GENERAL NOTES:

1. ALL WATER LINE JOINTS SHALL BE FULLY RESTRAINED.
2. CONTRACTOR SHALL ENSURE A MINIMUM OF 18" OF SEPARATION BETWEEN WATER MAINS & SANITARY SEWER LINES.
3. CONTRACTOR SHALL INSTALL PRIVATE UTILITIES IN ACCORDANCE WITH THE LATEST WRWA DESIGN & CONSTRUCTION AUTHORITY (WRWA) DESIGN & CONSTRUCTION STANDARDS.
4. THE WRWA WILL INSPECT AND TEST PRIVATELY OWNED WATER AND SEWER MAINS AND SUBMAINS IN ACCORDANCE WITH THE LATEST WRWA DESIGN & CONSTRUCTION STANDARDS.

VDOT STANDARDS USED:

- VDOT STD. CG-11 ENTRANCE TO BE UTILIZED.
- VDOT STD. CG-12 RAMP & TYPE-8 DETECTABLE WARNING STRIP TO BE UTILIZED.
- VDOT STD. TR-1 SHAPING TO BE UTILIZED AND ALL STORM STRUCTURES IN ROANOKE COUNTY SHALL INCLUDE INLET SHAPING.
- VDOT STD. RT-1 CURB RAMP TO BE UTILIZED.
- VDOT STD. PB-1 PIPE INSTALLATION TO BE UTILIZED. NOTE: ANY STORM SHALL NOT BE USED AS BEDDING AND/OR BACKFILL FOR STORM DRAIN INSTALLATIONS PER ROSNNOCM 7.3.1 & 7.3.2.
- VDOT STD. DI-1 DROP INLET TO BE UTILIZED.
- VDOT STD. DI-3B CURB INLET TO BE UTILIZED.
- VDOT STD. MH-1 MANHOLE TO BE UTILIZED.

UTILITY LEGEND:

1. TELECOM/DATA PROVIDE (2) 4" PVC EMPTY CONDUITS W/ PULL STRINGS TO UTILITY.
2. ELECTRICAL SERVICE TO METER. COORDINATE TIE-IN LOCATION WITH SERVICE PROVIDER. CONTRACTOR TO PROVIDE TWO (2) PVC CONDUITS FOR SECONDARY POWER SERVICE TO METER CABINET.
3. WET TAP - 2" SERVICE LINE WITH CORPORATION STOP AND 2" SETTER. INSTALL 1.5" METER WITH REQUIRED BUSHINGS SUPPLIED BY CONTRACTOR. 1.5" SERVICE LINE AFTER METER. (GATE VALVE OPTIONAL) INSTALL JUST BEFORE METER)
4. STUB FOR IRRIGATION W/ SUB-METER & SHUTOFF VALVE, BACK FLOW PREVENTER, BALL SHUT OFF VALVES & STUB (SEE PLUMBING PLANS) PER WVWA STD W-6 DETAIL (C11)
5. ELECTRICAL METER
6. SCHER QB-75 GREASE INTERCEPTOR. SAMPLING PORT TO BE LOCATED ON DOWNSTREAM END OF GREASE INTERCEPTOR. (SEE DETAIL ON C11).
7. SITE LIGHTING (TYPICAL)
8. 3/4" WATER LINE TO TRASH ENCLOSURE (COORDINATE ENTRY W/ ARCH PLANS).
9. TRANSFORMER PAD BY OWNER. SEE SEPARATE NOTE BELOW - THIS SHEET.
10. 6" NYLOPLAST INLINE DRAIN W/ SOLID TOP. DOWNSPOUT CONNECTIONS 6" HDPE PROFILED & DETAILED ON SHEET C07.
11. WALL MOUNTED LOCATION FOR PUMP STATION ALARM COMPONENTS.

