAWN BY:
CHECKED BY:

SCALE — NORTH
VERT: N/A
HORZ: AS NOTED

SHEET TITLE
LANDSCAPE DETAILS

SHEET NUMBER
L104

Conservation Plan Notes:

1. ALL TREES TO BE PRESERVED AND PROTECTED SHALL BE MARKED WITH PAINT OR RIBBON AT A HEIGHT CLEARLY VISIBLE TO EQUIPMENT OPERATORS. NO LAND DISTURBING ACTIVITY SHALL BEGIN UNTIL THE TREE MARKING HAS BEEN INSTALLED BY THE CONTRACTOR AND INSPECTED AND APPROVED BY THE COUNTY ENGINEERING DEPARTMENT.

2. HEAVY EQUIPMENT, VEHICULAR TRAFFIC, AND THE STORAGE OF CONSTRUCTION MATERIALS AND SOIL SHALL NOT BE PERMITTED WITHIN THE OUTSIDE DRIPLINE OF TREES TO BE PRESERVED AND PROTECTED.

3. TEMPORARY EROSION CONTROL MEASURED AND/OR PERMANENT STORMWATER MANAGEMENT FACILITIES LOCATIONS SHALL BE COORDINATED SUCH THAT THEY SHALL NOT ADVERSELY AFFECT TREES TO BE PRESERVED AND PROTECTED.

4. FIRES SHALL NOT BE PERMITTED WITHIN 100 FEET OF THE OUTSIDE DRIPLINE OF TREES TO BE PRESERVED AND PROTECTED.

5. TOXIC MATERIALS SHALL NOT BE STORED WITHIN 100 FEET OF THE OUTSIDE DRIPLINE OF TREES TO BE PRESERVED AND PROTECTED.

6. NO LAND DISTURBING ACTIVITY SHALL BEGIN UNTIL THE TREE PROTECTIVE FENCING HAS BEEN INSTALLED BY THE CONTRACTOR AND INSPECTED AND APPROVED BY THE COUNTY ENGINEERING DEPARTMENT.

7. WHEN TRENCHING FOR ANY KIND OF UNDERGROUND WATER, SEWER, ELECTRICAL, CABLE, TELEPHONE, OR OTHER UTILITY SERVICE IS NECESSARY WITHIN THE LIMITS OF TREE PROTECTION OR BEYOND THE LIMITS OF CLEARING, THE SEPARATION FROM THE TRUNKS OF TREES SHALL BE MAXIMIZED TO THE FURTHEST EXTENT POSSIBLE. TUNNELING SHALL BE REQUIRED WHEN DEEMED, BY THE COUNTY ENGINEER, THAT TRENCHING WILL SIGNIFICANTLY DAMAGE FEEDER ROOTS OF TREES TO BE PRESERVED AND PROTECTED.

8. ANY DAMAGE TO THE CROWN, TRUNK, OR ROOT SYSTEM OF ANY TREE TO BE PRESERVED AND PROTECTED SHALL BE REPAIRED IMMEDIATELY, IN ACCORDANCE WITH THE PRACTICES IN THE EROSION AND SEDIMENT CONTROL HANDBOOK. CARE FOR SERIOUS INJURIES SHALL BE PRESCRIBED BY A PROFESSIONAL FORESTER OR TREE SPECIALIST.

9. SOILS WHICH HAVE BEEN COMPACTED, OVER THE ROOT ZONES OF TREES TO BE PRESERVED AND PROTECTED, SHALL BE AERATED BY PUNCHING HOLES WITH AN IRON BAR EVERY 18" OVER THE ROOT ZONE. THE BAR SHALL BE DRIVEN 12" DEEP AND MOVED BACK AND FORTH IN EACH HOLE UNTIL SOIL IS LOOSENED.

10. TREE PROTECTIVE MEASURES SHALL BE THE LAST OF THE TEMPORARY EROSION CONTROL PLAN MEASURES REMOVED DURING THE FINAL CLEAN-UP.