ROOF DRAINS STRUCTURE SCHEDULE	
STRC. NUMBER	STRC. DATA
R1	DS CONNECTION TOP: 1100.67 INV. OUT: 1096.67 (TO #R2, 6" HDPE,SW)
R2	DS CONNECTION TOP: 1101.63 INV. IN: 1098.46 (FROM #R1, 6" HDPE, NW) INV. OUT: 1098.46 (TO #R3, 6" HDPE,SW)
R3	DS CONNECTION TOP: 1101.63 INV. IN: 1098.36 (FROM #R2, 6" HDPE, NW) INV. OUT: 1098.36 (TO #R4, 6" HDPE,SW)
R4	DS CONNECTION TOP: 1100.75 INV. IN: 1097.66 (FROM #R3, 6" HDPE, NW) INV. OUT: 1097.66 (TO #R5, 6" HDPE,SE)
R5	DS CONNECTION TOP: 1100.75 INV. IN: 1097.66 (FROM #R4, 6" HDPE, NW) INV. OUT: 1097.66 (TO #R6, 6" HDPE,SE)
R6	DS CONNECTION TOP: 1101.63 INV. IN: 1097.66 (FROM #R5, 6" HDPE, NW) INV. OUT: 1097.66 (TO #R7, 6" HDPE,SE)
R7	DS CONNECTION TOP: 1101.63 INV. IN: 1097.66 (FROM #R6, 6" HDPE, NW) INV. OUT: 1097.66 (TO #R8, 6" HDPE,SE)
R8	DS CONNECTION TOP: 1100.75 INV. IN: 1097.66 (FROM #R7, 6" HDPE, NW) INV. OUT: 1097.66 (TO #R9, 6" HDPE,SE)
R9	DS CONNECTION TOP: 1100.75 INV. IN: 1097.66 (FROM #R8, 6" HDPE, SW) INV. OUT: 1096.87 (TO #R10, 6" HDPE,SE)
R10	DS CONNECTION TOP: 1101.23 INV. IN: 1095.66 (FROM #R9, 6" HDPE, SW) INV. IN: 1095.66 (FROM #R11, 6" HDPE, NW) INV. OUT: 1095.66 (TO #, 6" HDPE,E)

ROOF DRAINS STRUCTURE SCHEDULE	
STRC. NUMBER	STRC. DATA
R11	DS CONNECTION TOP: 1100.84 INV. OUT: 1095.66 (TO #R10, 6" HDPE,SE)

C-SSWR PIPE			
PIPE	LENGTH	SLOPE	DESCRIPTION
A-B	16.11 LF	16.00%	1.25" HDPE FM
B-C	52.95 LF	15.00%	1.25" HDPE FM
C-D	7.31 LF	4.42%	4" SDR-35 PVC
D-E	37.76 LF	4.00%	4" SDR-35 PVC
D-G	92.10 LF	2.00%	4" SDR-35 PVC
E-F	37.76 LF	3.99%	4" SDR-35 PVC
G-H	17.31 LF	2.00%	4" SDR-35 PVC
H-I	96.90 LF	4.99%	4" SDR-35 PVC

ROOF DRAINS PIPE			
PIPE	LENGTH	SLOPE	DESCRIPTION
R1-R2	19.11 LF	1.00%	6" HDPE
R2-R3	12.00 LF	1.00%	6" HDPE
R3-R4	38.96 LF	1.00%	6" HDPE
R4-R5	1.11 LF	1.00%	6" HDPE
R5-R6	26.00 LF	1.00%	6" HDPE
R6-R7	13.72 LF	1.00%	6" HDPE
R7-R8	38.96 LF	1.00%	6" HDPE
R8-R9	17.64 LF	2.00%	6" HDPE
R9R-10	24.00 LF	5.00%	6" HDPE
R10-R3	20.08 LF	1.70%	6" HDPE
R11-R10	14.91 LF	2.00%	6" HDPE

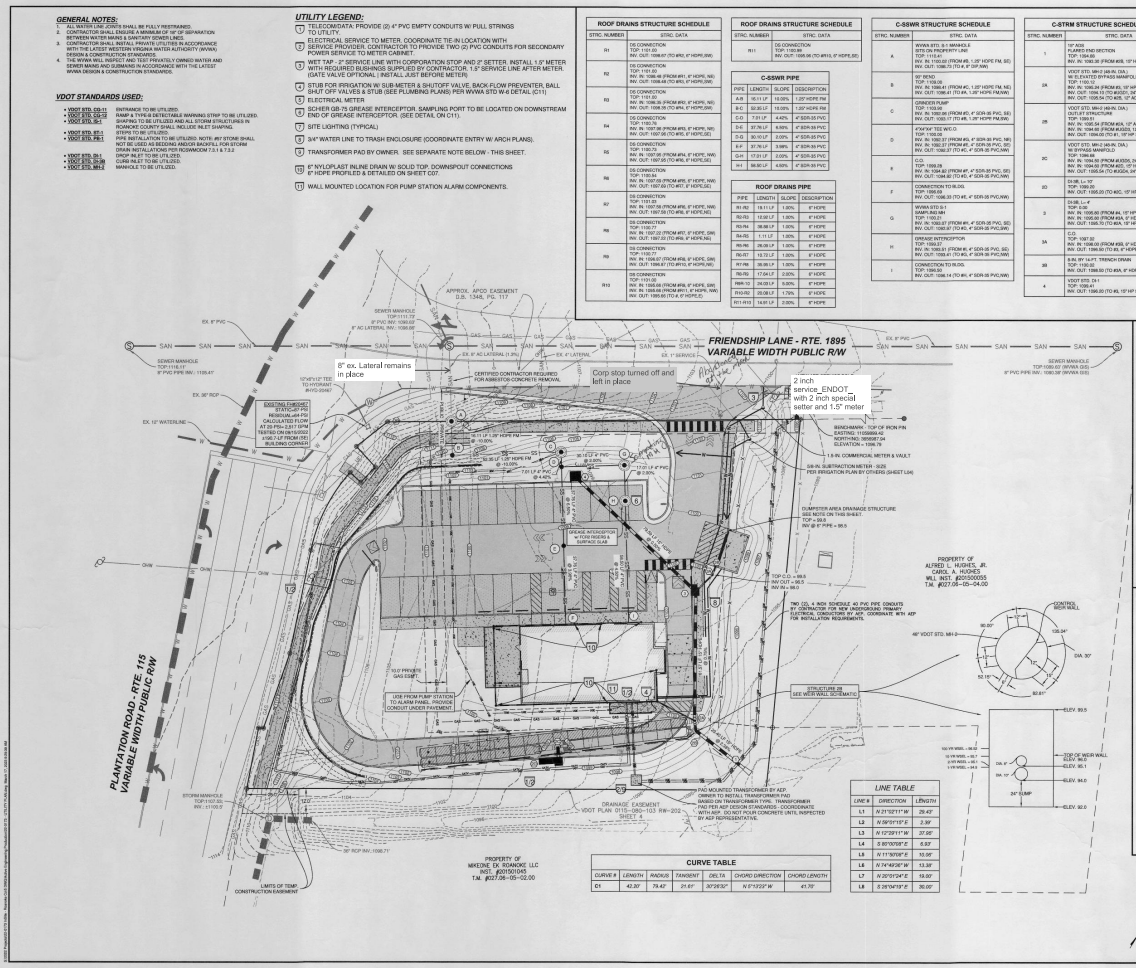
C-SSWR STRUCTURE SCHEDULE	
STRC. NUMBER	STRC. DATA
A	WWRA STD. S-1 MANHOLE SEWER MAINLINE PROPERTY LINE TOP: 1114.17 INV. IN: 1103.02 (FROM #B, 1.25" HDPE FM, SE) INV. OUT: 1096.01 (TO #, 8" SDR SW)
B	90° BEND TOP: 1106.09 INV. IN: 1099.41 (FROM #C, 1.25" HDPE FM, NE) INV. OUT: 1099.41 (TO #A, 1.25" HDPE FM,NW)
C	GRINDER PUMP TOP: 1103.08 INV. IN: 1092.88 (FROM #D, 4" SDR-35 PVC, SE) INV. OUT: 1093.17 (TO #B, 1.25" HDPE FM,SW)
D	4"X4"X4" TEE W/C.O. TOP: 1106.09 INV. IN: 1092.57 (FROM #G, 4" SDR-35 PVC, NE) INV. IN: 1092.57 (FROM #E, 4" SDR-35 PVC, SE) INV. OUT: 1092.57 (TO #C, 4" SDR-35 PVC,SW)
E	C.O. TOP: 1099.28 INV. IN: 1094.82 (FROM #F, 4" SDR-35 PVC, SE) INV. OUT: 1094.82 (TO #D, 4" SDR-35 PVC,NW)
F	CONNECTION TO BLDG. TOP: 1099.69 INV. OUT: 1096.00 (TO #E, 4" SDR-35 PVC,NW)
G	WWRA STD S-1 SAMPLING MH TOP: 1100.37 INV. IN: 1092.57 (FROM #H, 4" SDR-35 PVC, SE) INV. OUT: 1092.57 (TO #D, 4" SDR-35 PVC,SW)
H	GREASE INTERCEPTOR TOP: 1100.37 INV. IN: 1090.91 (FROM #I, 4" SDR-35 PVC, SE) INV. OUT: 1090.91 (TO #G, 4" SDR-35 PVC,NW)
I	CONNECTION TO BLDG. TOP: 1099.50 INV. OUT: 1096.14 (TO #H, 4" SDR-35 PVC,NW)