Landscape Notes

1. CONTRACTOR TO USE EXTREME CARE AND CAUTION AS NOT TO DAMAGE ANY TREES SCHEDULED TO REMAIN OUTSIDE LIMITS OF CONSTRUCTION. LIMITS OF DISTURBANCE AND TREE PROTECTION FENCING SERVE AS LIMITS OF CONSTRUCTION.

2. NO CONSTRUCTION EQUIPMENT OR STORAGE SHALL OCCUR WITHIN DRIPLINE OF EXISTING TREES. PRIOR TO MOBILIZATION CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT (LA) TO DISCUSS TREE PROTECTION EFFORTS. ALL TREE PROTECTION MEASURES SHALL BE APPROVED BY LA AND/OR TREE ARBORIST BEFORE ANY CONSTRUCTION ACTIVITIES SHALL TAKE PLACE ON-SITE. CONTRACTOR TO MONITOR TREES FOR STRESS AND/OR DAMAGE AND ADVISE LA AND TREE ARBORIST IF ANY OCCUR.

3. CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT AND/OR TREE ARBORIST 48-HOURS IN ADVANCE OF ANY CONSTRUCTION ACTIVITY NEEDED WITHIN ANY TREE PROTECTION MEASURE. ALL TREE PROTECTION MEASURES SHALL BE REPLACED IN ORIGINAL LOCATION ONCE WORK HAS BEEN COMPLETED. NO WORK SHALL BE DONE WITHIN DRIPLINE OF EXISTING TREES UNLESS APPROVED BY TREE ARBORIST OR LANDSCAPE ARCHITECT PRIOR TO WORK.

4. ALL WORK TO BE PERFORMED BY THE CONTRACTOR WITHIN THE DRIPLINE OF ANY EXISTING TREE OR TREE PROTECTION AREA SHALL BE DONE IN A MANNER SENSITIVE TO ENSURING NO DAMAGE WILL BE DONE TO THE EXISTING TREES. THE PREFERRED METHOD FOR GRADING SMALL AREAS WITHIN THE DRIPLINE SHALL BE DONE BY HAND. LARGER AREAS TO BE GRADED MAY BE DONE WITH A SMALL BOBCAT/TRACT-HOE. CONTRACTOR TO DISCUSS METHODS OF GRADING WORK WITH LANDSCAPE ARCHITECT AND TREE ARBORIST PRIOR TO COMMENCING ANY SUCH WORK WITHIN DESIGNATED TREE PROTECTION AREAS OR WITHIN EXISTING DRIPLINES.

5. ALL PLANTS HAVING A QUANTITY GREATER THAN ONE (1) SHALL BE MATCHED AND SUPPLIED FROM THE SAME SOURCE (PER SPECIES).

6. CONTACT LANDSCAPE ARCHITECT AT THE TIME OF PLANT MATERIAL DELIVERY, BEFORE ANY SUBSTITUTIONS OR CHANGES, IF SCHEDULED TYPES ARE UNAVAILABLE, AND FOLLOWING INSTALLATION. ALL PLANT SUBSTITUTIONS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO PLACEMENT OF ORDERS.

7. LANDSCAPE ARCHITECT SHALL INSPECT AND APPROVE ALL PLANT MATERIAL AT TIME OF DELIVERY AS WELL AS AFTER INITIAL PLACEMENT PRIOR TO PLANTING. CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT 48-HOURS PRIOR TO DELIVERY.

8. PLANT LOCATIONS TO BE REEVALUATED AND REVISED, IF NECESSARY, AFTER FINISHED GRADING.

9. MULCH IN PLANTERS AND PLANTING BEDS TO BE CLEAN AND FREE FROM PEST AND DISEASES. MULCH SHALL BE APPLIED TO A 2-INCH DEPTH. MULCH RINGS 24-INCHES MIN. IN DIAMETER ARE TO BE PLACED AROUND ALL TREES NOT LOCATED IN PLANTING BEDS. MULCH TO BE DOUBLE-SHREDDED HARDWOOD.