C-STRM STRUCTURE SCHEDULE	
STRC. NUMBER	STRC. DATA
1	10" ADS TOP: 1100.00 INV. OUT: 1094.00
2A	VDOT STD. MH-2 (48-IN. DIA.) W/ 2-WAY SHAPED END SECTION TOP: 1100.12 INV. IN: 1095.38 (FROM #E6, 18" HP STORM, W) INV. OUT: 1095.13 (TO #2B2C, 24" HDPE,SW) INV. OUT: 1095.54 (TO #2B, 12" ADS N-12,SE)
2B	VDOT STD. MH-2 (48-IN. DIA.) OUTLET STRUCTURE TOP: 1100.12 INV. IN: 1095.54 (FROM #2A, 12" ADS N-12, NW) INV. IN: 1094.66 (FROM #U2D2A, 12" ADS N-12, SW) INV. OUT: 1094.00 (TO #, 18" HP STORM,SE)
2C	VDOT STD. MH-2 (48-IN. DIA.) 90 SHPAGS MANIFOLD TOP: 1099.88 INV. IN: 1094.00 (FROM #U2D2A, 24" ADS N-12, SW) INV. IN: 1094.00 (FROM #2D, 10" HP STORM, SE) INV. OUT: 1095.04 (TO #U2D2A, 24" ADS N-12,NE)
2D	DI-9B, L=10' TOP: 1099.00 INV. OUT: 1095.00 (TO #2C, 10" HP STORM,NW)
3	DI-9B, L=4' TOP: 1.00 INV. IN: 1095.60 (FROM #4, 18" HP STORM, W) INV. IN: 1095.60 (FROM #3A, 8" HDPE, N) INV. OUT: 1095.70 (TO #3A, 18" HP STORM,SE)
3A	C.O. TOP: 1099.00 INV. IN: 1098.00 (FROM #3B, 8" HDPE, N) INV. OUT: 1095.60 (TO #3, 8" HDPE,S)
3B	9.75' BY 1.5-FT. TRENCH DRAIN TOP: 1100.00 INV. OUT: 1098.00 (TO #3A, 8" HDPE,S)
4	VDOT STD. DI-1 TOP: 1096.00 INV. OUT: 1095.00 (TO #5, 15" HP STORM,E)

C-STRM PIPE			
PIPE	LENGTH	SLOPE	DESCRIPTION
2A-2B	4.76 LF	0.00%	12" ADS N-12
2B-1	33.40 LF	0.30%	12" HP STORM
2D-2C	0.67 LF	6.61%	10" HP STORM
2-2A	61.57 LF	0.70%	12" HP STORM
3A-3	11.30 LF	6.08%	8" HDPE
3B-3A	4.13 LF	10.11%	8" HDPE
4-3	79.90 LF	0.50%	15" HP STORM

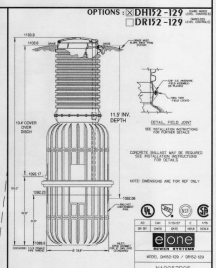
DUMPSTER DRAINAGE NOTE:

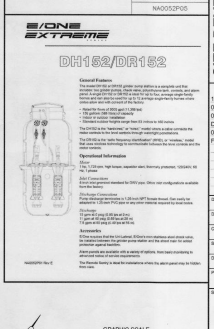
- INSTALL 14" LONG, R-4960 HEAVY DUTY Nibblaid Grate Inlet, Model No. 1414-HD-GI-GRATE. DUMPSTER AREA RUNOFF: USE 6" WIDE, TYPE A GRATE, REFER TO MANUFACTURERS SPECIFICATION FOR INSTALLATION DETAILS. DISCHARGE TO STORM STRUCTURE 8 WHERE RUNOFF WILL BE TREATED WITHIN THE ISOLATION ROW OF THE UNDERGROUND SYSTEM.



CURVE TABLE						
CURVE #	LENGTH	RADIUS	TANGENT	DELTA	CHORD DIRECTION	CHORD LENGTH
C1	42.30'	79.42'	21.61'	30°29'32"	N 6°13'23" W	41.70'

LINE TABLE		
LINE #	DIRECTION	LENGTH
L1	N 21°52'11" W	29.42'
L2	N 59°19'15" E	2.39'
L3	N 12°29'11" W	37.05'
L4	S 85°00'58" E	5.53'
L5	N 11°50'08" E	10.05'
L6	N 74°49'26" W	13.39'
L7	N 20°31'34" E	19.00'
L8	S 26°04'19" E	36.00'





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SITE DEVELOPMENT PLANS PREPARED FOR ROANOKE, VA (7515 FRIENDSHIP) LLC COFFEE SHOP & DRIVE-THROUGH

7515 FRIENDSHIP LANE (027.08-05-06.00-0000)
ROANOKE COUNTY, VIRGINIA

REVISIONS
1ST REVIEW COMMENTS
01/27/2023 - RESUBMITTAL
02/02/2023 - REVISED PER DEVELOPER REVIEW
02/08/2023 - REVISED PER FOG PERMIT COMMENTS

DESIGNED BY: JDE / JMD
DRAWN BY: JMD
CHECKED BY: JDE
SCALE: 1" = 20'
DATE: NOVEMBER 21, 2022
PROJECT NUMBER: 22-0173

SHEET TITLE: UTILITY PLANS

C06

APPROVED, 3/23/2023