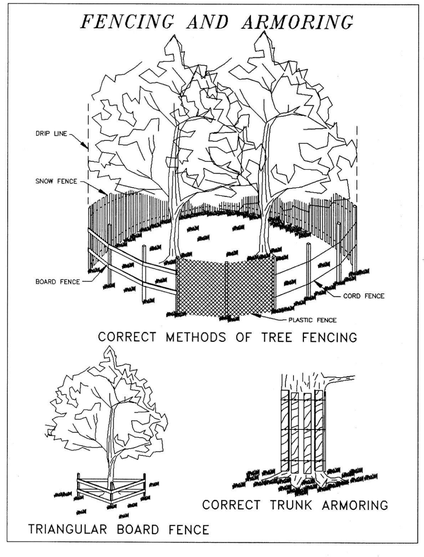
10. CONTRACTOR TO VERIFY ALL QUANTITIES BETWEEN PLAN AND PLANT LIST AND REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT IMMEDIATELY PRIOR TO ORDERING.

11. ALL STREET TREES WITHIN THE PUBLIC RIGHT OF WAY SHALL BE MAINTAINED BY THE APARTMENT COMPLEX.

Planting Notes

1. DO NOT PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. THE CONTRACTOR ASSUMES COMPLETE RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
2. ALL PLANT MATERIAL SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO ITS ARRIVAL ON SITE. SEE SPECS.
3. ALL AREAS WITHIN THE PROJECT LIMITS OR DISTURBED BY CONSTRUCTION OPERATIONS AND NOT OTHERWISE SPECIFIED SHALL BE SEEDED PER SPECIFICATIONS.

1992 3.38



Source: Va. DSWC Plate 3.38-2

County of Albemarle
Conservation Plan Checklist – To be placed on Landscape Plans
(Handbook, pp III-284-111-297 for complete specifications)

1. **The following items shall be shown on the plan:**
   - ☑ Trees to be saved;
   - ☑ Limits of clearing (outside dripline of trees to be saved);
   - ☑ Location and type of protective fencing;
   - ☑ Grade changes requiring tree wells or walls;
   - ☑ Proposed trenching or tunneling beyond the limits of clearing.
2. **Markings:**
   - ☑ All trees to be saved shall be marked with print or ribbon at a height clearly visible to equipment operators.
   - ☑ No grading shall begin until the tree marking has been inspected and approved by a County Inspector.
3. **Pre-Construction Conference:**
   - ☑ Tree preservation and protection measures shall be reviewed with the contractor on site.
4. **Equipment Operation and Storage:**
   - ☑ Heavy equipment, vehicular traffic and storage of construction materials including soil shall not be permitted within the driplines of trees to be saved.
5. **Soil Erosion and Stormwater Detention Devices:**
   - ☑ Such devices shall not adversely affect trees to be saved.
6. **Fires:**
   - ☑ Fires are not permitted within 100 feet of the dripline of trees to be saved.
7. **Toxic Materials:**
   - ☑ Toxic materials shall not be stored within 100 feet of the dripline of trees to be saved.
8. **Protective Fencing:**
   - ☑ Trees to be retained within 40 feet of a proposed building or grading activity shall be protected by fencing.
   - ☑ Fencing shall be in place and shall be inspected and approved by a County Inspector prior to grading or construction.
9. **Tree Wells:**
   - ☑ When the ground level must be raised within the dripline of a tree to be saved, a tree well shall be provided and a construction detail submitted for approval.
10. **Tree Walls:**
    - ☑ When the ground level must be lowered within the dripline a tree to be saved, a tree wall shall be provided; and a construction detail submitted for approval.
11. **Trenching and Tunneling:**
    - ☑ When trenching is required within the limits of clearing, it shall be done as far away from the trunks of trees as possible. Tunneling under a large tree shall be considered as an alternative when it is anticipated that necessary trenching will destroy feeder roots.
12. **Cleanup:**
    - ☑ Protective fencing shall be the last items removed during the final cleanup.
13. **Damaged Trees:**
    - ☑ Damaged trees shall be treated immediately by pruning, fertilization or other methods recommended by a tree specialist.

NOTE: IT IS THE DEVELOPER'S RESPONSIBILITY TO CONFER WITH THE CONTRACTOR ON TREE CONSERVATION REQUIREMENTS.

01/06/2022

OWNER SIGNATURE **(DATE)**

CONTRACT PURCHASER SIGNATURE **(DATE)**

5/1/06 Page 1 of 1

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GW PARTNERS
RIO MAGISTERIAL DISTRICT
ALBEMARLE COUNTY, VA

LANDDESIGN PROJ.# 2022116

REVISION / ISSUANCE

NO.	DESCRIPTION	DATE

DESIGNED BY:
DRAWN BY:
CHECKED BY:

SCALE NORTH

VERT: N/A
HORZ: N/A

SHEET TITLE

LANDSCAPE NOTES

SHEET NUMBER

L105



1 L106 BENCH
PRECEDENT NTS



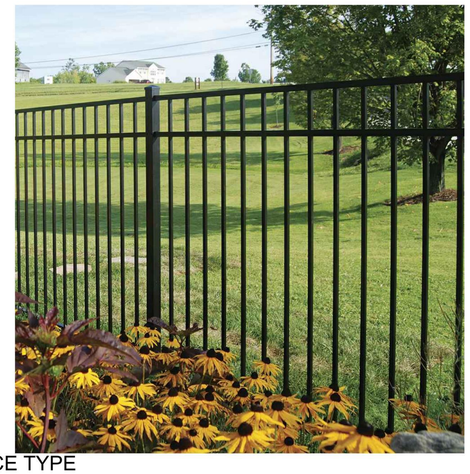
4 L106 BIKE RACK
PRECEDENT NTS



2 L106 WASTE RECEPTACLE
PRECEDENT NTS



5 L106 PAVING
PRECEDENT NTS



3 L106 FENCE TYPE
PRECEDENT NTS

NOTES:

1. SITE FURNISHING ARE FOR ILLUSTRATIVE PURPOSES ONLY TO DEMONSTRATE DESIGN INTENT. FINAL SITE FURNISHING SELECTION SHALL BE REVIEWED AND APPROVED BY CLIENT AND DESIGN TEAM.

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VERT: N/A
HORZ: N/A

SHEET TITLE
LANDSCAPE SITE DETAILS

SHEET NUMBER
L106



Plan View
Scale - 1" = 50ft

American Revolution Full Cutoff LED
Series 247CL

PRODUCT OVERVIEW

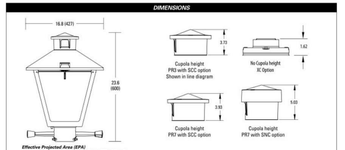


Applications:
- Streetscapes
- Walkways
- Pathways
- Parks

Features:
- Colonial LED lantern, replaces up to 250W HID models for street and area lighting applications
- Fifteen (15) LED performance packages deliver just the right amount of light for any given application up to 9,200 lumens
- Available in color temperature choices of 2700K, 3000K and 4000K
- Four (4) distinct light distribution options provide design flexibility, available in Type III, Type III, Type IV, and Type V
- Die-cast aluminum housing, engineered for sturdy lifelong performance
- Luminaire is rated for 3g vibration per ANSI C136.31
- Die-cast aluminum hood features a trigger latch (TL) option and captive thumb screws for fast, easy electrical and optical chamber access
- Standard paint finish is smooth gloss
- Housing is tenon pole-mounted and designed for use with a 3" tall by 2-3/8" to 3" diameter tenon, and secured by three set screws
- Rated LED and driver life greater than 100,000 hours at 25°C
- Surge protection device (standard) exceeds ANSI/IEEE C62.41-2002 Category C High (10kV/10kA) and ANSI C136.2-2015 Enhanced (10kV/5kA). 20KV Option exceeds ANSI/IEEE C62.41-2002 Category C High (10kV/10kA) and ANSI C136.2-2015 Extreme (20kV/10kA)
- Equipped with LED electronic 0-10V dimmable driver with DALI driver option

Standards:
- Complies with all applicable ANSI C136 standards.
- CSA listed and suitable for up to 40°C ambient
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

DIMENSIONS



Effective Projected Area (EPA): The EPA for the American Revolution Series 247 is 1.8 sq. ft.
Fixture weight = 36 lbs.

All dimensions are inches (millimeters) unless otherwise noted.

Note: Specifications subject to change without notice.
American Revolution Series 247CL LED

AEL American Electric Lighting

Autobahn Series ATB0
Roadway Lighting

Assembled with LEDS® grade A Green Rated™ CREE® for light pollution reduction

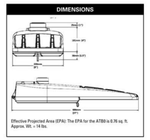
Buy American

PRODUCT OVERVIEW



Applications:
- Roadways
- Off-ramps
- Residential streets
- Parking lots

DIMENSIONS



Effective Projected Area (EPA): The EPA for the ATB0 is 0.76 sq. ft.
Approx. Wt. = 14 lbs.

STANDARDS

DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Color temperatures of ≤ 3000K must be specified for International Dark-Sky Association certification.

Rated for -40°C to 40°C ambient
CSA Certified to U.S. and Canadian standards
Complies with ANSI C136.2, C136.10, C136.14, C136.31, C136.15, C136.37

BUY AMERICAN — Product with the BAA option is assembled in the USA and meets the Buy American government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buyamerican for additional information.

Note: Specifications subject to change without notice. Actual performance may differ as a result of end-user environment and application.

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AEL American Electric Lighting

Features:

OPTICAL

The Autobahn's new molded silicone optics provide exceptional performance. Silicone optics are superior to other polymeric materials in the areas of, optical efficiency, thermal performance, and reduction in dirt accumulation, all of which can lead to long term lumen degradation and a shift in optical distribution. Also, because silicone allows for the molding of fine details as well as thick sections, it produces the most crisp, clean and well-defined lighting distributions available. Silicone optics paired with modern LEDs allow the Autobahn to take full advantage of both technologies.

Same Light: Performance is comparable to 100 - 400W HPS roadway luminaires.

White Light: Correlated color temperature - 4000K, or optional 2700K, 3000K or 5000K, all 70 CRI minimum.

Unique IP66 rated LED light engines provided 0% uplight and restrict backlight to within sidewalk depth, providing optimal application coverage and optimal pole spacing. Available in Type II, III, IV, and V roadway distributions.

ELECTRICAL

Expected Life: LED light engines are rated > 100,000 hours at 25°C, L70. Electronic driver has an expected life of 100,000 hours at a 25°C ambient.

Lower Energy: Saves an expected of 40-60% over comparable HID luminaires.

Robust Surge Protection: Two different surge protection options provide a minimum of 6KV C136.2 10kV/5kA protection. 20kV/10kA protection is also available.

Luminaire ships with a 0-10v dimmable driver. Luminaire is continuous and step dimming capable via AO option or controls installed on P7 photocontrol receptacle option.

MECHANICAL

Includes standard AEL lineman-friendly features such as tool-less entry, 3 station terminal block and quick disconnects. Bubble level located inside the electrical compartment for easily leveling at installation.

Rugged die-cast aluminum housing and door are polyester powder-coated for durability and corrosion resistance. Rigorous five-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 7 (per ASTM D1654) after over 5000 hours exposure to salt fog chamber (operated per ASTM B117).

Mast arm mount is adjustable for arms from 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) diameter. Provides a 3G vibration rating per ANSI C136.31

Wildlife shield is cast into the housing (not a separate piece).

CONTROLS

NEMA 7-pin photocontrol receptacle is standard, with the Acuity-designed ANSI standard 7 pin receptacle optionally available.

Premium solid-state locking style photocontrol - PCS5 (10 year rated life) Extreme long life solid state locking style photocontrol - PCL1 (20 year rated life).

Optional onboard Adjustable Output module allows the light output and input wattage to be modified to meet site-specific requirements, and also can allow a single fixture to be flexibly applied in many different applications.



NOTE

1.) Readings shown are based on a total LLF of as shown at grade.
Data references the extrapolated performance projections in a 25c ambient
based on 10,000 hrs of LED testing (per IESNA LM-80-08 and projected per IESNA TM-21-11).
2.) Please refer to the "luminaire locations" for mounting heights.
3.) Product information can be obtained at www.Holophane.com or through your local agent.
4.) Calculations do not account for topography and possible obstructions such as existing
old growth trees or foliage.

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
ENTIRE CALCULATIONS	+	0.5 fc	3.0 fc	0.0 fc	N/A	N/A
PARKING AND DRIVE	X	1.2 fc	3.0 fc	0.2 fc	15.0:1	6.0:1

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage	Distribution
	S1	4	American Electric Lighting	ATB0 P202 R5 4K	Autobahn Small P202 Package Roadway Type V 4000K/5000K	1	6951	0.9	98	TYPE VS, BUG RATING: B3 - U0 - G2
	S2	25	American Electric Lighting	ATB0 P202 R4 4K	Autobahn Small P202 Package Roadway Type IV 4000K/5000K	1	6906	0.9	49	TYPE IV, MEDIUM, BUG RATING: B1 - U0 - G2
	S3	27	American Electric Lighting	247CL P102 XXXX 40K R5	247CL American Revolution LED Full Cutoff, P102 Performance Package, 4000K CCT, R5 Distribution,	1	3392	0.9	30.0064	TYPE VS, BUG RATING: B3 - U0 - G1

DISCLAIMER

This application design is not a professional engineering drawing, and the design, including reported data and calculated results, is provided for informational purposes only, without any warranty as to accuracy, completeness, safety or otherwise. The design is the result of calculations made using Visual® lighting application software, photometric/radiometric data measured in a laboratory, and certain computational and modeling assumptions.
Far-field photometric/radiometric data may have been used to perform one or more calculations. Photometric/radiometric data is typically collected under far-field measurement conditions; far-field data is not generally representative of near-field geometric conditions. When using far-field photometric/ radiometric data, the Visual software applies certain generalizing assumptions to approximate near--field performance. These approximations may result in significant inaccuracies in individual calculated luminous and/or radiant power quantities in areas where a source is in close proximity to a particular surface or point.
The modeling of radiant flux exchange used in the Visual software requires a uniform exitance across each reflecting surface. The Visual software approximates the uniform surface exitance condition by adaptively subdividing surfaces with non-uniform exitances into subsurfaces with sufficiently uniform exitance gradients. Practical restrictions, due to computer hardware limitations, may prevent the subdivision procedure from subdividing surfaces with high exitance gradients into subsurfaces with sufficiently uniform exitance gradients, introducing potential discretization error into calculated values.
Calculations performed by the Visual software assume that all reflected flux is reflected in a perfectly diffuse (Lambertian) and spectrally uniform manner across the spectral range being analyzed. If actual reflectance characteristics differ from these assumptions, observed luminous and/or radiant power quantities may differ from predicted quantities.
As a result of the computational limitations and simplifying modeling assumptions described above, and/or variations in actual product performance from tested product samples, the accuracy of calculated output values identifying expected radiometric quantities and any resulting derived radiation dose calculations may be adversely affected.
In addition, the accuracy of the application design may be adversely affected if information about the physical space provided to Acuity Brands Lighting is incomplete, inaccurate, outdated or not in the required format (including but not limited to floor plans, space layout, reflected ceiling plans, physical structures, electrical design or specifications), if incorrect assumptions are made because of such deficiencies in the information provided, or if typical assumptions made about the depicted physical space are not appropriate for the space. Furthermore, actual field performance may differ from performance calculated using laboratory measurements as the result of miscalculations related to deficiencies in the information provided about the physical space, degradation factors in the end- user environment (including, but not limited to, voltage variation and dirt accumulation), or other possible variations in field conditions. Finally, lamp lumen depreciation and/or depreciation in lamp radiant intensity may result in performance over time that differs from performance calculated using a new lamp. Light loss factors may have been used in the application design to estimate such depreciation, but flaws in these estimates may also result in performance over time that differs from calculated performance.
It is the obligation of the end-user to consult with appropriately qualified Professional Engineer(s) to determine whether this application design meets the applicable requirements for performance, code compliance, safety, suitability and effectiveness for use in a particular application. In no event will Acuity Brands Lighting be responsible for any loss resulting from any use of this application design.

HOLOPHANE
LEADER IN LIGHTING SOLUTIONS
An AcuityBrands Company

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